



WESTERN STATES WATER COUNCIL

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westernstateswater.org

MEMORANDUM

TO: Council Members and Others

FROM: Tony Willardson, Executive Director

DATE: April 8, 2015

RE: Briefing Books for the Tulsa, Oklahoma (177th) Council Meetings

Enclosed please find the briefing book for our meetings being held in Tulsa, Oklahoma on April 15-17, 2015. The minutes from our last meetings held in Scottsdale, Arizona are posted on our website (under Past Meetings) for your review.

On Wednesday, April 15, Council members are invited to participate in a WSWC session to review a draft final summary WSWC progress report under our agreement with WGA on water and energy transmission planning; and potential recommendations for the June 2015 WGA Annual Meeting. The session begins on Wednesday afternoon at 1:30 p.m. and will conclude by 3:15 pm.

Council members and guests are invited to join our Oklahoma hosts on a field trip, following the conclusion of the report review session. Please meet in the hotel lobby at 3:20 p.m. for departure. Registration is required and is \$20 per person. We expect to return to the Hard Rock Hotel around 8:00 p.m.

On Thursday, the WSWC Committee meetings will be held sequentially, beginning at 8:00 a.m. with the Water Resources Committee meeting. The Executive Committee will be held over lunch at 11:30 a.m., followed by the Water Quality Committee at 1:15 p.m., and the Legal Committee at 3:30 p.m. A reception sponsored by *Burns & McDonnell* will be held at the hotel in Cherokee Salon D from 6:00 – 7:00 p.m.

The Water Resources, Legal, Water Quality Committee meetings, and Full Council meeting will be available via teleconference and/or webinar. **Call-in instructions and information on how to participate via webinar are contained in the instructions following this memorandum.** In the event you have difficulties connecting, please call or text Tony at 801-573-7593 or Nathan at 801-792-2704.

We look forward to interesting and productive meetings in Tulsa. If you have any questions regarding these matters, please let us know.

Attachment

CALL-IN AND WEBINAR INSTRUCTIONS

A. Call-In Information

The dates, times, and call-in information for each meeting are listed below. The below list also indicates which meetings will be available via webinar. Instructions on how to participate via webinar are contained in Section B, which follows.

For teleconference and webinar audio, **please use the dial-in numbers as indicated below.**

Central Daylight

Day, Date	Time	Meeting	Dial-in Number	Webinar
Wed, Apr 15	9:00 am	WSWC/WGA Reports Review Session	1-800-920-7487 Code: 19896486#	Yes

Thurs, Apr 16	8:00 am	WSWC Committee Meetings – all day	1-8080-920-7487 Code: 19896486#	Yes
----------------------	---------	-----------------------------------	------------------------------------	-----

Please send request if you wish to participate via teleconference in the Executive Committee.

	11:30 am	Executive Committee	Not set up	No
Fri, Apr 17	8:00 am	Full Council Meeting	1-800-920-7487 Code: 19896486#	Yes

B. General Webinar Instructions

Depending on your web browser and system configuration, you may experience problems accessing the webinar.

Please check and prepare your computer a day or two in advance of the meeting as follows:

1. Start your web browser
2. Visit <http://westerngovernors.webex.com>
3. Select “Setup / Event manager” (left side of page)

To participate via webinar, please follow the instructions below:

1. Go to <https://westerngovernors.webex.com/>
2. Select the meeting you wish to join.
3. If requested, enter your name and email address.
4. If a password is required, enter: “wswc” for all meetings
5. Click “Join.”
6. Follow the instructions that appear on your screen.

When you try to log in, you may receive a message that says you need Java to run the meeting software. If you do not have an up-to-date version of Java on your computer, the WebEx software should offer you a temporary application that you can run on your computer to make the WebEx application work correctly.

We recommend you place your phone on mute and under no circumstance place the call on hold. If you encounter troubles connecting to the audio (or other things), you may ask questions or communicate via the WebEx “chat” feature.



177th Council Meeting
Tulsa, Oklahoma
April 15-17, 2015

Tab A – Schedule of Meetings – Agenda –
30-day Notice

WESTERN STATES WATER COUNCIL
177th COUNCIL MEETING
Tulsa, Oklahoma
April 15-17, 2015

TABLE OF CONTENTS

TAB

- A. Schedule of Meetings - Agenda - 30-day Notice
- B. Membership List
- C. WSWC Policy Positions
 - Proposed Positions**
 - regarding Integrating Water and Energy Planning and Policy
 - Sunsetting Positions**
 - #338** - commending the introduction of S. 1343, the Energy and Water Integration Act of 2011 (Mar 15, 2012)
 - #339** - supports federal applied research and hydroclimate data collection programs (Mar 15, 2012)
 - #340** - supports state primacy over groundwater (Mar 15, 2012)
 - #341** - addresses proposed changes to Reclamation's policy manual and requests Reclamation enter into a dialogue with the WSWC (Mar 15, 2012)

List of Current WSWC Policy Statements and Sunsetted Positions

- D. Budget
- E. Present and Past Federal Legislation – National Water Research and Development Initiative
- F. 2014-2015 Summary of WSWC Activities and Events
- G. WSWC Logo Proposals
- H. **Draft Committee FY2015-2016 Work Plans**
 - Water Resources Committee
 - Executive Committee
 - Water Quality Committee
 - Legal Committee
- I. Future WSWC Meetings
- J. Water Data Exchange (WaDE)
- K. WSWC Appropriation Priorities / Federal Water Data Appropriations
- L. WGA Drought Forums
- M. CDWR/WSWC Sub-Seasonal and Seasonal Precipitation Forecasting Workshop
- N. WSWC Western State Drought Response Planning Survey
- O. Environmental Protection Agency Update
- P. USGS Report “*Water Quality in Principal Aquifers of the United States 1991-2010*”
- Q. USGS Report on Induced Seismicity Associated with Fluid Injection
- R. Indian Water Rights Settlements
- S. USFS Proposed Groundwater Management Directive
- T. WSWC-WestFAST Federal Non-Tribal Water Rights Workgroup
- U. Legislation and Litigation Update
- V. - - Intentionally Blank - -
- W. Newsletter Index
- XYZ. Sunsetting Positions for Summer 2015 Meetings (#342 - #344)

SCHEDULE OF MEETINGS

WESTERN STATES WATER COUNCIL 177th COUNCIL MEETINGS

Hard Rock Hotel & Casino Tulsa
Tulsa, Oklahoma
April 15-17, 2015

<u>Date</u>	<u>Time</u>	<u>Meeting</u>	<u>Room</u>	<u>Adjournment</u>
<u>Wednesday, April 15</u>				
	1:30 pm	WSWC/WGA Reports Review Session	Cherokee Salon AB	3:15 pm
	3:30 pm	Field Trip – includes Dinner and Reception Sponsor: <i>Port Authority – Port of Catoosa</i> (see registration form on our website for description and details)		8:00 pm
<u>Thursday, April 16</u>				
	8:00 am	Water Resources Committee	Cherokee Salon AB	11:15 am
	11:30 am	Executive Committee (<i>over lunch</i>)	Cherokee Salon D	1:00 pm
	1:15 pm	Water Quality Committee	Cherokee Salon AB	3:15 pm
	3:30 pm	Legal Committee	Cherokee Salon AB	5:30 pm
	6:00 pm	WSWC Reception Sponsor: <i>Burns & McDonnell</i>	Cherokee Salon D	7:00 pm
<u>Friday, April 17</u>				
	8:00 am	Full Council Meeting	Cherokee Salon AB	11:30 am

AGENDA
MANAGEMENT SUBCOMMITTEE
Hard Rock Hotel & Casino Tulsa
Tulsa, Oklahoma
April 14, 2015

Call to Order at: TBD
Conducting: Pat Tyrrell, Chair

Room: Restaurant

TAB

1. **Welcome**

2. **Approval of Minutes**

- D 3. **Report on Budget and Finances** – Jerry Rigby
- a. FY2014-2015 Budget Status Report
 - b. WGA DOE Grant Status Report
 - c. FY 2015-2016 Proposed Budget/Dues Increase
 - d. Policy and Program Manager Position

C 4. **Proposed and Sunsetting Positions** – Tony Willardson

Proposed Positions

- Regarding Integrating Water and Energy Planning and Policy
(Present and Past Federal Legislation)

Sunsetting Policies

- E Wat Res Com #338 - Commending the introduction of S. 1343, the Energy and Water Integration Act of 2011 (March 15, 2012)
- Wat Res Com #339 - Supports federal applied research and hydroclimate data collection programs (March 15, 2012)
- Legal Com #340 - Supports state primacy over groundwater (March 15, 2012)
- Wat Res Com #341 - Addresses proposed changes to Reclamation's policy manual and requests Reclamation enter into a dialogue with the WSWC (March 15, 2012)

5. **Executive Director's Report** – Tony Willardson
- a. WGA/WSWC Activities and Meetings
 - b. Congressional and Agency Visits (March 24-27) - Washington, DC
 - F c. 2014/2015 Summary of WSWC Activities and Events

6. **Discussion regarding Summer Meeting / 50th Anniversary Commemoration** – Pat Tyrrell and Tony Willardson

- G a. Logo
- b. Commemorative Activities and Giveaways
- c. Sponsorships

7. **WSWC Nominating Subcommittee** – Pat Tyrrell

H 8. **FY2015-2016 Draft Committee Work Plan** – Pat Tyrrell

- I 9. **Future WSWC Meetings**
- a. WSWC/CDWR Drought Workshop – May 27-29, 2015 – San Diego, CA
 - b. WGA Annual Meeting – June 24-26, 2015 – Lake Tahoe, NV
 - c. WSWC Summer Meetings – July 8-10, 2015 – Lake Tahoe, NV

- XYZ 10. **Summer 2015 Meeting Sunsetting Positions**
- #342 - Regarding water transfers and National Pollutant Discharge Elimination System (NPDES) discharge permits (June 8, 2012)
 - #343 - Supporting legislative action to establish a dedicated funding source for completion of federal rural water projects authorized by Congress (June 8, 2012)
 - #344 - WSWC Vision on Water (June 8, 2012)

11. **Other Matters**

AGENDA
WATER RESOURCES COMMITTEE
Hard Rock Hotel & Casino Tulsa
Tulsa, Oklahoma
April 16, 2015

Called to Order at: 8:00 a.m. (Central Daylight Time)
Conducting: Tim Davis, Montana

Room: Cherokee Salon AB

TABS

1. **Welcome and Introductions**
2. **Approval of Minutes**
- C 3. **Proposed and Sunsetting Positions**
 Proposed
 Regarding Integrating Water and Energy Planning and Policy
E (Past and Present Federal Legislation)
 Sunsetting
 #338 - Commending the introduction of S. 1343, the Energy and Water Integration Act of 2011 (March 15, 2012)
 #339 - Supports federal applied research and hydroclimate data collection programs (March 15, 2012)
 #341 - Addresses proposed changes to Reclamation's policy manual and requests Reclamation enter into a dialogue with the WSWC (March 15, 2012)
- J 4. **Water Data Exchange (WaDE) Update and Demonstration** – Sara Larsen
- K 5. **Federal Water Data Coordination** – Pat Lambert, WestFAST Liaison
6. **Corps' Short and Long-term Drought Response Authorities** – Mike Abate, Chief, Civil Works Branch, Tulsa District, Corps of Engineers
- L 7. **WGA Drought Forums/Water Related Activities** – Carlee Brown
- N A. **WSWC Western Drought Response Planning Survey** – Tony Willardson
- M 8. **CDWR/WSWC Sub-Seasonal and Seasonal Precipitation Forecasting Workshop and Activities** – Jeanine Jones
9. **NOAA's California Drought Assessment Report** – Kevin Werner, Regional Climate Services Director, Western Region, NOAA (via phone)
10. **ESA Issues in the Southwest** – Andrew Hautzinger, U.S. Fish & Wildlife Service and Daniel Fenner, U.S. Fish and Wildlife Service, Oklahoma Ecological Services
- H 11. **FY2015-1016 Draft Committee Workplan/WestFAST Workplan** – Tim Davis and Pat Lambert
12. **Other Matters/Adjourn**

AGENDA
EXECUTIVE COMMITTEE
Hard Rock Hotel & Casino Tulsa
Tulsa, Oklahoma
April 16, 2015

Call to Order at: 11:30 a.m. (Central Daylight Time)
Conducting: Pat Tyrrell, Chair

Room: Cherokee Salon D

TAB

1. **Welcome and Introductions**
2. **Approval of Minutes**
- D 3. **Report on Budget and Finances – Jerry Rigby**
 - a. FY2014-2015 Budget Status Report
 - b. WGA DOE Grant Status Report
 - c. FY 2015-2016 Proposed Budget/Dues Increase
 - d. Policy and Program Manager Position
- C 4. **Proposed and Sunsetting Positions – Tony Willardson**

Proposed Positions

- Regarding Integrating Water and Energy Planning and Policy
(Present and Past Federal Legislation)

E

Sunsetting Policies

- Wat Res Com #338 - Commending the introduction of S. 1343, the Energy and Water Integration Act of 2011 (March 15, 2012)
- Wat Res Com #339 - Supports federal applied research and hydroclimate data collection programs (March 15, 2012)
- Legal Com #340 - Supports state primacy over groundwater (March 15, 2012)
- Wat Res Com #341 - Addresses proposed changes to Reclamation's policy manual and requests Reclamation enter into a dialogue with the WSWC (March 15, 2012)
5. **Executive Director's Report – Tony Willardson**
 - a. WGA/WSWC Activities and Meetings
 - b. Congressional and Agency Visits (March 24-27) - Washington, DC
 - F c. 2014/2015 Summary of WSWC Activities and Events
 6. **Discussion regarding Summer Meeting / 50th Anniversary Commemoration – Pat Tyrrell and Tony Willardson**
 - G a. Logo
 - b. Commemorative Activities and Giveaways
 - c. Sponsorship
 7. **WSWC Nominating Subcommittee – Pat Tyrrell**
 - H 8. **FY2015-2016 Draft Committee Work Plan – Pat Tyrrell**
 - I 9. **Future WSWC Meetings**
 - a. WSWC/CDWR Drought Workshop – May 27-29, 2015 – San Diego, CA
 - b. WGA Annual Meeting – June 24-26, 2015 – Lake Tahoe, NV
 - c. WSWC Summer Meetings – July 8-10, 2015 – Lake Tahoe, NV
 - XYZ 10. **Summer 2015 Meeting Sunsetting Positions**
 - #342 - Regarding water transfers and National Pollutant Discharge Elimination System (NPDES) discharge permits (June 8, 2012)
 - #343 - Supporting legislative action to establish a dedicated funding source for completion of federal rural water projects authorized by Congress (June 8, 2012)
 - #344 - WSWC Vision on Water (June 8, 2012)
 11. **Other Matters**

AGENDA

WATER QUALITY COMMITTEE MEETING

Hard Rock Hotel & Casino Tulsa

Tulsa, Oklahoma

April 16, 2015

Call to Order at: 1:15 pm (Central Daylight Time)
Conducting: J.D. Strong, Chair

Room: Cherokee Salon AB

TAB

1. **Welcome and Introductions**
2. **Approval of Minutes**
- H 3. **2015-2016 Draft Committee Workplan** – J.D. Strong and Nathan Bracken
- O 4. **Environmental Protection Agency (EPA) Update**
 - a. Waters of the U.S. rulemaking – EPA Office of Wetlands, Oceans and Watersheds Staff
 - b. Section 518 and TMDL “treatment as states” rulemaking efforts – Fred Leutner, Office of Science and Technology
 - XYZ c. Water transfers litigation – Office of Wastewater Management Staff
 - d. EPA hydraulic fracturing study – Office of Groundwater and Drinking Water Staff
- P 5. **USGS Report: Water Quality in Principal Aquifers of the United States, 1991-2010** – Gary Rowe, Regional NAWQA Program Office, Central Region, USGS
- Q 6. **USGS Report on Induced Seismicity Associated with Fluid Injection** – Pat Lambert
7. **Roundtable Discussion: State Implementation of Ammonia Criteria and Numeric Nutrient Criteria** – J.D. Strong
8. **Other Matters** – J.D. Strong

AGENDA

LEGAL COMMITTEE MEETING

Hard Rock Hotel & Casino Tulsa

Tulsa, Oklahoma

April 16, 2015

Call to Order at: 3:30 pm (Central Daylight Time)
Conducting: Jennifer Verleger, Chair

Room: Cherokee Salon AB

TAB

1. **Welcome and Introductions**
2. **Approval of Minutes**
- C 3. **Sunsetting Position #340 Supporting State Primacy Over Groundwater:**
Jennifer Verleger
- H 4. **2015-2016 Draft Committee Workplan** – Jennifer Verleger and Nathan Bracken
- R 5. **Indian Water Rights Settlement Update** – David Mullon, Venable LLP
- S 6. **Discussion and Update: USFS Proposed Groundwater Management Directive** – Nathan Bracken
- T 7. **Update: WSWC-WestFAST Federal Non-Tribal Water Rights Workgroup** –
Nathan Bracken and Pat Lambert
- U 8. **Legislation and Litigation Update** – Nathan Bracken
9. **Other Matters** – Jennifer Verleger

AGENDA

177th COUNCIL MEETING Hard Rock Hotel & Casino Tulsa Tulsa, Oklahoma April 17, 2015

Call to Order at: 8:00 a.m. (Central Daylight Time)
Conducting: Pat Tyrrell, Chair

Room: Cherokee Salon AB

TAB

1. **Welcome and Introductions**
2. **Approval of Minutes**
3. **Water Resources and Water Quality Issues in Oklahoma** – J.D. Strong,
Executive Director, Oklahoma Water Resources Board
4. **Department of Interior Water Issues**, Tom Iseman, Deputy Assistant Secretary
for Water and Science (by phone)
5. **Corps of Engineers' Water Issues**, Mike Abate, Chief, Civil Works Branch,
Tulsa District
6. **WestFAST Report** – Becky Fulkerson, Bureau of Reclamation, WestFAST Chair
7. **Committee Reports** – Action Items
 - C, H A. Water Resources Committee – Tim Davis
 - C, H B. Executive Committee – Jerry Rigby
 - H C. Water Quality Committee – J.D. Strong
 - C, H D. Legal Committee – Jennifer Verleger
8. **State Reports**
- I 9. **Future Council Meetings**
10. **Other Matters**



WESTERN STATES WATER COUNCIL

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westernstateswater.org

MEMORANDUM

TO: Council Members

FROM: Tony Willardson, Executive Director

DATE: March 18, 2015

RE: **30-Day Notice of Spring (177th) Council Meetings in Tulsa, Oklahoma and Minutes**

This memorandum serves as notice that in 30 days the 177th meetings of the Western States Water Council will be held in Tulsa, Oklahoma at the Hard Rock Hotel and Casino Tulsa which is located at 777 West Cherokee Street. If you have not yet made your hotel reservations, we would urge you to do so at your earliest convenience. The **cutoff date is March 24, 2015**. Please call reservations at **1-800-760-6700**, and mention Western States Water Council 2015 to receive the special group rate which is \$83/night (single or double occupancy). Reservations requested after this date will be accepted based upon availability and at the prevailing rate.

One new policy position is being proposed for consideration regarding integrating water and energy planning and policy. We will also review four sunseting WSWC policy positions:

- (1) **Position #338** - commending the introduction of S. 1343, the Energy and Water Integration Act of 2011;
- (2) **Position #339** – supporting federal applied research and hydroclimate data collection programs;
- (3) **Position #340** – supporting state primacy over groundwater; and
- (4) **Position #341** – addressing proposed changes to Reclamation’s policy manual and requesting Reclamation to enter into a dialogue with the WSWC.

All proposed and sunseting positions are attached.

We are providing a copy of the WGA Staff Advisory Council (SAC) contact information (attached) so that you may consult your respective Governor’s adviser with respect to the aforementioned policy positions.

Please note that Council members are invited to participate in a session to review WSWC/WGA reports on Wednesday from 9:00 a.m. and will conclude by 3:00 p.m. This session will include a review of a draft WGA drought report being prepared by the staff of WGA; a draft final summary WSWC progress report under our WGA agreement regarding water and energy; and potential recommendations for the WGA Annual Meeting in June.

Following the conclusion of the session on Wednesday, Council members and guests are invited to join our Oklahoma hosts on a field trip to the Tulsa Port of Catoosa. We request you register in advance (form attached), and the fee is \$20 per person. Please meet in the hotel lobby by 3:30 p.m. for departure. We will tour the Port, which provides cargo handling services to the entire central states area. A reception and dinner hosted by the Port Authority will be held on board a barge while cruising the McClellan-Kerr Arkansas River Navigation System. We expect to return to the hotel by about 8:00 p.m.

On Thursday, the WSWC Committee meetings will be held sequentially, beginning at 8:00 a.m. with the Water Resources Committee meeting, the Executive Committee at 11:30 a.m., followed by the Water

Quality Committee at 1:15 p.m., and the Legal Committee at 3:30 p.m. All Council members and guests are invited to a reception hosted by Burns & McDonnell on Thursday evening from 6:00 -7:00 p.m. at the hotel.

On Friday morning, the Full Council meeting will begin at 8:00 a.m. and conclude around 11:30 a.m.

The Committee and Council meetings will be made available via webinar and teleconference services. Information on how to access the webinar and/or teleconferences will be included with the email notification regarding the briefing books being available online, about a week prior to the meetings. Members who wish to receive a hard copy of the briefing books should **notify Julie Groat no later than March 31, 2015** at jgroat@wswc.utah.gov.

Again, the meeting schedule and registration information are available on our [website](#). Draft meeting agenda will be posted soon. The minutes from the meetings held in Scottsdale, Arizona last October will be available prior to the meetings on the Council's website for your review and reference.

As is Council policy, an Executive Committee and Committee Chairs conference call will be held to discuss the proposed and sunseting policy positions, as well as other matters. **The conference call is scheduled for Wednesday, March 25 at 2:00 p.m. Mountain Time** (3:00 pm Central Time; 1:00 pm Pacific Time). A call-in number will be provided to Executive Committee members, designated alternates, and the Committee Chairs in a separate email.

For the purpose of the conference call and the meetings themselves, the Council has adopted an internal policy specifying the process for establishing credentials for participation by persons who are not appointed Council representatives. That policy requires written notification of any designee to act on behalf of a member, either in person or via conference call. An email is sufficient notice. As always, each state has only one vote, and the Executive Committee member or a designee is responsible for voting on any proposed Council action.

If we can be of any assistance or answer any questions regarding the foregoing, please call our office.

cc: WGA Staff Council and WGA Staff

Attachments: Schedule of Meetings
Proposed Position (1)
WSWC Sunseting Positions (4)
Field Trip Registration Form
WGA Staff Council List

Tab B – Membership List

WESTERN STATES WATER COUNCIL

MEMBERSHIP LIST

March 25, 2015

OFFICERS

Chair - **Patrick Tyrrell**
Vice-Chair - **Jerry Rigby**
Secretary-Treasurer - **Vacant**

STAFF

Executive Director - **Tony Willardson**
Assist. Director/Gen. Counsel - **Nathan Bracken**
Federal Liaison - **Pat Lambert**
Hydrologist/Programmer - **Sara Larsen**
Office Manager - **Cheryl Redding**
Administrative Assistant - **Julie Groat**

Staff E-mail: twillardson@wswc.utah.gov
nbracken@wswc.utah.gov
patlambert@wswc.utah.gov
saralarsen@wswc.utah.gov
credning@wswc.utah.gov
jgroat@wswc.utah.gov

Address: 5296 South Commerce Drive
Suite 202
Murray, UT 84107
(801) 685-2555
(801) 682-2559 (fax)

ALASKA

***Honorable Bill Walker**
Governor of Alaska
P.O. Box 110001
Juneau, AK 99811-0001
(907) 465-3500

†**Brent Goodrum**, Director
Division of Mining, Land & Water
550 West 7th Avenue, Suite 1070
Anchorage, AK 99501-3579
(907) 269-8600
(907) 269-8904 (fax)
brent.goodrum@alaska.gov

†**Alice Edwards**
Deputy Commissioner
Department of Environmental Conservation
410 Willoughby, Suite 303
P.O. Box 11180
Juneau, AK 99811-1800
(907) 465-5066
(907) 465-5070 (fax)
alice.edwards@alaska.gov

†**David W. Schade** (Alt)
Natural Resources Manager III
Chief, Water Resources Section
Division of Mining Land & Water
Alaska Department of Natural Resources
550 W 7th Avenue, Suite 1020
Anchorage, AK 99501-3579
(907) 269-8645
david.w.schade@alaska.gov

ARIZONA

***Honorable Doug Ducey**
Governor of Arizona
Statehouse
Phoenix, AZ 85007
(602) 542-4331

****Thomas Buschatzke**, Director
Department of Water Resources
3550 North Central Avenue, 2nd Floor
Phoenix, AZ 85012-2105
(602) 771-8426
(602) 771-8681 (fax)
tbuschatzke@azwater.gov

Trevor Baggione, Director
Water Quality Division
1110 West Washington Street
Phoenix, AZ 85007
(602) 771-2321
(602) 771-4834 (fax)
baggione.trevor@azdeq.gov

L. William Staudenmaier, Attorney
Snell & Wilmer
One Arizona Center
400 East Van Buren Street, Suite 1900
Phoenix, AZ 85004-2202
(602) 382-6571
(602) 382-6070 (fax)
wstaudenmaier@swlaw.com

*Ex-Officio Member

**Executive Committee Member

†Council members denoted by this symbol are listed by virtue of their office, pending receipt of a letter of appointment by their Governor.

Cynthia Chandley, Attorney (Alt.)
Snell & Wilmer
One Arizona Center
400 East Van Buren Street, Suite 1900
Phoenix, AZ 85004-2202
(602) 382-6154
(602) 382-6070 (fax)
cchandley@swlaw.com

CALIFORNIA

***Honorable Jerry Brown**
Governor of California
State Capitol
Sacramento, CA 95814
(916) 445-2841

****Mark Cowin**, Director
Department of Water Resources
1416 Ninth Street
P.O. Box 942836
Sacramento, CA 95814
(916) 653-5791
(916) 653-5028 (fax)
mcowin@water.ca.gov

Thomas Howard
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100
(916) 341-5615
(916) 341-5620 (fax)
thoward@waterboards.ca.gov

Betty H. Olson
Professor
Civil & Environmental Engineering
University of California, Irvine
1361 SE II, Code: 7070
Irvine, CA 92697-7070
(949) 824-7171
(949) 824-2056 (fax)
bholson@uci.edu

Jeanine Jones, P.E. (Alt.)
Interstate Resources Manager
Department of Water Resources
1416 Ninth Street
P.O. Box 942836
Sacramento, CA 94236-0001
(916) 653-8126
(916) 653-5028 (fax)
jeanine.jones@water.ca.gov

COLORADO

***Honorable John Hickenlooper**
Governor of Colorado
State Capitol
Denver, CO 80203
(303) 866-2471

****James L. Eklund**, Director
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
(303) 866-3441
(303) 866-4474 (fax)
james.eklund@state.co.us

Trisha Oeth, Administrator
Water Quality Control Commission
OED-OLRA-A5
4300 Cherry Creek Drive South
Denver, CO 80246-1530
(303) 692-3468
(303) 691-7702 (fax)
trisha.oeth@state.co.us

Dick Wolfe
State Engineer
Colorado Division of Water Resources
1313 Sherman Street, Room 318
Denver, CO 80203
(303) 866-3581
(303) 866-3589 (fax)
dick.wolfe@state.co.us

Patrick J. Pfaltzgraff, Director (Alt.)
Water Quality Control Division
WQCD-DO-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530
(303) 692-3509
(303) 782-0390 (fax)
patrick.j.pfaltzgraff@state.co.us

Harold D. (Hal) Simpson (Alt.)
5967 South Birch Way
Centennial, CO 80121
(303) 771-3449 (home)
(303) 916-1093 (mobile)
halsimpson28@msn.com

John R. Stulp (Alt.)
Special Policy Advisor to the Governor for Water
IBCC Director
1313 Sherman Street, Suite 721
Denver, CO 80203
(303) 866-3441 x. 3257
john.stulp@state.co.us

IDAHO

***Honorable C. L. "Butch" Otter**

Governor of Idaho
State Capitol
Boise, ID 83720
(208) 334-2100

****Jerry R. Rigby**

Rigby, Andrus & Rigby, Chtd.
553 East 4th South
Rexburg, ID 83440
(208) 356-3633
(208) 356-0768 (fax)
jrigby@rex-law.com

†Curt Fransen, Director

Department of Environmental Quality
Statehouse Mail
1410 North Hilton Street
Boise, ID 83706-1255
(208) 373-0240
(208) 373-0417 (fax)
curt.fransen@deq.idaho.gov

John Simpson

Barker, Rosholt & Simpson, LLP
P.O. Box 2139
Boise, ID 83701
(208) 336-0700
(208) 344-6034 (fax)
jks@idahowaters.com

Gary Spackman, Director (Alt.)

Idaho Department of Water Resources
The Idaho Water Center
322 East Front Street
P.O. Box 83720
Boise, ID 83720-0098
(208) 287-4800
(208) 287-6700 (fax)
gary.spackman@idwr.idaho.gov

KANSAS

***Honorable Sam Brownback**

Governor of Kansas
State Capitol, 2nd Floor
Topeka, KS 66612-1590
(785) 296-3232

****David W. Barfield, Chief Engineer**

Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, KS 66502
(785) 564-6658
(785) 564-6779 (fax)
david.barfield@kda.ks.gov

Tracy Streeter, Director

Kansas Water Office
900 SW Jackson Street, Suite 404
Topeka, KS 66612
(785) 296-3185
(785) 296-0878 (fax)
tracy.streeter@kwo.ks.gov

Greg Foley

Executive Director, Division of Conservation
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, KS 66502
(785) 564-6621
(785) 564-6779 (fax)
greg.foley@kda.ks.gov

Chris W. Beightel, Program Manager (Alt.)

Water Management Services
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, KS 66502
(785) 564-6659
(785) 564-6779 (fax)
chris.beightel@kda.ks.gov

Christopher M. Grunewald (Alt.)

Assistant Attorney General
Civil Litigation Division
Kansas Attorney General's Office
120 SW 10th Avenue, 2nd Floor
Topeka, KS 66612-1597
(785) 291-3988
(785) 291-3767 (fax)
chris.grunewald@ag.ks.gov

Earl Lewis, Assistant Director (Alt.)

Kansas Water Office
900 SW Jackson Street, Suite 404
Topeka, KS 66612
(785) 296-3185
(785) 296-0878 (fax)
earl.lewis@kwo.ks.gov

Tom Stiles, Chief (Alt.)

Kansas Department of Health & Environment
Office of Watershed Planning
Signature Building
1000 SW Jackson Street
Topeka, KS 66612-1367
(785) 296-6170
(785) 291-3266 (fax)
tstiles@kdehs.gov

MONTANA

***Honorable Steve Bullock**

Governor of Montana
State Capitol
Helena, MT 59620
(406) 444-3111

****Tim Davis**

Administrator, Water Resources Division
Dept. of Natural Resources and Conservation
P.O. Box 201601
Helena, MT 59620-1601
(406) 444-6605
(406) 444-0533 (fax)
timdavis@mt.gov

George Mathieus, Administrator
Planning, Prevention & Assistance Division
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-1601
(406) 444-7423
(406) 444-6836 (fax)
gemathieus@mt.gov

John Tubbs, Director
Dept. of Natural Resources and Conservation
P.O. Box 201601
Helena, MT 59620-1601
(406) 444-1948
(406) 444-0533 (fax)
jtubbs@mt.gov

Anne Yates
Chief Legal Counsel
Dept. of Natural Resources and Conservation
P.O. Box 201601
Helena, MT 59620-1601
(406) 444-0503
(406) 444-0533 (fax)
ayates@mt.gov

Tom Livers, Director (Alt.)
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-1601
(406) 444-2544
(406) 444-4386 (fax)
tlivers@mt.gov

Mike Volesky (Alt.)

Deputy Director
Montana Fish, Wildlife & Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, MT 59620-0701
(406) 444-4600
(406) 444-4952 (fax)
mvolesky@mt.gov

Jay Weiner (Alt.)

Assistant Attorney General
Civil Services Bureau
Office of the Attorney General
215 North Sanders Street, 3rd Floor
Helena, MT 59620
(406) 444-2026
(406) 444-3549 (fax)
jweiner2@mt.gov

NEBRASKA

***Honorable Pete Ricketts**

Governor of Nebraska
State Capitol
Lincoln, NE 68509
(402) 471-2244

****†James C. Schneider**, Acting Director

Department of Natural Resources
301 Centennial Mall South
Fourth Floor, State Office Building
P.O. Box 94676
Lincoln, NE 68509-4676
(402) 471-3141
(402) 471-2900 (fax)
jim.schneider@nebraska.gov

Patrick Rice, Director (Alt.)
Department of Environmental Quality
Suite 400, The Atrium
P.O. Box 98922
Lincoln, NE 68509-8922
(402) 471-2186
(402) 471-2909 (fax)
pat.rice@nebraska.gov

NEVADA

***Honorable Brian Sandoval**

Governor of Nevada
State Capitol
Carson City, NV 89701
(775) 687-5670

****Roland D. Westergard**

207 Carville Circle
Carson City, NV 89703
(775) 882-3506

Leo Drozdoff, Director

Dept. of Conservation and Natural Resources
901 South Stewart Street, Suite 5001
Carson City, NV 89701
(775) 684-2700
(775) 684-2715 (fax)
ldrozdoff@dcnr.nv.gov

Jason King

Nevada State Engineer
Division of Water Resources
901 South Stewart Street, Suite 2002
Carson City, NV 89701-9965
(775) 684-2861
(775) 684-2811 (fax)
jking@water.nv.gov

Colleen Cripps (Alt.)

Administrator
Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, NV 89701-5249
(775) 687-9301
(775) 687-5856 (fax)
cripps@ndep.nv.gov

NEW MEXICO

***Honorable Susana Martinez**

Governor of New Mexico
State Capitol
Santa Fe, NM 87501
(505) 476-2200

†Tom Blaine, State Engineer

Office of the State Engineer
Concha Ortiz y Pino Building
130 South Capitol Street, NEA Building
P.O. Box 25102
Santa Fe, NM 87504-5102
(505) 827-6175
(505) 827-6188 (fax)
tom.blaine@state.nm.us

†Ryan Flynn, Cabinet Secretary

New Mexico Environment Department
1190 Street Francis Drive, N4050
P.O. Box 26110
Santa Fe, NM 87502-0110
(505) 827-2855
ryan.flynn@state.nm.us

Bidtah N. Becker, Attorney (Alt.)

Navajo Nation Department of Justice
P.O. Box 2010
Window Rock, AZ 86515
(928) 871-7510
(928) 6200 (fax)
bbecker@nndoj.org

Eileen Grevey Hillson (Alt.)

AguaVida Resources
915 Camino Ranchitos NW
Albuquerque, NM 87114
(505) 238-0461 (cell)
(505) 898-0747 (fax)
ehillson@swcp.com

Maria O'Brien, Attorney (Alt.)

Modrall Sperling
Roehl Harris & Sisk, P.A.
500 Fourth Street NW
P.O. Box 2168
Albuquerque, NM 87103-2168
(505) 848-1800
(505) 848-9710 (fax)
mobrien@modrall.com

†Greg Ridgley (Alt.)

Office of the State Engineer
130 South Capital
Santa Fe, NM 87506-5108
(505) 827-6150
(505) 827-3887 (fax)
greg.ridgley@state.nm.us

John Utton, Attorney (Alt.)

Sheehan and Sheehan, P.A.
40 First Plaza NW, Suite 740
Albuquerque, NM 87102
(505) 247-0411
(505) 842-8890 (fax)
jwu@sheehansheehan.com

NORTH DAKOTA

***Honorable Jack Dalrymple**

Governor of North Dakota
State Capitol
Bismarck, ND 58505
(701) 224-2200

****Todd Sando**

North Dakota State Engineer
State Water Commission
900 East Boulevard
Bismarck, ND 58505-0850
(701) 328-4940
(701) 328-3696 (fax)
tsando@nd.gov

L. David Glatt, Chief
North Dakota Department of Health
Environmental Health Section
Gold Seal Center
918 East Divide Avenue
Bismarck, ND 58501-1947
(701) 328-5152
(701) 328-5200 (fax)
dglatt@nd.gov

Jennifer L. Verleger
Assistant Attorney General
Office of the Attorney General
500 North 9th Street
Bismarck, ND 58505
(701) 328-3537
(701) 328-4300 (fax)
jverleger@nd.gov

Michelle Klose (Alt.)
Assistant State Engineer
State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505-0850
(701) 328-4959
(701) 328-3696 (fax)
maklose@nd.gov

Andrea Travnicek (Alt.)
Senior Policy Advisory
Office of the Governor
600 East Boulevard Avenue
Bismarck, ND 58505-0001
(701) 328-2206
atravnicek@nd.gov

OKLAHOMA

***Honorable Mary Fallin**
Governor of Oklahoma
State Capitol
Oklahoma City, OK 73105
(405) 521-2342

****J.D. Strong**
Executive Director
Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, OK 73118
(405) 530-8800
(405) 530-8900 (fax)
jdstrong@owrb.ok.gov

†Shellie Chard-McClary, Director
Water Quality Division
Oklahoma Dept. of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677
(405) 702-7100
(405) 702-7101 (fax)
shellie.chard-mcclary@deq.ok.gov

OREGON

***Honorable John Kitzhaber**
Governor of Oregon
State Capitol
Salem, OR 97310
(503) 378-3100

****Thomas M. Byler**, Director
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301-1271
(503) 986-0900
(503) 986-0903 (fax)
thomas.m.byler@wrd.state.or.us

†Jennifer Wigal
Water Quality Program Manager
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204
(503) 229-5323
(503) 229-5408 (fax)
wigal.jennifer@deq.state.or.us

SOUTH DAKOTA

***Honorable Dennis Daugaard**
Governor of South Dakota
State Capitol
Pierre, SD 57501
(605) 773-3212

****Steven M. Pirner**, Secretary
Dept. of Environment & Natural Resources
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501-3181
(605) 773-5559
(605) 773-6035 (fax)
steve.pirner@state.sd.us

Kent Woodmansey, PE

Engineering Manager
Feedlot Permit Program
Dept. of Environment & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3351
(605) 773-4068 (fax)
kent.woodmansey@state.sd.us

TEXAS***Honorable Gregory W. Abbott**

Governor of Texas
State Capitol
Austin, TX 78711
(512) 463-2000

****Carlos Rubinstein**

Chairman
Texas Water Development Board
1700 North Congress Ave.
Austin, TX 78701
(512) 463-7354
(512) 475-2053 (fax)
carlos.rubinstein@twdb.texas.gov

Christopher Tobias "Toby" Baker

Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-5515
(512) 239-5533 (fax)
toby.baker@tceq.texas.gov

John R. Elliott (Alt.)

Vice President
Headwaters Groundwater Conservation District
25 Lehmann Drive, Suite 102
Kerrville, TX 78028-6059
(830) 238-5176
(830) 238-4611 (fax)
elliottj@cebridge.net

Craig Estes, Senator (Alt.)

Texas Senate
2525 Kell Boulevard, Suite 302
Wichita Falls, TX 76308
(940) 689-0191
(940) 689-0194 (fax)
craig.estes@senate.state.tx.us

F. Scott Spears, Jr. (Alt)

Partner
Arenson & Spears
901 MoPac Expressway South
Austin, TX 78746-5797
(512) 327-4422
(512) 327-1524 (fax)
scottspearslegal@aol.com

UTAH***Honorable Gary R. Herbert**

Governor of Utah
State Capitol
Salt Lake City, UT 84114
(801) 538-1000

****Walter L. Baker, Director**

Division of Water Quality
Department of Environmental Quality
195 North 1950 West, P. O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 536-4300
(801) 536-4301 (fax)
wbaker@utah.gov

Eric Millis, Director

Division of Water Resources
1594 West North Temple, Suite 310
P.O. Box 146201
Salt Lake City, UT 84114-6201
(801) 538-7250
(801) 538-7279 (fax)
ericmillis@utah.gov

Dallin Jensen (Alt.)

Parsons, Behle, and Latimer
201 South Main Street
P.O. Box 45898
Salt Lake City, UT 84145-0898
(801) 532-1234
(801) 536-6111 (fax)
djensen@parsonsbhle.com

Norman K. Johnson (Alt.)

Assistant Attorney General
Utah State Attorney General's Office
1594 West North Temple, #300
Salt Lake City, UT 84116
(801) 538-7227
(801) 538-7440 (fax)
normanjohnson@utah.gov

WASHINGTON

***Honorable Jay Inslee**

Governor of Washington
State Capitol
Olympia, WA 98504
(360) 753-6780

****Maia Bellon, Director**

Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
(360) 407-7001
(360) 407-6989 (fax)
maib461@ecy.wa.gov

Tom Loranger

Water Resources Program Manager
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
(360) 407-6672
(360) 407-6574 (fax)
tlor461@ecy.wa.gov

Ted Sturdevant, Executive Director

Legislative Affairs and Policy
Office of Governor Inslee
State Capitol
Olympia, WA 98504
(360) 753-6780
ted.sturdevant@gov.wa.gov

Alan Reichman

Assistant Attorney General
Ecology Division, Water Section
Washington State Attorney General's Office
P.O. Box 40117
Olympia, WA 98504-0117
(360) 586-6748
(360) 586-6760 (fax)
alanr@atg.wa.gov

Stephen Bernath (Alt.)

Water Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
(360) 407-6459
(360) 407-6426 (fax)
sber461@ecy.wa.gov

WYOMING

***Honorable Matt Mead**

Governor of Wyoming
State Capitol
Cheyenne, WY 82001
(307) 777-7434

****Patrick T. Tyrrell**

Wyoming State Engineer
Wyoming State Engineer's Office
Herschler Building, 4th Floor East
Cheyenne, WY 82002
(307) 777-6150
(307) 777-5451 (fax)
patrick.tyrrell@wyo.gov

Christopher Brown

Senior Assistant Attorney General
Water and Natural Resources Division
123 Capitol Avenue
Cheyenne, WY 82002
(307) 777-3406
(307) 777-5451 (fax)
chris.brown@wyo.gov

Todd Parfitt, Director

Wyoming Dept. of Environmental Quality
Herschler Building, 4th Floor West
122 West 25th Street
Cheyenne, WY 82002
(307) 777-7555
(307) 777-7682 (fax)
todd.parfitt@wyo.gov

Sue Lowry (Alt.)

Interstate Streams Administrator
Wyoming State Engineer's Office
Herschler Building, 4th Floor East
122 West 25th Street
Cheyenne, WY 82002
(307) 777-5927
(307) 777-5451 (fax)
sue.lowry@wyo.gov

Harry LaBonde, Director (Alt.)

Wyoming Water Development Commission
6920 Yellowtail Road
Cheyenne, WY 82002
(307) 777-7626
(307) 777-6819 (fax)
harry.labonde@wyo.gov

†Kevin Frederick, Administrator (Alt.)

Wyoming Department of Environmental Quality
Herschler Building, 4th Floor West
122 West 25th Street
Cheyenne, WY 82002
(307) 777-7072
(307) 777-5973 (fax)
kevin.frederick@wyo.gov

WESTERN STATES WATER COUNCIL COMMITTEE ASSIGNMENTS

EXECUTIVE COMMITTEE

Vacant - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Eklund - Colorado
Hal Simpson - Colorado
(Alternate)*
Jerry Rigby - Idaho
(Vice-Chair)
David Barfield - Kansas
Tim Davis - Montana
James Schneider - Nebraska
Roland Westergard - Nevada
Leo Drozdoff - Nevada
(Alternate)*
Tom Blaine - New Mexico
Todd Sando - North Dakota
J.D. Strong - Oklahoma
Thomas Byler - Oregon
Steve Pirner - South Dakota
Kent Woodmansey - South Dakota
(Alternate)*
Carlos Rubinstein - Texas
Walt Baker - Utah
Maia Bellon - Washington
Patrick T. Tyrrell - Wyoming
(Chair)

Management Subcommittee

Patrick Tyrrell
(Chair)
Jerry Rigby
(Vice-Chair)
Vacant
(Secretary/Treasurer)
Tony Willardson
(Executive Director)

Nominating Subcommittee

Roland Westergard (Chair) - Nevada
Hal Simpson - Colorado

Ex-Officio Representatives

*For purposes of Committee rosters, the designation as an "alternate" only reflect the person's function on the Committee.

Endangered Species Act Subcommittee

Roland Westergard - Nevada
Herman Settemeyer - Texas
Sue Lowry - Wyoming

Ex-Officio Representatives

FWS - Andrew Hautzinger
David Cottingham

Shared Water Vision Subcommittee

Sue Lowry - (Chair) - Wyoming
Hal Simpson - Colorado
Mike Volesky - Montana
Carlos Rubinstein - Texas
Pat Tyrrell - Wyoming

Ex-Officio Representatives

USBR - Dionne Thompson
Corps - John Grothaus
Ray Russo
Stu Townsley
EPA - Roger Gorke
USGS - Pixie Hamilton

Water Resources Infrastructure Subcommittee

Jeanine Jones - California (Chair)
Hal Simpson - Colorado
Mike Volesky - Montana

Ex-Officio Representatives

USBR - Dionne Thompson
Corps - Elliot Ng
EPA - Steve Albee
NRCS - Keith Admire
Doug Toews

LEGAL COMMITTEE

David Schade - Alaska
William Staudenmaier - Arizona
Cynthia Chandley - Arizona
(Alternate)*
Jeanine Jones - California
James Eklund - Colorado
Jerry Rigby - Idaho
John Simpson - Idaho
(Alternate)*
Chris Grunewald - Kansas
Anne Yates - Montana
Jay Weiner - Montana
(Alternate)*
James Schneider - Nebraska
Roland Westergard - Nevada
Jason King - Nevada
(Alternate)*
Maria O'Brien - New Mexico
Greg Ridgley - New Mexico
(Alternate)*
Jennifer Verleger - North Dakota
(Chair)
Sara Gibson - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
John Elliott - Texas
Norman Johnson - Utah
Alan Reichman - Washington
Chris Brown - Wyoming
(Vice-Chair)

Non-Tribal Federal Water Needs Subcommittee

Melissa Hornbein - Montana
Ed Bagley - New Mexico
Dwight French - Oregon
Herman Settemeyer - Texas

Ex-Officio Representatives

BLM - Lee Koss
USFS - Jean Thomas
FWS - Andrew Hautzinger
DOD - Marc Kodack

Tribal Reserved Water Rights Subcommittee

William Staudenmaier - Arizona
Cynthia Chandley - Arizona
Jay Weiner - Montana
Bidtah Becker - New Mexico
Greg Ridgley - New Mexico
Arianne Singer - New Mexico
Norman Johnson - Utah

Water Transfers and the Public Interest

Jerry Rigby - Idaho
Pat Tyrrell - Wyoming

Natural Flows Subcommittee

Michelle Klose - North Dakota
J.D. Strong - Oklahoma
Jennifer Verleger - North Dakota
Carlos Rubinstein - Texas
Herman Settemeyer - Texas

WATER QUALITY COMMITTEE

Alice Edwards - Alaska
Trevor Baggione - Arizona
Thomas Howard - California
Betty Olson - California
(Alternate)*
Trisha Oeth - Colorado
Patrick Pfaltzgraff - Colorado
(Alternate)*
Curt Fransen - Idaho
Tom Stiles - Kansas
George Mathieus - Montana
Tom Livers - Montana
(Alternate)*
Patrick Rice - Nebraska
Colleen Cripps - Nevada
Ryan Flynn - New Mexico
David Glatt - North Dakota
J.D. Strong - Oklahoma
(Chair)
Shellie Chard-McClary - Oklahoma
(Alternate)*
Jennifer Wigal - Oregon
Kent Woodmansey - South Dakota
Steve Pirner - South Dakota
(Alternate)*
Carlos Rubinstein - Texas
(Vice-Chair)
Todd Chenoweth - Texas
(Alternate)*
Walter Baker - Utah
Maia Bellon - Washington
Stephen Bernath - Washington
(Alternate)*
Pat Tyrrell - Wyoming
Kevin Frederick - Wyoming
(Alternate)*
Todd Parfitt - Wyoming
(Alternate)*

Clean Water Act Subcommittee

Michelle Hale - Alaska
Ruth Hamilton Heese - Alaska
Trisha Oeth - Colorado
Barry Burnell - Idaho
Tom Stiles - Kansas
Michelle Klose - North Dakota
Jennifer Verleger - North Dakota
J.D. Strong - Oklahoma
Todd Chenoweth - Texas
Walt Baker - Utah
Stephen Bernath - Washington
Lauren Driscoll - Washington

Ex-Officio Representatives

Corps - Wade Eakle
EPA - Donna Downing

WATER RESOURCES COMMITTEE

David Schade - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Eklund - Colorado
John Stulp - Colorado
(Alternate)*
Dick Wolfe - Colorado
(Alternate)*
John Simpson - Idaho
Jerry Rigby - Idaho
(Alternate)*
David Barfield - Kansas
John Tubbs - Montana
Tim Davis - Montana
(Chair) (Alternate)*
James Schneider - Nebraska
Jason King - Nevada
Tom Blaine - New Mexico
Todd Sando - North Dakota
JD Strong - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
Carlos Rubinstein - Texas
Herman Settemeyer - Texas
(Alternate)*
Eric Millis - Utah
Tom Loranger - Washington
Patrick Tyrrell - Wyoming
Harry LaBonde - Wyoming
(Alternate)*
Sue Lowry - Wyoming
(Alternate)*

Border Water Issues Subcommittee

Jeanine Jones - California
Herman Settemeyer - Texas
Arizona
Idaho
Montana
New Mexico
North Dakota

Climate Adaptation and Drought Subcommittee

Jeanine Jones - California (Chair)

Ex-Officio Representatives

Corps - Rolf Olsen
NRCS - Mike Strobel

Water Information and Data Subcommittee

Lane Letourneau - Kansas
David Rodriguez - New Mexico
Julie Cunningham - Oklahoma
Barry Norris - Oregon
Robert Mace - Texas
Stephen Bernath - Washington
Pat Tyrrell - Wyoming
Sue Lowry - Wyoming

Ex-Officio Representatives

USBR - Becky Fulkerson
Corps - Steve Ashby
Boni Bigornia
USGS - Pixie Hamilton and Eric Evenson
NASA - Brad Doorn
NOAA - DeWayne Cecil
NRCS - Mike Strobel

Water Use Efficiency/Conservation Subcommittee

Sue Lowry - Wyoming (Chair)
John Longworth - New Mexico
Stephen Bernath - Washington

Ex-Officio Representatives

NRCS - Mike Strobel

Water Resources and Energy Subcommittee

William Staudenmaier - Arizona
Jeanine Jones - California
John Simpson - Idaho
Todd Sando - North Dakota
Robert Mace - Texas
Sue Lowry - Wyoming

Ex-Officio Representatives

Corps - John Grothaus

Committee Assignments

EXECUTIVE COMMITTEE

Vacant - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Ekund - Colorado
Hal Simpson - Colorado
(Alternate)*
Jerry Rigby - Idaho
(Vice-Chair)
David Barfield - Kansas
Tim Davis - Montana
James Schneider - Nebraska
Roland Westergard - Nevada
Leo Drozdoff - Nevada
(Alternate)*
Tom Blaine - New Mexico
Todd Sando - North Dakota
J.D. Strong - Oklahoma
Thomas Byler - Oregon
Steve Pimer - South Dakota
Kent Woodmansey - South Dakota
Carlos Rubinstein - Texas
Walt Baker - Utah
Maia Bellon - Washington
Patrick T. Tyrrell - Wyoming
(Chair)

WATER QUALITY COMMITTEE

Alice Edwards - Alaska
Trevor Baggione - Arizona
Thomas Howard - California
Betty Olson - California
(Alternate)*
Trisha Oeth - Colorado
Patrick Pfaltzgraff - Colorado
(Alternate)*
Curt Fransen - Idaho
Tom Stiles - Kansas
(Alternate)*
George Mathieus - Montana
Tom Livers - Montana
(Alternate)*
Patrick Rice - Nebraska
Colleen Cripps - Nevada
Ryan Flynn - New Mexico
David Glatt - North Dakota
J.D. Strong - Oklahoma
(Chair)
Shellie Chard-McClary - Oklahoma
(Alternate)*
Jennifer Wigal - Oregon
Steve Pimer - South Dakota
Carlos Rubinstein - Texas
(Vice-Chair)
Todd Chenoweth - Texas
(Alternate)*
Walter Baker - Utah
Maia Bellon - Washington
Stephen Bemath - Washington
(Alternate)*
Pat Tyrrell - Wyoming
Kevin Frederick - Wyoming
(Alternate)*
Todd Parfitt - Wyoming
(Alternate)*

WATER RESOURCES COMMITTEE

David Schade - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Ekund - Colorado
John Stulp - Colorado
(Alternate)*
Dick Wolfe - Colorado
(Alternate)*
John Simpson - Idaho
Jerry Rigby - Idaho
(Alternate)*
David Barfield - Kansas
John Tubbs - Montana
Tim Davis - Montana
(Chair) (Alternate)*
James Schneider - Nebraska
Jason King - Nevada
Tom Blaine - New Mexico
Todd Sando - North Dakota
JD Strong - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
Carlos Rubinstein - Texas
Herman Settemeyer - Texas
(Alternate)*
Eric Millis - Utah
Tom Loranger - Washington
Patrick Tyrrell - Wyoming
Harry LaBonde - Wyoming
(Alternate)*
Sue Lowry - Wyoming
(Alternate)*

LEGAL COMMITTEE

David Schade - Alaska
William Staudenmaier - Arizona
Cynthia Chandley - Arizona
(Alternate)*
Jeanine Jones - California
James Ekund - Colorado
Jerry Rigby - Idaho
John Simpson - Idaho
(Alternate)*
Chris Grunewald - Kansas
Anne Yates - Montana
Jay Weiner - Montana
(Alternate)*
James Schneider - Nebraska
Roland Westergard - Nevada
Jason King - Nevada
(Alternate)*
Maria O'Brien - New Mexico
Greg Ridgley - New Mexico
(Alternate)*
Jennifer Verleger - North Dakota
(Chair)
Jerry Barnett - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
John Elliott - Texas
Norman Johnson - Utah
Alan Reichman - Washington
Chris Brown - Wyoming
(Vice-Chair)



WESTERN STATES FEDERAL AGENCY SUPPORT TEAM

(updated 03/03/2015)

D'Antonio, John (USACE)

Deputy District Engineer
Programs and Project Management
U.S. Army Corps of Engineers
Albuquerque District
4101 Jefferson Plaza NE
Albuquerque, NM 87109
(505) 342-3261
john.r.d'antonio@usace.army.mil

Dempsey, Lauren M. (DoD alternate)

Western Region Water Specialist
Air Force Western Regional Environmental
Office: AFCEC/CZO (San Francisco)
540 Airlift Drive, Suite C201
Travis AFB, CA 94535
(707) 424-8628
lauren.dempsey@us.af.mil

Doorn, Bradley (NASA)

Program Manager, Water Resources Program
Science Mission Directorate
Earth Science Division
National Aeronautics and Space Administration
300 E Street, SW
Washington, DC 20546
(202) 358-2187
bradley.doorn@nasa.gov

Ellsworth, Alan (NPS Alternate)

Water Advisor
National Parks Service
(202) 513-7181
alan_ellsworth@nps.gov

Ford, Larisa (BLM)

National Coordinator for Soil, Water, and Air
Bureau of Land Management
20 M Street South East Washington D.C. 20003-3503
(202) 912-7137
laford@blm.gov

Fulkerson, Becky (BoR, WestFAST Chair)

Policy Analyst
Bureau of Reclamation
1849 C Street NW
Washington, DC 20240-0001
(202) 513-0638
rfulkerson@usbr.gov

Gorke, Roger (EPA, WestFAST Vice-Chair)

Senior Policy Advisor, Office of Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, MC 4101 M
Washington, DC 20460-001
(202) 564-0470
gorke.roger@epa.gov

Hamilton, Pixie (USGS)

Cooperative Water Program Coordinator
U.S. Geological Survey
12201 Sunrise Valley Drive, MS: 409
Reston, VA 20192
(703) 648-5061
pahamilt@usgs.gov

Hansen, Bill (NPS Alternate)

Water Rights Branch Chief
National Parks Service
(970) 225-3532
bill_hansen@nps.gov

Harvey, Ed (NPS)

Chief, Water Resources Division
National Parks Service
(970) 225-3511
forrest_harvey@nps.gov

Hautzinger, Andrew (FWS)

Chief, Division of Water Resources
Fish and Wildlife Service
500 Gold Ave SW Room 4002
Albuquerque, NM 87102
(505) 248-7946
andrew_hautzinger@fws.gov

Kodack, Marc (DoD)

Office of the Assistant Secretary of the Army
Energy and Sustainability
U.S. Department of Defense
110 Army Pentagon, RM 3D453
Washington, DC 20310
(571) 256-4197
marc.d.kodack.civ@mail.mil



WESTERN STATES FEDERAL AGENCY SUPPORT TEAM

(updated 03/03/2015)

Lambert, Patrick (USGS)

WestFAST Liaison
Western States Water Council
5296 South Commerce Drive, Suite 202
Murray, UT 84107
(801) 685-2555
patlambert@wswc.utah.gov

Melton, Forrest (NASA, alternate)

Associate Program Manager for Water Resources,
Applied Sciences Program
National Aeronautics and Space Administration
NASA Ames Research Center, MS 232-21
Moffett Field, CA 94035-1000
(650) 604-2787
Forrest.S.Melton@nasa.gov

Pulwarty, Roger (NOAA)

Physical Scientist and Director, NIDIS
National Oceanic and Atmospheric Administration
325 Broadway R/PSD
Boulder, CO 80305
(303) 497-4425
roger.pulwarty@noaa.gov

Strobel, Michael (NRCS)

Director, National Water and Climate Center
USDA-Natural Resources Conservation Service
1201 NE Lloyd Boulevard, Suite 802
Portland, OR 97232
(503) 414-3055
michael.strobel@por.usda.gov

Thomas, Jean (FS)

Water Uses Program Leader
USDA Forest Service, WFW
1400 Independence Avenue SW, MS: 1121
Washington, DC 20250-1121
(202) 205-1172
jathomas02@fs.fed.us

Thompson, Dionne (Reclamation)

Acting Deputy Commissioner
External and Intergovernmental Affairs
Bureau of Reclamation
1849 C Street NW
Washington, DC 20240-0001
(202) 513-0616
dethompson@usbr.gov

Werner, Kevin (NOAA, alternate)

Regional Climate Services Director
NOAA Western Region
2725 Montlake Boulevard E, Room 216E
Seattle, WA 98112
(206) 860-3490 (office)
kevin.werner@noaa.gov

Zamuda, Craig (DoE)

Senior Policy Advisor
Office of Climate Change Policy and Technology
Office of Policy and International Affairs
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
(202) 586-9038
craig.zamuda@hq.doe.gov

Tab C – WSWC Policy Positions

**POSITION
of the
WESTERN STATES WATER COUNCIL
regarding
Integrating Water and Energy Planning and Policy
Tulsa, Oklahoma
April 17, 2015**

WHEREAS, the West enjoys diverse and abundant energy resources, including renewable and non-renewable resources, but water is scarce in much of the region and may or may not be sufficient for all proposed uses; and

WHEREAS, power plant cooling and other energy resource development and related water requirements can be significant on state, local and westwide scales; and

WHEREAS, the West is a leader in the planning, development, diversification, management and protection of the Nation's water and energy resources; and

WHEREAS, in the West, maintaining adequate and sustainable supplies of clean water and energy present interrelated challenges given a growing population, increasing water and energy demands, and an uncertain climate subject to multi-year drought and other extremes; and

WHEREAS, an integrated approach to water and energy resource planning, development, diversification, management and protection is necessary to achieve a thriving and sustainable future for the West; and

WHEREAS, effectively planning for the future requires gathering and integrating data and information on past, present and future water and energy supplies and demands, including embedded demands by different sectors/uses and users; and

WHEREAS, in general, current water use data (especially consumptive water use data) are not sufficient for detailed and comprehensive analyses to support many water/energy decisions and policymakers' needs; and

WHEREAS, the Western Governors' Association (WGA), Western States Water Council (WSWC), Department of Energy (DOE), Sandia National Laboratories (and other DOE laboratories), Western Interstate Energy Board (WIEB), Western Electric Coordinating Council (WECC), Electric Reliability Council of Texas (ERCOT) and others have worked collaboratively to develop a better understanding of water and energy supplies and demands; and

WHEREAS, public-private partnerships are increasingly important in addressing our future water and energy challenges; and

WHEREAS, there is a continuing need for federal and state water and energy resource agencies, public utility commissions, and other planners, regulators and policymakers to better

define and consider the nexus between water and energy resources in their respective areas of jurisdiction; and

WHEREAS, continuing water and energy nexus research and development is needed to further our understanding and evaluate the effectiveness of different policies and programs given various future scenarios.

NOW THEREFORE BE IT RESOLVED, that western water and energy planners, policymakers, managers and regulators should consider the following:

- (1) integrating water and energy policies and engaging water and energy planners to maximize program and project effectiveness and efficiencies;
- (2) supporting new and continuing data gathering, analyses and research related to better understanding water and energy supplies and demands, and related science;
- (3) promoting integrated water and energy conservation and use efficiency;
- (4) seeking to minimize economic, environmental and other costs of providing adequate, reliable and sustainable supplies of water and energy;
- (5) expanding public education, engagement and outreach to highlight the importance, vulnerability and interrelated nature of our water and energy resources;
- (6) ensuring decisions related to the siting, construction and operation of water and energy development projects include an evaluation and appropriate consideration of the interrelated impacts of such development;
- (7) tailoring the use of alternative cooling technologies and other energy-related options to the availability of water, and the related opportunity costs related to other water uses;
- (8) seeking to develop a diversified portfolio of water and energy resources and assets to maximize reliability and flexibility;
- (9) taking advantage of synergies and economies of scale related to integrating water and energy conservation, development and protection programs and projects;
- (10) evaluating and integrating life-cycle costs related to water and energy supply development, conveyance and transmission;
- (11) integrating short and long-range water and energy supply planning;
- (12) promoting the development and use of “smart” technologies for management of water and energy demands and production; and
- (13) ensuring that the West maintains sustainable, reliable and robust infrastructure systems necessary to deliver adequate supplies of clean water and energy to meet present and future needs.



W E S T E R N S T A T E S W A T E R C O U N C I L

942 East North Union Avenue, Suite A-201 I Midvale, Utah 84047-1764 I (801) 561-5300 I FAX (801) 255-9642

Web Page: www.westgov.org/hwswc

Position #338

March 15, 2012

The Honorable Jeff Bingaman
Chairman
Senate Energy & Natural Resources Committee
304 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Lisa Murkowski
Ranking Minority Member
Energy and Natural Resources Committee
304 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Bingaman and Senator Murkowski:

I am writing on behalf of the Western States Water Council, an affiliate of the Western Governors' Association, to commend you on the introduction of S.1343, the Energy and Water Integration Act of 2011, to conduct an analysis of the impact of energy development and production on our water resources. As you know, the Council advises our governors on water policy issues, and we recognize the close symbiotic relationship between water and energy resources development and use. Not since the 1970's has the Nation faced such increasingly important resource management challenges and policy decisions related to our energy independence and sustainable water future, which now like then will only become more serious.

In the West we face an uncertain future due to increasing demands related to population growth, climate variability and growing demands for water and energy to meet our economic needs while protecting our environment. Energy demands and their impact on our water and other natural resources, as well as our environment, are of particular concern. Our future prosperity as a Nation and a region will depend on wise investments in building, rebuilding and maintaining our capacity to provide adequate supplies of clean energy and clean fresh water for future generations.

We appreciate your leadership in addressing these challenges, and fully support the objective of S. 1343, to provide an in-depth analysis of the impact of energy development and production on our Nation's water resources. In general, we know far less than we would like regarding the sustainability of our increasingly scarce and threatened clean water supplies, current water uses and the future demands likely to be placed on those supplies. Similar uncertainty regarding our energy future compounds the problems policy makers and resource planners now face. States must be indispensable partners in addressing related issues, and we are currently working closely with the Western Governors' Association and Department of Energy's National Laboratories on water and energy studies.

Sound science is an important key to making wise investments in our future and decisions regarding water development and use. A knowledgeable lifecycle assessment of water and energy related needs for the transportation and electricity sectors is overdue. A comprehensive assessment and analysis of the water related impacts of different uses of fuels and power plant cooling technologies will help water and energy planners and policy makers better understand and cope with the challenges they face in the most efficient and effective manner possible.

Water conservation has always been a fundamental principle of western water law and policy. Often the related energy savings are important. In the West, interbasin transfers of water within states are common, often involving a considerable expenditure of energy to move water

significant distances. Energy and water use and related costs are a primary constraint when it comes to the West's economic well being, which has traditionally been based on agriculture, mining and other water intensive consumptive uses, as well as important water-based recreation and other non-consumptive instream uses. Water development, treatment, distribution and wastewater treatment consume substantial amounts of energy. Emerging and expanding technologies involving water recycling and reuse, and desalination, also are energy intensive. States must be appropriately involved in any authorized studies.

No region of the country feels the water-related impacts of energy development and use more acutely than the West, and nowhere is water conservation and wise use more important. As we have in the past, we look forward to working with you on this legislation and other strategies designed to address the future water needs of the West and the Nation.

Sincerely,

A handwritten signature in black ink that reads "Weir Labatt III". The signature is written in a cursive, slightly stylized font. The "W" is large and loops around the "e". "Labatt" is written in a similar cursive style, and "III" is written in a simpler, more upright script at the end.

Weir Labatt, Chairman
Western States Water Council

**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
SUPPORTING FEDERAL RESEARCH ON
CLIMATE ADAPTATION**

Tulsa, Oklahoma
April 17, 2015
Washington, D.C.
March 15, 2012

WHEREAS, climate variability and change have serious potential consequences for water supply availability, water resources planning and management, water rights administration, flood management, ~~water supply availability~~, and water quality management; and

WHEREAS, much of the West's water infrastructure was designed and constructed prior to our current understanding of climate variability and change, often from short hydrologic records from the first half of the 20th century;

WHEREAS, impacts of climate variability and change can include increased frequency and intensity of severe weather (droughts and floods), reduction of mountain snowpacks, changes in timing and amount of snowmelt runoff, and changes in plant and crop evapotranspiration resulting in changed water demand patterns; and

WHEREAS, climate variability and change are additional stressors on western water resources, which are already challenged by population growth, competition for scarce resources, increasingly stringent environmental regulations, and other factors; and

WHEREAS, water resources management and planning at all levels of government and sound future decision-making depend on our ability to understand, monitor, predict, and adapt to climate variability and change; and

~~**WHEREAS**, the 2006 Western Governors' Association (WGA) report on *Water Needs and Strategies for a Sustainable Future* and the follow-up 2008 WGA *Next Steps* report identify addressing climate change impacts as a priority for moving forward, and make specific recommendations for actions that the federal government and the states should take to support adaptation, including detailing research and planning needs; and~~

~~**WHEREAS**, the Council approved Position No. 285 in 2007, calling for the Administration and Congress to give a high priority for funding federal programs that provide for the application of basic research on climate variability and change to real-world water management; and~~

WHEREAS, the Council has over the years co-sponsored several workshops ~~in 2007, 2008, and 2011~~ to gather input on climate adaptation and research needs, including

[research on extreme events](#); and

WHEREAS, ~~the U.S. Geological Survey (USGS) released its Circular 1331, *Climate Change and Water Resources Management: A Federal Perspective*, in February 2009, these workshops and various federal reports have helped in~~ identifying knowledge gaps, research needs, opportunities to improve planning capabilities, and other activities that would assist in climate change adaptation including those that could impact water quality and thus, available water supply; and

WHEREAS, applied research needs and improvements to water resources planning capabilities ~~identified in the WGA and federal reports and in the Council's workshops~~ include subjects such as evaluation of modifications to reservoir flood control rule curves, evaluation of the adequacy of existing federal hydroclimate monitoring networks, improvements to extreme precipitation observing networks and forecasting capabilities, development and improvement of applications for remote sensing data (satellite imagery), preparation of reconstructed paleoclimate datasets for drought analyses, and development of new guidelines for estimation of flood flow frequencies; and

~~**WHEREAS**, many of the applied research needs and improvements to water resources management capabilities and hydroclimate data collections programs identified in the WGA and federal reports and in the Council's workshops are not presently incorporated into federal agency budgets;~~

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council supports [state and](#) federal applied research and hydroclimate data collection programs that would assist water agencies at all levels of government in adapting to climate variability and change.

**POSITION
of the
WESTERN STATES WATER COUNCIL
on
STATE PRIMACY OVER GROUNDWATER**

[Tulsa, Oklahoma](#)

[April 17, 2015](#)

[Washington, D.C.](#)

[March 15, 2012](#)

WHEREAS, groundwater is a critically important natural resource that is vital to the economy and environment of the arid West;

WHEREAS, the Desert Land Act of 1877 and the United States Supreme Court in *California Oregon Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142 (1935) recognize States have exclusive authority over the allocation and administration of rights to the use of the groundwater within their borders and States and their political subdivisions are primarily responsible for the protection, control and management of the resource;

WHEREAS, the Congress has created and the U.S. Supreme Court has recognized federal reserved rights to surface water, but no federal statute has addressed nor federal court [explicitly](#) recognized any federal property or other rights related to groundwater; and

WHEREAS, the regulatory reach of federal statutes and regulations, including but not limited to the Clean Water Act, Endangered Species Act, [Multiple-Use Sustained-Yield Act](#), National Environmental Policy Act, [Organic Administration Act \(USFS\)](#), Reclamation Act of 1902, Safe Drinking Water Act, [Wild and Scenic Rivers Act](#), [Wilderness Act](#) and the Comprehensive Environmental Response, Compensation, and Liability Act, were never intended to infringe upon state ownership or control over groundwater; and

WHEREAS, States recognize the importance of effective groundwater management and are in the best position to protect groundwater quality and allow for the orderly and rational allocation and administration of the resource through state laws and regulations that are specific to their individual circumstances, [while working cooperatively with their federal partners](#); and

[WHEREAS, working cooperatively with their federal partners, states have shown that they have the ability and authority to address federal needs regarding groundwater within existing legal frameworks, including but not limited to memoranda of understanding, water rights compacts, stipulations, and other methods; and](#)

WHEREAS, the conditions affecting groundwater supplies, demands, and impairments vary considerably across the West and within individual states; and

WHEREAS, federal efforts to exert control over or ownership interests related to groundwater or otherwise infringe upon or supersede state groundwater management are contrary to federal law and threaten effective groundwater management and protection; and

WHEREAS, nothing stated in this position is intended to apply to the interpretation or application of any interstate compact.

NOW THEREFORE BE IT RESOLVED, states have exclusive authority over the allocation and administration of rights to the use of the groundwater located within their borders and are primarily responsible for allocating, protecting, managing and otherwise controlling the resource; and

BE IT FURTHER RESOLVED, that the Western States Water Council opposes any and all efforts that would establish a federal ownership interest in groundwater apart from that of any other recognized landowner not otherwise recognized or allowed under state law, or diminish the primary and exclusive authority of States over groundwater; and

BE IT FURTHER RESOLVED, that federal agencies should contact appropriate state agencies and officials to determine whether federal needs involving groundwater can be addressed through state laws and authorities.

(See also Position #337)



W E S T E R N S T A T E S W A T E R C O U N C I L

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westgov.org/hwswc

March 15, 2012

Position #341

Michael L. Connor
Commissioner
U.S. Bureau of Reclamation
1849 C Street N.W.
Washington, D.C. 20240-0001

Dear Commissioner Connor,

On behalf of the Western States Water Council, representing western governors on water policy issues, I am writing to express our concern and questions we have regarding some aspects of the Bureau of Reclamation's proposed changes to the Reclamation Manual as set forth in PEC 09, PEC 05, PEC 09-01, and PEC 05-01.

Specifically, under Reclamation's current policy (WTR P02), project water is considered to be used for "irrigation" so long as it is an untreated, raw water supply applied to any outdoor use regardless of acreage. We believe the current policy is consistent with federal law and appropriately allows cities, irrigation districts, and other water users across the West to rely on and apply water from single purpose "irrigation" projects to lawns, golf courses, and parks, as well as gardens and crops or livestock watering, among other uses, for non-commercial purposes.

Under the Reclamation's proposed changes, deliveries of project water to lots of less than 10 acres for non-commercial irrigation purposes would be assumed to be a "municipal and industrial" (M&I) use subject to the payment of "market rates," which are substantially higher than irrigation rates. Although Reclamation has clarified that these draft policy changes are prospective, they will also apply whenever a contracting action is required. This means that existing users that need to renew, amend, or supplement their contracts will need to do so under the new policy, which would re-classify many uses recognized under state law as M&I even though the state water rights, project purpose, and place of use remain unchanged.

Although Reclamation has indicated that the new policies are intended to provide sufficient flexibility to establish workable rates, most market rates will almost certainly be substantially and possibly prohibitively higher than irrigation rates. As a result, we are concerned that such increases will result in water use changes and water delivery service rates will be unaffordable for many users, including those existing users subject to a future contracting action, and create an inappropriate incentive for secondary water users to move to potable supplies.

We are also concerned that the proposed policy ignores the potential adverse impact on some state-issued water rights in those instances where Reclamation facilities deliver water pursuant to a water right held by a non-federal entity. Specifically, the proposed definitions could result in price increases that force existing users subject to a contracting action to forgo the

full exercise of their state-issued water rights. While we recognize that Reclamation has the right to determine the terms of contracts involving the use of project water, states still retain primacy in establishing and defining rights of use and any policy that impairs the full exercise of existing state-issued water rights abrogates or supersedes state law and the allocation of state water rights.

Lastly, we are concerned about the potential impacts of this policy on market-based water transfers and water sharing arrangements, especially those that involve a conversion of agricultural water to an M&I use. Namely, a more narrow definition for "irrigation" will result in additional steps to formalize conversions from agricultural to non-agricultural uses that may further complicate water sharing efforts. Moreover, many conversions of agricultural water to urban uses qualify as "irrigation" under the current policy, which means that reclassifying these uses to "M&I" could make such conversions financially infeasible in some instances.

In light of the above concerns, the Council supports the Reclamation Manual's current definitions for "irrigation" and "M&I," opposes the proposed changes insofar as they change these definitions, and asks that Reclamation enter into a dialogue with the Council to better define the potential impacts and implications under state water law prior to formalizing any changes to the present manual. Please be assured that nothing in our comments is intended to hinder the ability of Reclamation or of Council member states to carry out water conservation programs or administer water use efficiency activities associated with lots of less than ten acres.

We appreciate the opportunity to comment on this matter and look forward to continuing to build on our longstanding partnership and collaboration with Reclamation.

Thank you again for considering the Council's views on this matter.

Sincerely,

A handwritten signature in black ink, reading "Weir Labatt, III". The signature is written in a cursive, flowing style with a distinct "III" at the end.

Weir Labatt, III
Chair, Western States Water Council

cc: Owen Walker

WSWC Policy Statements

The WSWC policy statements are posted on its website at <http://www.westernstateswater.org/policies-2/>.

Policy positions will be deactivated three years after their adoption, unless extended by formal action of the Council. The following is a brief description of all current positions, listed by date of adoption and corresponding number.

2014

- Asserting state primacy on Protecting Ground Water Quality (October 10, 2014) - #377
- Supporting Indian Water Rights Settlements (October 10, 2014) - #376
- Outlining actions Federal agencies should take to expedite State General Stream Adjudications (October 10, 2014) - #375
- Supports the *Dividing the Waters* Program (October 10, 2014) - #374
- Letter commenting on the proposed rule developed by the EPA and the USACE to clarify the scope of Clean Water Act jurisdiction (combined file) (October 10, 2014) - #373
- Letter sending comments on the USFS Proposed Directive on Groundwater Resource Management, Forest Service Manual 2560 (October 3, 2014) - #372
- Regarding Water-Related Federal Rules, Regulations, Directives, Orders and Policies (August 11, 2014) - #371
- Regarding the Interpretive Rule Regarding Applicability of the Exemption from Permitting under Section 404(f)(1)(A) of the Clean Water Act to Certain Agricultural Conservation Practices – (August 11, 2014) - #370
- Regarding Clean Water Act jurisdiction (July 18, 2014) - #369
- Supporting the Water Resources Research Institutes (requesting Congress to maintain the federal authorization and financial support for the state WRI program) (July 18, 2014) - #368
- Regarding the Reclamation Fund (asks Congress to fully appropriate the receipts and collections accruing to the Reclamation Fund) (July 18, 2014) - #367
- Supporting Federal Research and Development of Updated Hydroclimate Guidance for Floods and Droughts (July 18, 2014) - #366
- Regarding Preemption of State Water Law in Federal Legislation (July 18, 2014) - #365
- Regarding the Clean Water State Revolving Fund and the Drinking Water State Revolving Fund (Apr 3, 2014) - #364
- Regarding the National Levee Safety Act of 2007 and the Interpretation of Levees and Water

Supply Canals (Apr 3, 2014) - #363

- Regarding the Transfer of Federal Water and Power Projects and Related Facilities (Apr 3, 2014) - #362
- Regarding the Reclamation Safety of Dams Act of 1978 (Apr 3, 2014) - #361
- Regarding the Bureau of Reclamation's Maintenance, Repair and Rehabilitation Needs (Apr 3, 2014) - #360

2013

- Regarding pesticide applications and National Pollutant Discharge Elimination System discharge permits (October 3, 2013) - #359
- Urging Congress to reaffirm its deference to state water law, provide for the waiver of the United States' immunity to participation in state administrative and judicial proceedings, and provide for payment of fees required by state law (October 3, 2013) - #358
- In the form of a letter to Senate Energy and Natural Resources Committee leaders expressing continued support for implementation of the SECURE Water Act (October 3, 2013) - #357
- Regarding NASA's applied science research program (October 3, 2013) - #356
- Urging the Administration and the Congress to support water research and development programs at the Department of Energy National Laboratories. (June 26, 2013) - #355
- In the form of a letter to House Water Resources and Environment Subcommittee leaders in opposition to H.R. 1460, which would remove "fish and wildlife" as an authorized purpose for which the Corps can manage the Missouri River Mainstem Reservoir System (June 26, 2013) - #354
- Notes that the WSWC "...opposes any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing." (June 24, 2013 - #353
- Supports federal efforts to prepare for and respond to extreme weather events, including an expanded and enhanced west-wide extreme precipitation monitoring system. (June 26, 2013) - #352
- Supports federal legislative and administrative actions to authorize and implement reasonable hydropower projects and programs (April 5, 2013) - #351
- Supporting implementation of the Rural Water Supply Act of 2006 (April 5, 2013) - #350
- Urging the Administration and the Congress to give a high priority to federal programs, such as the National Oceanic and Atmospheric Administration's Regional Integrated Science and Assessments (RISA) program (April 5, 2013) - #349

2012

- Regarding States' water rights and natural flows (October 12, 2012) - #348

- Supporting legislation to reauthorize the Reclamation States Emergency Drought Relief Act (October 12, 2012) - #347
- Supporting legislation to reauthorize the National Integrated Drought Information System (NIDIS) Act, and accompanying letter to NOAA Administrator Lubchenco (October 12, 2012) - #346
- Regarding federal water and climate data collection and analysis programs (October 4, 2012) - #345
- WSWC Vision on Water (June 8, 2012) - #344
- Supporting legislative action to establish a dedicated funding source for completion of federal rural water projects authorized by Congress (June 8, 2012) - #343
- Regarding water transfers and National Pollutant Discharge Elimination System (NPDES) discharge permits (June 8, 2012) - #342
- Addresses proposed changes to Reclamation's policy manual and requests Reclamation enter into a dialogue with the WSWC (March 15, 2012) - #341
- Supports state primacy over groundwater (March 15, 2012) - #340
- Supports federal applied research and hydroclimate data collection programs (March 15, 2012) - #339
- Commending the introduction of S. 1343, the Energy and Water Integration Act of 2011 (March 15, 2012) - #338

Sunsetted Positions

2013

#323 A Shared Vision on Water Planning and Policy (*superceded by more recent position*)

2012

#313 Letter Regarding National Water Research and Development Initiative Act. (*There is no current legislation*)

#315 Letter to House Transportation and Infrastructure Committee leaders raising concerns regarding a draft bill entitled the Sustainable Watershed Planning Act. (*outdated, not reintroduced*)

#317 Supporting the Bureau of Reclamation's Field Services Program. (*outdated*)

#318 Offering general comments to CEQ on the Principles and Guidelines. (*outdated*)

#319 Describing principles that are important to the Western states in considering a "national vision" for water policy. (*superceded by more recent position*)

2011

#297 Strong support for legislation to establish a National Drought Council to improve national drought preparedness, mitigation, and response efforts. (*There is no current legislation*)

#298 In cooperation with the Interstate Council on Water Policy expressing strong support for increased funding for the Cooperative Water Program and the National Streamflow Information Program. (*superceded by more recent position statements and letters*)

#299 Supporting S. 2842, the Aging Water Infrastructure and Maintenance Act. (*enacted*)

#300 Regarding introduction of the Cooperative Watershed Management Act of 2008 (S. 3085). (*enacted*)

#301 Commenting on H.R. 135, the "21st Century Water Commission," specifically declaring that the WSWC be involved in the selection of members and that it include State and Native American involvement. (*Bill has not been reintroduced*)

#302 Supporting the enactment of S. 895 to provide the Bureau of Reclamation with authority to assess rural water supply needs and for sufficient funding. (*enacted*)

#303 Revised resolution in support of the Weather Modification Research and Technology Transfer Act. (*No federal research program or legislation has been reintroduced*)

#306 Urging support for full funding of the USGS National Streamflow Information Program (NSIP) and sufficient funding for the Cooperative Water Program to match non-USGS contributions. (*outdated*)

#307 Letter to Senator Bingaman, Senate Energy and Natural Resources Committee, expressing interest in S. 3231, the Omnibus Public Lands Management Act. (*outdated*)

- #311 Letter to Steve Stockton offering assistance to the Corps in their water planning initiative. *(outdated)*

2010

- #287 Setting forth the Council's past perspectives on a proposed "Twenty-First Century Water Commission." *(outdated - see #301 above)*
- #289 Support of the proposed Water Conservation, Efficiency and Management Act, to specifically authorize the Bureau of Reclamation's water conservation programs. *(separately authorized)*
- #290 Concern over the Administration's decision to zero out funding for the U.S. Bureau of Reclamation's Technical Assistance to States (TATS) Program. *(outdated)*
- #291/#292 Regarding the proposed Agricultural Water Enhancement Program. *(enacted)*
- #295 Concern over budget request for federal funding for water and wastewater treatment, specifically EPA's State Revolving Fund (SRF) Capitalization Grants. *(combined with #296 and replaced with #330 – Apr 15, 2011)*
- #296 Concern with OMB directive to EPA disallowing the use of SRF revenues to repay bonds. *(combined with #295 and replaced with #330 – Apr 15, 2011)*

2009

- #276 Urging the Congress and Administration to Continue to Recognize State Primacy Regarding Water Rights and Water Quality Certification in the Federal Licensing of Hydroelectric Projects. *(supplanted by WGA resolution)*
- #277 Letter commending the American Indian Environmental Office of EPA for its efforts in establishing the Tribal Water Program Council and expressing a hope that it would "offer an ongoing opportunity for state-tribal cooperation on issues of mutual interest." *(outdated)*
- #279 Support for legislation (S. 2751 and H.R. 5136) to create a National Integrated Drought Information System within the National Oceanic and Atmospheric Administration. *(authority enacted)*
- #280 Strong support for federal legislation, the National Drought Preparedness Act, to establish a national policy for drought and coordinate "proactive measures at all levels of government to plan, prepare and mitigate the serious impacts of drought." *(deferred to WGA resolution)*
- #281 Support for Reclamation's Water Conservation Field Services Program and "Bridging-the-Headgate" Partnerships. *(outdated)*
- #282 Regarding Federal Non-Tribal Fees in General Adjudications asking the Congress to pass legislation requiring the Federal government, when a party to a general water rights adjudication, to pay fees for costs imposed by the state to conduct the proceedings to the same extent as all other users. *(deferred to WGA resolution)*
- #283 Reiterating strong support for maintaining a thermal band as part of the Landsat Data Continuity Mission, and the necessary funding. *(separately updated)*

2008

- #262 Support for the U.S. Geological Survey's Cooperative Water Program (CWP) and opposes any effort to force the privatization of related USGS services. (*separately updated*)
- #268 The Western States Water Council endorses policy resolutions adopted by the Western Governors' Association, and will allow these policies to guide the Council in matters relevant to implementation and potential reauthorization of the Clean Water Act. (*deferred to WGA resolution*)
- #269 Water Efficiency Standards for Plumbing Products (*subsequently enacted*)
- #270 Reauthorization of the Farm Bill. (*reauthorized*)
- #271 Support for the National Aeronautics and Space Administration's Landsat Data Continuity Mission and calling for continued funding to include a thermal infrared sensor. (*superceded by 2009 WSWC Position No. 283*)
- #273 Support for the Nonpoint Source Grant program administered by the U. S. Environmental Protection Agency under Section 319 of the Clean Water Act. (*outdated*)

F:\USERS\JULIE\MEETINGS\WSWC\List of Sunsetted Positions.wpd

Tab D – Budget

W S W C Proposed FY16 Budget

		Approved Budget FY2015	Actual thru 1/31/15	Estimated Inc/Exp for Remaining FY	Estimated Total Income / Expense		Proposed Budget FY2016	% Change from FY2015 Estimated Expenditures
INCOME								Over / -Under
Member States Assessments	1	\$ 510,000.00	\$ 387,000.00	\$ 123,000.00	\$ 510,000.00	1	\$ 510,000.00	0.00%
Newsletter		\$ 3,800.00	\$ 2,500.00	\$ 1,000.00	\$ 3,500.00		\$ 3,500.00	0.00%
WGA / WSWC Contracts		\$ 99,600.00	\$ 69,288.00	\$ 10,000.00	\$ 79,288.00		\$ -	-100.00%
Other Contracts / EN Contract	5	\$ 5,000.00	\$ -	\$ -	\$ -		\$ 106,860.00	100.00%
Council Meeting Sponsors		\$ 1,500.00	\$ 5,500.00	\$ 1,500.00	\$ 7,000.00		\$ 7,000.00	0.00%
Symposium (AWMS)	2	\$ 10,000.00	\$ -	\$ -	\$ -		\$ -	100.00%
Symposium (CDWR)	2	\$ 13,000.00	\$ -	\$ 15,000.00	\$ 15,000.00		\$ 15,000.00	0.00%
Symposium (NIDIS)		\$ -	\$ -	\$ -	\$ -		\$ -	0.00%
Symposium (WQ/WQ)	2	\$ 5,000.00	\$ -	\$ -	\$ -		\$ -	0.00%
Symposium (WSWC / NARF)		\$ -	\$ -	\$ -	\$ -		\$ 10,000.00	100.00%
Symposium Sponsors		\$ 3,000.00	\$ -	\$ -	\$ -		\$ 4,000.00	100.00%
Savings Interest		\$ 4,000.00	\$ 2,078.00	\$ 1,000.00	\$ 3,078.00		\$ 3,100.00	0.71%
Other		\$ -	\$ -	\$ -	\$ -		\$ -	
TOTAL INCOME		\$ 654,900.00	\$ 466,366.00	\$ 151,500.00	\$ 617,866.00		\$ 659,460.00	6.73%
EXPENSE								
Accounting		\$ 8,700.00	\$ 5,075.00	\$ 3,625.00	\$ 8,700.00		\$ 8,700.00	0.00%
Annual & Sick Leave Funding		\$ 1,500.00	\$ 875.00	\$ 625.00	\$ 1,500.00		\$ -	-100.00%
Audit	3	\$ -	\$ -	\$ -	\$ -	3	\$ 8,500.00	100.00%
Contingencies		\$ 5,400.00	\$ 3,282.00	\$ 2,500.00	\$ 5,782.00		\$ 5,800.00	0.31%
Contract Services		\$ 10,000.00	\$ 4,843.00	\$ 3,000.00	\$ 7,843.00		\$ 8,000.00	0.00%
Equipment Replacement Fund		\$ 3,000.00	\$ 1,750.00	\$ 1,250.00	\$ 3,000.00		\$ 3,000.00	0.00%
Furniture-Equipment		\$ 1,500.00	\$ 102.00	\$ 700.00	\$ 802.00		\$ 700.00	-12.72%
Insurance		\$ 1,000.00	\$ 756.00	\$ -	\$ 756.00		\$ 760.00	0.53%
Maintenance Contracts		\$ 7,500.00	\$ 4,029.00	\$ 4,350.00	\$ 8,379.00		\$ 8,500.00	1.44%
Meeting Expenses		\$ 22,300.00	\$ 15,963.00	\$ 5,000.00	\$ 20,963.00		\$ 20,000.00	-4.59%
Office Supplies		\$ 3,500.00	\$ 1,187.00	\$ 1,200.00	\$ 2,387.00		\$ 2,500.00	4.73%
Payroll Benefits		\$ 148,000.00	\$ 81,441.00	\$ 59,821.00	\$ 141,262.00		\$ 147,750.00	4.59%
Payroll Salaries		\$ 282,900.00	\$ 160,957.00	\$ 121,630.00	\$ 282,587.00		\$ 310,500.00	9.88%
Payroll Taxes		\$ 24,000.00	\$ 13,525.00	\$ 8,351.00	\$ 21,876.00		\$ 25,500.00	16.57%
Pension Management		\$ 3,600.00	\$ 2,732.00	\$ 600.00	\$ 3,332.00		\$ 3,600.00	8.04%
Postage & Freight		\$ 5,000.00	\$ 2,535.00	\$ 1,500.00	\$ 4,035.00		\$ 4,100.00	1.61%
Printing & Reproduction		\$ 10,000.00	\$ 2,015.00	\$ 4,100.00	\$ 6,115.00		\$ 6,200.00	1.39%
Rent Expense		\$ 35,500.00	\$ 20,713.00	\$ 14,800.00	\$ 35,513.00		\$ 36,700.00	3.34%
Reports & Publications		\$ 5,000.00	\$ 769.00	\$ 4,400.00	\$ 5,169.00		\$ 5,250.00	1.57%
Symposium (AWMS)	2	\$ 10,000.00	\$ -	\$ -	\$ -		\$ -	0.00%
Symposium (CDWR)	2	\$ 13,000.00	\$ 4,622.00	\$ 8,000.00	\$ 12,622.00		\$ 6,500.00	-48.50%
Symposium (WQ/WQ)	2	\$ 5,000.00	\$ -	\$ -	\$ -		\$ -	100.00%
Symposium (WSWC / NARF)		\$ -	\$ -	\$ -	\$ -		\$ 4,000.00	-100.00%
Telephone		\$ 3,500.00	\$ 1,393.00	\$ 1,450.00	\$ 2,843.00		\$ 2,900.00	2.00%
Travel		\$ 45,000.00	\$ 30,959.00	\$ 11,400.00	\$ 42,359.00		\$ 40,000.00	-5.57%
		\$ -						
TOTALS EXPENSES		\$ 654,900.00	\$ 359,523.00	\$ 258,302.00	\$ 617,825.00		\$ 659,460.00	6.74%
NET RESERVE GAIN(LOSS)		\$ -			\$ 41.00		\$ -	

1 Full dues from 17 states

2 Memo entries only -- projected income equals projected expense

3 Management subcommittee approved change to biannual audit

4 Current year decision to break out

5 NOAA contract

Tab E – Present and Past Federal
Legislation –
National Water Research and
Development Initiative

.....
(Original Signature of Member)

113TH CONGRESS
2D SESSION

H. R. _____

To implement a National Water Research and Development Initiative to ensure clean and reliable water for future generations, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Ms. EDDIE BERNICE JOHNSON of Texas introduced the following bill; which was referred to the Committee on _____

A BILL

To implement a National Water Research and Development Initiative to ensure clean and reliable water for future generations, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Coordinating Water
5 Research for a Clean Water Future Act of 2014”.

1 **SEC. 2. NATIONAL WATER RESEARCH AND DEVELOPMENT**
2 **INITIATIVE.**

3 (a) IN GENERAL.—Not later than 90 days after the
4 date of enactment of this Act, the President shall begin
5 to implement a National Water Research and Develop-
6 ment Initiative through the Council and appropriate Fed-
7 eral agencies. The Initiative shall—

8 (1) establish the goals, priorities, and metrics
9 for the evaluation of Federal water research and de-
10 velopment and other activities related to water;

11 (2) invest in Federal research and development
12 activities related to water to achieve the goals estab-
13 lished under the Strategic Plan; and

14 (3) provide for interagency coordination of Fed-
15 eral water research and development and other ac-
16 tivities related to water undertaken pursuant to the
17 Initiative.

18 (b) INITIATIVE ACTIVITIES.—The Initiative shall
19 carry out, at a minimum, the following activities:

20 (1) Promoting the development of, and con-
21 ducting research on how to ensure the systematic
22 and coordinated collection of, publicly available data
23 on regional and national water resources, including
24 information about the quantity, availability, use, and
25 quality of ground and surface water resources.

1 (2) Conducting research on, development of,
2 and demonstration of technologies and practices to
3 enhance reliable water supply, water reuse, pollution
4 prevention, water quality, water use efficiency, and
5 energy efficiency in water use.

6 (3) Conducting research on and development of
7 tools and best practices to assist regional, State,
8 local, and tribal water resource managers in plan-
9 ning for current and future water availability, use
10 patterns, and infrastructure impacts, including non-
11 traditional water sources.

12 (4) Conducting research on the social, behav-
13 ioral, and economic barriers to the sustainable use of
14 water resources, including public acceptance of water
15 technologies and practices and conflict resolution so-
16 lutions for competing water resource management
17 requirements.

18 (5) Conducting research to enhance the under-
19 standing of water-related ecosystems, ecosystem
20 services, and the impact on water resources of
21 invasive species, chemical contaminants, natural dis-
22 asters, long-term ice coverage, and changing water
23 levels.

1 (6) Analyzing the energy required to provide re-
2 liable water supplies and the water required to pro-
3 vide reliable energy supplies.

4 (7) Conducting research on and accelerating the
5 development of advanced hydrological modeling ca-
6 pabilities to improve basic water science discoveries
7 and to address complex water issues at the State, re-
8 gional, and national level.

9 (8) Maintaining and strengthening water re-
10 search partnerships between the Federal Govern-
11 ment and States.

12 (9) Providing guidance to minority serving in-
13 stitutions on funding opportunities to perform re-
14 search as part of the Initiative.

15 (c) PROGRAM MANAGEMENT.—The Council shall
16 oversee the planning, management, and coordination of
17 the Initiative. The Council, itself or through an appro-
18 priate subgroup it designates or establishes, shall—

19 (1) establish goals and priorities for the Initia-
20 tive based on national needs;

21 (2) coordinate all Federal research, develop-
22 ment, demonstration, data collection and dissemina-
23 tion, education, and technology development and
24 transfer activities pertaining to water;

1 (3) coordinate the activities of the Initiative
2 with the water-related research and development ac-
3 tivities of the United States Global Change Research
4 Program;

5 (4) develop the Annual Report under subsection
6 (d);

7 (5) develop the Strategic Plan under section 4;

8 (6) through a Federal agency that is a member
9 of the Initiative, provide for public input and out-
10 reach to be integrated into the Initiative and the de-
11 velopment of the Strategic Plan, including the con-
12 vening of workshops; and

13 (7) serve as the primary point of contact on
14 Federal water research and development activities
15 for regional, State, local, and tribal government
16 agencies, organizations, academia, industry, public-
17 private collaborations, commercial end users, and
18 others to exchange information related to the Initia-
19 tive.

20 (d) ANNUAL NATIONAL WATER RESEARCH RE-
21 PORT.—

22 (1) IN GENERAL.—The Council shall submit the
23 Annual National Water Research Report to Con-
24 gress at the time of the President's budget submis-
25 sion for each fiscal year. The Council shall consider

1 and utilize information from regional, State, local,
2 and tribal governments and other stakeholders in
3 the development of the Annual Report.

4 (2) SPECIFIC REQUIREMENTS.—The Annual
5 Report shall include—

6 (A) for each Federal agency that partici-
7 pates in the Initiative—

8 (i) the Initiative budget for the cur-
9 rent fiscal year; and

10 (ii) the proposed coordinated Initiative
11 budget for the next fiscal year;

12 (B) an analysis of the progress, and indi-
13 cators used to measure such progress, made to-
14 ward achieving the goals and priorities estab-
15 lished for the Initiative in the Strategic Plan;
16 and

17 (C) an analysis of the extent to which the
18 Initiative has incorporated the recommendations
19 of the Advisory Committee and the public.

20 **SEC. 3. ADVISORY COMMITTEE.**

21 (a) IN GENERAL.—There shall be established or des-
22 ignated a National Water Research Initiative Advisory
23 Committee with members from academic institutions, in-
24 dustry, nongovernmental institutions, and regional, State,

1 local, and tribal governments who are qualified to provide
2 advice on the Initiative.

3 (b) DUTIES.—The Advisory Committee shall advise
4 the President and the Council on matters relating to the
5 Initiative, including assessing the following:

6 (1) Trends and developments in water research
7 and development.

8 (2) Progress made in implementing the Initia-
9 tive.

10 (3) The need to revise the Initiative.

11 (4) The balance among the activities of the Ini-
12 tiative described in section 2(b), including funding
13 levels for the Federal programs developed to address
14 the goals and priorities of the Initiative.

15 (5) Whether the goals and priorities are ena-
16 bling the Initiative to help maintain a reliable and
17 clean supply of water for the United States.

18 (6) Whether the Initiative is enabling an ade-
19 quate workforce to help maintain a reliable and
20 clean supply of water for the United States.

21 (7) The management, coordination, implemen-
22 tation, and activities of the Initiative.

23 (8) Whether the concerns of regional, State,
24 local, and tribal governments are being addressed
25 adequately by the Initiative.

1 (c) REPORTS.—

2 (1) IN GENERAL.—Not less frequently than
3 once every 4 fiscal years, the Advisory Committee
4 shall submit to the President and the Council a re-
5 port on its assessment under subsection (c) and its
6 recommendations for ways to improve the Initiative.

7 (2) INITIAL DEADLINE.—The first report under
8 this subsection shall be submitted not later than 12
9 months after the date of enactment of this Act.

10 (3) TRANSMITTAL TO CONGRESS.—The Direc-
11 tor of the Office of Science and Technology Policy
12 shall transmit a copy of each report under this sub-
13 section to Congress.

14 (d) TRAVEL EXPENSES OF NON-FEDERAL MEM-
15 BERS.—Non-Federal members of the Advisory Committee,
16 while attending meetings of the Advisory Committee or
17 while otherwise serving at the request of the head of the
18 Advisory Committee away from their homes or regular
19 places of business, may be allowed travel expenses, includ-
20 ing per diem in lieu of subsistence, as authorized by sec-
21 tion 5703 of title 5, United States Code, for individuals
22 in the Government serving without pay. Nothing in this
23 subsection shall be construed to prohibit members of the
24 Advisory Committee who are officers or employees of the
25 United States from being allowed travel expenses, includ-

1 ing per diem in lieu of subsistence, in accordance with ex-
2 isting law.

3 (e) EXEMPTION FROM SUNSET.—Section 14 of the
4 Federal Advisory Committee Act shall not apply to the
5 Advisory Committee.

6 **SEC. 4. NATIONAL WATER RESEARCH AND DEVELOPMENT**
7 **STRATEGIC PLAN.**

8 (a) IN GENERAL.—The Council shall develop, within
9 18 months after the date of enactment of this Act, and
10 update every 5 years thereafter, a National Water Re-
11 search and Development Strategic Plan to guide the ac-
12 tivities of the Initiative described under section 2(b).

13 (b) GOALS.—The Strategic Plan shall specify near-
14 term and long-term goals for the Initiative, the anticipated
15 timeframe for achieving the near-term goals, and the
16 metrics to be used for assessing progress toward the goals.

17 (c) PRIORITIES.—The Strategic Plan shall prioritize
18 the research and development activities in section 2(b) re-
19 lated to the enhancement of reliable and clean water sup-
20 ply systems.

21 (d) CONTENT.—The Strategic Plan shall describe
22 how the Initiative will—

23 (1) coordinate and reduce nonbeneficial duplica-
24 tion of multiagency activities of the Initiative;

1 (2) foster the transfer of research and develop-
2 ment results into new technologies and applications
3 for the benefit of society, including through coopera-
4 tion and collaborations with regional, State, local,
5 and tribal governments conducting water-related re-
6 search and development and other water-related ac-
7 tivities;

8 (3) encourage and support mechanisms for
9 interdisciplinary research and development in water
10 availability and water quality technology;

11 (4) address long-term challenges of regional im-
12 portance for which solutions require large-scale,
13 long-term, interdisciplinary research and develop-
14 ment;

15 (5) place emphasis on innovative projects hav-
16 ing the potential for substantial societal and ecologi-
17 cal returns on the research investment;

18 (6) strengthen all levels of water research, de-
19 velopment, demonstration, technology transfer, and
20 education and training programs to ensure an ade-
21 quate, well-trained workforce; and

22 (7) attract more women and underrepresented
23 minorities to pursue postsecondary degrees in water-
24 related research and development.

1 (e) CONSIDERATIONS.—In developing the Strategic
2 Plan, the Council shall take into consideration the rec-
3 ommendations of the—

4 (1) Advisory Committee; and

5 (2) a wide range of stakeholders as described in
6 section 2(c)(7).

7 (f) REPORT TO CONGRESS.—The Director of the Of-
8 fice of Science and Technology Policy shall transmit to
9 the Advisory Committee and Congress the Strategic Plan.

10 **SEC. 5. DEFINITIONS.**

11 In this Act:

12 (1) ADVISORY COMMITTEE.—The term “Advi-
13 sory Committee” means the National Water Re-
14 search Initiative Advisory Committee established by
15 section 3(a).

16 (2) ANNUAL REPORT.—The term “Annual Re-
17 port” means the Annual National Water Research
18 Report established by section 2(d).

19 (3) COUNCIL.—The term “Council” means the
20 National Science and Technology Council, or an ap-
21 propriate subgroup designated by the National
22 Science and Technology Council under section 2(c).

23 (4) INITIATIVE.—The term “Initiative” means
24 the National Water Research and Development Ini-
25 tiative established by section 2.

1 (5) MINORITY SERVING INSTITUTIONS.—The
2 term “minority serving institutions” means institu-
3 tions that are eligible institutions under section
4 371(a) of the Higher Education Act of 1965 (20
5 U.S.C. 1067q(a)).

6 (6) STRATEGIC PLAN.—The term “Strategic
7 Plan” means the National Water Research and De-
8 velopment Strategic Plan established by section 4.

113TH CONGRESS
2D SESSION

H. R. 5189

To ensure consideration of water intensity in the Department of Energy’s energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.

IN THE HOUSE OF REPRESENTATIVES

JULY 24, 2014

Ms. EDDIE BERNICE JOHNSON of Texas (for herself and Mr. HALL) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To ensure consideration of water intensity in the Department of Energy’s energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Energy and Water Re-
5 search Integration Act of 2014”.

1 **SEC. 2. INTEGRATING ENERGY AND WATER RESEARCH.**

2 (a) IN GENERAL.—The Secretary of Energy shall in-
3 tegrate water considerations into energy research, develop-
4 ment, and demonstration programs and projects of the
5 Department of Energy by—

6 (1) advancing energy and energy efficiency
7 technologies and practices that meet the objectives
8 of—

9 (A) minimizing freshwater withdrawal and
10 consumption;

11 (B) increasing water use efficiency; and

12 (C) utilizing nontraditional water sources
13 with efforts to improve the quality of the water
14 from those sources;

15 (2) considering the effects climate variability
16 may have on water supplies and quality for energy
17 generation and fuel production; and

18 (3) improving understanding of the energy-
19 water nexus.

20 (b) STRATEGIC PLAN.—

21 (1) IN GENERAL.—Not later than 12 months
22 after the date of enactment of this Act, the Sec-
23 retary shall develop a strategic plan identifying the
24 research, development, and demonstration needs for
25 Department programs and projects to carry out sub-
26 section (a). The strategic plan shall include technical

1 milestones for achieving and assessing progress to-
2 ward the objectives of subsection (a)(1).

3 (2) SPECIFIC CONSIDERATIONS.—In developing
4 the strategic plan, the Secretary shall consider—

5 (A) new advanced cooling technologies for
6 energy generation and fuel production tech-
7 nologies;

8 (B) performance improvement of existing
9 cooling technologies and cost reductions associ-
10 ated with using those technologies;

11 (C) innovative water reuse, recovery, and
12 treatment technologies in energy generation and
13 fuel production;

14 (D) technology development for carbon
15 capture and storage systems that utilize effi-
16 cient water use design strategies;

17 (E) technologies that are life-cycle cost ef-
18 fective;

19 (F) systems analysis and modeling of
20 issues relating to the energy-water nexus;

21 (G) technologies to treat and utilize waste-
22 water and produced waters discharged from oil,
23 natural gas, coalbed methane, and any other
24 substance to be used as an energy source;

1 (H) advanced materials for the use of non-
2 traditional water sources for energy generation
3 and fuel production;

4 (I) biomass production and utilization and
5 the impact on hydrologic systems;

6 (J) technologies that reduce impacts on
7 water from energy resource development;

8 (K) energy efficient technologies for water
9 distribution, treatment, and collection systems;

10 (L) technologies for energy generation
11 from water distribution, treatment, and collec-
12 tion systems; and

13 (M) any other area of the energy-water
14 nexus that the Secretary considers appropriate.

15 (3) COLLABORATION AND NONDUPLICATION.—

16 In developing the strategic plan, the Secretary shall
17 coordinate and avoid duplication—

18 (A) with other Federal agencies operating
19 related programs, if appropriate; and

20 (B) across programs and projects of the
21 Department, including with those of the Na-
22 tional Laboratories.

23 (4) RELEVANT INFORMATION AND REC-
24 OMMENDATIONS.—In developing the strategic plan,
25 the Secretary shall consider and incorporate, as ap-

1 appropriate, relevant information and recommenda-
2 tions, including those of the National Water Avail-
3 ability and Use Assessment Program under section
4 9508(d) of the Omnibus Public Land Management
5 Act of 2009 (42 U.S.C. 10368(d)).

6 (5) ADDITIONAL PARTICIPATION.—In devel-
7 oping the strategic plan, the Secretary shall consult
8 and coordinate with a diverse group of representa-
9 tives from research and academic institutions, indus-
10 try, and State and local governments who have ex-
11 pertise in technologies and practices relating to the
12 energy-water nexus.

13 (6) SUBMISSION TO CONGRESS.—Not later than
14 15 months after the date of enactment of this Act,
15 the Secretary shall submit to Congress the strategic
16 plan.

17 (7) UPDATING THE STRATEGIC PLAN.—Not
18 later than 3 years after the date of enactment of
19 this Act, and at least once every 5 years thereafter,
20 the Secretary shall—

21 (A) utilize relevant information produced
22 by Federal Government agencies, academia,
23 States, and industry to update the strategic
24 plan;

1 (B) include in the updated strategic plan a
2 description of the changes from the previous
3 strategic plan and the rationale for such
4 changes; and

5 (C) submit the updated strategic plan to
6 Congress.

7 (c) PROGRESS REPORTS.—Not less frequently than
8 once every 2 years, the Secretary shall transmit to Con-
9 gress a report on the progress the Department has made
10 toward the milestones outlined in the strategic plan.

11 (d) ADDITIONAL ACTIVITIES.—The Secretary may
12 provide for such additional research, development, and
13 demonstration activities as appropriate to integrate water
14 considerations into the research, development, and dem-
15 onstration activities of the Department as described in
16 subsection (a).

17 **SEC. 3. ENERGY-WATER OVERSIGHT AND COORDINATION.**

18 (a) IN GENERAL.—The Secretary, in coordination
19 with other relevant Federal agencies, shall establish an
20 Energy-Water Subcommittee of the Energy Advisory
21 Board to promote and enable improved energy and water
22 resource data collection, reporting, and technological inno-
23 vation. The Subcommittee shall consist of—

24 (1) representation from each program within
25 the Department and each Federal agency that con-

1 ducts research related to the energy-water nexus;
2 and

3 (2) non-Federal members, including representa-
4 tives of research and academic institutions, States,
5 and industry, who have expertise in technologies and
6 practices relating to the energy-water nexus.

7 (b) FUNCTIONS.—The Subcommittee shall—

8 (1) make recommendations on the development
9 and integration of data collection and data commu-
10 nication standards and protocols to agencies and en-
11 tities currently engaged in collecting the data for the
12 energy-water nexus;

13 (2) recommend ways to make improvements to
14 Federal water use data to increase understanding of
15 trends in energy generation and fuel production;

16 (3) recommend best practices for utilizing infor-
17 mation from existing monitoring networks to provide
18 nationally uniform water and energy use and infra-
19 structure data; and

20 (4) conduct annual technical workshops, includ-
21 ing at least 1 regional workshop annually, to facili-
22 tate information exchange among Federal, regional,
23 State, local, and tribal governments and private sec-
24 tor experts on technologies that encourage the con-
25 servation and efficient use of water and energy.

1 (c) REPORTS.—Not later than 1 year after the date
2 of enactment of this Act, and at least once every 2 years
3 thereafter, the Subcommittee, through the Secretary, shall
4 transmit to Congress a report on its findings and activities
5 under this section.

6 **SEC. 4. MANDATES.**

7 Nothing in this Act shall be construed to require
8 State, tribal, or local governments to take any action that
9 may result in an increased financial burden to such gov-
10 ernments by restricting the use of water by such govern-
11 ments.

12 **SEC. 5. COORDINATION AND NONDUPLICATION.**

13 To the maximum extent practicable, the Secretary
14 shall coordinate activities under this Act with other pro-
15 grams of the Department and other Federal research pro-
16 grams.

17 **SEC. 6. DEFINITIONS.**

18 In this Act:

19 (1) DEPARTMENT.—The term “Department”
20 means the Department of Energy.

21 (2) ENERGY-WATER NEXUS.—The term “en-
22 ergy-water nexus” means the energy required to pro-
23 vide reliable water supplies and the water required
24 to provide reliable energy supplies throughout the
25 United States.

1 (3) SECRETARY.—The term “Secretary” means
2 the Secretary of Energy.

3 (4) SUBCOMMITTEE.—The term “Sub-
4 committee” means the Energy-Water Subcommittee
5 of the Energy Advisory Board established under sec-
6 tion 3(a).

○

**Tab F – 2014-2015 Summary of WSWC
Activities and Events**

Western States Water Council

Summary of Activities

October 2014 – April 2015

Washington, DC Visits

November 18-21, 2014 – WSWC members and staff, traveled to Washington, D.C. for over two dozen meetings with Administration and Congressional officials in support of WSWC priorities, including the WSWC's Clean Water Act (CWA) positions, drought, and basic data. Representatives from the Native American Rights Fund (NARF) also joined the WSWC for a series of visits in support of Indian water rights settlements, including meetings with White House officials, the Office of Management and Budget (OMB) and the Office of the Deputy Secretary of the Interior.

March 16-20, 2015 – WSWC members, staff and the WestFAST Liaison, traveled to Washington, D.C. and held over 30 visits, including a joint meeting with senior officials from the various WestFAST agencies, focused on improving state-federal collaboration. Congressional visits addressed Landsat, basic data programs, the CWA priorities, the Clean Water and Drinking Water State Revolving Funds, and the USFS' proposed groundwater directive. WSWC and NARF representatives also visited Congressional offices in support of Indian water rights settlements, and again met with White House officials, OMB, and the Office of the Deputy Secretary of the Interior.

WSWC Meetings, Symposia and Workshops

October 8-10, 2014 – The WSWC sponsored a State Drought Response Roundtable Discussion prior to the (176th) Council meetings in Scottsdale, Arizona.

December 8, 2014 – The WSWC hosted a meeting of state and federal officials to discuss federal drought assistance and related programs in Las Vegas, Nevada.

Surveys

February 5, 2015 – *Western State Drought Planning and Response*. This survey followed two WSWC Drought Workshops and focused on state drought plans and Executive/Administrative response actions.

WGA Coordination

October 7-8, 2014 – WSWC Federal Liaison attended WGA Drought Forum in Phoenix, Arizona that focused on the manufacturing, mining and industrial sectors.

November 13-14, 2014 – WSWC Assistant Director/General Counsel participated in the WGA Drought Forum in Sacramento, California addressing agricultural impacts and solutions.

December 6-7/8-9, 2014 – WSWC Executive Director attended the WGA Drought Forum in Las Vegas, Nevada, and subsequent Drought Forum on water supply impacts and solutions.

March 11, 2015 - WSWC Executive Director moderated a WGA Drought Webinar on the use of data and technology for drought monitoring and prediction.

April 8-9, 2015 – WSWC Executive Director attended and reported to WGA SAC meeting in Denver, Colorado.

Coordination with other Organizations

October 1-3, 2014 – WSWC Executive Director attended the Water Pipeline Roundtable in Park City, Utah.

October 14, 2014 – WSWC Executive Director attended the WECC Meeting in Salt Lake City, Utah.

October 29-30, 2014 – WSWC Executive Director attended the Eastern South Dakota Water Conference in Brookings, South Dakota.

November 3-6, 2014 – WaDE Program Manager attended the Annual AWRA Meeting in Tysons Corner, Virginia.

December 10-12, 2014 – WSWC Executive Director attended the CRWUA Meetings in Las Vegas, Nevada.

January 15-16, 2015 – WSWC Assistant Director/General Counsel presented on tribal water rights settlements at the Law Seminar in Phoenix, Arizona.

January 21-22, 2015 – WaDE Program Manager presented at the USGS Water Use Program Strategic Planning Meeting in Denver, Colorado.

January 28, 2015 – WSWC Executive Director attended the Missouri River Basin Interagency Roundtable in Omaha, Nebraska.

February 9-10, 2015 – WSWC Executive Director attended the WECC SPSG Meeting in Salt Lake City, Utah.

February 13, 2015 – USFS Officials and WSWC members and staff met in Denver, Colorado to discuss the USFS's proposed groundwater management directive and the WSWC's related concerns and comments.

February 19, 2015 – WaDE Program Manager gave a remote presentation during the Open Water Data Initiative (OWDI) Drought Use Case Meeting that was held in Boulder City, Nevada.

March 2-4, 2015 – WaDE Program Manager attended the NASA Applied Sciences Meeting in College Park, Maryland.

March 4 – WSWC/NARF held a call with the Secretary of the Interior's Indian Water Rights Office (SIWRO) to discuss an initiative to re-evaluate their approach to Indian water rights settlements. Representatives from ten states participated in the call.

Letters

October 3, 2014 – WSWC commented on the Proposed Directive on USFS Groundwater Resource Management.

October 15, 2014 – WSWC commented on the Clean Water Act jurisdiction rule that the Environmental Protection Agency and the U.S. Army Corps of Engineers have proposed.

March 19, 2015 – WSWC letter of support for NOAA proposal to develop a tool to integrate the various data sources and provide the comprehensive information needed to manage this critical resource.

Committees, Task Forces and Work Groups

Advisory Committee on Water Information (ACWI) Climate Adaptation Workgroup – WSWC Member Jeanine Jones of California and WSWC Assistant Director/General Counsel.

American Bar Association Water Law Conference Planning Committee – WSWC Assistant Director/General Counsel.

American Water Resources Association (AWRA) – WSWC Executive Director and WaDE Program Manager

ACWI Subcommittee on Spatial Water Data – WaDE Program Manager

National Geospatial Advisory Committee, Landsat Advisory Group – WSWC Executive Director

Open Water Data Initiative (OWDI) Technical Development Workgroup, Drought/Water Supply Workgroup, and Water Use Data Workgroup Lead – WaDE Program Manager

WaDE - Exchange Network Grant FY2013 Steering Committee – WaDE Program Manager

USGS Water Use Strategic Planning Team – WaDE Program Manager

Western Electricity Coordinating Council (WECC) Scenario Planning Steering Group – WSWC Executive Director

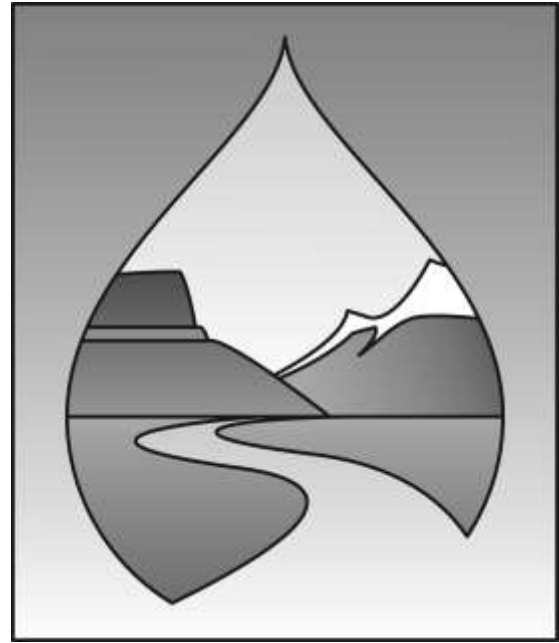
Tab G – WSWC Logo Proposals

WESTERN STATES



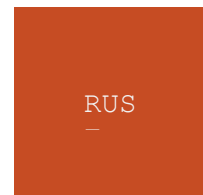
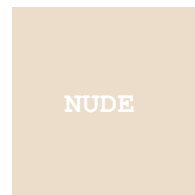
WATER COUNCIL

WESTERN STATES



WATER COUNCIL

COLORS



FONTS

LATO BLACK

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

LATO LIGHT

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Bench Nine

ABCDEFGHIJKLMNOPQRSTUVWXYZ
WXYZ
abcdefghijklmnopqrstuvwxyz

VARIATIONS

WESTERN STATES



WATER COUNCIL

WESTERN STATES



WATER COUNCIL

WESTERN
STATES



WATER
COUNCIL

WESTERN STATES



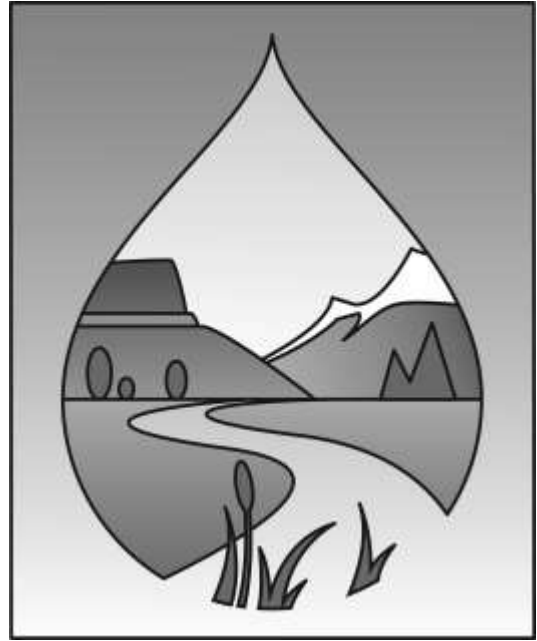
WATER COUNCIL

WESTERN STATES



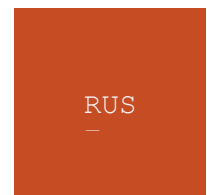
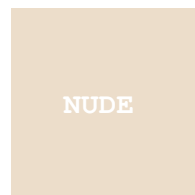
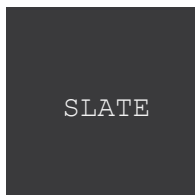
WATER COUNCIL

WESTERN STATES



WATER COUNCIL

COLORS



FONTS

LATO BLACK

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

LATO LIGHT

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Bench Nine

ABCDEFGHIJKLMNOPQRSTUVWXYZ
WXYZ
abcdefghijklmnopqrstuvwxyz

VARIATIONS

WESTERN STATES



WATER COUNCIL

WESTERN STATES



WATER COUNCIL

WESTERN
STATES



WATER
COUNCIL

WESTERN STATES



WATER COUNCIL

WESTERN
STATES



WATER
COUNCIL

VARIATIONS



WESTERN
STATES
WATER
COUNCIL



WESTERN
STATES

WATER
COUNCIL



WESTERN
STATES



WATER
COUNCIL

COLORS



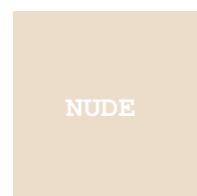
SLATE



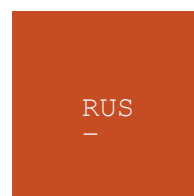
PEWTER



GRAY



NUDE



RUSSET

FONTS

FELIX TITLING

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Beba's neue

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Bench Nine

ABCDEFGHIJKLMNOPQRSTUVWXYZ
WXYZ

abcdefghijklmnopqrstuvwxyz

BRAND ELEMENTS

WSWC

WS
WC

WSWC

WS
WC

Get the

Wswc news

New Positions

Council

Tab H – Draft Committee FY2015-2016 Work Plans

**DRAFT
WATER RESOURCES COMMITTEE
WORK PLAN
2015/2016**

1. M3 Initiative: Measuring, Monitoring and Management

The Council has a long history of working to improve the measurement, monitoring and management of western water resources and related data (see Position #320, October 16, 2009, and Position #326, October 29, 2010). Data collection, management, distribution and visualization are critical for sound decisionmaking, but related programs are often underappreciated and underfunded.

2015/16: The Council, in an attempt to better communicate the critical need for water data, will develop a “M3 Initiative,” revising and renewing its message to better bring attention to water data needs and develop strategies to meet those needs. Consistent reliable future funding will be one major focus for the initiative. There are a number of items under this functional area, divided as outlined below. Part of this effort will be to highlight critical measuring and monitoring “tools,” for any water management “toolbox,” and communicating their value for enhancing our ability to wisely manage water resources.

Subcommittee: Jeanine Jones (CA); Hal Simpson (CO); Barry Norris (OR); Dr. Robert Mace (TX); and Sue Lowry (WY). Dr. Mace also represents the WSWC on the federal Advisory Committee on Water Information (ACWI), and Sue Lowry is also an ACWI member.

Time Frame: ongoing

A. WATER DATA EXCHANGE (WaDE)

Work to date: This is a collaborative effort between the Western States Water Council (WSWC) and the Western States Federal Agency Support Team (WestFAST), continuing to build on efforts undertaken with the support of the Western Governors’ Association (WGA), and the Department of Energy Labs. These data are important for a number of applications. Some examples include, but are certainly not limited to: (a) state and regional water planning; (b) local watershed and urban planning and development; (c) siting of electric power generation and other energy production facilities; and (d) enabling a better understanding of the links between energy, water quantity and water quality. This effort is in direct support of a Department of Energy study that is evaluating water availability for energy production in the West. Another WaDE is consistent with and will seek to integrate other national efforts, including National Water Availability and Use Assessment (the Water Census), which is led by the U.S. Geological Survey (USGS), as well as federal open water data initiatives, is also looking for ways to better understand water availability and use. WaDE will support these efforts by laying the groundwork for exchanging the core state data that may be used to support these studies.

A common ‘schema’ or format that can be used for sharing water availability and data has been completed. A common portal has been created, with a link on the WSWC website, [and a beta version is being tested with data from Colorado, Utah and Wyoming](#). ~~Fifteen~~^{Sixteen} states have been interviewed regarding their existing data systems. Moreover, a mapping tool has been created to allow states to review data, beginning with that gathered from the States by Sandia National Lab. The states are evaluating the resources required for them to participate, and the WSWC has partnered with six states under an EPA Exchange Network grant to help states link up.

~~The Committee also sponsored a WaDE workshop in conjunction with the April 2013 WSWC meetings in Denver, Colorado. The workshop focused on bringing water and energy managers together to discuss current efforts and consider ways to better integrate water and energy planning, fulfilling a requirement under the DOE contract with WGA.~~

The Committee, through a Subcommittee and various work groups, will continue to gather information on state water availability and use data and summarize existing state capabilities. Work to help states [to develop, disseminate,](#) visualize and review ~~Sandia~~ data on water availability ~~was completed~~[will continue](#).

2015/16: WSWC staff will continue working to help individual members states build their capacity to connect to WaDE. This will entail some site visits, as well as regular communication among members and state information technology staff to gather, input and manage data, testing the schema and refining products for presenting consumptive use and water availability information for decisionmaking.

Timeframe: Ongoing ~~See WaDE timeline.~~

B. NATIONAL WATER AVAILABILITY AND USE ASSESSMENT

Work to date: In 2010, the Council staff began working as part of a USGS Ad Hoc Group on a National Water Assessment to develop a strategic plan to improve the acquisition, storage and dissemination of data on existing surface and ground water supplies and uses, both consumptive and non-consumptive, identifying trends and common themes, as well as present and future events and factors that may affect future water supplies, including changing demographics, environmental policies, energy demands, and climate, etc. WaDE will better enable the western states to share water use, water allocation, and water planning data with one another and with the federal government. It will also seek to improve the sharing of Federal data that supports state water planning efforts.

2015/16: The Council will continue working with member states, USGS and various federal agencies to gather and disseminate water resources data using WaDE and other resources. The Council will continue to participate with USGS efforts to advance a National Water Assessment.

Timeframe: Ongoing

C. USGS COOPERATIVE STREAMGAGING

Work to Date: The Council has consistently supported the fully-federally funded USGS National Streamflow Information Program (NSIP) and Cooperative Water Program (CWP), a federal/state streamgaging program partnership. The Council continues to urge the Congress to appropriate sufficient money to restore a 50-50% CWP funding match. As federal program costs have increased, western states have urged USGS to focus on basic data collection, as opposed to analysis and modeling studies. ~~WSWC representatives are also participating in an ACWI review of the USGS water resources program in general, with a goal of identifying priority needs.~~

2015/16: The Council, through the Committee, will continue working with the Interstate Council on Water Policy and other interested organizations to represent states' interests in maintaining a viable and useful streamgaging network, focused on gathering basic water data and information. The Council will continue to pursue opportunities to support funding for USGS cooperative streamgaging and other important programs. ~~The Council will continue to participate in the ACWI review, and make recommendations for the FY2016 USGS budget.~~

Timeframe: Ongoing

D. NRCS SNOW SURVEY AND WATER SUPPLY PROGRAMS

Work to Date: The Council has consistently supported the snow survey program, and urged the Congress to appropriate sufficient money to maintain and modernize the current system. Recent cuts have led to serious declines in program capabilities, with abandoned snow courses and threatening maintenance of SNOTEL sites. Further, sustained reductions in resources threaten the continued viability of the program as it now exists, ~~and will which could~~ lead to the loss of critical long-term data essential for western water and emergency management.

2015/16: The Committee and Council will continue to pursue opportunities to support funding for the NRCS snow survey program and the related soil and climate analysis network (SCAN), as well as upgrading and modernizing the current snow survey and water supply forecasting system. The Council will also work with USDA, NRCS and the states to explore options for maintaining a sustainable system, including any state interest in funding specific SNOTEL sites, with a goal of helping NRCS ensure adequate funding is available for operation and maintenance.

Timeframe: Ongoing

E. LANDSAT 9 and NATIONAL LAND IMAGING PROGRAM

Work to Date: More and more states are using remote sensing, particularly Landsat thermal infrared (TIR) band data, for water rights administration and to better monitor and manage water use, especially agricultural water use. In 2010, following several years of work, the President's budget request to Congress included funding for the thermal infrared sensor (TIRS) as part of LDCM, largely in response to the Council's efforts. On February 11, 2013 LDCM was launched from Vandenberg Air Force Base in California, and has begun sending

its first earth images. The Council has been credited with ensuring LDCM/Landsat 8 included TIRS, enabling states to continue to advance the application of the science to western water management and uses. [In August 2014, the California Department of Water Resources and WSWC also sponsored a workshop on water-related uses of remote sensing capabilities at the NASA/JPL facilities in Pasadena.](#)

2015/16: The Committee will continue to work towards the timely and orderly development of future Landsat missions to ensure the continued availability of TIRS data. The Committee will also work with member states, local and federal agencies to promote the increased use of [this remote sensing data to improve water management and decisionmaking.](#)

Timeframe: Ongoing

F. DROUGHT, NIDIS and EXTREME WEATHER EVENTS

Work to Date: Drought is a recurring natural phenomenon, the effects of which can be minimized through appropriate planning and preparedness activities. [Much of the West, particularly the Southwest and Southern Plains California is experiencing an extreme continuing drought and other states are suffering as well.](#)

[Nevada Governor Brian Sandoval, WGA Chair, has led state efforts to identify best management practices, holding several forums and webinars, with support as appropriate from WSWC members. WSWC and WGA staff have also collaborated on related efforts, including a survey of western state drought planning and response, and a December 2014 workshop on drought related authorities of various federal agencies.](#)

~~are again experiencing drought.~~ The Council supported [congressional reauthorization and also expressly supports reauthorizing of the](#) National Integrated Drought Information System (NIDIS) ~~which has been reauthorized,~~ to provide timely hydrologic and weather-related information for drought management [and improve predictive capacity.](#)

The Council has ~~also supported~~ [sed](#) reauthorization of the Reclamation States Emergency Drought Response Act, to provide the Bureau of Reclamation with continuing drought planning, response and assistance capabilities.

Moreover, the Council ~~recently has~~ expressed its support for federal applied research and hydroclimate data collection programs to assist water agencies at all levels of government in adapting to weather extremes and climate variability and change (Position #339, March 15, 2012). The Council also supports development of an improved western observing system for extreme precipitation events and research to better understand hydroclimate processes (Position #332, July 29, 2011). Since 2006, the Council has held a number of workshops related to climate adaptation and extreme events, including future drought and floods.

The Council and California Department of Water Resources ([CDWR](#)) hosted a July 2012 workshop on extreme weather events, a September 2012 NIDIS reauthorization workshop, ~~and~~ an April 2013 workshop on improving drought prediction. [In May 2014, t](#)The Council also collaborated with the National Oceanic and Atmospheric Administration (NOAA) to

prepare and present a congressional briefing on the importance of atmospheric research and monitoring programs. [In June 2014, the Council held a Hydroclimate Monitoring & Data Workshop in cooperation with CDWR in San Diego.](#)

2015/16: The Committee will continue working to improve preparedness and response to drought, floods and other extreme events in cooperation with member states, the WGA and WestFAST. The Council will also continue to support and advise WGA and NOAA with respect to the National Integrated Drought Information System (NIDIS), and other weather/climate monitoring and adaptation efforts (including RISAs work), as WGA seeks to coordinate federal and state efforts to address drought information needs and compile data on related impacts. The Council will also continue to assist California's DWR with its ongoing series of drought and extreme events workshops. The next in this series of workshops will be held in May 2015. The Council will work towards reauthorization of Reclamation's authorities, [as well as evaluate drought related authorities of other federal agencies.](#)

Time Frame: Ongoing

G: GROUNDWATER MONITORING

Work to date: The Council supports USGS ground water measurement and monitoring, as expressed in Position #345 (October 12, 2012) regarding federal water and climate data collection and analysis programs. Moreover, groundwater measurement and monitoring are important components of a number of western state water management programs. Further, the Council continues to track federal groundwater efforts related to both quantity and quality (in cooperation with the Water Quality Committee).

2015/16: The Council will consider development of an appropriate groundwater component for its M3 Initiative, as well as working collaboratively with other state and federal interests and non-governmental organizations. The Council will also promote the use of existing state information on groundwater resources.

Timeframe: Ongoing

2 WESTERN WATER INFRASTRUCTURE PROJECTS AND PROGRAM FUNDING

Work to date: Many western states face overwhelming infrastructure financing needs, as well as declining budgets for ongoing services. The Council's origins are associated with challenges to augment and better manage the West's water supply. Augmenting the West's water supply continues to be a priority. The Council has in the past prepared reports on state water resources programs and project cost sharing and financing and analyzed state water use fees. In November 2010, the Council convened a symposium and summarized the proceeding in "Western Water Resources Infrastructure Strategies: Identifying, Prioritizing and Financing Needs." The latest in the series of symposia was held in November 2012 in Phoenix, Arizona. The Council [also began ~~has begun to compile~~ compiling](#) an updated summary of western state infrastructure financing authorities, funding sources, policies and programs.

The Council has also supported expenditures from the Reclamation Fund for authorized project purposes, including specifically authorized rural water supply projects and authorized projects as part of negotiated Indian water rights settlements.

2015/16: The Council will continue to call on the Congress to ensure that revenues raised from the development of western resources, specifically revenues accruing to the Reclamation Fund, are appropriated and expended as intended for the development and management of western water resources (consistent with Position #333, July 29, 2011). The Council will otherwise support efforts to secure adequate federal funding to meet growing western water needs, and work to develop a strategy to communicate important infrastructure needs

~~The Council, with support from the Water Resources and Water Quality Committees, will hold the next in a series of symposia on infrastructure financing needs and complete an updated summary of western state infrastructure financing authorities, funding sources, policies and programs.~~

Subcommittee: Jeanine Jones (CA), Chair; ~~Hal Simpson (CO).~~

Time Frame: Ongoing

3. ENERGY & WATER RESOURCES – INTEGRATED MANAGEMENT

Work to date: The increase in demands for water to meet energy needs is raising interest in the interrelationship between water and power resources, including transportation fuels, and opportunities to better understand the energy-water nexus and maximize efficiencies. The Council has addressed various aspects of energy issues as they relate to water resources as part of its regular meetings, including the demand for water resources created by new energy development. Hydraulic fracturing is a current issue and long standing practice with which the states have considerable experience. (See Water Quality Committee workplan.) The use of water produced by energy development has also been discussed.

Since 2009, the Council has worked with the WGA to look at present and future water needs related to renewable and traditional energy production, and related impacts on water supplies. The Council has also urged the Administration and Congress to support Department of Energy hosted energy-water programs conducted at national laboratories (Position #355, June 26, 2013).

In 2012, the Council completed a review of the water requirements for concentrated solar power development in the Southwest and related institutional issues and permitting requirements, which has been published by. ~~It is working with the National Renewable Energy Lab (NREL) to publish a report.~~

2015/16: ~~Working with the WGA and the Department of Energy's labs~~ As resources permit, the Council will continue to compile existing information through WaDE addressing water availability and anticipated demands for energy resources development (and the implications for water use in the West). Further, the Council will consider and evaluate any federal legislation and other potential collaborative efforts in addressing energy and water needs.

The Council will evaluate as appropriate specific energy and water related issues as they arise, such as hydraulic fracturing and other practices.

Subcommittee: William Staudenmaier (AZ); Jeanine Jones (CA); (CO); John Simpson (ID); Todd Sando (ND); Robert Mace (TX); and Sue Lowry (WY).

Timeframe: Ongoing ~~through 2015~~

4. WRDA/CORPS POLICIES

Work to date: The Council has in the past supported regular passage of a Water Resources Development Act (WRDA), and has addressed a number of specific policy issues, while not taking any position on specific project authorizations. The Council has raised concerns with the Corps approach to identifying and regulating the use of “surplus waters,” from Corps projects; ~~and is working with the WGA and Congress on legislative options.~~ Similarly, the Council has worked to exclude irrigation water supply canals from any new safety levee safety program.

2015/16: The Council will continue to work with the Congress and Corps on WRDA and Corps-related issues, including the treatment of irrigation canals under the proposed new levee safety program. Further, the Council will continue to work to ensure that state water rights and prerogatives are protected, specifically as it relates to natural flows, Corps storage and other issues.

Subcommittee: Todd Sando and Michelle Klose (ND), Tracy Streeter (KS)

A. CORPS SURPLUS WATER RULEMAKING

Work to date: A draft Corps surplus water rulemaking is pending. The Flood Control Act of 1944 specifically declared the policy of Congress to recognize the interests and rights of the Missouri River Basin States in determining the development of the watersheds within their borders and likewise their interests and rights in water use and control, and to preserve and protect to the fullest extent established and potential uses of the rivers’ natural flows, those flows that would pass through the states in the absence of the Corps of Engineers dams. The federal government has long recognized the right to use water as determined under the laws of the various states. However, the Corps has indicated that all waters entering its Missouri River mainstem reservoirs are stored waters to be allocated and controlled by the federal agency and does not recognize the States’ right to access natural flows, separate from the captured floodwaters stored within those reservoirs.

In October 2012, the Council adopted a resolution (#348) urging the Corps to recognize the legal rights of the States’ to allocate water, wrote the Assistant Secretary of the Army for Civil Works regarding its concerns, and has met with Corps officials on different occasions (~~most recently in October 2013~~), as well as discussed legislative clarifications with congressional staff. The Council has also surveyed its member states regarding their definition of stored waters and related storage rights.

2015/16: In consultation with the Legal Committee, the Committee will continue to work to address this issue and explore alternative solutions, including both administrative and congressional action.

F:\WORKPLAN\FY 2015-2016\2015-2016 Water Resources Com Workplan_Draft.docx

**D-R-A-F-T
EXECUTIVE COMMITTEE
WORK PLAN
2015/2016**

1. NEWSLETTER

Work to date: *Western States Water* provides members and others with accurate and timely information on various water resources topics at state, regional and national levels. It is provided as a free service to members, governors and their staff, member state water resource agencies, state water users associations, selected multi-state organizations, key Congressmen and their staffs, and top federal administration officials. Other public and private agencies and individuals may subscribe for a fee. It is primarily distributed via email, and is posted on our website, with password protection (for recent issues).

2015/16: Along with the Council's regular meetings, the newsletter requires our most significant commitment of staff resources, though that is usually ancillary to other efforts. The response from members and others receiving the newsletter has been consistently positive. The Council will continue to provide this service weekly via email, except for those who request a hard copy.

Time Frame: Ongoing

2. 50th ANNIVERSARY and REGULAR MEETINGS

Work to Date: The first meeting of the Council was held in Stateline, Nevada in 1965, and regular meetings have been held since. Currently, the Council meets three times per year, rotating among the member states, which host the meetings at a location of their choice. Guest speakers and topics for discussion are scheduled according to members' interests and needs. External policy positions for consideration are noticed 30-days before the Council meets and are distributed not only to members, but also to WGA staff and the governors' staff. Any position statement not noticed may be brought before the Council for consideration at a meeting by unanimous consent, but if approved, must be sent to WGA for review prior to distribution consistent with mutually agreed upon procedures for policy coordination between WGA and WSWC.

2015/16: Nevada will host the [50th Anniversary](#) Summer 2015 meetings in Stateline, [on July 8-10. It will include a dinner cruise on Lake Tahoe as part of a field trip prior to the meetings and special commemorative social hour.](#) Past members have been invited, as well as numerous guest dignitaries.

Kansas will host the Fall 2015 meetings in Manhattan, [on October 7-9.](#) The Spring 2016 meetings will be held in Washington, D.C.

3. 50th ANNIVERSARY MEETING

~~2014/15: The Council will celebrate its 50th Anniversary in 2015. The first meeting was held in Stateline, Nevada on August 3, 1965. The Council's 40th Anniversary Commemoration was held there in 2005. Council members and staff will recognize and commemorate the 50th anniversary at the WSWC Summer 2015 meetings being held July 8-10, 2015.~~

Subcommittee: Roland Westergard, Jason King, Dave Barfield and Tracy Streeter

3. Western Water Conference - Strategies for Addressing Long-Term Drought and Climate Uncertainty

Work to date: The Council has been invited to participate in a conference with western academic interests from the Western Region Multistate Coordinating Committee on Water Resources and the Western Committee on Management and Policy Challenges in a Water-Scarce World, both supported by the U.S. Department of Agriculture. The planning committee includes representatives from Colorado State University, Utah State University and University of Wyoming, among others. WGA has also been invited to participate. A number of preliminary scoping and planning calls have been held to determine appropriate topics and potential speakers.

2015/2016: The Conference is planned for late October 2015 in Salt Lake City.

Subcommittee:

4. 2016 DC ADMINISTRATION and CONGRESSIONAL VISITS

Work to date: In an ongoing effort to promote WSWC and WGA positions and priorities, in March 2015, Council officers, members and staff traveled to Washington, D.C. and ~~made~~had over —30 visits with Administration and Congressional officials ~~in support of WSWC and WGA positions and priorities~~. Native American Rights Fund (NARF) staff joined in many of the visits. ~~In 2013,~~ WSWC members and staff have also previously hosted or presented at briefings for congressional staff on the importance federal data gathering activities, including the Landsat thermal data, U.S. Geological Survey streamgaging programs, National Oceanic and Atmospheric Administration programs, including the National Integrated Drought Information System, River Forecast Centers, and Regional Integrated Science and Assessments, as well as of Indian water rights settlements ~~(attended by 16 staffers)~~. Some of the feedback from these meetings suggested a need for greater contact and communication between the Council and federal and congressional policymakers.

2015/16: The Council's Officers and staff will again plan visits during the Council's in the Spring of 2016 meetings in the Washington, D. C. area to make Administration and Congressional contacts and advise them on major national water issues from the perspective of western states. WSWC members and staff will also schedule visits with individual congressional offices, as well as visits with WestFAST principals. The WestFAST Liaison Officer and WestFAST members will participate in these visits with Executive Branch agencies. Other trips and visits may be made as needed.

Time frame: Spring 2016

4. WGA/WSWC COORDINATION and COLLABORATION

Work to Date: The publication of the WGA/WSWC report(s) entitled “Water Needs and Strategies for a Sustainable Future,” raised awareness of the challenges facing the West. The WGA adopted the 2006 and 2008 reports as policy, and the Council has worked to implement their recommendations, many of which have been completed. In June 2010, the Council completed and the WGA accepted a Progress Report summarizing implementation activities. In 2011, WGA adopted two comprehensive policy statements, one focused on water quantity and the other on water quality, and WGA revised and readopted these in December 2013.

Of particular note, a priority recommendation was establishment of the Western States Federal Agency Support Team (WestFAST) and the hiring of a liaison officer in the Council’s offices. [Both of which were accomplished in 2008.](#)

2015/16: The [Council and the](#) Committee will continue to [coordinate and consult with the WGA on matters that come before the Council and](#) assist in the [development and](#) implementation of WGA [water-related policies.](#) ~~y in consultation with WGA.~~ [WGA staff will be invited to attend and participate in our meetings, workshops and symposia.](#)

As in the past, the Council may propose policy resolutions for WGA consideration. Further, the WSWC Chair and/or Executive Director will participate in WGA meetings as appropriate. Working with the WGA, the Council will also coordinate WestFAST activities and needs.

Time Frame: ongoing

5. WESTFAST

Work to date: WestFAST’s creation has had many benefits. It is a unique forum for addressing western (and national) water issues that has brought together a dozen federal agencies to collaborate with each other and state agencies with water-related responsibilities. WestFAST addresses issues raised and discussed with the Council and WGA (which in turn support development and implementation of related federal policies and programs). WestFAST and the Council have also discussed development of a set of collaborative principles to guide federal/state working relationships. WestFAST is in its [sixth-seventh](#) year of existence.

2015/16: The Committee will continue to oversee the Council’s work with WestFAST. Further, the Committee will work to ensure participating agencies realize the real and potential benefits of WestFAST, and work to build a sound foundation for continuing collaboration. The Council will also seek to build closer ties with WestFAST principals.

Time Frame: Ongoing

6. WATER MANAGEMENT SYMPOSIA

Work to date: An annual WSWC Water Management Symposium has traditionally been held under the auspices of the Executive Committee. However, the Committee has usually asked one of the other committees to take the lead. In odd numbered years, Indian Water Rights Settlement Symposia have been held.

In 2012, the Council held a symposium in November in Phoenix, Arizona in collaboration with relevant federal agencies, multiple stakeholders, and public and private experts on Western State Water Resources Infrastructure Needs & Strategies. It explored state financing authorities, policies, programs and projects, as well as public-private financing and cost sharing resources, with a goal of identifying common interests and promoting partnerships.

2015/16: The Council will again sponsor [an Indian Water Rights Settlement Symposium in Reno, Nevada on August 25-27, and the Committee will consider hosting a 2016](#) Water Infrastructure Symposium focused on streamlining regulatory requirements to facilitate timely construction of projects in an environmentally responsible manner.

Time Frame – 2016

7. ANNUAL REPORT

Since its organization in 1965, the Council has prepared and published an annual report. The annual report includes a brief discussion of the Council's formation and a detailed summary of its current membership and activities. It is a report of the Council's meetings, and provides an explanation of resolutions and positions and other actions taken by the Council. Further, it includes a description of other important activities and events, as well as workshops, seminars and symposia sponsored by the Council. It also describes the Council's involvement in major current water policy issues. Lastly, biennially, it includes an audit of the Council's finances, and current rules of organization. Recently, electronic copies have been distributed.

Time frame:

**LEGAL COMMITTEE
WORK PLAN**
July 1, ~~2014-2015~~ to June 30, ~~2015~~2016

**1. STATE AND FEDERAL COLLABORATION REGARDING THE
ADJUDICATION OF FEDERAL NON-TRIBAL WATER RIGHTS**

Work-to-Date: The Committee has created a Federal Non-Tribal Water Claims Subcommittee to evaluate ways the WSWC and WestFAST can improve the effective resolution of federal non-tribal water rights claims. The Subcommittee consists of WSWC members and WestFAST members, who serve in an *ex officio* capacity.

The Subcommittee issued a questionnaire in 2012 to WSWC member states, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the U.S. Forest Service. The questionnaire sought information on ways the WSWC and WestFAST could address the issues and challenges ~~involving that involve~~ federal non-tribal water right claims,¹ as well as examples of successful state and federal efforts to resolve these claims. Responses indicated a broad consensus that the WSWC and WestFAST could develop a clearinghouse of information to assist states and federal agencies in the effective resolution of federal non-tribal water rights claims.

On July 15-16, 2014, the WSWC and WestFAST held a workshop in Helena, Montana to discuss ways to improve the resolution of federal non-tribal water rights claims and to begin the process of developing a clearinghouse of information that states and tribes can use to resolve these claims. The WSWC and WestFAST subsequently created a joint state-federal workgroup to help develop the clearinghouse and implement the other recommendations that emerged from the workshop.

~~20142015-20152016:~~ The Committee will work to carry out the recommendations and next steps that emerged from the workshop. ~~Namely, the Committee will work with WestFAST to develop a workgroup of state and federal experts to guide the development of the clearinghouse.~~ Under the direction of the Committee, the workgroup will hold calls on a quarterly basis to discuss the development of the clearinghouse and to serve as a forum for information sharing and relationship building. The Workgroup will also advise the Committee about potential future actions the WSWC and WestFAST may take to address federal water needs and may hold webinars on specific topics of interest, ~~where appropriate~~including a webinar on the administrative issues associated with the McCarran Amendment.

Time Frame: ~~July 2014—December 2014~~Ongoing

Federal Non-Tribal Water Claims Subcommittee: Melissa Hornbein (MT), Greg Ridgley (NM), and Dwight French (OR). WestFAST members participating in the Subcommittee in an *ex officio* capacity include: ~~Lee Koss~~Jana Wilcox (Bureau of Land Management), Marc Kodack

¹ For the purposes of the questionnaire, the term “federal non-tribal water right claim” encompassed federal reserved right claims, federal state-based claims, and claims relating to the aforementioned federal agencies that do not involve water right claims made by a tribe.

(Department of Defense), Andrew Hautzinger (U.S. Fish and Wildlife Service), and Jean Thomas (U.S. Forest Service).

2. CWA JURISDICTION*

Work-to-Date: In 2011, the EPA and the U.S. Army Corps of Engineers released draft guidance intended to provide clearer, more predictable guidelines for determining which water bodies are subject to Clean Water Act (CWA) jurisdiction, consistent with the U.S. Supreme Court's decisions in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), and *Rapanos v. United States*, 547 U.S. 715 (2006).

In September 2013, the EPA and Corps withdrew the draft guidance. At the same time, the agencies announced that they had submitted a draft rule to clarify the extent of CWA jurisdiction to the Office of Management and Budget (OMB) for interagency review. ~~In addition, EPA announced that its Science Advisory Board is developing a report on the connection between different bodies of water. EPA released the report for public comment in September 2013, and has indicated that the final connectivity report will inform the final rule.~~

In 2013, the WSWC wrote EPA and the Corps a series of five letters requesting greater state consultation in the development of the rule. based on WSWC Position #330.5 to: (1) express concern about the agencies' process in developing the rule; (2) urge them to engage in greater consultation with the states and to comply with the state consultation criteria of Executive Order 13132; and (3) to comment on the draft connectivity report.

Formatted: Font: 12 pt

In addition, the WSWC created a CWA Rulemaking Workgroup to gather information on the WSWC member states' perspectives regarding the rulemaking and to identify further areas of consensus among the western states ~~regarding the rulemaking.~~ In March 2014, the workgroup developed a letter that the WSWC sent to EPA and the Corps ~~on March 10~~, setting forth a list of additional consensus comments on the rulemaking, ~~including a list of waters and features that should be excluded from the rule's definition of "waters of the U.S."~~ The letter also asked the agencies ~~not to publish a proposed rule for public comment until the connectivity report is final.~~ The Western Governors' Association (WGA) sent a subsequent letter on March 25, 2014, that cited the WSWC's March 10 letter and urged the agencies to consult with the states individually and through the WGA before taking further action on the rulemaking.

On April 21, 2014, EPA and the Corps published a proposed rule in the Federal Register with an initial 90-day public comment period that was later extended to October 20, 2014, following requests from the WGA and other organizations for an extension. Following the rule's publication, EPA and the Corps engaged in a series of calls with the WSWC to discuss the states' questions and concerns about the rulemaking. WSWC Water Quality Committee Chair J.D. Strong of Oklahoma also testified on behalf of the WSWC and the WGA before the House Transportation and Infrastructure Committee regarding the rule on June 11, 2014.

Formatted: Font: 12 pt

The WSWC adopted ~~a resolution~~ Position #369 regarding CWA rulemaking efforts on July 18, 2014, during its summer meetings in Helena, Montana. The resolution replaces WSWC Position #330.5 and served as the basis of a comment letter the WSWC sent to EPA and the Corps on October 15, 2014. That letter called for the creation of a state-federal workgroup to refine and revise the rule and set forth a number of requested changes.

Formatted: Indent: Left: 0"

Formatted: Font: 12 pt

is based on the WSWC's letter regarding the rulemaking as well as letters and testimony from the WGA.

~~2014~~2015-2015~~2016~~: The Committee will continue to work with the Water Resources and Water Quality Committees through the Workgroup to follow and comment on the further development and/or implementation of the jurisdictional rule and other federal actions regarding CWA jurisdiction in accordance with the WSWC's and WGA's positions.

Time Frame: Ongoing

CWA Rulemaking Workgroup: Michelle Hale (AK), ~~Mike Fulton (AZ)~~, Trisha Oeth (CO), Barry Burnell (ID), Tom Stiles (KS), Jon Patch (ND), Bill Schuh (ND), J.D. Strong (OK), Todd Chenoweth (TX), Walt Baker (UT), Laura Driscoll (WA), Stephen Bernath (WA), and Bill DiRienzo (WY).

*See Item 3(a) of the Water Quality Committee Workplan

3. AD HOC GROUP ON RESERVED INDIAN WATER RIGHTS

Work-to-Date: The Western Governors' Association (WGA) and WSWC have long supported the negotiated resolution of Indian water rights claims (WSWC Position ~~#336~~376). As a result, the WGA and WSWC have worked with the Native American Rights Fund (NARF) for over thirty years as part of an Ad Hoc Group on Reserved Indian Water Rights to promote negotiated settlements.

Over the years, the Ad Hoc Group has carried out a number of activities to support the negotiated settlement of Indian reserved water rights claims, including frequent trips to Washington, D.C. to support policies that facilitate settlements and a biennial symposium on settlements that the WSWC and NARF hold every odd year. In recent years, the ~~The~~ Group has also worked to highlight the need to secure a permanent funding mechanism for authorized settlements and to identify alternative funding sources to that will help ensure that settlements authorized by Congress and approved by the President will be implemented. ~~The Ad Hoc Group has also initiated quarterly conference calls or in-person meetings with the Department of Interior to discuss key issues associated with Indian water rights settlements.~~

In recent years, the ~~In 2013, the~~ WSWC and NARF have established regular meetings with the Deputy Secretary of the Interior's Office, the Secretary of the Interior's Indian Water Rights Office, and other Interior officials engaged in Interior's Indian water rights efforts. The WSWC and NARF have also held regular meetings with the White House Office of Management and Budget and other White House officials to support the WSWC's settlement policies. held their 13th biennial Symposium on the Settlement of Indian Reserved Water Rights Claims on August 13-15, 2013, at the Pojoaque Pueblo near Santa Fe, New Mexico. Over 160 state, tribal, federal, and other experts participated.

~~In March 2014, the Ad Hoc Group met with Congressional and Administration offices in support of Indian water rights settlements, including officials from the White House, the Office of~~

~~Management and Budget, the Council on Environmental Quality, and the Department of the Interior.~~

~~20142015-20156:~~ The ~~Reserved Rights Subcommittee, working with WGA staff, Committee~~ will oversee WSWC's ~~Ad Hoc Group~~ efforts in the following areas: (1) activities to gather support for an appropriate remedy to settlement funding issues, including ~~efforts to support the Reclamation Water Settlements Fund, the Authorized Rural Water Projects Completion Act (S. 715), the~~ development of a permanent settlement funding mechanism, ~~the identification of other possible funding sources, and, and~~ funding for federal assessment, negotiation, and implementation teams; ~~and~~ (2) ~~with the Ad Hoc Group,~~ continue meeting with the Administration via the quarterly conference calls and other face-to-face opportunities to discuss key issues associated with Indian water rights settlements; ~~and~~ (3) ~~hold the 2015 Symposium on the Settlement of Indian Reserved Water Rights Claims in Reno, Nevada on August in partnership with the Pyramid Lake Tribe.~~

Time Frame: Ongoing

Reserved Rights Subcommittee: Bill Staudenmaier (AZ); Cindy Chandley (AZ); Jay Weiner (MT), and Norman Johnson (UT).

~~4. WATER CONSERVATION~~

~~**Work to Date:** The WSWC has carried out a number of projects involving water conservation over the years. In 1983, it published its report "Water Conservation and Western Water Resource Management," which discussed the various aspects of water conservation, its potential benefits and limitations, as well as its role in western water law and management. The report also summarized water conservation activities in sixteen western states. Subsequent WSWC efforts include a 1993 update to the report as well as various roundtables, workshops, and symposia focused on conservation, among other efforts.~~

~~The current WGA/WSWC position on conservation is found in Paragraph B(3)(c) of WGA Resolution #2014-3, which states: "Western Governors encourage adoption of strategies to sustain water resources and declining and inconsistent snowpack, including the use of water conservation.... The Governors encourage the use of and research into promising water saving strategies."~~

~~**2014-2015:** The Legal Committee will develop a report on agricultural and urban water conservation that will focus on the issues associated with improving or implementing a conservation program at the state level. In particular, it will: (1) include a literature review of existing legal research related to water conservation; (2) describe concerns related to abandonment and forfeiture and discuss existing state protections for conservation; (3) describe issues and state efforts regarding consumptive use requirements as they pertain to conservation; (4) describe issues and state efforts regarding adverse impacts to water right holders associated with conservation; (5) carry out case studies of existing water conservation and salvage programs in California, Montana, Oregon, Utah, and Washington to identify the "lessons learned" from these programs; and (6) identify policy options for states to consider when working to implement or improve a conservation program at the state level.~~

Comment [NB1]: The Pyramid Lake Tribe has agreed to host the Symposium and we are currently working to finalize the dates, which we should do shortly.

Comment [NB2]: Pat has asked us to identify items in the workplans that can be removed or simplified. I suggest that we remove the conservation item. It has been here as long as I have been with the WSWC and we never have time to complete it, in part, because all of the other items are more important to our members.

~~The report will build upon past WGA and WSWC conservation efforts, including but not limited to the 1983 report, the 1993 update, and the 2012 WGA WSWC Water Transfers report. As a first step, WSWC staff will work with the Committee's Water Conservation Subcommittee to define the term "conservation" for the purposes of the report. Past WSWC reports have defined the term "water conservation" as "decreasing water withdrawals and/or consumption by reducing demand through the appropriate and more efficient use of available water supplies." In addition, the report will recognize that conservation is a means to an end and not an end in and of itself, and will consider third-party impacts and unintended consequences.~~

~~WSWC staff will develop the report under the guidance and direction of the Committee's Water Conservation Subcommittee and the Water Resources Committee's Water Use Efficiency/Conservation Subcommittee. Rather than issue a survey to gather the necessary information, WSWC staff will rely on independent research and focused telephone interviews with select staff from the applicable WSWC state agencies. It is also envisioned that WSWC member states will review the report to ensure its accuracy. Additional outreach may be conducted with other stakeholders in the environmental, urban, and agricultural communities on an as-needed basis.~~

~~**Time Frame:** August 2014 to January 2015.~~

~~**Subcommittee:** Jeanine Jones (CA), John Simpson (ID), and Greg Ridgley (NM)~~

54. U.S. FOREST SERVICE PROPOSED GROUNDWATER DIRECTIVE

Work-to-Date: On May 6, 2014, the U.S. Forest Service published a proposed directive in the Federal Register that would create a "comprehensive direction" for the agency's management of groundwater on National Forest System (NFS) land. In particular, the directive is intended to: (1) provide for consideration of groundwater resources in Forest Service activities; (2) encourage source water protection and water conservation; (3) establish procedures for reviewing new proposals for groundwater withdrawals on NFS land; (4) require the evaluation of potential impacts from groundwater withdrawals on NFS natural resources; and (5) provide for measurement and reporting to help build the agency's understanding of groundwater resources on NFS land. Comments on the proposed directive are due August 4, 2014.

Field Code Changed

According to the Forest Service, the directive will not infringe on state-issued water rights or change how state groundwater and surface water quality regulations affect federal lands. However, while the directive would require the agency to comply with state law when filing groundwater use claims in state adjudications and administrative proceedings, it would, among other things: (1) require application of "...the Reservation or Winters Doctrine to groundwater, as well as surface water, consistent with the purposes of the Organic Administration Act, the Wild and Scenic Rivers Act, and the Wilderness Act;" (2) require the Forest Service to evaluate all applications to states for water rights on lands adjacent to NFS lands; and (3) would presume that groundwater and surface water are connected unless proven otherwise.

~~The proposal further indicates that it “...would not have substantial direct effect on the States, on the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government.” Consequently, the agency has determined that the directive complies with the federalism principles set forth in Executive Order 13132 and that no further determination of federalism implications is necessary. Although the proposal does not contemplate state consultation, it does indicate that the agency has begun consultation with tribes pursuant to Executive Order 13175.~~

WSWC position #340 notes that no federal court has recognized a federal reserved water right to groundwater, and opposes “...efforts that would establish a federal ownership interest in groundwater or diminish the primary and exclusive authority of States over groundwater.” Similarly, WGA Resolution #2014-03, paragraph B(1)(a) states: “Nothing in any act of Congress or Executive Branch regulatory action should be construed as affecting or intending to affect states’ primacy over the allocation and administration of their water resources.”

On July 2, 2014, the WGA wrote Secretary of Agriculture Tom Vilsack to express concern that the directive “could have significant implications for our states and our groundwater resources.” WGA’s letter also asked Vilsack to respond to a series of questions regarding the directive. The WSWC subsequently sent a letter to the USFS on October 3, 2014 (Position #372) that outlined a number of questions and concerns about the directive, including: (1) its potential to infringe on state water management, (2) questions about the legal basis for the directive; and (3) the lack of state consultation in the development of the directive.

In December 2014, USFS Chief Tom Tidwell indicated that the USFS will not move forward with the directive until after agency personnel have engaged with states and other stakeholders to better understand their concerns. After the USFS has completed this engagement, it will publish a revised directive in the Federal Register for public comment.

At the WSWC’s request, the USFS met with the WSWC on February 13, 2015 to discuss the WSWC’s concerns regarding the directive. The meeting identified a number of conceptual, consensus-based changes that may be able to address some of the WSWC’s concerns.

~~20145-20156:~~ The Committee will use the results of the WSWC’s February 2013 meeting with the USFS to develop consensus changes to the directive that could form the basis of potential comments for the WSWC to submit once the USFS re-publishes the directive for public comment. The Committee will also continue to review and monitor this issue, developing comments for the WSWC to consider where appropriate, and working to support the WGA’s efforts. The Committee will also work to support any comments or positions the WSWC may adopt, and engage with the USFS as appropriate under the supervision of the WSWC and in close coordination with the WGA.

Time Frame: Ongoing

**WATER QUALITY COMMITTEE
WORK PLAN
July 1, 2015 to June 30, 2016**

1. HYDRAULIC FRACTURING

Work-to-Date: The Environmental Protection Agency (EPA) is preparing a study on the relationship between hydraulic fracturing and drinking water, a final draft of which is expected in 2014. In May 2013, the Bureau of Land Management (BLM) also issued a proposed rule for hydraulic fracturing on public lands, which includes a variance process that would allow states to propose their own standards if they can prove that their regulations meet or exceed the requirements in BLM's rule. In addition, EPA, the Department of Energy (DOE), and the Department of the Interior (DOI) agreed in April 2012 to develop a "Multi-Agency Unconventional Oil and Gas Research Program" to support policy decision by relevant state and federal agencies. The effort is intended to help support the White House's March 2011 "Blueprint for a Secure Energy Future."

The Western Governors' Association ((WGA) Resolution #2014-4) and WSWC Position #353 state that: (1) federal efforts involving hydraulic fracturing should leverage state knowledge, experience, policies, and regulations; (2) such efforts should be limited, based upon sound science, and driven by states; and (3) that both organizations oppose any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing.

~~2014~~2015-20156: The Committee will work with the Water Resources and Legal Committees to support the WGA and WSWC positions, and will continue to monitor and update the WSWC on developments involving hydraulic fracturing, including but not limited to EPA's study, BLM's proposed rule, and the EPA/DOE/DOI research program.

The Committee will also work in collaboration with the Water Resources and Legal Committees to prepare a summary of the applicable WSWC states' experiences with hydraulic fracturing. The summary will complement previous reports by the Groundwater Protection Council and others that describe how state programmatic elements and regulations ensure that hydraulic fracturing does not impair water resources and environmental values. Examples of the types of information sought for the summary include but are not limited to: (1) the impacts of hydraulic fracturing on water quality, if any; (2) examples of how state regulations and other efforts protect water quality; (3) the economic benefits of hydraulic fracturing; (4) water supplies and amounts used for hydraulic fracturing; (5) state interaction with federal agencies involving hydraulic fracturing; and (6) the degree to which states utilize oil and gas taxes and other revenue related to hydraulic fracturing to fund water-related efforts, including but not limited to water planning, water management, and water regulation and protection. WSWC staff will prepare the summary under the direction of the Committees, and will gather the necessary information through independent research and focused telephone interviews with select staff from the applicable WSWC state agencies. WSWC staff will also coordinate with other relevant state associations and organizations to avoid duplicating prior efforts. It is envisioned that the full WSWC will review the summary.

Comment [NB1]: Pat has asked us to identify areas in the workplan that can be cut or trimmed. With my departure, this item might be the most realistic item to remove from the workplan, at least for the time being.

With all of the other regulatory efforts that need to be monitored (as outlined below), I think whoever succeeds me will have a hard time getting up to speed and finding time to carry out this project.

That being said, we could list this as a lower priority and say that it will be completed pending available staff time and resources.

Time Frame: ~~2014-2015-2016~~, pending available staff time and resources.

2. WATER QUALITY/QUANTITY NEXUS

Work-to-Date: Paragraph (B)(3) of WGA Resolution #2014-03 states: “Western Governors believe solutions to water resource challenges require an integrated approach within states and with federal, tribal and local partners. Water resource planning should occur within a framework that preserves states’ authority to manage water through policies which recognize state law and the financial, environmental and social values of the water resource to citizens of the western states today and in the future.” (emphasis added)

~~20142015-20156:~~ In conjunction with the Water Resources and Legal Committees, the Committee will hold an invitation only workshop to bring together state experts and other relevant stakeholders to discuss the interaction between water quality and quantity. The ~~purpose of the~~ workshop will take place in conjunction with the WSWC’s 2015 fall meetings in Manhattan, Kansas on October 7-9, and will ~~be to~~ produce findings and policy options for the WSWC to consider as it supports WGA Resolution #2014-03. Ideally, the workshop will ~~by providing~~provide further insight on: (1) how state water quantity and quality regulations interact with each other; (2) how states can protect water quality within the existing framework of the prior appropriation doctrine; and (3) the proper relationship between federal environmental protections and the states’ primary and exclusive authority over the allocation of water resources. Under the WSWC’s direction, WSWC staff will prepare a summary of the meeting.

Comment [NB2]: We have spoken with Kansas and they are planning on helping us host this workshop.

Time Frame: Fall 2015

Formatted: Font: Not Bold

3. CLEAN WATER ACT ISSUES

There are a number of ongoing Clean Water Act (CWA) issues that pertain to WSWC policies or are otherwise of interest that the Committee will monitor and address on an as needed basis. These issues are listed below in order of priority.

a. CWA Jurisdiction*

Work-to-Date: In 2011, the EPA and the U.S. Army Corps of Engineers released draft guidance intended to provide clearer, more predictable guidelines for determining which water bodies are subject to Clean Water Act (CWA) jurisdiction, consistent with the U.S. Supreme Court’s decisions in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), and *Rapanos v. United States*, 547 U.S. 715 (2006).

In September 2013, the EPA and Corps withdrew the draft guidance. At the same time, the agencies announced that they had submitted a draft rule to clarify the textent of CWA jurisdiction to the Office of Management and Budget (OMB) for interagency review. ~~In addition, EPA announced that its Science Advisory Board is developing a report on the~~

connection between different bodies of water. EPA released the report for public comment in September 2013, and has indicated that the final connectivity report will inform the final rule.

In 2013, the WSWC wrote EPA and the Corps a series of five letters ~~based on WSWC Position #330.5 to:~~ (1) express concern about the agencies' process in developing the rule; (2) urge them to engage in greater consultation with the states and to comply with the state consultation criteria of Executive Order 13132; and (3) ~~to comment on the draft connectivity report.~~ requesting greater state consultation in the development of the rule.

In addition, the WSWC created a CWA Rulemaking Workgroup to gather information on the WSWC member states' perspectives regarding the rulemaking and to identify further areas of consensus among the western states ~~regarding the rulemaking.~~ In March 2014, the workgroup developed a letter that the WSWC sent to EPA and the Corps ~~on March 10,~~ setting forth a list of additional consensus comments on the rulemaking, ~~including a list of waters and features that should be excluded from the rule's definition of "waters of the U.S."~~ The letter also asked the agencies ~~not to publish a proposed rule for public comment until the connectivity report is final.~~ The Western Governors' Association (WGA) sent a subsequent letter on March 25, 2014, that cited the WSWC's ~~March 10~~ letter and urged the agencies to consult with the states individually and through the WGA before taking further action on the rulemaking.

On April 21, 2014, EPA and the Corps published a proposed rule in the Federal Register with an initial 90-day public comment period that was later extended to October 20, 2014, following requests from the WGA and other organizations for an extension. Following the rule's publication, EPA and the Corps engaged in a series of calls with the WSWC to discuss the states' questions and concerns about the rulemaking. WSWC Water Quality Committee Chair J.D. Strong of Oklahoma also testified on behalf of the WSWC and the WGA before the House Transportation and Infrastructure Committee regarding the rule on June 11, 2014.

The WSWC adopted ~~a resolution~~ Position #369 regarding CWA rulemaking efforts on July 18, 2014, during its summer meetings in Helena, Montana. The resolution replaces WSWC Position #330.5 and is based on the WSWC's letter regarding the rulemaking as well as letters and testimony from the WGA, served as the basis of a comment letter the WSWC sent to EPA and the Corps on October 15, 2014. That letter called for the creation of a state-federal workgroup to refine and revise the rule and set forth a number of requested changes.

~~2014~~ 2015-20156: The Committee will continue to work with the Water Resources and Legal Committees through the Workgroup to follow and comment on the further development and/or implementation of the ~~of a~~ jurisdictional rule and other federal actions regarding CWA jurisdiction in accordance with the WSWC's positions.

Time Frame: Ongoing

Formatted: Indent: Left: 0.5"

CWA Rulemaking Workgroup: Michelle Hale (AK), ~~Mike Fulton (AZ)~~, Trisha Oeth (CO), Barry Burnell (ID), Tom Stiles (KS), Jon Patch (ND), Bill Schuh (ND), J.D. Strong (OK), Todd Chenoweth (TX), Walt Baker (UT), Laura Driscoll (WA), Stephen Bernath (WA), and Bill DiRienzo (WY).

*See Item 2 of the Legal Committee Workplan

b. State Revolving Funds (SRFs) and Infrastructure Financing

Work-to-Date: WSWC Position #364 urges the Administration and Congress to provide greater flexibility and fewer restrictions on state SRF management and stable and continuing appropriations to the SRF capitalization grants at funding levels that are adequate to help states address their water infrastructure needs. WGA resolution 2014-04 also supports the SRFs as “important tools” and requests greater flexibility and fewer restrictions on state SRF management.

~~Over the years, some budget requests from the Administration have proposed cuts to the SRF programs. Various acts of Congress have also authorized or retained a number of limitations on the use of SRF funds. In January 2014, Congress passed an omnibus appropriations bill (H.R. 3547) to fund the federal government through FY 2014. Appropriations for the Clean Water SRF total \$1.45B, a \$73M increase, while the Drinking Water SRF will receive \$907M, a \$46M increase. H.R. 3547 also enacted or retained a number of limitations on the use of SRF funds, including but not limited to: (1) “Buy American” provisions for iron and steel; (2) requirements that between 20% and 30% of SRF funds be used for principal forgiveness, negative interest loans, or grants subject to additional provisions; and (3) requirements that states use at least 10% of their SRF funds for green infrastructure, water or energy efficiency improvements, or other “environmentally innovative” activities.~~

For FY 201~~65~~¹⁶, the President’s budget request seeks around \$1.~~1~~¹B for the Clean Water SRF, a cut of about \$~~431M-332M~~ from ~~current-2015~~ levels. The request also seeks \$~~757M-1.2B~~ for the Drinking Water SRF, a ~~reduction of \$279-150M~~ ^{increase}.

~~2014~~²⁰¹⁵⁻²⁰¹⁶: The Committee will support the WGA and WSWC positions. In particular, WSWC staff will continue to update the Committee on developments within Congress and the Administration that have the potential to impact the SRFs. As needed, Committee members and WSWC staff will also meet with the Administration and Congress to further the objectives of the WGA and WSWC positions.

Time Frame: Ongoing

c. **EPA's Water Transfers Rule**

Work-to-Date: Paragraph B(2)(c) of WGA Resolution #2014-04 and WSWC Position #316 generally support EPA's Water Transfers Rule (940 C.F.R. § 122.3(i)), which clarifies that water transfers from one "navigable" water to another are exempt from National Pollutant Discharge Elimination System (NPDES) permitting under Section 402 of the CWA. The rule states that transfers do not require NPDES permits if they do not add pollutants and if there is no intervening municipal, industrial, or commercial use between the diversion and the discharge of the transferred water.

On March 28, 2014, the U.S. District Court for the Southern District Court of New York (SDNY) vacated the rule in *Catskills Mountain Chapter of Trout Unlimited v. EPA (Catskills II)*, 2014 U.S. Dist. LEXIS 42545 (S.D.N.Y., March 2014). Among other things, the court reasoned that many of the types of conveyances contemplated by the rule would not be considered navigable waters under the jurisdictional standards set forth in the U.S. Supreme Court's *Rapanos* decision. The SDNY court further opined that language in the CWA regarding state rights and state primacy over water allocation support an interpretation that allows for a federal role in water allocation. EPA has appealed this decision to the Second Circuit Court of Appeals, along with 11 western states¹ and a number of western water providers that have intervened in the action to uphold the rule. California has also filed an amicus brief in support of the rule.

In addition, litigation regarding the rule is ~~also~~ pending in the 9th-Ninth Circuit Court of Appeals in *ONRC Action v. Bureau of Reclamation*. ~~The This~~ case stems from claims an environmental group filed against the Bureau of Reclamation, arguing that the agency should obtain an NPDES permit to operate a drain in the federal Klamath Project that transfers water between the Klamath River and Lower Klamath Lake near the border between Oregon and California. A federal district court disagreed with this assertion, reasoning that the CWA is ambiguous and that the rule is entitled to deference. This case marks the first time the 9th-Ninth Circuit will review the validity of EPA's rule, although it did issue a decision in 2003 before EPA promulgated the rule that rejected the "unitary waters" theory upon which the rule is based.

~~The Committee and WSWC staff have carried out a number of efforts to support EPA's Water Transfers Rule, including meeting with Administration and Congressional officials to advocate the WSWC's position and updating the WSWC and others stakeholders on recent developments. Most recently, on May 12, 2014, the WSWC and the Western Governors' Association wrote a joint letter to EPA on May 12, 2014, urging EPA to appeal the SDNY decision. EPA subsequently filed notice that it will appeal the decision.~~

20145-20156: The Committee and WSWC staff will: (1) continue to support the WGA and WSWC positions; (2) monitor any and all activities impacting EPA's rule, including

¹ The 11 intervening states include: Alaska, the Arizona Department of Water Resources, Colorado, Idaho, Nebraska, Nevada, North Dakota, New Mexico, Texas, Utah, and Wyoming.

Field Code Changed

but not limited to the SDNY and 9th Circuit litigation and possible efforts by EPA to reconsider the rule; ~~and~~ (3) inform the WSWC of ongoing developments; ~~and~~ (4) take any other actions needed to support the WGA/WSWC positions regarding the rule.

Time Frame: Ongoing

d. Nutrients

Work-to-Date: EPA's Office of Water is working to carry out a National Nutrient Strategy to accelerate state adoption of numeric water quality standards while building the scientific and technical infrastructure ~~for developing~~needed to develop new criteria to address nitrogen and phosphorus pollution.

On March 16, 2011, ~~then~~ EPA Acting Assistant Administrator for Water Nancy Stoner issued a memo to EPA's Regional Administrators to synthesize key principles regarding the agency's technical assistance and collaboration with states. The memo urged the regions to place new emphasis on working with states to achieve near-term reductions in nutrient loadings. Most notably, the memo provided a "Recommended Elements of a State Nutrients Framework" to serve as a tool to "...guide ongoing collaboration between EPA regions and states in their joint effort to make progress on reducing nitrogen and phosphorus pollution." It also asked each region to use the framework as a basis for discussions with interested and willing states, the goal of which would be to tailor the framework to particular state circumstances.

The Committee and WSWC staff have followed and updated the WSWC on EPA efforts involving nutrients. Various Committee meetings have also featured presentations from EPA and state officials on federal and state nutrient management efforts.

Paragraph B(3)(b) of WGA Resolution #2014-04 states that "...nutrients produced by non-point sources fall outside of NPDES jurisdiction and should not be treated like other pollutants that have clear and consistent thresholds over a broad range of aquatic systems and conditions." The WGA's resolution further states that states should have "sufficient flexibility" to utilize their own incentives and authorities to establish standards and control strategies to address nutrient pollution, rather than "being forced to abide by one-size-fits-all federal numeric criteria." According to the WGA's resolution, successful tools currently in use by states include best management practices, nutrient trading, and controlling other water quality parameters, among other "innovative" approaches.

~~2014~~2015-2015~~6~~: The Committee and WSWC staff will monitor EPA's nutrient efforts and inform the WSWC of ongoing developments. It will also ensure that the WSWC's efforts do not duplicate those of the Association of Clean Water Administrators.

Time Frame: Ongoing

e. Treatment as States Rulemaking Efforts

Comment [NB3]: The general consensus appears to be that now is not the right time to introduce legislation to preempt the water transfers litigation, primarily because of the WOTUS rule. However, there does appear to be broad support for the states to begin discussing what type of legislation they should support in case circumstances change and an opportunity for this type of legislation presents itself. Nevertheless, in talking with Peter Nichols, our joint opinion is that we should be discreet about this legislative discussion and not broadcast it outside of the WSWC. Thus, because this workplan will be posted to our website, my suggestion is that we have these types of discussions but don't include an explicit work item in the workplan.

Work-to-Date: EPA is engaged in two separate but related rulemaking efforts regarding the tribes' ability to obtain "treatment as states" (TAS) status under Section 518 of the CWA, which is needed for tribes to operate certain CWA regulatory programs.

The first effort involves the development of a possible interpretive rule that could do away with current requirements that tribes must demonstrate that they have inherent authority to operate CWA regulatory programs. EPA has indicated that such a reinterpretation would consider Section 518 to be an express delegation of authority from Congress. EPA conducted pre-proposal outreach with the states, including the WSWC in August 2014, and may publish an interpretive rule for public comment at some point in 2015.

The second effort involves the development of a formal rule that will set forth the regulatory process by which tribes can obtain TAS status to operate the impaired water listing and total daily maximum daily load (TMDL) programs. EPA has indicated that Section 518 requires the development of the rule. The agency has also conducted pre-proposal outreach with the states, including the WSWC in October 2014, and may publish a draft rule for public comment at some point in 2015.

2015-2016: The Committee will continue to monitor these rulemakings and engage with EPA as appropriate.

Time Frame: Ongoing

ef. Pesticide Permits and National Pollutant Discharge Elimination System (NPDES) Permits

Work-to-Date: The Sixth Circuit Court of Appeals' 2009 ruling in *National Cotton Council v. Environmental Protection Agency* vacated an EPA rule that exempted pesticide applications made in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The decision has national implications because it consolidated rule challenges filed in eleven circuits, and because the U.S. Supreme Court declined to review the decision.

WSWC Position #328 urges Congress to amend the CWA and FIFRA to clarify that FIFRA-compliant pesticide applications do not require NPDES permits. Paragraph B(2)(d) of WGA Resolution #2014-04 also states that the Western Governors support FIFRA's primary role in regulating pesticide applications to water, and will seek state-based solutions that compliment rather than duplicate FIFRA.

WSWC members and staff have supported these positions through multiple visits with Congressional officials. WSWC staff also completed a summary of state information and examples of how dual CWA-FIFRA regulation will impact western states. Most recently, legislation (~~S. 175 and S. 802~~/H.R. 935/H.R. 897) has been introduced in the ~~113th~~-114th

Congress that would overturn the Sixth Circuit’s decision and prevent EPA and states from requiring NPDES permits for pesticide applications.

~~2014~~2015-2015~~6~~: The Committee will continue to: (1) monitor and inform the WSWC about developments involving this issue; and (2) work with key Congressional members and their staff consistent with the WGA and WSWC positions to support legislation that would clarify that FIFRA-compliant pesticide applications do not require NPDES permits.

Time Frame: Ongoing

fg. Abandoned Hardrock Mine Remediation

Work-to-Date: The WGA and WSWC have long supported legislation to amend the Clean Water Act (CWA) to protect authorized third parties, or “Good Samaritans,” who voluntarily clean up abandoned hardrock mines, from inheriting perpetual liability for the site under the CWA (WGA Policy Resolution #13-05).

A number of Good Samaritan bills have been introduced in Congress over the years, including legislation introduced by Senator Mark Udall (D-CO). These bills have been unsuccessful due to concerns about the potential impacts of amending the CWA and perceptions that sufficient protections already exist under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). However, considerable uncertainty exists as to whether CERCLA and other existing authorities provide Good Samaritans with sufficient protection from third party lawsuits for sites in which there is a continuing discharge of pollutants as defined by the CWA.

Over the past several years, the Committee has worked to support Good Samaritan legislation and other efforts to clean up abandoned hardrock mines, including multiple visits with Congress and the Administration, Congressional testimony in support of such legislation, and involvement in a WGA-organized Task Force focused on crafting an exemption for Good Samaritan activities by state governments.

~~Most recently, i~~n December 2012, the Environmental Protection Agency (EPA) issued a memorandum to clarify administrative protections for Good Samaritans. EPA’s regulations require operators of sites that continue to discharge pollution after cleanup to obtain NPDES permits under the CWA. The memorandum clarifies that Good Samaritans who complete cleanup efforts pursuant to EPA policies will not be considered “operators” responsible for obtaining NPDES permits if they lack: (1) access and authority to enter the site; (2) an ongoing contractual agreement or relationship with the site owner to control discharges; (3) power or responsibility to make timely discovery of changes to the discharges; (4) power or responsibility to direct persons who control the mechanisms, if any, causing the discharges; and (5) power or responsibility to prevent and abate the environmental damage caused by the discharges. Nevertheless, the

Field Code Changed

Field Code Changed

memorandum states that it “...does not address or resolve all potential liability associated with discharges from abandoned mines.”

2014-2015-20156: The Committee will coordinate with the WGA and encourage efforts to clean up abandoned hardrock mines, including but not limited to enactment of Good Samaritan legislation and efforts to support utilization of EPA’s 2012 memorandum. As part of this effort, the Committee will work with key Congressional members/staff, Administration officials, and other stakeholders to develop and support efforts to clean up abandoned hardrock mines in accordance with the WGA’s policies, including the possible development of a workgroup and/or workshop to bring together interested stakeholders to identify ways to facilitate abandoned hardrock mine remediation.

In addition to the above actions, the Committee will: (1) work with the Administration and Congress to provide liability protections to Good Samaritans under existing authorities; and (2) evaluate the prospects for Good Samaritan legislation.

Time Frame: Ongoing

Comment [NB4]: This is a concept we discussed after the WSWC’s November visits to DC. While there appears to be a fair amount of support for Good Sam legislation, the general consensus is that such legislation will be very difficult to move until WOTUS is resolved. Thus, perhaps in the interim a workgroup that includes some of the environmental groups that oppose Good Sam legislation could serve as a way to bring everyone to the table to identify some consensus-based solutions. Involving the environmental groups in the discussion could be a way to lessen the likelihood that they will oppose our efforts.

Tab I – Future WSWC Meetings

WESTERN STATES WATER COUNCIL

FUTURE MEETINGS

Upcoming Council Meetings/Host States

2015 Meetings

- Summer – **WSWC 50th Anniversary** – Lake Tahoe, Nevada
July 8-10, 2015
Hard Rock Hotel & Casino Lake Tahoe
- Fall – Manhattan, Kansas
October 7-9, 2015
Bluemont Hotel

2016 Meetings

- Spring – Washington, D.C.
Summer – North Dakota (last hosted 7/11/2008 in Medora)
Fall – Utah (last hosted 7/17/09 in Park City)

2017 Meetings

- Spring – Nebraska (last hosted 10/16/09 in Lincoln)
Summer – California (last hosted 10/29/10 in San Diego)
Fall – New Mexico (last hosted 4/15/11 in Santa Fe)

2015 Workshops / Symposia

WSWC/CDWR Drought Workshops

May 27-29, 2015 - San Diego, CA
(Water Resources Committee)

WSWC/NARF Indian Water Rights Settlements Symposium

August 25-27, 2015 - Reno, NV
(Executive / Legal Committees)

Water Quality / Water Quantity Workshop

in conjunction with meetings in Kansas - Fall 2015
(Water Quality Committee)

MEETING SCHEDULE

F:\USERS\CHERYL\COMTG\FUTURE MTGS CHART_2015.DOCX

[illegible]

[illegible]

Tab J – Water Data Exchange (WaDE)

WSWC WaDE Program Progress Report

Oct. 1, 2014 – Mar. 31, 2015

The WSWC has initiated a project to work with its member states to establish a framework that will allow for real-time access to state water allocation, availability, use, and planning data through a common portal. The project is referred to as the Water Data Exchange or WaDE Project.

Outreach and Education. Outreach to the states has largely been concluded, with the exception of South Dakota, North Dakota and possibly Alaska, which may benefit from an in-person briefing on the WaDE program. These outreach efforts have yielded substantial benefits to the program, both in terms of schema development, participation and problem resolution. An example is an on-site visit with Montana leading to the implementation of a “cloud” deployment option. There are a number of states that are beginning the WaDE deployment and data-mapping phase that might also benefit from an on-site visit to kick-off the state’s deployment efforts. These include Arizona, Nebraska, Idaho and Oregon.

Other related outreach efforts over this reporting period include increased participation in regional and national efforts to support “open data.” One of the stated goals of the WaDE program is to encourage federal agencies to adopt standardized formats for sharing their data and then publishing these using web services. U.S. Geological Survey (USGS) has been a leader on data dissemination with the publication of web services from the NWIS site. Other federal agencies have noted the increased access to data that web services in NWIS have provided and are beginning to discuss how to implement similar data-sharing programs for their water-related data. These initially fragmented discussions among the federal family coalesced during an Advisory Committee for Water Information (ACWI) meeting in June of 2014, and led to the formation of the Open Water Data Initiative (OWDI).

The OWDI proposes to advance and improve water data availability in accordance with the goals of managing information as a national asset, opening data where possible as a public good, increasing government efficiency, improving accountability, and fueling private sector innovation, scientific discovery and economic growth (U.S. Open Data Action Plan, May 2014). The primary group responsible for stewarding the OWDI is the Subcommittee on Spatial Water Data (SSWD), commissioned under ACWI and the Federal Geographic Data Committee (FGDC) (<http://acwi.gov/spatial/>). WSWC envisions that WaDE will be an integral part of the OWDI infrastructure, as it will be providing authoritative water supply, availability, and use data from state water agencies in the West. WSWC is participating in SSWD discussions, as well as a use case for water supply in the West, a water data quality workgroup, a technical framework development workgroup, and a water use dataset workgroup. At this time the OWDI is slated to make datasets available via the Water Theme of the Climate Data Initiative (CDI), available on the data.gov website (<http://www.data.gov/climate/water/>).

Other outreach-related activities include presenting on the WaDE program at the 2014 American Water Resources Association Annual Conference in Tyson’s Corner, VA, where WSWC staff were able to attend an OWDI all-day kickoff meeting. Attendance at the conference also resulted in WSWC being invited to host a special session at the 2015 Annual Conference to be held in Denver, CO. The planned session topic will provide an overview of state/federal communication pathways and limitations when

addressing or negotiating water administration or co-regulation. If you are interested in speaking on this topic, please notify the WaDE Program Manager.

Related to water use datasets, the WSWC was also invited to attend the USGS' National Water Use Information Program (NWUIP) 10-year Strategy Planning meeting in Denver, CO, in January. The WaDE Program Manager gave an update to the attendees on the status of the WaDE program and explained how it will be an authoritative source for, and provide easier access to, water use datasets from state agencies. The group also discussed the newly appropriated WaterSmart grants to the states for water data development, and how that program may be organized for maximum benefit to the states' water planning programs and for the NWUIP program. More information on the new state grants program will be made available in May or June of 2015.

WaDE Component Development. WaDE project infrastructure components have been largely finalized over this reporting period, including adjustments for additional methodology/metadata reporting and the inclusion of more GIS datatypes. States now have the option to implement WaDE "on premises" with a full complement of online documentation. They also have a solution for deploying WaDE in a cloud environment; however, additional tweaking is needed to optimize hosting of states' WaDE applications in this setting.

The WaDE Program Manager has modified the "proof of concept" quick-deploy process that was originally developed as a non-scaling application to now provide network traffic scalability. A new GitHub code repository was developed to accommodate the components for the scalable version, which is now available for partners for review (<https://github.com/wadewswc/wade-scalable>). The cloud approach continues to be favored by states that have limited network bandwidth, security concerns with an on-premises public-facing web service, or significant hurdles to overcome with central IT departments. The front-end mapping interface for the WaDE Central Portal and the stylesheets that superimpose the query results returned to the user have also been updated. The ability to query for all of a data provider's methodologies was also added to the web services parameters in preparation for an eventual "Central Methods Repository."

With the work related to applying for a FY2015 Exchange Network grant (see below), WSWC is also exploring the potential for hosting instances of the WaDE application at the San Diego Supercomputer Center in California. Figure 1 is a conceptual diagram of how the states would deploy their WaDE information in the cloud.

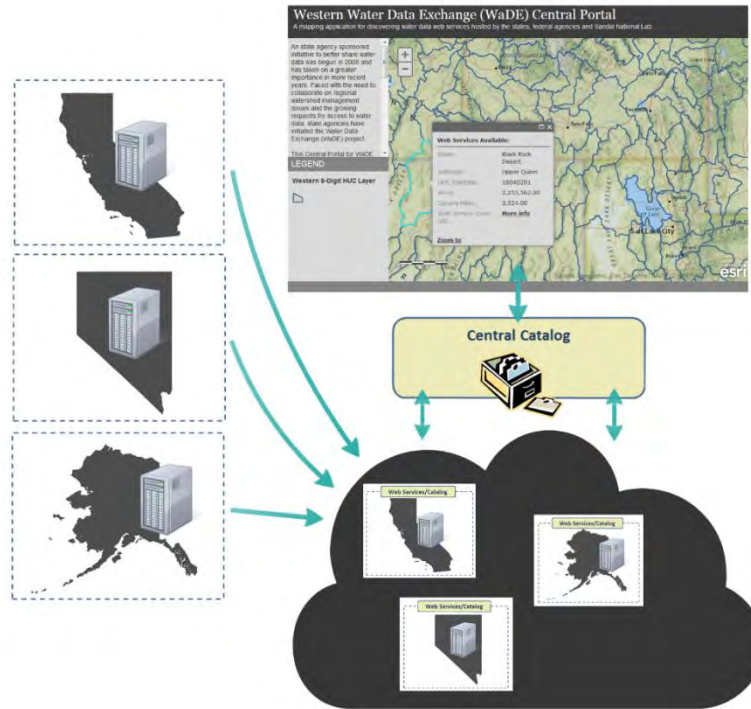


Figure 1. Conceptual diagram of WaDE "cloud" deployment approach

Exchange Network Grant Partnerships. In 2012, WSWC helped five states apply for and receive a grant from the National Environmental Information Exchange Network (NEIEN) program, commonly referred to as the Exchange Network (EN) with funds to be received in FY2013. The five partner states – Texas, Oklahoma, Idaho, Oregon, and Washington – are currently either beginning the WaDE deployment process (ID and OR) having completed their contractual agreement with the Texas Commission on Environmental Quality (TCEQ) or are in the process of completing that agreement. Once in place, the agreement allows the partner to be reimbursed for WaDE-related work as it is completed. The FY2013 EN-WaDE Grant partner's steering committee with representatives from each state, attend monthly conference calls/webinars to update the group and evaluate progress toward finishing the WaDE deployment steps. The group's meetings and materials, progress on contractual agreements, and general information on the group's progress may be found on their group webpage (<http://www.westernstateswater.org/wade/fy2013-en-grant/>). Of note, WSWC completed their contract with TCEQ that allows them to request reimbursement for WaDE-related efforts, beginning in the first quarter of 2015 and continuing for approximately two years, possibly through March 2017.

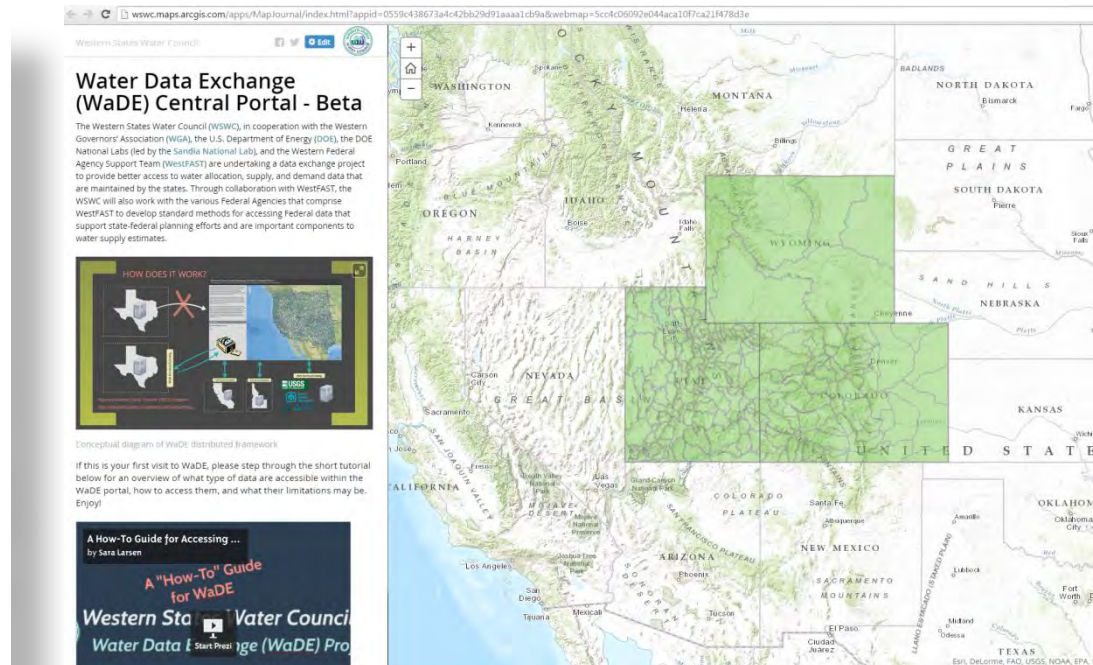
During the fall of 2014, three states also asked to partner and apply for a FY2015 EN grant: California, South Dakota, and Nevada, with California as the lead state. This grant would provide the partners with funds for data development and WaDE deployment, and would also provide funding for WSWC to continue to coordinate the WaDE program for an additional year. WSWC and these partners are awaiting the EN grant announcement in April 2015.

State Deployments. Utah, Wyoming and Colorado (via contractor Steve Malers at Open Water Foundation) are nearing completion of their efforts to map their native information to the WaDE database and begin sharing data in the WaDE Portal. All three of these states have opted for the WaDE cloud approach to host their data, and are reviewing the costs as well as application performance with larger datasets such as water rights and diversions. Colorado opted for a contractor-assisted deployment process where the WaDE Program Manager works with a contractor that is familiar with their data schema to migrate and translate Colorado's datasets into the WaDE schema. As expected, the step of migrating existing data from native databases to the WaDE database is the most time-intensive task. The WaDE Central Portal Beta and the three states currently flowing data will be demonstrated at the WSWC's spring meeting in April in Tulsa, OK. Other states that have expressed an interest in beginning the work related to the WaDE shortly or over the summer months include Arizona, Idaho, Kansas, Nebraska, Oklahoma, and Oregon. The partners that are awaiting the FY2015 EN grant decision (California, Nevada and South Dakota), will need to proceed through the contractual phase before beginning their deployment process, anticipated in 2015. Texas and Washington are currently overhauling their existing water rights database systems, which will delay WaDE-related efforts until 2016. Other states have indicated that they will become more active with the WaDE program at a later date.

The Western Governors' Association (WGA) has given substantial support for the WaDE related program in general and has also provided direct financial assistance for Utah, Colorado, and Kansas for their WaDE related work. WSWC staff would like to express their deep and sincere gratitude for the continuous engagement and support they have received from WGA for over four years for this and other energy/water related programs.

WADE: 2020

A question I am often asked is, “Where is this project headed?” or “Where will WaDE be in five years?” The subtext of that question is simply, “Why should I spend the time and manpower getting this up and running if there’s no plan.” Great question! The answer to this of course is, “Let me lay out a plan for you, and we’ll make an educated guess together.” As always, early adopters run the risk of adopting too early, but in this case, the general notion of “openly published data” isn’t going anywhere, has been widely adopted in other sectors, and has already spurred enough innovation in both water and other sectors to make a good case for a return on your investment. I will show you some examples in my presentation.



WaDE currently has some positive momentum carrying it in the right direction, including funding momentum (this makes a big difference). I'm hoping to make the most of that momentum in the coming year to get the portal established as a credible “go to” source for state water data. This will require sustained enthusiasm from member states and their IT teams, more participation, and more datasets offered up for sharing with commensurate data quality reporting.

The Vision: By 2020, I think most everyone involved with the project will see WaDE as an extremely valuable resource coordinated and maintained by WSWC with the help of governance workgroups maintained by its members and their staff. WaDE will allow the states to view data regionally, with greater uniformity than is available at present, and will reflect the value gained by individual states who have jumped ahead of the bandwagon and shared their data already. And yes, it will be a resource for the states and their staff members, but... the real vision here is what people who care greatly about water will do with the information.

There's no shortage of ingenuity or possible applications when people have access to high-quality data with discoverable provenance. The states need to be that source, or water stakeholders will find or make up the information elsewhere.

VALUE = (DATA * QUALITY) SHARING

Quality data have unbounded value, when shared

WADE PROJECT STATUS

We are still acclimating our partners to the idea of sharing data and information with each other and the public. The portal will host high-level, non-granular water datasets such as water use summaries, some water availability estimates, as well as updated snapshots of regulatory and institutional considerations. On a more granular level, the states may host water rights information, diversions, consumptive use, and return flows. Think of WaDE as a high-level, but miniature water budget within your preferred geospatial format that allows users to roughly track where and how much water is taken out of the aquifer or streambed, where it is used, and then where any of that water returns to the natural system.

Deployments slated for this year include more than half of our member states, with several more beginning the process later in 2015 and early 2016. Phase II of the WaDE project includes the incorporation of state generated hydrologic measurement data (streamgages and groundwater levels), after the database components have been amended to house this family of data.

WADE-STATE FUNDING

WGA has directly funded the Water Data Exchange (WaDE) project by passing grant funds to WSWC for all WaDE-related work, and also by directly funding states, to the tune of ~\$43K. Exchange Network funds are now being used to continue the WaDE work through 2016, with another round of funding potentially in the works. USGS has also indicated that they hope to make funds available to the states for water data development via the WaterSMART program in the near future. See Pat Lambert, our WestFAST liaison for more.

UTAH	WGA - \$10K	WASHINGTON	EN GRANT - \$40K
COLORADO	WGA - \$16K	IDAHO	EN GRANT - \$64K
KANSAS	WGA - \$17K	OKLAHOMA	EN GRANT - \$87K
WSWC	WGA - \$353K	OREGON	EN GRANT - \$39K
TEXAS	EN GRANT - \$42K	WSWC	EN GRANT - \$228K
FY2015 EN GRANT POTENTIAL		EN GRANT - \$443K?	

	2015	2016	2017
WY			
UT			
CO			
ID			
OR			
AZ			
NE			
KS			
OK			
CA			
NV			
SD			
TX			
WA			

 = State Deployment - Derived Water Planning Data
 = State Deployment - Hydrologic Measurement Data

 = WSWC FY2013 EN Grant Funding
 = WSWC FY2015 EN Grant Funding?

Tab K – Federal Water Data Appropriations/ WSWC Appropriations Priorities

Senator Thad Cochran
Chairman
Committee on Appropriations

Senator Barbara Mikulski
Vice Chairwoman
Committee on Appropriations

Dear Chairman Cochran and Vice Chairwoman Mikulski:

We are writing to request that you give a high priority to funding for federal water data gathering programs that are critical to present and future water resources planning, particularly in the West, which continues to struggle with drought. These varied programs cut across agency budgets and Appropriations subcommittee jurisdictions, but are interrelated and each is crucial to conserving and protecting our nation's water resources. They include:

Snow survey and water supply forecasting program operated by USDA's National Water and Climate Center, under the Natural Resources Conservation Service (as well as a related Soil and Climate Analysis Network (SCAN); the U.S. Geological Survey's National Stream Information Program and Cooperative Water Program (funding stream gages) and National Water Use and Availability Assessment (part of the WaterSMART Initiative).

According to the National Oceanic and Atmospheric Administration's National Climate Data Center, three of the top five multi-billion dollar natural disasters in the nation have been due to drought, with Hurricane Katrina and Superstorm Sandy being the other two. As a nation, we continue to suffer from climate extremes, and underinvest in the data gathering needed to properly plan for, mitigate and respond to such extremes.

Water, weather and climate-related decision making at all levels of government – federal, state, tribal and local – as well as individuals, small business, and large corporations, depends on an increasingly fragile system of data and information gathering efforts spread across multiple federal agencies.

Western States Water Council

Federal Funding/Appropriation Priorities

Agriculture

NRCS National Water and Climate Center

- Western Governors' support for the **Snow Survey and Water Supply Forecasting Program** (under Conservation Operations) is critical in the West
- Underfunding maintenance and operation of SNOTEL sites and snow course measurements threatens water management and public safety
- Similarly the **Soil and Climate Analysis Network (SCAN)** fills a gap in soil moisture measurement important in managing flooding and water supplies

Commerce, Justice and Science

NOAA National Integrated Drought Information System (NIDIS)

- Monitoring and reporting activities
- Research toward developing skill in seasonal to interannual drought prediction capabilities

Regional Integrated Science and Assessments (RISAs) Program

- Helps bridge the gap between research and water resources management

NOAA/NWS River Forecast Centers

- Provide critical data and information related to extreme events, including flooding and drought

NASA/USGS National Land Imaging Program and Landsat

- Support for Landsat 9 and 10, as well as NASA's efforts to ensure continuation of thermal band data now used by many states to measure and monitor evapotranspiration and agricultural water use

Energy and Water

USBR Reclamation Fund Spending, particularly the Reclamation Settlements Fund

- Reclamation projects are critical to sustaining western economies and environmental amenities
- **Spending for water infrastructure related to Indian water right settlements** is critical
- Only about half the receipts to the Reclamation Fund are appropriated annually, leaving a current unobligated balance of around \$14 billion – intended for western water development

USBR Water Smart Grants and Basin Studies

- Support for water use efficiency grants

USBR Rural Water and Water Reuse Projects

- Completion of authorized rural water projects and water reuse projects

DOE/National Laboratories' Water and Energy Nexus Work

- Support for water and energy conservation and development through integrated planning

Interior and Environment

Office of the Secretary – Indian Water Rights Office

- WSWC actively supports funding for authorized Indian water rights settlements, as well as increase funding for settlement negotiation and implementation teams. The President's budget request is consistent with our position in support of these needs.

USGS Cooperative Water Program (CWP) and National Streamflow Information Program (NSIP)

- State and other non-federal program sponsors fund roughly 2/3rds of the Coop Program

USGS Water Smart Initiative

- Support **USGS National Water Availability and Use Assessment** including grants to States for data gathering and dissemination work

NASA/USGS National Land Imaging Program and Landsat

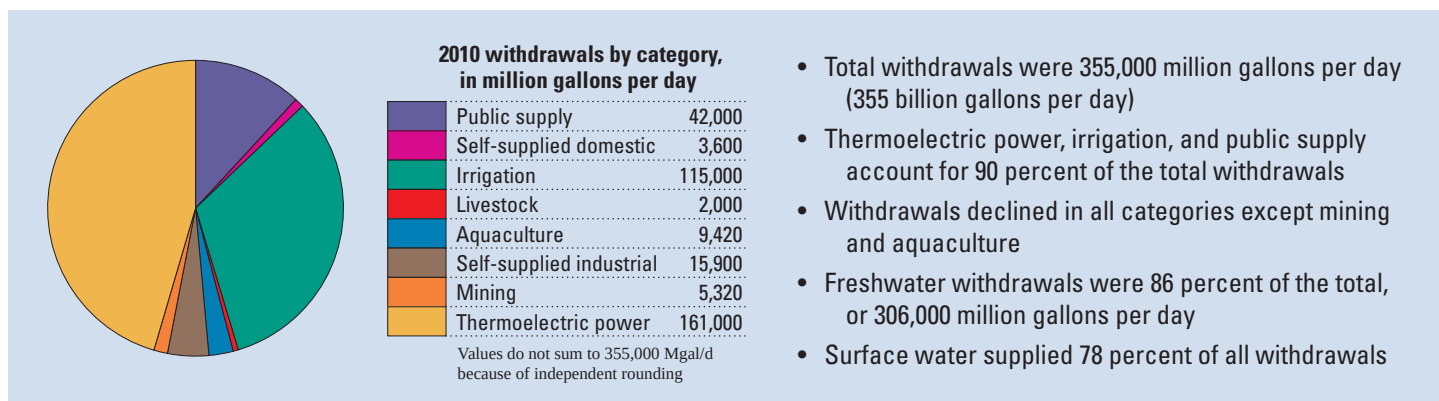
- Support for Landsat 9 and 10, as well as NASA efforts to ensure continuation of thermal band data

USGS Water Resources Research Institutes

EPA Clean Water and Drinking Water State Revolving Funds (SRFs)

- In many western states SRF funding is the primary vehicle for meeting federally mandated wastewater and drinking water treatment standards

Summary of Estimated Water Use in the United States in 2010



- Total withdrawals were 355,000 million gallons per day (355 billion gallons per day)
- Thermoelectric power, irrigation, and public supply account for 90 percent of the total withdrawals
- Withdrawals declined in all categories except mining and aquaculture
- Freshwater withdrawals were 86 percent of the total, or 306,000 million gallons per day
- Surface water supplied 78 percent of all withdrawals

About 355,000 million gallons per day (Mgal/d) of water was withdrawn for use in the United States during 2010, a decline of 13 percent from 2005 and a substantial change from the level of about 400,000 Mgal/d reported from 1985 to 2005. Withdrawals for 2010 were lower than withdrawals estimated for 1970. Fresh surface-water withdrawals (230,000 Mgal/d) were almost 15 percent less than in 2005, and fresh groundwater withdrawals (76,000 Mgal/d) were about 4 percent less than in 2005. Saline surface-water withdrawals were 45,000 Mgal/d, or 24 percent less than in 2005, and saline groundwater withdrawals in 2010, mostly used for mining, were 3,290 Mgal/d.

As in 2005, water withdrawals in four States—California, Texas, Idaho, and Florida—accounted for more than one-quarter of all fresh and saline water withdrawn in the United States in 2010. California accounted for 11 percent of the total withdrawals nationwide and 10 percent of the total freshwater withdrawals. More than 60 percent of California's withdrawals were for irrigation, and 17 percent, almost exclusively saline water, was for thermoelectric power. In Texas, about 45 percent of withdrawals were for thermoelectric power, and 28 percent was for irrigation. Irrigation accounted for 81 percent of water withdrawn in Idaho, and thermoelectric power accounted for 61 percent of water withdrawn in Florida.

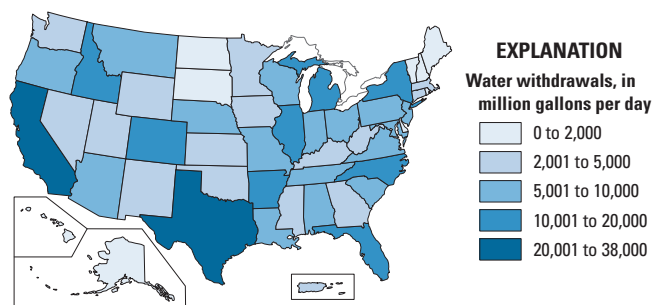
Water Use by Category

During 2010, about 42,000 Mgal/d of freshwater was withdrawn for **public supply**, which accounted for almost 12 percent of the total water withdrawn. About 63 percent of

public-supply withdrawals were from surface-water sources. Public suppliers deliver water to users for domestic, industrial, commercial, and other purposes. About 57 percent of public-supply withdrawals, or 23,800 Mgal/d, was delivered for **domestic** use, which includes indoor and outdoor residential uses, such as drinking water, sanitation, and landscape watering. Some residences, especially in rural areas, are not connected to public-supply systems, and water for domestic use is self-supplied from wells or other private sources. Self-supplied domestic withdrawals were about 3,600 Mgal/d during 2010, which provided water to about 44.5 million people, or 14 percent of the U.S. population. More than 98 percent of the water withdrawals for self-supplied domestic use were from groundwater.

Withdrawals for **irrigation** totaled about 115,000 Mgal/d and represented 33 percent of total withdrawals and 38 percent of freshwater withdrawals. Irrigation includes water applied by irrigation systems to assist crop and pasture growth or to maintain vegetation in parks and golf courses. Sprinkler and microirrigation systems, more efficient than surface-irrigation methods, were used on about 58 percent of the irrigated acreage nationwide in 2010, and surface water supplied about 57 percent of the total irrigation withdrawals. Of the total irrigation in the United States, 83 percent of withdrawals and 74 percent of the acres irrigated were in the 17 conterminous Western States.

Combined withdrawals for livestock and aquaculture were 3 percent of the total water withdrawals in 2010. **Livestock** withdrawals include water for livestock, feedlots, and dairy operations and accounted for 2,000 Mgal/d, most (60 percent) supplied from groundwater. **Aquaculture** includes fish farms and fish hatcheries and accounted for 9,420 Mgal/d of freshwater withdrawals, about 81 percent supplied by surface water.



Total water withdrawals by State, 2010.

Self-supplied **industrial** withdrawals were an estimated 15,900 Mgal/d, about 4 percent of total withdrawals. Industrial water use includes water used in manufacturing and producing commodities such as food, paper, chemicals, refined petroleum, wood products, and primary metals. Although some water for industrial uses was delivered by public suppliers, this amount was not estimated for 2010. Surface water was the source for 82 percent of self-supplied industrial withdrawals, primarily from freshwater sources. About 6 percent of total industrial withdrawals were saline water, primarily from surface-water sources.

Mining water use includes water used for extracting solid minerals such as copper, liquids such as petroleum, and gases such as natural gas and also includes the injection of water for unconventional oil and gas recovery such as hydraulic fracturing. Withdrawals for mining were estimated to be 5,320 Mgal/d for 2010, or about 1 percent of total withdrawals. Groundwater supplied 73 percent of water withdrawn for mining, and 58 percent of mining withdrawals were saline water.

Water for **thermoelectric power** is used in the process of generating electricity using steam-driven generators. Thermoelectric power accounted for 45 percent of total withdrawals, or 161,000 Mgal/d. Surface water was the source for almost 100 percent of thermoelectric-power withdrawals, and 73 percent of the surface water used was freshwater. Thermoelectric powerplants that use once-through cooling systems accounted for 94 percent of thermoelectric-power withdrawals; recirculating cooling systems made up the remainder. Large volumes of water are needed for cooling in thermoelectric powerplants, which is why facilities typically are located near the coasts, large lakes, or large rivers. About 86 percent of thermoelectric-power withdrawals in 2010 were in Eastern States; many Western States rely on hydroelectric-power generation for much of their power needs.

A bar graph of water withdrawals by major category and State, arranged from west to east, shows the general geographical pattern of water use. Irrigation withdrawals were

predominant in many Western States, especially those with only minor thermoelectric-power withdrawals. Generally, thermoelectric power was the largest category of water withdrawal in the Eastern States.

Water Use Trends, 1950–2010

Total withdrawals for 2010 of 355,000 Mgal/d were 13 percent lower than the revised estimate of withdrawals for 2005 of 409,000 Mgal/d. Water withdrawals, estimated at 5-year intervals since 1950 by the U.S. Geological Survey (USGS), peaked in 1975 and 1980, but then remained fairly stable from 1985 through 2005 before dropping in 2010. Withdrawal estimates in 2010 were substantially lower than 2005 for the largest categories of use. Thermoelectric-power withdrawals declined 20 percent and reflect shifts to cooling systems and generation technologies with lower water requirements, and a new estimation method using linked heat and water budget models for some powerplants. Irrigation withdrawals declined 9 percent as the shift to more water-efficient irrigation systems continued. Although the population served by public supply continued to increase, total public-supply withdrawals declined 5 percent. Self-supplied industrial water use was 12 percent less than in 2005, continuing a consistent decline since 1985. Withdrawals also declined for self-supplied domestic use (3 percent) and livestock (7 percent). Withdrawals increased for mining (39 percent) and aquaculture (7 percent).

Importance of Water-Use Data for the United States

Every 5 years, the USGS compiles and estimates water-use information in cooperation with State, Federal, and local agencies to document how the Nation's water resources are used. The most recent publication in the series that began in 1950, and the basis of this summary, is USGS Circular 1405, "Estimated use of water in the United States in 2010" (Maupin and others, 2014).

Federal, State, and local agencies have a key role in the collection and dissemination of water-use data. By compiling and publishing water-use estimates for the Nation, the USGS provides water-resource planners with the information needed to address issues related to water-resource allocation and environmental impacts at national, regional, and State levels. Water use also is a key component of the water-budget approach of the National Water Census (<http://water.usgs.gov/watercensus/>), which supports research focused on improving methods of collection and estimation of water-use data.

Reference

Maupin, M.A., Kenny, J.F., Hutson, S.S., Lovelace, J.K., Barber, N.L., and Linsey, K.S., 2014, Estimated use of water in the United States in 2010: U.S. Geological Survey Circular 1405, 56 p., <http://dx.doi.org/10.3133/cir1405>.

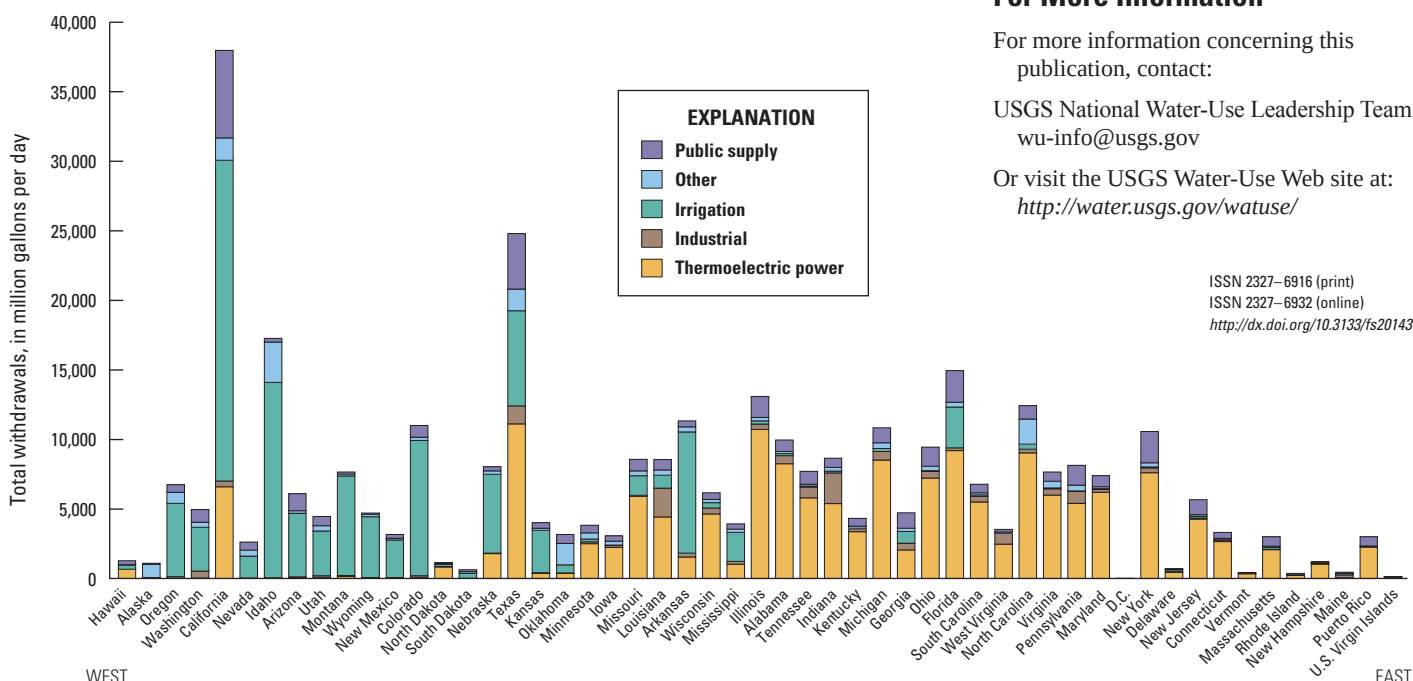
By Nancy L. Barber

For More Information

For more information concerning this publication, contact:

USGS National Water-Use Leadership Team
wu-info@usgs.gov

Or visit the USGS Water-Use Web site at:
<http://water.usgs.gov/watuse/>



2010 withdrawals by category, in million gallons per day. States are arranged geographically from west to east.

ISSN 2327–6916 (print)
ISSN 2327–6932 (online)
<http://dx.doi.org/10.3133/fs20143109>



National Ground-Water Monitoring Network

Advisory Committee on Water Information—Subcommittee on Ground Water

Establishing a Collaborative National Ground-Water Monitoring Network Program for the United States

Ground-water monitoring networks are operated by many Federal, State, Tribal, and local agencies. Even though ground-water monitoring is done in many places and at many scales, there is no ready access to these data at the national level and there are no standards that address consistent data structure and quality. In aggregate, however, the data being collected by these many entities will provide a relatively comprehensive picture of the Nation's ground-water resources.

The Federal Advisory Committee on Water Information (ACWI; <http://acwi.gov/>), as directed by the U.S. Office of Management and Budget, fosters collaboration related to water information collection and sharing. In recognition of the dispersed nature of ground-water data networks, the ACWI directed its Subcommittee on Ground Water (SOGW) to develop a nationwide ground-water monitoring framework that could provide information necessary for the planning, management, and development of ground-water resources to meet current and future water needs and ecosystem requirements. To this end, a project to develop a National Ground-Water Monitoring Network (NGWMN) was begun. The SOGW developed an initial network framework in 2009 and conducted a pilot phase to test the feasibility of a NGWMN and to develop a Web sharing portal in 2011. A revised framework incorporating the lessons learned during the pilot phase was completed in 2013 (Subcommittee on Ground Water, 2009; revised 2013; available at <http://acwi.gov/sogw/pubs/tr/index.html>).

The NGWMN is envisioned as a voluntary, cooperative, integrated system of data collection, management, and reporting that will provide the data needed to help address present and future ground-water management questions. Thus, the NGWMN may be thought of as an aggregation of wells selected from existing Federal, multistate, State, Tribal, and local ground-water monitoring networks completed in selected aquifers across the Nation. It takes advantage of, but also seeks to enhance, the existing monitoring efforts. The NGWMN will provide data that can be used to assess baseline conditions and long-term trends in water levels and water quality in important aquifers on a national, multistate, and regional scale.

"Design and testing of the National Groundwater Monitoring Network reflects a wonderful collaboration of volunteers from all sectors, and the web portal developed by the USGS represents a significant step forward for efficient delivery of groundwater data. The efforts of many volunteers have produced a Network that will eventually fill important data gaps and provide the basis for significantly improved tracking of groundwater 'health' on a nationwide basis."

—Robert P. Schreiber
Vice-President, CDM Smith,
Co-Chair, Subcommittee on
Ground Water



Principal and Major Aquifers

The National Ground-Water Monitoring Network will focus on the principal aquifers of the Nation (U.S. Geological Survey, 2003), which are its major water-use aquifers, and also other major aquifers identified by contributing agencies. The network will contain information for selected wells from contributing agency databases. The resulting network will not just be a concatenation of all contributing agency databases, but rather will provide selected wells that are chosen by the data providers to represent the status of the ground-water resources to enable a coherent national assessment. Thus, contributing agencies will select appropriate representative wells for the NGWMN and assure the quality of the data contributed to the network.

National Ground-Water Monitoring Network Pilot Studies

A pilot program involving potential State partners was conducted to test the

feasibility and proof-of-concept for a NGWMN, and to develop a Web-based data portal. Five pilot projects were undertaken to test these concepts. The pilot project areas and the agencies responsible are Illinois-Indiana (Illinois State Water Survey, and Indiana Department of Natural Resources), Minnesota (Minnesota Department of Natural Resources, and Minnesota Pollution Control Agency), Montana (Montana Bureau of Mines and Geology), New Jersey (New Jersey Geological Survey, and U.S. Geological Survey), and Texas (Texas Water Development Board). The results of these studies are summarized in the report "National Ground-Water Monitoring Network—Results of Pilot Studies" (Subcommittee on Ground Water, 2011). The pilot projects evaluated the distribution of wells within principal and major aquifers, well measurement and (or) sampling frequency, field practices, data elements stored in their environmental database(s), data-management procedures and their documentation, and overall

network costs. Pilot project reports are available at (http://acwi.gov/sogw/pubs/tr/pilot_results/index.html). The results and feedback from the pilot studies were then used in the revision of the framework document.

National Ground-Water Monitoring Network Portal Is Key

A key component of the NGWMN is the development of a Web-based NGWMN portal by the U.S. Geological Survey (USGS). The portal dynamically links with databases at participating agencies, retrieves data, and serves the data through a graphical user interface. Portal implementation involves development of data sharing protocols and Web-based software implementation coordinated between the various entities participating in the network. The portal (figure 1) (<http://cida.usgs.gov/ngwmn/>) was developed during the pilot phase and has been improved from the experience gained. Data from the wells selected by the pilot studies to represent ground-water conditions in the principal and major aquifers in their respective State can be viewed or downloaded through the NGWMN data portal. In addition, since the pilot studies have been completed, select wells managed by the USGS for many States also have been added to the NGWMN.

The major goals of the NGWMN: (1) Compile the water-resources data that can be used to define the status and trends of ground-water availability at the national scale; (2) Identify areas where additional monitoring is needed; (3) Provide data to support regional, interstate, and national management actions; and (4) Provide a data-management framework to receive, manage, and distribute data. All of the data and information in the NGWMN will be available to all interested parties at no cost and with no restrictions.



Figure 1. Screen capture of the National Ground-Water Monitoring Network Data Portal.

Why Do We Need a National Ground-Water Monitoring Network?

Determining the status and trends of the Nation's ground-water resources is difficult or nearly impossible because data are either not integrated or not available. Reporting on the areas of the Nation's major aquifers in which water levels are declining, increasing, or stable is one of the 10 highest priority data gaps identified for reporting on the Nation's ecosystems (H. John Heinz III Center for Science, Economics and the Environment, 2006). The NGWMN integrates the necessary data and identifies remaining data gaps. It provides a single, consistent dataset for shared interstate ground-water resources, an opportunity to share data among State agencies, a critical review of field procedures and data-management procedures among data providers, and the opportunity to raise awareness for ground-water monitoring.

Next Steps

A nationwide collaborative network for ground-water monitoring has been discussed for decades. The NGWMN Framework Document and five successful pilot projects have illustrated that the convergence of information technology improvements, increased information needs, recognition of the critical importance of ground water to our Nation, and interest in collaboration have come together to make this the ideal time to develop a NGWMN. The need for a NGWMN is further supported by concerns about the range of economic and environmental factors faced by drinking water purveyors, energy, agricultural, and other economic sectors of the United States. The next steps in making the NGWMN a functioning and usable reality are to enhance the NGWMN portal, encourage other partners to participate in the network, and secure funding commitments to provide for the long-term operation and management of the NGWMN. Agencies interested in participating in the NGWMN are encouraged to view the "Get Involved" information on the portal Web page (<http://cida.usgs.gov/ngwmn/learnmore.jsp>).

"Without monitoring and measuring groundwater levels and quality, sustainable groundwater resources management and protection is not possible.This marks a new era in information sharing on groundwater resources...."

*—Timothy K. Parker
Principal Hydrogeologist, Parker Groundwater*



References

- H. John Heinz III Center for Science, Economics and the Environment, 2006, Filling the gaps—Priority data needs and key management challenges for national reporting on ecosystem condition: Washington, D.C., H. John Heinz III Center for Science, Economics and the Environment.
- Subcommittee on Ground Water of the Advisory Committee on Water Information, 2011, National Ground-Water Monitoring Network—Results of pilot studies: Advisory Committee on Water Information, accessed October 23, 2013, at http://acwi.gov/sogw/pubs/tr/pilot_results/NGWMN_pilot_studies.pdf.
- Subcommittee on Ground Water of the Advisory Committee on Water Information, 2009 (revised 2013), A national framework for ground water monitoring in the United States: Advisory Committee on Water Information, accessed October 23, 2013, at http://acwi.gov/sogw/ngwmn_framework_report_july2013.pdf.
- U.S. Geological Survey, 2003, Principal aquifers of the 48 conterminous United States, Hawaii, Puerto Rico, and the U.S. Virgin Islands: U.S. Geological Survey, accessed October 23, 2013, at <http://www.nationalatlas.gov/mld/aquifrp.html>.

For information, please contact:

Robert P. Schreiber
Co-Chair, Subcommittee on Ground Water
Representative of American Society of Civil Engineers (ASCE)
CDM Smith
50 Hampshire Street
Cambridge, Massachusetts 02139

Telephone: (617) 452-6251
E-mail: SchreiberRP@cdmsmith.com

William L. Cunningham
Co-Chair, Subcommittee on Ground Water
U.S. Geological Survey
411 National Center
Reston, Virginia 20192

Telephone: (703) 648-5005
E-mail: wcunning@usgs.gov





NATIONAL WATER QUALITY MONITORING COUNCIL

Working Together for Clean Water

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA) and the National Water Quality Monitoring Council (NWQMC) that integrates publicly available water quality data from the USGS National Water Information System (NWIS) the EPA STOrage and RETrieval (STORET) Data Warehouse, and the USDA ARS Sustaining The Earth's Watersheds - Agricultural Research Database System (STEWARDS) .

The EPA water quality data originate from the STORET Data Warehouse, which is the EPA's repository of water quality monitoring data collected by water resource management groups across the country. Organizations, including states, tribes, watershed groups, other federal agencies, volunteer groups and universities, submit data to the STORET Warehouse in order to make their data publicly accessible. For more information about STORET, see the STORET Home Page (<http://www.epa.gov/storet>).

The USGS water quality data originate from the NWISWeb Database. The database contains current and historical water data from more than 1.5 million sites across the nation and is used by state and local governments, public and private utilities, private citizens, and other federal agencies involved with managing our water resources. For more information on what data are available and how NWIS data are mapped to the Water Quality Exchange (WQX) format, visit NWIS Water Quality Web Services (<http://qwwebservices.usgs.gov/>).

The ARS water quality data originate from the STEWARDS (Sustaining The Earth's Watersheds - Agricultural Research Database System) database and were developed as part of the Conservation Effects Assessment Program (CEAP). STEWARDS contains long-term hydrologic, weather, and water quality data from 17 ARS benchmark research watersheds. For more information about STEWARDS, see the STEWARDS Home Page (<http://www.nrrig.mwa.ars.usda.gov/stewards/stewards.html>).

Contact us ([contact_us.jsp](#))



(<http://usgs.gov>)



(<http://epa.gov>)



(<http://www.ars.usda.gov/>)

Tab L – WGA Drought Forums



Western Governors' Drought Forum: Status and Next Steps

Background

The Western Governors' Drought Forum is the Chairman's Initiative of Gov. Brian Sandoval. The goal of this regional dialogue on drought is to identify ways to avoid or mitigate the impact of drought on communities, economies, and the environment. The Drought Forum provides a framework to share best practices and case studies of local, state and federal policies and industry business improvements designed to manage limited water supplies during drought.

Nexus to WGA Policy

In Policy Resolution 2014-03, [Water Resource Management in the West](#), the Western Governors encourage federal agencies to partner with states in the gathering, coordination and effective dissemination of drought-related data between the federal government and states.

WGA's [Memorandum of Understanding with the National Oceanic and Atmospheric Administration](#) was signed with the goal to "improve the development, coordination and dissemination of drought and extreme weather data, information, and analysis – as well as preparedness and planning tools and innovations – in order to support the resource management decisions of Western states."

Status

WGA has used multiple mechanisms to gather information about best practices for drought management and response. Completed projects include:

Workshop series: WGA held five Drought Forum workshops, each focused on drought's impacts to a specific economic sector. WGA convened leaders from industry, non-profits and academia with state water and resource managers and federal partners for the workshops.

Sessions included:

- *Oklahoma* – Managing Drought in the Energy Sector – September 18-19, 2014
- *Arizona* – Drought Impacts and Solutions in the Manufacturing, Mining and Industrial Sectors – October 7-8, 2014
- *California* – Drought Impacts and Solutions in the Agricultural Sector – November 13-14, 2014
- *Nevada* – Drought Impacts and Solutions in Water Supply – December 8-9, 2014

- *New Mexico – Drought Impacts and Solutions for Recreation and Tourism – January 28-29, 2015*

Webinar series: Based on the workshop discussions, WGA discerned five recurring themes for in-depth attention through an [online webinar series](#). Topics included:

- Once Marginal, Now Crucial: The Growing Demand for Re-used, Produced, and Brackish Water
- Community Outreach and Consumer Technology for Municipal Water Use
- Tip of the Spear: The Horizon for Drought Data, Modelling, and Mapping Technology
- Managing Forest Health for Water Resources
- One Size Doesn't Fit All: Why Variation in Hydrology and Legal Structures means that Drought Looks Different across the West ([to be held on April 8](#))

Survey of Western State Water Managers: The Western States Water Council has surveyed its members to see how they plan for drought and what policy responses they use when drought conditions arise. The responses will be used to inform a WGA policy brief on the information and resources that states use in drought response.

Online Resource Library: WGA has collected drought resources, reports, meeting summaries and decision support systems in the Drought Forum online resource library. As WGA interacted with Drought Forum meeting participants and partners, staff solicited items for inclusion in this repository of information. This is online at westgov.org/drought-forum

Next Steps

Upcoming deliverables under the Drought Forum include:

Final Report: WGA staff has prepared a draft report to capture the main themes of the Drought Forum discussion in 2014-15. That draft document has been provided to the Governors' Staff Advisory Council and will be provided to Western States Water Council staff in early May.

Drought Forum Wrap-Up Session: WGA will host a meeting to present the findings of the final report to Drought Forum sponsors and partners. The meeting will be more than a synopsis of the report findings; rather, it will bring in new case studies related to each of the main themes of the report in order to create new content for the Drought Forum online resource library. This will also help emphasize that the project is ongoing. The meeting will be held at Sierra Nevada College on June 23.

Governors' Drought Forum Roundtable: The first plenary session of the Western Governors' Annual Meeting will focus on drought. The Governors and their invited guests will touch on the findings of the Drought Forum report and offer their own examples of how they've managed drought.

Years 2-3 Workplan: WGA Staff has drafted a workplan for Drought Forum work in the coming two years. The workplan focuses on support of water data collection, the connection between drought and wildfire, and the regulatory environment for using produced or re-used water in industrial processes.

WGA Staff Contact: Carlee Brown (cbrown@westgov.org)

Tab M – CDWR / WSWC Sub-Seasonal and Seasonal Precipitation Workshop

Sub-Seasonal and Seasonal Precipitation Forecasting Workshop

Sponsored by:

Western States Water Council & California Department of Water Resources

**Doubletree San Diego Downtown
May 27-29, 2015**

The Western States Water Council and the California Department of Water Resources are cosponsoring a workshop on precipitation forecasting, to be held in San Diego at the Doubletree San Diego Downtown Hotel on May 27-29, 2015. There is no registration fee.

A block of rooms has been reserved and will be held through May 5, 2015. Please contact the Doubletree San Diego Downtown reservations department directly at (619) 239-6800, or central reservations at (800) 222-TREE, and announce the Western States Water Council room block. Reservations are subject to availability at the time of booking. Room rates will apply three days before and after the meeting, subject to availability. Reservations received after the cutoff date of May 6, 2015 will be confirmed on a room availability basis at the rate in effect at the time of the request. Reservations must be made by the May 5 deadline to obtain the rate of \$125 single or double occupancy. *Please note:* The Hotel maintains a forty-eight (48) hour cancellation policy for individual guest room reservations.

The workshop will begin at 1:00 pm on the 27th, with presentations from NOAA and NWS representatives on activities at the NWS Western Region level, the River Forecast Center, and the Weather Forecast Office level. NOAA's recent service assessment for the California drought -- which highlights the need for improved precipitation prediction for drought preparedness and response -- will be presented as an example of viewpoints from a wide range of the state's economic sectors. Presentations on the 28th will cover specifics of state and local agency needs for improved forecasting, and the status of example research efforts to improve forecasting at a regional geographical scale. The workshop will conclude at noon on the 29th, with presentations on applications for seasonal forecasting, including forecast-informed reservoir operations, and a discussion of next steps.

The purpose of the workshop is to develop a Western vision for improving precipitation forecasting at timescales beyond the two-week weather forecast time domain, loosely modeled after the Council's vision for an observing network for Western extreme precipitation. Improved forecasts of precipitation at longer timescales can be used for many purposes, such as interstate compact or water rights administration, planning for local water agency supply deliveries, or flood season preparedness. Forecasting needs vary not only with the purpose of a forecast, but also with geographic location, because the seasonal pattern of storm activity and large storm types varies with location. Improved skill in precipitation forecasting can be achieved by improving prediction of large storm types, such as atmospheric rivers on the West Coast or the monsoon in the Southwest.

A workshop summary report will be prepared, with the intent of using the report to inform a dialog with NOAA's Climate Prediction Center on taking advantage of prediction skills that may be available at a regional (Western) scale to improve the outlooks now issued at a national scale. The workshop's ultimate goal is to advance the Council's position calling on the federal government to improve precipitation forecasting.

To register, please fill out the following information:

NAME: _____
(as you would like it to appear on name badge)

TITLE: _____

AGENCY: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

PHONE: _____

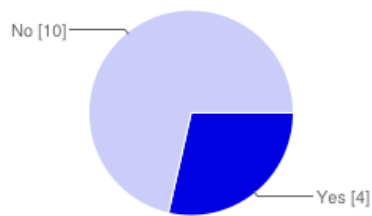
EMAIL: _____

If you do not receive a registration confirmation, please contact Julie Groat at (801) 685-2555, or email: jgroat@wswc.utah.gov.

Tab N – Western State Drought Response Planning Survey

Western State Drought Response Planning Survey April 2015

Is your state presently under some type of drought declaration by your governor?



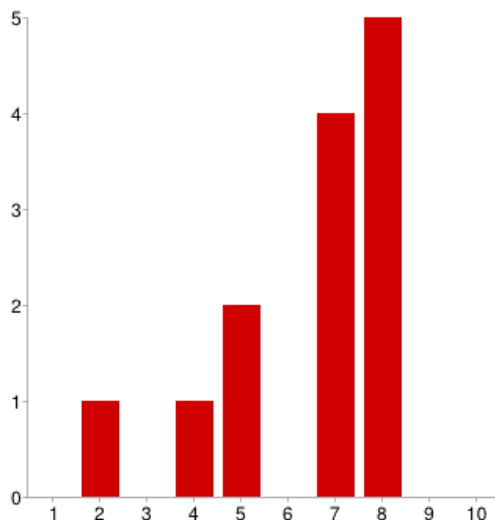
Yes	4	26.7%
No	10	66.7%

Does your state have a drought preparedness and/or response plan?



Yes	13	86.7%
No	1	6.7%

Do you find your plan useful in planning for and responding to drought?



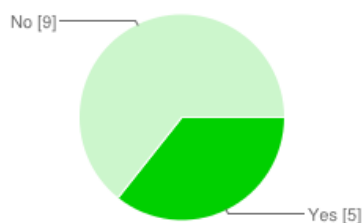
1	0	0%
2	1	6.7%
3	0	0%
4	1	6.7%
5	2	13.3%
6	0	0%
7	4	26.7%
8	5	33.3%
9	0	0%
10	0	0%

How are actions under the plan triggered?



Governor's Declaration	8	53.3%
Executive Order	5	33.3%
Drought Index	4	26.7%
Other	8	53.3%

Has your state performed any socioeconomic assessments during or after a drought event?



Yes	5	33.3%
No	9	60%

ARIZONA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Arizona Department of Water Resources

A Drought Preparedness Report is prepared annually

How is drought planning integrated with state water resource planning and management in general?

Communities/water providers are required to have a drought management plan in place. In Active Management Areas a requirement exists to show 100 years of renewable supplies exist before plats for new housing are approved. That includes a drought back supply plan requirement.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

Inter-agency drought task force meets quarterly to review the drought status developed by The State Drought Technical Monitoring Work Group. Task Force makes annual recommendation to Governor the continue or initiate a drought declaration.

Please briefly summarize major actions undertaken in response to drought (over the last five years), and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

They are previously described. We have not restricted water use as a result of demand outstripping supply because of drought.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Statewide Drought Plan was required by Executive Order.

ARS 45-342 requires drought plans by water providers and is linked to Assured Water Supply requirements in 45-576.

Title 45, Chapter 2 is a comprehensive strategy to manage groundwater to preserve its use in times of drought. It includes mandatory water conservation for municipal, agricultural and industrial users, underground storage programs to store water for future use, limits on new agriculture, caps on water duties for agriculture and golf courses, the assured water supply program the drought plan requirements and other elements.

Any other comments?

CALIFORNIA

What state agency is primarily responsible for developing and/or updating the plan? Does your state have a drought plan/when was it last updated?

If the Governor proclaims a drought emergency, it falls under the jurisdiction of the State Emergency Plan, administered by OES. That plan, updated in 2009, broadly covers methods for carrying out emergency operations, including the points listed below.

- the process for rendering mutual aid
- emergency services of governmental agencies
- how resources are mobilized
- emergency public information

Individual state agencies may develop plans as needed to respond to specific drought issues within their areas of jurisdiction, covering timeframes and issued at lead times relevant to the particular subject matter. For example, CDWR's major priority action during drought is operating the SWP to respond to challenging hydrologic conditions while complying with environmental requirements and facilitating water transfers where possible, an action that requires close coordination with the U.S. Bureau of Reclamation's (USBR's) Central Valley Project (CVP). The extreme hydrology of water years 2014 and 2015 led CDWR and USBR (working through the Real-Time Drought Operations Management Team which includes CDWR, USBR, SWRCB, California Department of Fish and Wildlife, National Marine Fisheries Service, and U.S. Fish and Wildlife Service) to develop drought contingency plans for water operations in 2014 and 2015. Those plans are available at:

http://www.fws.gov/sfbaydelta/documents/cvp-swp_drought_operations_plan_and_forecast_with_memo_4-8-2014.pdf

http://www.swrcb.ca.gov/waterrights/water_issues/programs/drought/docs/2015_drought_contingency_plan.pdf

How is drought planning integrated with state water resource planning and management in general?

Generally, the purpose of water resources planning and management is to avoid water shortages or to mitigate impacts of shortage. Drought is a limited-term condition that can cause shortages.

Relative to planning, CDWR has a statutory requirement to prepare and update the California Water Plan every five years; this report looks at the balance between water supply and water demand over the very long-term. In the nearer-term, California has statutory goals for water conservation and recycling, and requirements for agricultural water measurement. California's voters have approved billions of dollars from general obligation bond funds for grants to local agencies to help them reduce their risk of shortage or better manage impacts of shortage. CDWR and SWRCB are administering programs in real time that fund measures such as local integrated regional water management, storage, water recycling, conservation, stormwater management, groundwater management, desalination and emergency drinking water supplies. During prior droughts and now in the present drought, available bond funds

may be targeted to the extent permitted by the authorizing legislation for projects that can provide near-term help with local agency drought management. State grant funds are a tool that can be used to facilitate local agency compliance with goals/requirements such as water conservation or recycling, or groundwater management.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

If the Governor proclaims a state of emergency due to drought, the requirements of CESA are triggered, including the procedure for response pursuant to SEMS.

(<http://www.calema.ca.gov/planningandpreparedness/pages/standardized-emergency-management-system.aspx>). Response to the current drought is being conducted in accordance with the SEMS procedures described on OES' website.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Major policy directives for the present drought are listed below, together with web links.

- May 2013 Executive Order on water transfers, <http://gov.ca.gov/news.php?id=18075>
- Jan 2014 Governor's emergency proclamation, <http://gov.ca.gov/news.php?id=18379>
- March 2014 drought relief legislation, <http://gov.ca.gov/news.php?id=18432>
- April 2014 Governor's proclamation of continued state of emergency, <http://gov.ca.gov/news.php?id=18496>
- Sep 2014 Executive Order for emergency drinking water assistance, <http://gov.ca.gov/news.php?id=18713>
- Dec 2014 Executive Order extending selected provisions, <http://gov.ca.gov/news.php?id=18815>

The specific actions required in these directives are being implemented by the agencies designated therein. The directives are being managed pursuant to SEMS; the Governor has named an interagency drought task force which works under the Incident Command System required by SEMS. The purpose of SEMS is to define the process for emergency response; it does not define details of specific actions that state agencies are to take, those are directed in a Governor's emergency proclamation or sometimes in incident-specific legislation. Summaries of actions taken pursuant to the current directives can be found at www.drought.ca.gov. For example, this page (<http://ca.gov/drought/managementactions.html>) describes water operations and fishery protection actions taken in response to the drought contingency plan for 2014 SWP/CVP operations.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

1. The California Emergency Services Act (CESA), administered by the Office of Emergency Services, describes the statutory authority for declaring a state of emergency and carrying out emergency response actions. The state's response to the current drought is being carried out via Governor's emergency proclamations issued pursuant to CESA and the through the Standardized Emergency Response System (SEMS) regulations adopted pursuant to that statute.
2. CDWR and SWRCB each have broad authority pursuant to the California Water Code (CWC) for various aspects of water resources regulation, management, and planning that may be used to respond to drought. These authorities are not drought-specific, but may be used to respond to drought. For example, water transfers and exchanges are a common drought response tool. DWR's authority to use State Water Project (SWP) facilities to convey water for non-SWP water transfers stems from CWC Section 1810 et seq. SWRCB's authority for allowing temporary changes to a water right to facilitate a transfer or exchange stems from CWC Sections 1725 et seq.
3. The California Water Rights system, administered by the SWRCB, provides authority for the SWRCB to curtail more junior water rights in order to provide senior water rights holders their legal water. This system, last activated in the 1970s, was reactivated to respond to drought, in order to provide an organized and established way to allocate limited supplies.
4. Additionally, CWC Sections 10610 et seq. require urban water agencies serving more than 3,000 customers to prepare and update every five years an urban water management plan that contains a water shortage contingency element. Plans are required to be submitted to CDWR; their shortage contingency elements are effectively local drought plans.

Any other comments?

To the extent that socioeconomic impact assessments have been performed, they are summarized in the drought wrap-up reports that CDWR has historically prepared subsequent to major droughts (the reports are available here: <http://www.water.ca.gov/waterconditions/publications.cfm>).

Interim (for a single water year) evaluations for a single water year in a drought are also sometimes performed. In 2014, for example, both DWR and the California Department of Food and Agriculture commissioned estimates of the extent of fallowed agricultural land. (These estimates have now been superseded by the final USDA NASS data for 2014 that were released in 2015.)

COLORADO

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Department of Natural Resources/ Colorado Water Conservation Board

2013

How is drought planning integrated with state water resource planning and management in general?

Because the plan is housed and managed by CWCB it reflects long term planning priorities set by that agency. The Division of water resources is also integral in helping to develop goals and objectives for the plan and helping to implement and execute those.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

Activation of the plan also activates a drought task force comprised of cabinet level managers, impact task forces that are sector specific are also activated as necessary. CWCB coordinates the task forces and the drought task force conveys information to/ from the Governors office.

Please briefly summarize major actions undertaken in response to drought (over the last five years), and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

- Activation of the Drought Plan, Drought Task Force and 2 impact task forces (envisioned in plan)
- Development of a drought response website and widget to monitor key indicators (not envisioned)
- Drought impact tours (no envisioned)
- close collaboration with federal partners (envisioned)
- improved communication across all levels of government (envisioned)

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

We have a comprehensive drought mitigation and response plan, approved by the Governor, that engages all levels of state government during times of drought. During non-drought times the focus shifts to mitigation and improving monitoring systems.

Any other comments?

We have performed agricultural economic studies.

IDAHO

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Idaho Water Resources Board

2001

How is drought planning integrated with state water resource planning and management in general?

The Idaho Department of Water Resources (IDWR) serves as the lead state agency in coordinating federal, state, and local input in drought-related activities. The two major legislated responsibilities that IDWR has relative to a water shortage are administration of all water rights and the inventory, monitoring, and planning of the state's water resources.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The plan does not provide a detailed blueprint for responding to droughts.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Every year, at the request of the Governor, the IDWR reviews water supply conditions in counties that have petitioned the Governor for a drought emergency declaration. The purpose of IDWR's technical review is to determine if the declaration is justifiable. Following IDWR's review, emergency drought declarations were issued for 4 counties in 2014, 19 counties in 2013, 9 counties in 2012, 0 counties in 2011, and 6 counties in 2010.

In addition, in the fall of 2013 the Idaho Department of Water Resources (IDWR) hosted a Drought Forum in anticipation of drought conditions developing in 2014, which ultimately did not occur.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Annual county-level emergency drought declarations, which allow for the review and issuance of "Temporary Water Right Transfers". Idaho Code 42-222A outlines the water right actions allowed following declaration of a drought emergency.

In addition, several grant and loan programs are available at the state level and are administered by the Idaho Water Resource Board.

Any other comments?

MONTANA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Montana Department of Natural Resources and Conservation (DNRC)

2007

How is drought planning integrated with state water resource planning and management in general?

The original Montana Drought Response Plan (1995) sets forth the provisions of State Water Plan section Drought Management (December 1990). The Drought Management section addresses Drought Monitoring and Early Warning; Impact Assessment; Coordination of Governmental Actions; Triggering Mechanisms; Assistance Programs, and Drought Mitigation Strategies, etc. All of these activities facilitate informed integration.

- The Governor's Drought Advisory Committee has been convened monthly April – October since 1992. Water supply and moisture conditions from the committee meetings have been disseminated through television interviews, newspaper articles, and PSA's. Since 1999, staff of the Governor's Drought Advisory has maintained an Internet Page: www.drought.mt.gov. This allows the public and water managers and users the latest status in water supply, moisture and drought conditions for informed decision-making and to compare information from the past to inform decision-making in the present and future.

The water supply and moisture mapping, refreshed monthly by the Committee, is on its web site to inform managers on trends in conditions for integration into their planning. The site links to archives.

See: <http://drought.mt.gov/default.aspx> and

http://mslapps.mt.gov/Geographic_Information/Maps/drought/ and

http://mslapps.mt.gov/Geographic_Information/Maps/watersupply/SurfaceWaterSupplyIndex/Default.aspx

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

When water supply and soil moisture levels reach the Drought Alert level, the Governor's Drought Advisory Committee strongly urges local officials to convene local drought committees.

When water supply and soil moisture levels reach the Extreme Drought status level, the Governor's Drought Advisory Committee recommends that local officials should have local planning efforts underway or should reconvene the local drought committee at the earliest opportunity.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

None

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Montana Governor's Drought and Water Supply Advisory Committee Section 2-15-3308 MT Code Annotated

Any other comments?

Montana has not had any declarations for drought since 2000-2001.

NEBRASKA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Nebraska Climate Assessment Response Committee

June 2000

How is drought planning integrated with state water resource planning and management in general?

Through the integrated water management plan process, the availability of water during shortages is reviewed and the plan addresses what will occur during shortages. During times of drought, agencies in charge of water management will provide updates of information to the Climate Assessment Response Committee and receive additional information from other agencies.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

See plan at <http://www.carc.nebraska.gov/docs/NebraskaDrought.pdf>.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

During a drought haying state owned or county owned roadsides may be authorized. Added additional funds to encourage people to enter into federal set aside programs. Provide additional information to the public on such things as hay availability, forage conditions, wildlife concerns, how to get in touch with mental help lines and other resources if people need help. Work closely with federal agencies to get help from federal resources.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

The State of Nebraska created the Climate Assessment Response Committee in 1992. See Neb. Rev. Stat. §§ 2-4901 to 2-4902. The Governor oversees the committee and its activities. Members of the committee include the Emergency Management Agency, the Conservation and Survey Division and Cooperative Extension Service of the University of Nebraska. The Director of the Department of Agriculture, the chief executive officer of the Department of Health and Human Services and the Director of Natural Resources. Representatives from the federal Consolidated Farm Service Agency and Federal Crop Insurance Corporation may serve at the invitation from the Governor. The chairmen of the

Committee on Agriculture and Committee on Natural Resources of the Legislature are nonvoting members. This committee meets twice a year. Its duties are to provide timely and systematic data collection, analysis and dissemination of information about drought and other severe climate occurrences; provide information and advice relevant to requests for federal disaster declarations and to the use of funds and other types of assistance available to the state because of such declarations; provide an organizational structure that assures information flow and defines the duties and responsibilities of all agencies during times of climate-related emergencies.; and provide methods of assessing impacts of drought on agriculture and industry to name a few.

In 2004, a major rewrite of laws regarding integrated water management in Nebraska was implemented. See Neb. Rev. Stat. Chapter 46, Article 7. These laws include such things as:

- (1) Yearly status reports by the Department of Natural Resources regarding river basins, subbasins or reaches and where they stand as to being fully appropriated.
- (2) Integrated management plans (both voluntary and mandatory) that describe how ground water and surface water will be managed during times of shortages within a natural resources district, or in those instances where the basin or part of the basin has been determined to be overappropriated, a basin wide plan is created.

The Department of Natural Resources or its predecessors has since 1895 had authority to close junior appropriators in times of shortage to protect senior appropriations. The state also has set preferences of water as domestic, agricultural, and industrial. See Neb. Rev. Stat. Chapter 46, Article 2.

The Department of Natural Resources is in the process of creating a website that provides information on stream flow, regulation, and water supply and demand for the public.

NEVADA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

State Climatologist

April 2012

How is drought planning integrated with state water resource planning and management in general?

It is a collaborative effort between all relevant parties. All statutory tools are used to assist water users in times of drought.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The procedural steps are for the Drought Response Committee to convene task force groups made up of the various industries and work on near-term solutions to help those constituents endure the drought as painlessly as possible.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Most recently, our Governor Sandoval, as Chairman of the WGA, has made it his signature issue to explore and better understand the best management practices and policies used across the western United States in times of drought. The final report from the WGA will be used to aid drought response throughout Nevada.

In terms of the past 5 years, water conservation plans by all major purveyors of water have been in force and effect statewide. Additionally, the Office of the State Engineer has been active statewide in holding listening sessions and other public workshops to educate the public on water issues, including drought, water law and to listen to the public's concerns. For the first time in the history of the State Engineer's Office, groundwater curtailment is occurring in two groundwater basins due to steep water level declines and the subsequent possibility of having hundreds of wells go dry.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Curtailment orders, invoking conservation efforts via purveyor conservation plans, invoking statutory criteria to allow for non-use of watering during droughts without penalty and many public education workshops.

Any other comments?

Being the driest state in the nation, Nevada is used to getting by with less water, however this prolonged drought magnifies every water issue. People are more passionate about the issues; drastic times calls for drastic measures which in turn translates into more litigation.

OKLAHOMA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Oklahoma Department of Emergency Management

August 1997

How is drought planning integrated with state water resource planning and management in general?

The devastating drought in 2006 provided the primary impetus for development of the 2012 Update of the Oklahoma Comprehensive Water Plan (OCWP). Development of the OCWP, which is the most comprehensive and technically invested Water Plan ever initiated in Oklahoma, spanned a five-year timeframe and was submitted to the Governor and Legislature in February 2012. Among other studies, the OCWP identifies areas where shortages in supply are projected to occur both under baseline analyses and with potential climate change through 2060, evaluated basin-specific options and their effectiveness in addressing projected water shortages, quantifies infrastructure requirements, provides tools to encourage/assist small water suppliers with long-term system planning, and sets forth eight priority recommendations, one of which is to consume no more fresh water in 2060 than consumed in 2012. One of the OCWP's supporting recommendations is to update and expand the 1997 Oklahoma Drought Management Plan.

Consistent with the above priority recommendation, and in order to protect Oklahoma citizens from increased water supply shortages described in the OCWP, in 2012 the Oklahoma Legislature passed HB 3055 (the Water for 2060 Act), which established the statewide goal of consuming no more fresh water in 2060 than is consumed in 2012. The Act creates a 15-member Water for 2060 Advisory Council to recommend incentives and voluntary initiatives to achieve the Water for 2060 goals.

In order to alleviate OCWP projected shortages for some of Oklahoma's designated "Hot Spots" (basins with the most significant water supply challenges) and adjacent areas, the OWRB applied for and received two Bureau of Reclamation WaterSMART grants: one in 2012 for the Upper Washita River Basin in West Central Oklahoma and one in 2014 for the Upper Red River Basin in Southwest Oklahoma. Some areas in these basins (as well as basins in Oklahoma's Panhandle) have experienced periods of Extreme to Exceptional Drought since 2011.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The Drought Coordinator (Director of the Oklahoma Department of Emergency Management), through information and recommendations provided by the Water Availability and Outlook Committee, Impact Assessment and Response Committee and Interagency Coordinating Committee, makes the official determination in activating a specified state of drought. During drought conditions, the Drought Coordinator briefs the Governor on the situation and, if warranted, requests specific actions requiring authorization of the state's executive branch of government. (Sequence of State Drought Response Actions will be provided.)

The Committees' participation and mechanisms set forth in the 1997 Oklahoma Drought Management Plan have not been updated nor remained intact as envisioned. However, the OWRB, as Chair of the Water Availability and Outlook Committee, has continued to publish the Oklahoma Water Resources Bulletin on a monthly basis and has developed the Oklahoma Drought Portal (drought.ok.gov). This web page provides links to a number of state and federal drought related/response resources and valuable information for monitoring drought conditions, including weather/climate data on the Oklahoma

Climatological Survey and Oklahoma Mesonet websites and community rationing status on the Oklahoma Department of Environmental Quality website. The portal also features the Oklahoma Drought Tool, a resource for system-level drought planning developed by the OWRB and US Bureau of Reclamation.

The Oklahoma Department of Emergency Management also continues to monitor and communicate with communities dealing with drought issues and provided emergency disaster funding in conjunction with the 2013 State of Emergency for Drought (E.O. 2013-36) for several cities for reimbursement of drought-related damages to their water systems.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

See information provided above on legislation and state water plan. Except for Executive Order 96-24, these actions were independent of the state's drought management plan.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

In August 1996, Governor Keating signed Executive Order 96-24 creating the Oklahoma Drought Management Team, a group of agencies and organizations charged with developing a coordinated, long-term plan to deal with current and future drought problems in the state. The Director of the Oklahoma Department of Emergency Management was appointed by the Governor to coordinate the effort.

Oklahoma's Emergency Drought Relief Fund, enabled through passage of Enrolled House Bill 1923 in 2012, provides funding for drought mitigation and related projects in Oklahoma in conjunction with a formal gubernatorial drought declaration. Specific assistance projects are limited to the affected counties and must be approved by the Oklahoma Emergency Drought Commission, consisting of the Secretary of Agriculture and Executive Directors of the Oklahoma Water Resources Board and Oklahoma Conservation Commission. The Emergency Drought Commission also serves as a permanent drought advisory panel to the Governor and appropriate state agencies.

In September 2014, limited grant funding was made available under the Water for 2060 Drought Grant Program to water suppliers who demonstrated water efficiency and support drought resiliency within the community or water/wastewater system.

At the federal level, the USDA/Secretarial drought/disaster designations are used extensively by farmers and ranchers in Oklahoma.

(Also refer to response below on integrating drought planning with water resource planning and management.)

Any other comments?

The OWRB and Bureau of Reclamation sponsored the Oklahoma Water Supply Reliability and Management Challenge (Drought Challenge) on September 17, 2014 as a precursor to the two-day Western Governors' Drought Forum at the National Weather Center in Norman, Oklahoma. The concept of a drought challenge forum was introduced as an alternate means of engaging preparedness for drought in Oklahoma. The Challenge, which was observed by the Director of the Oklahoma Department of Emergency Management and involved other agencies, organizations, stakeholders and individuals impacted by drought in Oklahoma, was a huge success and is hopefully opening channels/interest in updating the 1997 Oklahoma Drought Management Plan.

OREGON**What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?**

Dept. of Conservation & Land Development - Broader Plan; WRD - Drought Annex

Undergoing re-write now; 2012 previous

How is drought planning integrated with state water resource planning and management in general?

The formal drought plan is an annex to the state's larger natural hazards mitigation plan. But, drought is also a component of Oregon's Integrated Water Resources Strategy, first adopted by the state in 2012 and scheduled for update in 2017. It is an important driver behind the state's recent water supply development funding/planning efforts. It is integrated with Oregon's efforts to understand and meet its water needs.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The plan names the Oregon Water Resources Department as lead for drought response. The plan has not been tested in field conditions; we will likely need to add more detail to the plan as the state experiences more frequent and more severe droughts.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Governor's declarations have occurred. Oregon Water Resources Department has made emergency drought permits available to those counties; water users have applied for and often received approval. In one county, the Water Resources Commission (our 7-member citizen body) has passed temporary rules giving human consumption and stock water preferences to protect drinking water sources from

regulation from the watermaster. All of these actions are envisioned and described in the state's drought response plan.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Counties request drought declarations. The state's water availability committee and drought council pass recommendations along to the Governor's Office. Drought declarations are made by the Governor, under executive order. These unlock a number of tools, including the ability for WRD to issue emergency use permits. The permitting process for these counties is expedited in order to accommodate the use as soon as possible, if there is water available. The permit, however, is only valid for the extent of the drought and no longer than one year. Once the Governor terminates the drought declaration, the emergency permits immediately become invalid. Due to the expedited review of the permits, injury to other users may be found later. In such cases, the emergency use permit may be modified or revoked immediately.

Any other comments?

Oregon plans to conduct such an assessment during the next year. We need to do a better job of documenting Governor-declared droughts, in terms of their frequency, their location, and their subsequent effects.

SOUTH DAKOTA

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Dept of Public Safety

Currently in the process of being developed

How is drought planning integrated with state water resource planning and management in general?

The likelihood of a drought is considered when allocating the state's water resources. It also is considered when developing and constructing regional sized water supply systems.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The State Emergency Operations Center and State Emergency Operations Plan would be activated and utilized after a Governor's declaration.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

The Governor would activate the Governor's Drought Task Force to coordinate any drought response actions to help alleviate the effects of the drought.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

Drought response operates under Governor declared emergency. This makes available resources to be used to address the issue.

Any other comments?

Drought response operates under Governor declared emergency. This makes available resources to be used to address the issue.

TEXAS

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Drought Preparedness Council, an interagency group.

April 2014

How is drought planning integrated with state water resource planning and management in general?

The state Drought Preparedness Plan is separate from the state water plan by statute. Tx Water Code Sec. 16.0551.

The state Water Plan recommends water management strategies designed to meet the water needs of the state through a repeat of the drought of record.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The state Drought Preparedness Plan is more of an informational and resource document for local political subdivisions and the public.

The chief of the Texas Division of Emergency Management and the Drought Preparedness Council coordinate state agencies' drought response efforts.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

The Emergency Drinking Water Task Force is chaired by the Department of Emergency Management and the Texas Commission on Environmental Quality. This is a multi-agency committee that monitors public water systems that are in danger of running out of water. The Task Force then coordinates a response. This can be anything from a financial assistance package for an emergency interconnection to having the National Guard truck in bottled water.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

The Governor has authority to issue a proclamation or executive order declaring a disaster. This can include a drought. TX Gov't Code Secs. 418.014 - 418.017.

The Texas Drought Preparedness Council is charged with preparing the State Drought Preparedness Plan. TX Water Code Secs. 16.055 & 16.0551.

Public water suppliers and irrigation districts must prepare drought contingency plans. TX Water Code Secs. 11.1271 & 11.1272.

Any other comments?

The state has not performed an official socioeconomic assessment. However, the state Comptroller issued a report on the economic effects of a recent drought. Our agricultural extension service has performed some studies on the economic effects of a recent drought on agriculture. Copies will be provided.

UTAH

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Department of Natural Resources

2003

How is drought planning integrated with state water resource planning and management in general?

Various state agencies have drought response activities and actions. The convening of the Drought Response Team serves to coordinate and expedite drought response actions taken by various state agencies. It also serves to share information between those agencies and the media when necessary.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

The Drought Review and Reporting Committee assesses the current drought conditions. The convening of the Drought Response Team serves to coordinate and expedite drought response actions taken by

various state agencies. Most recently the Drought Review and Reporting Committee has been monitoring current drought conditions throughout the state.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Drought problems in Utah have not proceeded beyond the point at which they cannot be addressed at the local level without state and federal assistance. Therefore the Drought Response Team has only met to discuss the situation and share information.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

The Utah Emergency Act of 1981 authorized the Division of Emergency Services to prepare, respond and recover from drought as well as other emergency situations. The Division of Emergency Services and the Department of Natural Resources cooperatively prepared Utah's Drought Response Plan.

Any other comments?

WASHINGTON

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Department of Ecology

2005; it is under revision

How is drought planning integrated with state water resource planning and management in general?

Drought declarations authorize expedited water right permitting and water right transfers, using the existing water right permitting system.

The legislature may also appropriate monies for emergency infrastructure projects to alleviate water shortages.

The Office of Columbia River is charged with planning and developing water supply projects in the Columbia basin to ensure more reliable water supplies.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

Washington's last statewide declaration was in 2005. The plan, which was last revised in 2005, but never finalized -- is dated and we found that it is not very useful as an implementation document.

We have developed a more targeted drought plan -- which is regarded as a living document -- for the current drought emergency that identifies specific actions and timelines.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Our current drought response actions can be viewed at: <http://www.ecy.wa.gov/drought/index.html>

Our current response includes some elements of the 2005 Statewide Drought Emergency and previous drought plans.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

State statute (RCW 43.83B.400) defines drought conditions and a process for declaring drought. The state has adopted a rule to implement drought measures as well.

Any other comments?

We have learned that for plans to be useful, they should include schedules and timelines, and not merely list roles and responsibilities of different agencies.

Questions may be addressed to: Jeff Marti jeff.marti@ecy.wa.gov 360 407 6637

WYOMING

What state agency is primarily responsible for developing and/or updating the plan? When was the plan last updated?

Wyoming Dept. of Agriculture

2003

How is drought planning integrated with state water resource planning and management in general?

Five broad areas are identified in the plan, such as agriculture, wildfire, impacts to tourism etc. The forecast water supply is important to each of the 5 aspects in the 2003 Plan.

More recently, the River basin planning program of the Wyoming Water Development commission has been exploring how to best incorporate water supply variability into their basin plan revisions.

What procedural steps does the plan recommend and to what extent has your plan been implemented in response to the most recent drought in your state?

Wyoming had transitioned to a new Governor's staff during the last back-to-back years. The full drought plan response was not initiated, but instead the Governor's office pulled together the water, agriculture, forestry state agencies along with the State FSA office to discuss drought responses.

Please briefly summarize major actions undertaken in response to drought over the last five years and comment on whether or not those actions were undertaken as envisioned in your state's drought response plan.

Drought problems in Wyoming have not proceeded beyond the point at which they cannot be addressed at the local level without state and federal assistance. Therefore the Drought Response Team has only met to discuss the situation and share information.

What drought-specific legislative or other authority, or other tools or resources have you used for drought planning and response?

A Drought Task force was created via Governor Executive Order during the drought of the 2000's. Wyoming Dept. of Agriculture works closely with the State FSA office to communicate topics such as declarations, availability for loans/grants, hay sales/availability, etc.

Any other comments?

Tab O – Environmental Protection Agency Update (relevant WSWC positions)

RECEIVED

APR 06 2015



WESTERN STATES WATER COUNCIL

MAR 27 2015



Mr. Patrick T. Tyrell
Chairman, Western States Water Council
5296 Commerce Drive, Suite 202
Murray, Utah 84107

Dear Mr. Tyrell:

Thank you for your letters dated August 11, October 15, and November 6, 2014, to the U.S. Environmental Protection Agency and the Department of the Army regarding the proposed rule, "Definition of 'Waters of the United States' Under the Clean Water Act;" the agencies' interpretive rule regarding the applicability of Clean Water Act Section 404(f)(1)(A); and the EPA Science Advisory Board's review of the EPA's report entitled, "Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence."

We appreciate the comments you provided on our proposed rule. We included your comments in the official docket for the proposed rule, identified by Docket ID EPA-HQ-OW-2011-0880 at <http://www.regulations.gov>. We will carefully consider your comments and all comments received on the proposed rule when deciding what changes to make to the final rule.

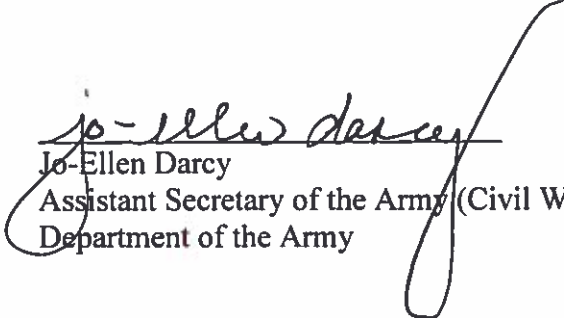
With respect to the agencies' interpretive rule, on December 16, 2014, President Obama signed the Consolidated and Further Continuing Appropriations Act, 2015, which instructed the EPA and the Department of the Army to withdraw the agencies' interpretive rule. Consistent with the statutory directive, the EPA and the Army withdrew the interpretive rule on January 29, 2015. The exemptions from Clean Water Act permits for discharges of dredged and/or fill material will continue to apply for normal farming, silviculture, and ranching activities, as well as for other qualifying agricultural activities under 404(f)(1). Withdrawal of the interpretive rule also does not impact the agencies' work to finalize their rulemaking to define the scope of the Clean Water Act.

RECEIVED

Thank you again for your letter. If you have further questions or concerns, please contact us, or your staff may contact Mr. John Goodin, Acting Director of the EPA's Wetlands Division at Goodin.John@epa.gov or (202) 566-1373, or Mr. Chip Smith in the Office of the Assistant Secretary of the Army (Civil Works) at charles.r.smith567.civ@mail.mil or (703) 693-3655.

Sincerely,


Kenneth J. Kopocis
Deputy Assistant Administrator for Water
U.S. Environmental Protection Agency


Jo-Ellen Darcy
Assistant Secretary of the Army (Civil Works)
Department of the Army



W E S T E R N S T A T E S W A T E R C O U N C I L

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westernstateswater.org

October 15, 2014

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Federal Building
1200 Pennsylvania Avenue, NW (1101A)
Washington, DC 20460

Jo Ellen Darcy
Assistant Secretary of the Army (Civil Works)
108 Army Pentagon
Washington, DC 20310-0108

Re: Attention – Docket ID No. EPA-HQ-OW-2011-0880

Dear Administrator McCarthy and Assistant Secretary Darcy:

The Western States Water Council (WSWC), representing 18 western states on water policy issues, submits the following comments regarding the proposed rule the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) have developed to clarify the scope of Clean Water Act (CWA) jurisdiction. These comments are based on WSWC Policy #369 and prior WSWC letters and testimony regarding the development of this rule, which are attached and incorporated by reference.

Please note that the WSWC's comments are applicable to all 11 sections of the Code of Federal Regulations (CFR) that are proposed for revision. However, for the purposes of this letter, the WSWC's comments are keyed to the version of the definition of "Waters of the United States" that pertains to part 230.3 of the CFR and appears on pages 22,268-22,269 of the Federal Register notice dated April 21, 2014.

I. WSWC POLICY #369

WSWC Policy #369 sets forth the unanimous, consensus position of the western states regarding federal efforts to clarify or redefine CWA jurisdiction. The WSWC urges EPA and the Corps to review this policy carefully and to incorporate its recommendations. Specifically, the WSWC urges EPA and the Corps to ensure that the rule:

- A. Gives as much weight and deference as possible to state needs, priorities, and concerns;
- B. Gives full force and effect to, and does not diminish or in any way detract from, the intent and purpose of CWA Sections 101(b) and 101(g);

- C. Recognizes that Justice Kennedy’s “significant nexus” test in *Rapanos v. United States*, 547 U.S. 715 (2006) requires a connection between waters that is more than speculative or insubstantial to establish jurisdiction. The rule should also quantify “significance” to ensure that the term’s usage does not extend jurisdiction to waters with a de minimis connection to jurisdictional waters;
- D. Complies with the limits Congress and the U.S. Supreme Court have placed on CWA jurisdiction, while providing clear and recognizable limits to the extent of CWA jurisdiction;
- E. Specifically excludes water and features generally considered to be outside the scope of CWA jurisdiction, including:
 - 1. Groundwater;
 - 2. Farm ponds, stock ponds, irrigation ditches, and the maintenance of drainage ditches, as currently excluded under the CWA’s agricultural exemption;
 - 3. Man-made dugouts and ponds used for stockwatering or irrigation in upland areas that are not connected to surface waters;
 - 4. Dip ponds that are excavated on a temporary, emergency basis to combat wildfires and address dust abatement; and
 - 5. Prairie potholes and playa lakes.
- F. Acknowledges that states have authority pursuant to their “waters of the state” jurisdiction to protect excluded waters, and that excluding waters from federal jurisdiction does not mean that excluded waters will be exempt from regulation and protection.

More specific aspects of the WSWC’s policy are discussed in greater detail below.

II. EPA’S CONNECTIVITY REPORT AND PUBLIC COMMENT EXTENSION

While the WSWC appreciates the agencies’ decision to extend the public comment period for the rule, we note that the WGA requested in its August 27 letter (attached) an 89-day extension of the comment period. Such an extension would allow states to formulate thorough and thoughtful comments on the draft rule and its possible impacts, effects and implications, and also would allow for the review and consideration of the Science Advisory Board’s comments on EPA’s scientific report regarding the connectivity of differing waterbodies.

As stated in the WSWC’s November 5th letter (attached), “the overriding question in the rulemaking is not one of science, but of legal authority, namely the extent of federal authority

over water resources under Justice Scalia's plurality opinion and Justice Kennedy's concurring opinion in *Rapanos*." Therefore, while it is important for the rule to be scientifically sound, the report should not be used to support a rule that improperly asserts that the scope of the CWA is unlimited.

III. STATE CONSULTATION AND IMPLEMENTATION OF THE RULE

The WSWC's prior correspondence with EPA and the Corps expressed repeated concerns about the lack of significant state consultation in the development of the rule before its publication for public comment. While the WSWC remains concerned about the lack of state consultation in the rule's development, it has since participated in a series of calls with EPA and the Corps after the rule's publication for public comment. The WSWC appreciates your agencies' willingness to speak with the WSWC about the rule during these calls. The WSWC also appreciates the efforts of EPA Region 8 Administrator Shaun McGrath and Region 8 Senior Advisor Joan Card in facilitating these discussions.

Nevertheless, there is still a significant need and opportunity for continued, sustained dialogue and consultation with the states in the revision and implementation of the rule, particularly on a state-by-state basis. Such consultation should treat states as co-regulators that are separate and apart from the general public, as envisioned by the CWA's framework of cooperative federalism and as required by Executive Order 13132.

One way to facilitate continued dialogue and consultation with the states would be to establish a state-federal workgroup between EPA, the Corps, and the states as your agencies work to revise and implement the rule. Although such a workgroup would be unlikely to reach a consensus on every issue, it would help facilitate the types of dialogue, collaboration, and relationship-building needed to create a more workable and effective rule. One possible model could be the workgroup EPA established with the Environmental Council of States and the Association of Clean Water Administrators to discuss revisions to the National Pollutant Discharge Elimination System electronic reporting rule. Consensus is not necessarily sought but individual state participants discuss their individual views with the federal agencies. The WSWC would welcome the opportunity to help develop and participate in a similar workgroup to review the CWA rule.

IV. AREAS WHERE FURTHER CLARIFICATION IS NEEDED

The WSWC understands that the rule is intended to clarify the scope of CWA jurisdiction in light of recent U.S. Supreme Court decisions, particularly its *Rapanos* decision. However, as noted in the following subsections, further clarification is needed in a number of areas to realize this goal. The WSWC also believes that these areas represent an opportunity for your agencies and the states to work together in joint partnership as co-regulators, both on an individual basis and through the above-requested workgroup, to further refine the rule so that it will better accomplish its stated purpose of clarifying the extent of CWA jurisdiction.

A. Other Waters

As currently drafted, the rule states that jurisdictional determinations for so-called “other waters” will be made on a “case-specific basis,” provided that those waters “alone, or in combination with other similarly situated waters...located in the same region, have a significant nexus” to a traditional navigable water, interstate water, or the territorial seas.¹

While the rule and the related preamble are clear that other waters may be jurisdictional, the documents are less clear about how, when, or in which circumstances your agencies will perform case-by-case analyses to determine the jurisdictional status of these waters. This lack of clarity could be interpreted as implying that all other waters are potentially jurisdictional until EPA and the Corps determine otherwise at an indeterminate point in time. Such an implication has the potential to put landowners in limbo regarding the status of other waters located on their property and runs counter to the proposed rule’s stated purpose of increased clarity. It also requires landowners to prove a negative should they desire to develop their land, or risk the possibility of incurring fines and other penalties if your agencies subsequently determine that the water is jurisdictional.

Instead, the rule should ensure that the applicable permitting agency, such as the Corps for Section 404 jurisdictional determinations in most states, bears the burden of determining the jurisdictional status of other waters in a timely manner. To help achieve this goal, the rule should provide a specific deadline by which the applicable agency must make a jurisdictional determination for other waters after it receives a jurisdictional determination request from a landowner.

The WSWC urges your agencies to work with the WSWC and through the above-requested state-federal workgroup to determine a reasonable timeframe for jurisdictional determinations regarding other waters and to address any other issues associated with this proposal, including possible consequences and remedies in those situations where the permitting agency does not meet the specified deadline. The WSWC also proposes 180 days as an initial, possible starting point for discussions regarding the time period for your agencies’ other waters determinations.

B. Significant Nexus

As noted above, WSWC policy #369 states that federal efforts to clarify CWA jurisdiction should recognize that the “significant nexus” test Justice Kennedy set forth in *Rapanos* requires a connection between waters that is more than speculative or insubstantial to establish jurisdiction. The policy further states that federal CWA jurisdiction efforts should quantify “significance” to ensure that the term’s usage does not extend jurisdiction to waters with a de minimis connection to jurisdictional waters. While the WSWC appreciates language in the rule stating that effects to jurisdictional waters must be “more than speculative or insubstantial,” further work is needed to quantify the concept of significance, particularly the term “significantly

¹ Definition of “Waters of the United States” Under the Clean Water Act, 79 Fed. Reg. 22,269 (April 21, 2014) (to be codified at 40 CFR Part 230.3).

affects” in paragraph (u)(7), and to flesh out a transparent process for your agencies to use when making significance determinations.²

To address this uncertainty, the WSWC believes the rule should use a specific, quantifiable measure or measures to determine significance rather than only stating that the water’s effect on another, jurisdictional water must be more than speculative or insubstantial. Under this proposal, waters that satisfy the specified measures would be presumed to have a significant connection to the waters identified in paragraphs (s)(1) through (3) of the rule, while waters that do not would be presumed to lack a significant connection. Under this general framework, parties could still provide evidence to rebut a presumption of significance or non-significance. Consequently, the use of specific, quantifiable measures would provide much needed clarity by providing a starting point for significance determinations.

The WSWC recognizes that further discussion between the states and your agencies is needed to develop the specifics of such a process, particularly in light of the considerable variety of hydrologic and geologic conditions that exist across the nation. As such, the WSWC urges your agencies to work with the WSWC and through the above-requested state-federal workgroup to identify and develop specific, quantifiable measures for determining significance consistent with the WSWC’s rebuttable presumption concept.

C. Agricultural Exemptions

The WSWC believes the CWA’s current agricultural exemptions are operating properly and that the rule should not alter or create unnecessary uncertainty about these exemptions. The WSWC understands that the rule is intended to preserve these exemptions, but the rule and the related interpretive rule regarding exempt activities under Section 404(f)(1)(a) have nevertheless created confusion and uncertainty about the scope and applicability of the CWA’s agricultural exemptions, as well as their interaction with state water quality programs.

Given this confusion, the rule should include language stating that:

“Nothing in this section shall be interpreted to limit or otherwise conflict with the exemptions set forth in 33 U.S.C. 1344(f) and in 33 C.F.R. 323.4 and 40 C.F.R. 232.3.”

In addition, the interpretive rule has created a significant amount of uncertainty concerning its possible implications for “normal farming, ranching, and silvicultural” activities. To resolve this uncertainty and to ensure that the current exemptions remain unchanged, your agencies should withdraw the interpretive rule, as the WSWC requested in its attached letter dated August 11, 2014. Notwithstanding the WSWC’s request that the rule be withdrawn, any effort to revise the rule should be done in joint partnership with the states, particularly to determine what constitutes exempt “normal farming, ranching or silvicultural activities.”

The WSWC stands ready to help facilitate further dialogue between your agencies and the western states to provide further clarity regarding the CWA’s agricultural exemptions. The

² *Id.*

WSWC further believes that the above-requested state-federal workgroup could help ensure that the rule is revised and implemented in such a way that it fulfills your agencies' stated goal of preserving the existing agricultural exemptions.

D. Groundwater

The regulatory reach of the CWA was not intended to be applied to the management and protection of groundwater. As such, the WSWC appreciates the rule's exclusion of "groundwater, including groundwater drained through subsurface drainage systems."³ Given the rule's use of "shallow subsurface hydrologic connections" to establish jurisdiction between surface waters, the WSWC also appreciates the preamble's statement that "nothing...would cause the shallow subsurface connections themselves to become jurisdictional."⁴

However, once codified, the preamble language regarding shallow subsurface hydrologic connections will not be published in the CFR, leading to possible misinterpretations and confusion about your agencies' intent and the jurisdictional status of such waters. Therefore, the WSWC requests that the groundwater exclusion in paragraph (t)(5)(vi) of the rule be amended to state as follows:

"Groundwater, including *but not limited to* groundwater drained through subsurface drainage systems *and shallow subsurface hydrologic connections used to establish jurisdiction between surface waters under this section*" (changes in italics).

E. Definitions Needed for Key Terms

The rule does not adequately define the following key terms: (1) shallow subsurface hydrologic connection; (2) bed and banks; (3) ordinary high water mark; and (4) uplands. Further consultation is needed between your agencies and the states to determine how to define these terms. The WSWC believes that the above-requested state-federal workgroup would provide a suitable forum for your agencies to work in partnership with the states to define these terms. In addition to these terms, further clarification is needed regarding the terms "floodplains" and "riparian" as used in the rule.

F. The Possibility for Unintended Consequences

The WSWC believes the programs operating under Sections 402 and 303 of the CWA are working as they should, and that much of the confusion involving CWA jurisdiction pertains to the 404 program. However, in striving to address the challenges involving Section 404, there is some concern that the rule could have related and unintended impacts to Section 402 and Section 303 programs. Where possible, EPA and the Corps should ensure that their efforts to address the current uncertainty regarding Section 404 through the development and implementation of the rule do not adversely affect other CWA programs. Additional and ongoing consultation with the

³ *Id.*

⁴ *Id.* at 22210.

states, particularly through the above-requested state-federal workgroup, will help minimize the potential for unintended consequences.

V. CONCLUSION

The WSWC appreciates the EPA's and the Corps' consideration of the above comments. As always, the WSWC stands ready to work with EPA and the Corps to support further dialogue and consultation between your agencies and the western states regarding this rule and any and all other issues involving the protection of our nation's waters.

Sincerely,

A handwritten signature in black ink, reading "Patrick T. Tyrrell". The signature is fluid and cursive, with the first name "Patrick" being more prominent than the last name "Tyrrell".

Patrick T. Tyrrell, Chairman
Western States Water Council

Enclosures

**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
CLEAN WATER ACT JURISDICTION
Helena, Montana
July 18, 2014**

WHEREAS, the Clean Water Act (CWA) is built upon the principle of cooperative federalism in which Congress intended the states, the Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers to implement the CWA as partners, delegating co-regulator authority to the states;

WHEREAS, the CWA's cooperative federalism framework has resulted in significant water quality improvements since the law's enactment in 1972, and western states have made great strides in protecting water quality and coordinating water quality and water quantity decisions; and

WHEREAS, states are best positioned to manage the water within their borders because of their on-the-ground knowledge of the unique aspects of their hydrology, geology, and legal frameworks; and

WHEREAS, states have authority pursuant to their "waters of the state" jurisdiction to protect the quality of waters within their borders and such jurisdiction generally extends beyond the limits of federal jurisdiction under the CWA; and

WHEREAS, Section 101(b) supports the states' critical role in protecting water quality by stating: "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution;" and

WHEREAS, Section 101(g) of the CWA further provides that the primary and exclusive authority of each state to "allocate quantities of water within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by this Act;" and

WHEREAS, current federal regulations, guidance, and programs pertaining to the CWA do not always recognize the specific conditions and needs in the West, where water can be scarce and a variety of unique waterbodies exist, including but not limited to small ephemeral washes, effluent-dependent streams, prairie potholes, playa lakes, and numerous man-made reservoirs, waterways, and water conveyance structures; and

WHEREAS, recent federal efforts to clarify the extent of CWA jurisdiction following the U.S. Supreme Court's decisions in *SWANCC v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), and *Rapanos v. United States*, 547 U.S. 715 (2006), have failed to include adequate state consultation in their development, despite repeated requests from the Western States Water Council to do so; and

WHEREAS, the considerable differences in hydrology, geology, and legal frameworks that exist among the western states mean that any effort to clarify CWA jurisdiction will invariably impact each state differently, thus underscoring the need to thoroughly involve states in developing regulatory language that clearly respects and avoids conflict with state authority over the regulation and allocation of waters within their respective borders; and

WHEREAS, any efforts to redefine or clarify CWA jurisdiction have, on their face, numerous federalism implications that have the potential to significantly impact states and alter the distribution of power and responsibilities among the states and the federal government, and therefore trigger federalism consultation with the states under Executive Order 13132; and

WHEREAS, as co-regulators, states are separate and apart from the general public, and deserve a unique audience with the federal government in the development and implementation of any federal effort to clarify or redefine CWA jurisdiction; and

WHEREAS, information-sharing does not equate to meaningful consultation, and the uncertainty and differences of opinion that exist regarding CWA jurisdiction requires EPA and the Corps to develop and implement federal CWA jurisdiction efforts in authentic partnership with the states;

NOW, THEREFORE BE IT RESOLVED that Congress and the Administration should ensure that any federal effort to clarify or define CWA jurisdiction:

1. Gives as much weight and deference as possible to state needs, priorities, and concerns;
2. Includes robust and meaningful state participation and consultation in its development and implementation. Such consultation should take place as early as possible and before the publication of any proposal for public comment, when irreversible momentum may preclude effective state participation and the consideration of alternate ways of meeting federal objectives. Federal CWA jurisdiction efforts should also acknowledge their inherent federalism implications and comply with Executive Order 13132's state consultation criteria.
3. Gives full force and effect to, and does not diminish or in any way detract from, the intent and purpose of CWA Sections 101(b) and 101(g).
4. Recognizes that Justice Kennedy's "significant nexus" test in *Rapanos* requires a connection between waters that is more than speculative or insubstantial to establish jurisdiction. Federal CWA jurisdiction efforts should also quantify "significance" to ensure that the term's usage does not extend jurisdiction to waters with a de minimis connection to jurisdictional waters.
5. Complies with the limits Congress and the U.S. Supreme Court have placed on CWA jurisdiction, while providing clear and recognizable limits to the extent of CWA jurisdiction.
6. Specifically excludes waters and features generally considered to be outside the scope of CWA jurisdiction, including:
 - (a) Groundwater;
 - (b) Farm ponds, stock ponds, irrigation ditches, and the maintenance of drainage ditches, as currently excluded under the CWA's agricultural exemption;
 - (c) Man-made dugouts and ponds used for stockwatering or irrigation in upland areas that are not connected to surface waters;
 - (d) Dip ponds that are excavated on a temporary, emergency basis to combat wildfires and address dust abatement; and
 - (e) Prairie potholes and playa lakes.
7. Acknowledges that states have authority pursuant to their "waters of the state" jurisdiction to protect excluded waters, and that excluding waters from federal jurisdiction does not mean that they will be exempt from regulation and protection.

**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
HYDRAULIC FRACTURING
Casper, Wyoming
June 26, 2013**

WHEREAS, hydraulic fracturing is a process that injects sand, water, and other fluids, including various chemical compounds, underground to aid in the extraction of oil and natural gas; and

WHEREAS, hydraulic fracturing has been used for over 60 years in conventional oil and gas production, with over one million wells having been fractured in the United States alone; and

WHEREAS, although concerns about hydraulic fracturing have been voiced by some, western states have experienced few, if any, adverse impacts involving water quality and water allocation attributable to hydraulic fracturing; and

WHEREAS, states have primary and exclusive authority over the allocation and administration of rights to the use of water used in hydraulic fracturing operations; and

WHEREAS, hydraulic fracturing is responsible for significantly increasing the nation's ability to recover oil and gas, lessening its dependence on foreign energy supplies and providing billions of dollars in direct and indirect economic benefits each year, including hundreds of thousands of jobs; and

WHEREAS, states have decades of experience, knowledge, and information regulating hydraulic fracturing and other oil and gas activities; and

WHEREAS, states are best positioned to regulate hydraulic fracturing because of their understanding of regional and local conditions and their ability to tailor regulations to fit the needs of the local environment; and

WHEREAS, states currently employ a range of programmatic elements and regulations to ensure that hydraulic fracturing does not impair water resources and environmental values, including but not limited to requirements pertaining to well permitting, well construction, the handling of exploration and production waste fluids, the closure of wells, and the abandonment of well sites.

NOW, THEREFORE, BE IT RESOLVED, that federal efforts involving hydraulic fracturing, including efforts to study potential adverse impacts on water quantity and quality, should leverage state knowledge, experience, policies, and regulations.

BE IT FURTHER RESOLVED, that federal efforts to study the potential impacts of hydraulic fracturing on water resources should be limited in scope, based upon sound science, and driven by states given the lack of significant widespread impacts associated with hydraulic fracturing in the experience of our member states and increasingly limited federal funds.

BE IT FURTHER RESOLVED, that the Western States Water Council opposes any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing.



WESTERN GOVERNORS' ASSOCIATION

Brian Sandoval
Governor of Nevada
Chairman

James D. Ogsbury
Executive Director

Headquarters:
1600 Broadway
Suite 1700
Denver, CO 80202

303-623-9378
Fax 303-534-7309

Washington, D.C. Office:
400 N. Capitol Street, N.W.
Suite 376
Washington, D.C. 20001

202-624-5402
Fax 202-624-7707

www.westgov.org

March 30, 2015

Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W. (1101A)
Washington, D.C. 20460

Dear Administrator McCarthy,

The purpose of this letter is to request increased consultation with states by the Environmental Protection Agency (EPA) during development of regulatory efforts regarding tribal authority under the Clean Water Act (CWA). Because states and the EPA work together as co-regulators under the CWA, we urge you to endow states with an early and meaningful role in the development of regulations that could have significant consequences for water quality management.

In particular, Western Governors urge greater state consultation by EPA in development of: (1) an interpretive rule that will outline the process by which tribes obtain "Treatment in a Similar Manner as a State" (TAS) status, and (2) a separate formal rule that will establish a program for tribal administration of Total Maximum Daily Load (TMDL) standards, pursuant to Section 303(d) of the CWA.

Western Governors recognize that Section 518(e) of the CWA directs the EPA to promulgate regulations on tribal TAS authority for CWA programs. We request that the Agency engage in thorough consultation on these TAS proposals with the western states, which typically have a larger tribal presence than other states and a greater likelihood of conflicting water standards.

Many western states count a dozen or more Indian tribes within their boundaries. When EPA grants TAS authority to tribes, water bodies currently regulated by states may become subject to duplicative — and potentially conflicting — standards. This creates a more complicated regulatory environment for water managers and users.

Congress clearly intended to avoid this outcome. We commend to your attention the following portion of CWA Section 518(e):

The Administrator shall, in promulgating such regulations, consult affected States sharing common water bodies and

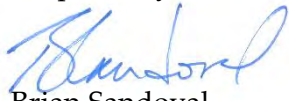
Honorable Gina McCarthy
March 30, 2015
Page 2

provide a mechanism for the resolution of any unreasonable consequences that may arise as a result of differing water quality standards that may be set by States and Indian tribes located on common bodies of water. *Such mechanism shall provide for explicit consideration of relevant factors including, but not limited to, the effects of differing water quality permit requirements on upstream and downstream dischargers, economic impacts, and present and historical uses and quality of the waters subject to such standards. Such mechanism should provide for the avoidance of such unreasonable consequences in a manner consistent with the objective of this Act* (emphases added).

Congress' imperative to avoid potential conflicts can only be achieved if states have a substantive role in the development of the proposals for tribal TAS authority and in future tribal action under the CWA.

The Western Governors appreciate EPA's outreach to state associations regarding these rulemaking efforts in the fall of 2014. We now ask for EPA to directly consult with the states on the specific provisions of the proposals for tribal TAS authority before they are drafted and released to the public for comment. It is through this type of collaboration that we will be able to best protect the waters of the West.

Respectfully,



Brian Sandoval

Governor, State of Nevada

Chairman, Western Governors' Association



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF WETLANDS, OCEANS AND WATERSHEDS

September 19, 2014

Dear Intergovernmental Association Colleague:

The U.S. Environmental Protection Agency is considering a rulemaking to provide more opportunities for tribes to fully engage in the Clean Water Act (CWA) Section 303(d) Impaired Water Listing and Total Maximum Daily Load (TMDL) Program. This action would provide such opportunities by establishing the process for tribes to obtain Treatment in a Similar Manner as a State (TAS) authority for the Program. The purpose of this letter is to seek your input on this action at this early stage, prior to a formal proposal.

The CWA provides for states, territories, and authorized tribes to: 1) develop lists of impaired waters; 2) establish priority rankings for waters on the lists; and 3) develop TMDLs for these waters. Impaired waters are waters for which technology-based regulations and other required controls are not stringent enough to meet CWA water quality standards. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards with a margin of safety.

I would like to invite you to a meeting to be held on Wednesday, October 1, 2014 at 2:00-3:00 p.m. in room 1117A of the William Jefferson Clinton East Building (formerly "EPA East" Building). You may enter the building at 1201 Constitution Avenue, N.W. Please be sure to arrive at least 15 minutes in advance of the meeting time, and to bring a photo ID for entry. The purpose of this meeting is for EPA to provide background information and outline its plans for the action, solicit initial feedback from association representatives, and discuss approaches for conducting further outreach to and obtaining input from your associations' state members. If you or staff members of your association are not able to attend in person, participation is available by audio conference by dialing 1-866-299-3188, and entering code 202-566-1167# at the prompt.

This planned proposed rulemaking to establish a TAS process for Listing and TMDLs is separate from the EPA Office of Water's potential reinterpretation of the Agency's approach to tribal jurisdiction to administer CWA regulatory programs, a subject about which many state associations have recently been briefed. EPA is planning to proceed with the proposed rulemaking to establish a TAS process for listing and TMDLs irrespective of the reinterpretation.

I am enclosing a two-page description of this planned proposed action to provide more opportunities for tribes to fully engage in the CWA Section 303(d) Impaired Water Listing and TMDL Program, which we will discuss in more detail at the meeting on October 1. We are very interested to hear your views during the meeting, and points of contact will be provided to facilitate your comments and input after the meeting.

We are inviting the following intergovernmental associations to participate in this meeting: the National Governors Association, the National Conference of State Legislatures, the Council of State Governments, the Western Governors Association, the Southern Governors Association, the Midwestern Governors Association, the Coalition of Northeastern Governors, the Environmental Council of the States, the Association of Clean Water Administrators, and the Western States Water Council.

Please let us know if you will be able to participate in this meeting by contacting Andrew Hanson in the EPA's Office of Congressional and Intergovernmental Relations at hanson.andrew@epa.gov or (202) 564-3664.

If you have any questions regarding the planned proposed rulemaking, you may contact me at wall.tom@epa.gov or (202) 564-4179, or Sarah Furtak at furtak.sarah@epa.gov or (202) 566-1167.

Sincerely,

A handwritten signature in black ink that reads "Tom Wall". The signature is written in a cursive, slightly stylized font.

Tom Wall, Director
Assessment and Watershed Protection Division

Enclosure

Planned Proposed Rulemaking to Provide More Opportunities for Tribes to Fully Engage in the Clean Water Act Section 303(d) Impaired Water Listing and TMDL Program

Prepared by EPA Office of Wetlands, Oceans and Watersheds
September 2014

Issue

- There is tribal interest in obtaining Treatment in a Similar Manner as a State (TAS) for the Clean Water Act (CWA) Section 303(d) Impaired Water Listing and Total Maximum Daily Load (TMDL) Program.
- CWA section 518 provides that eligible tribes may seek TAS for CWA section 303; however existing regulations do not explicitly address how tribes obtain TAS for the 303(d) Program. Regulations are already in place expressly establishing a TAS process for each of the other relevant CWA programs available to Tribes (*e.g.*, Water Quality Standards (WQS), National Pollutant Discharge Elimination System (NPDES), section 404 permitting for the discharge of dredged or fill material).

Action and Purpose

- EPA is developing a proposed rulemaking to provide more opportunities for tribes to fully engage in the Impaired Water Listing and TMDL Program.
- In this rulemaking, EPA would propose a process for tribes to apply to EPA for authority to establish lists of impaired waters and TMDLs pursuant to section 303(d) of the CWA.

Background

- EPA conducted tribal consultation and coordination on the planned proposed rulemaking from April 8, 2014 to June 6, 2014.
- About 40 tribes, including tribal representatives participating on the National Tribal Water Council and the inter-tribal consortium United South and Eastern Tribes, provided comments.
- Comments were supportive of EPA's work on the proposed rulemaking.
- EPA is conducting pre-proposal consultation and coordination with intergovernmental associations and plans to further coordinate with the Association of Clean Water Administrators (ACWA) concurrently with the public comment period should we proceed with a proposed rule. EPA also plans to conduct additional tribal consultation during the public comment period should we proceed with a proposed rule.
- This planned proposed rulemaking to establish a TAS process for Listing and TMDLs is separate from the EPA Office of Water's potential reinterpretation of the Agency's approach to tribal jurisdiction to administer CWA regulatory programs, a subject about which many state associations have recently been briefed. EPA is planning to proceed with the proposed rulemaking to establish a TAS process for listing and TMDLs irrespective of the reinterpretation.

Working Time Frame and Next Steps

- April 8-June 6, 2014: Tribal consultation (Completed).
- Mid to Late 2014: EPA begins to draft preamble, rule and supporting documents; Intergovernmental association consultation.
- Late 2014: Publish proposed rule in Federal Register for 60-day public comment; Concurrent tribal consultation and coordination with ACWA.
- Late 2014 to mid-2015: Review / respond to comments; Draft preamble / any rule revisions.
- Late 2015: Publish final rule; Outreach / coordination with tribes.

For Further Information

- Further information on this planned proposed rulemaking is available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/policy.cfm>.
- To ask questions or provide comments, please email Sarah Furtak at furtak.sarah@epa.gov or write: Sarah Furtak, Watershed Branch (mail code 4503T), Assessment and Watershed Protection Division, Office of Water, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460.



W E S T E R N S T A T E S W A T E R C O U N C I L

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westernstateswater.org

**WSWC-EPA CONFERENCE CALL:
POSSIBLE "TREATMENT AS STATES" REINTERPRETATION
August 12, 2014**

SUMMARY

IN ATTENDANCE

Alaska

- Andrew Sayers-Fay, Alaska Department of Environment of Environmental Conservation, Division of Water
- Brock Tabor, Alaska Department of Environment of Environmental Conservation, Division of Water
- Jackie Schafer, Alaska Attorney General's Office

Arizona

- Jeff Trembly, Arizona Department of Water Resources

EPA

- Diane Evans, EPA Region 6
- Shaun McGrath, EPA Region 8
- Joan Card, EPA Region 8
- Maja Tritt, EPA Region 8
- George Parrish, EPA Region 8
- Lisa Castanon, EPA Region 10
- Gretchen Giannelli, EPA Office of Water
- Fred Leutner, EPA Office of Water
- Roger Gorke, EPA Office of Water
- Gretchen Giannelli, EPA Office of Water
- Tod Siegal, EPA Office of General Counsel
- Peter Ford, EPA Office of General Counsel
- Mark Rupp, EPA Office of Congressional and Intergovernmental Relations
- Andrew Hanson, EPA Office of Congressional and Intergovernmental Relations

Idaho

- Jerry Rigby, WSWC Vice-Chair and Idaho representative to the WSWC

New Mexico

- Scott Verhines, New Mexico State Engineer, WSWC Secretary-Treasurer

North Dakota

- Dave Glatt, North Dakota Department of Health
- Meg Nielsen, North Dakota

Oklahoma

- J.D. Strong, Oklahoma Water Resources Board
- Shellie Chard-McClary, Oklahoma Department of Environmental Quality, Water Quality Division

South Dakota

- Kent Woodmansey - South Dakota Department of Environment and Natural Resources, Feedlot Permit Program

Washington

- Stephen Bernath, Washington Department of Ecology, Water Quality Program
- Tom Laurie, Washington Department of Ecology, Tribal and Environmental Affairs

WGA

- Carlee Brown

WSWC

- Tony Willardson
- Nathan Bracken

INTRODUCTIONS AND OVERVIEW

EPA Region 8 Administrator Shaun McGrath said the call would discuss the possible reinterpretation of requirements in Section 518 of the Clean Water Act (CWA) regarding steps tribes must take to receive "treatment as states" status to administer CWA regulatory programs. He said EPA has not issued a formal proposal and is still "early in the process," having heard concerns that the WSWC and others have expressed about the lack of sufficient, early state consultation in the development of other CWA proposals. Consequently, EPA is seeking informal dialog with states before issuing a formal proposal.

Fred Leutner with EPA's Office of Water said the reinterpretation would bring its CWA TAS policies in line with similar TAS policies under the Clean Air Act (CAA). Specifically, EPA is considering the possibility of removing the requirement that tribes must demonstrate inherent regulatory authority to be eligible to administer CWA regulatory programs.

Fred explained that EPA initially took a narrow approach to this requirement when it adopted its current policy in 1991, but "left the door open" for future reinterpretations pending later developments. EPA now believes that subsequent developments support a reinterpretation of Section 518 as an express delegation of authority by Congress to the tribes, which would not require the tribes to demonstrate "inherent authority." EPA believes this conclusion is supported by: (1) similar approaches that have been taken under the CAA; (2) EPA has gained more experience implementing its policy since 1991 and is unsure if requiring tribes to demonstrate inherent regulatory authority has yielded "much benefit;" (3) the plain language of Section 518 appears to support reinterpretation; and (4) judicial cases since 1991 appear to support reinterpretation. All other eligibility requirements would remain in place and states would still be able to comment and raise concerns.

Of note, Fred referenced a PowerPoint presentation EPA is using to explain the possible reinterpretation (enclosed). According to the presentation and other materials EPA has provided (enclosed), the agency will conduct "pre-proposal" consultation and coordination with states and tribes from April to July 2014. It will review the comments and views received and determine whether to proceed with a reinterpretation, which will take the form of an interpretive rule that likely would not be finalized before fall 2015. In the meantime, EPA will continue to implement the current interpretation of the CWA's TAS provisions.

GENERAL QUESTIONS AND COMMENTS

Prior to the call, the WSWC provided EPA with a series of “general” questions regarding the reinterpretation, which its CWA Workgroup developed. The questions and related discussion are as follows:

- (1) *Does EPA agree that the reinterpretation would not affect (neither expanding nor retracting) the geographic scope of where tribes are eligible for treatment as a state?*

Yes. Fred said Congress limited the scope of Section 518 to “federal Indian reservations” and that EPA cannot change this language.

- (2) *How would EPA determine whether activities fall under state or tribal jurisdiction? How would EPA address potential conflicts or differences of opinion regarding the extent of tribal jurisdiction?*

Fred said EPA’s current regulations require tribes to provide maps or legal descriptions of the areas they intend to regulate. The agency’s practice is to review these materials and analyze them in light of its own assessment, considering comments from states and other governmental activities. There have been cases where EPA and the states have found errors in a tribe’s application. EPA will not approve an application if it contains incorrect information.

- (3) *What about potential impacts to states if more tribes receive TAS authority, including the possibility that some tribes may enact standards that are more stringent than state standards? What would EPA do to address this type of situation when reviewing TAS proposals?*

Fred explained that this issue arose when Congress developed Section 518, with Congress adding a special clause requiring EPA to establish a dispute resolution process that tribes and states can initiate if they believe differences in standards will result in unreasonable consequences. This process is found in 40 CFR 131.7. The dispute resolution mechanism has never been invoked formally but its presence has led to a number of instances in which conflicts have been resolved informally.

Stephen Bernath with Washington asked for information on how tribal water quality standards could influence waters upstream from the point of jurisdiction. Fred said tribes with TAS status and states are treated in the same manner as upstream and downstream states, meaning that upstream standards must protect downstream waters. Tod Siegal with EPA’s Office of General Counsel added that EPA does not view this situation as an exercise of jurisdiction by a downstream entity in the upstream entity’s area. Instead, the CWA requires upstream discharges to meet downstream applicable water quality standards.

Andrew Sayers-Fay with Alaska noted that there are situations in which water flows from one state into another, and then back into the first state. Fred said any entities in this situation, including both states and tribes, would have the obligation to protect downstream water quality.

Tony Willardson with the WSWC noted that the Isleta Pueblo in New Mexico adopted a non-degradation standard but is located downstream of the outfall of Albuquerque wastewater treatment plant, which raised questions about the costs of complying with the Pueblo’s standards. Diane Evans with EPA Region 6 explained that the Pueblo adopted the standards in 1991 and there were some differences with New Mexico’s water quality standards, particularly with respect to arsenic and ammonia. With arsenic, the region was able to develop a solution for Albuquerque. For ammonia, the Pueblo adopted criteria based on EPA’s criteria and the state had documented a number of impairments for high ammonia levels in the Rio Grande as part of its surface water monitoring program. According to Diane, the river was on the state’s 303(d) list for a dozen years or more. EPA required Albuquerque to add advanced treatment to its wastewater treatment plant, consistent with technology that municipalities in Texas, Oklahoma, and Louisiana were using. The plant also expanded from 45 million gpd to around 76 million gpd. As a result

of the upgrades and the expansion, the state was able to delist the impaired water status for the Rio Grande.

(4) How would the reinterpretation define “reservation?”

Fred said the reinterpretation would use the definition for “reservation” found within Section 518 of the CWA, which defines the term as “all land within the limits of any Indian reservation under the jurisdiction of the United State Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation” (emphasis added) 33 U.S.C. § 1377(H)(1). Thus, Fred said Section 518’s definition of “reservation” encompasses all land within the boundaries of a reservation regardless of who may own it.

(5) How would the reinterpretation apply to trust lands? Would it apply to allotments?

Fred explained that trust lands have the same legal status as a reservation and qualify as an “informal” reservation. Indian country as a whole includes other types of tribal lands in addition to reservations, such as allotments or dependent-Indian communities, which are not part of 518’s definition of “reservation.” EPA is not proposing to change this definition.

Tom Laurie with Washington noted that his state is home to a number of off-reservation trust lands that are also allotments, and asked if a tribe would be eligible for TAS designation on off-reservation allotments. Tod explained that in order for tribal land to qualify for TAS status it must satisfy requirements under 18 U.S.C. 1151(a), meaning that it must be a formal Indian reservation or a tribal trust land that is off-reservation, which can qualify as an “informal reservation.” An allotment that is within a reservation would be eligible but an allotment outside of a reservation would not be eligible unless it is an allotment that is held in trust for a tribe as a whole, in which case it may qualify as an “informal reservation.” Allotments held by individual tribal members that only fall under 18 U.S.C. 1151(c) would not be eligible. This is the current process and EPA is not proposing any change to these requirements.

(6) Would the reinterpretation only apply to landed tribes?

Nathan Bracken with the WSWC provided some additional context for this question, explaining that some tribes, particularly in Alaska and Oklahoma, do not have reservations. For instance, Nathan explained that tribal reservations in Oklahoma were “allotted out” while Alaska has a large number of tribes but only one has a reservation.

Tod said the definition of “tribe” in 33 U.S.C. § 1377(H)(2) of the CWA refers to tribes that exercise governmental authority “over a federal Indian reservation.” As a result, a tribe seeking TAS authority would need to have reservation land. However, as noted previously, reservation land may include tribal trust lands, which could obtain TAS status as “informal reservations.” Tod further noted that while Oklahoma’s tribes do not have reservations, some tribal trust lands in the state could qualify as informal reservations for TAS purposes. Most remaining tribal lands in Alaska do not have the same identity as a tribal trust lands.

Andrew noted that the Department of the Interior is reconsidering of the types of lands it can take into trust. He asked if tribal land taken into trust by Interior would become eligible for TAS status. Tod said EPA is aware of this issue and that it would require more thought, but that for most states, land taken into trust by Interior would become “informal reservations” that could be eligible for TAS status. Further consideration would likely be needed for Alaska given the unique circumstances of its tribes.

(7) Will the approval mechanism for tribal water quality standards be the same as the mechanism for state water quality standards?

Fred said the answer is “yes” and that the underlying concept of the TAS process is to treat the

tribes in the same manner as states. This means that a tribe would need to adopt standards with the right designated uses, develop water quality criteria that protect those uses and are scientifically defensible, develop an anti-degradation policy, and notify the public and offer an opportunity for hearings on its standards, just as a state. Fred also said EPA has been using this process for years, noting that there are now 48 tribes that have received TAS approval for water quality standards, 39 of which have gone through the full process of adopting standards and have secured EPA approval.

Andrew asked if there will be appropriate notification “going both ways” between states and tribes when they make changes to their water quality standards. Fred said EPA facilitates tribal consultation when the state adopts state standards pursuant to an executive order and an EPA policy regarding tribal coordination and consultation. Diane in Region 6 said that when her region works with tribes to develop water quality standards, it works with the tribal staff to develop mailing lists, which include state agencies, federal agencies, and neighboring tribes. It also publishes notice in regional newspapers. George Parrish in Region 8 said states and tribes in his region develop distribution lists and disseminate notices electronically, a process that provides “pretty good back and forth” communication. The region is also able to resolve issues where someone is not receiving proper notice “well within” the public comment period.

J.D. Strong with Oklahoma commented on the executive order requiring formal tribal consultation, asking if there are any similar documents that require more formal consultation with the states when tribes propose water quality standards. J.D. also said the reinterpretation may be a good opportunity to ensure that states have “quid pro quo” with respect to coordination and consultation. Fred said this is an important question and that EPA will look into the issue further. Diane in Region 6, which includes Oklahoma, said J.D.’s agency, the Oklahoma Water Resources Board, would “certainly be on the mailing list” should and tribes in the state propose water quality standards. Shaun also said EPA will look into the issue further and provide a response.

(8) Other Questions

Jackie Schafer from Alaska asked if the interpretive rule will include an explicit statement that it is not intended to change jurisdictional rules as they currently exist. Fred said this is a “good” suggestion to consider because EPA is trying to be clear about what will change and what will not under the reinterpretation.

SPECIFIC STATE COMMENTS AND QUESTIONS:

South Dakota and Oklahoma provided the following specific comments and questions regarding the reinterpretation, which EPA addressed during the call.

(1) South Dakota:

We believe this proposal has the potential to have significant impacts in our state and anticipate our Attorney General’s Office will work together with other state Attorneys General on a response should a rule be proposed.

If a state is delegated or has an EPA approved environmental program, we are required to provide an Attorney General’s Statement documenting we have adequate authority to carry out the program. We believe it is reasonable for EPA to require and to review information on a tribe’s legal authority as part of this process.

It also appears that EPA wants to eliminate the requirement to seek comments on EPA’s factual findings concerning inherent tribal authority for treatment as a state from appropriate governmental entities and local parties. We would also not support this change to the process.

In addition, EPA's proposal is directly contrary to the requirements established by U.S. Supreme Court decisions concerning the assertion of tribal jurisdiction over non-members and non-Indians.

Tod addressed South Dakota's concern that the reinterpretation may be contrary to U.S. Supreme Court decisions. He explained that there is a line of cases that emerged from *Montana v. U.S.*, 450 U.S. 544 (1981), which set forth the so-called "Montana Test." This test applies to situations in which a tribe's reservation includes nonmember-owned fee lands and requires the tribe to demonstrate that nonmember activities on nonmember-owned fee lands could have a substantial, direct effect on the tribe's health or welfare. EPA has been applying this test over the years as tribes have sought TAS status for the water quality standards program. However, there is another line of Supreme Court cases that found that tribes can have delegated authority pursuant to direct Congressional delegation. Tod cited a Supreme Court case dealing with liquor licenses on a reservation, which he said confirmed the principle that Congress can delegate authority directly to tribes, providing a parallel and separate way for tribes to exercise authority over nonmembers. This is how EPA interpreted the CAA's TAS provisions – as a direct delegation from Congress to eligible tribes to run clean air programs over their entire reservations, including over nonmembers who may be acting on the reservation or on nonmember-owned lands. EPA views the two types of authority (inherent and delegated) as "separate bins" that exist parallel to each other. If there is a Congressional delegation of authority, which EPA believes to be the case for TAS determinations under the CWA, there is no need to "get into" the line of cases concerning the Montana Test. Therefore, Tod said the reinterpretation would be consistent with Supreme Court case law but is consistent with a separate line of cases that addresses a different type of authority.

Fred discussed South Dakota's concern that the reinterpretation would eliminate requirements for EPA to seek comments from states and other parties regarding the factual findings it makes when determining whether a tribe has inherent regulatory authority. He said EPA currently makes these findings when it carries out the Montana Test. However, under the reinterpretation, such findings would be unnecessary because tribes would not be required to show that they have inherent regulatory authority. Because there would be no factual findings, public comment would be unnecessary. However, this process would be different for tribes seeking authority under Section 402 of the CWA, because tribes in this situation make their TAS demonstration within their Section 402 applications.

J.D. noted that the reinterpretation would use an "automatic express delegation" approach, and asked how the states would appeal such a determination or participate in the decision-making process. Fred said the current notification process, which EPA would not change, provides notice to all appropriate governmental entities, including the state in which the tribe is located as well as adjacent states. EPA provides this notice when the application is complete. This process will not change and the states will have "full opportunity" to comment on "any aspect of the tribe's assertion of authority."

(2) Oklahoma:

Oklahoma noted that it has 39 tribes that do not have reservations, which Congress recognized when it established a special requirement that no TAS approvals can be granted without a cooperative agreement with the state. Its question was as follows:

How would the proposal affect the rather unique situation we have with regard to the additional requirements passed by Congress for tribes seeking TAS in Oklahoma?

Fred said the 2005 Transportation Equity Act included a provision that EPA can approve TAS for a tribe in Oklahoma for an environmental regulatory program only if the tribe and the appropriate state agency enter into a cooperative agreement approved by EPA to jointly plan and administer the program requirements. The reinterpretation would not and cannot change this requirement.

WRAP-UP

Based on the discussion, Shaun said EPA would follow up with the WSWC regarding: (1) whether there will be a process for adjacent state(s) to be notified about new or revised water quality standards that tribes have submitted to EPA for review; and (2) that the reinterpretation includes specific language stating that it will not expand (or reduce) the geographic scope of lands for which tribes may apply for TAS. He encouraged the states to provide questions and comments through their respective regions or to Fred directly. Fred's contact information is leutner.fred@epa.gov and (202) 566-0378.

UPDATE: On September 5, Shaun provided the following response to the above questions:

EPA Issue #1 Response: The Clean Water Act and EPA's regulations require that a state or authorized tribe conduct a public process before adopting water quality standards. This step alone ensures that the standards adoption process is open and transparent. In addition, our recently-posted FAQs on the subject of downstream protection (see Question 2 of the FAQs at <http://water.epa.gov/scitech/swguidance/standards/library/upload/downstream-faqs.pdf>) contain recommendations for how states and tribes can communicate and coordinate early between jurisdictions, programs, and agencies regarding shared watersheds when developing water quality standards. As you heard on the call, some Regions have taken the initiative to facilitate such interactions when tribes are involved. EPA will explore identifying, documenting, and encouraging best practices in this area.

EPA Issue #2 Response: Thank you for this recommendation. It was clear from your members' questions and from the discussion that this is a matter of broad interest, and your suggestion has merit. We will ensure it is considered as the proposed interpretive rule is drafted.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 18 2014

OFFICE OF
WATER

Dear Intergovernmental Association Colleague:

The U.S. Environmental Protection Agency is considering a potential reinterpretation of the Clean Water Act provision regarding treatment of tribes in a manner similar to a state ("TAS"). The purpose of this letter is to seek your input on this potential action at this early stage, prior to a formal proposal.

Specifically, EPA is considering reinterpreting section 518 as a delegation by Congress of authority to eligible tribes to administer Clean Water Act regulatory programs over their reservations, regardless of land ownership. This reinterpretation would replace EPA's current interpretation that applicant tribes need to demonstrate their inherent regulatory authority.

All other tribal eligibility requirements established in the Act and EPA's regulations would remain in place. Each interested tribe will continue to apply individually for TAS, and to specify the boundaries of the reservation areas and the waters for which it seeks regulatory authority. EPA will continue to provide the adjacent state, other appropriate governmental entities, and the public with notice of a tribe's TAS application as well as an opportunity to comment on the tribe's assertion of authority before EPA approves or disapproves TAS for a Clean Water Act regulatory program.

I would like to invite you to a meeting to discuss this potential reinterpretation of TAS under the Clean Water Act. The meeting will be held on July 8, 2014, at 1:00 – 2:30 PM, in room 1117A of the William Jefferson Clinton Building (formerly "EPA East" Building). You may enter this building at 1201 Constitution Avenue. Please be sure to arrive at least 15 minutes in advance of the meeting time, and to bring a photo ID for entry. The Point of Contact for escort into the building is Beth LeaMond, who can be reached at 202-566-0444. Staff members of your association who are not able to attend in person may participate by audio conference by dialing 1-866-299-3188, and entering code 202 566 0444# at the prompt.

The purpose of this meeting is for EPA to (1) provide background information and outline its plans for the action, (2) solicit initial feedback from association representatives, and (3) discuss approaches for conducting outreach to and obtaining input from State members.

I am enclosing a three-page description of the action for your information. At the meeting, we will discuss this description in more detail. We would be delighted to hear your comments and views during the meeting. The enclosure provides points of contact and addresses if you choose to follow up with written input.

We are inviting the following intergovernmental associations to participate in this meeting: the National Governors Association, the National Conference of State Legislatures, the Council of State Governments, the Western Governors Association, the Southern Governors Association, the Midwestern Governors Association, the Coalition of Northeastern Governors, the Environmental Council of the States, the Association of Clean Water Administrators, and the Western States Water Council.

Please let us know if you will be able to participate in this meeting by contacting Andrew Hanson in the EPA's Office of Congressional and Intergovernmental Relations at hanson.andrew@epa.gov or (202) 564-3664.

If you have any questions regarding the potential reinterpretation, you may contact Fred Leutner at Leutner.fred@epa.gov or (202) 566-0378.

Sincerely,

A handwritten signature in blue ink, appearing to read "Elizabeth Southerland".

Elizabeth Southerland, Director
Office of Science and Technology

Enclosure

Potential Reinterpretation of a Clean Water Act Provision Regarding Tribal Eligibility to Administer Regulatory Programs

Prepared by the EPA Office of Science and Technology
May 2014

EPA took a cautious approach in 1991 when it interpreted a Clean Water Act (CWA) provision to mean that each tribe seeking to administer a regulatory program must demonstrate its own inherent regulatory authority. The demonstration has proven to be the most challenging and resource-intensive element of a tribe's application to be treated in a manner similar to a state ("TAS"). Based on EPA's experience and developments in the case law since 1991, EPA is considering a potential reinterpretation that could significantly reduce the burden on individual tribes applying for TAS.

I. CURRENT INTERPRETATION OF TAS PROVISION IN CWA

In the preamble to a 1991 TAS regulation,¹ EPA interpreted the CWA TAS provision at section 518 to mean that a tribe must demonstrate its inherent regulatory authority to be eligible to administer a regulatory program under the CWA. Further, where the tribe's reservation includes nonmember-owned fee lands, the tribe generally must demonstrate that nonmember activities on nonmember-owned fee lands could have a substantial, direct effect on the tribe's health or welfare – commonly known as the "Montana test."² EPA has issued guidance to tribes for complying with this interpretation when applying for the water quality standards program and section 401 certifications; a similar approach would be used for section 402 or 404 permit program applications.³

II. POTENTIAL REINTERPRETATION OF TAS PROVISION IN CWA

EPA is considering reinterpreting CWA section 518 as an express delegation by Congress to eligible tribes to administer CWA regulatory programs over their entire reservations irrespective of who owns the land. This would replace EPA's current interpretation that an applicant tribe must demonstrate its inherent authority. The potential reinterpretation is supported by: the plain language of section 518; a similar approach applied in implementing the Clean Air Act TAS provisions; and relevant judicial cases and EPA's experience since 1991. One effect could be a significant reduction in the time and effort for tribes to apply for and receive TAS.

EPA would accomplish the reinterpretation by issuing an interpretive rule after soliciting and considering public comments. The interpretive rule would be accompanied by a revision to EPA's current guidance for tribal applications. Neither the CWA statutory language nor EPA's implementing regulations would be revised, since the language of both supports the proposed reinterpretation. A tribe would still need to identify the boundaries of the reservation areas for which it seeks TAS eligibility to administer a regulatory program, and EPA will still provide states, other appropriate governmental entities, and the public the opportunity to comment on the tribe's assertion of authority before EPA approves or

¹ *Amendments to the Water Quality Standards Regulation That Pertain to Standards on Indian Reservations*, Final Rule, 56 FR 64895, Dec. 12, 1991.

² See *Montana v. U.S.*, 450 U.S. 544 (1981).

³ See *Strategy for Reviewing Tribal Eligibility Applications to Administer EPA Regulatory Programs*, EPA, 2008, <http://www.epa.gov/indian/laws/tas.htm>, Attachments B and C

disapproves TAS for the tribe. As with states, EPA will maintain oversight of any authorized tribal regulatory programs. EPA regulations also require states and authorized tribes to consider public comments before they act, such as when adopting water quality standards or issuing discharge permits.

III. STATUS OF THIS ACTION AND NEXT STEPS

During April-July, 2014, EPA is conducting pre-proposal consultation and coordination with tribes and states, consistent with relevant EPA and other federal policies. EPA welcomes the views of tribes and states at this early stage, and is open to requests for further consultation opportunities.

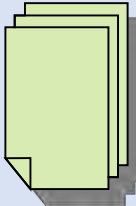
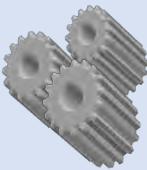
EPA will fully consider all comments and views received during this consultation and coordination. If EPA decides to proceed, the interpretive rule could be proposed in the Federal Register in Fall 2014 with a comment period of 60 days to follow. The reinterpretation would not become effective until all comments are considered and the interpretive rule is finalized, likely not before Fall 2015. In the meantime, EPA will continue to implement the current interpretation of the CWA TAS provision.

IV. FOR FURTHER INFORMATION

- Further information on this potential action is available at http://water.epa.gov/scitech/swguidance/standards/wqslibrary/tribes_index.cfm.
- To ask questions or provide comments, please email Fred Leutner at TASreinterpretation@epa.gov or write: Corey Buffo, Chief, Regional, State, and Tribal Standards Support Branch (mail code 4305T), Office of Water, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC 20460.

Potential TAS Reinterpretation

Changes to Expect (shaded areas)

		Current Interpretation	After Reinterpretation
	Eligibility Criteria for TAS in CWA Sec. 518 and EPA regulations⁴ -- the tribe must demonstrate that it...		
	1. Is federally recognized and has a reservation.	✓	✓
	2. Has a governing body carrying out substantial governmental duties and powers	✓	✓
	3. Has appropriate authority to regulate the quality of reservation waters. • Tribe must provide a map or legal description of reservation boundaries	✓	✓
	• Legal counsel must describe the basis of the tribe's authority by...	Demonstrating inherent authority and, if fee lands on reservation, meeting the <i>Montana</i> test	Relying on the Congressional delegation of authority
	• Tribe must identify the surface waters to be regulated	✓	✓
	4. Has (or has a plan for developing) the capability to administer the program	✓	✓
	Review Processes – for a tribal Water Quality Standards program		
	• EPA seeks comments on tribal TAS application's assertion of authority – from appropriate governmental entities, local parties (per § 131.8(c))	✓	✓
	• EPA seeks comments on EPA's factual findings concerning inherent tribal authority for TAS – from appropriate governmental entities, local parties (per EPA guidance)	✓	Not needed
	• Tribe seeks comments on its water quality standards before submitting to EPA for approval – from the public (per § 131.20)	✓	✓

⁴ The numbered elements are paraphrased from CWA section 518. The bulleted elements are paraphrased from selected provisions of EPA's TAS regulations for regulatory programs: 40 CFR §§ 131.8 (water quality standards), 131.4(c) (water quality certifications), 123.31-34 (section 402 permitting), and 233.60-62 (section 404 permitting).

Tab P – USGS Report: *Water Quality in
Principal Aquifers of the United
States, 1991–2010*

Quality of the Nation's Groundwater, 1991–2010

Understanding where and why groundwater is vulnerable to contamination

About 115 million people—more than one-third of the Nation's population—rely on groundwater for drinking water, and the need for high-quality drinking-water supplies becomes more urgent as the Nation's population grows.

USGS scientists assessed water quality in source (untreated) water from 6,600 wells in regionally extensive aquifers that supply most of the groundwater pumped for the Nation's drinking water, irrigation, and other uses. The comprehensive sampling, along with detailed information on geology, hydrology, geochemistry, and chemical and water use, can be used to explain how and why aquifer vulnerability to contamination varies across the Nation. By knowing where contaminants occur in groundwater, what factors control contaminant concentrations, and what kinds of changes in groundwater quality might be expected in the future, we can ensure the future availability and quality of this vital natural resource.

National Findings

- More than one in five (22 percent) groundwater samples contained at least one contaminant at a concentration of potential concern for human health.
- Contaminants from geologic sources—primarily manganese, arsenic, and radon—accounted for about 80 percent of contaminant concentrations that exceeded a human-health benchmark. Nitrate, which exceeded its benchmark in about 4 percent of wells sampled, was the only constituent from manmade sources that exceeded its human-health benchmark in more than 1 percent of samples.
- Differences in contaminant concentrations among aquifers, within an aquifer, and even between two nearby wells can be explained by large- and local-scale differences in geology, hydrology, geochemistry, and chemical and water use. Understanding how natural features and human activities affect groundwater quality helps to predict how and why aquifer vulnerability to contamination varies across the Nation.
- High-volume pumping and irrigation in many areas have profoundly changed groundwater flow and quality. By moving shallow groundwater deeper, into parts of aquifers used for drinking water, irrigation and pumping have increased the vulnerability of drinking-water supplies to contamination from nitrate, pesticides, and other manmade chemicals from the land surface.
- Irrigation, high-volume pumping, and artificial recharge can cause different types of waters to mix, with the unexpected consequence of causing the aquifer rocks and sediment to release naturally occurring contaminants, such as arsenic, selenium, or radium, into the groundwater.
- Concentrations of dissolved solids, chloride, and nitrate, indicators of human influence on groundwater quality, increased from the 1990s to 2010 in shallow groundwater in many parts of the Nation. Similar changes are likely to occur in deeper parts of some aquifers in the future as the shallow water moves downward. Groundwater in permeable, unconfined aquifers, such as the Central Valley aquifer system in California and the surficial deposits of the Northern Atlantic Coastal Plain aquifer system, is especially vulnerable to contamination.

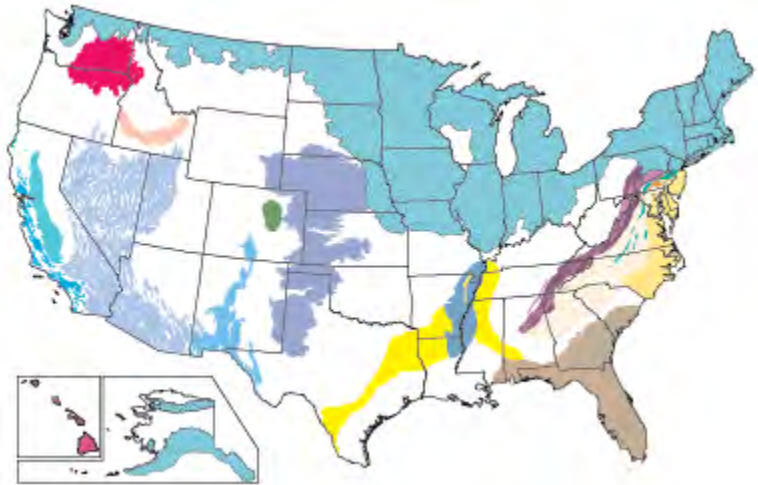
Water Quality in Principal Aquifers of the United States, 1991–2010

USGS Circular 1360, available at <http://pubs.usgs.gov/circ/1360>



Regional Principal Aquifer Assessments

In-depth, regional-scale assessments of groundwater quality focus on about 30 of the most heavily used Principal Aquifers in the Nation. Groundwater quality in these aquifers—and the factors that affect it—are described in nine U.S. Geological Survey circulars.



Glacial Aquifer System (northern U.S.) One-sixth of the Nation's population relies on groundwater from the sands and gravels of the glacial aquifer system for drinking water. Contaminants from geologic sources—including arsenic and manganese, in more than 10 percent of sampled wells—were present in some areas at concentrations of potential concern for human health, especially in oxygen-depleted groundwater, which is more common in this aquifer than in many others. Agriculture, especially in the upper Midwest, is a source of nitrate and pesticides, but low-permeability soils and artificial drainage reduce the aquifer's vulnerability to contamination in some areas. <http://pubs.usgs.gov/circ/1352>

Western Volcanics (northwestern U.S. and Hawaii) Groundwater is hundreds of feet below the land surface in many parts of the volcanic-rock aquifers, but the high permeability of these aquifers allows contaminants from agriculture and other manmade sources to reach the water table. Nitrate is the most common contaminant, but concentrations of several pesticides and volatile organic compounds also exceeded human-health benchmarks, especially on Oahu, Hawaii. Use of some of these chemicals has been banned for decades, yet they continue to be detected in groundwater. <http://pubs.usgs.gov/circ/1359>

Southwest Basin-fill Aquifers (southwestern U.S.) Contaminants from geologic sources are more common in the Southwest basin-fill aquifers than in many other aquifers in the Nation because of the hot and dry climate, long groundwater flow paths, and types of rocks and sediments present. Irrigation and pumping have greatly altered natural flow systems in some areas, increasing concentrations of dissolved solids and carrying manmade contaminants down to shallow and deep groundwater. Arsenic, dissolved solids, and nitrate are some of the contaminants of concern for drinking-water quality; their concentrations in groundwater throughout the Southwest basin-fill aquifers can be predicted on the basis of geology, climate, hydrology, and other natural and manmade factors. <http://pubs.usgs.gov/circ/1358>

Denver Basin Aquifer System (Colorado) Groundwater in the deep sandstone layers of this aquifer system provides high-quality drinking water to the Front Range urban corridor of Colorado, but shallow groundwater quality has been degraded by irrigation and other human activities. Dissolved solids are relatively high in the shallow aquifer, and irrigation water has mobilized contaminants, such as uranium, from geologic sources. The shallow groundwater can migrate into deep layers, increasing the vulnerability of drinking-water supplies to contamination. <http://pubs.usgs.gov/circ/1357>

Piedmont, Blue Ridge, and Valley and Ridge Aquifers (eastern U.S.) Geology largely determines where contaminants occur in these aquifers, which supply a large suburban and rural population with drinking water. Radon, arsenic, and manganese occur in the crystalline-rock or siliciclastic (sandstone, siltstone, or shale) aquifers. The carbonate-rock aquifers, in contrast, are particularly susceptible to contamination from human activities at land surface because of karst (solution) features; concentrations of nitrate in the carbonate-rock aquifers were among the highest in the Nation. Fecal-indicator bacteria were detected in half of the drinking-water sources sampled in all three aquifers. <http://pubs.usgs.gov/circ/1354>

Northern Atlantic Coastal Plain Surficial Aquifer System (east coast of the U.S.) Manmade contaminants—nitrate, pesticides, and volatile organic compounds—move readily through the sandy, permeable sediments of the Northern Atlantic Coastal Plain surficial aquifer system. Areas of intense agriculture and dense population centers are particularly vulnerable. Radium from geologic sources is a concern because the natural acidity of the groundwater causes radium to be released from aquifer sediments into the groundwater. Groundwater from the shallow aquifer drains to streams and supplies nitrate that contributes to the ecological degradation of estuaries along the Atlantic coast. <http://pubs.usgs.gov/circ/1353>

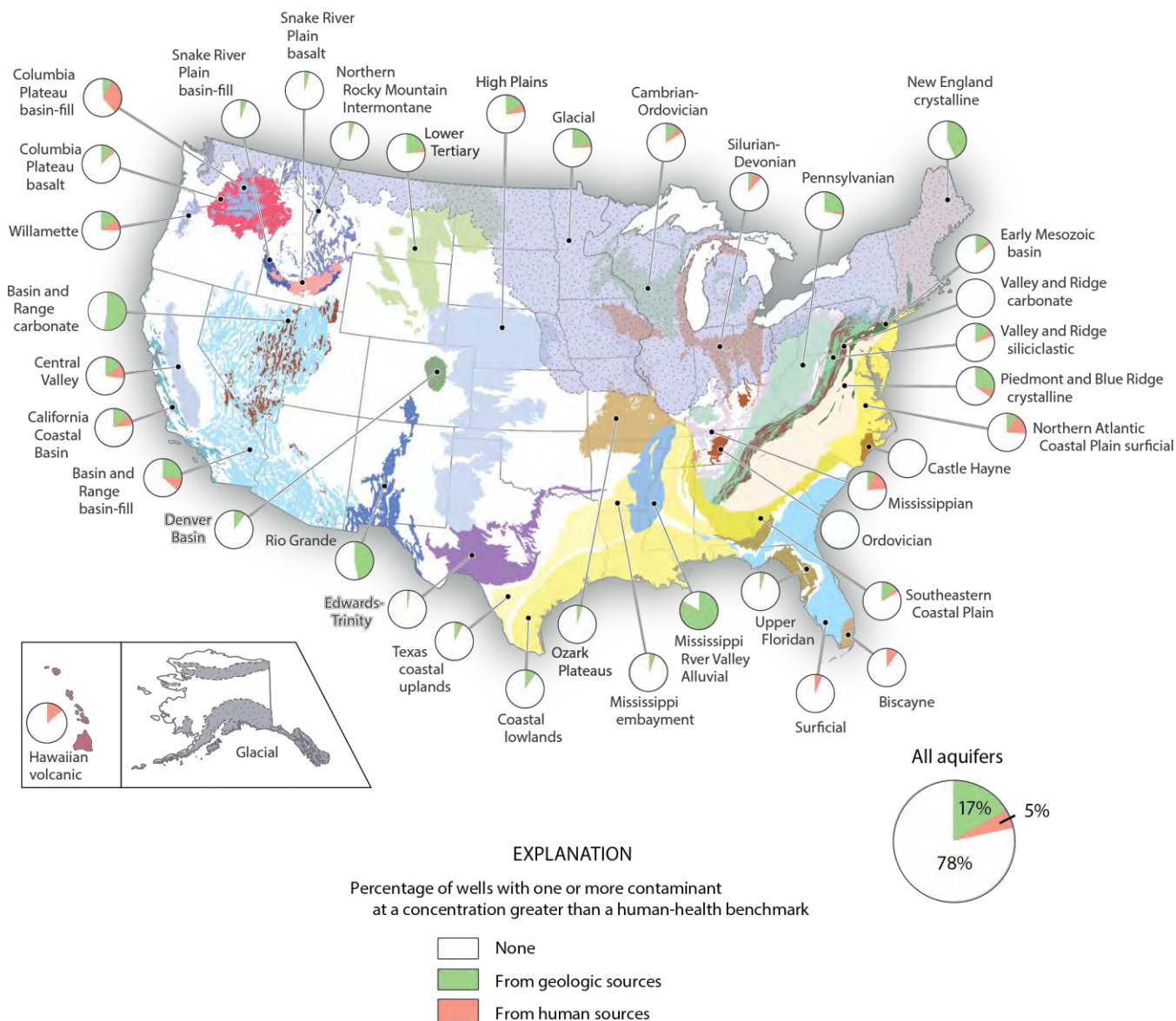
Upper Floridan Aquifer and Overlying Surficial Aquifer (southeastern U.S.) Groundwater in the Upper Floridan carbonate aquifer has few contaminants from geologic sources and, in many areas, is protected from manmade contaminants by a low-permeability confining layer that inhibits downward flow. In some areas, where the confining unit is thin or absent, sinkholes and other karst features allow nitrate and pesticides from the land surface to move rapidly into and through the aquifer. Pumping of supply wells can enhance aquifer vulnerability to contamination by drawing shallow groundwater into the deep aquifer. <http://pubs.usgs.gov/circ/1355>

Mississippi Embayment-Texas Coastal Upland Aquifer System and Mississippi River Valley Alluvial Aquifer (southeastern and southcentral U.S.) These sandy aquifers are pumped heavily for irrigation and public supply, but have few manmade contaminants. Manganese and arsenic, which are derived from the aquifer sediments, are the most common contaminants. Concentrations of nitrate are low despite large fertilizer applications because of low recharge rates and natural attenuation in the oxygen-depleted groundwater. Pumping of supply wells has drawn deep, saline water up into the freshwater aquifer in some areas. <http://pubs.usgs.gov/circ/1356>

High Plains Aquifer System (central U.S.) The thick, extensive sediments of the High Plains aquifer supply one-third of the groundwater pumped for irrigation in the Nation and are used for public and private supplies. Recently recharged shallow groundwater, especially beneath irrigated cropland, has higher concentrations of dissolved solids and nitrate than deep groundwater that was recharged thousands of years ago. The aquifer has little natural capacity to attenuate nitrate because even deep, old groundwater commonly contains dissolved oxygen. However, high-capacity pumping wells with long screens can cause shallow and deep groundwater to mix, drawing manmade contaminants into deeper parts of the aquifer and altering groundwater geochemistry. <http://pubs.usgs.gov/circ/1337>



Exceedances of human-health benchmarks by one or more contaminants



Contaminants from geologic sources exceeded human-health benchmarks more frequently than contaminants from human sources in most Principal Aquifers. Our actions can influence the release of contaminants from geologic sources. Irrigation and high-volume pumping can change the chemistry of the water within an aquifer, which can cause aquifer rocks and sediment to release naturally occurring contaminants, such as arsenic, selenium, and radon, into the groundwater.

For Additional Information

Contact Barbara Mahler, bjmahler@usgs.gov, 512-927-3566

Visit our web site to access more USGS information on groundwater quality at:
http://water.usgs.gov/nawqa/pubs/prin_ag



National Water-Quality Assessment Program

Tracking and Forecasting the Nation's Water Quality Priorities and Strategies for 2013–2023

Twenty-one years ago, Congress established the National Water-Quality Assessment (NAWQA) program of the U.S. Geological Survey (USGS) to answer a fundamental question:

What is the status of the Nation's water quality, and is it getting better or worse?

Since then, NAWQA has been a primary source of nationally consistent data and information on the quality of the Nation's streams and groundwater. Objective and nationally-consistent water-quality data and models provide answers to where, when, and why the Nation's water quality is degraded and what can be done to improve and protect it for human and ecosystem needs. During its first decade (1991–2001), NAWQA focused on establishing a nationally consistent water-quality dataset that could serve as a baseline for trend evaluation, modeling efforts, and research studies. During its second decade (2002–2012), the NAWQA program built upon the baseline investigations by reporting on how water-quality conditions changed over time and by developing regional-scale water-quality models to extrapolate findings to unsampled areas and model-based tools that resource managers can use to evaluate the likely consequences of different management practices or policy scenarios. Water-quality data, models, and scientific knowledge generated by NAWQA are used by national, regional, State, and local agencies to develop more effective, science-based policies and strategies for protecting and managing water quality and aquatic ecosystems. Information produced by NAWQA over the past 21 years also provides the foundation for addressing current and future water-quality issues.

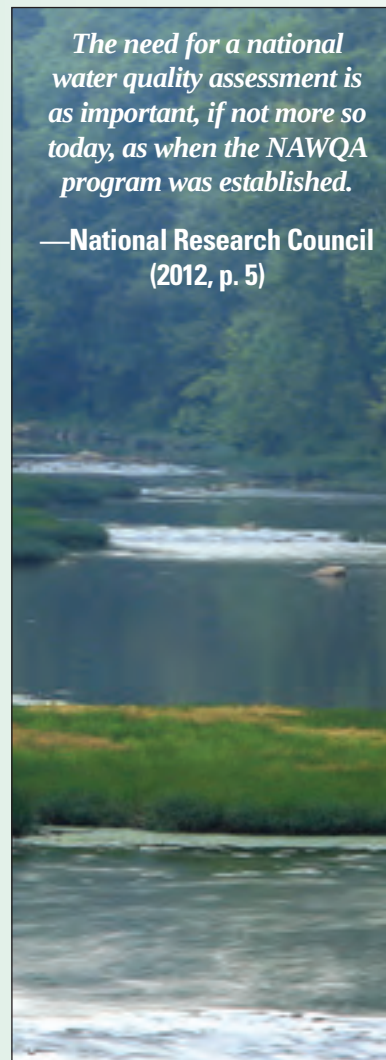
Water Quality Remains a Concern for Human Use and Ecosystem Health

Water-quality issues facing the Nation are growing in number and complexity, and solutions are becoming more challenging and costly. The U.S. Census Bureau projects that our population will increase 25 percent by 2050, to almost 400 million people. Increases in population will be accompanied by development of land for urban and other non-agricultural uses, increased use of fertilizers and pesticides for food production, and greater pressure on existing resources to supply water for energy development, irrigation, drinking water, and ecosystem needs. These factors, alone or in combination, may degrade stream and coastal ecosystems and the quality of drinking water supplies if not effectively managed. Key issues we already know about include:

- **Contaminants in Streams and Groundwater**—Eighty percent of streams in urban areas were found to have at least one pesticide that exceeded criteria set to protect aquatic life (Gilliom and others, 2006). Of our public and domestic wells—which supply drinking water to over 150 million people—more than 20 percent contain at least one contaminant at levels of potential health concern (DeSimone and others, 2009; Toccalino and Hopple, 2010).
- **Degraded Stream Health**—Forty-two percent of wadeable stream miles in the United States are in poor or degraded condition (U.S. Environmental Protection Agency, 2006). Widespread causes include excess nutrients and sediment, habitat disturbance, and altered streamflow. Minimum and maximum stream flows were found to be altered by human activities at 86 percent of almost 3,000 streams assessed across the Nation, and the likelihood of biological impairment increased with the severity of flow alteration (Carlisle and others, 2010).
- **Changing Stream and Groundwater Quality**—Despite major efforts to reduce sources of nitrogen and phosphorus contaminating streams and rivers, analysis of trends in concentrations from about 1993 to 2003 show minimal changes at the majority of sites monitored, although most sites with significant change show nutrient concentrations increasing. During the same period, the percentage of wells with nitrate concentrations greater than the drinking water standard increased from 16 to 21 percent (Dubrovsky and others, 2010).
- **Deteriorating Estuary Conditions**—Almost two-thirds of the Nation's major estuaries are degraded by excess nutrients, which cause “dead zones” (areas of low dissolved oxygen) that threaten economically important fisheries. The spread of dead zones is projected to worsen through 2020 in 48 of these estuaries as population growth, agriculture, and other development increase the amount of nutrients flowing into coastal waters (Diaz and Rosenberg, 2008).

The need for a national water quality assessment is as important, if not more so today, as when the NAWQA program was established.

—National Research Council
(2012, p. 5)



Photograph by Alan Cressler,
U.S. Geological Survey



Investments in Monitoring and Modeling Are Needed to Address Current and Future Challenges

For NAWQA's third decade (2013–2023), a new strategic Science Plan has been developed that describes a 10-year strategy for building upon and enhancing assessment of the Nation's freshwater quality and aquatic ecosystems. The plan continues strategies that have been central to NAWQA's long-term success, but it also adjusts the monitoring design, data analysis, and reporting to address monitoring and science information needs identified by NAWQA stakeholders and the National Research Council (2012). Meeting stakeholder needs for more timely reporting of water-quality information and development of decision-support tools are key components of the plan. Example products include (1) annual Web-based reporting of the concentrations, loads, and trends of nutrients, sediment, and other contaminants in rivers flowing into important coastal estuaries; (2) maps showing the distributions of nitrate and arsenic in water-supply aquifers at the depths pumped by domestic or public-supply wells, and (3) model-based decision-support tools that allow managers to evaluate how water-quality or ecosystem condition may change in response to different scenarios of population growth, climate change, or land-use management.

Monitoring and Modeling Activities To Begin in Fiscal Year 2013

Restoring and enhancing monitoring networks, particularly for surface water, and expanding development of NAWQA modeling tools were the highest priorities of stakeholders and the National Research Council (2012). An overview of surface-water and groundwater monitoring and modeling activities that will be started in fiscal year 2013 (FY13) shows how these broad approaches will be used to assess specific water-quality issues with available funding.

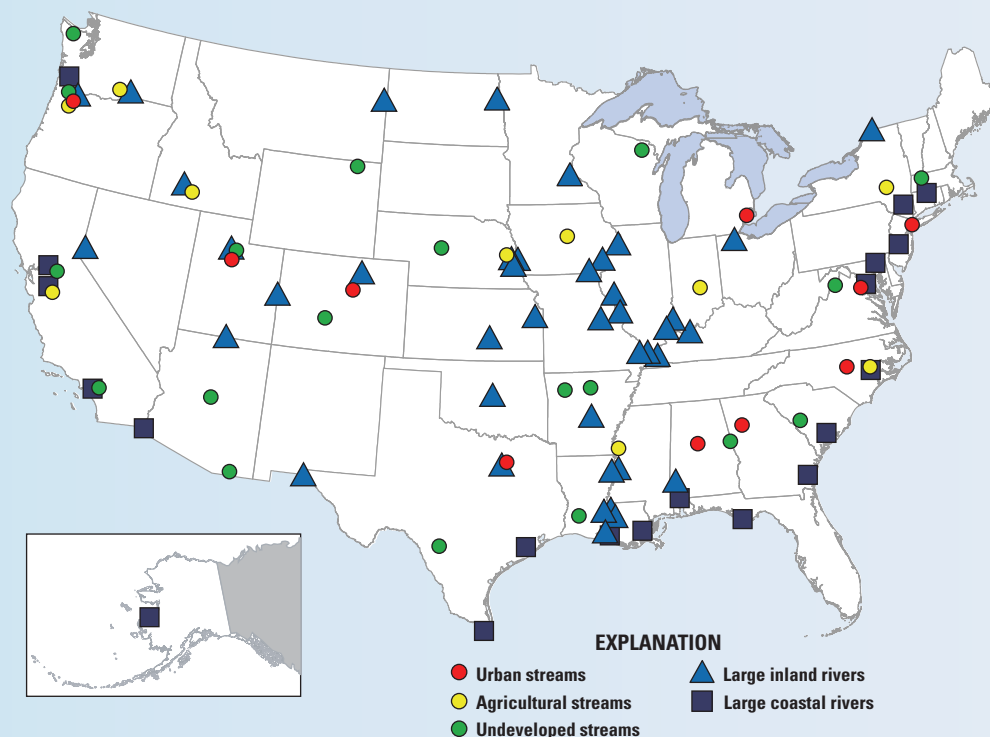


Figure 1. Beginning in fiscal year 2013, NAWQA will monitor 100 stream and river sites every year.

Surface-Water Monitoring and Modeling

The NAWQA strategy will continue to focus on assessing nutrient, sediment, and contaminant concentrations and transport in rivers and streams in major river basins throughout the Nation, particularly the Mississippi River basin, and also watersheds of critical estuaries such as Chesapeake Bay and San Francisco Bay. Water-quality models that estimate nutrient and sediment loads (SPARROW models; Schwarz and others, 2006) and pesticide concentrations in streams (WARP models; Stone and Gilliom,

2009) will be updated and enhanced in four regions of the country—the Mississippi River basin and rivers draining the northeast, southeast, and west—as well as for the national scale. Planned enhancements include increased temporal resolution (shorter time scale), updated contaminant source data, and simulation of seasonal to annual variations in streamflow, contaminant concentrations, and loads. The improved models will be used to develop more effective decision-support tools to forecast how nutrient and sediment loads will change in response to changes in climate, land use, or management practices.

NAWQA has evolved from a water quality program emphasizing data collection and trend assessments to one that has the potential to predict and forecast pollutant occurrence and trends under multiple scenarios at nationally significant scales.

—National Research Council (2012, p. 158)

Water-quality monitoring in FY13 will be done at a network of 100 sites (fig. 1), most of which are long-term USGS monitoring sites that have more than 20 years of data. The national network includes 61 large river sites that will provide basic coverage of large-scale trends in nutrient, sediment, and contaminant loading to inland or coastal receiving waters, and 39 wadeable stream sites that will be used to track trends in water-quality and ecosystem condition at urban, agricultural, and undeveloped watersheds selected to represent the national diversity of environmental settings. Most sites will be sampled 12 to 18 times per year for a wide range of contaminants. Continuous monitoring of key water properties, including salinity, nitrate and turbidity, will start at 5 sites equipped with state-of-the-art water-quality sensors. These data will improve estimates of nutrient and sediment loads, and the continuous water-quality data will be incorporated into water-quality models. At the 39 wadeable stream sites, evaluations of the condition of algal, macroinvertebrate, and fish communities will be conducted annually.

Groundwater Monitoring and Modeling

NAWQA is the only Federal program that assesses the status of the Nation's groundwater quality and reports on how these conditions are changing over time. Groundwater studies are planned in 20 principal aquifers, which collectively account for more than 75 percent of the national groundwater used for drinking water (fig. 2). Statistical models

and monitoring data will be combined to generate maps of selected contaminant occurrence at the depth zones used for domestic and public supply. In four principal aquifers—the Central Valley of California, the Coastal Lowlands of the lower Gulf Coast states, the Glacial, and the Northern Atlantic Coastal Plain—groundwater-quality data will be combined with groundwater flow models to provide a three-dimensional estimate of the amount of groundwater available in each aquifer, its vulnerability to contaminants derived from natural and (or) human sources, and an understanding of how groundwater quality may respond to changes in climate, land use, and water use over time.

About 2,500 wells, distributed among 79 existing networks, will be resampled over the next decade for key water properties, nitrate, and trace elements (fig. 2) to assess how shallow groundwater quality is changing beneath urban and agricultural lands and in deeper domestic wells. Subsets of wells in selected networks will also be sampled for pesticides, contaminants of emerging concern (pharmaceuticals, hormones, and high production volume chemicals), radiochemicals, microbial contaminants, and tracers that indicate the approximate age of the groundwater. About 1,500 deep public supply wells will be sampled in the next decade to help characterize water-quality conditions in parts of the aquifers that were not examined in previous decades; remaining samples will be collected from domestic wells and shallow monitoring wells underlying urban and agricultural areas.

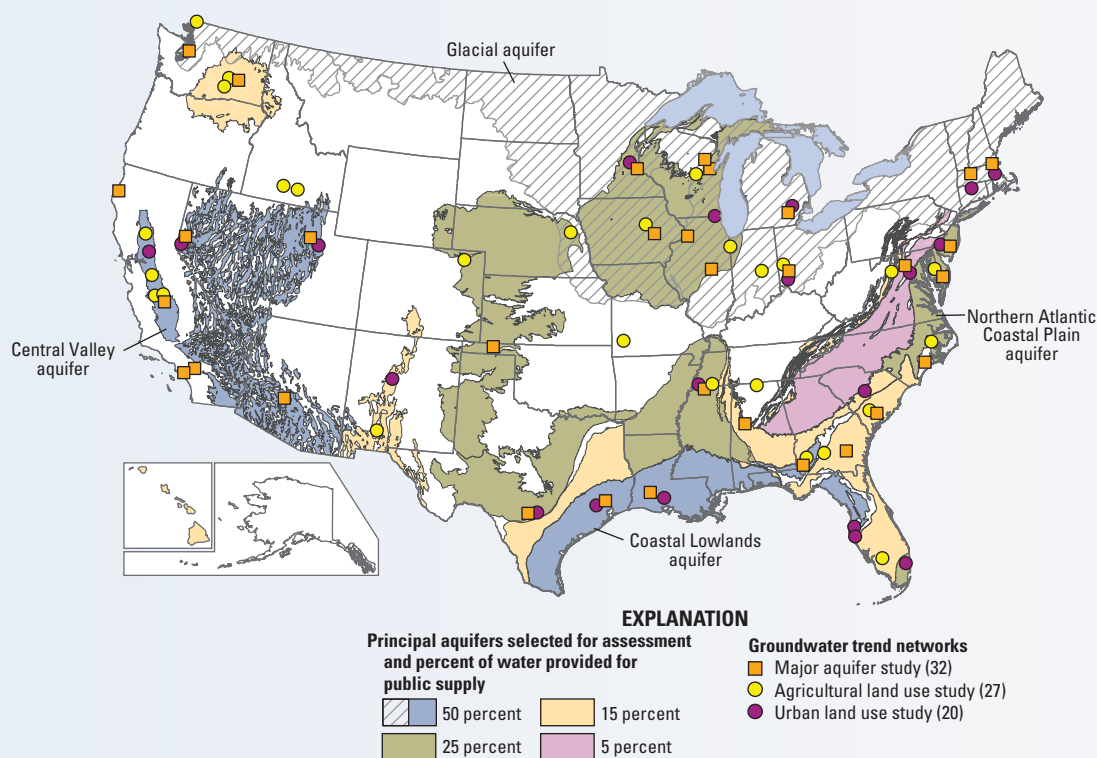


Figure 2. Seventy-nine NAWQA well networks in 20 principal aquifers will be resampled to assess decadal-scale trends in groundwater quality. Each groundwater trend network consists of 25 to 30 wells in a principal aquifer, distributed randomly across areas ranging from several hundred to several thousand square miles. Seven or eight trend networks will be resampled in fiscal year 2013; a similar number of networks will be resampled in each subsequent year of the decade.

The California State Water Resources Control Board has worked closely with the U.S. Geological Survey to develop a comprehensive monitoring and assessment program for California's groundwater basins. The approach, methods, and results from NAWQA studies have been fully integrated into California's plans to evaluate groundwater quality on a statewide basis.

—Arthur G. Baggett, Jr., State Water Resources Control Board

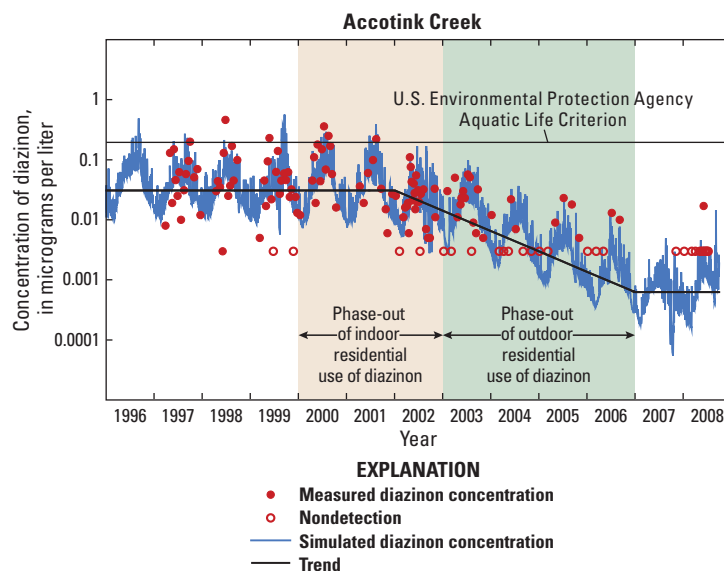
Products Designed to Meet the Nation's Water-Quality Information Needs

The NAWQA program's third decade will yield advances in water-quality information and science that can markedly improve the effectiveness of water-quality policies and management decisions. Examples of the types of data and information products planned for the next decade are described below.

Restoring Monitoring for Reliable and Timely Status and Trend Assessments

The NAWQA program will work with State and Federal partners to fill monitoring gaps in critical watersheds and aquifers by leveraging available resources and collaborating with other programs to build an expanded and sustainable national network. Monitoring approaches will emphasize rapid feedback on changing water-quality conditions so that managers can identify emerging problems, develop effective responses, and evaluate the performance of management strategies. Recent analyses of water-quality trends have shown that monitoring must be frequent and sustained every year to reliably detect trends at the time scales at which important changes in contaminant sources and management strategies occur. Therefore, the Science Plan emphasizes returning to yearly intensive monitoring of sites that are part of NAWQA's surface-water-quality network, rather than a rotational approach with many sites only periodically monitored.

For example, monitoring data for Accotink Creek, a small urban stream near Washington, D.C., shows the importance of frequent sampling to detect and quantify the decline in stream concentrations of diazinon that occurred following the phase-out of the residential use of this insecticide that began in 2000. Being able to document the effectiveness of water-quality improvement strategies in a timely manner, as demonstrated by the every-year monitoring approach used in this example, is vital to regulatory agencies and other stakeholders in order to track the performance of management practices and determine implications for future strategies.



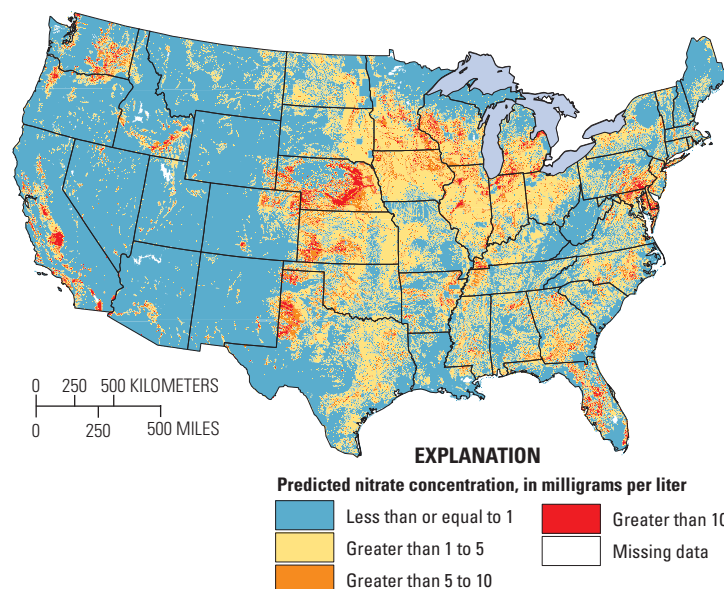
The products and studies produced by the USGS are beyond reproach and represent an independent scientific voice that water planners look to for guidance.

—Dave Kanzer, Senior Water Resources Engineer, Colorado River Water Conservation District

Transforming Data and Models into Tools for Decisionmakers

The NAWQA program's water-quality models quantitatively link sources and management practices to water-quality benefits and effects and can do so at multiple hydrologic scales—from headwater streams to rivers flowing into estuaries, and from shallow groundwater to deep regional aquifers. In the first two decades of NAWQA, progress was made on the application of models to evaluate the vulnerability of streams and groundwater to selected contaminants, such as nitrate. Progress was also made on the application of models that link causal factors and individual contaminants at regional and national scales.

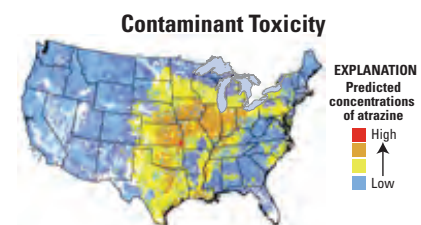
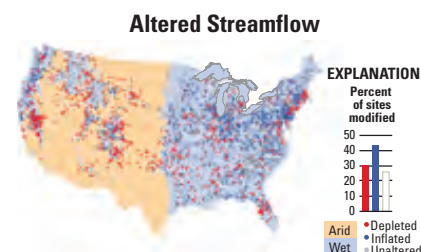
Findings from a national nitrate model for shallow groundwater (Nolan and Hitt, 2006) illustrate the type of information that will be further refined as data and information on sources of contaminants, management practices, and other important factors improve. Such models can be developed for other contaminants—dissolved solids, arsenic, and pesticides—and for specific regions of the country. They provide resource managers with an important starting point for evaluating which aquifers or streams are likely to have contaminant concentrations high enough to impair drinking water supplies or threaten the health of aquatic organisms. Other models examine how groundwater interacts with surface water to affect contaminant transport and the amount of time it takes water and contaminants to move from the land surface, through aquifers, and then to streams. The resulting modeling tools can be used by resource managers to evaluate changes in water quality caused by different management practices or regulatory policies and how long it will take for the effects of those changes to be observed in their watershed or aquifer.



Providing Data and Tools to Predict Ecological Condition in Streams

Targeted regional studies will provide resource managers with data and tools to understand and predict ecological conditions in relation to streamflow alteration and concentrations of contaminants, nutrients, and sediment. New national and regional models of potential stressors, such as altered streamflow, nutrient delivery, and contaminant toxicity, will provide managers with critical information on stressors that affect ecological health. For example, Carlisle and others (2010) showed that streams that had altered streamflows had fewer sensitive fish species than streams characterized by more natural flow regimes.

The regional studies will provide detailed understanding of how natural and human factors affect water quality and ecological conditions in major regions of the Nation, improve understanding of how stream quality will respond to management scenarios, and provide information that facilitates investment in the most effective restoration strategies. The first of these regional assessments is being developed in collaboration with the States and the U.S. Environmental Protection Agency's National Rivers and Streams Assessment program and will focus on stream quality in the agricultural Midwest, a region encompassing parts of 12 states (U.S. Geological Survey, 2012). Other regional studies may be done in the humid southeast, arid southwest, the Atlantic Highlands, and the Rocky Mountains.



The [NAWQA] program has translated and interpreted its high-quality, nationally consistent data with sophisticated tools so that policy and decision makers can use the program's science to inform efficient decision-making.

—National Research Council (2012, p. 7)

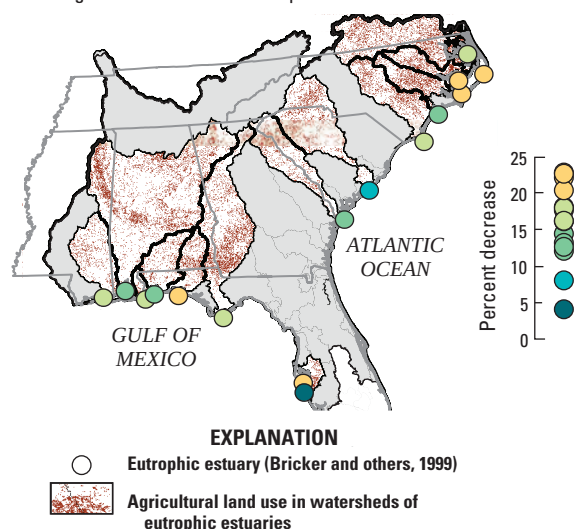
Forecasting Future Conditions and Testing Policy Scenarios

Forecasting and scenario-testing tools—an array of statistical and simulation models—developed by NAWQA will enable timely evaluation of current water-quality issues as well as the possible effects of future scenarios of changing climate, land use, and management practices. Enhanced versions of the SPARROW model, as well as other water-quality models, will be converted into Web-accessible tools that managers can use to evaluate how water quality and aquatic ecosystems may change in response to different scenarios.

For example, SPARROW was used to predict how a 50-percent reduction in agricultural nitrogen inputs would decrease loadings to eutrophic estuaries in the eastern Gulf of Mexico and the South Atlantic Coastal Plain (Hoos and McMahon, 2009). The model showed that resulting nitrogen loads to estuaries would decrease from as little as 5 percent to a maximum of 24 percent, indicating that—in terms of total annual nitrogen load—reduction of agricultural sources alone may not markedly improve eutrophication in some of these estuaries.

Similarly, coupled groundwater quality and flow models will enable water managers to evaluate the amount of time it may take for contaminated shallow groundwater to reach production zones used as drinking water supplies.

How will a 50 percent decrease in agricultural nitrogen inputs change nutrient loads to eutrophic estuaries in the Southeast?



This USGS SPARROW Model decision support system represents a major advance in the availability of sound scientific information to enable the effective management of this growing threat to our valued coastal resources and economies.

—Dr. Robert Magnien, Director of the Center for Sponsored Coastal Ocean Research,
National Oceanic and Atmospheric Administration

Start-up Phase of the Science Plan

Anticipated funding for fiscal year 2013—approximately 25 percent of that needed to fully implement the recommended Science Plan—will support a scaled-back start-up phase of the science strategy endorsed by stakeholders and the National Research Council (fig. 3). A combination of funding growth and extensive collaboration with Federal, State, and local agencies, public interest groups, professional and trade associations, academia, and private industry will be needed to fully realize the monitoring and modeling goals laid out in the Science Plan. Partnering with other USGS programs is also important to the success of NAWQA in the coming decade. Collaborative efforts are being planned with the Water Census Program, Groundwater Resources Program, and the Cooperative Water Program on various data collection and modeling activities. These external and internal partnerships will increase geographic and temporal coverage through integration of multiple data sources and improve our ability to assess the Nation's water quality.

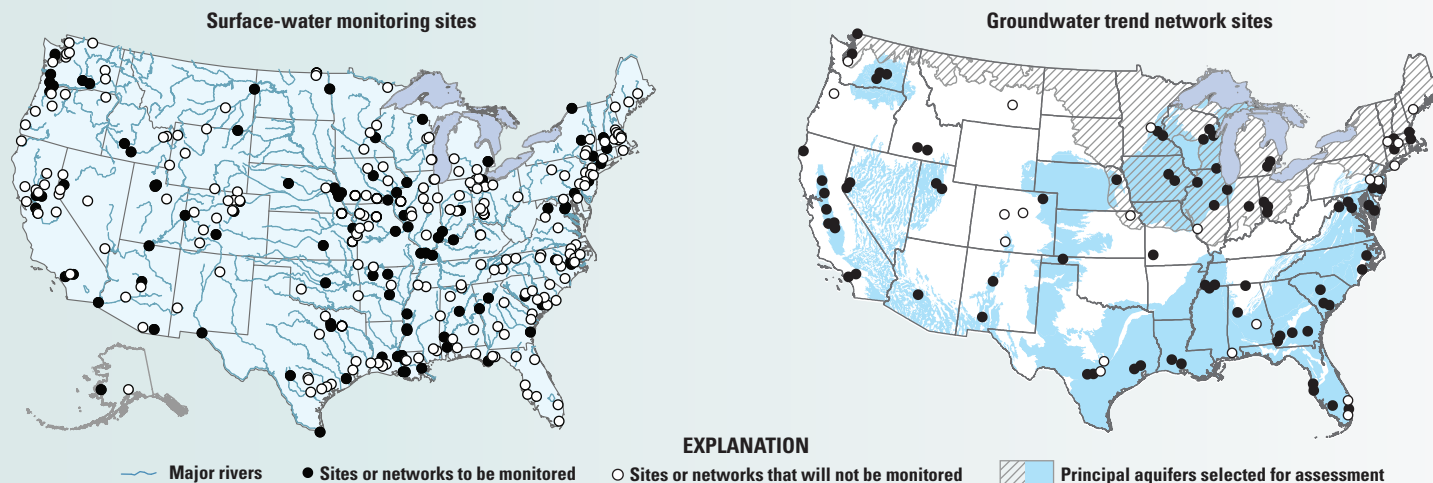


Figure 3. In fiscal year 2013, NAWQA will be able to start every-year monitoring at only 100 of 313 surface-water sites recommended in the Science Plan. The program will also be able to sample only 79 of the 100 groundwater networks recommended for trends monitoring over the next decade.

References Cited

- Bricker, S.P., Clement, C.G., Pirhalla, D.E., Orlando, S.P., and Farrow, D.R.G., 1999, National estuarine eutrophication assessment—Effects of nutrient enrichment in the Nation's estuaries: Silver Spring, Md., National Oceanic Atmospheric Administration, National Ocean Service, Special Projects Office and the National Center for Coastal Ocean Science, 71 p.
- Carlisle, D.M., Wolock, D.M., and Meador, M.R., 2010, Alteration of streamflow magnitudes and potential ecological consequences—A multiregional assessment: *Frontiers in Ecology and the Environment*, v. 9, no. 5, p. 264–270, doi:10.1890/100053, accessed January 9, 2012, at <http://www.esajournals.org/doi/abs/10.1890/100053>.
- DeSimone, L.A., Hamilton, P.A., and Gilliom, R.J., 2009, Quality of water from domestic wells in principal aquifers of the United States, 1991–2004—Overview of major findings: U.S. Geological Survey Circular 1332, 48 p. (Also available at <http://pubs.usgs.gov/circ/circ1332/>.)
- Diaz, R.J., and Rosenberg, Rutger, 2008, Spreading dead zones and consequences for marine ecosystems: *Science*, v. 321, p. 926–928.
- Dubrovsky, N.M., Burow, K.R., Clark, G.M., Gronberg, J.M., Hamilton P.A., Hitt, K.J., Mueller, D.K., Munn, M.D., Nolan, B.T., Puckett, L.J., Rupert, M.G., Short, T.M., Spahr, N.E., Sprague, L.A., and Wilber, W.G., 2010, The quality of our Nation's waters—Nutrients in the Nation's streams and groundwater, 1992–2004: U.S. Geological Survey Circular 1350, 174 p. (Also available at <http://pubs.usgs.gov/circ/circ1350/>.)
- Gilliom, R.J., Barbash, J.E., Crawford, C.G., Hamilton, P.A., Martin, J.D., Nakagaki, Naomi, Nowell, L.H., Scott, J.C., Stackelberg, P.E., Thelin, G.P., and Wolock, D.M., 2006, The quality of our Nation's waters—Pesticides in the Nation's streams and groundwater, 1992–2001: U.S. Geological Survey Circular 1291, 172 p. (Also available at <http://pubs.usgs.gov/circ/2005/1291/>.)
- Hoos, A.B., and McMahon, Gerard, 2009, Spatial analysis of instream nitrogen loads and factors controlling nitrogen delivery to streams in the southeastern United States using spatially referenced regression on watershed attributes (SPARROW) and regional classification frameworks: *Hydrologic Processes*, v. 23, no. 16, p. 2275–2294, doi:10.1002/hyp.7323, accessed June 25, 2009, at <http://dx.doi.org/10.1002/hyp.7323>.

- National Research Council, 2012, Preparing for the third decade of the National Water-Quality Assessment Program: Washington, D.C., National Academies Press, 185 p. (Also available at http://www.nap.edu/catalog.php?record_id=13464.)
- Nolan, B.T., and Hitt, K.J., 2006, Vulnerability of shallow groundwater and drinking-water wells to nitrate in the United States: *Environmental Science and Technology*, v. 40, p. 7834–7840, doi:10.1021/es060911u.
- Schwarz, G.E., Hoos, A.B., Alexander, R.B., and Smith, R.A., 2006, The SPARROW surface water-quality model—Theory, application, and user documentation: U.S. Geological Survey Techniques and Methods, book 6, chap. B3, 248 p., available at <http://pubs.usgs.gov/tm/tm6b3>.
- Stone, W.W. and Gilliom, R.J., 2009, Update of watershed regressions for pesticides (WARP) for predicting atrazine concentration in streams: U.S. Geological Survey Open-File Report 2009–1122, 22 p.
- Toccalino, P.L., and Hopple, J.A., 2010, The quality of our Nation's waters—Quality of water from public-supply wells in the United States, 1993–2007—Overview of major findings: U.S. Geological Survey Circular 1346, 58 p. (Also available at <http://pubs.usgs.gov/circ/1346/>.)
- U.S. Environmental Protection Agency, 2006, Wadeable streams assessment—A collaborative survey of the Nation's streams: U.S. Environmental Protection Agency, EPA 841–B–06–002, 2 p., accessed January 10, 2012, at <http://www.epa.gov/owow/streamsurvey/>.
- U.S. Geological Survey, 2012, The Midwest Stream Quality Assessment: U.S. Geological Survey Fact Sheet 2012–3124, 2 p. (Also available at <http://pubs.usgs.gov/fs/2012/3124/>.)

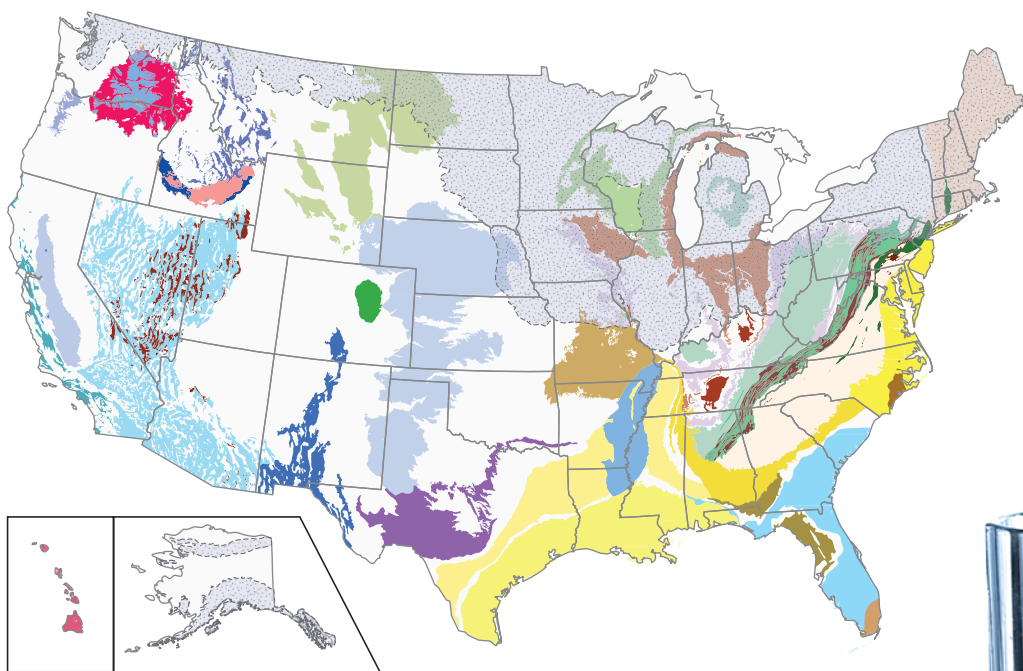
—By Gary L. Rowe Jr., Robert J. Gilliom, and Michael D. Woodside

For additional information contact:

Chief, National Water-Quality Assessment Program
U.S. Geological Survey
413 National Center
Reston, VA 20192

Or access the NAWQA public website at <http://water.usgs.gov/nawqa/>

Water Quality in Principal Aquifers of the United States, 1991–2010



National Water-Quality Assessment Program

Circular 1360

**U.S. Department of the Interior
U.S. Geological Survey**

Front cover. Map showing Principal Aquifers of the United States that are included in this study. Image of pitcher and glass copyright istockphoto.com.

Back cover. USGS scientists collecting and processing samples from monitoring, domestic, and public-supply wells for this study. Photographs by USGS.

The Quality of Our Nation's Waters

Water Quality in Principal Aquifers of the United States, 1991–2010

By Leslie A. DeSimone, Peter B. McMahon, and Michael R. Rosen

National Water-Quality Assessment Program

Circular 1360

**U.S. Department of the Interior
U.S. Geological Survey**

U.S. Department of the Interior

SALLY JEWELL, Secretary

U.S. Geological Survey

Suzette M. Kimball, Acting Director

U.S. Geological Survey, Reston, Virginia: 2014

For more information on the USGS—the Federal source for science about the Earth, its natural and living resources, natural hazards, and the environment—visit <http://www.usgs.gov> or call 1–888–ASK–USGS.

For an overview of USGS information products, including maps, imagery, and publications, visit <http://www.usgs.gov/pubprod>

To order this and other USGS information products, visit <http://store.usgs.gov>

Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Although this information product, for the most part, is in the public domain, it also may contain copyrighted materials as noted in the text. Permission to reproduce copyrighted items must be secured from the copyright owner.

Suggested citation:

DeSimone, L.A., McMahon, P.B., and Rosen, M.R., 2014, The quality of our Nation's waters—Water quality in Principal Aquifers of the United States, 1991–2010: U.S. Geological Survey Circular 1360, 151 p., <http://dx.doi.org/10.3133/cir1360>.

Library of Congress Cataloging-in-Publication Data

Desimone, Leslie A.

The quality of our nation's waters- -water quality in principal aquifers of the United States, 1991--2010 / by Leslie A. DeSimone, Peter B. McMahon, and Michael R. Rosen.

pages cm. -- (Circular ; 1360)

Other title: Water quality in principal aquifers of the United States, 1991--2010

ISBN 978-1-4113-3758-9 (alk. paper)

1. Groundwater--Quality--United States. 2. Aquifers--United States. I. McMahon, Peter B. II. Rosen, Michael R., 1961- III. Geological Survey (U.S.) IV. Title. V. Title: Water quality in principal aquifers of the United States, 1991--2010. VI. Series: U.S. Geological Survey circular ; 1360.

GB1015.D47 2014

553.7'9097309049--dc23

2014031450

ISSN 1067-084X (print)

ISSN 2330-5703 (online)

ISBN 978-1-4113-3758-9

Foreword

The United States has made major investments in assessing, managing, regulating, and conserving natural resources, such as water and a variety of ecosystems. Sustaining the quality of the Nation's water resources and the health of our diverse ecosystems depends on the availability of sound water-resources data and information to develop effective, science-based policies. Effective management of water resources also brings more certainty and efficiency to important economic sectors. Taken together, these actions lead to immediate and long-term economic, social, and environmental benefits that make a difference to the lives of millions of people (<http://water.usgs.gov/nawqa/applications/>).

Two decades ago, Congress established the U.S. Geological Survey's National Water-Quality Assessment (NAWQA) Program to meet this need. Since then NAWQA has served as a primary source of nationally consistent information on the quality of the Nation's streams and groundwater, on ways in which water quality changes over time, and on the natural features and human activities affecting the quality of streams and groundwater. Objective and reliable data, systematic scientific studies, and models are used to characterize where, when, and why the Nation's water quality is degraded—and what can be done to improve and protect the water for human and ecosystem needs. This information is critical to our future because the Nation faces an increasingly complex and growing need for clean water to support people, economic growth, and healthy ecosystems. For example, NAWQA findings for public-supply wells, which provide water to about 105 million people, showed that 22 percent of source-water samples contained at least one contaminant at levels of potential health concern. Similarly, 23 percent of samples from domestic (or privately owned) wells, which supply untreated water to an additional 43 million people, also had contaminant levels of potential concern.

This report is one of a collection of publications that describe water-quality conditions in selected Principal Aquifers of the United States (<http://water.usgs.gov/nawqa/studies/praq/>). The collection is part of the series "The Quality of Our Nation's Waters," which describes major findings of the NAWQA Program on water-quality issues of regional and national concern and which provides science-based information for assessing and managing the quality of our groundwater resources. Other reports in this series focus on occurrence and distribution of nutrients, pesticides, and volatile organic compounds in streams and groundwater, the effects of contaminants and streamflow alteration on the condition of aquatic communities in streams, and the quality of untreated water from private domestic and public-supply wells. Each report builds toward a more comprehensive understanding of the quality of regional and national water resources (http://water.usgs.gov/nawqa/nawqa_sumr.html). All NAWQA reports are available online at <http://water.usgs.gov/nawqa/bib/>.

The information in this series primarily is intended for those interested or involved in resource management and protection, conservation, regulation, and policymaking at regional and national levels. In addition, the information should be of interest to those at a local level who wish to know more about the general quality of streams and groundwater in areas near where they live and how that quality compares with other areas across the Nation. We hope this publication will provide you with insights and information to meet your needs and will foster increased citizen awareness and involvement in the protection and restoration of our Nation's waters.

Jerad Bales
Acting Associate Director for Water
U.S. Geological Survey



NAWQA

National Water-Quality Assessment Program

Contents

Chapter 1:	Overview of Major Findings and Implications	1
Chapter 2:	Principal Aquifers and NAWQA Approach to Assessing Groundwater Quality	9
Chapter 3:	Aquifers and Processes That Affect Groundwater Quality	19
Chapter 4:	The Quality of Groundwater Resources For Drinking and Other Uses	35
Chapter 5:	Understanding Where and Why Constituents From Geologic Sources Occur	47
Chapter 6:	Understanding Where and Why Contaminants From Human Activities Occur	81
Chapter 7:	How Does Our Use of Water Affect Groundwater Quality?	109
Chapter 8:	How Is Groundwater Quality Changing?	125
References Cited		134
Glossary		145
Appendixes		151

Introduction to Principal Aquifers and to This Report

This report contains the major findings of national and regional assessments of the quality of groundwater in the Principal Aquifers of the United States. The Principal Aquifers, more than 60 in number, are regionally extensive aquifers that supply most of the groundwater pumped across the Nation for drinking water, irrigation, and other uses. The aquifers are composed of rocks and sediment such as unconsolidated sand and gravel, carbonate rock (limestone), granite, or volcanic rock. The aquifers extend across State boundaries and lie beneath diverse land uses. Water-quality conditions in the Principal Aquifers are summarized in this report and compared to selected national benchmarks, such as those for drinking-water quality.

This is one of a series of reports by the U.S. Geological Survey that present major findings for the Principal Aquifers. This report specifically focuses on water-quality conditions at the national scale and summarizes findings about groundwater quality from nine regional assessments of selected Principal Aquifers or groups of aquifers. Water-quality conditions in selected Principal Aquifers are discussed in greater detail in companion U.S. Geological Survey circulars to this report and in other reports listed in the references. Detailed technical information, data and analysis, sample collection, and analytical methodology, models, graphs, and maps that support the findings presented in this report, in addition to the companion reports in this series, can be accessed from the National Water-Quality Assessment Program (NAWQA) Web site (<http://water.usgs.gov/nawqa>).

Chapter 1: *Overview of Major Findings and Implications*



About 130 million people in the United States rely on groundwater for drinking water, and the need for high-quality drinking-water supplies becomes more urgent as our population grows. Although groundwater is a safe, reliable source of drinking water for millions of people nationwide, high concentrations of some chemical constituents can pose potential human-health concerns. Some of these contaminants come from the rocks and sediments of the aquifers themselves, and others are chemicals that we use in agriculture, industry, and day-to-day life. When groundwater supplies are contaminated, millions of dollars can be required for treatment so that the supplies can be usable. Contaminants in groundwater can also affect the health of our streams and valuable coastal waters. By knowing where contaminants occur in groundwater, what factors control contaminant concentrations, and what kinds of changes in groundwater quality might be expected in the future, we can ensure the availability and quality of this vital natural resource in the future.



Photographs: Chesapeake Bay Program; copyright istockphoto.com; copyright 1980 by W.H. Mullins and published with permission

National Findings

1 Contaminants from geologic or manmade sources were a potential human-health concern in one of every five wells sampled in the parts of aquifers used for drinking water

Groundwater from 22 percent of sampled wells—more than one in five—contained at least one chemical constituent at a concentration greater than a U.S. Environmental Protection Agency Maximum Contaminant Level (MCL) or other human-health benchmark for concentrations in drinking water. Most of these contaminants were from geologic sources—for example, arsenic, manganese, radon, and uranium. Nitrate was the only constituent from manmade sources that exceeded its human-health benchmark in more than 1 percent of wells.

2 Differences in geology, hydrology, geochemistry, and chemical use explain how and why aquifer vulnerability and concentrations of contaminants vary across the Nation

The geologic and manmade sources of contaminants that are present, how groundwater moves through an aquifer, and geochemical conditions within aquifers all affect concentrations of contaminants in groundwater. Because these factors differ among Principal Aquifers, different contaminants occur more—or less—frequently in some aquifers than in others. An understanding of how geology, hydrology, geochemistry, and chemical use affect the concentrations of individual contaminants is essential to explaining how and why groundwater quality varies across the Nation. In-depth regional assessments, based on comprehensive sampling of 6,600 wells and ancillary data, provided this understanding for the major contaminants in each Principal Aquifer and, in some cases, have allowed us to predict concentrations across wide areas. This information also can be used to assess aquifer vulnerability and design efficient and effective programs for monitoring the Nation's groundwater resources.

3 Changes to groundwater flow have also altered groundwater quality

People's use of water, through irrigation, pumping, artificial recharge, and drainage, has drastically changed how water moves through some aquifers. In some parts of the western United States, the amount of water that flows through aquifers has doubled, tripled, or increased by even more. Such large changes have affected contaminants from both manmade and geologic sources. Irrigation and pumping have made the deep parts of some aquifers, which are used for drinking water, more vulnerable to contamination by nitrate, pesticides, and other manmade chemicals. Irrigation and other sources of artificial recharge have increased concentrations of dissolved solids in some shallow aquifers in dry climates. Irrigation, pumping, and artificial recharge, by mixing waters of different chemistry, have sometimes had the unexpected consequence of releasing contaminants, such as uranium, selenium, or radium, from aquifer rocks and sediment into the groundwater.

4 Our actions today are determining groundwater quality for decades to come

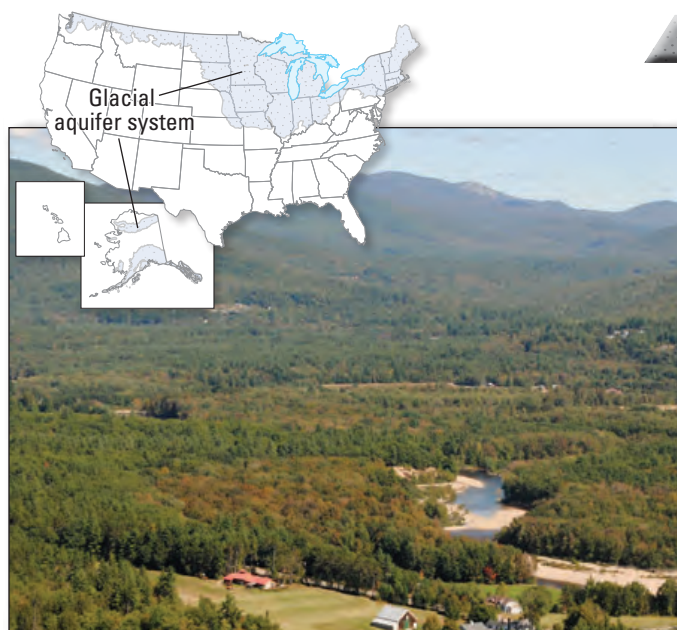
Groundwater quality changes slowly. However, indicators of human influence on groundwater quality are increasing across the Nation, even over the relatively short time periods of single decades. Concentrations of dissolved solids, chloride, and (or) nitrate in groundwater increased in two-thirds of groundwater well networks that were sampled at 10-year intervals between the early 1990s and 2010. People's influence on groundwater quality also is apparent in the concentrations of nitrate, pesticides, and other manmade chemicals found in shallow groundwater beneath agricultural and urban land. Concentrations of these chemicals exceeded human-health benchmarks two to four times more frequently in shallow groundwater beneath agricultural and urban land than in groundwater from the deeper parts of aquifers currently used for drinking water. Over time, the changes that we see in shallow groundwater are likely to appear in the deeper parts of aquifers, as the shallow groundwater moves downward. This change in quality of deeper aquifers is a concern for the future because the restoration of groundwater supplies that have become contaminated is difficult, is costly, and can take decades. In parts of many aquifers, we are still seeing the effects of contaminant inputs from more than 30 years ago; similarly, our actions today are determining groundwater quality for decades to come.

Groundwater—The Invisible and Vital Resource

- 80,000,000,000** Gallons of groundwater pumped each day
- 130,000,000** People who use groundwater for drinking water
- 43,000,000** People who use groundwater from private wells for drinking water
- 1,300,000** Chemical analyses performed in this study
- 6,600** Wells sampled for this study
- 62** Principal Aquifers in the United States



Findings From the Regional Principal Aquifer Assessments



Photograph by Kelly Warner, USGS

Glacial Aquifer System

One-sixth of the Nation's population relies on groundwater from the sands and gravels of the glacial aquifer system, in the northern United States, for drinking water. Contaminants from geologic sources—including arsenic and manganese, in more than 10 percent of sampled wells—were present in some areas at concentrations of potential concern for human health, especially in oxygen-depleted groundwater, which is more common in this aquifer than in many others. Agriculture, especially in the upper Midwest, is a source of nitrate and pesticides to groundwater, but low-permeability soils and artificial drainage reduce the aquifer's vulnerability to contamination in some areas.

USGS Circular 1352, available at <http://pubs.usgs.gov/circ/1352/>

Western Volcanics

Groundwater is hundreds of feet below the land surface in many parts of the volcanic-rock aquifers, located in the northwestern United States and Hawaii, but the high permeability of these aquifers allows contaminants from agriculture and other manmade sources to reach the water table. Nitrate is the most common contaminant, but concentrations of several pesticides and volatile organic compounds also exceeded human-health benchmarks, especially on Oahu, Hawaii. Use of some of these chemicals has been banned for decades, yet they continue to be detected in groundwater.

USGS Circular 1359, available at <http://pubs.usgs.gov/circ/1359/>



Photograph by Michael Rupert, USGS

Southwest Basin-Fill Aquifers

Contaminants from geologic sources are more common in the Southwest basin-fill aquifers than in many other aquifers in the Nation because of the hot and dry climate, long groundwater flow paths, and types of rocks and sediments present. Irrigation and pumping have greatly altered natural flow systems in some areas, increasing concentrations of dissolved solids and carrying manmade contaminants down to shallow and deep groundwater. Arsenic, dissolved solids, and nitrate are some of the contaminants of concern for drinking-water quality; their concentrations in groundwater throughout the Southwest basin-fill aquifers can be predicted on the basis of geology, climate, hydrology, and other natural and manmade factors.

USGS Circular 1358, available at <http://pubs.usgs.gov/circ/1358/>



Photograph by Susan Thiros, USGS



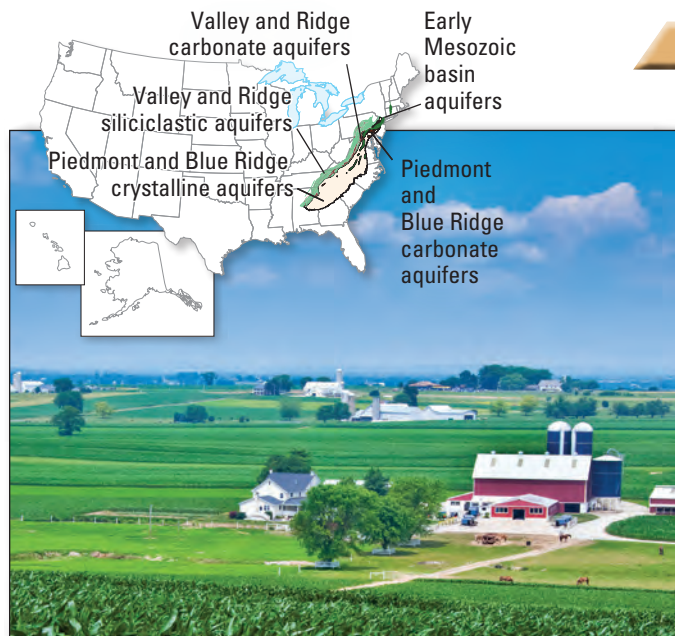
Photograph by Steve W. Krull, copyright istockphoto.com

Denver Basin Aquifer System

Groundwater in the deep sandstone layers of this aquifer system provides high-quality drinking water to the Front Range urban corridor of Colorado, but shallow groundwater quality has been degraded by irrigation and other human activities. Dissolved solids are relatively high in the shallow aquifer, and irrigation water has mobilized contaminants, such as uranium, from geologic sources. The shallow groundwater can migrate into deep aquifer layers, increasing the vulnerability of drinking-water supplies to contamination.

USGS Circular 1357, available at <http://pubs.usgs.gov/circ/1357/>

Findings From the Regional Principal Aquifer Assessments



Photograph copyright istockphoto.com

Piedmont, Blue Ridge, and Valley and Ridge Aquifers

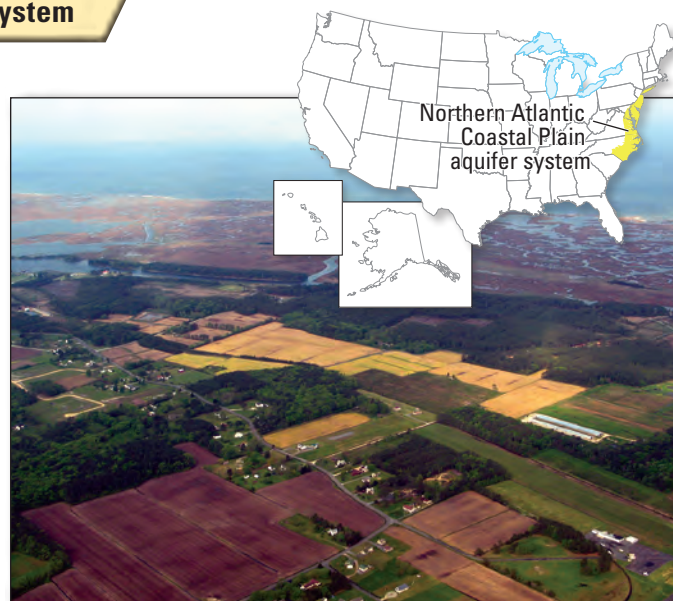
Geology largely determines where contaminants occur in these aquifers, which supply a large suburban and rural population in the eastern United States with drinking water. Radon, arsenic, and manganese occur in the crystalline-rock or siliciclastic (sandstone, siltstone, or shale) aquifers. The carbonate-rock aquifers, in contrast, are particularly susceptible to contamination from human activities at land surface because of karst (solution) features. Concentrations of nitrate in the carbonate-rock aquifers were among the highest in the Nation. Fecal-indicator bacteria were detected in half of the drinking-water sources sampled in the Piedmont, Blue Ridge, and Valley and Ridge aquifers.

USGS Circular 1354, available at <http://pubs.usgs.gov/circ/1354/>

Northern Atlantic Coastal Plain Surficial Aquifer System

Manmade contaminants—nitrate, pesticides, and volatile organic compounds—move readily through the sandy, permeable sediments of the Northern Atlantic Coastal Plain surficial aquifer system, located along the east coast of the United States; the areas of intense agriculture or dense population centers are particularly vulnerable. Radium from geologic sources is a concern because the natural acidity of the groundwater causes radium to be released from aquifer sediments into the groundwater. Groundwater from the shallow aquifer drains to streams and supplies nitrate that contributes to the ecological degradation of estuaries along the Atlantic coast.

USGS Circular 1353, available at <http://pubs.usgs.gov/circ/1353/>



Photograph by Emily Nauman, Integration and Application Network, University of Maryland Center for Environmental Science (IAN, UMCES)

Upper Floridan Aquifer and Overlying Surficial Aquifers

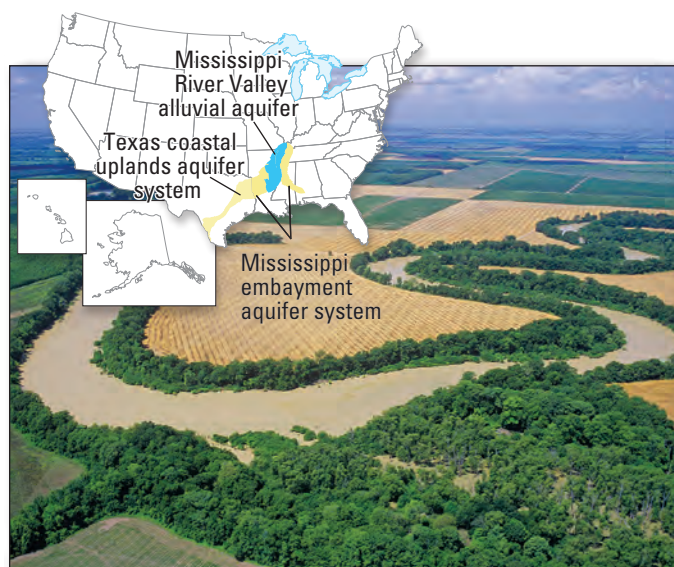
Groundwater in the Upper Floridan carbonate-rock aquifer, in the southeastern United States, has few contaminants from geologic sources and, in many areas, is protected from manmade contaminants by a low-permeability confining layer that inhibits downward flow. In some areas, where the confining unit is thin or absent, sinkholes and other karst features allow nitrate and pesticides from the land surface to move rapidly into and through the aquifer. Pumping of supply wells can enhance aquifer vulnerability to contamination by drawing shallow groundwater into the deep aquifer.

USGS Circular 1355, available at <http://pubs.usgs.gov/circ/1355/>



Photograph by Alan M. Cressler, USGS

Mississippi Embayment–Texas Coastal Uplands Aquifer System and Mississippi River Valley Alluvial Aquifer



Photograph by Jim Wark, Airphoto North America

These sandy aquifers in the southeastern and south-central United States are pumped heavily for irrigation and public supply, but have few manmade contaminants. Manganese and arsenic, which are derived from the aquifer sediments, are the most common contaminants. Concentrations of nitrate are low despite large fertilizer applications because of low recharge rates and natural attenuation in the oxygen-depleted groundwater. Pumping of supply wells has drawn deep, saline water up into the freshwater aquifer in some areas.

USGS Circular 1356, available at <http://pubs.usgs.gov/circ/1356/>

Findings From the Regional Principal Aquifer Assessments

High Plains Aquifer



Photograph courtesy of John Charlton, Kansas Geological Survey

The thick, extensive sediments of the High Plains aquifer, in the central United States, supply one-third of the groundwater pumped for irrigation in the Nation and are used for public and private supplies. Recently recharged shallow groundwater, especially beneath irrigated cropland, has higher concentrations of dissolved solids and nitrate than deep groundwater that was recharged thousands of years ago. The aquifer has little natural capacity to attenuate nitrate because even deep, old groundwater commonly contains dissolved oxygen. High-capacity pumping wells with long screens can cause shallow and deep groundwater to mix, drawing manmade contaminants into deeper parts of the aquifer and altering groundwater geochemistry.

USGS Circular 1337, available at <http://pubs.usgs.gov/circ/1337/>

Tab Q – USGS Report on Induced Seismicity associated with Fluid Injection

This release can be found in the USGS Newsroom at: <http://www.usgs.gov/newsroom/article.asp?ID=4132>.



News Release

February 19, 2015

Susan Garcia

650-346-0998

garcia@usgs.gov

Leslie Gordon

650-329-4006

lgordon@usgs.gov

Coping with Earthquakes Induced by Fluid Injection



MENLO PARK, Calif.— A paper published today in *Science* provides a case for increasing transparency and data collection to enable strategies for mitigating the effects of human-induced earthquakes caused by wastewater injection associated with oil and gas production in the United States. The

is the result of a series of workshops led by scientists at the U.S. Geological Survey in collaboration with the University of Colorado, Oklahoma Geological Survey and Lawrence Berkeley National Laboratory, suggests that it is possible to reduce the hazard of induced seismicity through management of injection activities.

Large areas of the United States that used to experience few or no earthquakes have, in recent years, experienced a remarkable increase in earthquake activity that has caused considerable public concern as well as damage to structures. This rise in seismic activity, especially in the central United States, is not the result of natural processes.

Instead, the increased seismicity is due to fluid injection associated with new technologies that enable the extraction of oil and gas from previously unproductive reservoirs. These modern extraction techniques result in large quantities of wastewater produced along with the oil and gas. The disposal of this wastewater by deep injection occasionally results in earthquakes that are large enough to be felt, and sometimes damaging. Deep injection of wastewater is the primary cause of the dramatic rise in detected earthquakes and the corresponding increase in seismic hazard in the central U.S.

“The science of induced earthquakes is ready for application, and a main goal of our study was to motivate more cooperation among the stakeholders — including the energy resources industry, government agencies, the earth science community, and the public at large — for the common purpose of reducing the consequences of earthquakes induced by fluid injection,” said coauthor Dr. William Ellsworth, a USGS geophysicist.

The USGS is currently collaborating with interested stakeholders to develop a hazard model for induced earthquakes in the U.S. that can be updated frequently in response to changing trends in energy production.

“In addition to determining the hazard from induced earthquakes, there are other questions that need to be answered in the course of coping with fluid-induced seismicity,” said lead author of the study, USGS geophysicist Dr. Art McGarr. “In contrast to natural earthquake hazard, over which humans have no control, the hazard from induced seismicity can be reduced. Improved seismic networks and public access to fluid injection data will allow us to detect induced earthquake problems at an early stage, when seismic events are typically very small, so as to avoid larger and potentially more damaging earthquakes later on.”

“It is important that all information of this sort be publicly accessible, because only in this way can it be used to provide the timely guidance needed to reduce the hazard and consequences of induced earthquakes,” said USGS hydrologist and co-author of the paper, Dr. Barbara Bekins.

USGS provides science for a changing world. Visit USGS.gov, and follow us on Twitter [@USGS](https://twitter.com/USGS) and our other [social media channels](#).

Subscribe to our news releases via [e-mail](#), [RSS](#) or [Twitter](#).

Links and contacts within this release are valid at the time of publication.

###

 SHARE

Information Sheet on USGS Water-Quality Activities Related to Hydraulic Fracturing

The Department of the Interior (DOI), the Department of Energy (DOE), and the Environmental Protection Agency (EPA) are working together to improve the understanding of potential environmental, human health, and safety impacts of hydraulic fracturing and associated operational activities to support sound management and policy decisions by Federal, State, tribal, and local entities.

In 2014, the three agencies released the *Federal Multiagency Collaboration on UOG Research Strategy*. The research strategy addresses the highest priority research questions, incorporates new and innovative technological opportunities, and addresses community concerns associated with safely and prudently developing resources through hydraulic fracturing. The research strategy consists of the following topics: understanding the scale and nature of U.S. unconventional oil and gas (UOG) resources; water quality; water availability; air quality and greenhouse gas emissions; effects on human health; ecological effects; and induced seismicity.

The research strategy is available at
http://unconventional.energy.gov/pdf/Multiagency_UOG_Research_Strateg.pdf



Hydraulic fracturing operation in Marcellus Shale gas play of southwestern Pennsylvania.

The USGS has focused efforts on measuring and monitoring the environment at multiple scales, from national to local, to establish baselines and build databases on a variety of environmental parameters relating to water quality and quantity. The USGS also analyzes these databases to detect changes associated with oil and gas operations. Much of this work leverages long-term, existing collaborations with States, Tribes, and other Federal agencies.

Where has the USGS completed groundwater-quality studies related to hydraulic fracturing?

The USGS completed groundwater-quality studies related to hydraulic fracturing in many parts of the United States. The studies characterize groundwater quality with respect to concentrations and sources of methane, salinity, and other constituents relevant to energy development activities. In the East, USGS assessed areas that overlie the Marcellus and Utica Shale gas plays in Pennsylvania, New York, and West Virginia and in an area that overlies the Triassic Basin in North Carolina. In the Midwest, USGS assessed an area that overlies the Fayetteville Shale gas play in Arkansas. In the West, USGS assessed an area that overlies the Piceance Basin gas play in Colorado and in Montana and North Dakota in an area that overlies the Bakken Formation oil and gas play. These represent a mix of studies including evaluations of water-quality in shallow aquifers overlying unconventional oil and gas plays that were recently drilled as well as baseline sampling of aquifers used for domestic supply that are located in areas that haven't been drilled yet. A list of the most recent USGS reports describing water-quality conditions related to hydraulic fracturing is available at <http://water.usgs.gov/owq/topics/hydraulic-fracturing/pubs.html>

Where is the USGS currently assessing groundwater quality in relation to hydraulic fracturing?

The USGS is studying groundwater quality related to hydraulic fracturing in new areas that have not been previously investigated, in addition to continuing work in previously studied areas. The California State Water Resources Control Board has requested that the USGS California Water Science Center scope out a regional-scale assessment program that includes a systematic mapping effort to locate groundwater resources containing less than 10,000 mg/L total dissolved solids and their relation to oil and gas activities, assess whether constituents associated with petroleum-producing formations arrived at sample locations through natural diffusion or through some human-induced short-circuiting of the system, and identify specific transport pathways associated with human-induced changes. Previous work in the New York/Pennsylvania border area overlying shale gas resources is being built upon to implement the multiagency research strategy in coordination with other Federal agencies.

The USGS National Water-Quality Assessment Program is examining the occurrence of methane, benzene, and other fuel-related compounds in public-supply wells at the national scale and is analyzing groundwater samples from selected sites for dissolved gases and isotopes that can be used to evaluate sources of methane and other hydrocarbons. In general, the USGS continues to propose groundwater-quality studies in areas of potential and ongoing unconventional oil and gas development throughout the United States to refine our understanding of current groundwater-quality conditions and the processes affecting water quality.

What is the USGS capability for analyzing water samples for energy-related constituents?

The USGS has state-of-the-art laboratories capable of analyzing broad suites of inorganic and organic chemicals, stable and radioactive isotopes, and dissolved gases in groundwater and produced water. These laboratories include the National Water Quality Laboratory (NWQL) in Lakewood, Colorado; isotope laboratories in Reston, Virginia, Lakewood, Colorado, and Menlo Park, California; a noble gas laboratory in Lakewood, Colorado; and a microbiology laboratory in Columbus, Ohio. USGS also maintains contracts with several private laboratories that further add to our analytical capabilities. New analytical methods continue to be tested by the USGS Methods Research and Development Team at the NWQL. Laboratory capabilities and method development to examine fluids produced with oil and gas that are extremely saline or have significant petroleum components are also analyzed in specialized laboratories in Lakewood, Colorado. Overall, these broad analytical capabilities give USGS the tools necessary to address many of the most important questions related to the effects of energy development on water resources.

How has hydraulic fracturing changed over time and what is the quality of produced waters?

The USGS Energy Resources Program recently released a report highlighting historical hydraulic fracturing trends from 1947 to 2010. Trends in drilling methods and use of proppants, treatment fluids, additives, and water are provided on nearly 1 million hydraulically fractured wells. The USGS National Produced Waters Geochemical Database was updated in 2014 and has data for more than 160,000 produced water samples. It includes information on a comprehensive list of chemicals, including major elements, trace elements, isotopes, and time-series data. In addition, where available, each sample is identified according to what kind of well it was produced from, the properties of the rock formation it originated from, and the physical properties of the water in the sample. The USGS Energy Resources Produced Waters Project recently published a new study examining the chemical and isotopic evolution of produced water over a 12-month period for a well drilled in the Marcellus Shale.

USGS Produced Waters Geochemical Database:

<http://energy.usgs.gov/EnvironmentalAspects/EnvironmentalAspectsofEnergyProductionandUse/ProducedWaters.aspx#3822349-data>

Report on hydraulic fracturing trends:

<http://www.usgs.gov/newsroom/article.asp?ID=4113#.VNqIM7DF9uq>

Report on chemical and isotopic evolution of produced waters:

<http://aapgbull.geoscienceworld.org/content/99/2/181.full.pdf>

Report on undiscovered oil and natural gas resources:

<http://energy.usgs.gov/OilGas/AssessmentsData/NationalOilGasAssessment.aspx#.VNFxcmjF8k0>

For additional information on USGS activities related to hydraulic fracturing:

**Earthquakes and Linkages to Hydraulic Fracturing
Man-Made Earthquakes Update**

http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes/

USGS FAQs: Earthquakes Induced by Fluid Injection

<http://www.usgs.gov/faq/?q=taxonomy/term/9833>

Video: Injection-Induced Earthquakes

<http://earthquake.usgs.gov/regional/nca/seminars/2013-12-02/>

Video: Science or Soundbite? Shale Gas, Hydraulic Fracturing, and Induced Earthquakes

<http://gallery.usgs.gov/videos/533#.VNE9AmTF9FA>

Hydraulic Fracturing FAQs

<http://www.usgs.gov/faq/categories/10132/3814>

Energy Resources Hydraulic Fracturing Page

<http://energy.usgs.gov/OilGas/UnconventionalOilGas/HydraulicFracturing.aspx>

Hydraulic Fracturing Image Gallery

<http://energy.usgs.gov/GeneralInfo/HelpfulResources/MultimediaGallery/HydraulicFracturingGallery.aspx>

Hydraulic Fracturing Fluids Likely Harmed Threatened Kentucky Fish Species

<http://www.usgs.gov/newsroom/article.asp?ID=3677#.VNE2vGTF9FC>

Summary of Studies Related to Hydraulic Fracturing Conducted by USGS Water Science Centers <http://water.usgs.gov/coop/products/energy/shale.cwp.summary.pdf>



Water storage tanks at a drill pad in the Fayetteville Shale in Arkansas.

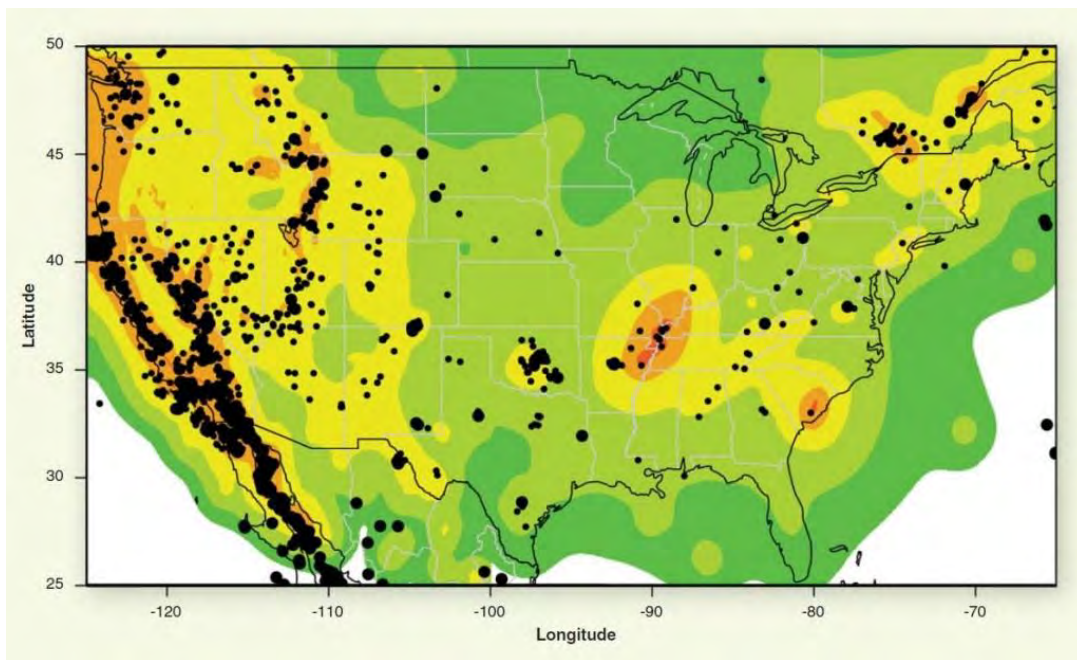
Man-Made Earthquakes

By: William Ellsworth (ellsworth@usgs.gov), Jessica Robertson (jrobertson@usgs.gov), and Christopher Hook (703-648-4460)

The number of earthquakes has increased dramatically over the past few years within the central and eastern United States. Nearly 450 earthquakes magnitude 3.0 and larger occurred in the four years from 2010-2013, over 100 per year on average, compared with an average rate of 20 earthquakes per year observed from 1970-2000.

This increase in earthquakes prompts two important questions: Are they natural, or man-made? And what should be done in the future as we address the causes and consequences of these events to reduce associated risks? USGS scientists have been analyzing the changes in the rate of earthquakes as well as the likely causes, and they have some answers.

USGS scientists have found that at some locations the increase in seismicity coincides with the injection of wastewater in deep disposal wells. Much of this wastewater is a byproduct of oil and gas production and is routinely disposed of by injection into wells specifically designed for this purpose.



Seismicity of the coterminous United States and surrounding regions, 2009–2012. Black dots denote earthquakes with a magnitude ≥ 3.0 are shown; larger dots denote events with a magnitude ≥ 4.0 . Background colors indicate earthquake hazard levels from the U.S. National Seismic Hazard Map (NSHM). Learn more about the NSHM at <http://earthquake.usgs.gov/hazards/?source=sitenav>.

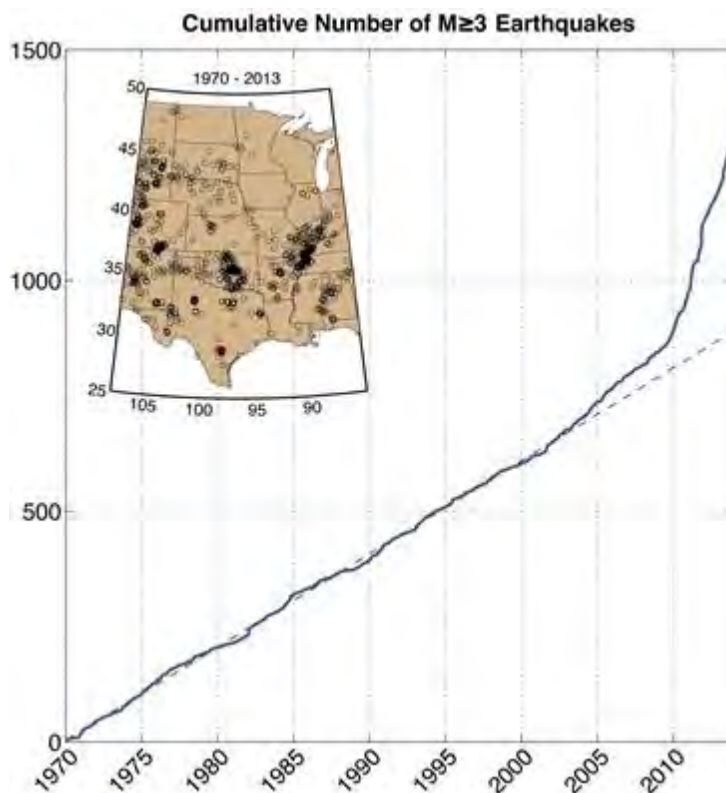
This Science Feature can be found at: http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes

Review Article on Injection-Induced Earthquakes

[U.S. Geological Survey](#) geophysicist William Ellsworth reviewed the issue of injection-induced earthquakes in a [July 2013 study published in the journal Science](#). The article focused on the injection of fluids into deep wells as a common practice for disposal of wastewater, and discusses recent events and key scientific challenges for assessing this hazard and moving forward to reduce associated risks.

What is Induced Seismicity?

Although it may seem like science fiction, man-made earthquakes have been a reality for decades. It has long been understood that earthquakes can be induced by impoundment of water in reservoirs, surface and underground mining, withdrawal of fluids and gas from the subsurface, and injection of fluids into underground formations.



Cumulative count of earthquakes with a magnitude ≥ 3.0 in the central and eastern United States, 1970-2013. The dashed line corresponds to the long-term rate of 20.2 earthquakes per year, with an increase in the rate of earthquake events starting around 2009.

This Science Feature can be found at: http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes

What is Wastewater Disposal?

Water that is salty or polluted by chemicals needs to be disposed of in a manner that prevents it from contaminating freshwater sources. Often, it is most economical to geologically sequester such wastewater by injecting it underground, deep below any aquifers that provide drinking water.

Wastewater can result from a variety of processes, including those related to energy production. For example, water is usually present in rock formations containing oil and gas and therefore will be co-produced during oil and gas production. Wastewater can also occur as flow back from hydraulic fracturing operations that involve injecting water under high pressure into a rock formation to stimulate the movement of oil and gas to a well for production.

Wastewater injection increases the underground pore pressure, which may, in effect, lubricate nearby faults thereby weakening them. If the pore pressure increases enough, the weakened fault will slip, releasing stored tectonic stress in the form of an earthquake. Even faults that have not moved in millions of years can be made to slip and cause an earthquake if conditions underground are appropriate.

Although the disposal process has the potential to trigger earthquakes, not every wastewater disposal well produces earthquakes. In fact, very few of the more than 30,000 wells designed for this purpose appear to cause earthquakes.

Hydraulic Fracturing

Many questions have been raised about whether hydraulic fracturing — commonly known as “fracking” — is responsible for the recent increase of earthquakes. USGS’s studies suggest that the actual hydraulic fracturing process is only very rarely the direct cause of felt earthquakes. While hydraulic fracturing works by making thousands of extremely small “microearthquakes,” they are, with just a few exceptions, too small to be felt; none have been large enough to cause structural damage. As noted previously, underground disposal of wastewater co-produced with oil and gas, enabled by hydraulic fracturing operations, has been linked to induced earthquakes.



House damage in central Oklahoma from the magnitude 5.6 earthquake on Nov. 6, 2011. Research conducted by USGS geophysicist Elizabeth Cochran and her university-based colleagues suggests that this earthquake was induced by injection into deep disposal wells in the Wilzetta North field. Learn more about that research at: <http://geology.gsapubs.org/content/early/2013/03/26/G34045.1.abstract>. Photo Credit: Brian Sherrod, USGS.

This Science Feature can be found at: http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes

Unknowns and Questions Moving Forward

USGS scientists are dedicated to gaining a better understanding of the geological conditions and industrial practices associated with induced earthquakes, and to determining how seismic risk can be managed.

One risk-management approach highlighted in Ellsworth's article involves the setting of seismic activity thresholds for safe operation. Under this "traffic-light" system, if seismic activity exceeds preset thresholds, reductions in injection would be made. If seismicity continues or escalates, operations could be suspended.

The current regulatory framework for wastewater disposal wells was designed to protect drinking water sources from contamination and does not address earthquake safety. Ellsworth noted that one consequence is that both the quantity and timeliness of information on injection volumes and pressures reported to the regulatory agencies is far from ideal for managing earthquake risk from injection activities.

Thus, improvements in the collection and reporting of injection data to regulatory agencies would provide much-needed information on conditions potentially associated with induced seismicity. In particular, said Ellsworth, daily reporting of injection volumes, and peak and average injection pressures would be a step in the right direction, as would measurement of the pre-injection water pressure and tectonic stress.

Importance of Understanding Hazards and Risks

There is a growing interest in understanding the risks associated with injection-induced earthquakes, especially in the areas of the country where, before the modern boom in oil and gas production, earthquakes large enough to be felt were rare.

For example, wastewater disposal appears to be related to the [magnitude-5.6](#) earthquake that struck rural central Oklahoma in 2011 leading to a few injuries and damage to more than a dozen homes. Damage from an earthquake of this magnitude would be much worse if it were to happen in a more densely populated area.

The USGS and Oklahoma Geological Survey (OGS) have conducted research quantifying the changes in earthquake rate in the Oklahoma City region, assessing and evaluating possible links between these earthquakes and wastewater disposal related to oil and gas production activities in the region. In a joint statement {<http://www.usgs.gov/newsroom/article.asp?ID=3710>}, USGS and OGS identified wastewater injection as a contributing factor for the 2011 earthquake swarm and damaging magnitude 5.6 event.

Studies show one to three magnitude 3.0 earthquakes or larger occurred yearly from 1975 to 2008, while the average grew to around 40 earthquakes per year from 2009 to mid-2013. "We've statistically analyzed the recent earthquake rate changes and found that they do not seem to be due to typical, random fluctuations in natural seismicity rates," said Bill Leith, USGS seismologist. "These analyses require significant changes in both the background rate of events and earthquake triggering properties needed to have occurred to be consistent with the observed increases in seismicity. This is in contrast to what is typically found when modeling natural earthquake swarms."

The Oklahoma analysis suggests that a contributing factor to the increase in earthquakes occurrence may be from injection-induced seismicity from activities such as wastewater disposal. The OGS has examined the behavior of the seismicity through the state assessing the optimal fault orientations and stresses within the region of increased seismicity, particularly the unusual behavior of the swarm just east of Oklahoma City.

This Science Feature can be found at: http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes



Oilfield waste arrives by tanker truck at a wastewater disposal facility near Platteville, Colo. After removal of solids and oil, the wastewater is injected into a deep well for permanent storage underground. This disposal process has the potential to trigger earthquakes, but very few wastewater disposal wells produce earthquakes. No earthquakes are associated with injection at the site in this photograph. Photo taken on Jan. 15, 2013. Photo Credit: William Ellsworth, USGS

Start with Science

As the use of injection for disposal of wastewater increases, the importance of knowing the associated risks also grows. To meet these challenges, the USGS hopes to increase research efforts to understand the causes and effects of injection-induced earthquakes.

More Information

The USGS has FAQs online that provide additional details and background on induced seismicity.

<http://www.usgs.gov/faq/?q=taxonomy/term/9833>

Additional insight and link to Dec. 2, 2013 public lecture on induced earthquakes.

<http://earthquake.usgs.gov/research/induced/>

Reference list about induced earthquakes:

<http://earthquake.usgs.gov/research/induced/references.php>

This Science Feature can be found at: http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes

Tab R – Indian Water Rights Settlements

U.S. House of Representatives

Committee on Natural Resources

Washington, DC 20515

February 26, 2015

The Honorable Eric Holder
Attorney General
Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530

The Honorable Sally Jewell
Secretary
Department of the Interior
1849 C Street, NW
Washington, DC 20240

Dear Mr. Attorney General and Madame Secretary:

The House Natural Resources Committee (Committee) has primary authorizing jurisdiction over the legislative resolution of Indian water rights claims within the House of Representatives. Additionally, given the longstanding policy of the United States that disputes regarding Indian water rights should be resolved through negotiated settlement rather than through litigation, both of your Departments play key roles in negotiating and developing settlements regarding these claims before they are ever considered by Congress.

The Committee recognizes that settlements to these matters are generally preferable to protracted litigation, which does little to provide water supply and financial certainty for settling and other parties. Importantly, settlements, if crafted correctly, can also provide relief to the United States from burdensome legal obligations and benefit all American taxpayers. The Committee recognizes that the Executive branch is charged with implementing existing Indian water rights settlement criteria and procedures designed to meet these goals.¹

¹ Department of the Interior Working Group on Indian Water Settlements for the Participation of the Federal Government in Negotiations for the Settlement of Indian Water Rights Claims, Federal Register, Vol. 55, No. 48, March 12, 1990.

The Honorable Eric Holder
The Honorable Sally Jewell
February 26, 2015
Page 2

Due to the direct linkage between your efforts in negotiating the proposed resolution of these claims and our responsibility in enacting such proposals both for the benefit of the United States interests and to help Tribal and non-tribal parties, it is important that we work together to facilitate Congressional consideration when you have reached resolution.

Due to growing federal debt and increased budgetary pressures from existing Indian water rights settlements, it is important that the proposed settlements, their proposed legislation and the federal costs associated with them be fiscally responsible and justified in order to protect the American taxpayer and future Tribal needs.

As Chairman of the Committee, I write this letter to inform you of the process that the Committee intends to follow when considering future Indian water rights settlements during this Congress and to inform you of the assistance the Committee will need from you and your designees in order to proceed forward.

Given the role your Departments have in negotiating each proposed settlement, to help expedite the Committee's consideration of proposed legislation enacting such settlement that is fiscally responsible, your departments – in concurrence with the Office of Management and Budget – must also play a significant and initial role in certifying and explaining the Administration's support of the financial aspects of legislation codifying such settlement to the Committee. Put simply, your Departments must convey support for and forward the settlements and the proposed authorizing legislation, specifically including federal spending levels, before any Committee consideration takes place.

To that end:

1. I anticipate each of you will provide a statement to the Committee affirming that each proposed settlement resolution transmitted by your Department adheres to the current criteria and procedures.

2. I ask that your Departments specifically affirm to the Committee that a settlement meets Criteria 4² and 5(a) and (b)³ to ensure that the American taxpayer is deriving benefits from any such settlement prior to Committee consideration. Related to such determination, both Departments will be expected to affirm that a particular settlement represents a net benefit to the American taxpayer as compared to the consequences and costs of not settling litigation, and specifically support the federal financial authorization included in the proposed legislative text.
3. For settlement legislation to be considered, the Attorney General or his/her designee must have conveyed to a court and all settling parties have agreed, in writing, to the settlement pending a legislative resolution before it is forwarded to the Committee for it to be considered.
4. Both Departments and the settling parties must have approved, in writing, the legislative text needed to codify the settlement before it is transmitted to the Committee and have provided that proposed text to the relevant court.
5. Based on precedent⁴, the Committee requests that the Department of Justice consent to being available to testify if any legislative text is considered by the Committee related to such proposals.

² Criteria 4, as included in Federal Register, Vol. 55, No. 48, March 12, 1990 states: "The total cost of a settlement to all parties should not exceed the value of the existing claims as calculated by the Federal Government."

³ Criteria 5(a) and (b), as included in Federal Register, Vol. 55, No. 48, March 12, 1990 state: "Federal contributions to a settlement should not exceed the sum of the following two elements: a. First, calculable legal exposure – litigation costs and judgment obligations if the case is lost; Federal and non-Federal exposure should be calculated on a present value basis taking into account the size of the claim, value of the water, timing of the award, likelihood of loss. b) Second, additional costs related to Federal trust or programmatic responsibilities (assuming the U.S. obligation as trustee can be compared to existing precedence.) – Federal contributions relating to programmatic responsibilities should be justified as to why such contributions cannot be funded through the normal budget process."

⁴ Testimony of Mr. Peter Steenland, Appellate Section Chief, Department of Justice, before the Joint Hearing on S.2259 before the Subcommittee on Water and Power of the Senate Committee on Energy and Natural Resources and the Senate Committee on Indian Affairs, S. Hrg. 103-943, Aug. 4, 1994.

The Honorable Eric Holder
The Honorable Sally Jewell
February 26, 2015
Page 4

6. Both Departments must list the legal claims being settled in any document transmitting legislative text; and
7. Such settlements and proposed legislation shall not include financial authorizations for claims already settled by Congress or claims that have no legal basis.

The actions of your Departments, as outlined above, will play a very critical role in expediting the Committee's consideration of these important settlement efforts. If your Departments follow this process -- starting with settlement legislation being proposed and supported by the Administration -- it is my intent to then introduce the settlement legislation at the Administration's request and consider such legislation in the Committee at the appropriate time. In conclusion, it is my intent that your actions prior to Committee consideration will determine whether negotiated settlements proceed in the legislative process.

I look forward to working with you to help achieve fiscally responsible settlements that help federally recognized tribes, other settling parties and the American taxpayer.

Sincerely,



Rob Bishop
Chairman

cc: The Honorable Raul Grijalva

the adjustment to the House. Such an announcement shall not be subject to appeal. In the case of a death, the Speaker may lay before the House such documentation from Federal, State, or local officials as the Speaker deems pertinent.

6. (a) When a quorum fails to vote on a question, a quorum is not present, and objection is made for that cause (unless the House shall adjourn)—

(1) there shall be a call of the House;

(2) the Sergeant-at-Arms shall proceed forthwith to bring in absent Members; and

(3) the yeas and nays on the pending question shall at the same time be considered as ordered.

(b) The Clerk shall record Members by the yeas and nays on the pending question, using such procedure as the Speaker may invoke under clause 2, 3, or 4. Each Member arrested under this clause shall be brought by the Sergeant-at-Arms before the House, whereupon the Member shall be noted as present, discharged from arrest, and given an opportunity to vote; and such vote shall be recorded. If those voting on the question and those who are present and decline to vote together make a majority of the House, the Speaker shall declare that a quorum is constituted, and the pending question shall be decided as the requisite majority of those voting shall have determined. Thereupon further proceedings under the call shall be considered as dispensed with.

(c) At any time after Members have had the requisite opportunity to respond by the yeas and nays ordered under this clause, but before a result has been announced, a motion that the House adjourn shall be in order if seconded by a majority of those present, to be ascertained by actual count by the Speaker. If the House adjourns on such a motion, all proceedings under this clause shall be considered as vacated.

7. (a) The Speaker may not entertain a point of order that a quorum is not present unless a question has been put to a vote.

(b) Subject to paragraph (c) the Speaker may recognize a Member, Delegate, or Resident Commissioner to move a call of the House at any time. When a quorum is established pursuant to a call of the House, further proceedings under the call shall be considered as dispensed with unless the Speaker recognizes for a motion to compel attendance of Members under clause 5(b).

(c) A call of the House shall not be in order after the previous question is ordered unless the Speaker determines by actual count that a quorum is not present.

Postponement of proceedings

8. (a)(1) When a recorded vote is ordered, or the yeas and nays are ordered, or a vote is objected to under clause 6—

(A) on any of the questions specified in subparagraph (2), the Speaker may postpone further proceedings to a designated place in the legislative schedule within two additional legislative days; and

(B) on the question of agreeing to the Speaker's approval of the Journal, the Speaker may postpone further proceedings to a designated place in the legislative schedule on that legislative day.

(2) The questions described in subparagraph (1) are as follows:

(A) The question of passing a bill or joint resolution.

(B) The question of adopting a resolution or concurrent resolution.

(C) The question of agreeing to a motion to instruct managers on the part of the House (except that proceedings may not resume on such a motion under clause 7(c) of rule XXII if the managers have filed a report in the House).

(D) The question of agreeing to a conference report.

(E) The question of ordering the previous question on a question described in subdivision (A), (B), (C), or (D).

(F) The question of agreeing to a motion to suspend the rules.

(G) The question of agreeing to a motion to reconsider or the question of agreeing to a motion to lay on the table a motion to reconsider.

(H) The question of agreeing to an amendment reported from the Committee of the Whole.

(b) At the time designated by the Speaker for further proceedings on questions postponed under paragraph (a), the Speaker shall resume proceedings on each postponed question.

(c) The Speaker may reduce to five minutes the minimum time for electronic voting on a question postponed under this clause, or on a question incidental thereto, that—

(1) follows another electronic vote without intervening business, so long as the minimum time for electronic voting on the first in any series of questions is 15 minutes; or

(2) follows a report from the Committee of the Whole without intervening debate or motion if in the discretion of the Speaker Members would be afforded an adequate opportunity to vote.

(d) If the House adjourns on a legislative day designated for further proceedings on questions postponed under this clause without disposing of such questions, then on the next legislative day the unfinished business is the disposition of such questions.

Five-minute votes

9. The Speaker may reduce to five minutes the minimum time for electronic voting—

(a) on any question arising without intervening business after an electronic vote on another question if notice of possible five-minute voting for

a given series of votes was issued before the preceding electronic vote;

(b) on any question arising after a report from the Committee of the Whole without debate or intervening motion; or

(c) on the question of adoption of a motion to recommit (or ordering the previous question thereon) arising without intervening motion or debate other than debate on the motion.

Automatic yeas and nays

10. The yeas and nays shall be considered as ordered when the Speaker puts the question on passage of a bill or joint resolution, or on adoption of a conference report, making general appropriations, or increasing Federal income tax rates (within the meaning of clause 5 of rule XXI), or on final adoption of a concurrent resolution on the budget or conference report thereon.

Ballot votes

11. In a case of ballot for election, a majority of the votes shall be necessary to an election. When there is not such a majority on the first ballot, the process shall be repeated until a majority is obtained. In all balloting blanks shall be rejected, may not be counted in the enumeration of votes, and may not be reported by the tellers.

RULE XXI

RESTRICTIONS ON CERTAIN BILLS

Reservation of certain points of order

1. At the time a general appropriation bill is reported, all points of order against provisions therein shall be considered as reserved.

General appropriation bills and amendments

2. (a)(1) An appropriation may not be reported in a general appropriation bill, and may not be in order as an amendment thereto, for an expenditure not previously authorized by law, except to continue appropriations for public works and objects that are already in progress.

(2) A reappropriation of unexpended balances of appropriations may not be reported in a general appropriation bill, and may not be in order as an amendment thereto, except to continue appropriations for public works and objects that are already in progress. This subparagraph does not apply to transfers of unexpended balances within the department or agency for which they were originally appropriated that are reported by the Committee on Appropriations.

(b) A provision changing existing law may not be reported in a general appropriation bill, including a provision making the availability of funds contingent on the receipt or possession of information not required by existing law for the period of the appropriation, except germane provisions that re-trench expenditures by the reduction of amounts of money covered by the bill (which may include those recommended to the Committee on Appro-

priations by direction of a legislative committee having jurisdiction over the subject matter) and except rescissions of appropriations contained in appropriation Acts.

(c) An amendment to a general appropriation bill shall not be in order if changing existing law, including an amendment making the availability of funds contingent on the receipt or possession of information not required by existing law for the period of the appropriation. Except as provided in paragraph (d), an amendment proposing a limitation not specifically contained or authorized in existing law for the period of the limitation shall not be in order during consideration of a general appropriation bill.

(d) After a general appropriation bill has been read for amendment, a motion that the Committee of the Whole House on the state of the Union rise and report the bill to the House with such amendments as may have been adopted shall, if offered by the Majority Leader or a designee, have precedence over motions to amend the bill. If such a motion to rise and report is rejected or not offered, amendments proposing limitations not specifically contained or authorized in existing law for the period of the limitation or proposing germane amendments that retrench expenditures by reductions of amounts of money covered by the bill may be considered.

(e) A provision other than an appropriation designated an emergency under section 251(b)(2) or section 252(e) of the Balanced Budget and Emergency Deficit Control Act, a rescission of budget authority, or a reduction in direct spending or an amount for a designated emergency may not be reported in an appropriation bill or joint resolution containing an emergency designation under section 251(b)(2) or section 252(e) of such Act and may not be in order as an amendment thereto.

(f) During the reading of an appropriation bill for amendment in the Committee of the Whole House on the state of the Union, it shall be in order to consider en bloc amendments proposing only to transfer appropriations among objects in the bill without increasing the levels of budget authority or outlays in the bill. When considered en bloc under this paragraph, such amendments may amend portions of the bill not yet read for amendment (following disposition of any points of order against such portions) and are not subject to a demand for division of the question in the House or in the Committee of the Whole.

3. It shall not be in order to consider a general appropriation bill or joint resolution, or conference report thereon, that—

(a) provides spending authority derived from receipts deposited in the Highway Trust Fund (excluding any transfers from the General Fund of the Treasury); or

(b) reduces or otherwise limits the accruing balances of the Highway Trust Fund,

for any purpose other than for those activities authorized for the highway or mass transit categories.

Appropriations on legislative bills

4. A bill or joint resolution carrying an appropriation may not be reported by a committee not having jurisdiction to report appropriations, and an amendment proposing an appropriation shall not be in order during the consideration of a bill or joint resolution reported by a committee not having that jurisdiction. A point of order against an appropriation in such a bill, joint resolution, or amendment thereto may be raised at any time during pendency of that measure for amendment.

Tax and tariff measures and amendments

5. (a)(1) A bill or joint resolution carrying a tax or tariff measure may not be reported by a committee not having jurisdiction to report tax or tariff measures, and an amendment in the House or proposed by the Senate carrying a tax or tariff measure shall not be in order during the consideration of a bill or joint resolution reported by a committee not having that jurisdiction. A point of order against a tax or tariff measure in such a bill, joint resolution, or amendment thereto may be raised at any time during pendency of that measure for amendment.

(2) For purposes of paragraph (1), a tax or tariff measure includes an amendment proposing a limitation on funds in a general appropriation bill for the administration of a tax or tariff.

Passage of tax rate increases

(b) A bill or joint resolution, amendment, or conference report carrying a Federal income tax rate increase may not be considered as passed or agreed to unless so determined by a vote of not less than three-fifths of the Members voting, a quorum being present. In this paragraph the term "Federal income tax rate increase" means any amendment to subsection (a), (b), (c), (d), or (e) of section 1, or to section 11(b) or 55(b), of the Internal Revenue Code of 1986, that imposes a new percentage as a rate of tax and thereby increases the amount of tax imposed by any such section.

Consideration of retroactive tax rate increases

(c) It shall not be in order to consider a bill, joint resolution, amendment, or conference report carrying a retroactive Federal income tax rate increase. In this paragraph—

(1) the term "Federal income tax rate increase" means any amendment to subsection (a), (b), (c), (d), or (e) of section 1, or to section 11(b) or 55(b), of the Internal Revenue Code of 1986, that imposes a new percentage as a rate of tax and thereby increases the amount of tax imposed by any such section; and

(2) a Federal income tax rate increase is retroactive if it applies to a period beginning before the enactment of the provision.

Designation of public works

6. It shall not be in order to consider a bill, joint resolution, amendment, or conference report that provides for the designation or redesignation of a public work in honor of an individual then serving as a Member, Delegate, Resident Commissioner, or Senator.

7. It shall not be in order to consider a concurrent resolution on the budget, or an amendment thereto, or a conference report thereon that contains reconciliation directives under section 310 of the Congressional Budget Act of 1974 that specify changes in law such that the reconciliation legislation reported pursuant to such directives would cause an increase in net direct spending (as such term is defined in clause 10) for the period covered by such concurrent resolution.

8. With respect to measures considered pursuant to a special order of business, points of order under title III of the Congressional Budget Act of 1974 shall operate without regard to whether the measure concerned has been reported from committee. Such points of order shall operate with respect to (as the case may be)—

(a) the form of a measure recommended by the reporting committee where the statute uses the term "as reported" (in the case of a measure that has been so reported);

(b) the form of the measure made in order as an original bill or joint resolution for the purpose of amendment; or

(c) the form of the measure on which the previous question is ordered directly to passage.

9. (a) It shall not be in order to consider—

(1) a bill or joint resolution reported by a committee unless the report includes a list of congressional earmarks, limited tax benefits, and limited tariff benefits in the bill or in the report (and the name of any Member, Delegate, or Resident Commissioner who submitted a request to the committee for each respective item included in such list) or a statement that the proposition contains no congressional earmarks, limited tax benefits, or limited tariff benefits;

(2) a bill or joint resolution not reported by a committee unless the chair of each committee of initial referral has caused a list of congressional earmarks, limited tax benefits, and limited tariff benefits in the bill (and the name of any Member, Delegate, or Resident Commissioner who submitted a request to the committee for each respective item included in such list) or a statement that the proposition contains no congressional earmarks, limited tax benefits, or limited tariff benefits to be

printed in the Congressional Record prior to its consideration;

(3) an amendment to a bill or joint resolution to be offered at the outset of its consideration for amendment by a member of a committee of initial referral as designated in a report of the Committee on Rules to accompany a resolution prescribing a special order of business unless the proponent has caused a list of congressional earmarks, limited tax benefits, and limited tariff benefits in the amendment (and the name of any Member, Delegate, or Resident Commissioner who submitted a request to the proponent for each respective item included in such list) or a statement that the proposition contains no congressional earmarks, limited tax benefits, or limited tariff benefits to be printed in the Congressional Record prior to its consideration; or

(4) a conference report to accompany a bill or joint resolution unless the joint explanatory statement prepared by the managers on the part of the House and the managers on the part of the Senate includes a list of congressional earmarks, limited tax benefits, and limited tariff benefits in the conference report or joint statement (and the name of any Member, Delegate, Resident Commissioner, or Senator who submitted a request to the House or Senate committees of jurisdiction for each respective item included in such list) or a statement that the proposition contains no congressional earmarks, limited tax benefits, or limited tariff benefits.

(b) It shall not be in order to consider a conference report to accompany a regular general appropriation bill unless the joint explanatory statement prepared by the managers on the part of the House and the managers on the part of the Senate includes—

(1) a list of congressional earmarks, limited tax benefits, and limited tariff benefits in the conference report or joint statement (and the name of any Member, Delegate, Resident Commissioner, or Senator who submitted a request to the House or Senate committees of jurisdiction for each respective item included in such list) that were neither committed to the conference committee by either House nor in a report of a committee of either House on such bill or on a companion measure; or

(2) a statement that the proposition contains no such congressional earmarks, limited tax benefits, or limited tariff benefits.

(c) It shall not be in order to consider a rule or order that waives the application of paragraph (a) or (b). As disposition of a point of order under this paragraph or paragraph (b), the Chair shall put the question of consideration with respect to the rule or order or conference report, as applicable. The question of consideration shall be debatable for 10 minutes by the Member initiating the point of order and for 10 min-

utes by an opponent, but shall otherwise be decided without intervening motion except one that the House adjourn.

(d) In order to be cognizable by the Chair, a point of order raised under paragraph (a) may be based only on the failure of a report, submission to the Congressional Record, or joint explanatory statement to include a list required by paragraph (a) or a statement that the proposition contains no congressional earmarks, limited tax benefits, or limited tariff benefits.

(e) For the purpose of this clause, the term "congressional earmark" means a provision or report language included primarily at the request of a Member, Delegate, Resident Commissioner, or Senator providing, authorizing or recommending a specific amount of discretionary budget authority, credit authority, or other spending authority for a contract, loan, loan guarantee, grant, loan authority, or other expenditure with or to an entity, or targeted to a specific State, locality or Congressional district, other than through a statutory or administrative formula-driven or competitive award process.

(f) For the purpose of this clause, the term "limited tax benefit" means—

(1) any revenue-losing provision that—

(A) provides a Federal tax deduction, credit, exclusion, or preference to 10 or fewer beneficiaries under the Internal Revenue Code of 1986, and

(B) contains eligibility criteria that are not uniform in application with respect to potential beneficiaries of such provision; or

(2) any Federal tax provision which provides one beneficiary temporary or permanent transition relief from a change to the Internal Revenue Code of 1986.

(g) For the purpose of this clause, the term "limited tariff benefit" means a provision modifying the Harmonized Tariff Schedule of the United States in a manner that benefits 10 or fewer entities.

10. (a)(1) Except as provided in paragraphs (b) and (c), it shall not be in order to consider a bill or joint resolution, or an amendment thereto or a conference report thereon, if the provisions of such measure have the net effect of increasing mandatory spending for the period of either—

(A) the current year, the budget year, and the four fiscal years following that budget year; or

(B) the current year, the budget year, and the nine fiscal years following that budget year.

(2) For the purpose of this clause, the terms "budget year" and "current year" have the meanings specified in section 250 of the Balanced Budget and Emergency Deficit Control Act of 1985, and the term "mandatory spending" has the meaning of "direct spending" specified in such section 250 except that such term shall also include provisions in appropriation Acts that make

outyear modifications to substantive law as described in section 3(4)(C) of the Statutory Pay-As-You-Go Act of 2010.

(b) If a bill or joint resolution, or an amendment thereto, is considered pursuant to a special order of the House directing the Clerk to add as new matter at the end of such bill or joint resolution the entire text of a separate measure or measures as passed by the House, the new matter proposed to be added shall be included in the evaluation under paragraph (a) of the bill, joint resolution, or amendment.

(c)(1) Except as provided in subparagraph (2), the evaluation under paragraph (a) shall exclude a provision expressly designated as an emergency for the Statutory Pay-As-You-Go Act of 2010, in the case of a point of order under this clause against consideration of—

(A) a bill or joint resolution;

(B) an amendment made in order as original text by a special order of business;

(C) a conference report; or

(D) an amendment between the Houses.

(2) In the case of an amendment (other than one specified in subparagraph (1)) to a bill or joint resolution, the evaluation under paragraph (a) shall give no cognizance to any designation of emergency.

11. It shall not be in order to consider a bill or joint resolution which has not been reported by a committee until the third calendar day (excluding Saturdays, Sundays, or legal holidays except when the House is in session on such a day) on which such measure has been available to Members, Delegates, and the Resident Commissioner.

RULE XXII

HOUSE AND SENATE RELATIONS

Senate amendments

1. A motion to disagree to Senate amendments to a House proposition and to request or agree to a conference with the Senate, or a motion to insist on House amendments to a Senate proposition and to request or agree to a conference with the Senate, shall be privileged in the discretion of the Speaker if offered by direction of the primary committee and of all reporting committees that had initial referral of the proposition.

2. A motion to dispose of House bills with Senate amendments not requiring consideration in the Committee of the Whole House on the state of the Union shall be privileged.

3. Except as permitted by clause 1, before the stage of disagreement, a Senate amendment to a House bill or resolution shall be subject to the point of order that it must first be considered in the Committee of the Whole House on the state of the Union if, originating in the House, it would be subject to such a point under clause 3 of rule XVIII.

4. When the stage of disagreement has been reached on a bill or resolution

concur therein, with or without amendment.

(2) A point of order against nongermane matter is one asserting that a proposition described in subparagraph (1) contains specified matter that would violate clause 7 of rule XVI if it were offered in the House as an amendment to the underlying measure in the form it was passed by the House.

(b) If a point of order under paragraph (a) is sustained, a motion that the House reject the nongermane matter identified by the point of order shall be privileged. Such a motion is debatable for 40 minutes, one-half in favor of the motion and one-half in opposition thereto.

(c) After disposition of a point of order under paragraph (a) or a motion to reject under paragraph (b), any further points of order under paragraph (a) not covered by a previous point of order, and any consequent motions to reject under paragraph (b), shall be likewise disposed of.

(d)(1) If a motion to reject under paragraph (b) is adopted, then after disposition of all points of order under paragraph (a) and any consequent motions to reject under paragraph (b), the conference report or motion, as the case may be, shall be considered as rejected and the matter remaining in disagreement shall be disposed of under subparagraph (2) or (3), as the case may be.

(2) After the House has adopted one or more motions to reject nongermane matter contained in a conference report under the preceding provisions of this clause—

(A) if the conference report accompanied a House measure amended by the Senate, the pending question shall be whether the House shall recede and concur in the Senate amendment with an amendment consisting of so much of the conference report as was not rejected; and

(B) if the conference report accompanied a Senate measure amended by the House, the pending question shall be whether the House shall insist further on the House amendment.

(3) After the House has adopted one or more motions to reject nongermane matter contained in a motion that the House recede and concur in a Senate amendment, with or without amendment, the following motions shall be privileged and shall have precedence in the order stated:

(A) A motion that the House recede and concur in the Senate amendment with an amendment in writing then available on the floor.

(B) A motion that the House insist on its disagreement to the Senate amendment and request a further conference with the Senate.

(C) A motion that the House insist on its disagreement to the Senate amendment.

(e) If, on a division of the question on a motion described in paragraph (a)(1)(B) or (C), the House agrees to recede, then a Member, Delegate, or Resi-

dent Commissioner may raise a point of order against nongermane matter, as specified in paragraph (a)(2), before the commencement of debate on concurring in the Senate amendment, with or without amendment. A point of order under this paragraph shall be disposed of according to the preceding provisions of this clause in the same manner as a point of order under paragraph (a).

11. It shall not be in order to consider a conference report to accompany a bill or joint resolution that proposes to amend the Internal Revenue Code of 1986 unless—

(a) the joint explanatory statement of the managers includes a tax complexity analysis prepared by the Joint Committee on Taxation in accordance with section 4022(b) of the Internal Revenue Service Restructuring and Reform Act of 1998; or

(b) the chair of the Committee on Ways and Means causes such a tax complexity analysis to be printed in the Congressional Record before consideration of the conference report.

12. (a)(1) Subject to subparagraph (2), a meeting of each conference committee shall be open to the public.

(2) In open session of the House, a motion that managers on the part of the House be permitted to close to the public a meeting or meetings of their conference committee shall be privileged, shall be decided without debate, and shall be decided by the yeas and nays.

(3) In conducting conferences with the Senate, managers on the part of the House should endeavor to ensure—

(A) that meetings for the resolution of differences between the two Houses occur only under circumstances in which every manager on the part of the House has notice of the meeting and a reasonable opportunity to attend;

(B) that all provisions on which the two Houses disagree are considered as open to discussion at any meeting of a conference committee; and

(C) that papers reflecting a conference agreement are held inviolate to change without renewal of the opportunity of all managers on the part of the House to reconsider their decisions to sign or not to sign the agreement.

(4) Managers on the part of the House shall be provided a unitary time and place with access to at least one complete copy of the final conference agreement for the purpose of recording their approval (or not) of the final conference agreement by placing their signatures (or not) on the sheets prepared to accompany the conference report and joint explanatory statement of the managers.

(b) A point of order that a conference committee failed to comply with paragraph (a) may be raised immediately after the conference report is read or considered as read. If such a point of order is sustained, the conference report shall be considered as rejected, the House shall be considered to have in-

sisted on its amendments or on disagreement to the Senate amendments, as the case may be, and to have requested a further conference with the Senate, and the Speaker may appoint new conferees without intervening motion.

13. It shall not be in order to consider a conference report the text of which differs in any way, other than clerical, from the text that reflects the action of the conferees on all of the differences between the two Houses, as recorded by their placement of their signatures (or not) on the sheets prepared to accompany the conference report and joint explanatory statement of the managers.

RULE XXIII

CODE OF OFFICIAL CONDUCT

There is hereby established by and for the House the following code of conduct, to be known as the "Code of Official Conduct":

1. A Member, Delegate, Resident Commissioner, officer, or employee of the House shall behave at all times in a manner that shall reflect creditably on the House.

2. A Member, Delegate, Resident Commissioner, officer, or employee of the House shall adhere to the spirit and the letter of the Rules of the House and to the rules of duly constituted committees thereof.

3. A Member, Delegate, Resident Commissioner, officer, or employee of the House may not receive compensation and may not permit compensation to accrue to the beneficial interest of such individual from any source, the receipt of which would occur by virtue of influence improperly exerted from the position of such individual in Congress.

4. A Member, Delegate, Resident Commissioner, officer, or employee of the House may not accept gifts except as provided by clause 5 of rule XXV.

5. A Member, Delegate, Resident Commissioner, officer, or employee of the House may not accept an honorarium for a speech, a writing for publication, or other similar activity, except as otherwise provided under rule XXV.

6. A Member, Delegate, or Resident Commissioner—

(a) shall keep the campaign funds of such individual separate from the personal funds of such individual;

(b) may not convert campaign funds to personal use in excess of an amount representing reimbursement for legitimate and verifiable campaign expenditures; and

(c) except as provided in clause 1(b) of rule XXIV, may not expend funds from a campaign account of such individual that are not attributable to bona fide campaign or political purposes.

7. A Member, Delegate, or Resident Commissioner shall treat as campaign contributions all proceeds from

mittee under the Federal Election Campaign Act of 1971, without regard to whether the committee is an authorized committee of the Member, Delegate, or Resident Commissioner involved under such Act;

(2) the term "family member" means an individual who is related to the Member, Delegate, or Resident Commissioner, as father, mother, son, daughter, brother, sister, husband, wife, father-in-law, or mother-in-law; and

(3) the term "on the basis of personal friendship" has the same meaning as in clause 5 of rule XXV and shall be determined as under clause 5(a)(3)(D)(ii) of rule XXV.

16. A Member, Delegate, or Resident Commissioner may not condition the inclusion of language to provide funding for a congressional earmark, a limited tax benefit, or a limited tariff benefit in any bill or joint resolution (or an accompanying report) or in any conference report on a bill or joint resolution (including an accompanying joint explanatory statement of managers) on any vote cast by another Member, Delegate, or Resident Commissioner. For purposes of this clause and clause 17, the terms "congressional earmark," "limited tax benefit," and "limited tariff benefit" shall have the meanings given them in clause 9 of rule XXI.

17. (a) A Member, Delegate, or Resident Commissioner who requests a congressional earmark, a limited tax benefit, or a limited tariff benefit in any bill or joint resolution (or an accompanying report) or in any conference report on a bill or joint resolution (or an accompanying joint statement of managers) shall provide a written statement to the chair and ranking minority member of the committee of jurisdiction, including—

(1) the name of the Member, Delegate, or Resident Commissioner;

(2) in the case of a congressional earmark, the name and address of the intended recipient or, if there is no specifically intended recipient, the intended location of the activity;

(3) in the case of a limited tax or tariff benefit, identification of the individual or entities reasonably anticipated to benefit, to the extent known to the Member, Delegate, or Resident Commissioner;

(4) the purpose of such congressional earmark or limited tax or tariff benefit; and

(5) a certification that the Member, Delegate, or Resident Commissioner or spouse has no financial interest in such congressional earmark or limited tax or tariff benefit.

(b) Each committee shall maintain the information transmitted under paragraph (a), and the written disclo-

sure for any congressional earmarks, limited tax benefits, or limited tariff benefits included in any measure reported by the committee or conference report filed by the chair of the committee or any subcommittee thereof shall be open for public inspection.

18. (a) In this Code of Official Conduct, the term "officer or employee of the House" means an individual whose compensation is disbursed by the Chief Administrative Officer.

(b) An individual whose services are compensated by the House pursuant to a consultant contract shall be considered an employee of the House for purposes of clauses 1, 2, 3, 4, 8, 9, and 13 of this rule. An individual whose services are compensated by the House pursuant to a consultant contract may not lobby the contracting committee or the members or staff of the contracting committee on any matter. Such an individual may lobby other Members, Delegates, or the Resident Commissioner or staff of the House on matters outside the jurisdiction of the contracting committee. In the case of such an individual who is a member or employee of a firm, partnership, or other business organization, the other members and employees of the firm, partnership, or other business organization shall be subject to the same restrictions on lobbying that apply to the individual under this paragraph.

RULE XXIV

LIMITATIONS ON USE OF OFFICIAL FUNDS *Limitations on use of official and unofficial accounts*

1. (a) Except as provided in paragraph (b), a Member, Delegate, or Resident Commissioner may not maintain, or have maintained for the use of such individual, an unofficial office account. Funds may not be paid into an unofficial office account.

(b)(1) Except as provided in subparagraph (2), a Member, Delegate, or Resident Commissioner may defray official expenses with funds of the principal campaign committee of such individual under the Federal Election Campaign Act of 1971 (2 U.S.C. 431 et seq.).

(2) The funds specified in subparagraph (1) may not be used to defray official expenses for mail or other communications, compensation for services, office space, office furniture, office equipment, or any associated information technology services (excluding handheld communications devices).

2. Notwithstanding any other provision of this rule, if an amount from the Official Expenses Allowance of a Member, Delegate, or Resident Commissioner is paid into the House Recording Studio revolving fund for telecommunications satellite services, the Member, Delegate, or Resident Commissioner may accept reimbursement from nonpolitical entities in that amount for transmission to the Chief Administrative Officer for credit to the Official Expenses Allowance.

3. In this rule the term "unofficial office account" means an account or repository in which funds are received for the purpose of defraying otherwise unreimbursed expenses allowable under section 162(a) of the Internal Revenue Code of 1986 as ordinary and necessary in the operation of a congressional office, and includes a newsletter fund referred to in section 527(g) of the Internal Revenue Code of 1986.

Limitations on use of the frank

4. A Member, Delegate, or Resident Commissioner shall mail franked mail under section 3210(d) of title 39, United States Code at the most economical rate of postage practicable.

5. Before making a mass mailing, a Member, Delegate, or Resident Commissioner shall submit a sample or description of the mail matter involved to the House Commission on Congressional Mailing Standards for an advisory opinion as to whether the proposed mailing is in compliance with applicable provisions of law, rule, or regulation.

6. A mass mailing that is otherwise frankable by a Member, Delegate, or Resident Commissioner under the provisions of section 3210(e) of title 39, United States Code, is not frankable unless the cost of preparing and printing it is defrayed exclusively from funds made available in an appropriation Act.

7. A Member, Delegate, or Resident Commissioner may not send a mass mailing outside the congressional district from which elected.

8. In the case of a Member, Delegate, or Resident Commissioner, a mass mailing is not frankable under section 3210 of title 39, United States Code, when it is postmarked less than 90 days before the date of a primary or general election (whether regular, special, or runoff) in which such individual is a candidate for public office. If the mail matter is of a type that is not customarily postmarked, the date on which it would have been postmarked, if it were of a type customarily postmarked, applies.

9. In this rule the term "mass mailing" means, with respect to a session of Congress, a mailing of newsletters or other pieces of mail with substantially identical content (whether such pieces of mail are deposited singly or in bulk, or at the same time or different times), totaling more than 500 pieces of mail in that session, except that such term does not include a mailing—

(a) of matter in direct response to a communication from a person to whom the matter is mailed;

(b) from a Member, Delegate, or Resident Commissioner to other Members, Delegates, the Resident Commissioner, or Senators, or to Federal, State, or local government officials; or

(c) of a news release to the communications media.

are accurate and conform to the Member's instructions and to this rule.

5. Nothing in this rule shall be construed to limit the authority of Members, and Senate employees, to perform legislative, including committee, responsibilities.

6.⁹⁴ No Member, with the intent to influence solely on the basis of partisan political affiliation an employment decision or employment practice of any private entity, shall—

(a) take or withhold, or offer or threaten to take or withhold, an official act; or

(b) influence, or offer or threaten to influence the official act of another.

RULE XLIV⁹⁵

CONGRESSIONALLY DIRECTED SPENDING AND RELATED ITEMS

1. (a) It shall not be in order to vote on a motion to proceed to consider a bill or joint resolution reported by any committee unless the chairman of the committee of jurisdiction or the Majority Leader or his or her designee certifies—

(1) that each congressionally directed spending item, limited tax benefit, and limited tariff benefit, if any, in the bill or joint resolution, or in the committee report accompanying the bill or joint resolution, has been identified through lists, charts, or other similar means including the name of each Senator who submitted a request to the committee for each item so identified; and

(2) that the information in clause (1) has been available on a publicly accessible congressional website in a searchable format at least 48 hours before such vote.

(b) If a point of order is sustained under this paragraph, the motion to proceed shall be suspended until the sponsor of the motion or his or her designee has requested resumption and compliance with this paragraph has been achieved.

2. (a) It shall not be in order to vote on a motion to proceed to consider a Senate bill or joint resolution not reported by committee unless the chairman of the committee of jurisdiction or the Majority Leader or his or her designee certifies—

(1) that each congressionally directed spending item, limited tax benefit, and limited tariff benefit, if any, in the bill or joint resolution, has been identified through lists, charts, or other similar means, including the name of each Senator who submitted a request to the sponsor of the bill or joint resolution for each item so identified; and

(2) that the information in clause (1) has been available on a publicly accessible congressional website in a searchable format at least 48 hours before such vote.

(b) If a point of order is sustained under this paragraph, the motion to proceed shall be suspended until the sponsor of the motion or his or her designee has requested resumption and compliance with this paragraph has been achieved.

⁹⁴ Paragraph 6 added pursuant to Pub. L. 110-81, Sep. 14, 2007.

⁹⁵ Rule XLIV added pursuant to Pub. L. 110-81, Sep. 14, 2007.

3. (a) It shall not be in order to vote on the adoption of a report of a committee of conference unless the chairman of the committee of jurisdiction or the Majority Leader or his or her designee certifies—

(1) that each congressionally directed spending item, limited tax benefit, and limited tariff benefit, if any, in the conference report, or in the joint statement of managers accompanying the conference report, has been identified through lists, charts, or other means, including the name of each Senator who submitted a request to the committee of jurisdiction for each item so identified; and

(2) that the information in clause (1) has been available on a publicly accessible congressional website at least 48 hours before such vote.

(b) If a point of order is sustained under this paragraph, then the conference report shall be set aside.

4. (a) If during consideration of a bill or joint resolution, a Senator proposes an amendment containing a congressionally directed spending item, limited tax benefit, or limited tariff benefit which was not included in the bill or joint resolution as placed on the calendar or as reported by any committee, in a committee report on such bill or joint resolution, or a committee report of the Senate on a companion measure, then as soon as practicable, the Senator shall ensure that a list of such items (and the name of any Senator who submitted a request to the Senator for each respective item included in the list) is printed in the Congressional Record.

(b) If a committee reports a bill or joint resolution that includes congressionally directed spending items, limited tax benefits, or limited tariff benefits in the bill or joint resolution, or in the committee report accompanying the bill or joint resolution, the committee shall as soon as practicable identify on a publicly accessible congressional website each such item through lists, charts, or other similar means, including the name of each Senator who submitted a request to the committee for each item so identified. Availability on the Internet of a committee report that contains the information described in this subparagraph shall satisfy the requirements of this subparagraph.

(c) To the extent technically feasible, information made available on publicly accessible congressional websites under paragraphs 3 and 4 shall be provided in a searchable format.

5. For the purpose of this rule—

(a) the term “congressionally directed spending item” means a provision or report language included primarily at the request of a Senator providing, authorizing, or recommending a specific amount of discretionary budget authority, credit authority, or other spending authority for a contract, loan, loan guarantee, grant, loan authority, or other expenditure with or to an entity, or targeted to a specific State, locality or Congressional district, other than through a statutory or administrative formula-driven or competitive award process;

(b) the term “limited tax benefit” means—

(1) any revenue provision that—

(A) provides a Federal tax deduction, credit, exclusion, or preference to a particular beneficiary or lim-

ited group of beneficiaries under the Internal Revenue Code of 1986; and

(B) contains eligibility criteria that are not uniform in application with respect to potential beneficiaries of such provision;

(c) the term "limited tariff benefit" means a provision modifying the Harmonized Tariff Schedule of the United States in a manner that benefits 10 or fewer entities; and

(d) except as used in subparagraph 8(e), the term "item" when not preceded by "congressionally directed spending" means any provision that is a congressionally directed spending item, a limited tax benefit, or a limited tariff benefit.

6. (a) A Senator who requests a congressionally directed spending item, a limited tax benefit, or a limited tariff benefit in any bill or joint resolution (or an accompanying report) or in any conference report (or an accompanying joint statement of managers) shall provide a written statement to the chairman and ranking member of the committee of jurisdiction, including—

(1) the name of the Senator;

(2) in the case of a congressionally directed spending item, the name and location of the intended recipient or, if there is no specifically intended recipient, the intended location of the activity;

(3) in the case of a limited tax or tariff benefit, identification of the individual or entities reasonably anticipated to benefit, to the extent known to the Senator;

(4) the purpose of such congressionally directed spending item or limited tax or tariff benefit; and

(5) a certification that neither the Senator nor the Senator's immediate family has a pecuniary interest in the item, consistent with the requirements of paragraph 9.

(b) With respect to each item included in a Senate bill or joint resolution (or accompanying report) reported by committee or considered by the Senate, or included in a conference report (or joint statement of managers accompanying the conference report) considered by the Senate, each committee of jurisdiction shall make available for public inspection on the Internet the certifications under subparagraph (a)(5) as soon as practicable.

7. In the case of a bill, joint resolution, or conference report that contains congressionally directed spending items in any classified portion of a report accompanying the measure, the committee of jurisdiction shall, to the greatest extent practicable, consistent with the need to protect national security (including intelligence sources and methods), include on the list required by paragraph 1, 2, or 3 as the case may be, a general program description in unclassified language, funding level, and the name of the sponsor of that congressionally directed spending item.

8. (a) A Senator may raise a point of order against one or more provisions of a conference report if they constitute new directed spending provisions. The Presiding Officer may sustain the point of order as to some or all of the provisions against which the Senator raised the point of order.

(b) If the Presiding Officer sustains the point of order as to any of the provisions against which the Senator raised the point of

order, then those provisions against which the Presiding Officer sustains the point of order shall be stricken. After all other points of order under this paragraph have been disposed of—

(1) the Senate shall proceed to consider the question of whether the Senate should recede from its amendment to the House bill, or its disagreement to the amendment of the House, and concur with a further amendment, which further amendment shall consist of only that portion of the conference report that has not been stricken; and

(2) the question in clause (1) shall be decided under the same debate limitation as the conference report and no further amendment shall be in order.

(c) Any Senator may move to waive any or all points of order under this paragraph with respect to the pending conference report by an affirmative vote of three-fifths of the Members, duly chosen and sworn. All motions to waive under this paragraph shall be debatable collectively for not to exceed 1 hour equally divided between the Majority Leader and the Minority Leader or their designees. A motion to waive all points of order under this paragraph shall not be amendable.

(d) All appeals from rulings of the Chair under this paragraph shall be debatable collectively for not to exceed 1 hour, equally divided between the Majority and the Minority Leader or their designees. An affirmative vote of three-fifths of the Members of the Senate, duly chosen and sworn, shall be required in the Senate to sustain an appeal of the ruling of the Chair under this paragraph.

(e) The term 'new directed spending provision' as used in this paragraph means any item that consists of a specific provision containing a specific level of funding for any specific account, specific program, specific project, or specific activity, when no specific funding was provided for such specific account, specific program, specific project, or specific activity in the measure originally committed to the conferees by either House.

9. No Member, officer, or employee of the Senate shall knowingly use his official position to introduce, request, or otherwise aid the progress or passage of congressionally directed spending items, limited tax benefits, or limited tariff benefits a principal purpose of which is to further only his pecuniary interest, only the pecuniary interest of his immediate family, or only the pecuniary interest of a limited class of persons or enterprises, when he or his immediate family, or enterprises controlled by them, are members of the affected class.

10. Any Senator may move to waive application of paragraph 1, 2, or 3 with respect to a measure by an affirmative vote of three-fifths of the Members, duly chosen and sworn. A motion to waive under this paragraph with respect to a measure shall be debatable for not to exceed 1 hour equally divided between the Majority Leader and the Minority Leader or their designees. With respect to points of order raised under paragraphs 1, 2, or 3, only one appeal from a ruling of the Chair shall be in order, and debate on such an appeal from a ruling of the Chair on such point of order shall be limited to one hour.

11. Any Senator may move to waive all points of order under this rule with respect to the pending measure or motion by an affirma-

tive vote of three-fifths of the Members, duly chosen and sworn. All motions to waive all points of order with respect to a measure or motion as provided by this paragraph shall be debatable collectively for not to exceed 1 hour equally divided between the Majority Leader and the Minority Leader or their designees. A motion to waive all points of order with respect to a measure or motion as provided by this paragraph shall not be amendable.

12. Paragraph 1, 2, or 3 of this rule may be waived by joint agreement of the Majority Leader and the Minority Leader of the Senate upon their certification that such waiver is necessary as a result of a significant disruption to Senate facilities or to the availability of the Internet.

Western States Water Council

&

Native American Rights Fund

SYMPOSIUM ON THE SETTLEMENT OF INDIAN RESERVED WATER RIGHTS CLAIMS

**August 25-27, 2015
Peppermill Hotel and Casino
Reno, Nevada**

The Western States Water Council and Native American Rights Fund will cosponsor a Symposium on the settlement of Indian reserved water rights claims on August 25-27, 2015. The meetings will be held at the Peppermill Hotel and Casino in Reno, Nevada. A number of topics will be addressed by experts and participants regarding completed and ongoing negotiated settlements.

We expect another excellent conference. Successful symposia have been held since 1991. The primary meeting format consists of panel discussions with presenters who have been involved in negotiated settlements representing tribal, state, local, and federal governments, interest groups, congressional staff, and others. The meeting schedule provides opportunities for informal interchange and cultural enlightenment. Participant feedback from the meetings has been very positive. Continuing Legal Education Credit will be available for lawyers who attend.

For more information as it becomes available, see our websites at:
<http://www.westernstateswater.org> and <http://narf.org/water/>.

Sponsors are welcome and encouraged to contact Tony Willardson, WSWC Executive Director.



Western States Water Council

5296 Commerce Drive, Suite 202
Murray, UT 84107

Phone (801) 685-2555
www.westernstateswater.org

Tab S – U.S. Forest Service Proposed
Groundwater Resource
Management Directive

WSWC-USFS MEETING: GROUNDWATER MANAGEMENT DIRECTIVE
Marriott Courtyard Denver Airport
Denver, Colorado

February 13, 2015

MEETING SUMMARY

Participants:

- Patrick Tyrrell, WSWC Chairman and Wyoming State Engineer
- Jerry Rigby, WSWC Vice-Chair and WSWC member from Idaho
- Dick Wolfe, Colorado State Engineer
- James Eklund, Director of the Colorado Water Conservation Board
- Tom Byler, Director of the Oregon Department of Water Resources (via phone)
- Stephen Bernath, Senior Policy Analyst, Washington Department of Ecology (via phone)
- J.D. Strong, Director of the Oklahoma Water Resources Board (OWRB) (via phone)
- Brittnee Preston, Director of Federal and Congressional Affairs, OWRB (via phone)
- Tony Willardson, WSWC Executive Director
- Nathan Bracken, WSWC Assistant Director and General Counsel
- Sara Larsen, WSWC WaDE Program Manager (via phone)
- Chris Carlson, USFS National Groundwater Program Leader
- Jean Thomas, USFS Water Uses Program Leader
- Nicholas Douglas, Director, USFS Minerals and Geology Management
- Anita Tompkins, USFS Assistant Director for Water and Aquatic Resources
- Melody Holm, Assistant Director, USFS Geologic Resources, Hazards, and Surface Management
- Cherie Hamilton, Assistant Director, USFS Renewable Resources, Rocky Mountain Region

Purpose:

At the invitation of the WSWC, officials from the USFS met with WSWC representatives to discuss the USFS's proposed groundwater management directive and the WSWC's related concerns and comments, as set forth in the WSWC's October 3 letter to the USFS. The meeting also served as an opportunity for the WSWC and the USFS to identify areas of possible common ground regarding the directive.

Summary:

The meeting began with a presentation from Chris Carlson of the USFS regarding his agency's groundwater-related needs and challenges, which include:

- (1) Concerns about potential lawsuits resulting from USFS actions, particularly NEPA analyses, that affect or involve groundwater;
- (2) A need for reliable data;
- (3) The USFS's de-centralized structure and a need to ensure consistency in decision making and compliance with applicable federal and state water laws;

- (4) The diversity of state laws and regulations regarding groundwater;
- (5) A growing focus on the impacts of USFS actions on groundwater, including the approval of special use permits, due in part to increased oil and gas and other mineral development; and
- (6) Concerns about the USFS's lack of clarity in existing direction regarding groundwater and its relatively limited amount of experience evaluating the impacts of its decisions and actions on groundwater.

Chris also noted that USFS Chief Tom Tidwell has instructed the agency's regional foresters and other officials to reach out to the states, tribes, the public, and the media to discuss the intent of the directive. Tidwell has indicated that the USFS will not move forward with the directive until it has conducted this outreach. Once this outreach has been completed, the USFS will revise and re-publish the directive for another round of comments, likely in the summer.

Sara Larsen then gave a remote demonstration that included a graphic illustration of the number of wells in Arizona, Colorado, Idaho, Utah, and Wyoming that may fall under the directive's definition of "high capacity well," which it defines as a well or set of wells that is capable of withdrawing 35 gallons per minute. She noted that the number of these wells could vary greatly depending on the definitions the directive uses. Sara also discussed the types of available state groundwater data, as well as other state information that could be useful for the USFS.

Following Sara's presentation, meeting participants discussed the state tools that are available to address the USFS's needs and concerns pertaining to groundwater. As part of this discussion, Pat Tyrrell gave a brief overview of an MOU between Wyoming and the USFS regarding water right permits derived from National Forest System land in Wyoming.

For the remainder of the meeting, participants discussed areas of possible common ground where the directive could be amended to address both the USFS's needs and the WSWC's concerns.

Findings:

The USFS and the WSWC jointly identified the following conceptual changes to the directive as areas where consensus may be possible:

- (1) The inclusion of additional details and specifications throughout the directive to clarify the states' roles and authorities.
- (2) The inclusion of additional federal statutes, regulations, case law, etc. to further clarify the extent and limits of USFS authority relating to groundwater.
- (3) A "dispute resolution" provision that could:
 - a. Indicate that states may have opinions that differ from the USFS's interpretations about the extent and nature of its authority as well as its actions relating to groundwater;

- b. Instruct USFS personnel to work with states collaboratively to resolve differences; and
 - c. Identify examples of ways that the USFS can work with the states to address such differences (e.g., an MOU, compact, etc.).
- (4) Language to address USFS concerns about receiving notice of proposed actions that could affect USFS resources. Such language could recognize that each state has different processes for notifying interested and affected parties. This language could also instruct USFS personnel to familiarize themselves with applicable state laws and participate in those processes as allowed under such laws.
- (5) Possible modifications to Section 2567(3), which instructs the USFS to apply federal reserved water rights to groundwater. One possibility discussed during the meeting would be to modify this language to instruct USFS personnel to meet with state officials before asserting any water right claims to determine how such claims could be addressed under state law. During the meeting, there appeared to be some initial agreement that such language may not need to use the term “reserved rights.”
- (6) Language to expressly state that nothing in the directive will affect water compacts, settlements, MOUs, or other agreements negotiated between the states and the federal government.
- (7) A definition for the term “manage” as used in the directive.
- (8) Modified language for sections 2560.03(2) and 2561(1), which presume a hydrological connection between surface and groundwater. The discussion focused on language that would:
 - a. Specify that the directive’s presumption would only apply to the internal USFS actions set forth in the directive;
 - b. Notify USFS personnel that state laws may not presume a connection; and
 - c. That the directive will not in any way affect state laws, regulations, or policies regarding connectivity. While there was unanimous interest in seeking consensus on this issue, there was some concern that a presumption of connectivity in any federal directive may be problematic for some states.
- (9) Revising and refining the directive’s definition for a “high capacity” well, which currently defines such wells as being capable of withdrawing 35 gpm. The discussion noted that while many wells located on National Forest System land may have the capacity to pump over 35 gpm, the underlying water right may contain limits on pumping and flow rates that may allow only a portion of the well’s capacity to be used.

Next Steps:

The USFS and the WSWC agreed to consider ways in which the directive could be modified to incorporate the above concepts. Both the USFS and the WSWC also agreed that the meeting

represented the first in what will become a series of conversations about ways to modify the directive to address the WSWC's concerns and the USFS's needs. As part of this ongoing dialogue, the WSWC will work to schedule a follow-up meeting with the appropriate USFS personnel during the week of March 16 when the WSWC's leadership and staff will be in Washington, DC. Additional meetings and/or conference calls will be scheduled on an as-needed basis.

Furthermore, in advance of the re-publication of the directive for public comment, the WSWC will begin developing changes for the directive based on the above concepts. It is anticipated that the WSWC will develop draft changes that it will discuss with its members during its spring meetings on April 15-17 in Tulsa, Oklahoma. Ideally, these changes will form the basis of comments the WSWC will submit once the USFS re-publishes the directive later this year.



FOREST SERVICE MANUAL
NATIONAL HEADQUARTERS (WO)
WASHINGTON, DC

FSM 2500 – WATERSHED AND AIR MANAGEMENT

CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

Amendment No.: The Directive Manager completes this field.

Effective Date: The Directive Manager completes this field.

Duration: This amendment is effective until superseded or removed.

Approved: NAME OF APPROVING OFFICIAL **Date Approved:** mm/dd/yyyy
Title of Approving Official

Posting Instructions: Amendments are numbered consecutively by title and calendar year. Post by document; remove the entire document and replace it with this amendment. Retain this transmittal as the first page(s) of this document. The last amendment to this title was 2500-2000-2 to 2520.

New Document	2560	39 Pages
Superseded Document(s) (Amendment Number and Effective Date)	None	0 Pages

Digest:

2560 – Establishes new chapter and sets forth direction on managing groundwater resources associated with National Forest System lands and clarifies roles, responsibilities, and procedures for addressing groundwater resource management. Refers to the National Forest System by using the acronym NFS throughout the chapter.

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

Table of Contents

2560.01 – Authority	4
2560.02 – Objectives	7
2560.03 – Policy	8
2560.04 – Responsibility	13
2560.04a – Washington Office, Staff Directors.....	13
2560.04b – Washington Office, Directors of Watershed, Fish, Wildlife, Air, and Rare Plants and of Minerals and Geology Management.....	13
2560.04c – Washington Office, Director of Engineering	14
2560.04d – Washington Office, Directors of Recreation and Heritage Resources and Lands	14
2560.04e – Washington Office, Director of Environmental Sciences Research	14
2560.04f – Regional Foresters	15
2560.04g – Station Directors and Directors of the International Institute of Tropical Forestry, the Forest Products Laboratory, and the Job Corps National Field Office	16
2560.04h – Forest and Grassland Supervisors	16
2560.04i – Research and Development Project, Program, and Team Leaders and Job Corps Center Directors	18
2560.05 – Definitions.....	18
2560.08 – References	22
2561 – CONSIDERATION OF GROUNDWATER RESOURCES IN FOREST SERVICE PROJECTS, APPROVALS, AND AUTHORIZATIONS	22
2561.1 – Conjunctive Uses of Groundwater and Surface Water	23
2561.2 – Minerals and Energy Development	23
2561.21 – Locatable Mineral Mining	23
2561.22 – Leasable Mineral Mining	24
2561.23 – Mineral Materials Development	24
2561.24 – Oil and Gas Operations	25
2561.25 – Geothermal Operations	26
2561.3 – Tunneling Operations	26
2561.4 – Effects of Authorized and Administrative Uses on Groundwater Quality	27
2562 – SOURCE WATER PROTECTION AND WATER SUPPLIES	27
2562.1 – Authorizations for Water Supply Facilities	28
2562.11 – Siting of Water Supply Facilities in Response to Water Supply Emergencies....	28
2563 – AUTHORIZATIONS INVOLVING WATER WELLS OR WATER PIPELINES ..	29
2563.1 – General Requirements for Authorizing Water Wells and Water Pipelines	29
2563.2 – Pre-Proposal Meetings for Proponents of New Water Wells or Water Pipelines	29
2563.3 – Requirements for Proposals Involving New Water Wells or Water Pipelines	30
2563.4 – Requirements for All Applications Involving Water Wells or Water Pipelines.....	31
2563.5 – Additional Requirements for Applications for Certain Water Supplies	32
2563.6 – Additional Analyses for Applications Involving Water Wells or Water Pipelines ...	33

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

2563.7 – Terms and Conditions in Special Use Authorizations for Water Wells and Water Pipelines.....	35
2563.8 – Monitoring and Mitigation for Water Wells and Water Pipelines.....	35
2564 – MEASURING AND REPORTING VOLUME OF EXTRACTED OR INJECTED WATER	36
2565 – CLEANUP OF CONTAMINATED GROUNDWATER	37
2565.1 – Collection of Data for Groundwater Cleanup Activities	38
2566 – INFORMATION AND DATA MANAGEMENT FOR GROUNDWATER.....	38
2567 – LEGAL CONSIDERATIONS IN MANAGING GROUNDWATER RESOURCES	38
2568 – STRATEGIES FOR SUSTAINING GROUNDWATER RESOURCES	39

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

2560.01 – Authority

1. Statutes. A number of Federal statutes direct or authorize water or watershed management on National Forest System (NFS) lands (FSM 2501). Several of these statutes grant authority or provide direction to the Forest Service for the management of groundwater resources:

- a. Organic Administration Act (16 U.S.C. §§ 473-475, 477-482, 551). This act contains the basic authority for watershed management on NFS lands. The act provides for improvement and protection of the national forests and securing favorable conditions of water flows. The act also authorizes use of water within national forests for domestic, mining, milling, and irrigation purposes under applicable State or Federal law.
- b. Weeks Act (16 U.S.C. §§ 480, 500, 513-19, 521, 552, 563). This act authorizes the Secretary of Agriculture to acquire forested, cut-over, or denuded lands in the watersheds of navigable streams as necessary to regulate the flow of navigable streams.
- c. Clarke-McNary Act (16 U.S.C. § 568 *et seq.*). This act authorizes the Secretary of Agriculture to identify Federal lands that are primarily valuable for streamflow protection and that can be economically administered as part of the national forests.
- d. Bankhead-Jones Farm Tenant Act (7 U.S.C. §§ 1010-1012). This act authorizes the acquisition of damaged or non-productive agricultural lands and requires development of a program of land conservation to control soil erosion, preserve natural resources, protect fish and wildlife, mitigate floods, conserve surface and subsurface moisture, and protect the watersheds of navigable streams.
- e. Domestic Water Supply Act (16 U.S.C. §§ 552a-552d). This act provides for special management of watersheds on NFS lands to protect municipal water supplies.
- f. Multiple Use–Sustained Yield Act (MUSYA) (16 U.S.C. §§ 528-531). This act provides that watershed protection is one of the five co-equal purposes for which NFS lands were established and are to be administered.
- g. Forest and Rangeland Renewable Resources Planning Act (FRRRPA) (16 U.S.C. § 1600 *et seq.*). This act emphasizes the need for Forest Service programs to protect and improve the quality of soil, water, and air resources on NFS lands. This act defines the NFS to include all national forests and national grasslands and other lands and waters administered by the Forest Service. This act also requires the development and maintenance of a comprehensive inventory of all NFS lands and renewable resources, including water. Additionally, FRRRPA mandates

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

consideration of the physical, biological, economic, and other applicable sciences in the development and maintenance of land management plans for units of the NFS.

h. Federal Land Policy and Management Act (FLPMA) (43 U.S.C. § 1701 *et seq.*). This act authorizes issuance of rights-of-way for water diversions, including wells, on NFS lands. This act requires terms and conditions in authorizations for these rights-of-way to minimize damage to scenic and aesthetic values and fish and wildlife habitat and otherwise protect the environment, Federal property, and the public interest.

i. Safe Drinking Water Act (SDWA) (42 U.S.C. § 300f *et seq.*). This act provides for the safety of public drinking water supplies. The SDWA establishes safe drinking water standards and protects surface and groundwater supplies from contamination (FSM 7420). Pertinent sections of the act include: Wellhead Protection (42 U.S.C. § 300h-7); Source Water Assessment (42 U.S.C. § 300j-13); Drinking Water Standards (42 U.S.C. § 300g-1(b)); and Underground Injection Control (42 U.S.C. §§ 300h-300h-5).

j. Clean Water Act (CWA) (33 U.S.C. § 1251 *et seq.*). This act provides for restoration and maintenance of the chemical, physical, and biological integrity of waters in the United States (FSM 7430 and 7440). The CWA regulates the discharge of pollutants into waters through point sources. In addition, the CWA provides for management of non-point source pollution by States. Pertinent sections of the act include: Water Quality Standards and Implementation Plans (33 U.S.C. § 1313); Certification (33 U.S.C. § 1341); National Pollutant Discharge Elimination System (33 U.S.C. § 1342); and Permits for Dredged or Fill Material (33 U.S.C. § 1344).

k. Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 *et seq.*). This act regulates the generation, management, transportation, treatment, storage, and disposal of waste materials, including hazardous waste (FSM 2130, 2160, and 7460).

l. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. § 9601 *et seq.*). This act authorizes the U. S. Environmental Protection Agency (EPA) and other Federal agencies, including the U. S. Department of Agriculture (USDA), to respond to actual and threatened releases of hazardous substances, pollutants, and contaminants (FSM 2160). CERCLA can be used to assign liability to potentially responsible parties (PRPs) for response and restoration costs, including cleanup of water contamination.

m. Surface Mining Reclamation and Control Act (SMCRA) (30 U.S.C. § 1201 *et seq.*). This act provides authority to the U. S. Department of the Interior, Office of Surface Mining (OSM), and other Federal agencies to mitigate the environmental, health, and safety effects of abandoned surface mines, primarily those used to recover coal resources.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2. Other Authorities.

- a. National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR part 300). The NCP establishes procedures and standards for responding to oil spills and releases of hazardous substances, pollutants, and contaminants. The NCP implements the response and restoration provisions of the CWA, CERCLA, and the Oil Pollution Act (33 U.S.C. § 2701 *et seq.*). The NCP also defines “natural resources” to include water, groundwater, and drinking water and designates the responsible federal land management agency as the Federal trustee for the natural resources located on, over, or under lands administered by that agency.
- b. Compensatory Mitigation for Losses of Aquatic Resources (40 CFR part 230). These regulations establish performance standards and criteria for application of compensatory mitigation, mitigation banks, and in lieu programs by holders of a CWA Section 404 permit issued by the U.S. Department of the Army (principally, the Corps of Engineers) to improve the quality and success of compensatory mitigation projects. Planning, implementation, and management of compensatory mitigation projects are improved by emphasizing a watershed approach in selecting compensatory mitigation project locations; requiring measurable, enforceable ecological performance standards and regular monitoring for all types of compensation; and specifying the components of a complete compensatory mitigation plan, including assurances of long-term protection of compensation sites, financial assurances, and identification of parties responsible for specific tasks.
- c. Executive Order 12580. This Executive order delegates the President’s authority under CERCLA to the Secretary of Agriculture to perform investigations, conduct response actions, seek cost recovery, enter into agreements with PRPs to perform investigations and conduct response actions, and issue unilateral administrative orders, subject to certain conditions, with respect to actual and threatened releases on lands administered by USDA. This Executive order also delegates authority to the Forest Service, as the Federal trustee, to assess damages to natural resources on NFS lands, recover costs, and enter into agreements with PRPs to conduct restoration actions on NFS lands.
- d. Executive Order 11990. This Executive order requires Federal agencies in carrying out their responsibilities to minimize the destruction, loss, and degradation of wetlands and to preserve and enhance their natural and beneficial values.
- e. Executive Order 11988. This Executive order requires Federal agencies to restore and preserve the natural and beneficial values of floodplains.
- f. Executive Order 12088. This Executive order requires Federal agencies to comply with applicable pollution control standards and to take all necessary actions for the

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

prevention, control, and abatement of environmental pollution with respect to Federal facilities and activities under their control.

g. Executive Order 13423. This Executive order requires Federal agencies to reduce the intensity of water consumption, implement environmentally sustainable practices affecting water quantity and quality, and implement environmental management systems to address aspects of agency operations that affect the environment. This Executive order also requires Federal agencies to ensure that all future written authorizations require the holder to address as appropriate provisions of the Executive order that fall within the scope of their operations.

h. Homeland Security Presidential Directive 7 (HSPD-7). This Presidential directive requires certain Federal agencies to identify and prioritize critical national infrastructure and resources for protection from terrorist acts that could cause catastrophic health impacts or mass casualties; undermine public confidence; or disrupt essential government functions, essential services, or the economy. HPSD-7 designates the EPA as the lead agency for the water sector (which includes water supply and wastewater management). EPA has required that other Federal agencies limit public access to information regarding the specific location of water sources and water and wastewater treatment facilities.

i. USDA Manual 5600-001 (DM 5600-001). This manual provides direction on prevention, control, and abatement of environmental pollution from all facilities and on all lands administered by USDA and from all activities conducted by USDA.

j. USDA Departmental Regulation 9500-8 (DR 9500-8). This Departmental regulation provides direction for all USDA agencies on protection and enhancement of groundwater quality. DR 9500-8 provides for protection of water users and the natural environment from exposure to harmful substances in groundwater and enhancement of groundwater quality where appropriate through prudent use and careful management of potential contaminants and promotion of programs and practices that prevent contamination.

k. Forest Service Directives. FSM 2540 and FSH 2509.16 establish procedures for complying with Federal policy and State water rights laws and FSM 2540 establishes procedures for management of watersheds on NFS lands that serve as a source of municipal water supplies. FSM 2880 provides direction on inventorying and monitoring groundwater resources. FSH 2709.11 establishes procedures for administering special uses.

2560.02 – Objectives

1. To manage groundwater underlying NFS lands cooperatively with States and Territories (hereafter “States”) and Tribes to promote long-term maintenance or

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

restoration of groundwater systems and their groundwater-dependent ecosystems, including springs, seeps, lakes, ponds, rivers and streams, cave and karst or pseudokarst systems, riparian areas, and wetlands.

2. To gather and make available information on NFS groundwater resources and their uses to provide for informed decisions during Forest Service planning and development and implementation of Forest Service projects.
3. To consider the effects on NFS groundwater resources of all proposed activities on and uses of NFS lands and to avoid, minimize, or mitigate adverse effects to the extent practical or as required by law.
4. To authorize the use of NFS lands to access groundwater resources, including uses for water supply purposes, only when the use is conducted in a manner that complies with federal laws, regulations and policies and protects NFS water resources and when the use of water is authorized by the State.

2560.03 – Policy

1. Primary Focus of Groundwater Resource Management. Focus Forest Service groundwater resource management on those portions of the groundwater system that if depleted or contaminated would have an adverse effect on surface resources or present or future uses of groundwater.
2. Water Resource Connectivity. Manage surface water and groundwater resources as hydraulically interconnected, and consider them interconnected in all planning and evaluation activities, unless it can be demonstrated otherwise using site-specific information.
3. Scale of Hydrological Resource Management. Evaluate and manage the surface water–groundwater hydrological system on an appropriate spatial scale, taking into account surface water and groundwater watersheds, which may not be identical and relevant aquifer systems.
4. Effects of Proposals on Groundwater Resources.
 - a. Consider the effects of proposed actions on groundwater quantity, quality, and timing prior to approving a proposed use or implementing a Forest Service activity.
 - b. Use appropriate science, technology, models, information, and expertise to address groundwater resources when revising or amending applicable land management plans and evaluating project alternatives.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

- c. Require that written authorization holders provide to the authorized officer all groundwater monitoring data and information they collect in compliance with local, State, or other Federal requirements. Appropriately use the data and information while evaluating effects on groundwater resources from ongoing activities and proposed actions.
 - d. Require that monitoring and mitigation appropriate to the scale and nature of potential effects is conducted, evaluated, and reported when authorizing a proposed use or Forest Service activity that has a significant potential to adversely affect NFS groundwater resources.
5. Limiting Impacts on Groundwater Resources. Unless otherwise required by law, prevent, minimize, or mitigate, to the extent practical, adverse impacts from Forest Service actions on groundwater resources and groundwater-dependent ecosystems located on NFS lands.
6. Cooperation with Other Governmental Entities.
- a. Manage groundwater quantity and quality on NFS lands in cooperation with appropriate State agencies and, if appropriate, EPA.
 - b. Collaborate with other Federal agencies, such as experts from the U.S. Geological Survey, State, Tribal and local governments, State geological surveys, universities, and industry and other appropriate organizations when locating, investigating, or assessing the hydrogeology and groundwater resources of NFS lands (FSM 2880).
 - c. Provide comments on proposed activities either on or off NFS lands that may adversely affect groundwater resources on NFS lands to the proponents and to State, Tribal, or other Federal entities that have the authority to regulate those activities.
 - d. Manage wellhead protection areas, source water protection areas, and critical aquifer protection areas (“protection areas”) that are designated pursuant to the provisions of the SDWA (42 U.S.C. §§ 300h-6, 300h-7, and 300j-13) or State equivalent and by utilizing the procedures for municipal supply watersheds in [36 CFR 251.9](#) and FSM 2542.
 - e. Obtain water rights under applicable State law for groundwater and groundwater-dependent surface water needed by the Forest Service (FSM 2540). Require written authorization holders operating on NFS lands to obtain water rights in compliance with applicable State law, FSM 2540, and the terms and conditions of their authorization.
 - f. Evaluate all applications to States for water rights on NFS lands and applications for water rights on adjacent lands that could adversely affect NFS groundwater

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

resources, and identify any potential injury to those resources or Forest Service water rights under applicable State procedures (FSM 2541).

7. Use of Groundwater.

- a. Efficiently use groundwater needed to meet NFS purposes, especially in water-scarce areas or during periods of drought.
- b. Since groundwater sources generally have more stable water quality and quantity than surface water sources, favor development of suitable and available groundwater sources rather than surface water sources for drinking water at Forest Service administrative and recreational sites (FSM 7420).
- c. Encourage the use of water sources located off NFS lands when the water use is largely or entirely off NFS lands, unless the applicant is a public water supplier and the proposed source is located in a designated municipal supply watershed for that supplier (FSM 2542).
- d. Require implementation of water conservation strategies in Forest Service administrative and recreational uses (FSM 7420). Ensure incorporation of water conservation strategies in operating plans for new and reissued special use authorizations involving groundwater withdrawals from high-capacity wells and new and reissued special use authorizations for public drinking water systems.

8. Measurement of Groundwater Withdrawals and Injections on NFS Lands.

- a. Require measurement and reporting to the Forest Service in the corresponding written authorization of the quantity of water utilized for all public drinking water systems that withdraw groundwater from NFS lands and that are classified as community water systems under the SDWA (FSM 7420). Include this requirement in written authorizations for affected public drinking water systems to be authorized, reauthorized, or modified. Include this requirement in existing written authorizations for affected public drinking water systems if the authorization allows for amendment to incorporate new terms required by a directive at the discretion of the authorized officer or if the holder consents.
- b. Require measurement and reporting to the Forest Service in the corresponding written authorization of the quantity of water utilized for all groundwater withdrawals from high-capacity wells located on NFS lands (including those sourced from springs). Withdrawals do not have to be measured or reported from wells equipped only with a hand or windmill pump. Include this requirement in written authorizations for affected wells to be authorized, reauthorized, or modified. Include this requirement in existing written authorizations for affected wells if the

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

authorization allows for amendment to incorporate new terms required by a directive at the discretion of the authorized officer or if the holder consents.

c. Require measurement and reporting to the Forest Service in the corresponding written authorization of the quantity of water injected for those large water-injection wells located on NFS lands that open into a geological formation containing fresh water (less than 10,000 parts per million (ppm) total dissolved solids (TDS)). Include this requirement in written authorizations for affected water injection wells to be authorized, reauthorized, or modified. Include this requirement in existing written authorizations for affected water injection wells if the authorization allows for amendment to incorporate new terms required by a directive at the discretion of the authorized officer or if the holder consents.

9. Compliance with Groundwater Requirements.

a. Prevent groundwater contamination from all Forest Service activities involving transporting, storing, mixing, and applying pesticides and other potentially toxic or hazardous materials; cleaning, repairing and fueling equipment; and disposing of fuels, lubricants, pesticides, or other potentially toxic or hazardous materials by following applicable Federal, State, and local requirements and the hazardous materials provisions of the Health and Safety Code Handbook (FSH 6709.11) and applying best management practices.

b. For all Forest Service uses and activities authorized or to be authorized involving water wells (including monitoring wells), require compliance with applicable Federal, State, or local standards or, as applicable, American Society for Testing and Materials (ASTM), American Water Works Association (AWWA), National Ground Water Association (NGWA), or other water well industry standards for the design, construction, and abandonment of wells. Include this requirement in existing and new written authorizations for affected water wells.

c. For all Forest Service uses and activities authorized or to be authorized involving water wells (including monitoring wells), require that wells that are no longer needed or maintained be abandoned in compliance with applicable Federal, State, or local standards or, as applicable, ASTM, AWWA, NGWA, or other water well industry standards for decommissioning wells. Include this requirement in existing and new written authorizations for affected water wells.

d. For all Forest Service uses and activities authorized or to be authorized involving on-site wastewater systems, including septic systems and holding tanks, require compliance with applicable Federal, State, or local standards for the design, construction, operation, and maintenance of wastewater systems. Include this requirement in existing and new written authorizations for affected on-site wastewater

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

- systems. For Forest Service facilities, follow the direction in FSM 2330, 7410, and 7430 and the Sanitary Engineering and Public Health Handbook (FSH 7409.11).
- e. Install appropriate water conservation equipment and utilize suitable water conservation practices at all Federally owned facilities (FSM 7420).
 - f. Ensure that Forest Service-operated drinking water systems that use groundwater comply with EPA's National Primary Drinking Water Regulations, including the National Primary Drinking Water Standards (40 CFR parts 141-142) (FSM 7420). Require holders that operate public drinking water systems using water wells located on NFS lands to comply with the National Primary Drinking Water Standards and to submit the results of any required monitoring to the Forest Service.
 - g. Follow applicable State and EPA SDWA regulations for evaluating whether a groundwater source of drinking water is under the direct influence of surface water (FSM 7420).
 - h. Comply with applicable Federal, State, Tribal, and local requirements (FSM 7420) for wellhead and critical aquifer protection (40 CFR part 149), and underground injection control, including for septic systems (40 CFR part 144). Additionally, ensure that all underground injection wells (Classes I through V under the SDWA) on NFS lands are inventoried with the appropriate State agency or EPA and meet all applicable requirements.
 - i. Manage groundwater resources in municipal supply watersheds per 36 CFR part 251.9 and FSM 2542.
10. Cleanup of Contaminated Groundwater.
- a. Use the procedures in FSM 2160 to conduct the appropriate response to contaminated groundwater or a potential threat of contamination of groundwater. Notify the National Response Center, as appropriate (FSM 2165).
 - b. Use the Forest Service's delegated authority under CERCLA to ensure cleanup of contaminated groundwater or otherwise respond to a potential threat of contamination resulting from a release or threatened release of a hazardous substance, as defined in 42 U.S.C. § 9601(14), or a pollutant or contaminant, as defined in 42 U.S.C. § 9601(33), that presents an imminent and substantial danger to the public health or welfare.
 - c. Where exercise of the Forest Service's CERCLA authority may not be appropriate, work with EPA or other Federal agencies under other applicable authorities such as RCRA, SMCRA, or CWA, or work with States under applicable State authority to clean up contaminated groundwater or otherwise respond to a potential threat of

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

contamination resulting from a release or threatened release of a hazardous substance, as defined in 42 U.S.C. § 9601(14), a pollutant or contaminant, as defined in 42 U.S.C. § 9601(33), or petroleum or petroleum products excluded from the definition of “hazardous substance” in 42 U.S.C. § 9601(14).

11. Land Valuation and Groundwater. Require that an appropriate assessment of potential groundwater availability be conducted by qualified groundwater personnel as part of the appraisal process when water availability may be of significance on NFS lands proposed for a land exchange.

2560.04 – Responsibility

2560.04a – Washington Office, Staff Directors

It is the responsibility of all Washington Office, staff directors to:

1. Ensure that policy development in their area of responsibility with the potential to affect groundwater resources involves consideration of the potential impact on the quantity, quality, and timing of groundwater.
2. Formulate and maintain policies and procedures to minimize, to the extent practical, the impact of program activities in their area of responsibility on groundwater quantity, quality, and timing.

2560.04b – Washington Office, Directors of Watershed, Fish, Wildlife, Air, and Rare Plants and of Minerals and Geology Management

It is the responsibility of the Washington Office, Directors of Watershed, Fish, Wildlife, Air, and Rare Plants and of Minerals and Geology Management to:

1. Formulate and maintain groundwater policy and procedures within the NFS (FSM 1230.5).
2. Coordinate training on groundwater policy and management.
3. Coordinate development and maintenance of Servicewide data management capabilities for groundwater, including hydrogeology and soils, well construction and development, and water quantity and quality.
4. Coordinate groundwater policy and management with other Forest Service staffs, as appropriate.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2560.04c – Washington Office, Director of Engineering

It is the responsibility of the Washington Office, Director of Engineering to:

1. Formulate and maintain policy and procedures for the use and protection of groundwater related to drinking water and wastewater infrastructure and SDWA Class V and RCRA injection wells, including compliance with applicable Federal and State regulations governing construction, maintenance, and waste and wastewater disposal (FSM 1230.5 and FSM 7400).
2. Formulate and maintain policy and procedures for implementation of Forest Service-delegated authority under CERCLA for cleaning up contaminated groundwater or otherwise responding to a release or threatened release of hazardous substances, pollutants, or contaminants into groundwater (42 U.S.C. § 9601; FSM 1230.5 and 2160).
3. Coordinate groundwater policy and management with other Forest Service staffs, as appropriate.

2560.04d – Washington Office, Directors of Recreation and Heritage Resources and Lands

It is the responsibility of the Washington Office, Directors of Recreation and Heritage Resources and Lands to:

1. Develop and maintain policy and procedures for processing special use applications and administering special use authorizations affecting NFS groundwater resources.
2. Coordinate development and maintenance of appropriate clauses in the Special Uses Handbook (FSH 2709.11) addressing special use authorizations involving groundwater uses with the Watershed, Fish, Wildlife, Air and Rare Plants; Minerals and Geology Management; and Engineering Staffs.
3. Coordinate implementation of groundwater policy and management with other Forest Service staffs, as appropriate.

2560.04e – Washington Office, Director of Environmental Sciences Research

It is the responsibility of the Washington Office, Director of Environmental Sciences Research to:

1. Formulate and maintain groundwater policy and procedures for all Forest Service research and development projects and facilities (FSM 1230.5).

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

2. Incorporate research on significant groundwater issues, including groundwater-dependent ecosystems, into the environmental sciences program and enhance the capacity of the program to conduct that research.
3. Coordinate groundwater research with other Forest Service staffs, as appropriate.

2560.04f – Regional Foresters

It is the responsibility of regional foresters to:

1. Develop agreements as needed with States, Tribes, other Federal agencies, and private entities to investigate and assess NFS groundwater resources. Focus efforts on groundwater resources that are now or are reasonably expected to be developed or adversely affected by development.
2. Obtain water rights to groundwater and groundwater-dependent surface water that are needed by the Forest Service. Require written authorization holders operating on NFS lands obtain necessary water rights in compliance with applicable State law and the terms and conditions of their authorization. Consult with the local Office of the General Counsel prior to filing (FSM 2541).
3. Develop and implement standards for the use, conservation, and protection of NFS groundwater resources (FSM 2541).
4. Approve plans for the cleanup of contaminated groundwater on NFS lands in accordance with FSM 2160.
5. Ensure that training on groundwater resource management is available to regional and forest staff and ensure that qualified groundwater personnel are available to address groundwater issues, including authorization of appropriate groundwater uses, in the region.
6. Maintain cooperative relationships with other entities having an interest in groundwater in the States in their region.
7. Maintain adequate and readily accessible records of groundwater requirements and uses on and withdrawals from NFS lands.
8. Monitor program results and assist with reviews and oversight by higher line and staff officers.
9. Ensure that all legal requirements are met and best practices followed for transporting, storing, mixing, and applying pesticides and other potentially toxic or hazardous

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

materials; for cleaning, repairing, and fueling equipment; and for disposing of fuels, lubricants, pesticides, or other potentially toxic or hazardous materials (FSH 6709.11).

2560.04g – Station Directors and Directors of the International Institute of Tropical Forestry, the Forest Products Laboratory, and the Job Corps National Field Office

It is the responsibility of station directors and Directors of the International Institute of Tropical Forestry, the Forest Products Laboratory, and the Job Corps National Field Office to:

1. Develop agreements as needed with States, Tribes, Federal agencies, and private entities to investigate and assess groundwater resources inside and outside the boundaries of experimental forests, ranges, grasslands, and watersheds (EFRGWs), Research Natural Areas (RNAs), and Job Corps Centers (JCCs) under their jurisdiction. Focus efforts on groundwater resources that are now or are reasonably expected to be developed or adversely affected by development. Where EFRGWs, RNAs, and JCCs are located in an NFS land management unit, consult with the regional forester in execution of these responsibilities.
2. Foster the development of research programs on groundwater issues, as appropriate to their jurisdiction.
3. Fulfill the same responsibilities enumerated for regional foresters in FSM 2543.04f, paragraphs 2 through 9, as applicable.

2560.04h – Forest and Grassland Supervisors

It is the responsibility of forest and grassland supervisors to:

1. Address in planning documents the long-term protection and sustainable use of groundwater and groundwater-dependent resources on NFS lands. Appropriately protect groundwater resources on NFS lands that are critically important to surface water resources or to natural features, ecosystems, or organisms.
2. Evaluate the quantity, quality, and probable yields of groundwater resources under their jurisdiction (FSM 2880). Focus efforts on groundwater resources that are now or are reasonably expected to be developed or adversely affected by development.
3. Inventory connections between the groundwater and surface water resources under their jurisdiction. Focus efforts on groundwater resources that are now or are reasonably expected to be developed or adversely affected by development.
4. In consultation with the regional forester and the local Office of the General Counsel, prepare or evaluate claims for water rights under applicable State law that are needed for

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

beneficial uses of groundwater and groundwater-dependent surface water by the Forest Service and authorization holders operating on NFS lands (FSM 2541).

5. Evaluate all applications for State water rights on NFS lands and those on adjacent lands with the potential to affect NFS groundwater resources. Identify any injury to NFS water rights and groundwater resources in applicable Federal, State, and local proceedings (FSM 2541).
6. Coordinate and implement agreements with Federal, State, and local agencies, Tribes, and other interested parties for management and restoration of groundwater resources.
7. Safeguard drinking water by complying with:
 - a. Applicable requirements for wellhead, source water, and critical aquifer protection areas designated by a State or local government by utilizing procedures for municipal supply watersheds in 36 CFR part 251.9 and FSM 2542.
 - b. Underground injection control regulations of Federal, State, and local governmental agencies.
 - c. EPA's National Primary Drinking Water Standards (40 CFR parts 141-142), other SDWA regulations, and FSM 7420 at all Forest Service-owned drinking water systems with a groundwater source.
8. Use qualified groundwater personnel to address groundwater issues on NFS lands under their jurisdiction and to evaluate all Forest Service activities and proposed and authorized uses with the potential to adversely affect groundwater and groundwater-dependent resources.
9. Ensure that the effects on groundwater resources from authorized activities involving groundwater withdrawals are monitored and evaluated. Require that all groundwater monitoring data and information collected in compliance with local, State, or other Federal requirements are provided to the Forest Service by the holder and are included in monitoring and evaluating those effects. Appropriately address adverse impacts on groundwater resources from proposed and authorized activities, such as by modifying the activities or adopting mitigation strategies.
10. Ensure that all applicable legal requirements are met and all best practices are followed in all agency activities involving transporting, storing, mixing, and applying pesticides and other potentially toxic or hazardous materials; cleaning, repairing and fueling equipment; and disposing of fuels, lubricants, pesticides, or other potentially toxic or hazardous materials (FSH 6709.11).

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

11. Collect appropriate land use fees for groundwater extraction, injection, and water pipeline operations authorized as special uses in accordance with FSM 2715 and FSH 2709.11, chapter 30. Land use fees do not apply to groundwater extraction or injection conducted as part of approved mineral or energy operations.

2560.04i – Research and Development Project, Program, and Team Leaders and Job Corps Center Directors

It is the responsibility of Research and Development project, program, and team leaders and Job Corps Center Directors to:

1. Include in land management plan revisions and amendments appropriate provisions for the long-term protection and sustainable use of groundwater resources in EFRGWs, RNAs, and JCCs under their jurisdiction. Protect groundwater resources under their jurisdiction that are critically important to surface water resources or natural features, ecosystems, or organisms. Where EFRGWs, RNAs, or JCCs are located in an NFS land management unit, consult with the forest supervisor in execution of these responsibilities.
2. Develop a research program to address groundwater issues, as appropriate to their jurisdiction.
3. Fulfill the same responsibilities enumerated for Forest Supervisors in FSM 2543.04h, paragraphs 2 through 8, as applicable.

2560.05 – Definitions

Aquifer. A geological formation or deposit that contains or transmits significant quantities of water (for example, to wells and springs). The term is usually restricted to those water-bearing geological units capable of yielding water sufficient to meet normal household needs.

Aquifer test. A field experiment, including a slug, packer, or pump test, designed to yield information on the *in-situ* hydraulic characteristics of an aquifer.

Artesian condition. Groundwater in an aquifer that is under pressure significantly greater than that of the atmosphere, due to the presence of an overlying confining unit, leading to a pressure sufficient to raise water in a well above the bottom of the overlying layer.

As-Built report. A written report submitted by a licensed professional engineer documenting that a water well or water pipeline has been constructed in compliance with the applicable engineering plans, special use authorization, and Federal, State, and local laws and regulations.

Confined aquifer. An aquifer that is bounded above and below by confining units.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

Confining unit. A geological formation or deposit that does not contain or transmit significant quantities of water relative to the hydraulic characteristics of adjacent formations. A type of geological unit that is a confining unit in one area may be an aquifer in another.

Community water system. Defined under the SDWA (33 U.S.C. § 300f(15)) as a public water system that serves 25 or more year-round residents or has 15 or more service connections used by year-round residents (40 CFR 141.2; FSM 7420.05).

Conjunctive use. Combined or coordinated usage of surface and groundwater to meet water supply needs.

Critical aquifer protection area. A sole source aquifer that a State may designate under a groundwater quality protection plan that has been approved by EPA under Section 208 of the CWA prior to June 19, 1986, or a sole or principal source aquifer for which a designation under the SDWA is pending before or has been approved by EPA (42 U.S.C. § 300h-6).

Epikarst. The relatively thick portion of bedrock in karst areas that extends downward from the base of the soil zone and is characterized by extreme fracturing and enhanced dissolution.

Flowpaths. Routes taken by groundwater, governed principally by the hydraulic gradient and the permeability of the geological media, as it moves through the subsurface from aquifer recharge areas, including injection wells and infiltration basins, to natural discharge areas or water production wells.

Groundwater. Subsurface water contained in unconsolidated deposits and bedrock.

Groundwater-dependent ecosystems (GDEs). Communities of plants, animals, and other organisms whose existence and life processes depend on access to or discharge of groundwater, such as springs, fens, seeps, areas of shallow groundwater, cave and karst systems, hyporheic and hypolentic zones, and groundwater-fed lakes, streams, and wetlands.

Groundwater resources. The groundwater systems and the groundwater-dependent ecosystems linked to those systems that are associated with one or more parcels or units of land.

Hydraulic head. A measurement at a location within an aquifer or body of surface water of water pressure, or total energy per unit weight, above a datum, usually measured as a water surface elevation. The distribution of hydraulic head through an aquifer determines where groundwater will flow, with flow occurring from higher to lower head.

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

High-capacity well. A well or a set of wells located within a limited area and accessing the same aquifer or spring system, or a spring development that is or is capable of withdrawing water at a continuous rate of 35 gallons per minute (equivalent to 50,400 gallons per day, 6,737 cubic feet per day, or 0.15 acre-feet per day) or greater based upon a capacity test, pumping test, or measured or estimated daily water usage. Non-artesian wells accessed only using a hand or windmill pump are not high-capacity wells.

Hydraulic gradient. The ratio of the difference in the hydraulic head between two points and the distance between those points, typically determined through measurement of water-level elevations in two wells of a known separation distance.

Hydrogeology. The science that addresses subsurface waters and related geological aspects of surface waters.

Hyporheic zone and hypolentic zone. The interface between the groundwater system and surface water bodies (in streams, referred to as hyporheic; in lakes and wetlands, referred to as hypolentic) where an active exchange of water, solutes, and colloids takes place and often consists of multiple flowpaths connecting surface waters and their groundwater catchments.

Injection well. A well that puts water or other fluids into the ground.

Karst. Terrain created by the chemical solution of the bedrock, including carbonate rocks, gypsum, and to a minor extent other rocks, and characterized by disrupted surface drainage, abundant enclosed depressions, and a well-developed system of underground drainage, which may include caves and epikarst.

Large water injection well. An injection well that is utilized for water or wastewater and that has a casing with an inside diameter of 4 inches or more.

Monitoring. For purposes of FSM 2560 only, all procedures used to collect samples, data, and information on NFS resources, including groundwater and surface water.

Municipal supply watershed. A watershed that serves a public water system as that term is defined in the SDWA (42 U.S.C. § 300f(4)), as amended, or as defined in state safe drinking water statutes or regulations (FSM 2542.05).

Produced water. Groundwater withdrawn as a byproduct by an oil and gas or geothermal production operation.

Pseudokarst. Karst-like terrain formed in non-carbonate bedrock.

Publicly accessible water supply. A water supply that is used to provide drinking water or water of potable or near-potable quality to a business or organization; to a water

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

distribution system that serves more than one property, facility, or lease; or to a governmental facility, and that is not to be confused with a “public water system” as defined in FSM 7420 and the SDWA.

Qualified groundwater personnel. Forest Service staff or contractors with appropriate education, training, and experience in groundwater science to satisfy project needs and, if applicable, licensed or registered to practice geology, hydrology, soil science, or engineering, as appropriate, in the State in which the project is located.

Recharge. The infiltration of water into the groundwater from the ground surface, the bottom of a surface water body, or a man-made feature, such as a storage pond.

Saturated zone. Layers of unconsolidated deposits or bedrock in which all of the voids are filled with water.

Source water protection area. A contributing area surrounding a public water system supply intake that is designed to protect the integrity of the water source and that has been formally designated under the SDWA (42 U.S.C. §§ 300h-6, 300h-7, and 300j-13), the CWA, or State equivalent, such as critical aquifer or wellhead protection areas.

Spring. The area on the surface of the land where a localized flow of groundwater emerges to become surface water. including seeps, limited areas within many fens, and other groundwater-fed wetlands.

Sustainable use. The rate of groundwater usage that can be maintained indefinitely without substantial adverse consequence to groundwater resources.

Timing. The availability of water at any specific place for a particular purpose, which is temporally variable and affected by seasonality, storm frequency, and upstream or upgradient water uses (both natural and anthropogenic).

Unconfined aquifer. An aquifer that is bounded below by a confining unit, but is open to the atmosphere above.

Unsaturated zone, vadose zone, or zone of aeration. Layers of unconsolidated deposits or bedrock that typically extend upward from a saturated zone to the surface of the land and in which the voids are filled with a combination of air and water, where the water is at less than atmospheric pressure.

Water production well. A well that is used to remove water from the subsurface and that is not associated with the extraction of hydrocarbons.

Water right. A legally recognized usufructuary right to divert, store, or use water for a State-accepted beneficial use that confers no property right or ownership interest in the

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

physical access to the water source across property owned by adjacent or overlying landowners, even when access is needed for the physical withdrawal of the water. Access to the water source occurs pursuant to federal law on federal lands or pursuant to state real property laws on non-federal lands.

Water table. The upper surface of an unconfined aquifer where the water in the voids is at atmospheric pressure, and which is typically identified by mapping the elevations of the water levels in shallow wells extending a few feet into the zone of saturation and measuring the water level in those wells.

Well. Any drillhole, borehole, or other excavation or opening deeper than it is wide that extends more than 3 feet into the ground and that is constructed for the purpose of accessing or injecting liquids.

Wellhead protection area. The surface and subsurface area surrounding a water well or wellfield which supplies a public water system and through which contaminants are reasonably likely to reach that water well or wellfield (SDWA, 42 U.S.C. § 300h-7(e)).

Written authorization. A grazing permit, plan of operations, special use authorization, or other type of written instrument issued by the Forest Service that authorizes the use and occupancy of NFS lands and resources subject to certain terms and conditions set forth in the instrument.

2560.08 – References

USDA Forest Service, 2007. “Technical Guide to Managing Ground Water Resources,” FS-881, US Government Printing Office, 281p.
<http://www.fs.fed.us/biology/resources/pubs/watershed/index.html>.

2561 – CONSIDERATION OF GROUNDWATER RESOURCES IN FOREST SERVICE PROJECTS, APPROVALS, AND AUTHORIZATIONS

1. Assume that there is a hydrological connection between groundwater and surface water, regardless of whether State law addresses these water resources separately, unless a hydrogeological evaluation using site-specific data indicates otherwise. This type of connection means that cross-contamination and reductions in quantity can occur unless natural geological barriers exist or prevention strategies are in place.
2. Prior to implementation or approval, assess the potential for proposed Forest Service projects, approvals, and authorizations to affect the groundwater resources of NFS lands. If there is a high probability for substantial impact to NFS groundwater resources, including its quality, quantity, and timing, evaluate those potential impacts in a manner appropriate to the scope and scale of the proposal and consistent with this chapter.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

3. Include in all new and reissued written authorizations terms that require the holder to provide to the Forest Service all groundwater monitoring data and information collected in compliance with applicable local, State, or other Federal requirements.

2561.1 – Conjunctive Uses of Groundwater and Surface Water

For proposed actions that involve conjunctive uses of groundwater and surface water, including aquifer storage and recovery (ASR):

1. Consider effects from the combined use of surface and groundwater and the effects of one upon the other, including but not limited to quantity, quality, timing, and spatial distribution.
2. Where conjunctive uses are proposed, evaluate groundwater, surface water, and watershed issues, including potential effects on groundwater-dependent ecosystems, by conducting appropriate hydrological assessments of the geographic area.

2561.2 – Minerals and Energy Development

Work with appropriate State agencies or EPA, depending on whether the State has received delegated authority from EPA under the SDWA, to ensure that all holders of written authorizations for minerals or energy development appropriately address compliance with EPA's Underground Injection Control Program (40 CFR parts 144 and 146) or State equivalent to protect underground sources of drinking water.

2561.21 – Locatable Mineral Mining

The Forest Service can apply terms and conditions for the reasonable use of groundwater for locatable minerals operations. Reasonable use of either surface or groundwater in connection with locatable mining must be authorized in an approved mining Plan of Operations.

1. Existing Locatable Mineral Mines.
 - a. Manage groundwater resources at existing locatable (hardrock) mineral mines (placer, underground, and open pit) on NFS lands consistent with 36 CFR part 228, subpart A; FSM 2810 and 2880; and this chapter. Ensure that operating procedures, facility designs, construction oversight, bonding, and groundwater monitoring are appropriately addressed in any required plan of operations.
 - b. Evaluate the groundwater contamination potential and ensure appropriate monitoring of adits, shafts, underground workings, open pits, overburden and waste rock storage and disposal areas, and associated facilities, such as tailings impoundments, leach pads, and process ponds. As necessary, request the operator to

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

furnish a modification of the plan of operations, or, if the operations were under a notice of intent, require a plan of operations to address critical issues.

2. Proposed Locatable Mineral Mines.

- a. Evaluate potential groundwater problems at proposed locatable mineral mines on NFS lands consistent with 36 CFR part 228, subpart A; FSM 2810 and 2880; and this chapter. Ensure that terms governing appropriate operating procedures, facility design, construction oversight, bonding, and groundwater monitoring are included in any required plan of operations or special use authorization for proposed locatable mineral mines prior to their approval.
- b. In reviewing a plan of operation for a proposed locatable mineral mine, evaluate the potential for the mining activity to disrupt the natural groundwater flow regime (hydraulic gradients, flowpaths, quantity, and timing) or adversely affect groundwater or surface water quality or groundwater-dependent ecosystems.

2561.22 – Leasable Mineral Mining

1. In reviewing proposals for leasable mineral mining (not including oil and gas or geothermal), consider the potential for underground and surface coal, phosphate, sodium, potassium, sulfur, and other leasable mineral mining and related activities to interrupt natural groundwater flow regimes, adversely affect groundwater-dependent ecosystems, or the quantity, quality, and timing of groundwater and surface water.
2. Require or recommend, as appropriate, that the Bureau of Land Management (BLM), Office of Surface Mining (OSM), and applicable State agencies appropriate lease terms, design modifications, and approval conditions, as applicable, to protect NFS groundwater resources consistent with FSM 2820 and 2880 and this chapter.

2561.23 – Mineral Materials Development

1. Prior to issuing a request for bids, contract, or authorization for a mineral materials (such as common varieties of sand, gravel, stone, and aggregate) removal operation, consider the potential effects of the proposed operation upon the quantity, quality, and timing of area surface water and groundwater, the morphology of adjacent stream channels, the interaction of groundwater and surface water, and the integrity of groundwater-dependent ecosystems.
2. Include terms in any contract or authorization for mineral materials to protect groundwater resources appropriately based upon the scope and scale of the project.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2561.24 – Oil and Gas Operations

1. Evaluate potential effects of oil and gas exploration and development on surface and groundwater quality and quantity and groundwater-dependent ecosystems before authorizing BLM to proceed with leasing on NFS lands, and ensure those effects are evaluated and appropriately addressed during review of any surface use plan of operations.
2. Utilize the provisions of any applicable memorandum of understanding (MOU) between the BLM and the Forest Service to facilitate gathering of relevant information and completion of needed assessments for oil and gas development and operations.
3. Assess geological and hydrogeological conditions in an area on or adjacent to NFS lands proposed for coal-bed natural gas (CBNG) or other non-traditional shallow natural gas leasing or development. Notify BLM and appropriate State or EPA officials, depending on whether the State has received delegated authority from EPA under the CWA, if:
 - a. Local springs, seeps, and water supply wells depend on groundwater associated or hydraulically connected with the production zone.
 - b. Anticipated produced well water quality is likely to be unsuitable for irrigation or livestock watering.
 - c. Enlarged saline seeps, damage to vegetation, or other reclamation problems are likely to occur.
4. Work with BLM and the State or EPA, depending on whether the State has received delegated authority from EPA under the CWA and SDWA, to provide BLM with appropriate conditions of approval, when necessary, for protection of groundwater resources on NFS lands during oil and gas exploration and production operations.
5. Establish terms and conditions requiring appropriate monitoring and protection of groundwater resources on NFS lands, consistent with FSM 2820, and 2880 and this chapter, for inclusion in surface use plans of operations for oil and gas production operations on NFS lands. Share these terms and conditions with operators.
6. Using the National Pollution Discharge Elimination System (NPDES) or equivalent adopted by the State, evaluate potential discharges of produced water from proposed oil and gas exploration and production operations into surface drainages. Provide to the authorizing entity appropriate recommendations to protect NFS water resources, including a recommendation regarding whether water produced from oil and gas exploration and production operations should be allowed to discharge into surface drainages.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

7. Assist BLM and the State or EPA, depending on whether the State has received delegated authority from EPA under the SDWA, in evaluating the capability of local geological formations to accept produced water from oil and gas operations introduced using groundwater injection wells. Where available, use studies of existing groundwater quality and quantity.

2561.25 – Geothermal Resource Operations

1. Utilize the provisions of any applicable MOU between BLM and the Forest Service to facilitate gathering of relevant information and completion of needed assessments for geothermal resource development and operations.
2. Evaluate potential effects on groundwater quality and quantity and groundwater-dependent ecosystems on NFS lands proposed for leasing by BLM. If the Forest Service grants consent to BLM for leasing of geothermal resources on NFS lands, include appropriate lease terms to protect those resources as a condition of the Forest Service's consent to BLM for its issuance of geothermal resource leases.
3. Prior to BLM's issuance of an authorization for geothermal resource activities on NFS lands, provide recommendations to BLM regarding conditions needed in the authorization to appropriately protect NFS groundwater resources.
4. Using the NPDES or equivalent adopted by the State for point source discharges and the nonpoint source requirements of the State, evaluate potential discharges of produced water from proposed geothermal resource operations. Provide to the authorizing entity recommendations or requirements, as appropriate, to protect NFS water resources, including an assessment as to whether the water produced from geothermal resource operations should be allowed to discharge into surface drainages.
5. Assist BLM and the State or EPA, depending on whether the State has received delegated authority from EPA under the SDWA, in evaluating the capability of local geological formations to accept produced water from geothermal resource operations introduced using groundwater injection wells. Where available, use studies of existing groundwater quality and quantity.

2561.3 – Tunneling Operations

1. During both the construction and operational phases, evaluate proposed transportation tunnels and other tunneling projects that would be on or beneath NFS lands and that would not be authorized as part of minerals or energy development for their potential to impact ground and surface water quality and quantity and groundwater-dependent ecosystems.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2. Ensure that appropriate environmental studies are conducted of proposed transportation tunnels and other tunneling projects that would be on or beneath NFS lands and that would not be authorized as part of minerals or energy development, and that they include, as appropriate, analyses of the geology, hydrology, geochemistry, hydrogeology, and potentially affected biota; groundwater and geochemical modeling; and test borings and observation wells.
3. Utilize personnel with the requisite qualifications and expertise in appropriate scientific and technical disciplines, such as mining engineering and fracture flow hydrology, to address the issues likely to be associated with proposed transportation tunnels and other tunneling projects.

2561.4 – Effects of Authorized and Administrative Uses on Groundwater Quality

The following provisions do not apply to authorized minerals or energy development on NFS lands.

1. Authorize or conduct activities on NFS lands with a significant potential to adversely affect the quality of groundwater, including new waste containment facilities developed as part of environmental cleanup actions, only after appropriate levels of analysis have been completed, the range of potential groundwater resource impacts are adequately understood, and appropriate mitigation measures and an appropriate monitoring program have been developed.
2. Whenever possible, encourage siting on non-NFS lands of activities with a significant potential to adversely affect the quality of groundwater (FSM 2703).

2562 – SOURCE WATER PROTECTION AND WATER SUPPLIES

1. Work with EPA, State and local governments, Tribes, drinking water providers, and holders of special use authorizations to protect drinking water systems located entirely or partially on NFS lands through delineation and appropriate management of source water protection areas under the SWDA and applicable State law.
2. Manage NFS lands designated as source water protection areas under the SWDA or applicable State law in accordance with 36 CFR 251.9 and FSM 2542, governing management of municipal supply watersheds.
3. See FSM 2563.5 for direction regarding the requirement to submit a water supply development and operation plan in an application for a publicly accessible water supply that utilizes one or more high-capacity wells.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2562.1 – Authorizations for Water Supply Facilities

1. In lieu of accessing water from NFS lands, encourage public water suppliers and other water users to employ new treatment technology to meet water supply needs when water quality in an existing water source has degraded or become polluted.
2. Ensure that public water suppliers and other proponents and applicants for authorizations involving water supply facilities on NFS lands provide an evaluation of all other reasonable alternatives to the Forest Service before authorizing access to new water sources or increased capacity at existing water sources on NFS lands, unless the proposed use is entirely on NFS lands or the proponent or applicant is a public water supplier and the proposed water source is located in a designated municipal watershed (FSM 2542).
3. When issuing or reissuing an authorization or approving modification of an authorized use, require implementation of water conservation strategies to limit total water withdrawals from NFS lands (FSM 2541.21h) deemed appropriate by the authorized officer, depending on the type of authorized use; existing administrative and other authorized uses in the area; the physical characteristics of the setting; and other relevant factors. If the holder of the authorization consents, amend the authorization to include this requirement.

2562.11 – Siting of Water Supply Facilities in Response to Water Supply Emergencies

Ensure that local public water suppliers develop safeguards, contingencies, and, when possible, plans that can serve as an acceptable permanent solution when proposing to develop new or expanded water supply facilities on NFS lands in response to emergency water supply shortages.

1. Evaluate potential hydrological impacts of large groundwater withdrawals on NFS lands proposed as part of an emergency response, where possible, integrating technical evaluation (FSM 2563) with construction of additional water supply facilities.
2. Allow hydraulic, injection, or aquifer testing (FSM 2563.3) to be performed only if adequate safeguards are in place during drilling of pilot boreholes and construction and testing of wells or piezometers. The adequacy of safeguards depends on the specifics of the proposal, the geology and hydrology of the site, the proximity to and importance of groundwater-dependent ecosystems, and other relevant factors. If safeguards are inadequate, delay construction until safeguards are sufficient.
3. Where possible, increase the staffing and frequency of oversight activities during emergency situations.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2563 – AUTHORIZATIONS INVOLVING WATER WELLS OR WATER PIPELINES

This section addresses proposals, applications, and special use authorizations that involve water extraction or injection wells on NFS lands or water pipelines crossing NFS lands (36 CFR part 251, subpart B).

2563.1 – General Requirements for Authorizing Water Wells and Water Pipelines

1. A special use authorization issued under 36 CFR part 251, subpart B, is required for all individuals or entities other than the Forest Service to develop water wells or construct water pipelines on NFS lands, other than water wells or water pipelines that are authorized under U.S. Department of the Interior (DOI) or USDA regulations for mineral or energy exploration, development, or production (36 CFR 251.56; FSM 2729, 2810, 2820, and 2850; FSH 2709.11, ch. 10).
2. The authorized officer has the discretion to determine whether to authorize new water wells or water pipelines that are not expressly authorized under DOI or USDA regulations for mineral or energy exploration, development, or production (36 CFR 251.56; FSM 2729 and 2820; FSH 2709.11, ch. 10).
3. All special use authorizations involving water wells and water pipelines must have a fixed term. Authorizations involving water wells and water pipelines that have a term of more than 30 years must provide for revision of their terms and conditions at specified intervals to reflect changed circumstances (36 CFR 251.56(b)(1)(v)).

2563.2 – Pre-Proposal Meetings for Proponents of New Water Wells or Water Pipelines

At a pre-proposal meeting, advise proponents of authorizations involving new water wells or water pipelines that:

1. When a State-issued water right or one or more State or local approvals are needed for a water development, the process for securing State water permits, licenses, registrations, certificates, or rights should proceed concurrently with the Forest Service process for authorizing use and occupancy of NFS lands for a water development.
2. Proponents must comply with applicable Federal, State, and local laws and regulations governing water wells and water pipelines, including:
 - a. State and local requirements regarding:
 - (1) Notifications to undertake an action.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

- (2) Drilling permits.
- (3) Boring and well logs.
- (4) Well completion and abandonment.
- (5) Filing of applications for water rights, permits, licenses, and certificates.
 - b. Federal requirements and recommendations for well construction, development, sampling, and abandonment.
3. A copy of all documents required for other water-related permits and approvals and for compliance with laws and regulations governing water wells and pipelines must be submitted to the authorized officer and included in the project file.

2563.3 – Requirements for Proposals Involving New Water Wells or Water Pipelines

1. Deny proposals to construct wells on or pipelines across NFS lands which can reasonably be accommodated on non-NFS lands and which the proponent is proposing to construct on NFS lands because they afford a lower cost and less restrictive location than non-NFS lands (FSM 2703.2).
2. The following additional requirements apply to second-level screening of proposals for new high-capacity water wells or large water injection wells; new water wells that may adversely affect groundwater-dependent ecosystems critical to land management goals established for the administrative unit; or new water pipelines crossing NFS lands and diverting water from adjacent non-NFS lands.
 - a. The quantity of water. The proposal must identify current and expected future quantities of water and, for water withdrawals, the beneficial uses of water. If the proponent seeks to inject water into a geological formation containing fresh water, the proposal must identify the quantity, sources, and quality of both the proposed source of the injection and the receiving waters and the likely effects of this action on NFS water resources. Proponents of all community water systems (FSM 7420), high-capacity wells, and large water injection wells that open into geological formations containing fresh water must propose to equip the water systems and wells with flow metering devices and to maintain the devices in good working order.
 - b. Water conservation. Any proposal to withdraw groundwater underlying NFS lands using a well or set of wells within a limited area or from springs on NFS lands must include the use of appropriate water conservation measures (FSM 2541.21h).

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

- c. Drilling activities. The proposal must include sufficient information, including a description of the geological and hydrological setting and the drilling methods to be employed, to demonstrate that there is a reasonable likelihood of successfully completing any water wells proposed to be located on NFS lands and adequately mitigating any associated resource damage from drilling activities.
- d. Associated facilities. The proposal must identify anticipated associated facilities, such as roads, power lines, pipelines, water storage tanks, runoff control basins, and pumping stations, that are expected to be needed on NFS lands to produce, inject, or convey water on or across NFS lands.
- e. Key resources and existing water withdrawals. The proposal must identify water-dependent resources and existing water withdrawals in the vicinity of the proposed project to allow for evaluation of its potential to adversely affect NFS water resources and facilities and neighboring non-NFS water supplies.

2563.4 – Requirements for All Applications Involving Water Wells or Water Pipelines

1. Ensure that applicants for authorizations involving water wells or water pipelines identify all necessary State water rights and State and local water approvals in their application and to provide a copy of them to the authorized officer upon issuance.
2. If necessary State water rights or State or local water approvals have not been obtained by the time the authorized officer grants the application, issue the authorization contingent upon obtaining the necessary rights or approvals (36 CFR 251.56(a)(2)).
3. Evaluate the potential impacts upon groundwater and surface water resources from new water wells proposed to be drilled on NFS lands and new pipelines that would transport water across NFS lands that are not authorized as part of an approved minerals or energy operation, including potential impacts from well drilling, water extraction, and pipeline construction.
4. To the extent practicable, evaluate the impacts on groundwater quantity and quality of a water injection proposal involving one or more wells that open into a geological formation containing fresh water, taking into account:
 - a. The addition of non-native water of a different quality from the aquifer; and
 - b. The impact that added liquid volume would have on aquifer structure and function.
5. Do not subject water developments related to a CERCLA response action to environmental review under Forest Service NEPA procedures. Rather, in accordance with the NCP, utilize the engineering evaluation/cost analysis procedure for non-time-

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

critical removals and the remedial investigation/feasibility study procedure for remedial actions.

6. After a proposal involving water wells or water pipelines has passed first and second-level screening (36 CFR 251.54(e)(1)-(e)(5); FSH 2709.11, sec. 11.2) and an application for that project has been accepted, the authorized officer shall deny the application if NFS groundwater resources would be compromised, despite mitigation, if the proposed use were authorized (36 CFR 251.54(g)(2)(i), (g)(4); FSH 2709.11, sec. 12.62).

2563.5 – Additional Requirements for Applications for Certain Water Supplies

Ensure that all applicants (including holders whose authorizations are expiring) for a special use authorization involving a publicly accessible water supply that utilizes one or more high-capacity wells provide a water supply development and operation plan to the Forest Service with a level of detail commensurate with the scale of the existing or proposed withdrawal. The water supply development and operation plan must be approved in writing by the authorized officer.

1. Ensure that a water supply development and operation plan:
 - a. Addresses development and implementation of source water protection plans for water supply wells and well fields used for drinking water in accordance with applicable State or local procedures.
 - b. Characterizes the groundwater systems from which the water is withdrawn and connections to surface water at a scale and resolution appropriate to the water withdrawal.
 - c. Provides for periodic water quality monitoring at each water source and, as appropriate, at nearby potential contaminant sources, including any CERCLA or equivalent State removal or remediation sites.
 - d. Provides for regular reporting to the Forest Service in an electronic format acceptable to the agency of the results of all monitoring and testing, including monitoring and testing required by local, State, or other Federal agencies.
 - e. Includes a copy of all other required Federal, State, or local water-related permits or approvals or, if pending, the applications for those permits or approvals.
 - f. Includes a contingency plan addressing safeguarding of facilities, provision of alternate water supplies, and response to potential contamination events.
2. In reviewing a water supply development and operation plan, consider:

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

- a. Advising the applicant to provide for phasing of separate applications for exploration and testing and final construction and production to allow for collection of additional project-specific information and adjustments based on that information.
- b. Including special terms and conditions, such as mitigation measures, in the special use authorization based on provisions in the plan.

2563.6 – Additional Analyses for Applications Involving Water Wells or Water Pipelines

The following provisions apply to evaluation of applications for new uses that include high-capacity water wells; large water injection wells; water wells with the potential to adversely affect groundwater-dependent ecosystems critical to land management goals established for the administrative unit; pipelines crossing NFS lands; and proposals for modification of an authorized use involving these water wells or pipelines.

1. Phasing. If an application includes a water removal or injection rate that has the potential for significant impacts on groundwater-dependent ecosystems critical to land management goals established for the administrative unit, substantial additional analyses may be necessary. Analyze potential effects of the proposed uses on NFS water resources and neighboring water withdrawals. Analyze the potential effects in two phases: (1) exploration and testing and (2) construction and production. When an applicant proposes to use existing wells, the procedures described in paragraphs 3a through 3d may still apply.
2. Advising Applicants.
 - a. Advise applicants that obtaining authorization for exploratory drilling or testing for new water sources does not guarantee that construction or operation of production-phase facilities will be authorized.
 - b. Advise applicants that substantial mitigation measures may be required under the authorization for production-phase facilities and that the scope of these measures may not be identified until the conclusion of appropriate analyses.
3. Additional Procedures.

Ensure that authorizations that involve utilization of any of the following additional procedures to evaluate site conditions have a term of no more than 10 years and contain terms and conditions that are necessary to minimize impacts on NFS water resources and that require that all applicable State and local water rights or approvals be obtained prior to project initiation (36 CFR 251.56(b)(1)). Complete environmental analyses appropriate to the scale of the proposed operations.

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

- a. Exploratory drilling. If exploratory drilling is included in the application, require the applicant to submit a detailed project plan for the drilling. The project plan must be site-specific; must incorporate appropriate field procedures; must comply with all State and local requirements for drilling; must be prepared at a level of detail appropriate for the scale of the proposed project; and must clearly identify potential impacts on NFS water resources and nearby water withdrawals. Approve the project plan in writing prior to initiation of drilling.
- b. Hydraulic well testing. If existing wells or wells established during exploratory drilling appear to meet the applicant's needs, require the applicant to submit a project plan for hydraulically testing the sufficiency of the wells. The project plan must be site-specific; must use appropriate field test data; must be prepared at a level of detail appropriate for the scale of the proposed project; and must clearly identify potential impacts on NFS water resources and nearby water withdrawals. Approve the project plan in writing prior to initiation of hydraulic well testing.
- c. Injection testing. If the injection wells to be utilized open into geological formations containing fresh water, require site-specific analyses of the physical and chemical effects from any water introduced during exploration, testing, or operation of the wells. Approve the project plan in writing prior to initiation of injection testing.
- d. Aquifer testing. Require the applicant to submit a detailed aquifer testing plan if the proposed project may have a substantial impact on existing water withdrawals or on groundwater-dependent ecosystems critical to land management goals established for the administrative unit. Approve a project plan in writing prior to the initiation of any aquifer testing.
- (1) Wells. Require an appropriate level of aquifer testing in the absence of sufficient site-specific information to evaluate impacts on NFS water resources and nearby water withdrawals from proposed groundwater withdrawals or injections into geological formations containing fresh water on NFS lands. Aquifer testing involves pumping the preexisting water supply or monitoring wells or newly installed exploratory or monitoring wells and monitoring the surface and groundwater to assess impacts on NFS water resources and nearby water withdrawals from removing or injecting water at the anticipated production rates from the proposed wells.
- (2) Pipelines. Require aquifer testing for proposals that involve transporting water across NFS lands in the absence of sufficient site-specific information to evaluate impacts on NFS water resources from groundwater withdrawals or injections on nearby non-NFS lands associated with the proposed pipeline (40 CFR 1508.25).
- e. Construction documentation. Require submission of an as-built report for all well and pipeline construction on NFS lands. Ensure that the construction of the well or

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

pipeline is conducted in accordance with the as-built report (FSH 1909.15, ch. 20, 30, and 40).

f. Data analysis. Analyze results from exploratory drilling, hydraulic well testing, injection testing, and aquifer testing to determine potential effects on NFS water resources and nearby water withdrawals.

2563.7 – Terms and Conditions in Special Use Authorizations for Water Wells and Water Pipelines

Ensure that all new and reissued authorizations involving a water well or water pipeline provide for modification of their terms and conditions at the sole discretion of the authorized officer:

1. If deemed necessary to comply with applicable laws or regulations, the applicable land management plan, or project decisions implementing a land management plan pursuant to 36 CFR part 215; or
2. If deemed necessary, based on a written analysis conducted by qualified groundwater personnel, an aquatic biologist, or another similarly trained professional of the results of monitoring, to prevent the authorized groundwater withdrawals or injections from significantly reducing the quantity or unacceptably modifying the quality of surface or groundwater resources on NFS lands.

2563.8 – Monitoring and Mitigation for Water Wells and Water Pipelines

1. Ensure that all new and reissued authorizations involving water wells or water pipelines that have a substantial potential to adversely affect NFS groundwater resources are monitored in a manner appropriate to the scale and nature of the potential effects.
2. Ensure that all new and reissued authorizations involving water wells and water pipelines include terms and conditions to minimize damage to scenic and aesthetic values and fish and wildlife habitat, as well as any mitigation measures necessary to comply with Federal and State law and to provide for the long-term protection of NFS water resources during construction and operation of water pumping, injection, storage, or transport facilities. Monitor and evaluate all mitigation measures for efficacy.
3. Ensure that the operating plan for all new and reissued authorizations involving water wells and water pipelines that contain monitoring or mitigation measures includes detailed information on implementation of those monitoring and mitigation measures and requires annual reporting of the status and results of those monitoring and mitigation measures. Require the holder to prepare the monitoring and mitigation provisions and all other parts of the operating plan in consultation with the authorized officer and to submit the operating plan to the authorized officer for written approval.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

4. If monitoring detects insufficiency of mitigation measures or additional or unforeseen adverse impacts on NFS water resources from groundwater withdrawals or injections, notify the holder and work with the holder to identify alternative mitigation measures that adequately protect NFS water resources. Add monitoring or mitigation measures, change or limit the activities authorized, modify the holder's operations, or otherwise modify the terms and conditions of the authorization if deemed necessary, based on an analysis conducted by qualified groundwater personnel, an aquatic biologist, or another similarly trained professional of the results of monitoring, to prevent the authorized groundwater withdrawals or injections from significantly reducing the quantity or unacceptably modifying the quality of surface or groundwater resources on NFS lands.
5. If monitoring or mitigation is not conducted as required by a special use authorization, provide notice and an opportunity to correct the deficiencies and take appropriate action in accordance with 36 CFR 251.60(a)(2) and the terms of the authorization.

2564 – MEASURING AND REPORTING VOLUME OF EXTRACTED OR INJECTED WATER

Provisions 1 through 3 of this section do not apply to authorized minerals or energy development on NFS lands.

1. Require measurement in gallons per day or liters per day, on a continuous basis, of the volume of groundwater extracted for all public water systems classified as community water systems (FSM 7420) and for all Forest Service and Forest Service-authorized uses that involve a high-capacity well. Measurement of withdrawals from wells equipped only with a hand or windmill pump is not required.
2. Require measurement in gallons per day or liters per day, on a continuous basis, of the volume of water injected into the ground from large water injection wells on NFS lands authorized by the Forest Service.
3. Require quarterly reporting in an electronic format acceptable to the Forest Service of groundwater withdrawals and injections that must be measured under this section. More frequent reporting may be required if necessary to evaluate effects on water resources critical to land management goals established for the administrative unit or nearby water supplies.
4. Require reporting on the same timetable to the Forest Service in an electronic format acceptable to the agency of any groundwater withdrawal, injection, or use that is reported to local, State, or other Federal authorities.
5. Require measurement and reporting of groundwater withdrawals and injections as follows:

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

- a. For new uses and activities, at the time of the issuance of the authorization.
- b. For authorized uses and activities, at the time of reissuance of the authorization or approval of modification of the authorized use. If the holder of the authorization consents, amend the authorization to include this requirement.
- c. For Forest Service administrative uses, at the time of a significant upgrade to or maintenance of a water system or expansion of water system capacity.

2565 – CLEANUP OF CONTAMINATED GROUNDWATER

1. Ensure that cleanup of groundwater on NFS lands contaminated with hazardous substances, petroleum products, pollutants, or contaminants is completed in a manner that protects human health and the environment and that provides protection from encumbrances on future land use (FSM 2160).
2. At a potential cleanup site on NFS lands determine whether:
 - a. A release of a hazardous substance, petroleum product, pollutant, or contaminant has occurred.
 - b. There is a significant threat to the public health or welfare.
 - c. Significant harm to the environment or natural resources has occurred or could reasonably be expected to occur.
3. Ensure that determinations are consistent with requirements of:
 - a. CERCLA and RCRA.
 - b. The NCP.
 - c. Departmental Manual 5600-1, Chapter V.
4. Comply with other applicable Federal and State laws and regulations.
5. Before authorizing a response action or an investigation or assessment of potential damage to natural resources, consult with the USDA Hazardous Materials Management Division Director, the Forest Service National Environmental Engineer, and the local Office of the General Counsel and determine whether there are any potentially responsible parties who can perform or fund a response action.

**FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT**

2565.1 – Collection of Data for Groundwater Cleanup Activities

1. Collect data regarding water quality and quantity, water uses, and potentially impacted ecological systems, if needed. Consider post-cleanup data needs.
2. Employ safeguards during data collection to protect:
 - a. Water quality and quantity.
 - b. Potentially affected water users.
 - c. Sensitive ecological systems.

2566 – INFORMATION AND DATA MANAGEMENT FOR GROUNDWATER

1. Conform to current Forest Service data system standards (the Forest Service Natural Resource Applications (FSNRAs)), such as the National Resource Information System (NRIS) or INFRA, and to applicable Servicewide GIS data standards in managing and storing groundwater data and information.
2. Store groundwater data and information in operational FSNRA databases. Data on groundwater quality should be managed in a format compatible with STORET (an EPA database) until FSNRA water quality applications are available. Data management requirements for drinking water are specified in FSM 7420.
3. Develop a comprehensive record of authorized uses affecting groundwater resources to support future decisions, including but not limited to documentation of:
 - a. The impacts on NFS resources.
 - b. The rationale for mitigation measures required to protect those resources.
 - c. The reasons why the activity in question is consistent or inconsistent with the applicable land management plan.

2567 – LEGAL CONSIDERATIONS IN MANAGING GROUNDWATER RESOURCES

1. Work cooperatively with appropriate State agencies to ensure that applicable State and Federal water-related laws and regulations are implemented on NFS lands to protect groundwater for such purposes as outdoor recreation, authorized special uses, permitted livestock grazing, and fish and wildlife management. Whenever possible, establish a process for mutual consultation with appropriate State agencies regarding groundwater-related issues on NFS lands.

FSM 2500 – WATERSHED AND AIR MANAGEMENT
CHAPTER 2560 – GROUNDWATER RESOURCE MANAGEMENT

2. Use the regulations promulgated under the SDWA, including the Underground Injection Control Rule (42 U.S.C. §§ 300h–300h-5), and other applicable Federal laws and regulations to protect groundwater resources on NFS lands.
3. Follow the direction in FSM 2541 and applicable State law when filing groundwater claims during State water rights adjudications and administrative proceedings. Apply Federal reserved water rights (the Reservation or Winters doctrine) to groundwater as well as surface water to meet Federal purposes under the Organic Administration Act, the Wild and Scenic Rivers Act, and the Wilderness Act.
4. Recognizing Tribal treaty and reserved rights, work cooperatively with DOI and affected tribes during tribal water settlement negotiations involving NFS groundwater resources.
5. Consult the local Office of the General Counsel whenever specific questions arise regarding groundwater laws and regulations. Additional guidance and information on laws, regulations, and case law related to groundwater in the 43 States and Territories that contain NFS lands can be found in a sourcebook at this Forest Service Web site:
<http://www.fs.fed.us/biology/resources/pubs/watershed/index.html>.

2568 – STRATEGIES FOR SUSTAINING GROUNDWATER RESOURCES

1. Collaborate with local, State, and other Federal agencies and Tribes to sustain the availability and usability of groundwater over the long term through the use of conventional and innovative approaches.
2. Consider conjunctive use of surface and ground waters; artificial recharge of groundwater, such as infiltration ponds or water injection wells; and appropriate use of recycled and reclaimed water where those approaches also protect the quality of the receiving water and affected water-dependent ecosystems.
3. To protect local groundwater resources, encourage utilization of one or more of the following conventional strategies where impacts on surface and groundwater resources are deemed acceptable:
 - a. Modify the rates, timing, or spatial patterns of groundwater withdrawal.
 - b. Use sources of water other than local groundwater, or import surface or groundwater from outside the basin where laws, water quality, and hydrological conditions in both the source and receiving areas allow.

Tab T – WSWC-WestFAST Federal Non-Tribal Water Rights



WESTERN STATES WATER COUNCIL

5296 Commerce Drive, Suite 202 I Murray, Utah 84107 I (801) 685-2555 I FAX (801) 685-2559

Web Page: www.westernstateswater.org

MEMORANDUM

To: WSWC-WestFAST Federal Non-Tribal Workshop Participants

From: Nathan Bracken, WSWC Assistant Director and General Counsel

Date: August 5, 2014

Re: Summary of Workshop Proceedings

I. INTRODUCTION

On July 15-16, the Western States Water Council (WSWC) and WestFAST held a workshop to discuss ways to improve the resolution of federal non-tribal water rights claims. The workshop also discussed the development of a clearinghouse of information to help support states and federal agencies as they work to address these claims. Participants included over 40 water experts representing eleven states and seven federal agencies, as well as a handful of experts from academia and the private sector.

Going forward, workshop participants identified two key next steps.

First, workshop participants recommended the establishment of a workgroup of state and federal experts that will hold regular conference calls to discuss ways to improve the resolution of federal non-tribal water rights claims. The calls would be relatively informal in nature and would serve to foster relationship building among participants, share information, and foster communication among state and federal participants. From time to time, the workgroup could also hold webinars or other meetings to discuss specific topics of interest.

Secondly, workshop participants recommended that the clearinghouse be searchable and publically available through the Internet. To begin the process of developing the clearinghouse, it was agreed that a literature review is needed to identify relevant documents, such as settlements, compacts, and decrees. As an initial first step, the WSWC will review its reports and publications and work with WestFAST to identify other relevant documentation. To be included in the clearinghouse, relevant information must be public and final. The information listed on the clearinghouse must also comply with copyright laws.

Notably, the WSWC's Legal Committee met on July 17, and approved the above steps.

II. GENERAL THEMES AND KEY FINDINGS

The workshop generated a number of general themes and key findings that can serve as the basis for future discussion for the workgroup as well as the development of the clearinghouse.

These themes and findings emerged during the course of five panel presentations. The first panel discussed state-federal collaboration in Montana and included presentations from Tim Davis with the Montana Water Resources Division, Jeff Hughes with the National Park Service, and Brent Esplin with the Bureau of Reclamation. The second panel consisted of Jack Peterson with the Idaho Water Resources Board and Joseph Cole with the Air Force, who discussed a recent efforts by Idaho to secure water rights for the Mountain Home Air Force Base as well as the water needs of the Department of Defense and the Air Force. The latter presentations consisted of three case studies on: (1) issues associated with state general stream adjudications; (2) accommodating federal water needs within state legal frameworks; and (3) issues associated with permitted activities on federal land.

General themes that emerged from these discussions include (in no particular order):

- Relationships are critical;
- Communicate early, on a regular basis, and possibly in a structured manner;
- Communicate before taking action;
- Process is key;
- Be flexible;
- Embrace uncertainty;
- Be ready to capitalize on situations that allow for agreement, because such situations may be fleeting;
- Litigation is a “blunt instrument” and negotiated agreements provide benefits not available in court;
- Continually educate and inform other parties and the public; and
- Use neutral parties (e.g., mediators and technical experts).

Breakout group discussions followed each of the three case studies. As discussed below, these discussions generated more specific findings for their respective topics.

A. Issues Associated with General Stream Adjudications

This topic included four breakout groups, each of which discussed a different aspect of general stream adjudications. A case study consisting of presentations on the U.S. Forest Service’s (USFS) compact with Montana preceded the breakout group discussions. Presenters included Chris Tweeten of the Montana Reserved Water Rights Compact Commission, Jody Miller with the USFS, and Faye Bergan, formerly of the Montana Reserved Water Rights Compact Commission.

Group A discussed the interpretation and application of the McCarran Amendment. Its instructions were as follows:

The McCarran Amendment waives the United States' sovereign immunity in lawsuits concerning the ownership or management of water rights, thereby requiring the federal government to submit to state court adjudication of its water rights claims. In some cases, states and federal agencies may have differing interpretations regarding the scope and application of the McCarran amendment. This breakout group will discuss ways states and federal agencies can resolve these differences, as well as ways to provide federal agencies with assurances that they will receive a fair hearing in state courts.

Based on this assignment, Group A made the following findings:

- Remember that the McCarran Act is procedural;
- There is a need to align federal interpretations; and
- Efforts are needed to improve state and federal understanding of the McCarran Act's administrative component.

Group B discussed ways to address concerns related to the time and cost needed to conduct general stream adjudications. Its instructions stated:

*Federal water rights claims are often the most time-consuming and costly claims to address in general stream adjudications. The U.S. Supreme Court held in *United States v. Idaho*, 508 U.S. 1 (1992), that the United States is not required to pay state general stream adjudication filing fees, which many states use to help pay for the costs of conducting adjudications. At the same time, many state budgets are strained, further limiting the ability of states to conduct general stream adjudications in an effective and timely manner. This breakout group will discuss ways to reduce the costs and time associated with general stream adjudications, including but not limited to ways to effectively quantify federal claims and address their merits.*

Group B recommended:

- Tweak state fee structures to facilitate federal payment of fees;
- Streamline state adjudication of de minimis uses, including domestic and other similar uses, which may not be directly related to federal claims but may strain the resources needed to adjudicate federal claims;
- Use new and emerging technologies, such as Landsat, to improve the adjudication process;
- Consultation between states and federal agencies should take place before action is taken; and
- Focus on "high priority" areas or regions.

Group C discussed how to manage water shortages and address conflicts in basins where general stream adjudications have not yet begun or are incomplete. Its assignment stated:

General stream adjudications often take decades to resolve, which can complicate or hinder the ability of federal agencies to carry out their missions and objectives, particularly in times of drought and shortage. This breakout group will discuss ways states and federal agencies can work together to address shortages and manage conflicts in situations where general stream adjudications have not yet begun or are incomplete.

Group C recommended:

- Federal agencies can notify states of what they think their rights are;
- States can develop basin-specific rules and requirements for shortages;
- States and federal agencies can use water banks, operating agreements, shared shortages, subordination, temporary leases, in-stream flow leases, and other similar efforts; and
- “Throw more money” at infrastructure (e.g., storage and pipeline projects).

Group D studied ways to develop effective working relationships between states and federal agencies as well as the general public. Its instructions stated:

Relationships play a key role in the successful resolution of federal water right claims. This breakout group will discuss how states and federal agencies can develop effective working relationships. The breakout group will also discuss how states and federal agencies can develop effective relationships with legislative bodies and the general public, as well as how to address public concerns in an era in which social media plays an increasingly important role in the dissemination of information and misinformation.

Group D found:

- Efforts to build trust among parties and other stakeholders are critical;
- Efforts to inform and educate parties, the public, and policy makers should begin early and should be ongoing; and
- Parties should maintain regular contact with each other in the face of challenges and disagreement.

B. Accommodating Federal Water Needs Within State Legal and Administrative Frameworks

This topic began with a case study consisting of presentations on the Platte River Recovery Implementation Program by Megan Estep of the U.S. Fish and Wildlife Service and Jim Schneider of the Nebraska Natural Resources Department. Four breakout group discussions followed the presentations.

Group A discussed issues associated with the use of state in-stream flow laws. Its instructions stated:

Many federal agencies seek in-stream flow rights to carry out federal missions and objectives. However, there is significant variation among the laws and programs that govern in-stream flow rights in the western states. This breakout group will discuss ways federal agencies can use state in-stream flow laws to accommodate federal purposes.

Group A found:

- There is a need to recognize federal limitations;
- Having a “re-open” clause that allows for consideration of changes in circumstances could help address some barriers to federal participation in state in-stream flow programs;
- In some cases, giving greater authority to state engineers may be helpful; and
- Not every state program allows for applications for the types of purposes that federal agencies may need and allowing for such applications could help facilitate federal participation in state in-stream flow programs.

Group B focused on state water right permitting processes. Its assignment stated:

The western states use similar but different processes to permit water rights. The degree to which these programs accommodate and affect federal needs and interests may vary. This breakout group will discuss how state water right permitting systems can be used to accommodate and account for federal water needs and interests.

Group B recommended:

- States can provide notice to federal agencies of water right applications and other activities that may affect federal interests and needs;
- Consider moving the point of diversion in some instances;
- List land ownership on applications; and
- Align federal interpretations.

Group C studied ways to address conflict. Its instructions read:

Federal water right claims can generate a significant amount of conflict, including conflict between states and federal agencies. This breakout group will discuss ways to effectively manage such conflict within the context of state court and administrative proceedings, as well as ways states and federal agencies can resolve conflicts through mediation, negotiation, and other means that do not involve litigation.

Group C found:

- Continued education and communication is needed at all levels and with the public;
- State and federal staff should be kept up to date on the law;
- Efforts to understand the challenges at hand should be taken before other actions, including efforts to develop an understanding of the other side's perspective and motivations; and
- Learn to speak the other party's language.

Group D discussed ways to address uncertainty through science, data, and government structures. Its instructions stated:

States and federal agencies require access to sound science and accurate and reliable data to resolve federal water rights claims and effectively manage water resources in the face of future uncertainty. Government structures, including structures developed through compacts and other negotiated agreements, also play a key role in planning for future uncertainties related to drought, climate, and other factors. This breakout group will discuss how states and federal agencies can use data, science, and government structures to address uncertainty.

Group D reported:

- Models should be flexible, iterative, calibrated, and dynamic;
- New science should be included and utilized;
- Use neutral 3rd parties to develop and assess data and science;
- Use models in the development and implementation of management scenarios; and
- Communication early and often regarding the development of science, data, and governance structures.

C. Water-Related Issues Associated with Permitted Activities and Uses on Federal Land

The case study for this topic focused on water issues associated with grazing permits in Oregon. It featured presentations from Racquel Rancier with the Oregon Department of Natural Resources and Jana Wilcox with the Bureau of Land Management's (BLM) Burns District in Oregon. Three breakout groups followed the presentations.

Group A analyzed conflicts between the exercise of state-issued water rights and federal oversight over activities on federal land. Its assignment stated:

Federal land management agencies are responsible for overseeing and regulating activities that take place on the federal lands they manage, such as grazing, the

operation of ski areas, mining, etc. These activities often require or involve state-issued water rights in addition to federally-issued special use permits, right-of-way authorizations, and other federal approvals. This breakout group will discuss how to address conflicts and other issues that may arise between the exercise of state-issued water rights and federal oversight of activities that take place on federal lands, including but not limited to conflicts related to conditions that federal agencies may require as part of their authorizations for certain activities.

Group A advised as follows:

- Do “pre-conflict” planning;
- Recognize that federal laws change but property rights do not;
- Look at track records to identify parties that want solutions and those that want conflict;
- Use the “right” messenger to communicate with conflict-oriented people and groups;
- Use shuttle mediation and negotiation to overcome impasses;
- Understand your limitations;
- Educate staff to make the same, consistent message;
- Be aware of the potential for politicization; and
- Use state permitting processes to develop “workaround” solutions.

Group B studied ways to coordinate and streamline state and federal permitting requirements for activities on federal lands. Its instructions stated:

Activities on federal lands often require permits or other forms of authorization from federal agencies, as well as water rights permits and water quality permits from state agencies. This breakout group will discuss ways states and federal agencies can better coordinate and streamline their permitting processes.

Group B found:

- Parties should recognize that states may treat water right holders and land owners differently;
- Parties should understand that states may impose different conditions when issuing permits and that each state has different requirements regarding such conditions;
- There may be inconsistencies between the different types of federal land use permits, which often evolve over time; and
- Consider developing state-specific memorandums of understanding (e.g., Wyoming’s MOUs with the BLM and the USFS).

Group C discussed water-related issues associated with the Federal Land Policy Management Act (FLPMA). Its assignment stated:

FLPMA is one of the principal laws governing the management of federal lands. Among other things, FLPMA authorizes the development of land use plans that consider present and future uses for federal lands while simultaneously trying to preserve the natural resources located within such lands. In turn, these plans guide how certain federal agencies with land management responsibilities oversee activities on the federal lands that fall under their purview. This breakout group will discuss ways to improve state-federal cooperation with respect to the development of land use plans under FLPMA.

Group C recommended:

- States and federal agencies need to develop a better understanding of the FLPMA to improve state-federal cooperation;
- States and federal agencies should be upfront with one another about their respective mandates; and
- Develop MOUs or review existing MOUs and similar agreements to see if such documents can be used to address the issue at hand.

III. POTENTIAL CLEARINGHOUSE INFORMATION

The breakout groups identified a number of documents and useful information to be included in the clearinghouse. Workgroup participants also recognized that the WSWC and WestFAST have limited resources and that it may take some time to develop and collect all of the documents and information discussed during the meeting.

In the near term, the following list of possible clearinghouse information will inform the WSWC and WestFAST as they carry out the previously mentioned literature review and take other initial steps to develop the clearinghouse, while also aiding in the selection of topics and work items for the state-federal workgroup:

- Copies of final settlements, decrees, MOUs, and similar documents;
- *U.S. v. Idaho*, 508 U.S. 1 (1992);
- A directory of relevant professionals working on federal non-tribal rights;
- Court and administrative orders regarding the McCarran amendment;
- A list of federal offices that states can work with when addressing issues relevant involving land use permits;
- How states adjudicate de minimis uses;
- A summary of the state fees that federal agencies can pay in general stream adjudications;
- A summary of how states fund adjudications;
- Information on the value of water;
- Hydrologic models (or relevant links);
- A list of relevant state and federal common laws, statutes, and regulations regarding water rights;
- A summary of how each western states addresses appurtenancy;

- A list of water uses in each western state that require a permit; and
- A summary of who can hold water rights in each state.

IV. POSSIBLE WSWC-WESTFAST ACTION

In addition to the above information, the breakout groups also identified various actions that the WSWC and WestFAST may consider taking to improve the resolution of federal non-tribal water rights. These actions are as follows:

- Facilitate dialogue on the administrative component of the McCarran Amendment, including a possible webinar organized by the state-federal workgroup;
- Take action (e.g., a WSWC position or letter) to encourage federal agencies to place a higher priority on understanding western water rights;
- Hold a regular conference or workshop, similar to the biennial Symposium on the Settlement of Indian Reserved Water Rights Claims that the WSWC co-sponsors with the Native American Rights Fund;
- Facilitate networking opportunities (e.g., phone conferences, webinars, workshops, etc.);
- Provide more information on “failures;”
- Develop white papers on specific issues that describe how the issues in question were addressed and/or resolved;
- Develop a catalog of relevant “upcoming” or “developing issues; and
- Study the Federal Energy Regulatory Commission’s re-authorization process and related experiences to see if there are lessons learned that states and federal agencies can use to address the differences between state water right permitting and federal land use permitting.

V. CONCLUSION AND NEXT STEPS

WSWC staff will work with the WestFAST Liaison to carry out the above actions under the direction of the WSWC’s Legal Committee and WestFAST, focusing initially on the establishment of a state-federal workgroup and the completion of a literature review of existing WSWC and other documents that can be considered for inclusion in the clearinghouse.

It is also proposed that the workgroup hold calls on a quarterly basis, with the first call taking place in the 4th quarter of 2014. The calls will serve as a forum for participants to discuss notable developments and will also help guide the development of the clearinghouse. Ideally, WSWC staff and the WestFAST Liaison will have been able to begin the literature review before the first workgroup call and will be able to report on the information currently available for inclusion in the clearinghouse. This information will hopefully inform the development of the clearinghouse.

Workgroup participants who are interested in participating in the workgroup should notify Nathan Bracken (nbracken@wswc.utah.gov) at their earliest convenience.

Workshop participants are also encouraged to provide any publicly available, final documents and information that they believe could be included in the clearinghouse, particularly final settlements, compacts, decrees, and court orders.

Tab U – Legislation and Litigation Update

LEGISLATION AND LITIGATION UPDATE
177TH WSWC MEETINGS
TULSA, OKLAHOMA – APRIL 16, 2015

Compiled By:
Nathan Bracken
WSWC Assistant Director and General Counsel
nbracken@wswc.utah.gov

This summary describes developments regarding notable legislation and litigation that pertain to WGA/WSWC policies or are otherwise of interest. It focuses primarily on developments that have taken place since the beginning of the 114th Congress. This update is current as of March 31, 2015, and the legislative portion is organized in reverse chronological order according to bill number. For some bills, this document uses modified versions of summaries prepared by the Congressional Research Service.

NOTABLE LEGISLATION

Bill Number(s)	Summary	Dates/Status	Sponsor(s)
H.R. 1710	Issue – Water Resources Reform and Development Act (WRRDA) of 2014/Drought Title – None: Would amend the 2014 WRRDA, which passed last year, to provide additional financing options for water infrastructure projects carried out in states in which the Governor has issued drought emergency declaration, and for other purposes. This summary is based on a description provided by the bill’s sponsor. The text of this legislation was not available when this summary was prepared.	3/26/15: H.R. 1710 introduced in the House and referred to the Committees on Transportation and Infrastructure and Energy and Commerce	Rep. Jerry McNerney (D-CA) introduced H.R. 1709 with co-sponsor Representatives Michael Honda (D-CA) and Doris Matsui (D-CA)
H.R. 1709	Issue – Safe Drinking Water Act (SDWA)/Drought Title – None: Would amend the SDWA to provide for the assessment and management of	3/26/15: H.R. 1709 introduced in the House and referred to the	Rep. Jerry McNerney (D-CA) introduced H.R.

	the risks of drought to drinking water, and for other purposes. This summary is based on a description provided by the bill's sponsor. The text of this legislation was not available when this summary was prepared.	House Committee on Energy and Commerce	1709 with co-sponsor Representatives Doris Matsui (D-CA), Lois Capps (D-CA), Paul Tonko (D-NY), and Michael Honda (D-CA)
H.R. 1705	Issue – Clean Water Act (CWA)/Water Infrastructure Title – None: would amend the CWA to assist municipalities and regional sewer authorities that would experience a significant hardship raising the revenue necessary to finance projects and activities for the construction of wastewater treatment works, and for other purposes. This summary is based on a description provided by the bill's sponsor. The text of this legislation was not available when this summary was prepared.	3/26/15: H.R. 1705 introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. Robert Latta (R-OH) introduced H.R. 1705 with co-sponsor Rep. Timoth Walz (D-MN)
H.R. 1668	Issue – Endangered Species Act (ESA)/Drought Title – Save Our Water Act: During times of extreme and exceptional drought, the bill would suspend the application of the ESA to water releases by federal and state agencies aimed at adjusting river water temperatures. This summary is based on a description provided by the bill's sponsor. The text of this legislation was not available when this summary was prepared. However, the bill's sponsor, Rep. Tom McClintock (R-CA), provided the following additional information in a press release: This bill incorporates language that will stop the appalling practice of sacrificing tens of thousands of acre-feet of water for the comfort of fish when the human population is in immense peril	3/26/15: H.R. 1668 introduced in the House and referred to the Committee on Natural Resources	Rep. Tom McClintock (R-CA) introduced H.R. 1668

H.R. 1623	Issue – CWA/ National Pollutant Discharge Elimination System (NPDES) Permits Title – None: Would amend the CWA to increase the length of the NPDES permit cycle under Section 402 from five to twenty years. This summary is based on a description provided by the bill’s sponsor. The text of this legislation was not available when this summary was prepared. However, a press release from the bill’s sponsor, Rep. Sam Graves (R-MO), explained the reason for the legislation, stating: “Municipalities are often forced to take out a twenty-year loan for each NPDES permit, meaning that at any time, they are paying off loans for four different five-year permits.” The press release also included the following quote from Rep. Graves: Many of these municipalities are already struggling financially, and having to pay off multiple loans at once is an added burden that simply does not make sense. The common-sense solution is to increase the length of the NPDES permit cycle to match the time a municipality is in debt to one permit cycle. Our bill will do just that.	3/25/15: H.R. 1623 introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. Sam Graves (R-MO) introduced H.R. 1623 with the other Republican members of Missouri’s Congressional delegation.
S. 828	Issue – Hydraulic Fracturing Title – The Fracturing Regulations are Effective in State Hands (FRESH) Act: Would declare that states have the sole authority to regulate hydraulic fracturing on all land within their boundaries, including federal land. Under the bill, oil and gas companies would still be required to comply with applicable state laws. The bill is a response to a new rule the Department of the Interior finalized on March 20, setting forth new regulations to govern hydraulic fracturing on federal and tribal lands. Among other things, the rule includes a process by which states and tribes can request a variance if they have equal or more protective regulations in place. This summary is based on a description provided by the bill’s sponsor. The text of this	3/19/15: S. 828 introduced in the Senate and referred to the Committee on Energy and Natural Resources	Senate Environment and Public Works Committee Chair Jim Inhofe (R-OK) introduced S. 828 with 28 Republican co-sponsors

	legislation was not available when this summary was prepared. However, a press release from the bill's sponsor, Senate Environment and Public Works Committee Chair Jim Inhofe (R-OK), said: The past 60 years have proven that states are in the best position to understand their unique geologies and to determine what their energy needs are and what regulations are necessary to support and protect their communities. Even [Secretary of the Interior] Sally Jewell has said fracking has been done safely for many, many years. This is why I have introduced legislation...to ensure states, and not the federal government, will continue to have the sole authority in regulating hydraulic fracturing. <i>*WSWC Policy #353 urging federal hydraulic fracturing efforts to leverage state expertise and opposing efforts to diminish state primacy over the allocation of water resources used in hydraulic fracturing.</i> <i>**WGA Resolution 2013-09, paragraph B(3) stating that states "have effectively regulated the practice of hydraulic fracturing and redundant federal regulation is not required."</i>		
H.R. 1515	Issue – Hydraulic Fracturing/SDWA Title: Safe Hydration is an American Right in Energy Developed (SHARED) Act of 2015: Would amend the SDWA to require testing of underground sources of drinking water in connection with hydraulic fracturing and public disclosure of the results of the testing. The SHARED Act is one of four so-called "Frack Pack" bills aimed at closing oil and gas "loopholes" involving hydraulic fracturing. The other bills include the FRAC Act (S. 785/H.R. 1482) regarding the SDWA, the FRESHER Act (H.R. 1460) regarding the CWA, and the BREATHE Act (H.R. 1548) regarding the Clean Air Act. <i>*WSWC Policy #353 urging federal hydraulic fracturing efforts to leverage state expertise and opposing efforts to diminish state primacy over the allocation of water</i>	3/19/15: H.R. 1515 introduced in the House and referred to the Committee on Energy and Commerce.	Rep. Jan Schakowsky (D-IL) introduced H.R. 1515 with 18 Democratic co-sponsors

	<i>resources used in hydraulic fracturing.</i> <i>**WGA Resolution 2013-09, paragraph B(3) notes that states “have effectively regulated the practice of hydraulic fracturing and redundant federal regulation is not required.”</i>		
S. 785/H.R. 1482	Issue – Hydraulic Fracturing/SDWA Title – Fracturing Responsibility and Awareness of Chemicals (FRAC) Act of 2015: Would require the disclosure of the chemicals used in hydraulic fracturing and would remove the oil and gas industry’s exemption from requirements in the SDWA’s Underground Injection Control program, otherwise known as the “Halliburton Exemption.” The FRAC act is one of four so-called “Frack Pack” bills aimed at closing what their sponsors consider to be “loopholes” involving hydraulic fracturing. The other bills include the SHARED Act (H.R. 1515) regarding the SDWA, the FRESHER Act (H.R. 1460) regarding the CWA, and the BREATHE Act (H.R. 1548) regarding the Clean Air Act. <i>*WSWC Policy #353 urging federal hydraulic fracturing efforts to leverage state expertise and opposing efforts to diminish state primacy over the allocation of water resources used in hydraulic fracturing.</i> <i>**WGA Resolution 2013-09, paragraph B(3) stating that states “have effectively regulated the practice of hydraulic fracturing and redundant federal regulation is not required.”</i>	3/18/15: S. 785 introduced in the Senate and referred to the Committee on Environment and Public Works 3/19/15: H.R. 1482 introduced in the House and referred to the Committee on Energy and Commerce	Senator Robert Casey (D-PA) introduced S. 785 with 11 Democratic co-sponsors Rep. Diana DeGette (D-CO) and Rep. Chris Gibson (R-NY) introduced H.R. 1482 with 36 Democratic co-sponsors
H.R. 1460	Issue – CWA/Hydraulic Fracturing Title – Focused Reduction of Effluence and Stormwater Runoff Through Hydrofracking Environmental Regulation (FRESHER) Act of 2015: Would amend Section 402 of the CWA to revoke an exemption for oil and gas companies regarding stormwater runoff permits. Would also require the Department of the Interior to conduct a study to understand the effects of oil and gas operations on surface waters.	3/19/15: H.R. 1460 introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. Matt Cartwright (D-PA) introduced H.R. 1460 with 59 Democratic co-sponsors

	The FRESHER is one of four so-called “Frack Pack” bills aimed at closing what their sponsors consider to be “loopholes” involving hydraulic fracturing. The other bills include the FRAC Act (S. 785/H.R. 1482) and SHARED Act (H.R. 1515) regarding the SDWA and the BREATHE Act (H.R. 1548) regarding the Clean Air Act. <i>*WSWC Policy #353 urging federal hydraulic fracturing efforts to leverage state expertise and opposing efforts to diminish state primacy over the allocation of water resources used in hydraulic fracturing.</i> <i>**WGA Resolution 2013-09, paragraph B(3) stating that states “have effectively regulated the practice of hydraulic fracturing and redundant federal regulation is not required.”</i>		
H.R. 1370	Issue – U.S. Army Corps of Engineers/Missouri River Title – None: Directs Corps to revise the Missouri Mainstem Reservoir System Master Water Control Manual and any related regulations to delete fish and wildlife as an authorized purpose of the Corps and elevate flood control as the highest priority of authorized purposes of the Corps at all times. (CRS Summary)	3/16/15: H.R. 1370 introduced and referred to the Committee on Transportation and Infrastructure	Rep. Sam Graves (R-MO)
H.R. 1296	Issue – California/San Luis Rey Indian Water Rights Settlement Title – None: Would amend the San Luis Rey Indian Water Rights Settlement Act (P.L. 100-675) regarding the water rights claims of the La Jolla, Ricon, San Pasqual, Pauma, and Pala Band of Mission Indians in California to clarify certain settlement terms. The legislation would also authorize the federal government to execute the settlement agreement, recognize the Bands’ reserved water rights claims, and confirms benefits to allottees in the agreement. The bill does not authorize any federal funding. <i>*WSWC Policy #376 supporting the negotiated resolution of Indian water rights settlements.</i> <i>** WGA Resolution #2014-03, paragraph B(3)(e) supporting the negotiated resolution of Indian water rights settlements.</i>	3/4/15: H.R. 1296 introduced in the House and referred to the Committee on Natural Resources	Rep. Duncan Hunter (R-CA) introduced H.R. 1296 with eight co-sponsors, including a bipartisan group of Representatives from California and Rep. Tom Cole (R-OK)

S. 741/H.R. 1278	Issue – EPA/Water Infrastructure Title – Water Infrastructure Resiliency and Sustainability Act of 2015: Would require EPA to establish and implement a program, to be known as the Water Infrastructure Resiliency and Sustainability Program. Under the program, EPA would award grants in each of fiscal years 2016 through 2020 to owners or operators of water systems to increase the resiliency or adaptability of infrastructure to ongoing or forecasted changes (based on the best available research and data) to the hydrologic conditions of a region of the United States. Grants would require a non-federal cost share up to 50%. The legislation would authorize \$50M for each of fiscal years 2016 through 2020 under H.R. 1278 and \$50M for each of fiscal years 2015 through 2019 under S. 741. (CRS Summary) <i>**WGA Resolution #2014-03, paragraph B(2) regarding water infrastructure needs.</i>	3/4/15: H.R. 1278 introduced in the House and referred to the Committees on Transportation and Infrastructure, Energy and Commerce, and Natural Resources 3/16/15: S. 741 introduced in the Senate and referred to the Committee on Energy and the Environment	Senator Benjamin Cardin (D-MD) introduced S. 741 with cosponsors Senate Majority Leader Harry Reid (D-NV) and Senator Barbara Boxer (D-CA) Rep. Lois Capps (D-CA) introduced H.R. 1278
S. 653	Issue – Water Resources Research Amendments Act of 2015 Title – Would amend the Water Resources Research Act of 1984 to: (1) declare that additional research is required to increase the effectiveness and efficiency of new and existing treatment works through alternative approaches, including non-structural alternatives, decentralized approaches, energy use efficiency, water use efficiency, and actions to extract energy from wastewater; (2) require each water resources research and technology institute to arrange for research that fosters the exploration of new ideas that expand understanding of water resources (currently, of water-related phenomena); (3) direct the Department of the Interior to report to specified congressional committees annually on each institute's compliance with matching fund requirements and provisions permitting the use of funds only to reimburse direct cost expenditures incurred for the conduct of the water resources research program; and (4) authorize a total of \$9.5M per year through 2020 for such institutes through FY2020. (CRS Summary) <i>*WSWC Policy #368 supporting the Water Resources Research Institutes.</i>	3/4/15: S. 653 introduced in the Senate and referred to the Committee on Environment and Public Works	Senator Benjamin Cardin (D-MD) introduced S. 653

S. 611	Issue – SDWA/Water Infrastructure Title – Grassroots Rural and Small Community Water Systems Assistance Act: Would reauthorize the SDWA’s technical assistance and training provision for \$15M per year through 2020. The bill’s sponsor, Senators Roger Wicker (R-MS) and Heidi Heitkamp (D-ND), introduced similar legislation (H.R. 654) in the 113th Congress. <i>**WGA Resolution #2014-03, paragraph B(2) regarding water infrastructure needs.</i>	2/27/15: S. 611 introduced in the Senate and referred to the Committee on Environment and Public Works	Senators Roger Wicker (R-MS) and Heidi Heitkamp (D-ND) introduced S. 611 with 14 co-sponsors
H.R. 1203	Issue – CWA/Section 404 Title – None: Would amend the CWA to clarify that the EPA does not have the authority to retroactively disapprove of a Section 404 permit after it has been issued by the U.S. Army Corps of Engineers. See summaries for H.R. 896 and S. 234 for similar legislation.	3/2/15: H.R. 1203 introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. David McKinley (R-WV) with co-sponsors Rep. Collin (D-MN) Peterson, the Ranking Member of the House Agriculture Committee, and Representatives Evan Jenkins (R-WV) and Alexander Mooney (R-WV)
S. 593/H.R. 1107	Issue – Bureau of Reclamation/Maintenance and Rehabilitation Title – Bureau of Reclamation Transparency Act: would require the Secretary of the Interior to: (1) report to Congress on Reclamation efforts to manage all Reclamation facilities and to standardize and streamline data reporting and processes for purposes of managing such facilities, and (2) update such report biennially. The bill would also require the report to include a detailed assessment of major repair and rehabilitation needs at all Reclamation projects and an itemized list of major repair and rehabilitation needs of individual facilities at each project. <i>*WSWC Policy #360 urging Congress and the Administration to work together to develop</i>	2/26/15: S. 593 introduced in the Senate and referred to the Energy and Natural Resources Committee 2/26/15: H.R. 1107 introduced in the House and referred to the Committee on Natural Resources	Senator John Barrasso (R-WY) introduced S. 593 with co-sponsor Senator Brian Schatz (D-HI) Rep. Paul Gosar (R-AZ) introduced H.R. 1107 with 21 bipartisan co-

	<i>a standardized process to provide information regarding its maintenance and rehabilitation (M&R) needs, and urging Reclamation to ensure that information regarding its M&R needs is accessible and easy to understand.</i>		sponsors
H.R. 1093	Issue – EPA/CWA/Wastewater and Stormwater Title – Clean Water Compliance and Ratepayer Affordability Act of 2015: Would authorize EPA, in coordination with appropriate state, local, and regional authorities, to carry out a pilot program under which EPA work cooperatively with and facilitate the efforts of municipalities to develop and implement integrated plans to meet their wastewater and stormwater obligations under the CWA in a more cost-effective and flexible manner.	2/26/15: H.R. 1093 introduced in the House and referred to Committee on Transportation and Infrastructure	Rep. Steve Chabot (R-OH) introduced H.R. 1093 with six co-sponsors
S. 544/H.R. 1030	Issue – Environmental Protection Agency (EPA) Science Title – Secret Science Reform Act of 2015: Would prevent EPA from creating regulations based on science that is not the “best available,” “specifically identified,” and publically available online in a manner “...sufficient for independent analysis and substantial reproduction of research results.” Republicans say the bill addresses concerns that EPA has based some of its regulations on “secret” data and information that it has not made public. However, Democrats say the bill prevents EPA from using relevant scientific data, including confidential medical information that is legally protected from public disclosure. President Obama has threatened to veto the bill.	2/24/15: S. 544 introduced in the Senate and referred to the Senate Committee on Environment and Public Works 2/24/15: H.R. 1030 introduced in the House and referred to the Science Committee 3/2/15: House Science Committee reports H.R. 1030 3/18/15: House passes H.R. 1030 241-175, largely along party lines with Republican support	Senator John Barrasso (R-WY) introduced S. 544 House Science Committee Chair Lamar Smith (R-TX) introduced H.R. 1030 with 28 co-sponsors

S. 543/H.R. 1029	Issue – EPA Science Advisory Board (SAB) Title – EPA Science Advisory Board Reform Act of 2015: Would require EPA to disclose the identity of persons nominated to the SAB, including the entities that made the nomination, and accept comments on nominees. The bill would also require nominees to disclose financial relationships and interests that are relevant to the SAB’s advisory activities. In addition, the bill would require that at least 10% of the SAB be from state, local, or tribal government. The bill passed 236-181 on March 17, along party lines with Republican support. Republicans say H.R. 1029 is needed to address shortcomings in the SAB process, which they say includes limited public participation, EPA interference with expert advice, and potential conflicts of interest. Democrats largely oppose the bill, arguing that it would allow delays in EPA’s regulatory process and make it easier for industry representatives to serve on the SAB even if they have a financial conflict of interest. <u>**Testimony of WGA Executive Director Jim Ogsbury before the House Appropriations Subcommittee on Interior, Environment, and Related Agencies on April 10, 2014, page 3, urging Congress to ensure that state experts comprise at least 10% of the SAB and its panels.</u>	2/24/15: S. 543 introduced in the Senate and referred to the Senate Committee on Environment and Public Work 2/24/15: H.R. 1029 introduced in House and referred to the House Science Committee 3/30/15: House Science Committee reports H.R. 1029 3/17/15: House passes H.R. 1029 236-181, largely along party lines with Republican support	Senator John Boozman (R-AR) introduced S. 543 along with co-sponsors Senators Joe Manchin (D-WV) and James Inhofe (R-OK), the Chair of the Senate Environment and Public Works Committee Rep. Frank Lucas (R-OK) introduced H.R. 1029 with 24 co-sponsors, including Rep. Collin Peterson (D-MN), the Ranking Members of the House Agriculture Committee
S. 438	Issue – Reclamation Fund/Indian Irrigation Projects Title – Irrigation and Rehabilitation for Indian Tribal Governments and Their Economies Act (“Irrigate” Act): Would direct \$35M per year through 2036 from the Reclamation Fund into an Indian Irrigation Fund to build and maintain Indian irrigation projects. The legislation is similar to an amendment Senator Barrasso introduced last Congress to S. 715. In addition to funding Indian irrigation projects, S. 715 would have used funding from the Reclamation Fund to support authorized rural water projects and projects that are part of authorized Indian water rights settlements.	2/10/15: Introduced in Senate and referred to Senate Indian Affairs Committee 3/4/15: Senate Indian Affairs Committee holds hearing on S. 438 3/18/15: Senate Indian	Senate Indian Affairs Committee Chair John Barrasso (R-WY) introduced S. 438 with co-sponsors Senators Jon Tester (D-MT), Orrin Hatch (R-UT), Michael Enzi (R-WY), Steve

	<i>*WSWC Policy 367 supporting the use of the Reclamation Fund to support western water infrastructure projects.</i>	Affairs Committee reports S. 438	Daines (R-MT), and Michael Bennet (D-CO)
H.R. 963	Issue – CWA/Abandoned Hardrock Mines/Good Samaritan Remediation Title – Hardrock Mining Reform and Reclamation Act of 2015: Would authorize a number of activities and reforms to facilitate the clean-up of abandoned hardrock mines. Title IV of the bill would enact the Good Samaritan Cleanup of Abandoned Hardrock Mines Act of 2015, which would encourage third parties with no legal responsibility for the mine (Good Samaritans) to engage in remediation efforts by amending the CWA to create a new permitting program. Good Samaritans who comply with the terms of the permits issued under the program would be shielded from CWA liability so long as they comply with the terms of the permit. <i>**WGA Resolution 2013-05, paragraph B(2) calling on Congress to amend the CWA to protect Good Samaritans from becoming perpetually liable for discharges that continue at an abandoned mine after clean-up.</i>	2/13/15: H.R. 963 introduced in the House and referred to the Committees on Natural Resources and Transportation and Infrastructure	House Natural Resources Committee Ranking Member Raul Grijalva (D-AZ) introduced H.R. 963 along with 19 Democratic co-sponsors
H.R. 897	Issue – CWA/Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)/NPDES Permits/Pesticide Applications Title – Reducing Regulatory Burdens Act of 2015: Would amend the CWA and FIFRA to clarify that FIFRA-compliant pesticide applications do not require NPDES permits. The bill would overturn the Sixth Circuit Court of Appeals’ <i>National Cotton Council v. EPA</i>, 533 F.3d 927 (6th Cir. 2006), decision, which required NPDES permits for pesticide applications even if they comply with FIFRA. The bill is also similar to H.R. 935, which Gibbs introduced in 2013. That bill passed the House 267-161 but stalled in the Senate. <i>*WSWC Policy #359 supporting legislation to amend FIFRA and the CWA to clarify that FIFRA-compliant pesticide applications do not require NPDES permits.</i> <i>**WGA Resolution #14-04, paragraph B(2)(d), supporting primary role of FIFRA in regulating pesticide applications.</i>	2/11/15: H.R. 897 introduced in the House and referred to the Committees on Agriculture and Transportation and Infrastructure 3/19/15: House Agriculture Committee reports H.R. 897 by voice vote	Rep. Bob Gibbs (R-OH) introduced H.R. 897

H.R. 896	Issue: CWA/Section 404 Permits Title: Regulatory Certainty Act of 2015: Would amend the CWA to prevent EPA from retroactively vetoing Section 404 permits issued by the Corps. Specifically, the bill would require that EPA exercise its veto authority during a period of time that: (1) begins on the date the Corps notifies EPA that it has completed all procedures for processing a 404 permit relating to the specification of a defined area as a disposal site and is ready to determine whether the permit should be issued; and (2) ends on the date the Corps issues a 404 permit. The bill would require that the period last at least 60 days and that the Corps can only issue a permit after it has provided notice to EPA. The bill would only apply to permit applications submitted after its enactment. H.R. 896 is similar to S. 234 summarized below.	2/11/15: Introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. Bob Gibbs (R-OH)
S. 384	Issue – Internal Revenue Service/Water Leasing Title – Water and Agriculture Tax Reform Act of 2015: Would amend the Internal Revenue Code to permit tax-exempt mutual ditch or irrigation companies to earn income from dispositions of certain real property and stock interests without affecting their tax-exempt status. The bill would also require that such income be used to pay the costs of operations, maintenance, and capital improvements of such a company.	2/5/15: Introduced in the Senate and referred to the Committee on Finance	Senator Mike Crapo (R-ID) introduced S. 384 with co-sponsors Senators Michael Bennet (D-CO), Cory Gardner (R-CO) and Michael Enzi (R-WY)
S. 338	Issue – Land and Conservation Fund Title – None: Would permanently reauthorize the Land and Water Conservation Fund, which provides funds and matching grants to federal, state, and local governments for the acquisition of land and water, and easements on land and water.	2/2/15: S. 338 introduced in the Senate and placed on the Senate Legislative Calendar	Senator Richard Burr (R-NC) introduced S. 338 with a group of 10 bipartisan co-sponsors, including western Senators Michael Bennet (D-CO), Jon Tester (D-MT), and Martin

			Heinrich (D-NM)
H.R. 814	Issue – Corps Reservoir Operations Title: Fixing Operations of Reservoirs to Encompass Climatic and Atmospheric Science Trends (FORECAST) Act: Would require the Corps to review reservoir operations within one year after receiving a request from a nonfederal sponsor of a reservoir. In conducting the review, the Corps would consider the water control manual and rule curves and use improved weather forecasts and run-off forecasting methods. In carrying out a review, the bill would require the Corps to determine if a change in reservoir operations would improve core functions at a reservoir, including whether a change would: (1) reduce risks to human life, public safety, and property; (2) reduce the need for future disaster relief; (3) improve local water storage capability and reliability in coordination with the nonfederal sponsor and other water users; (4) restore, protect, or mitigate the impacts of a water resources development project on the environment; or (5) improve fish species habitat or population within the boundaries and downstream of a water resources project. If the Corps determines that using improved weather and run-off forecasting methods improves one or more core functions at a reservoir, the bill would require it to incorporate such changes into its operations and to update the water control manual.	2/9/2015: H.R. 814 introduced in the House and referred to the Committee on Transportation and Infrastructure	Rep. Jared Huffman (D-CA) introduced H.R. 814 with 11 Democratic co-sponsors
H.R. 594	Issue – CWA Jurisdiction/Waters of the U.S. Rulemaking Title – Waters of the U.S. Regulatory Overreach Protection Act of 2015: Would require EPA and the U.S. Army Corps of Engineers to withdraw their proposed rule regarding CWA jurisdiction. In addition to withdrawing the rule, the bill would prohibit EPA and the Corps from using the rule, the now-withdrawn draft guidance the agencies developed in 2011, and any “...successor document, or any substantially similar proposed rule or guidance, as the basis for any rulemaking or decision regarding the scope or enforcement of the [CWA].” The bill further specifies that using such documents “...shall	1/28/15: H.R. 594 introduced in the House and referred to the Committee on Transportation and Infrastructure’s Subcommittee on Water Resources and the Environment	Rep. Paul Gosar (R-AZ) introduced H.R. 594 along with 177 co-sponsors, including House Appropriations Committee Chair Hal Rogers (R-KY) and House

	be grounds for vacating the final rule, decision, or enforcement action.” Going forward, the rule would require EPA and the Corps to consult with state and local officials to develop recommendations for a regulatory proposal that would identify those waters that are covered and not covered under the CWA, consistent with U.S. Supreme Court rulings. In developing these recommendations, the bill would require the agencies to consult with state and local officials that represent a “broad cross-section” of regional, economic, and geographic perspectives, and consider state and local input regarding the “...differences in State and local geography, hydrology, climate, legal frameworks, economies, priorities, and needs.” It would also require the agencies to explore with state and local officials whether federal CWA objectives can be attained by means other than through a new regulatory proposal. Within a year after the bill’s enactment, EPA and the Corps would be required to publish a draft report in the Federal Register for public comment that describes the recommendations developed with states and local officials. The agencies would only be able to include a recommendation in the draft report if there is a consensus. If consensus is not possible, the draft report must identify those areas where consensus was reached, those areas where consensus was not made, and the reasons for continuing disagreements. A final report addressing the comments the agencies receive would be due to Congress two years after the bill’s enactment. <i>*WSWC Comments on the rule (Policy #373), Policy #369 regarding CWA jurisdiction, Policy #370 requesting withdrawal of the interpretive rule regarding agricultural exemptions, and related letters dated 3/10/14 12/23/13,11/20/13, 11/5/13, 4/10/13, and 7/29/11 (attached to WSWC Policy #373).</i> <i>**WGA Resolution #2014-04, paragraph B(1)(a) regarding CWA jurisdiction and related letters dated 8/27/14,5/30/14, and 3/25/14 and Congressional testimony before the Senate Appropriations Subcommittee on Interior, Environment, and Related Agencies on 5/23/14 and before the House Appropriations Subcommittee on Interior, Environment, and Related Agencies on 4/10/14.</i> <i>***Joint WSWC-WGA Congressional testimony dated 6/11/14 before the House</i>		Agriculture Committee Ranking Member Collin Peterson (D-MN)
--	---	--	--

	<i>Transportation and Infrastructure Subcommittee on Water Resources and Environment (contained as an attachment to WSWC Policy #373).</i>		
H.R. 499	Issue – State Volume Caps/IRS Title – Sustainable Water Infrastructure Act of 2015: Would amend the Internal Revenue Code to exempt from state volume caps tax-exempt facility bonds for sewage and water supply facilities. **WGA Resolution #2014-03, paragraph B(2)(b) urging Congress to remove state volume caps.	1/22/15: H.R. 499 introduced in the House and referred to the Committee on Ways and Means	Representatives John Duncan (R-TN) and Bill Pascrell (D-NJ) introduced H.R. 499 with two co-sponsors
S. 176/H.R. 291	Issue – Bureau of Reclamation/U.S. Geological Survey (USGS)/EPA/Water Infrastructure/Water Reuse/Water Resources Research Institutes Title – Water in the 21st Century Act: would create a financing program within the Department of the Interior to offer long-term, low-cost financing for eligible water infrastructure projects in the West that are directly and indirectly associated with Bureau of Reclamation projects. Eligible projects and activities include reuse, new infrastructure, energy efficiency, and desalination, as well as construction, reconstruction, rehabilitation, and replacement activities, among others. The program would receive about \$100M per year. Second, the bill would authorize \$700M for Reclamation to work with state and local entities on storage, conveyance, and water reuse projects. Reclamation’s share of such projects would be the lesser of 50% of the project’s total cost or \$15M. Third, the bill would direct the USGS to establish an open water data system to improve water data availability, enhance data use, and ensure timely distribution of water data and information. The bill would authorize “such sums as are necessary” for this program. Fourth, the bill would require EPA to lead an inter-agency effort that would include Reclamation, the Department of Agriculture, and others to develop National Drought Resilience Guidelines for states, local governments, and water agencies. The guidelines	1/31/15: S. 176 introduced in the Senate and referred to the Committee on Environment and Public Works 1/31/15: H.R. 291 introduced in the House and referred to the Committees on Natural Resources, Transportation and Infrastructure, and Science	Senator Barbara Boxer (D-CA) introduced S. 176 with Senate Minority Leader Harry Reid (D-NV) and Senator Dianne Feinstein (D-CA) Rep. Grace Napolitano (D-CA) introduced S. 176 with 28 Democratic co-sponsors

	would create a framework of non-regulatory recommendations to help strengthen drought preparedness efforts. Fifth, the bill would authorize “such sums as are necessary” to create a new EPA grant program that would help water systems carry out various efforts, including projects to conserve water and improve water quality. The grants would provide up to 50% of project costs. Other notable provisions would: (1) authorize Interior to transfer ownership of Reclamation projects to non-federal entities; (2) re-authorize the Water Resources Research Act to authorize \$9M per year through 2020 for water supply research and other purposes at the water resources research institutes; (3) re-authorize the Water Desalination Act of 1996, and provide \$6M per year through 2020 for Interior to study desalination and water reuse; and (4) authorize the Corps to review reservoir operations, at the request of non-federal sponsors, to determine if operational changes are needed. <i>*WSWC Policy #368 supporting the Water Resources Research Institutes.</i> <i>*WSWC Policy #362 regarding the transfer of federal water and power projects and related facilities.</i> <i>**WGA Resolution #2014-03, paragraph B(2) regarding water infrastructure needs.</i>		
S.208/H.R. 399	Issue – Borders/ESA/National Environmental Policy Act (NEPA) Title – Secure our Borders First Act: Seeks to improve border security by requiring the Department of Homeland Security to achieve “operation controls” along the nation’s borders with Canada and Mexico. As part of this goal, the bill would waive over a dozen environmental laws on federal lands within 100 miles of either border, including the ESA, NEPA, the Wilderness Act, the Wild and Scenic Rivers Act, the Federal Land Policy Management Act, the National Wildlife Refuge System Administration Act, and the National Park Service Organic Act. The bills would also prohibit the Secretaries of Agriculture and the Interior from	1/16/15: H.R. 399 introduced in the House and referred to the Committees on Homeland Security, Armed Services, Natural Resources, and Agriculture 1/21/15: S. 208 introduced in the Senate	Senator Ron Johnson (R-WI) introduced S. 208 Rep. Michael McCaul (R-TX) introduced H.R. 399 with 29 Republican co-sponsors

	restricting certain U.S. Customs and Border Protection Service activities on federal land located within 100 miles of the U.S. borders with Mexico and Canada. The Service would have “immediate access” to these lands to build and maintain roads and barriers, use vehicles for patrols, install communications and surveillance equipment, and deploy temporary tactical infrastructure. The bill would have no “force or effect” on state or private lands, and would not supersede, replace, negate, or diminish tribal treaties. The legislation is part of a larger Republican effort to respond to the President’s executive actions protecting undocumented immigrants. The bills’ supporters have indicated that the waivers and other provisions are needed due to concerns that federal environmental laws are hindering efforts to control the borders, a view that conservation and environmental groups dispute.	and referred to the Committee on Homeland Security 1/21/15: House Committee on Homeland Security holds mark-up session on H.R. 399 1/27/15: House Committee on Homeland Security reports an amended version of H.R. 399 1/27/15: House Committees on Agriculture, Natural Resources, and Armed Services discharge H.R. 399	
S.234	Issue: CWA/Section 404 Permits Title: Regulatory Fairness Act of 2015: Would present the EPA from retroactively vetoing Section 404 permits approved by the Corps by amending the CWA to define the period of time in which EPA is authorized to restrict or deny a permit for the discharge of dredged or fill materials into navigable waters under Section 404. Specifically, the bill would require that such period: (1) begins on the date that the Corps publishes a notice for the discharge of dredged or fill material into navigable waters at specified disposal sites, and (2) ends on the date the Corps issues the permit. Any previous action by the EPA that occurred outside of this period to deny or restrict a permit or to prohibit the specification of any defined area as a disposal site would be nullified. The bill would further require	1/22/15: S. 234 introduced in the Senate and referred to the Environment and Public Works Committee	Senator David Vitter (R-LA) introduced S. 234 with 9 co-sponsors, including

	that EPA make all the information and data that it reviewed in making a determination publicly available. (CRS Summary) S. 234's sponsor, Senator David Vitter (R-LA), introduced an identical bill (S. 54) in the 114th Congress prior to introducing S. 234. S.234 is similar to H.R. 896, described above.		
S. 133	Issue – Klamath Basin/Oregon/California/Indian Water Rights/Hydropower Title – The Klamath Basin Water Recovery and Economic Restoration Act of 2014: Intended to end decades of conflict in the Klamath Basin, located on the border between California and Oregon, by authorizing federal efforts to help implement three related agreements: (1) the Klamath Hydroelectric Settlement Agreement (KHSA) to study the potential removal of four hydroelectric dams owned by PacifiCorp; (2) the Klamath Basin Restoration Agreement (KBRA) to resolve water rights disputes between tribal and non-tribal entities, among other measures; and (3) the Upper Klamath Basin Comprehensive Agreement (UKBCA), which sets forth water management and environmental restoration measures to resolve water disputes between irrigators and tribes in the Upper Klamath Basin. Estimated federal costs are expected to total around \$500M. Of note, S. 133 is similar to S. 2379, which bill cleared the Senate Energy and Natural Resources Committee. However, no companion legislation was introduced in the House, due in part to concerns about the agreements' dam removal provisions. <i>*WSWC Policy #376 supporting the negotiated resolution of Indian water rights settlements</i> <i>** WGA Resolution #2014-03, paragraph B(3)(e) supporting the negotiated resolution of Indian water rights settlements</i>	1/8/15: Introduced in the Senate and referred to the Committee on Energy and Natural Resources	Senator Ron Wyden (D-OR) introduced S. 133 with co-sponsors Senators Jeff Merkley (D-OR), Dianne Feinstein (D-CA), and Barbara Boxer (D-CA)

NOTABLE LITIGATION

Case Names	Issue – EPA’s Water Transfers Rule
<i>Friends of the Everglades v. EPA</i>, 699 F.3d 1280 (11th Cir. 2009) <i>Catskills Mountains Chapter of Trout Unlimited, et al v. EPA</i>, 2014 U.S. Dist. LEXIS 42535 (March 2014)	In 2008, EPA promulgated its “Water Transfers Rule” (40 C.F.R. § 122.3(i)) clarifying that certain water transfers do not require NPDES permits under the CWA. When EPA finalized the rule in 2008, opponents immediately challenged it in the Southern U.S. District Court of New York (SDNY). However, in issuing the rule, EPA opined that judicial review of the rule could only take place before the U.S. Circuit Courts of Appeal, and not the federal district courts. Given this position, opponents filed protective challenges in multiple circuits, which were consolidated in the 11th Circuit. The SDNY challenge was then stayed pending action in the 11th Circuit. However, rather than acting on the consolidated rules challenge, the 11th Circuit addressed a related case involving the rule commonly known as the “Lake Okeechobee Case,” 570 F.3d 1210 (11th Cir. 2009). In that case, the 11th Circuit ultimately upheld the rule, finding that the CWA is ambiguous as to whether transfers require NPDES permits and that the rule is a reasonable interpretation entitled to deference. After deciding the Lake Okeechobee case, the 11th Circuit then addressed the consolidated rule challenge, finding that it did not have original subject matter jurisdiction to hear the challenge. As a result, the 11th Circuit dismissed the consolidated rules challenge without addressing the rule’s validity.
Courts	The 11th Circuit’s dismissal of the consolidated rules allowed the SDNY action to move forward. As it proceeded, the court approved requests from a number of intervenors to join the action in defense of the rule. Some of these intervenors include: • A coalition of 11 western states led by Colorado and New Mexico, joined by Alaska, the Arizona Department of Water Resources, Idaho, Nebraska, Nevada, North Dakota, Texas, Utah, and Wyoming; and • A coalition of over 20 western water providers.
Southern U.S. District Court of New York (SDNY) 2nd Circuit Court of Appeals	
Relevant Dates	On March 28, 2014, the SDNY court vacating the rule and remanded it back to EPA for further action. In reaching this decision, the court rejected EPA’s reasoning for the rule, namely that moving unaltered water from one “navigable” water to another does not constitute an “addition” of pollutants requiring an NPDES permit, because the conveyance does not cause the transferred water to lose its status as a “navigable” water. The court reasoned that “...many of the types of conveyances contemplated by [the rule] would not be considered a ‘navigable water’ under any of the...standards used in <i>Rapanos v. United States</i>, 547 U.S. 715 (2006).... Therefore, because EPA may expand the scope of ‘navigable waters’ only within the limits defined in <i>Rapanos</i>, and because...[the rule] goes beyond those limits, the Court rejects EPA’s interpretation.” SDNY also said some of the CWA’s language regarding state rights and state primacy over water allocation “...support an interpretation allowing for meaningful federal regulation of water transfers. For example [Section] 101(b)’s statement of a
03/12/12: Challenges to EPA’s rule filed	
06/04/09: 11th Circuit issues “Lake Okeechobee” decision, upholding EPA’s water transfers rule 11/29/10: U.S. Supreme Court denies certiorari for the 11th Circuit’s “Lake Okeechobee”	

decision, allowing consolidated rules challenge to proceed in the 11th Circuit 10/26/12: 11th Circuit finds that it does not have original jurisdiction to hear the consolidated rules challenge and dismisses the action 07/28/13: EPA files petition for certiorari to the U.S. Supreme Court regarding 11th Circuit dismissal of the consolidated rule challenge due 10/15/14: U.S. Supreme court denies certiorari for the 11th Circuit's dismissal of the consolidated rules challenge 03/28/14: SDNY vacates and remands rule 05/12/14: WGA and WSWC write EPA, urging it to appeal SDNY decision 05/29/14: EPA files a notice of appeal of the SDNY decision. 09/09/14: Western intervenors file their opening appellate brief 09/11/14: EPA files its opening	policy ‘to recognize, preserve, and protect the <i>primary</i> responsibilities and rights of States’...implicitly recognizes a <i>secondary</i> role for the federal government, which...could include regulation of water transfers” (emphasis added). The court also said a 1972 House report discussing Section 208 of the CWA “...implies that states should have control over water-resource allocation <i>only</i> where they have an EPA approved 402 program and a water-resource allocation program.... Where a state has neither, the [report’s] language implies that the federal government should exercise primary responsibility” (emphasis added). EPA subsequently appealed the SDNY’s decision to the 2nd Circuit, as have the 11 western intervening states and the western water providers. In its opening brief, EPA argued that it has never construed the CWA to require permits for water transfers, except where the transfer itself introduces pollutants or the water is subjected to an intervening use, and that it “reasonably exercised” its authority to resolve statutory ambiguity. EPA also challenged the district court’s conclusion that it did not provide a “reasoned explanation” for the rule. “In doing so, the district court failed to apply the requisite high level of deference to EPA’s decisionmaking, undertaking a skeptical review of EPA’s reasoning, disregarding EPA’s explanations, and substituting its own judgments about the best reading of the statute for that of the agency,” EPA said. In their opening brief, the western states argued that requiring NPDES permits may make many transfers technically or economically infeasible, potentially abrogating state water allocation, interstate compacts, interstate water apportionments, and congressional acts. Of further note, California filed a separate amicus brief asking the 2nd Circuit to reverse the SDNY decision, stating: “Application of the NPDES program to inter-basin water transfers between water bodies of the United States when no pollutants are added by the transfer is inconsistent with congressional direction because it significantly impairs California’s sovereign interests in the allocation of the quantity and the priority of usage of its waters.” The various parties involved in the action filed response and reply briefs in early 2015. The court is expected to set a date for oral arguments in the coming months. *WSWC Policy #342, generally supporting EPA’s water transfers rule. **WGA Resolution #14-04, Paragraph B(2)(c), generally supporting EPA’s water transfers rule. ***Joint letter from WGA and WSWC urging EPA to appeal the SDNY decision dated 5/12/14. <i>Special thanks to Peter Nichols, Special Asst. Attorney General for Colorado and New Mexico, who provided much of the information used in the summary of this litigation. For more information, see Peter’s 7/17/14 presentation to the WSWC,</i>
--	--

appellate brief 09/18/14: California files amicus brief in support of rule 12/23/14: Plaintiff-Appellees file response brief 1/26/15: EPA files reply brief 1/26/15: Western states and western water providers file reply briefs	available at: http://www.westernstateswater.org/wp-content/uploads/2013/12/Nichols_WSWC-WTR-Update-17-July-14-Revised.pdf
--	--

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
CIVIL MINUTES—GENERAL

Case No. **EDCV 13–883–JGB**

Date March 20, 2015

Title ***Agua Caliente Band of Cahuilla Indians v. Coachella Valley Water District et al.***Present: The Honorable **JESUS G. BERNAL, UNITED STATES DISTRICT JUDGE****MAYNOR GALVEZ**

Not Reported

Deputy Clerk

Court Reporter

Attorney(s) Present for Plaintiff(s):

Attorney(s) Present for Defendant(s):

None Present

None Present

Proceedings: Order GRANTING IN PART and DENYING IN PART Plaintiffs’ and Defendants’ motions for partial summary judgment

“It is probable that no problem of the Southwest section of the Nation is more critical than that of scarcity of water.” Colorado River Water Conservation Dist. v. United States, 424 U.S. 800, 804 (1976).

The Agua Caliente Band of Cahuilla Indians (“Agua Caliente” or “Tribe”) claims to have lived in the Coachella valley, which sits just to the east of the San Jacinto mountains in southern California, since before California was admitted as a State in 1850. The Coachella valley forms part of the Sonoran desert, where water is scarce. The Agua Caliente sued the Coachella Valley Water District (“CVWD”) and the Desert Water Agency (“DWA”),¹ seeking, among other things, a declaration that their federal reserved water rights, which arise under the doctrine of Winters v. United States, 207 U.S. 564 (1908), extend to groundwater. The parties, plus the United States as Plaintiff-intervenor, all filed motions for partial summary judgment. (Doc. Nos. 82, 83, 84, 85.) After considering all the papers, the exhibits submitted with them, and the parties’ arguments at the March 16, 2015 hearing, the Court concludes the Tribe’s federal reserved water rights may include groundwater, but the Tribe’s aboriginal right of occupancy was extinguished long ago, so the Tribe has no derivative right to groundwater on that basis.

I. BACKGROUND

¹ The Court refers to CVWD and DWA collectively as “Defendants.”

A. Factual allegations

The Agua Caliente have lived in the Coachella valley since before American or European settlers arrived in what is now southern California, and the Tribe has used both surface water and groundwater resources there for “cultural, domestic and agricultural subsistence purposes.” (Compl. ¶ 4.) Those uses included “stock watering and agricultural irrigation,” and the Tribe raised “abundant crops of corn, barley and vegetables” in the 1850s. (Compl. ¶ 14–15.) President Ulysses S. Grant established the Tribe’s reservation in an Executive Order issued May 15, 1876, and the reservation was expanded by President Rutherford B. Hayes on September 29, 1877. (*Id.* ¶ 5.) The United States, pursuant to statute, holds the lands of the reservation in trust for the tribe. (*Id.*) The Agua Caliente claim the “establishment of the Reservation pursuant to federal law impliedly reserved to the Tribe and its members the right to surface water and groundwater sufficient to accomplish the purposes of the reservation, including establishing a homeland for the Tribe and its members.” (*Id.* ¶ 6.) In the Tribe’s view, those reserved rights “are the most senior” in the region, and, accordingly, the Agua Caliente may prevent CVWD and DWA from adversely affecting the quantity and quality of their water. (*Id.* ¶¶ 7, 8.)

Defendants are creatures of California statutes, or individuals sued in their official capacities who control or manage the CVWD or DWA. The CVWD is a county water district, and is responsible for developing groundwater wells in the Coachella valley and extracting groundwater. (Compl. ¶ 10.) The DWA is an “independent special district” created to provide water to the city of Palm Springs and areas that surround it by developing groundwater wells and extracting groundwater. (*Id.* ¶ 12.) Throughout the twentieth century, Californians displaced the Agua Caliente from the Coachella valley, and fueled agricultural expansion in the desert through the increased use of groundwater for commercial irrigation. (Compl. ¶¶ 23–24.)

The Tribe’s pleading further states the groundwater underlying the Coachella valley is in a continual state of “overdraft,” which means the outflows from the aquifer exceed the inflows. (Compl. ¶ 33.) The CVWD tries to recharge the Coachella valley’s groundwater by importing water from the Colorado River, but the Tribe alleges that water is of inferior quality. (Compl. ¶ 47.)

The complaint finally alleges the “Tribe and its members have established a homeland in the Coachella valley, including housing, schools, government offices, and cultural and commercial enterprises,” for which the Tribe relies upon its reserved groundwater resources. (Compl. ¶ 51.) The Agua Caliente seek relief in this case to “satisfy the present and future needs of the Tribe and its members” and to protect the Tribe’s reserved water rights from overdraft and degradation. (Compl. ¶¶ 52–54.)²

B. Procedural history

² The United States’ complaint in intervention asserts claims materially similar to the Tribe’s complaint regarding the claim for a declaration of federally reserved water rights. It does not, however, assert a claim regarding aboriginal water rights.

The Agua Caliente filed this action for declaratory and injunctive relief against both defendants in May 2013. (Doc. No. 1.) In June 2014 the Court granted the United States' motion to intervene as a Plaintiff in its capacity as trustee for the Tribe's reservation. (Doc. Nos. 62, 70.)

The parties stipulated to trifurcate this action into three phases. (Doc. No. 49.) Phase I seeks to resolve the primarily legal questions regarding the existence of (1) the Agua Caliente's federal reserved rights to groundwater under the Winters doctrine, and (2) the Tribe's aboriginal rights to groundwater. Phase II, contingent to a certain extent on Phase I's resolution, will address (1) the ownership of certain "pore space" beneath the reservation; (2) the legal question of whether a right to a quantity of groundwater encompasses a right to water of a certain quality; and (3) some of the equitable defenses asserted by the CVWD and DWA. If necessary, in Phase III the Court will undertake the fact-intensive tasks of quantifying the Agua Caliente's rights to groundwater and pore space, and crafting appropriate injunctive relief.

All four parties have filed motions for summary judgment. The Tribe's motion, (Doc. No. 85), argues federal law recognizes the Tribe's reserved right to groundwater, and that it also holds aboriginal title to land in the Coachella valley to which groundwater rights attach. The United States' motion, (Doc. No. 83), echoes the Tribe's Winters rights argument and emphasizes the supremacy of federal water rights over those created by state law, but does not claim tribal aboriginal title on the Agua Caliente's behalf.

CVWD maintains in its motion that (1) Congress extinguished any aboriginal groundwater rights, and (2) Winters rights impliedly reserved for the Tribe do not extend to groundwater, and even if they extend to groundwater, the purposes of the Agua Caliente's reservation will not "entirely fail" without a reserved right to groundwater. (Doc. No. 82.) DWA's motion, (Doc. No. 84), largely parallels that of CVWD; it contends the Tribe has no federal reserved right in groundwater, and the Tribe's aboriginal water rights claim was extinguished by statute long ago.

II. LEGAL STANDARD

A court shall grant a motion for summary judgment when there is no genuine dispute as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247–48 (1986). Summary judgment is appropriate if "under the governing law, there can be but one reasonable conclusion as to the verdict." Anderson, 477 U.S. at 250. Courts consider cross-motions for summary judgment independently of one another, each on their own merits, in light of all the evidence attached to both motions. Fair Hous. Council of Riverside Cnty., Inc. v. Riverside Two, 249 F.3d 1132, 1136 (9th Cir. 2001).

A genuine issue of material fact exists "if the evidence is such that a reasonable jury could return a verdict for the non-moving party," Anderson, 477 U.S. at 248; Scott v. Harris, 550 U.S. 372, 380 (2007), and the underlying substantive law identifies which facts are material.

Id. In ruling on a motion for summary judgment, a court construes the evidence in the light most favorable to the non-moving party. Scott, 550 U.S. at 380.

III. FACTS

The facts relevant to Phase I issues, taken from the parties' statements of undisputed facts and requests for judicial notice, are not in dispute. Preceding the creation of the Agua Caliente's reservation, various government officials reported that they intended the reservation to "meet the present and future wants of these Indians, by giving them the exclusive and free possession of these lands [on which] they will be encouraged to build comfortable houses, improve their acres, and surround themselves with home comforts." (E.g., Doc. No. 92-1 ¶ 47.) A "Mission Indian Agent" corresponded that his department's purpose was to "secure the Mission Indians with permanent homes, with land and water enough, that each one who will go upon a reservation may have to cultivate a piece of ground as large as he may desire." (Doc. No. 92-1 ¶ 58; see also id. ¶¶ 39-59.)

A series of seven Executive Orders, issued pursuant to statutory authority and dated from 1865-1881, created what is now the Agua Caliente's reservation, although the first two reserved the bulk of the land. (See Doc. No. 92-1 ¶ 30.) All the Orders are very short. President Grant stated in the first Order that the land described was "withdrawn from sale and set apart as reservations for the permanent use and occupancy of the Mission Indians in southern California." (Id. ¶ 31.) The subsequent reservations either incorporate the general statement of purpose contained in the first, or simply state the reservation should be used for "Indian purposes." (See id. ¶¶ 32-36.)

The groundwater basin which underlies the reservation extends beneath the entire Coachella valley, and the aquifer is in a state of overdraft. (Doc. No. 92-1 ¶ 69.) The groundwater does not "add to, contribute to or support" any surface stream from which the Tribe diverts water or is otherwise relevant to this litigation (e.g., the Tahquitz, Andreas, or Chino Creeks). (Doc. No. 96-1 ¶ 1.) Neither the Tribe nor its allottees produce groundwater, rather, they purchase their water from DWA or CVWD. (Doc. No. 98-9 ¶¶ 1-2, 19.) Some non-Indian lessees who occupy reservation territory do produce groundwater for their use—specifically to water golf courses. (Doc. No. 98-9 ¶ 20.)

In 1938, the California Superior Court for Riverside County entered a decree governing the rights to the water in the Whitewater river system. (Doc. No. 84-5 Ex. 1.) The United States participated in that adjudication via a "Suggestion," (Doc. No. 84-7 Ex. 8), and received a right to divert some surface water from the Tahquitz and Andreas creeks for the Tribe's use (Doc. No. 84-5 Ex. 1 at 61-62). The United States, however, specifically stated in its Suggestion that it was not "submitting the rights of the United States . . . to the jurisdiction of the Department of Public Works of the State of California" and also that the court lacked "jurisdiction of the water rights of the United States." (Doc. No. 84-7 Ex. 8 at 46.)

IV. DISCUSSION

Phase I of this case addresses, by stipulation of the parties, (1) whether the Tribe's federal reserved water rights include groundwater resources, and (2) whether the Tribe may assert aboriginal title to groundwater underlying its reservation. The Court addresses the issues in turn.

A. United States v. Winters and federal reserved water rights

1. The law of federal reserved water rights

For over a century, the Supreme Court has held that when the United States “withdraws its land from the public domain and reserves it for a federal purpose, the Government, by implication, reserves appurtenant water then unappropriated to the extent needed to accomplish the purpose of the reservation.”³ Cappaert v. United States, 426 U.S. 128, 138 (1976) (citing U.S. Const. art. I, § 8; U.S. Const. art. IV, § 3); see also Winters v. United States, 207 U.S. 564 (1908); John v. United States, 720 F.3d 1214; 1225–26 (9th Cir. 2013); Colville Confederated Tribes v. Walton, 647 F.2d 42 (9th Cir. 1981); Felix S. Cohen et al., Cohen’s Handbook of Federal Indian Law § 19.03 (2012 ed.) (“Cohen’s Handbook”); 1 Waters and Water Rights § 37.02 (Amy K. Kelley ed., 3d ed. 2015). Impliedly reserved water rights “vest[] on the date of the reservation and [are] superior to the rights of future appropriators.” Id. Winters rights arise under federal law, and are thus an exception to the normal rule that assigns water resources regulation to the states. United States v. New Mexico, 438 U.S. 696, 701–02 (1978); Cappaert, 426 U.S. at 145; Cohen’s Handbook § 19.03[1].

The amount of water impliedly reserved under the Winters doctrine presents a tougher question than whether or not the government reserved water at all. See Walton, 647 F.2d at 48. Arizona v. California, 373 U.S. 546 (1963), provides the analytical starting point for a quantification of an Indian tribe’s Winters rights. In Arizona, an original proceeding, the Supreme Court agreed with the special master’s conclusion that “water was intended to satisfy the future as well as the present needs of the Indian Reservations and . . . that enough water was reserved to irrigate all the practicably irrigable acreage on the reservation.” 373 U.S. at 600. Following Arizona, the Court explained the federal government only reserves “that amount of water necessary to fulfill the purpose of the reservation, no more.” Cappaert, 426 U.S. at 141. And in a subsequent case it drew a distinction between a reservation’s primary purpose, for which water is impliedly reserved under Winters, and secondary uses, for which it is not. New Mexico, 438 U.S. at 702.

³ Generally, the phrase “public domain” refers to “the land owned by the [federal] Government, mostly in the West, that was available for sale, entry, and settlement under the homestead laws, or other disposition under the general body of land laws.” Hagen v. Utah, 510 U.S. 399, 412 (1994). The government reserves land, literally setting aside “parcels of land belonging to the United States . . . for various purposes, including Indian settlement, bird preservation, and military installations, when it appear[s] that the public interest would be served by withdrawing or reserving parts of the public domain.” Id. (internal citations and quotation marks omitted).

The Ninth Circuit applies New Mexico's primary use–secondary use distinction to guide the implied reserved water rights analysis involving Indian tribes and reservations, although not necessarily to control it. See United States v. Adair, 723 F.2d 1394, 1408–09 (9th Cir. 1983) (citing New Mexico, 438 U.S. at 702); Walton, 647 F.2d at 47 (writing in the process of quantifying a tribe's Winters rights: “[w]e apply the New Mexico test here”).⁴ The Ninth Circuit has further explained the “general” purpose of an Indian reservation, and thus the purpose for which the federal government impliedly reserves water rights, is to “provide a home for the Indians, [which] is a broad one and must be liberally construed.” Walton, 647 F.2d at 47 & n.9 (“The rule of liberal construction should apply to reservations created by Executive Order. See [Arizona, 373 U.S. at 598]. Congress envisioned agricultural pursuits as only a first step in the ‘civilizing’ process.”); United States v. Ahtanum Irrigation Dist., 236 F.2d 321, 326 (9th Cir. 1956) (“It is obvious that the quantum is not measured by the use being made at the time the treaty was made. The reservation was not merely for present but for future use.”). To identify an Indian reservation's purposes, the Ninth Circuit considers “the [reservation's formative] document and circumstances surrounding its creation, and the history of the Indians for whom it was created,” as well as the tribe's “need to maintain themselves under changed circumstances.” Walton, 647 F.2d at 47 (citing United States v. Winans, 198 U.S. 371, 381 (1905)); accord United States v. Washington, 375 F. Supp. 2d 1050, 1064 (W.D. Wash. 2005), vacated pursuant to settlement, Lummi Indian Nation v. Washington, No. C01–0047Z, 2007 WL 4190400 (W.D. Wash. Nov. 20, 2007).

Cases addressing Winters rights proceed in two distinct analytical steps. Courts first examine the existence of reserved rights—usually a straightforward inquiry. Then comes quantification, which addresses the scope of the government's implication. See, e.g., New Mexico, 438 U.S. at 698, 718 (first restating Winters rule, then deciding Congress intended to reserve water from the Rio Mimbres “only where necessary to preserve the timber or to secure favorable water flows for private and public uses under state law”); Cappaert, 426 U.S. at 138–46 (addressing whether the government reserved water in connection with the addition of Devil's Hole to the Death Valley National Monument, and then ruling that distant groundwater pumping could be enjoined to protect the federal reservation); Walton, 647 F.2d at 47 (“We hold that water was reserved when the . . . [r]eservation was created. . . . The more difficult question concerns the amount of water reserved.”). The upshot of this well-established framework, especially in light of the parties' agreement to split this case into three phases, is that the Court addresses here only the existence of the Tribe's Winters rights; quantification comes later.

⁴ The Court recognizes that the primary use–secondary use distinction may be best suited to contexts where a “primary purpose” of a reservation is more clearly announced, such as federal reservations created pursuant to statute as in New Mexico. See Cohen's Handbook § 19.03[4] (“The significant differences between Indian reservations and federal reserved lands indicate that the [primary–secondary] distinction should not apply.”). Notwithstanding the practical difficulty of identifying a tribe's reservation's primary purpose, the Court must follow Ninth Circuit case law, which explains that New Mexico, “while not directly applicable to Winters doctrine rights on Indian reservations,” at a minimum “establish[es] several useful guidelines.” Adair, 723 F.2d at 1409.

2. The federal government impliedly reserved water for the Tribe's reservation

When Presidents Grant and Hayes withdrew portions of the Coachella valley from the public domain by Executive Order to create the Agua Caliente's reservation, they also reserved, by implication, the right to appurtenant water in the amount necessary "to fulfill the purposes of the reservation." Cf. Walton, 647 F.2d at 46–47. No case interpreting Winters draws a principled distinction between surface water physically located on a reservation and other appurtenant water sources. See, e.g., Cappaert, 426 U.S. at 143; see also Cohen's Handbook § 19.03[2][a] ("Reserved rights presumably attach to all water sources—groundwater, streams, lakes, and springs—that arise on, border, traverse, underlie, or are encompassed within Indian reservations."). Instead, the relevant legal constraints under Winters and its progeny are whether (1) the reserved water is necessary to fulfill the purposes of the reservation and (2) the reserved water is appurtenant to the reserved land. Walton, 647 F.2d at 46.

a. The reservation's purpose

The documents contemporaneous with the creation of the Agua Caliente's reservation are vague, which is not surprising because they're approximately 150 years old. But those documents do admit that the reservation intended to provide the Tribe with a home, and intended to do so with some measure of permanence. Walton guides the interpretation of the Agua Caliente's reservation's purpose. In Walton, like in this case, the President created the reservation by terse Executive Order in the era following the Civil War, 647 F.2d at 47 n.8, and the Ninth Circuit cautioned: "[t]he specific purposes of an Indian reservation, however, were often unarticulated. The general purpose, to provide a home for the Indians, is a broad one and must be liberally construed." Id. at 47. The court there held the tribe's reserved rights extended to agricultural uses as well as the "development and maintenance of replacement fishing grounds" due to the economic and religious importance of fishing to the tribe. Id. at 48.

Accordingly, the Court must both construe the general purposes of the Tribe's reservation broadly, and take account that Winters rights anticipate increased or novel future uses. See also Ahtanum Irrigation Dist., 236 F.2d at 326. Applying those tenets, the Court can safely state that the reservation implied at least some water use; but exactly how much is not a question presented by Phase I of this case.

b. Groundwater is appurtenant to the Tribe's reservation

Any attempt to limit appurtenant water sources to surface water fails as a matter of law and logic. For example, California law recognizes that groundwater rights are inextricably linked to the overlying land. See City of Barstow v. Mojave Water Agency, 23 Cal. 4th 1224, 1240 (2000) ("An overlying right, analogous to that of a riparian owner in a surface stream, is the right of the owner of the land to take water from the ground underneath for use on his land within the basin or watershed; the right is based on ownership of the land and is appurtenant thereto.") (internal quotation marks omitted). And federal law, at least by implication, treats surface water and groundwater similarly. See Cappaert, 426 U.S. at 143 (holding the United States can "protect its water from subsequent diversion, whether the diversion is of surface water

or groundwater”). Taken together, these authorities suggest that groundwater provides an appurtenant water source, in the Winters sense.

With one exception, every court to address the issue agrees that Winters rights encompass groundwater resources, as well as surface water, appurtenant to reserved land. See, e.g., Washington, No. C01–0047Z, slip op. at 8 (W.D. Wash. Feb. 24, 2003) (“Thus, as a matter of law the Court concludes that the reserved water rights doctrine extends to groundwater even if groundwater is not connected to surface water.”); Tweedy v. Texas Co., 286 F. Supp. 383, 385 (D. Mont. 1968) (“The Winters case dealt only with the surface water, but the same implications which led the Supreme Court to hold that surface waters had been reserved would apply to underground waters as well. The land was arid—water would make it more useful, and whether the waters were found on the surface of the land or under it should make no difference.”); In re Gila River Sys. & Source, 989 P.2d 739, 747 (Ariz. 1999) (“The significant question for the purpose of the reserved rights doctrine is not whether the water runs above or below the ground but whether it is necessary to accomplish the purpose of the reservation.”); Confederated Salish & Kootenai Tribes v. Stults, 59 P.3d 1093, 1099 (Mont. 2002) (“We see no reason to limit the scope of our prior holdings by excluding groundwater from the Tribes’ federally reserved water rights in this case.”). But see In re Big Horn River Sys., 753 P.2d 76, 99–100 (Wyo. 1988), aff’d by an equally divided court, Wyoming v. United States, 492 U.S. 406 (1989).⁵

Appurtenance, as that term is used by the Winters doctrine, must provide some legal limitation to impliedly reserved water rights; but persuasive authority suggests that limit should not be drawn between surface and groundwater sources. Cf. Cappaert, 426 U.S. at 142–43 (emphasizing the relation between surface water and groundwater in the hydrologic cycle). The federal government intended to reserve water for the Tribe’s use on its reservation. Rights to the groundwater underlying the reservation are appurtenant to the reservation itself. Accordingly, the Court concludes the federal government impliedly reserved groundwater, as well as surface water, for the Agua Caliente when it created the reservation. Whether groundwater resources are necessary to fulfill the reservation’s purpose, however, is a question that must be addressed in a later phase of this litigation.

3. Defendants’ arguments are largely irrelevant to Phase I issues

The parties agreed to address two discrete questions in Phase I of this case. The first, and the one relevant to much of Defendants’ written submissions, asks for clarification of the Tribe’s Winters rights—namely whether they could extend to groundwater underlying the reservation.

⁵ The Wyoming Supreme Court admitted that “[t]he logic which supports a reservation of surface water to fulfill the purpose of the reservation also supports reservation of groundwater,” but nevertheless ruled against the extension of Winters rights because “not a single case applying the reserved water doctrine to groundwater is cited to us.” 753 P.2d at 99. The weight of authority on the issue has shifted.

DWA and CVWD have argued extensively in their briefing that any Winters rights possessed by the Agua Caliente do not extend to groundwater. Their contentions, however, mainly talk past whether Winters rights include groundwater, and focus on the quantum of the Tribe's entitlement.

Defendants' arguments largely take two forms. First, Defendants contend that principles of federalism and comity counsel against an extension of Winters rights to California groundwater resources. Second, Defendants claim the Tribe is able to function adequately under California's groundwater allocation framework without resort to Winters rights, so an asserted right beyond their current allotment is not necessary to prevent the reservation's purpose from being entirely defeated.⁶ Neither argument withstands scrutiny.

It is neither novel nor controversial that Winters rights derive from federal law, and thus displace state law when in conflict. *E.g.*, Cappaert, 426 U.S. at 138–39. The case law specifically holds that the Winters doctrine does not entail a “balancing test” of competing interests to determine the existence or scope of reserved rights. *Id.* Moreover, the California legislature acknowledges the supremacy of federal water rights, and acquiesces in their priority. See Cal. Water Code § 10720.3 (“[I]n the management of a groundwater basin or subbasin by a groundwater sustainability agency or by the board, federally reserved rights to groundwater shall be respected in full. In case of conflict between federal and state law in that . . . management, federal law shall prevail.”) (emphasis added). Therefore, Defendants' arguments regarding federal-state relations run counter to both federal and state law.

Defendants' additional arguments hinge on an unduly restrictive reading of United States v. New Mexico, and a misapprehension of that case's subsequent application by the Ninth Circuit to cases which involve tribal rights. In the New Mexico case, the Supreme Court addressed the scope of reserved rights in the Rio Mimbres's water connected to the government's creation of the Gila National Forest. 438 U.S. at 697–98. Congress established that Forest, among many others, pursuant to the Organic Administration Act of 1897, which intended the National Forests to “conserve water flows, and to furnish a continuous supply of timber for the people.” *Id.* at 706. The Supreme Court held those two purposes the only ones for which the government impliedly reserved water, notwithstanding later-enacted statutes which promoted other uses of the Forest, like “outdoor recreation” or “wildlife and fish purposes.” *Id.* at 714–15. The Court drew on the legislative history of the Multiple-Use Sustained-Yield Act of 1960 to hold the subsequently designated purposes were “secondary,” meaning they were not “so crucial

⁶ Although greatly simplified by the Court, this argument makes up a large portion of DWA's substantive briefing. For example, DWA argues (1) the Tribe has a correlative right to groundwater under California law, which, like all other groundwater users is subject to a state constitutional standard of reasonable use, so the Tribe may access those resources without a declaration of Winters rights just like any other overlying landowner; (2) the Tribe has not drilled wells on its property, so groundwater is not necessary for the reservation; and (3) the United States only requested a certain amount of surface water in the 1938 state court adjudication of the Whitewater system, so that amount is adequate to satisfy the needs of the reservation.

as to require a reservation of additional water.” *Id.* at 715. As noted above, the Ninth Circuit has held the reasoning of *New Mexico* only “establishes useful guidelines” for tribal reservation cases, and courts should instead focus on the broader command that *Winters* rights encompass “only that amount of water necessary to fulfill the purpose of the reservation, no more.” *Adair*, 723 F.2d at 1408–09.

In this case there are no subsequent enactments that impact the purposes of the Tribe’s reservation, although to be sure the government augmented the reservation’s territory over time. The reservation’s purposes remain the same as when the government created the reservation—to provide the Agua Caliente with a permanent homeland. The Ninth Circuit has specifically emphasized such a purpose’s elasticity; a tribal reservation’s reason for being is not etched in stone, but shifts to meet future needs. *See Walton*, 647 F.2d at 47–48; *Ahtanum Irrigation Dist.*, 236 F.2d at 326.

Despite Defendants’ insistent reliance on *New Mexico*, that case’s reasoning simply does not impact Phase I of this litigation.⁷ Of course, delineating the reservation’s purpose will ultimately dictate the breadth of the Tribe’s *Winters* rights, but the Agua Caliente’s reservation, at a minimum, provides the Tribe with a homeland for now and for the future, and *Winters* ensures a federal right to appurtenant water to realize that end.

Accordingly, the Tribe and the United States are entitled to partial summary judgment on the Phase I issue of whether the Tribe’s federally reserved water rights encompass groundwater underlying the reservation.

B. The Tribe’s claim to an aboriginal groundwater right fails

⁷ Defendants also argue that individual allottees and lessees of reservation land have no claim to reserved water rights because (1) the Tribe has no such right and (2) resort golf courses, of the kind maintained by some lessees, do not fit Defendants’ conception of the Tribe’s reservation’s purpose. Contentions regarding the derivative rights of allottees and lessees fail for the same reasons their other arguments fail—they are simply not relevant to Phase I of this case. It is well-established that “Indian allottees have a right to use a portion of . . . reserved water.” *Adair*, 723 F.2d at 1415. Additionally, “the full quantity of water available to the Indian allottee thus may be conveyed to the non-Indian purchaser,” *Walton*, 647 F.2d at 51, which logic surely translates to lessees. Thus, for the same reasons Defendants other arguments fail, this one fails as well due to its derivative nature. To the extent Defendants wish to argue that resort golf courses, or any other use, does not fall within the class of permissible uses under the *Winters* doctrine, it may so argue in later phases of this case, which will deal with the scope of the implied reservation.

The Tribe's second claim in this lawsuit asserts an aboriginal right to use groundwater beneath the Coachella valley, with a priority date of time immemorial.⁸ Simplified, the Agua Caliente's aboriginal rights argument proceeds thusly: federal law recognizes certain rights connected to original Indian occupancy; lands encompassed by the Treaty of Guadalupe Hidalgo⁹ fall under the original occupancy doctrine; the Tribe has continually and exclusively occupied the Coachella valley, which was ceded as part of the Treaty of Guadalupe Hidalgo, since centuries before other settlers; so the Agua Caliente possess an aboriginal right to groundwater underlying its reservation. (Tribe's Mot. for Summ. J. at 18–23.) In opposition to the Tribe's aboriginal rights claim, Defendants point out that Congress, via an 1851 statute, required the presentation of land claims in California to a commission for validation, the Tribe did not assert such a claim, so the land the Tribe occupied in the Coachella valley reverted to the public domain. The Tribe's claim to an aboriginal occupancy right fails.

Federal law recognizes a tribe's property right arising out of original territorial occupancy. See United States ex rel. Chunie v. Ringrose, 788 F.2d 638, 641–42 (9th Cir. 1986) (“Indian's aboriginal title derives from their presence on the land before the arrival of white settlers.”) (citing Tee-Hit-Ton Indians v. United States, 348 U.S. 272, 279 (1955)); see also Cohen's Handbook § 15.04[3] (“A tribe with original Indian title may bring a federal common law action to enforce ownership rights.”). Aboriginal property rights which arise under federal law are not “ownership rights,” but rather are “right[s] of occupancy granted by the conquering sovereign . . . [and are] therefore necessarily a creature of the conquering sovereign's law.” Id. at 642.¹⁰ Chief Justice Marshall, in Johnson v. M'Intosh, 21 U.S. 543 (1823), laid down the rule that “the conquering government acquires the exclusive right to extinguish Indian title.” Chunie, 788 F.2d at 642. Any such divestment of original Indian title is purely a matter of Congressional prerogative. United States v. Santa Fe Pac. R. Co., 314 U.S. 339, 347 (1941). And although the Supreme Court has noted extinguishment could be accomplished by “treaty . . . sword . . . exercise of complete dominion adverse to the right of occupancy, or otherwise,” id., a federal statute embodies a more typical legislative divestment. See id. at 347–48 (discussing in depth the effects of various statutes on competing land claims).

The United States ratified the Treaty of Guadalupe Hidalgo in 1948. California was admitted as a state in 1850. Shortly after California's admission, in order to “protect property

⁸ The United States' complaint in intervention did not press such a claim and neither did its motion for summary judgment on Phase I issues. The United States' opposition to Defendants' motion for summary judgment, however, argues in favor of such an aboriginal right.

⁹ The Treaty of Guadalupe Hidalgo, signed by the United States and Mexico in 1848, ended the Mexican–American War. See Summa Corp. v. California, 466 U.S. 198, 202 (1984). Under the terms of the Treaty, Mexico ceded much of what is now considered the American Southwest to the United States, including the territory that would later become the states of California, Nevada, and Utah, and parts of Arizona, New Mexico, Colorado, and Wyoming.

¹⁰ Like the Ninth Circuit has done past cases, in the absence of any argument that “the Spanish or Mexican law of aboriginal title differs from our own, [the Court] will assume that it does not.” Chunie, 788 F.2d at 642.

rights of former Mexican citizens in the newly-acquired territory and to settle land claims, Congress passed the Act of March 3, 1851, ch.41, 9 Stat. 631,” (“Act of 1851”). Chunie, 788 F.2d at 644. Three of the Act of 1851’s numerous provisions impact this case: section 8 instituted a land claims process for people claiming property rights in California; section 13 imposes a two-year time limit for presenting land claims; and section 16 imposed a “duty [on] the commissioners herein provided for to ascertain and report . . . the tenure by which the mission lands are held, and those held by civilized Indians.” See Barker v. Harvey, 181 U.S. 481, 483–85 (1901).¹¹

Federal courts construe sections 8 and 13 broadly; together they bar Indians who failed to assert original occupancy claims within the statutory two-year window from relying on such a right in future disputes:

[The Supreme Court], after observing . . . the United States was bound to respect the rights of private property in the ceded territory, said there could be no doubt of the power of the United States, consistently with such obligation, to provide reasonable means for determining the validity of all titles within the ceded territory, to require all claims to lands therein to be presented for examination, and to declare that all not presented should be regarded as abandoned. The Court further said the purpose of the act of 1851 was to give repose to titles as well as to fulfill treaty obligations, and that it not only permitted, but required, all claims to be presented to the commission, and barred all from future assertion which were not presented within the 2 years.

United States v. Title Ins. & Trust Co., 265 U.S. 472, 483 (1924); see also Summa Corp. v. California ex rel. State Lands Comm’n, 466 U.S. 198, 208 (1984) (explaining that the Title Insurance case “applied [the Court’s] decision in Barker to hold that because the Indians failed to assert their interest within the timespan established by the 1851 Act, their claimed right of occupancy was barred”); Santa Fe, 314 U.S. at 351 (discussing Barker and Title Insurance, and noting “the Act of 1851 was interpreted as containing machinery for extinguishment of claims, including those based on Indian right of occupancy”). The Supreme Court has held repeatedly that, despite the Act of 1851’s text, the “land confirmation proceedings were intended to be all-encompassing” and a failure to assert aboriginal title within the terms of the statute would preclude subsequent claims to land. Chunie, 788 F.2d at 646 (“Given the line of Supreme Court decisions recognizing the extensive reach of the Act of 1851 . . . the Chumash, claiming a right of occupancy based on aboriginal title, lost all rights in the land when they failed to present a claim to the commissioners.”).

¹¹ The Act of 1851’s Section 8 states: “[t]hat each and every person claiming lands in California by virtue of any right or title derived from the Spanish or Mexican government shall present the same to the said commissioners” Barker, 181 U.S. at 483. Section 13 holds: “[t]hat all lands, the claims to which have been finally rejected . . . and all lands the claims to which shall not have been presented to the said commissioners within two years after the date of this act, shall be deemed, held and considered as part of the public domain of the United States.” Id. at 484.

In this case, the Tribe alleges they have occupied the Coachella valley since time immemorial. Within the framework established by Barker and Chunie, that means they held an aboriginal right of occupancy under Mexican law, and then a right of occupancy under United States law following the Treaty of Guadalupe Hidalgo. The Tribe admits that no claim was filed on its behalf as part of the claims process under the Act of 1851, (Doc. No. 82–3 Ex. 1–10), so like the Indians in all other cases interpreting the Act of 1851, the Agua Caliente’s aboriginal claim was effectively extinguished after the two-year claims window closed, and its territory subsumed within the public domain.

Citing Cramer v. United States, 261 U.S. 219 (1923), the Tribe argues alternatively that even if the Act of 1851 extinguished its aboriginal title, the Tribe re-established such a right by continuous occupancy from 1853 until the creation of its reservation in 1876.¹² (Tribe’s Mot. for Summ. J. at 23.) But even if the Tribe did reclaim a title of original occupancy in the 23 years between the time its claim was extinguished and the creation of its reservation, the reservation effectively re-extinguished that right. Reservation, recall, means the United States withdraws land which it then “set[s] apart for public uses.” Hagen, 510 U.S. at 966. Aboriginal rights are based on “actual, exclusive, and continuous use and occupancy ‘for a long time’ of the claimed area,” Native Vill. of Eyak v. Blank, 688 F.3d 619, 622 (9th Cir. 2012). Accordingly, an aboriginal right of occupancy is fundamentally incompatible with federal ownership.

The Act of 1851 extinguished the Tribe’s aboriginal occupancy right, and even if the Tribe re-established such a right it was not continuous and exclusive and continuous once the United States created the Agua Caliente’s reservation. Accordingly, the Tribe cannot assert an original occupancy right, and Defendants are entitled to summary judgment on this issue.

C. Interlocutory appeal under 28 U.S.C. 1292(b)

Usually litigants may only appeal final judgments of district courts. See 28 U.S.C. § 1291. Section 1292, however, confers appellate jurisdiction over a limited class of interlocutory decisions by district courts, including decisions which involve “a controlling question of law as to which there is substantial ground for difference of opinion and that an immediate appeal from the order may materially advance the ultimate termination of the litigation.” 28 U.S.C. 1292(b); see also Couch v. Telescope, Inc., 611 F.3d 629, 632–33 (9th Cir. 2010).

Whether Winters rights extend to groundwater, in light of California’s correlative rights legal framework for groundwater allocation, effectively controls the outcome of this case. The scope of this litigation would, at the very least, shrink dramatically if the issue resolves the other

¹² One point of clarification is in order: the Tribe’s asserted right to groundwater based on aboriginal title must actually connect to its claim for aboriginal title. That is, no such freestanding aboriginal rights to natural resources exist, all derive from a right to occupancy. See United States v. Shoshone Tribe, 304 U.S. 111, 116–17 (1938) (“To that end the United States granted and assured to the tribe peaceable and unqualified possession of the land in perpetuity. Minerals and standing timber are constituent elements of the land itself.”).

way, thus “advanc[ing] the ultimate termination” of the case. Substantial ground for difference of opinion exists on the legal question—state supreme courts are split on the issue and no federal court of appeals has passed on it. See Couch, F.3d at 633.¹³ Additionally, the Supreme Court’s decision in Cappaert specifically avoided deciding the issue, it chose instead to construe distant groundwater as surface water. In this case it is undisputed that the groundwater at issue is not hydrologically connected to the reservation’s surface water, so it sits uncomfortably outside Cappaert’s explicit holding. And although not one of § 1292(b)’s factors, it’s worth noting this decision may be unreviewable as a practical matter due to the likelihood of settlement as the case progresses. Cf. United States ex rel. Lummi Indian Nation v. Washington, No. C01–0047Z, 2007 WL 4190400, at *1 (W.D. Wash. Nov. 20, 2007).

In accordance with § 1292(b), the Court certifies this Order for interlocutory appeal, should the parties seek review.

V. CONCLUSION

The Court has attempted to address the parties’ arguments within the framework set out by their own agreement, which was approved by the Court. The conclusions made in this Order should be read with an eye toward the larger picture of this litigation.

Based on the foregoing discussion of the legal issues presented by Phase I of this case, the Court (1) GRANTS partial summary judgment to the Agua Caliente and the United States on the claim that the government impliedly reserved appurtenant water sources—including underlying groundwater—when it created the Tribe’s reservation; and (2) GRANTS partial summary judgment to Defendants regarding the Tribe’s aboriginal title claims because the Land Claims Act of 1851, as interpreted by the Supreme Court, effectively extinguished any such right.

IT IS SO ORDERED.

¹³ The Ninth Circuit recently explained:

To determine if a “substantial ground for difference of opinion” exists under § 1292(b), courts must examine to what extent controlling law is unclear. Courts traditionally will find that a substantial ground for difference of opinion exists where “the circuits are in dispute on the question and the court of appeals of the circuit has not spoken on the point . . . or if novel and difficult questions of first impression are presented.”

Couch, 611 F.3d at 633.

Tab V – *Intentionally Blank*

Tab W – Newsletter Index

WESTERN STATES WATER NEWSLETTER INDEX

January 2, 2015 - March 27, 2015

Issues No. 2120 - 2132

<u>HEADING</u>	<u>SUBHEADING</u>	<u>DATE</u>	<u>ISSUE</u>
ADMINISTRATION UPDATE	Army Corps of Engineers	03-27	2132
	Bureau of Reclamation	01-09	2121
		01-16	2122
		01-30	2124
		02-13	2126
	Clean Water Act	01-16	2122
	Climate	01-02	2120
		01-09	2121
	Council on Environmental Quality	03-13	2130
	Department of the Interior	03-20	2131
		03-27	2132
	Drought	02-27	2128
	Earthquakes	02-27	2128
	Energy	03-27	2132
	Environmental Protection Act	01-16	2122
	Fish and Wildlife Service	01-02	2120
	Forest Service	01-30	2124
	FY2016 Budget	02-06	2125
		02-27	2128
	Hydraulic Fracturing	03-20	2131
	Hydropower	03-27	2132
	Natural Resources Conservation Service (NRCS)	02-27	2128
	Sage Grouse	01-02	2120
	State of the Union Address	01-23	2123
	U.S. Geological Survey	01-02	2120
		02-27	2128
	Wastewater Injection	02-27	2128
	Water Treatment	01-09	2121

CONGRESSIONAL UPDATE	Army Corps of Engineers	02-20	2127
	Bureau of Reclamation	02-20	2127
	Bureau of Land Management	03-27	2132
	Clean Water Act	01-09	2121
		01-30	2124
		02-13	2126
	Committee Leadership	01-23	2123
	Data	02-27	2128
	Department of the Interior	02-27	2128
		03-13	2130
	Endangered Species Act (ESA)	01-09	2121
		01-23	2123
	Environmental Protection Agency	02-27	2128
		03-13	2130
		03-20	2131
	Federal Land Policy Management Act (FLPMA)	01-23	2123
	Forest Service	03-13	2130
		03-27	2132
	FY2016 Budget	02-20	2127
		03-13	2130
	Groundwater	03-13	2130
		03-27	2132
	House Natural Resources Committee	01-16	2122
		01-30	2124
	Hydraulic Fracturing	03-27	2132
	Indian Irrigation Projects	02-20	2127
		03-20	2131
	Indian Water Rights	03-06	2129
	Leadership	01-30	2124
	National Environmental Policy Act (NEPA)	01-23	2123
	Pesticides	02-20	2127
	Reclamation Fund	03-20	2131
	Science Advisory Board	02-27	2128
		03-20	2131
	State Revolving Funds (SRFs)	03-13	2130
	Water in the 21 st Century Act	01-30	2124
	Wildfire	03-27	2132

ENERGY	Army Corps of Engineers	03-27	2132
	Concentrated Solar Power	03-13	2130
	Department of the Interior	03-20 03-27	2131 2132
	Energy	03-27	2132
	Hydraulic Fracturing	03-20	2131
	Hydropower	03-27	2132
ENVIRONMENT	Bureau of Reclamation	01-09	2121
	Climate	01-02 01-09	2120 2121
	Earthquakes	02-27	2128
	Environmental Protection Agency (EPA)	03-20	2131
	Fish and Wildlife Service	01-02	2120
	Sage Grouse	01-02	2120
	Science Advisory Board	03-20	2131
	U.S. Geological Survey	01-02 02-27	2120 2128
	Wastewater Injection	02-27	2128
	Wild and Scenic Rivers	01-23	2123
LITIGATION	Clean Water Act	01-09	2121
	Endangered Species Act	01-02	2120
	Forest Roads	01-09	2121
	Municipal Separate Storm Sewer Systems (MS4s)	01-09	2121
	Stormwater	01-09	2121
	Texas	01-02	2120
	Water Transfers	01-02	2120
WATER QUALITY	Clean Water Act	01-09 01-30 02-13	2121 2124 2126
	Data	02-27	2128
	Endangered Species Act	01-09	2121

	Environmental Protection Agency	02-27 03-13	2128 2130
	Forest Roads	01-09	2121
	Municipal Separate Storm Sewer Systems (MS4s)	01-09	2121
	Pesticides	02-20	2127
	Science Advisory Board	02-27	2128
	State Revolving Funds (SRFs)	03-13	2130
	Stormwater	01-09	2121
	Army Corps of Engineers	02-20	2127
	Basin Studies	01-30	2124
	Bureau of Land Management	03-27	2132
	Bureau of Reclamation	01-09 01-16 01-30 02-20	2121 2122 2124 2127
	California	01-23 03-27	2123 2132
	Cloud Seeding	02-13	2126
WATER RESOURCES	Concentrated Solar Power	03-13	2130
	Council on Environmental Quality	03-13	2130
	Department of the Interior	02-27 03-06 03-13	2128 2129 2130
	Drought	02-06 02-13 02-27 03-27	2125 2126 2128 2132
	Drought Webinar Series	02-06	2125
	Endangered Species Act	01-02	2120
	Forest Service	03-13 03-27	2130 2132
	FY2016 Budget	02-20 02-27 03-13	2127 2128 2130
	Groundwater	01-30 03-13 03-27	2124 2130 2132
	House Natural Resources Committee	01-30	2124

	Hydraulic Fracturing	03-27	2132
	Indian Irrigations Projects	02-20 03-20	2127 2131
	Indian Water Rights	03-06	2129
	Klamath Basin	01-23	2123
	Natural Resources Conservation Service (NRCS)	02-27 03-20	2128 2131
	Oregon	01-23	2123
	Reclamation Fund	03-20	2131
	Rural Water	02-13	2126
	Texas	01-02	2120
	USGS Streamgages	03-20	2131
	Water Reuse	01-16	2122
	WaterSmart	01-16	2122
	Water in the 21 st Century Act	01-30	2124
	Water Transfers	01-02	2120
	Water Treatment	01-09	2120
	Wildfire	03-27	2132
	Wyoming	01-16	2122
WATER RIGHTS	Department of the Interior	03-06	2129
	Indian Water Rights	03-06	2129
WESTERN GOVERNORS	Drought	03-06	2129
	Drought Forum	02-06 02-20 03-06	2125 2127 2129
	Drought Webinar Series	02-06	2125
	Energy	03-06	2129
	Forest Health	03-06	2129
	Inaugural Addresses	01-16	2122
	Natural Resources Conservation Service (NRCS)	03-20	2131
	Oregon	02-20	2127
	USGS Streamgages	03-20	2131

WESTERN STATES WATER COUNCIL	Washington, DC Visits	03-27	2132
PEOPLE	Nathan Bracken	02-20	2127
	Steve Gunderson	01-02	2120
	Pearl Ostler Pollick	01-09	2121
	Patrick Pfalzgraff	01-02	2120
	Troy Timmons	01-30	2124
	Dionne Thompson	02-27	2128

Tab XYZ – Sunsetting Positions for Summer
2015 Meetings (#342 - #344)

(See also No. 316, revised and reaffirmed July 17, 2009)

(See also No. 278, revised and reaffirmed July 21, 2006)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
WATER TRANSFERS
and
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
DISCHARGE PERMITS
Seattle, Washington
June 8, 2012
(revised and reaffirmed)

WHEREAS, on August 1, 2003 the Western States Water Council adopted a resolution regarding water transfers and National Pollutant Discharge Elimination System (NPDES) discharge permits; and

WHEREAS, on July 21, 2006, the Western States Water Council adopted a resolution that generally supported the U.S. Environmental Protection Agency's (EPA) proposed amendment to its Clean Water Act regulations as published on the June 7, 2006 Federal Register (Vol. 71, No. 109), which exempted water transfers from the NPDES permitting program.

WHEREAS, in those resolutions the Western States Water Council declared its position that the transport of water through constructed conveyances to supply beneficial uses should not trigger federal NPDES permit requirements, simply because the transported water contains different chemical concentrations and physical constituents; and

WHEREAS, in those resolutions the Western States Water Council also expressed support for the ability of each Western State to use available authorities to place appropriate conditions on water transfers to protect water quality; and

WHEREAS, on June 13, 2008, the EPA published in the Federal Register (Vol. 73, No. 115) a final amendment to its Clean Water Act regulations (40 CFR Part 122) that expressly excludes water transfers from regulation under the NPDES permitting program, and defines water transfers as an activity that conveys waters of the United States to another water of the United States without subjecting the water to intervening industrial, municipal, or commercial use; and

WHEREAS, the final rule relies on EPA's interpretation of the federal Clean Water Act and does not limit any ability of a State to use any available authority, including authority regarding nonpoint sources of pollution, to protect the water quality of the receiving water body in a water transfer;

WHEREAS, water transfers and water quality are essential to the social, economic and environmental well-being of the Western States, and

WHEREAS, the United States Court of Appeals in the case of *Friends of the Everglades v. South Florida Water Management Dist.*, 570 F.3d 1210 (11th Cir. 2009), upheld EPA's Water Transfer Rule holding it to be a reasonable construction of the Clean Water Act and therefore entitled to deference by the Federal Courts, and on which decision the United States Supreme Court subsequently denied a Petition for Writ of Certiorari;

Position No. 342
(See also No. 316, revised and reaffirmed July 17, 2009)
(See also No. 278, revised and reaffirmed July 21, 2006)

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council generally supports EPA's amendment to its Clean Water Act regulations as published in the June 13, 2008 Federal Register.

BE IT FURTHER RESOLVED that the Western States Water Council supports the use by a State of available authorities to protect the water quality of the receiving water body in a water transfer.

f:\position\2012\seattle jun8\pos 342 2012 npdes-transfers resol.doc



WESTERN STATES WATER COUNCIL

5296 South Commerce Drive, Suite 202 / Murray, Utah 84107 / (801) 685-2559 / Fax (801) 685-2559

Web Page: www.westgov.org/hwswc

June 8, 2012

Position No. 343

Senator Jeff Bingaman, Chairman
Energy and Natural Resources Committee
United States Senate
SD-364 Dirksen Senate Office Building
Washington, DC 20510

Senator Lisa Murkowski, Ranking Member
Energy and Natural Resources Committee
United States Senate
SD-312 Dirksen Senate Office Building
Washington, DC 20510

Dear Senators:

On behalf of the Western States Water Council, which represents eighteen states, I am writing to express our support for legislative action to establish a dedicated funding source for the completion of federal rural water projects authorized by the Congress for construction by the Bureau of Reclamation. These projects include components that benefit both Indian and non-Indian rural communities. Many of these communities, particularly smaller communities, are struggling to provide adequate water supplies to meet the needs of their citizens of a quality consistent with federal mandates.

It is essential that these projects be completed in a timely manner for the benefit of these communities in fulfillment of long-standing promises and trust responsibilities, some dating back decades. Another important consideration is the impact on the federal budget and economic growth. Accelerated construction scheduling, made possible by a more timely federal investment of modest amounts, will minimize long-term federal expenditures and create more jobs now.

With respect to programmatic goals and funding priorities established pursuant to directives in any legislation, these should be developed in a transparent manner in consultation with the affected communities and States -- and should consider existing state water plans and priorities.

We appreciate the opportunity to express our interests and look forward to working with you to address this important need.

Sincerely,

A black and white photograph of a handwritten signature in cursive script, which appears to read "Phillip C. Ward".

Phillip C. Ward
Chairman
Western States Water Council



A VISION ON WATER

Adopted by the

Western States Water Council

on June 8, 2012

Our Present Condition

Water in the West is an increasingly scarce and precious resource, given population growth and an expanding range of often competing economic and ecological demands, as well as changing social values. Surface and ground water supplies in many areas are stressed, resulting in a growing number of conflicts among users and uses. A secure and sustainable future is increasingly uncertain given our climate, aging and often inadequate water infrastructure, limited knowledge regarding available supplies and existing and future needs and uses, and competing and sometimes un-defined or ill-defined water rights. Effectively addressing these challenges will require a collaborative, cooperative effort among states and stakeholders that transcends political and geographic boundaries.

Our Vision

- State primacy is fundamental to a sustainable water future. Water planning, policy, development, protection, and management must recognize, defer to, and support state laws, plans, and processes. The federal government should streamline regulatory burdens and support implementation of state water plans and state water management.
- Given the importance of the resource to our public health, economy, food security, and environment, water must be given a high public policy priority at all levels.
- An integrated and collaborative approach to water resources management is critical to the environmentally sound and efficient use of our water resources. States, tribes, and local communities should work together to resolve water issues. A grassroots approach should be utilized in identifying problems and developing optimal solutions.
- Any approach to water resource management and development should accommodate sustainable economic growth, which is enhanced by the protection and restoration of significant aquatic ecosystems, and will promote economic and environmental security and quality of life.
- There must be cooperation among stakeholders at all levels and agencies of government that recognizes and respects national, regional, state, local and tribal differences in values related to water resources and that supports decision-making at the lowest practicable level.