DRAFT
WATER RESOURCES COMMITTEE
WORK PLAN
2019/2020

1. WATER AVAILABILITY & USE - WATER DATA EXCHANGE (WaDE)

Work to date: The Council continues to work with member states and federal agencies through the Western States Federal Agency Support Team (WestFAST) to build on the existing WaDE data-sharing platform and update it to a more robust and performant architecture – Phase 2. The current portal supports data from sixteen states and eighteen WSWC state water agencies. With assistance, Montana is developing WaDE-compliant data services that will feed directly into the new WaDE platform. North Dakota is revamping their data program and has deferred their implementation at this time. Some eastern states have expressed interest in deploying to the WaDE platform also, with a proto-type completed for New Jersey. WSWC will work with ICWP and through the USGS Water Use Data and Research (WUDR) program to engage states and other entities that wish to serve data in the WaDE platform.

These data are important for a number of applications. Some examples include, but are certainly not limited to: (a) state and regional water planning and water rights analyses; (b) local watershed and urban planning and development via more consistent water balances and water budgets; (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.

WaDE is consistent with and is seeking to collaborate with and integrate other national efforts, including the Water Availability and Use Program (WAUSP), which is led by the U.S. Geological Survey (USGS), as well as federal and non-federal open water data initiatives. WaDE supports these efforts by laying the groundwork for exchanging the core state data that may be used to support these studies. Greater interoperbility and consistent data standards between federal data portals and other sensor-based, time-series portals under development by the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) are goals of the program. WSWC will assist CUAHSI by advising on data-standards and interoperability, reviewing their data products, assisting with the planning of the CUAHSI Hydroinformatics Conference, and co-hosting other joint data-related workshops in 2019.

The Council has a long history of working to support federal programs to maintain and improve the measurement, monitoring and management of western water resources and related data, including related Interior, NASA, NOAA and USDA programs (see Position #396 September 30, 2016, and #428, October 26, 2018).

2019/2020: WSWC will renovate the WaDE architecture for a more robust and centralized application using cloud computing technology, and will adapt the current system to support specific use cases of the data, including a streamlined, spatially and temporally consistent water budget implementation for selected states. WSWC will also continue assisting participating member states to refine their data, find optimal ways to publish those data that are compatible with WaDE, as well as providing funding and internship support for states' data programs. The Council will collaborate with other states who are implementing new "open water data"

legislation with interoperability and data standards setting guidance. The Council will also continue working with member states, USGS, NASA and various federal agencies to gather and disseminate water resources data using WaDE and other resources. The Council will also partner with USGS on facilitating funding to states for water data through the WUDR program. The Committee, through the Water Information and Data Subcommittee (WIDS) and various other work groups, will continue to gather information on state water availability and use data and summarize existing state capabilities. Work to help states develop, disseminate, visualize and review data on water availability will continue. The WSWC seeks resources to assist states, and a number of foundations are providing support.

The Council will also communicate the critical need for federal water data related programs and will revise and renew 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. There are a number of items under this functional area. 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.

The WSWC co-hosted a Water Information Management System (WIMS) workshop with NASA's Western Water Applications Office (WWAO) in 2018 and plans to continue hosting these events every one to two years into the future (with the next one planned in mid-2019). The WIMS will increase dialogue on water data and science related topics between both WSWC appointees and their IT and data program management staff. Topics include water use reporting/permitting systems, IT-related adjudications topics, cloud and on-site architectures for data management, use of sensor-based and "big data," remote-sensing innovations and tools under development.

Subcommittee: Sam Hermitte (TX), Lisa Williams, Natalie Mast (AZ), Mat Weaver, Linda Davis (ID), Ken Stahr (OR), Julie Cunningham, Kent Wilkins (OK), Gary Darling (CA), Steve Wolff (WY), Todd Adams, Candice Hasenyager (UT), Lane Letourneau, Ginger Pugh (KS), Nancy Barber (USGS), Allison Odell (USBOR), Dwane Young (USEPA), Forrest Melton (NASA)

Timeframe: Ongoing

2. CDWR/WSWC S2S WORKSHOPS

Work to date: The Western States Water Council (WSWC) and California Department of Water Resources (CDWR) have entered into a number of agreements to assist with efforts to improve sub-seasonal to seasonal (S2S) forecasting skill (2 weeks to one year). Two workshops were held in 2015. Two additional workshops were held in 2016. The Council prepared a report on these meetings and an outreach publication with recommendations to NOAA on improvements regarding sub-seasonal to seasonal precipitation forecasting. Other S2S workshops were held in San Diego in 2017, 2018 and 2019.

2019/2020: Additional S2S workshops are anticipated, as is work to support federal efforts to improve our predictive capabilities and skill. (Position #399, April 14, 2017)

Subcommittee:

Timeframe:

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 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. The use of water produced by energy development has also been discussed. The Council has also urged the Administration and Congress to support Department of Energy hosted energy-water programs conducted at national laboratories (Position #395, July 15, 2016).

2019/2020: The Council has participated with the Western Electric Coordinating Council (WECC) and related State Provincial Steering Group and Environmental Data Work Group. 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, hydropower licensing and other practices.

OPTIONAL – WAITING TO HEAR FROM TW ON THIS: WSWC Staff will also assist the DOE Sandia National Laboratories on a proposal for a "Energy-Water Desalination Hub" under development. The Hub will focus on early-stage R&D for energy-efficient and low-cost desalination technologies, establish a consistent and ongoing multidisciplinary effort to identify desalination challenges and opportunities, and host data and resources regarding treatment of non-traditional waters to address water security issues in the U.S.

Subcommittee:

Timeframe: Ongoing

4. 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. The Council 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 #421, March 14, 2018 and #428 October 26, 2018). The Council also supports development of an improved western observing system for extreme precipitation events and research to better understand hydroclimate processes (Position #407, June 29, 2017). The

Council's Executive Director serves as Co-Chair of the National Integrated Drought Information System (NIDIS) Executive Council with NOAA and USDA.

2019/2020: 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 NIDIS, and other weather/climate monitoring and adaptation efforts (including RISAs work). The Council will work to evaluate proposed climate, drought and weather legislation and drought related authorities and programs of federal agencies.

Subcommittee:

Time Frame: Ongoing

5. 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, which 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. The Council has also convened symposia and workshops and summarized the proceedings. The Council has also compiled summaries of western state infrastructure financing authorities, funding sources, policies and programs. Further, the Council has 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.

2019/2020: 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 #408, June 29, 2017). The Council will otherwise support efforts to secure adequate federal funding to meet growing western water demands, and work to develop a strategy to communicate important infrastructure needs. The Council will include a focus on developing public-private partnerships to support this effort. The Council will sponsor a symposium on infrastructure needs, strategies, and federal and state programs, under the direction of the Executive Committee, with WestFAST's assistance and in cooperation with other non-federal interests.

Time Frame: Ongoing

6. STATE GROUNDWATER RECHARGE PROJECT PROGRAMS & POLICIES

Work to Date: The Council has in the past addressed groundwater management programs and policies, including recharge and aquifer storage and recovery projects. The Council prepared a number of reports covering financial feasibility, legal and institutional issues, and water reuse for recharge (1990-2012). Much of the work is now dated, and many changes have taken place.

2019/2020: Working with the Legal Committee and the Council, the Committee will update past reports on state groundwater management programs and especially efforts to promote conjunctive use of surface and groundwater resources through artificial aquifer storage and recovery projects.