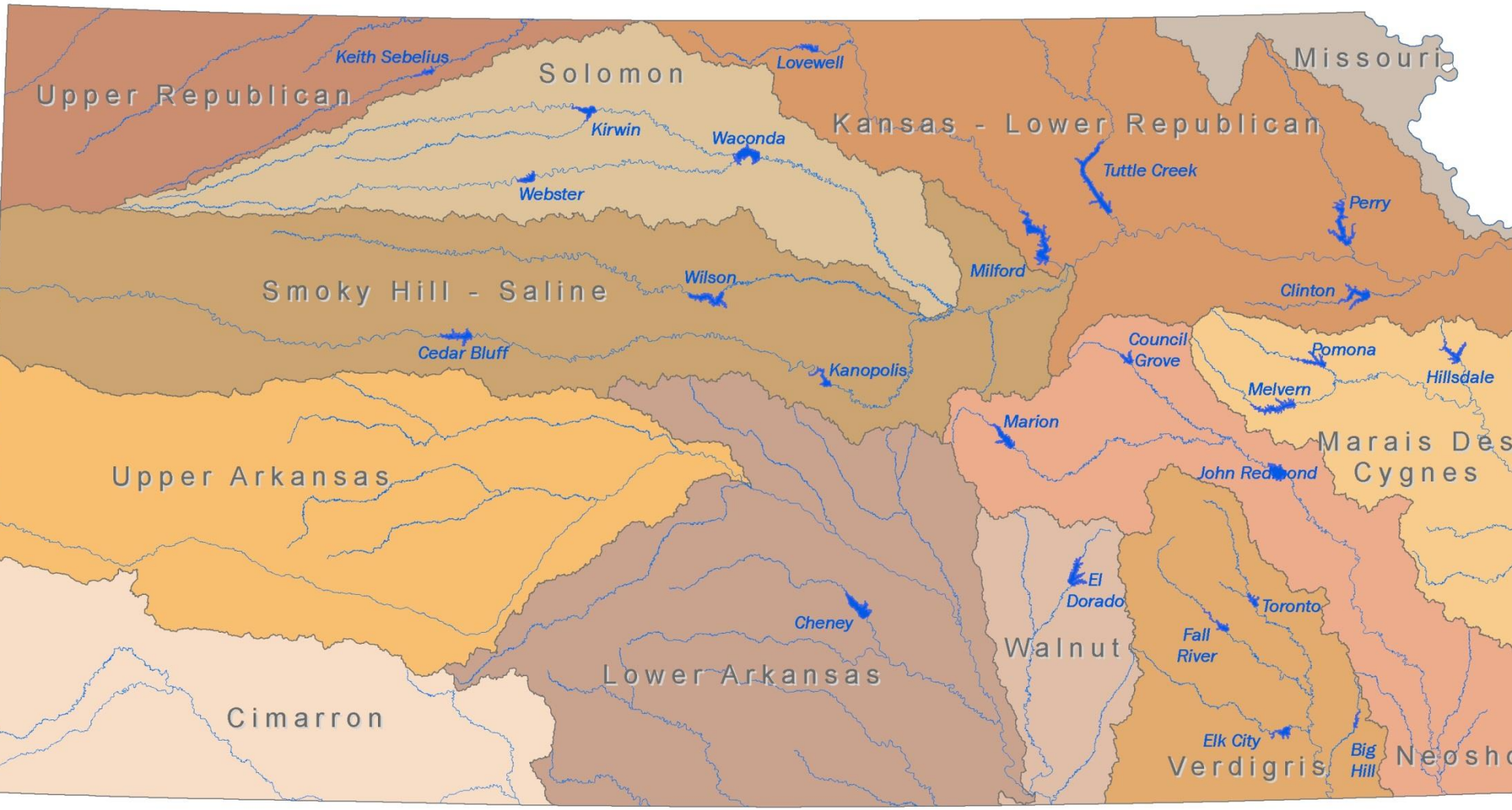
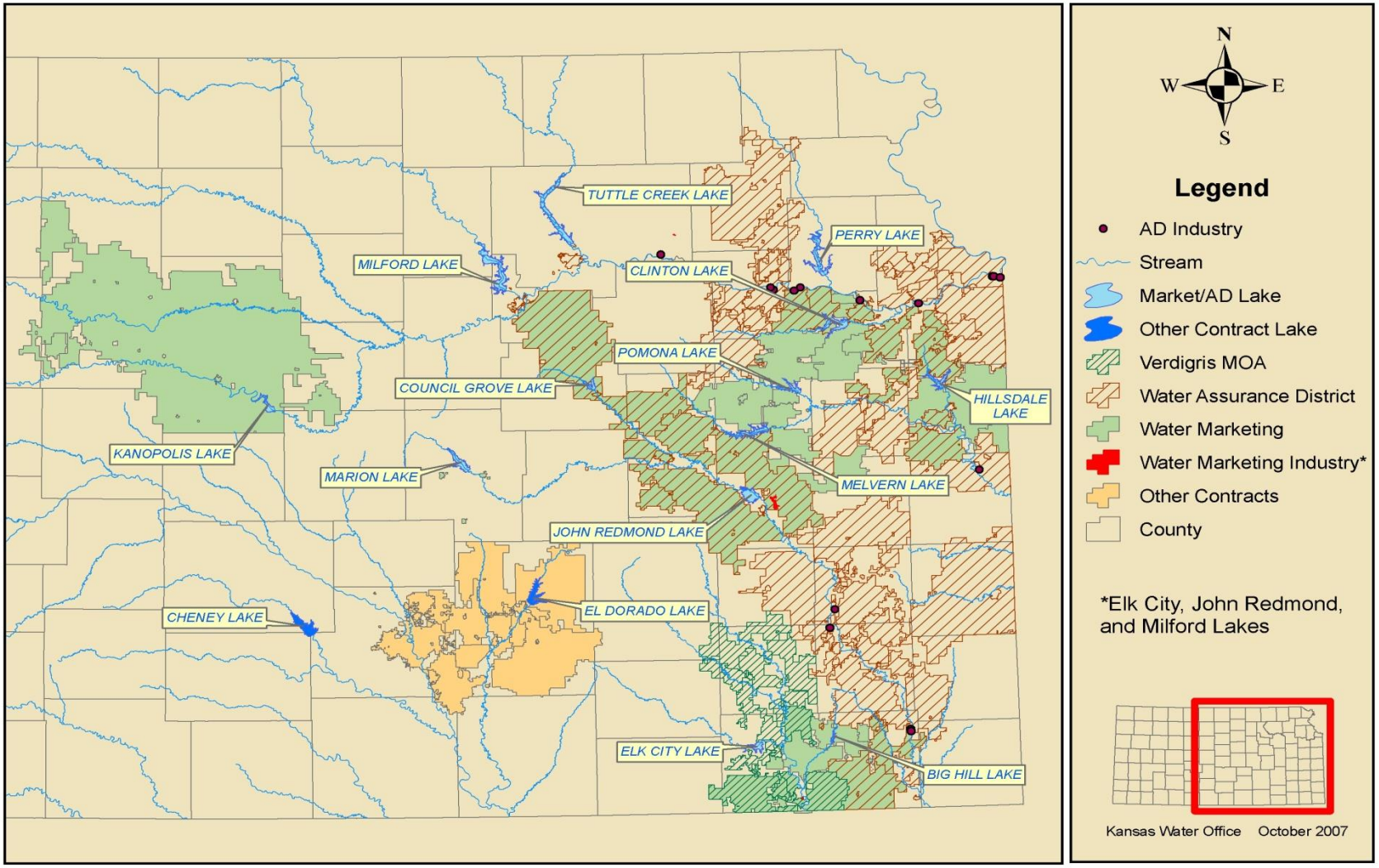
Major River Basins and Federal Reservoirs in Kansas

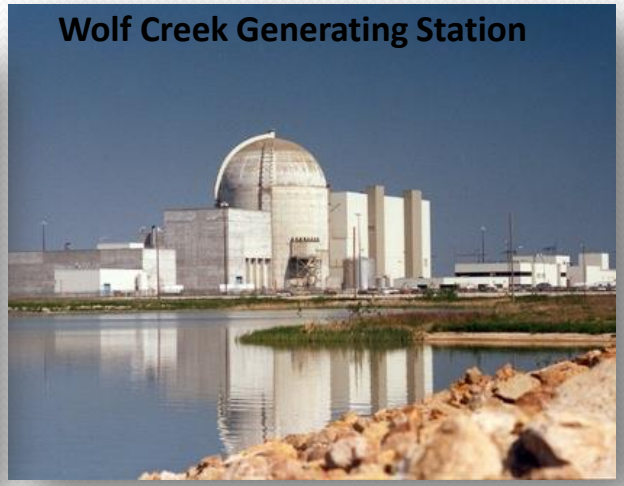


Federal Lake Water Supply Storage Customers

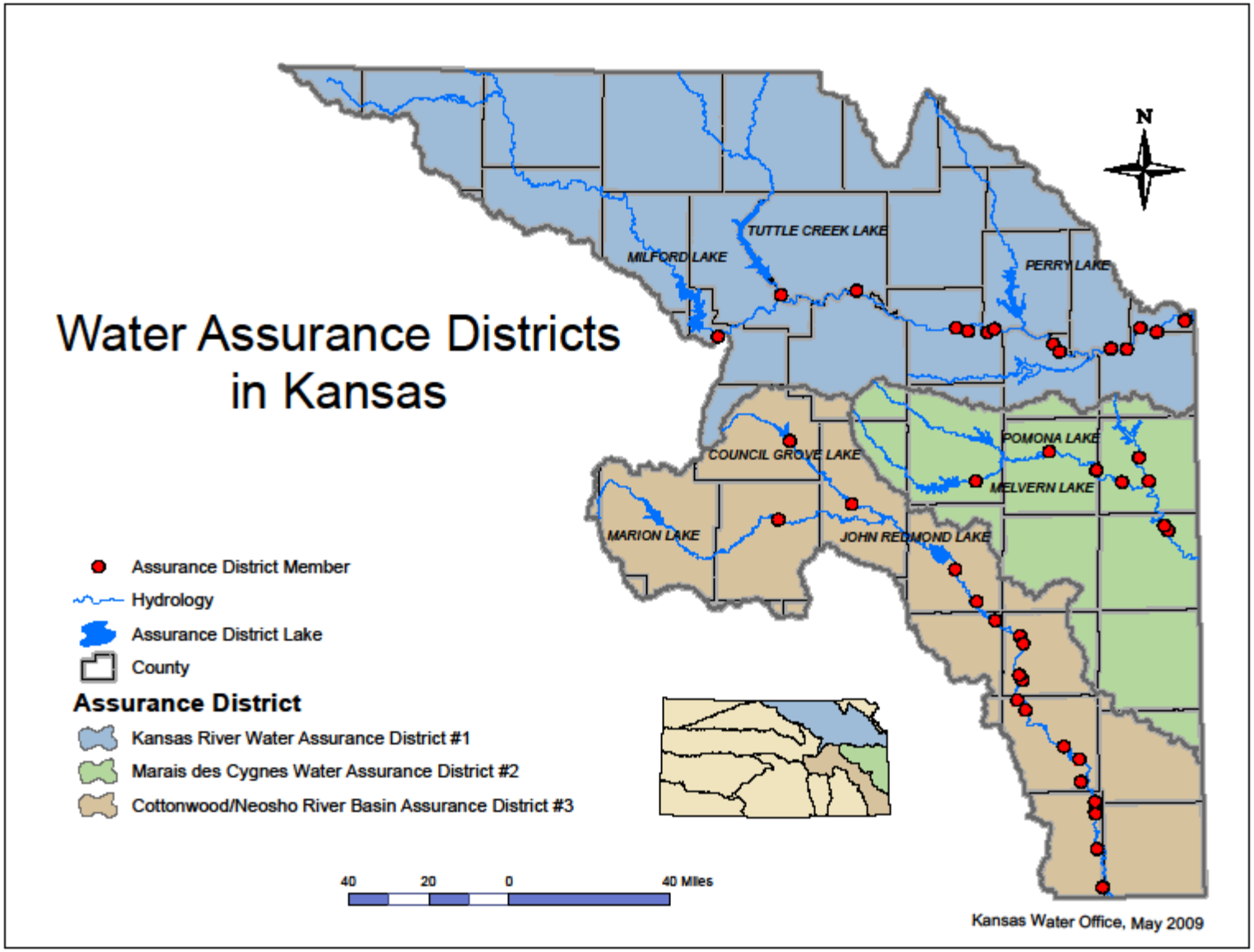


Reservoir Water Use & Energy Source Production

Kansas Power Plant Energy Production		11821.5 MW
Power Plant Energy production through Reservoir water use		6785.5 MW
% Power Plant w/Reservoir Use		**57.40%**



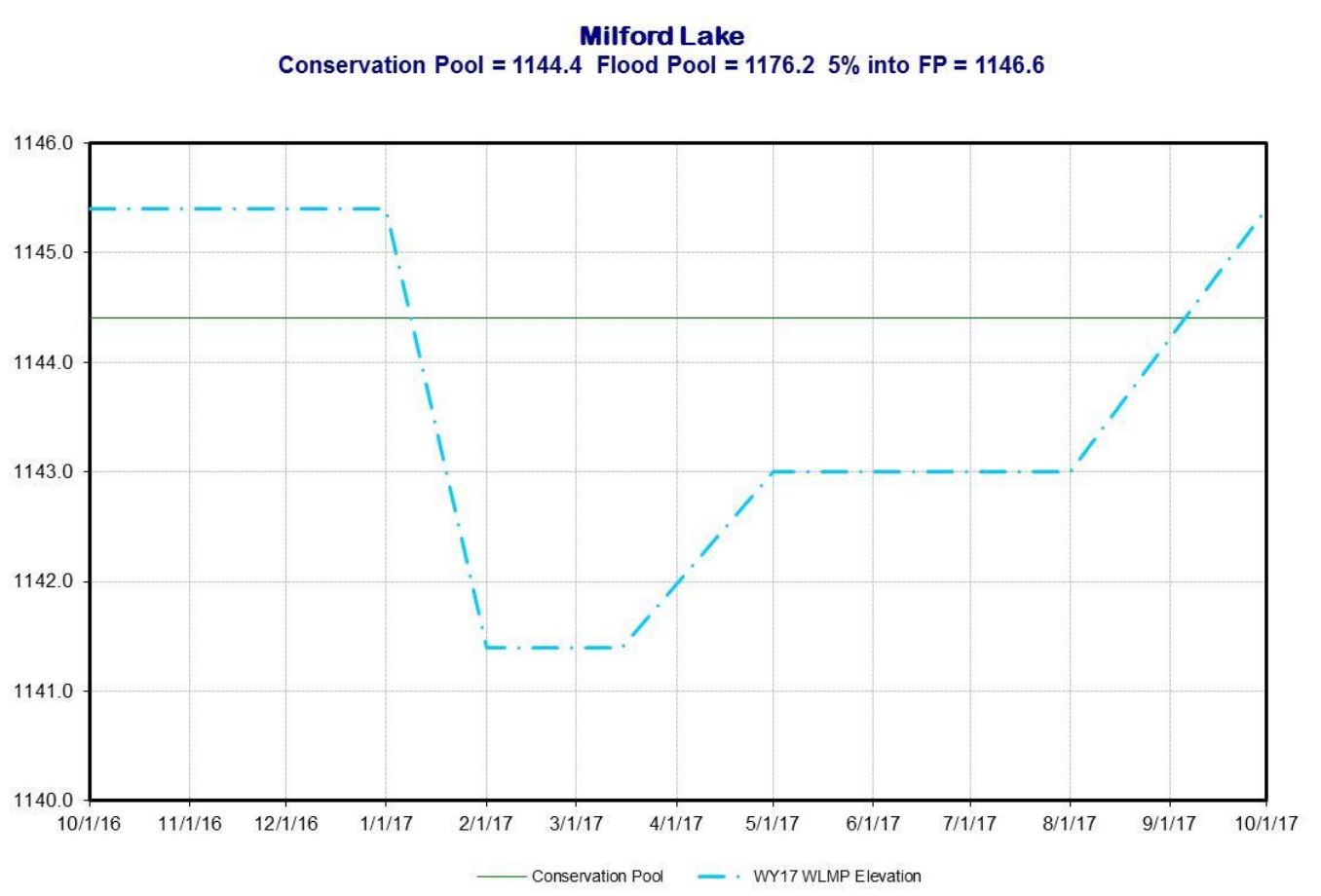
Reservoir	District	Elevation Multipurpose Pool (ft)	Elevation Flood Control Pool (ft)	Capacity At Multipurpose Pool Elev. (AF)	Capacity At Flood Control Pool Elev. (AF)	Water Supply Yield (MGD)
Clinton	KC	875.5	903.4	118,699	411,195	18.5
Milford	KC	1144.4	1176.2	373,152	1,131,024	113
Perry	KC	891.5	920.6	200,004	715,523	70.2
Tuttle Creek	KC	1075	1136	257,014	2,141,326	180.5
Hillsdale	KC	917	931	77,415	163,919	15.5
Melvern	KC	1036	1057	149,630	358,635	7.7
Pomona	KC	974	1003	55,514	239,456	8
Kanopolis	KC	1463	1508	48,378	413,521	8.2
Council Grove	Tulsa	1274	1289	43,984	103,211	8.4
John Redmond	Tulsa	1041	1068	67,302	573,157	32.5
Marion	Tulsa	1350.5	1358.5	80,659	142,624	5.2
Big Hill	Tulsa	858	867.5	23,361	35,649	8
Elk City	Tulsa	796	825	37,422	261,840	14.2
Fall River	Tulsa	948.5	987.5	20,690	244,619	7.3
Toronto	Tulsa	901.5	931	16,528	185,480	4.9
			Total:	1,569,752	7,121,179	502.1


Water Assurance Districts in Kansas
N
TUTTLE CREEK LAKE
MILFORD LAKE
PERRY LAKE
COUNCIL GROVE LAKE
POMONA LAKE
MELVERN LAKE
MARION LAKE
JOHN REDMOND LAKE
Assurance District Member
Hydrology
Assurance District Lake
County
Assurance District
Kansas River Water Assurance District #1
Marais des Cygnes Water Assurance District #2
Cottonwood/Neosho River Basin Assurance District #3
40 20 0 40 Miles
Kansas Water Office, May 2009

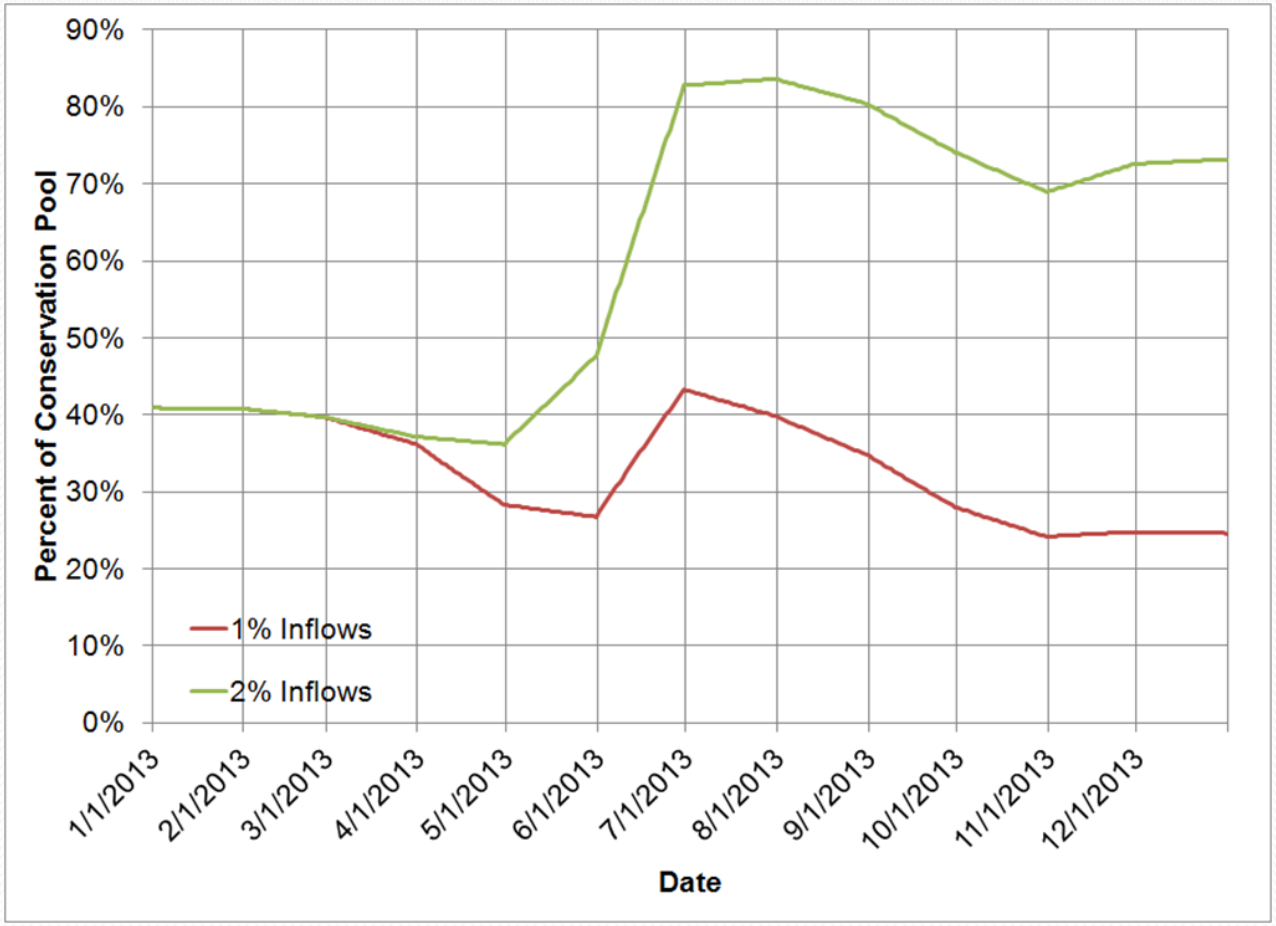
Potential Application of improved S2S forecasts

- Water Level Management Plans
- Drought Management
- Sedimentation?

Water Level Management Plans



Drought Management



Drought Management

	John Redmond Reservoir Monthly Inflows (cfs)							
Month	1%	2%	5%	10%	25%	50%	2012	2013
Jan	1	3	9	25	96	316	231	66
Feb	2	6	19	49	184	588	783	103
Mar	18	38	101	213	593	1,412	2,734	160
Apr	76	135	290	513	1,100	2,039	1,093	448
May	182	293	547	871	1,623	2,685	432	
Jun	344	512	856	1,255	2,077	3,095	149	
Jul	76	124	239	396	802	1,484	63	
Aug	61	91	155	234	410	664	89	
Sep	26	48	104	188	420	837	94	
Oct	10	28	80	164	418	905	66	
Nov	52	84	158	257	509	926	60	
Dec	24	40	81	139	294	563	48	

Sedimentation?

- Dwindling Water Supply Capacity
- Adaptable Conservation Elevation
  - Short term deviations
  - Permanent operational change
  - Benefit flood pool and supply pool