

Update for the Green River Basin Advisory Group *May 21, 2013*

presentation by

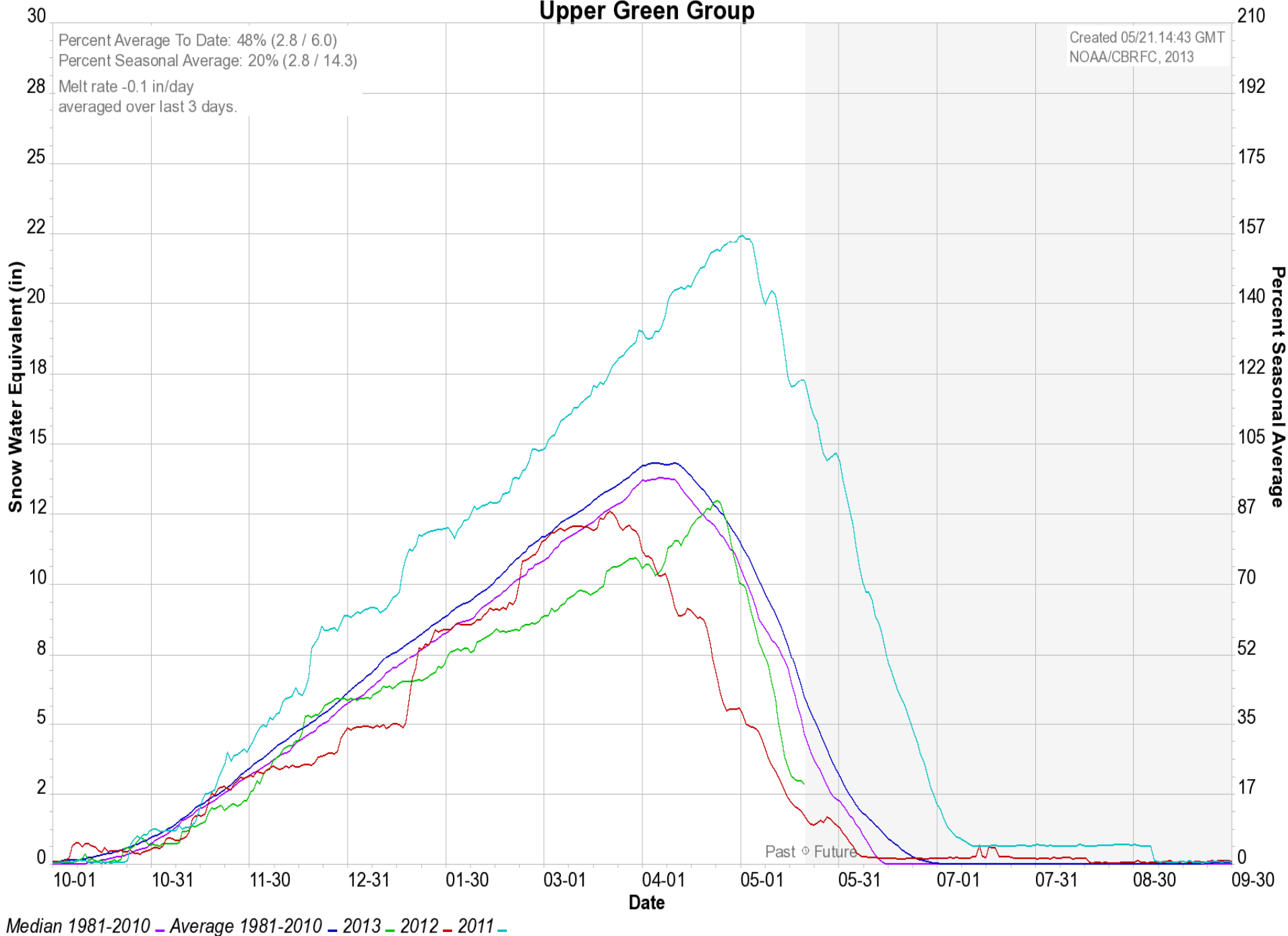
Steve Wolff
Colorado River Coordinator
Wyoming State Engineer's Office



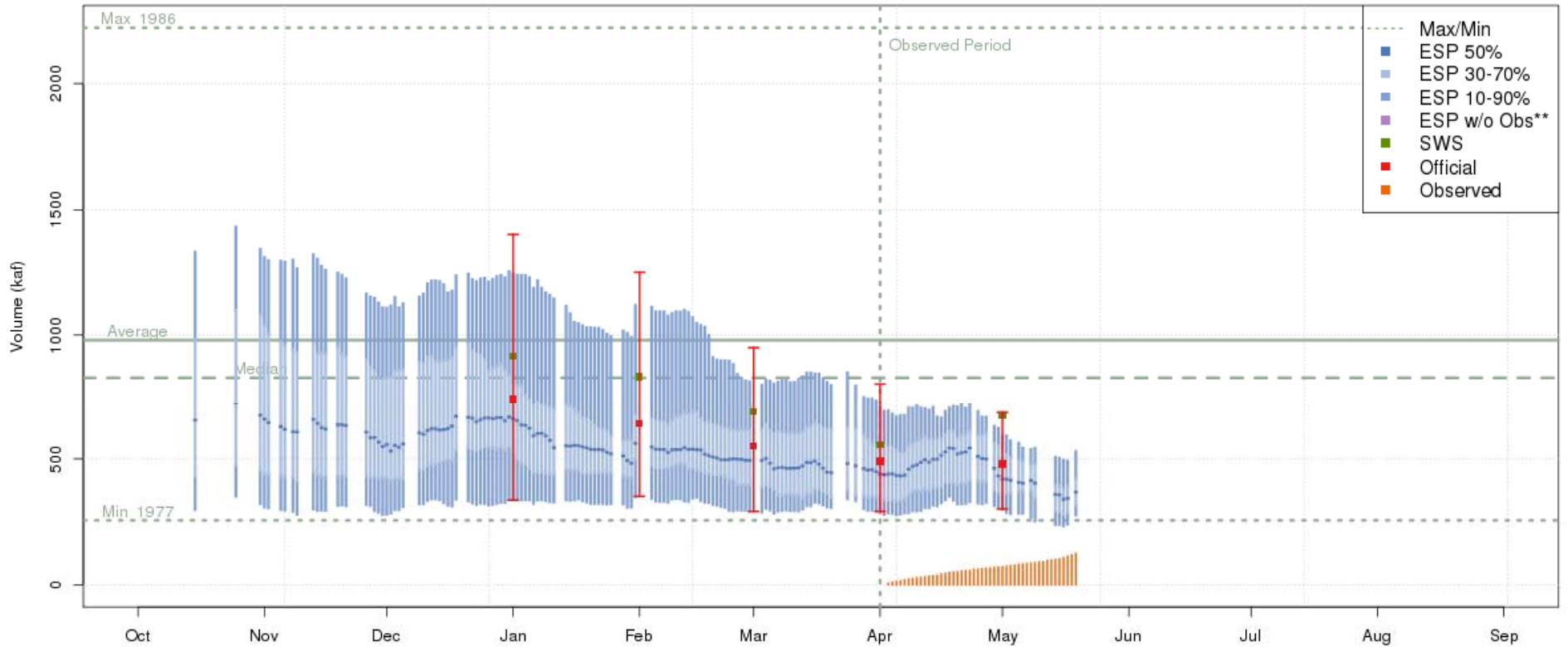
An Update on Colorado River Programs and Issues:

- **Hydrology Update - Storage and Projected Inflows**
- **Upper Colorado River Endangered Fish Recovery Program Update**
- **Colorado River Basin Salinity Control Program activities**
- **Colorado River Basin Consumptive Use Study**
- **Colorado River Basin Water Supply and Demand Study**
- **Upcoming Meetings of Note**

Colorado Basin River Forecast Center Upper Green Group

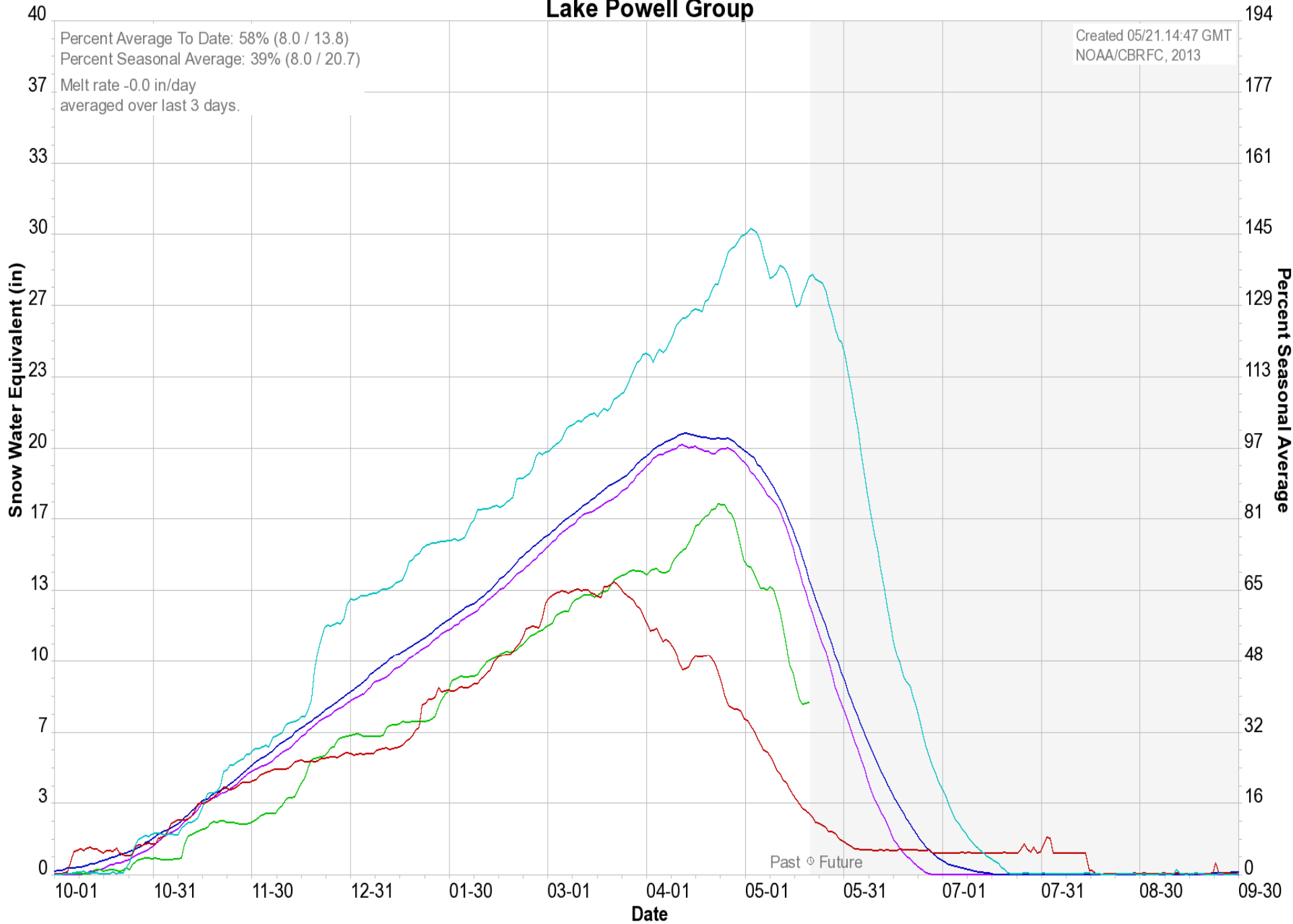


2013 Runoff Forecast Apr-Jul
Green - Flaming Gorge Res- Flaming Gorge Dam- At (GRNU1)

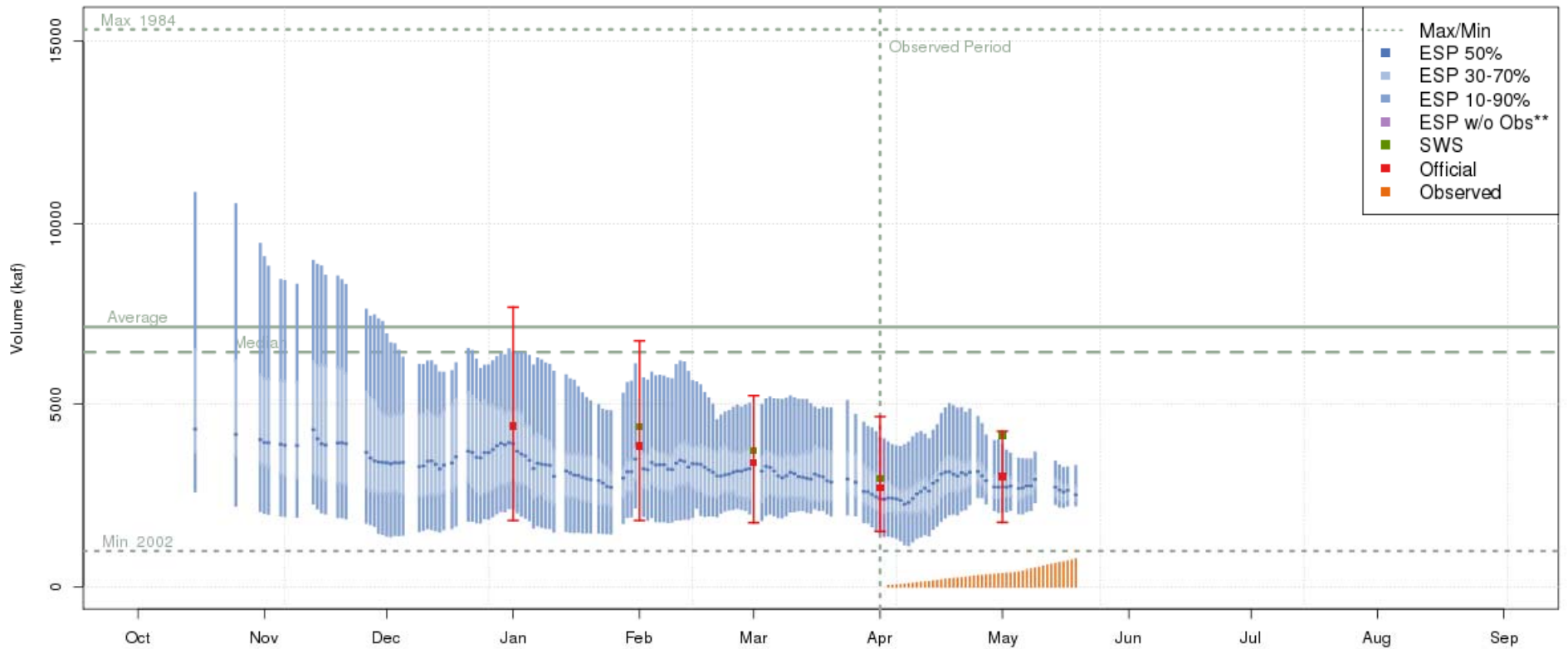


Plot Created 2013-05-20 14:48:25, Lastest ESP Run from 2013-05-20, CBRFC / NWS / NOAA
 Maximum of 2224.3 in 1986, Minimum of 254.3 in 1977, Average/Median for 1981-2010.
 **These ESP forecasts do not include observed and are not total runoff.

Colorado Basin River Forecast Center Lake Powell Group



**2013 Runoff Forecast Apr-Jul
Colorado - Lake Powell- Glen Cyn Dam- At (GLDA3)**



Plot Created 2013-05-20 14:47:11, Lastest ESP Run from 2013-05-20, CBRFC / NWS / NOAA
 Maximum of 15316.1 in 1984, Minimum of 964 in 2002, Average/Median for 1981-2010.
 **These ESP forecasts do not include observed and are not total runoff.

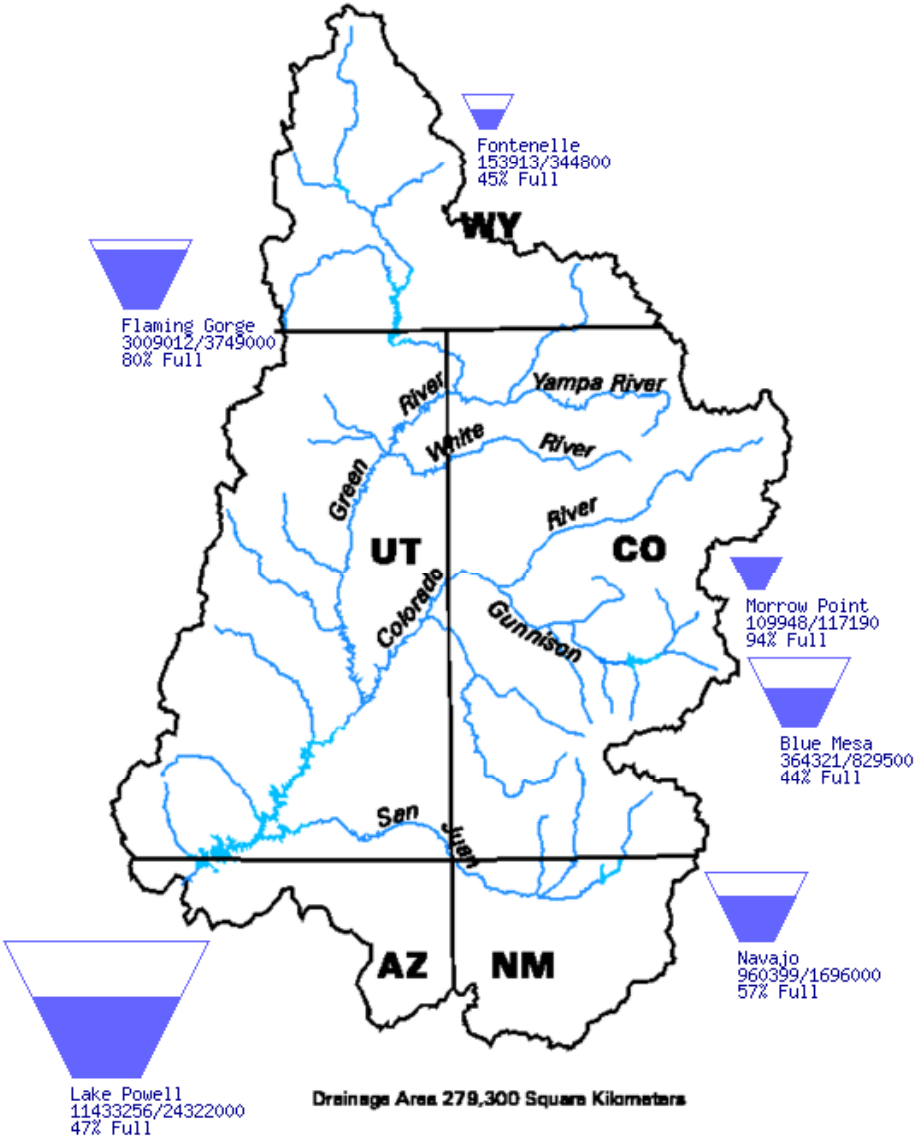
Projected Runoff Situation Summary:

- The current projection by the National Weather Service's Colorado Basin River Forecast Center of the 2013 April – July unregulated inflow into Lake Powell is 3.0 million acre-feet or 42% of average. The April precipitation for the watershed above Lake Powell was 115% of average.**
- The CBRFC projects the inflow to Fontenelle Reservoir will be 380,000 acre-feet or 52% of the 30-year average for the April through July period.**
- Apr-July projected inflow to Flaming Gorge is 480,000 AF (49% of avg.)**

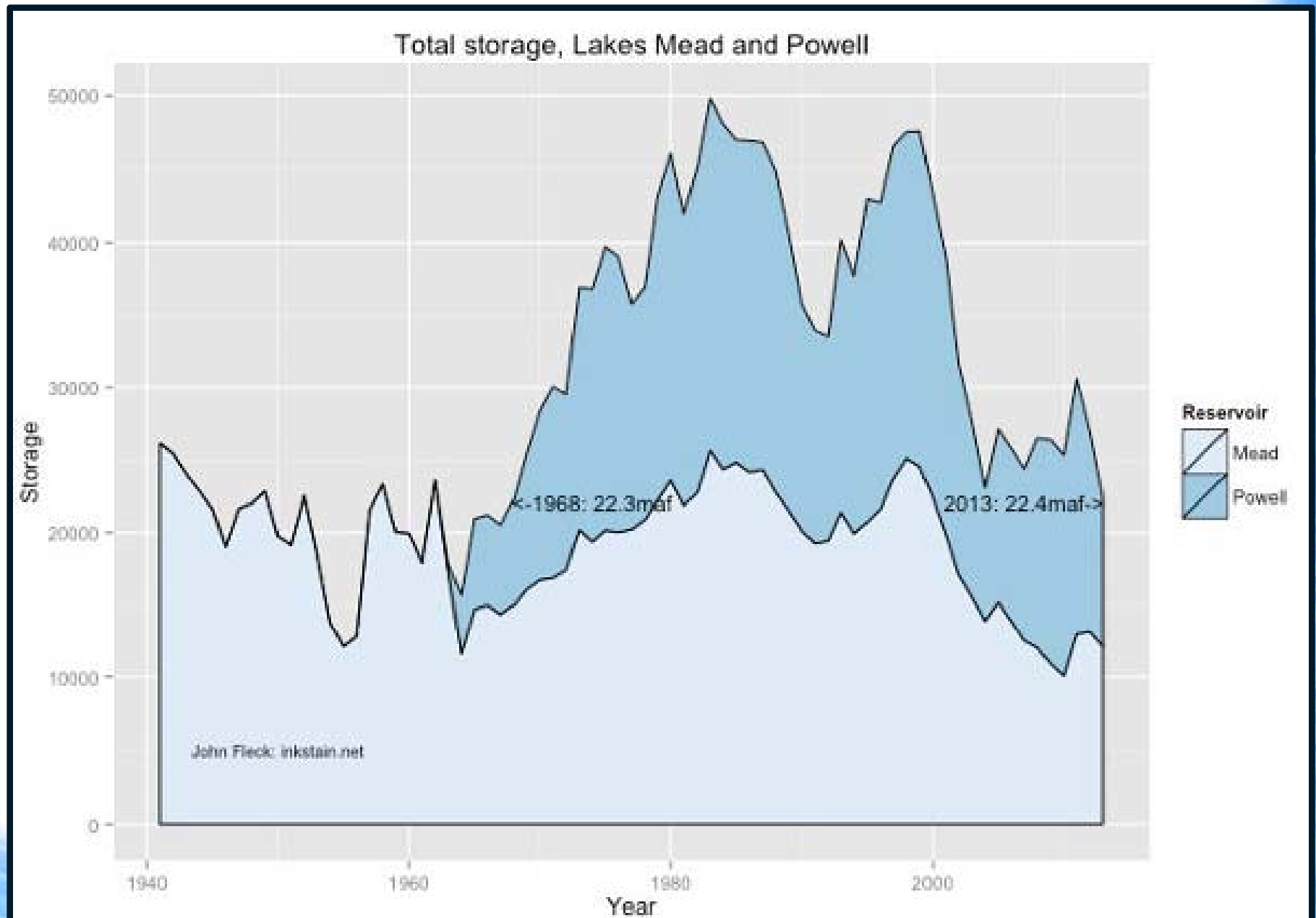
Teacup Diagram – Upper Basin Storage

Data Current as of:
05/19/2013

Upper Colorado River Drainage Basin



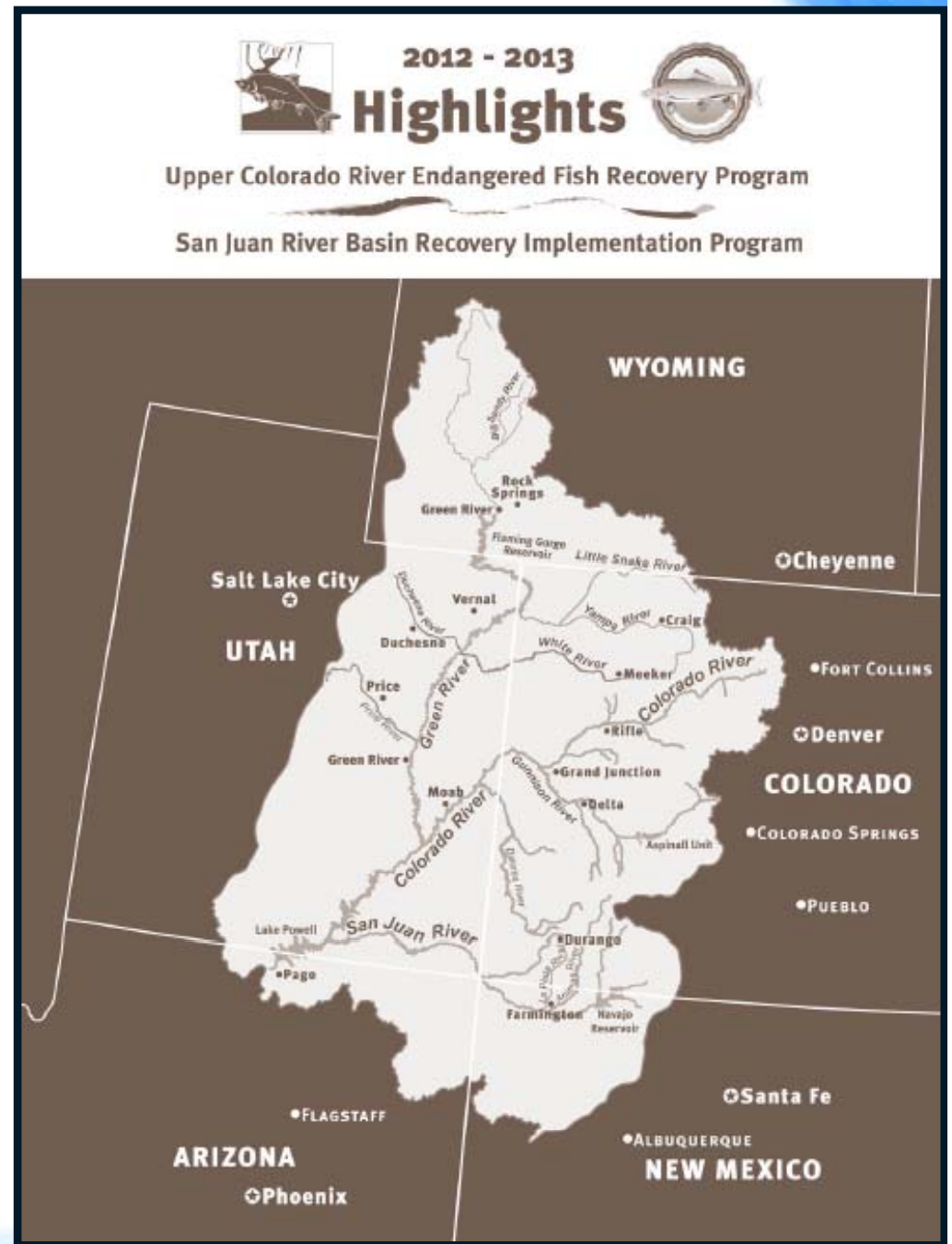
Lake Mead and Lake Powell are, collectively, at their lowest level since Lake Powell filled



Update on Upper Colorado River End. Fish Recovery Program

Briefing Meetings were held with Congressional delegation staff representing CO, NM, UT & WY, authorizing & appropriations committee staff, Department of the Interior, Bureau of Reclamation and Fish and Wildlife Service officials, OMB and others. Thirty-four meetings and the annual Congressional staff appreciation luncheon were held in Washington on March 19-22, 2013.

Copies of the briefing booklet are available today (handout)
- Or can be downloaded at
www.coloradoriverrecovery.org
- Or obtained by contacting John Shields @ 307-777-6151



Above: Cover of this year's briefing booklet

Update on Upper Colorado River End. Fish Recovery Program

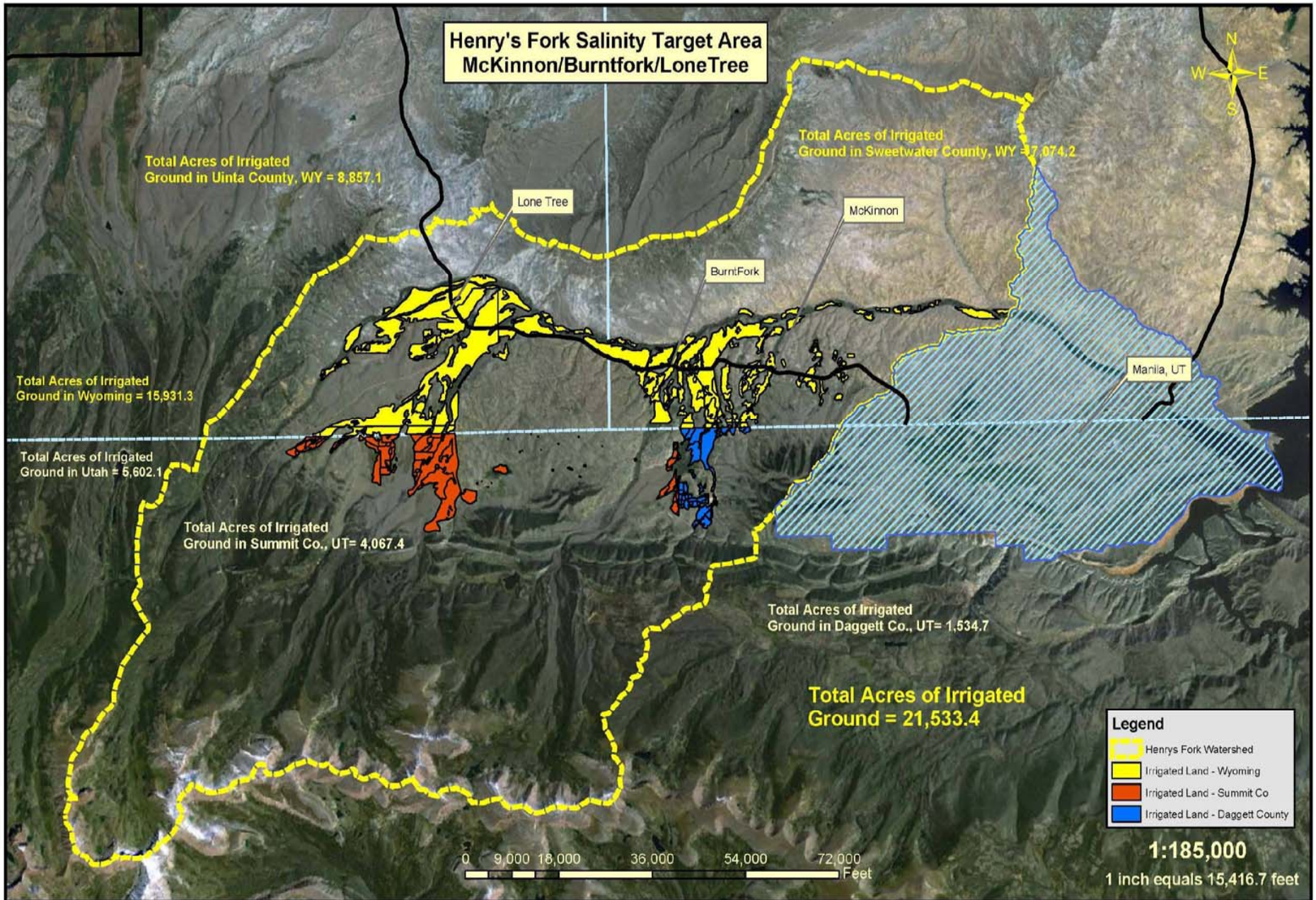
- **The Recovery Programs are continuing to meet their dual objectives of moving toward downlisting and delisting of the four endangered fish by the end of 2023 while allowing water use and development across the Upper Colorado River Basin to proceed in compliance with the federal Endangered Species Act (ESA).**
- ***The recovery programs are currently providing ESA compliance for 2,354 water projects.***
- ***No lawsuits have been filed on ESA compliance for any of these water projects.***

Henrys Fork Salinity Control Project Environmental Impact Statement process is nearly complete – next step is issuance of a Record of Decision by the NRCS State Conservationist – hopefully to occur within the next two months.



Henrys Fork Salinity Control Project Plan

- Recommended Plan – Irrigation System Improvements
 - Estimate 70% of 20,709 irrigated acres in project area will install on-farm irrigation application system improvements
 - Deep percolation from the 14,096 acres expected to be treated will be reduced by approx. 58%. Hydrosalinity analysis estimates treatment will reduce salt leaching by 0.46 tons/acre.
 - Limited amount of on-farm delivery ditches will be improved by converting from dirt ditch to buried pipe, reducing seepage & salt loading by 99%.
 - No canal modifications included in this plan.
 - Water budget estimates: crop consumptive use (c.u.) will increase due to crop changes but phreatophyte c.u. will decrease. Net increase of 1,372 acre-feet per year will be subject to Upper Colorado Recovery Program depletion fee (1,372 AF @ \$19.21/AF = \$26,300).



Green River Basin Consumptive Use Study

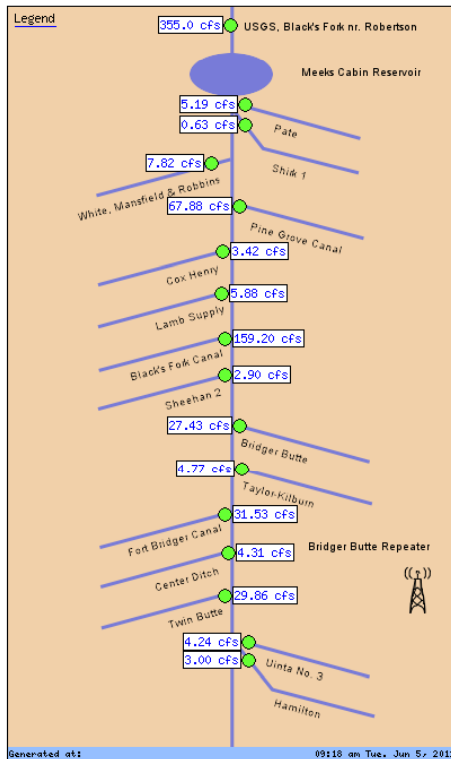
- Protect Wyoming's apportionments as outlined under the compacts
- Have the necessary "tools" available to accurately, reliably and "quickly" account for Wyoming's water use in the basin
- Provide support to Wyoming's water users in the management of water supplies in preparation for a curtailment
- Document Wyoming's shortages

Green River Basin

[Reservoirs](#) [Rivers](#) [Canals](#) [Weather](#) [Multimedia](#) [Diagnostics](#) [About](#)

» BlacksFork River

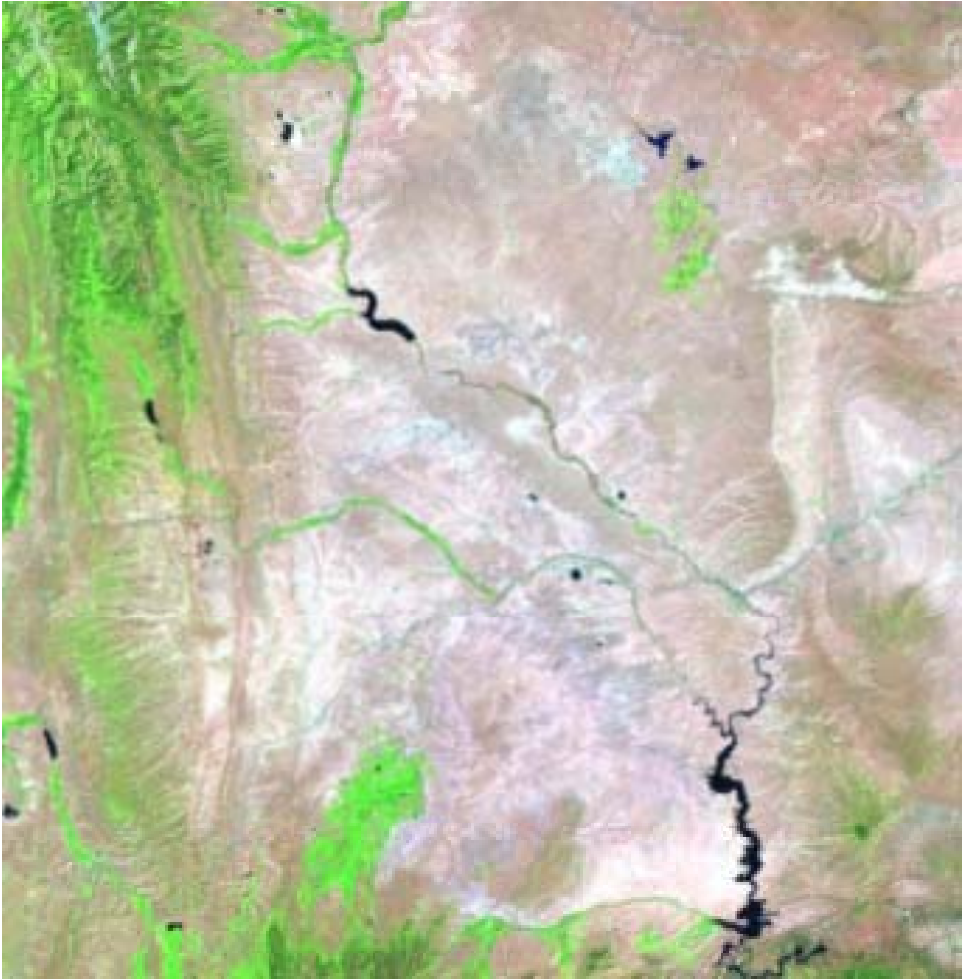
Click a number on the map for a graph of that data



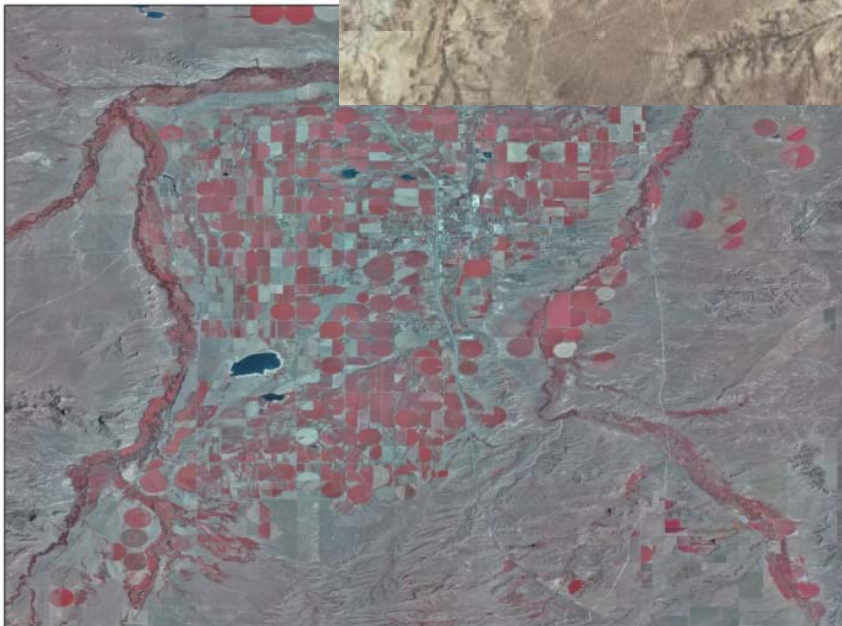
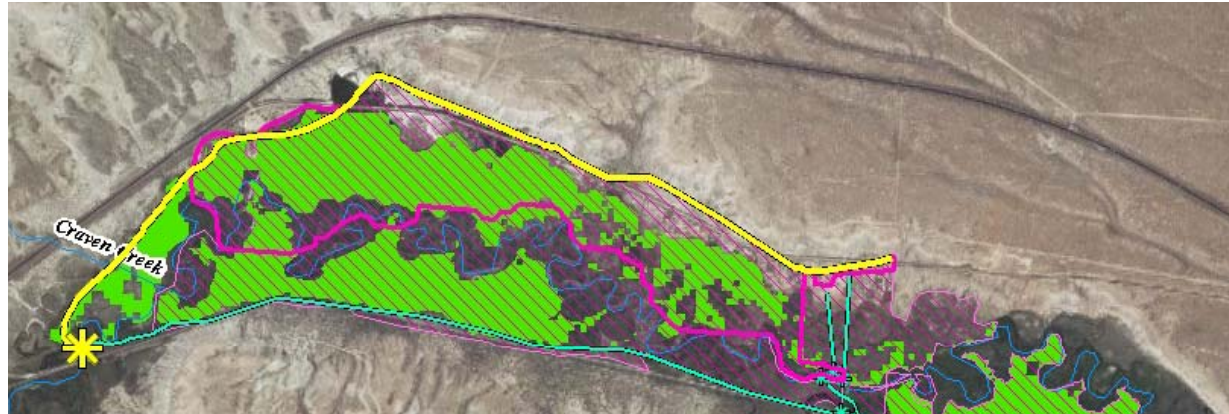
| Name (Click for more information) | Last Reading | Value |
|--|----------------|------------|
| Blacks Fork near Robertson | 8:00 AM, Jun 5 | 355.0 cfs |
| Pate | 9:00 AM, Jun 5 | 5.19 cfs |
| Shirk 1 | 8:00 AM, Jun 5 | 0.63 cfs |
| White, Mansfield & Robbins | 8:00 AM, Jun 5 | 7.82 cfs |
| Pine Grove Canal | 9:00 AM, Jun 5 | 67.88 cfs |
| Cox Henry | 8:00 AM, Jun 5 | 3.42 cfs |
| Lamb Supply | 8:00 AM, Jun 5 | 5.88 cfs |
| Black's Fork Canal | 8:00 AM, Jun 5 | 159.20 cfs |
| Sheehan No. 2 | 9:00 AM, Jun 5 | 2.90 cfs |
| Bridger Butte Canal | 9:00 AM, Jun 5 | 27.43 cfs |
| Taylor Kilburn | 9:00 AM, Jun 5 | 4.77 cfs |
| Fort Bridger Canal | 9:00 AM, Jun 5 | 31.53 cfs |
| Center | 8:00 AM, Jun 5 | 4.31 cfs |
| Twin Butte | 9:00 AM, Jun 5 | 29.86 cfs |
| Uinta No. 3 | 8:00 AM, Jun 5 | 4.24 cfs |
| Hamilton | 8:00 AM, Jun 5 | 3.00 cfs |



Using remote sensing
to assess
consumptive use
across entire basin
and at the field scale



Mapping and Attributing Water Rights



Service Area Attributes ✕

SERVICE AREA ATTRIBUTES

objectid: 567451

- Service Area ID: **5065** Create SAID

- Water Division and District: Division **4** District **9**

- Data Source: 23918

- Service Area Size: SA Acreage **290.9** Irrigated **139.8**

- Notes:

- Associated Water Rights:

| WRID | Type | Structure | STRDiv | STRDist |
|------------------------------|------|--------------------------|--------|---------|
| <input type="radio"/> 661569 | 1 | Mal Anderson Ditch No. 1 | 4 | 9 |

Type 1 - "Original", Type 2 = "Supplemental", Type 3 = "Secondary"

Modify Selected WR Type or Structure

Add New WR Association

Remove selected WR Association

(Changes made with these buttons will be saved even when leaving form by Cancel button)

| From SEO WRDB | | | | | | | | |
|---------------|------------|--------------------------|---------|------|-------|----------|---------------|----------|
| WRID | Permit No. | Facility Name | Acreage | WDiv | WDist | WRStatus | Priority Date | Use (BU) |
| 661569 | P6458D | Mal Anderson Ditch No. 1 | | 4 | 9 | FADJ | 4/13/1904 | IRR |

Save & Close

Cancel

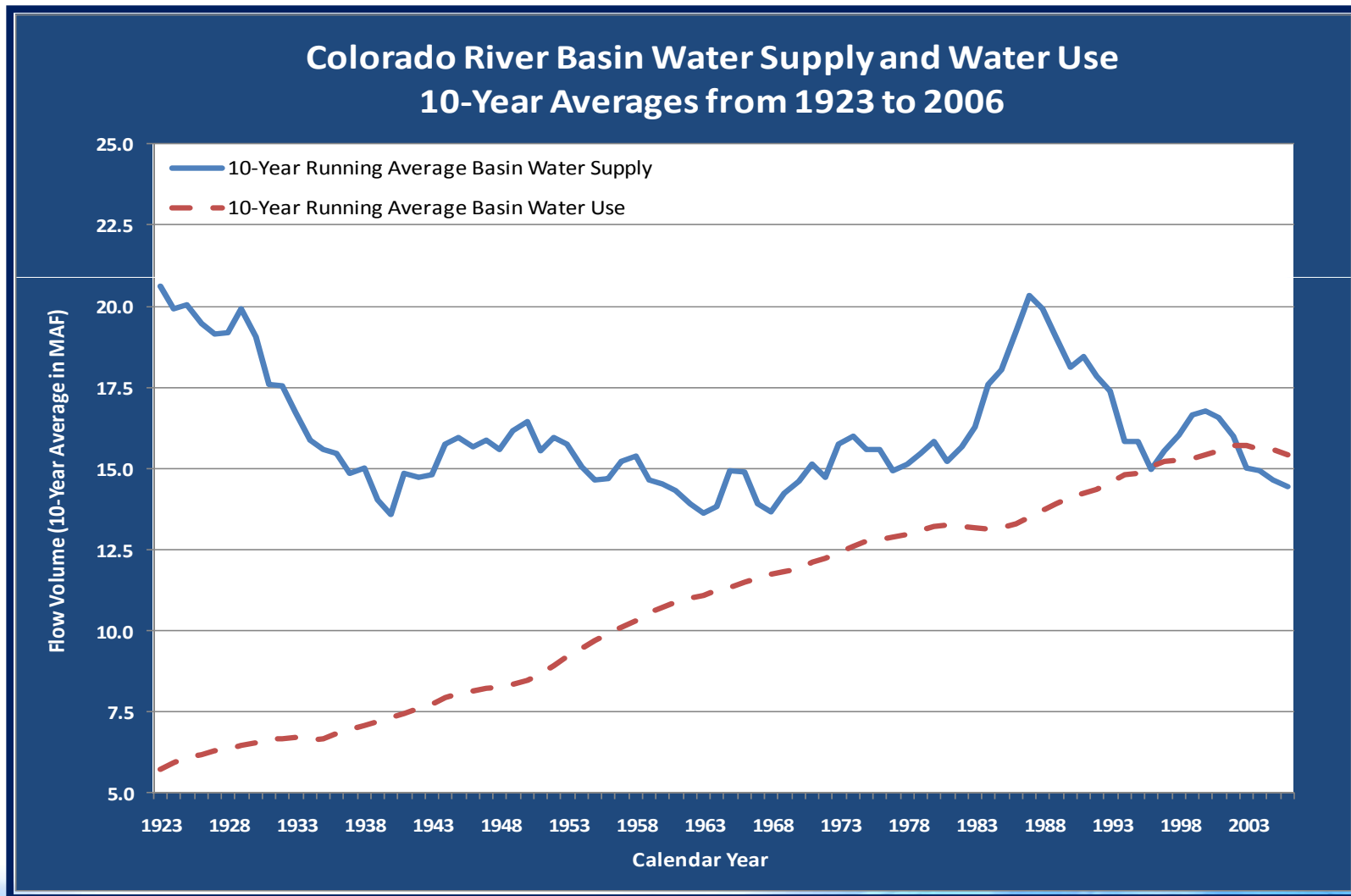
Next

(Changes will be saved on move to next)

Service 1 of 1 Select

No Objects Selected

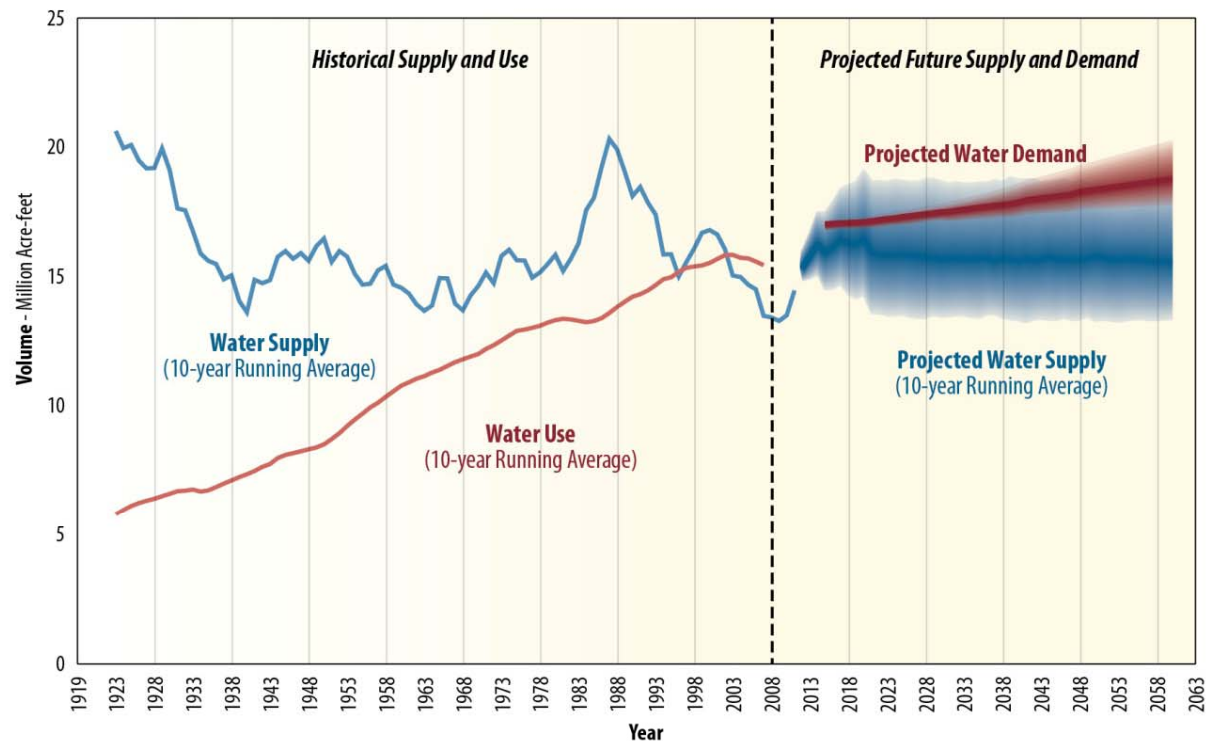
Colorado River Basin Water Supply & Demand Study





Projected Future Colorado River Basin Water Supply and Demand - Results

- Average supply-demand imbalances by 2060 are approximately 3.2 million acre-feet
- This imbalance may be more or less depending on the nature of the particular supply and demand scenario
- Imbalances have occurred in the past and deliveries have been met due to reservoir storage



Notes:

Water Supply represents natural flow as measured at the Colorado River above Imperial Dam, Arizona

Water Use and Demand include deliveries to Mexico in accordance with the 1944 Treaty with Mexico and losses such as those due to reservoir evaporation, native vegetation, and operational inefficiencies.

Projected Water Supply is computed as the average 10th, 50th (median), and 90th percentiles of the Study's 4 water supply scenarios. The average of the medians is indicated by the darker shading.

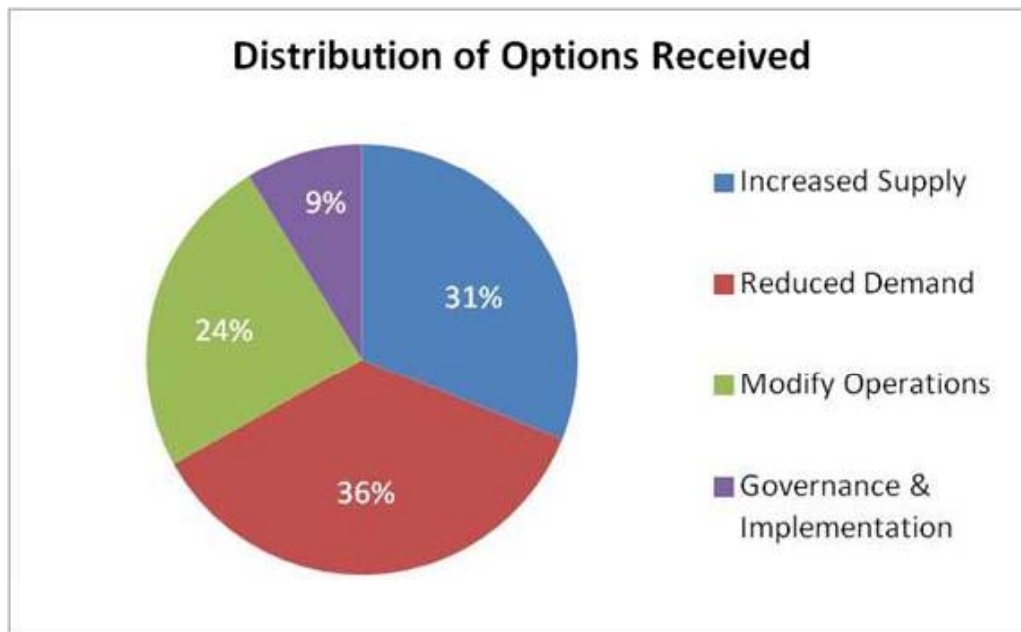
Projected Water Demand is represented by the Study's 6 water demand scenarios. The median of the scenarios is indicated by the darker shading.

Bottom Lines from Basin Study:

- *Current* basinwide demands (14-15 MAF/yr) outstrip supplies (14.9 MAF/yr)
- *Current* basinwide gap is covered by storage; significant future actions needed
 - ✓ Long-term, the Basin “math” does not add up.
 - ✓ Climate change will *decrease* runoff – at the same time as demands are increasing there will be a long-term decrease in supplies.
- Gap is greatest in Lower Basin, water shortages are “*when, not if*”
- Gap in Upper Basin more uncertain: but shortage risk is real and *chance of curtailment of use is greater than zero* in the future

Summary of Options Submitted:

160 options were submitted to the Study from Nov 2011 – Feb 2012 and have been posted to the Study website in their original form.



Increased Supply – importation, reuse, desalination, etc.

Reduced Demand – M&I and agricultural conservation, etc.

Modify Operations – transfers & exchanges, water banking, etc.

Governance & Implementation – stakeholder committees, population control, re-allocation, etc.

Colo. R. Basin Water Supply & Demand Study – Next Steps

- Basin States, Bureau of Reclamation and participating parties remain committed to ongoing process to develop and implement sensible solutions to the problems and issues identified in the Basin Study.
- Augmentation efforts will proceed within each state individually for the time being
- **May 28th meeting in San Diego, CA to publicly announce and “rollout” the “next steps” plan:**
 - Coordinating Committee will oversee efforts.
 - Three work groups have been organized and their efforts now getting underway:
 - **M&I Conservation/Reuse Work Group**
 - **Agriculture Conservation and Transfers Work Group**
 - **Environmental Flows Work Group**

Wyoming Perspectives:

- **Avoid the big and prolonged fights**
 - **Litigation will not accomplish our objectives** – and Lower Basin states and interests must continue to understand that litigation will not solve or promote theirs
 - **Endangered Species Act compliance is easier to achieve and maintain** if the hydrologic system is maintained
 - **Great history of working together** with other states in this Basin – including salinity control program, endangered fish recovery program, interim shortage guidelines, etc.
 - **Collaborative relationships must be maintained**
- **Solving water supply and demand imbalances elsewhere in the Basin helps everyone**
 - Keep the focus off of looking upstream to Upper Basin water supplies to solve Lower Basin water shortages

Upcoming Meetings of Note:

- Upper Colorado River Commission Meeting
 - June 19-20th at Hotel Santa Fe in Santa Fe, New Mexico
- Western States Water Council
 - June 24 – 26, Hilton Garden in Casper, WY
- Colorado River Water Users Association Annual Conference
 - December 11-13th at Caesar's Palace in Las Vegas, Nevada



Thank you!

**seo.state.wy.us
307-777-6150**