

**June 4, 2015, Water Acquisition Committee Conference Call Summary**

Participants: Michelle Garrison, James Greer, Tom Pitts, Jana Mohrman, Tom Chart, Robert Wigington, Kevin Bestgen, Brent Uilenberg, Bart Miller, Krissy Wilson, and Angela Kantola

Assignments are indicated in the document in bold, preceded by a “>.”

**CONVENE 9:00 a.m.**

1. Introductions, review/modify agenda – The agenda was modified as it appears below.
2. Review 3/10/15 meeting summary – The March 10 summary was approved as written. The summary included an assignment to obtain a write-up of the hydrophone work done by Justin (Toby) Minear of the USGS during peak flows of the Gunnison River in 2014. It is mostly a methods paper but does discuss some of the applications on the Gunnison River. It can be found at: <http://acwi.gov/sos/pubs/index.html> (click on first link in list; paper is on page 646 of the full proceedings).
3. Price River update – Krissy Wilson reviewed activities on the Price River (see Attachment 1). On the basis of the 2012 Price River position paper, UDWR began working to find ways to protect and enhance the Price. Reclamation funded study with USU and two PIT antennas were installed. Since 2011, those antennas have detected 494 unique flannelmouth sucker, 43 Colorado pikeminnow, 5 bluehead sucker, and 55 razorback sucker. The Price River Restoration Technical Advisory Team met for the first time in April to identify priorities and begin seeking funding. USU is using fine-restoration Google imagery, etc. to identify areas with restoration potential and the team is looking for sources of annual augmentation water. Partners in this process include: USU, Carbon County, UDWR, Reclamation, BLM, TNC, and the Program Director’s office. Jana said that Marc Stilson with the Utah Division of Water Rights is working with local irrigation companies, etc., to identify possible water sources and costs. They are investigating the potential for a perpetual lease (and how we’d legally protect that water). The team plans site visits this summer. TNC is pursuing NRCS funding and the team has asked USGS to do some LiDAR photography.
4. GREAT – Kevin Bestgen, one of two PIs on the Green River Evaluation and Assessment Team (GREAT) described the work that has just begun to evaluate the 2000 Green River flow and temperature recommendations (adopted in the Flaming Gorge ROD in 2006). The approach is outlined in the SOW sent to the Committee last October and resent today. It will be an 18-month effort and the team held their first meeting in early May. The next meeting will be a webinar in late June. The first draft of the report is due in late May 2016.
5. Jana’s updates
  - a. Jana said they are applying for DOI funding for model and field experiment to define razorback sucker larval drift. This is a proposed 2-year study that would begin in October 2015. Tom Chart said USGS contacted us about the quasi-3D models (coupled with particle transport models) that

they've developed for white sturgeon in the Pacific northwest. A behavioral component of larvae ("random walk" component) is included, and USGS work on this presents an opportunity to look at larval transport as it relates to razorback entrainment in Green River floodplains. The goal is to learn more about how fish are entrained, which could inform future floodplain connection actions. The work would couple hydraulic models with release of neutrally-buoyant beads and hatchery-produced larvae. Dr. Bestgen commended the USGS researchers for reviewing the Recovery Program's available literature to settle on a study that will add to our knowledge base.

b. CROS Update – The Bureau of Reclamation, Northern Colorado Water District, Denver Water, and the Colorado River Water Conservation District began coordinating voluntary releases from a series of upper Colorado River basin reservoirs on Monday, June 1, as part of the Coordinated Reservoirs Operations Program to benefit endangered fishes. Releases are being made from six reservoirs in Colorado: Granby, Ruedi, Green Mountain, Wolford, Williams Fork and Dillon. The peak will likely occur this weekend. Press release went out on June 2; Denver Post and Summit County may do an article. The Coordinated Reservoir Operations program was established in 1995. Coordinated Reservoir Operations were last conducted in 2010. In 2011 and 2014, wet conditions caused streamflows in certain areas of the basin to approach or exceed levels associated with minor flooding, so peak flows were not further augmented. Due to extremely dry conditions in 2012 and 2013, reservoirs did not have surplus inflow to contribute.

c. Progress Report on 15MR PBO – The PBO calls for evaluation of progress in 2015. PDO & FWS-GJ will do the biology portion and have considered contracting with Ron Thomason (who's moved to another job in the Pacific northwest) for the hydrologic portion. >Jana will outline what the evaluation should cover and distribute that to the Committee for feedback on the outline and potential contractor.

d. Geomorphology PEAK Flow Study Plan – The technical supplement to evaluate peak flows is being revised to address comments, but is a little behind schedule; after checking Kirk LaGory, he said a new draft will be circulated to BC & WAC by the end of June.

## 6. Updates

a. White River SOW for Management Plan – Michelle said CWCB will try to get their contracting office to begin reviewing this SOW next week (they also are working on contracts for the Elkhead net, the Ruedi water lease from Ute Water, and selenium management). Michelle remains hopeful this will be contracted this summer. Robert Wigington asked if it will be a request for qualifications (since the SOW is already drafted); Michelle said contracting will make the call on that.

b. Tom Chart said in late April 2015 the Center for Biological Diversity and other groups filed a protest against a proposed BLM resource management plan for increased oil and gas development in their White River Field Office area, claiming that the change to BLM's plan incorrectly calculated associated water depletions, impacts from greenhouse gas pollution and the increased

incidence of chemical spills:

[http://www.biologicaldiversity.org/news/press\\_releases/2015/fracking-04-28-2015.html](http://www.biologicaldiversity.org/news/press_releases/2015/fracking-04-28-2015.html).. They estimated water use at 2.4 af/well; CBD believes this underestimates fracked wells. The protest also claims BLM and FWS didn't adequately address the increased risk of spills. Angela sent Robert a copy of the December 19, 2008, biological opinion referenced in the protest (Fluid Mineral Program programmatic consultation) after the WAC meeting. Tom Chart said the Service is aware of the protest filed by CBD, but it went to BLM. As the action agency, the BLM would be the one to reinitiate consultation.

c. Ruedi Water lease – CWCB approved moving forward with a lease from Ute Water of water from Ruedi (up to 12,000 af). Will know more about potential amount for this year at HUP kickoff. This is among several projects for which Colorado is providing Species Conservation Trust funding:

\$250K White River Management Plan

\$500K Elkhead Net

\$250K Ruedi Water Lease

\$1M Walton Creek rehabilitation and other nonnative fish management actions, as determined by CPW and CWCB.

The committee thanked Michelle and CWCB for pursuing this funding source.

d. Updates – Tom Pitts is working with Jana on a SOW for a consultant to finish the CFOPs report.

e. GRUWAT – James Greer said they're ~75% done with their white paper and hope to send it to the Committee and the GRUWAT for review by the end of June. Utah DNR is starting to look at the results and having discussions with Reclamation about Flaming Gorge contracts.

f. Capital projects – Brent said they completed sediment removal at the GVP fish passage this spring. They are proceeding with Stewart Lake gate replacement, but are awaiting delivery of the gate from the fabricator. After a site visit to Wahweap, BR-Provo is preparing a cost proposal for repairs. Reclamation is working toward a September 2015 award date for a contract for OMID regulating reservoir construction (completion summer 2016). Brent said they met with the Biology Committee in January and the weir wall concept was approved to reduce endangered fish entrainment at the Green River Canal. They're working to refine that, especially with a tricky installation in light of creating potential reductions in canal flow at lower stages. The net to prevent escapement of nonnative fish over the Elkhead Reservoir spillway is proceeding.

7. PowerPoint presentation of 2015 spring conditions (Attachment 3) – Brent commented that we're at a ~200% of normal for this time of year snow water equivalent, with a large snowpack still present and difficulty predicting when it will melt off.

8. Schedule next meeting

9. **ADJOURN 10:30 a.m.**

## Attachment 3

Price River Summary  
Krissy Wilson, UDWR  
4 June 2015

- Colorado Pikeminnow were documented in the Price River in 1996 and 1997. A total of 21 unique individuals were collected throughout 88 miles of the Price River. Additional captures were documented in 2001, 2002, and 2005.
- USFWS Reinitiated Section 7 Consultation on the Narrows Project based on the findings of Cavalli 1999. In their 2000 Biological Opinion to the U.S. Bureau of Reclamation on their proposed Narrows Project, the Service directed the Recovery Program to build on baseline data collected in 1996 and 1997 (Cavalli 1999) to more fully describe the Price River's direct role (endangered fish habitat use) in recovery of endangered fish and to recommend year round flows needed to assist in their recovery.
- UDWR (Walker et al. (2007) proposed a minimum flow of 53 cfs in the lower Price River, based on the physical relationship of flows needed to provide unrestricted passage (0.3m depth in riffles) for adult Colorado pikeminnow.

THE UPPER COLORADO RIVER ENDANGERED FISH RECOVERY PROGRAM'S POSITION ON THE ROLE OF THE PRICE RIVER IN RECOVERY OF ENDANGERED FISH AND THE NEED FOR MINIMUM FLOW MANAGEMENT, 2012, Chart and Mohrman

- The lower Price River provides **two** important roles in the recovery of endangered fish. First, the lower Price River **provides seasonal habitat** and presumably beneficial foraging opportunities (based on the high percentage of native species) for juvenile and **adult Colorado pikeminnow** (i.e. a direct role in recovery). Secondly, the Price River provides **year round habitat for all life stages of several species of native fish**. Since these species provide a forage base for the Colorado pikeminnow, the Price River also provides an indirect role in recovery<sup>1</sup>. Native flannelmouth sucker and bluehead sucker are commonly found in the Price River and are the subjects of a Range-wide Conservation Agreement [along with roundtail chub]; collectively the *Three Species* (UDNR 2006). The Price River therefore provides a direct role in the conservation of two of the *Three Species*.

### Recommendations

- Recovery Program work with Utah Water Users, the State of Utah, and local groups (eg. the Price River Enhancement Committee) to **maintain summer base flow conditions** that support Colorado pikeminnow seasonal use of the lower Price River at current levels.
- Recovery Program work with Utah Water Users, the State of Utah, and local groups (eg. the Price River Enhancement Committee) to **improve summer base flow conditions** (either increase average daily flows thresholds identified in the table above or increase the frequency that those flows occur) in the lower Price River that are conducive to pikeminnow use.
- We also recommend securing an **emergency pool of water** to avoid periods of dewatering in the lower Price River. For instance, an emergency pool of **600 ac-ft** would provide 5 cfs for 60 days. Fish water would need to be delivered (most likely in July and August) to the Green River<sup>2</sup> to avoid periods of dewatering<sup>3</sup>.

- 2011 USU received funding from BOR (Activities to Avoid Jeopardy) to install two stationary PIT tag antenna's in the lower Price River, (below Woodside gage and at confluence of the Green river).
- Results: as of October 2011--: 494 flannelmouth sucker, 43 Colorado Pike minnow, 5 BHS, 55 Razorback suckers.
- April 2015, first meeting of the Price River Restoration Technical Advisory Team to outline priorities for the Price River
- Participants: USU--Phaedra Budy, Carbon County, DWR---Dan Keller, SLO, BOR--Dave Speas, BLM--Justin Jimenez, TNC

### USU work

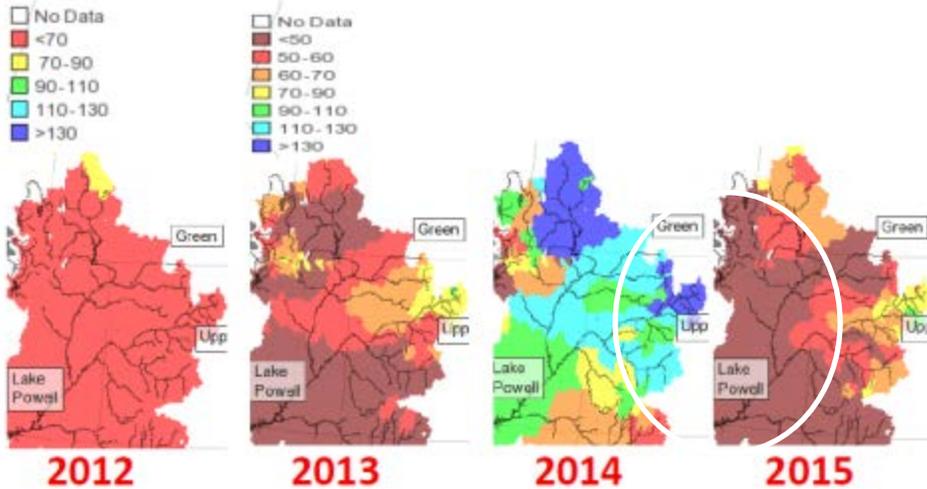
1. Wally et al. used the finer resolution Google imagery to map out every habitat feature identifiable using the imagery. Its incredible, every pool and riffle from Farnham down.
2. Last week a bunch of us did an overflight of the entire river corridor, taking pictures, which will be magically corrected and overlaid etc. by Wally et al., to further validate the mapping and facilitate the estimation of habitat area of different types. We used EcoFlight, an NGO, and so we saved enough money to do another flight, after the water has started to dry up, so we can determine what dries and where (refuges, patterns of intermittency). Those guys rock (EcoFlight).
3. We floated ~ 5 km of the river last week, and every identified feature was correct (there were a few new ones missing, but not bad, pretty darn impressive really).
4. We tried a PITPASS (floating PIT tag antennae) on a ducky for the first time (Peter at the helm), and the technology worked well (but we didn't detect any fish), nonetheless, promising for this river, where we seem to be raft-challenged. See attached photo. We did learn that sometimes Peter seems to have a hard tim getting into the device.
5. There are many, many spring fish detections at the PIA at Woodside (likely at confluence too, PIA is not interacting with uplink).
6. Perhaps most impressive, Dan Keller (UDWR) has come up with a phenomenal and innovative strategy to trying to maintain minimum flows and maybe also raise roundtails, and it seems feasible and relatively non-controversial too, amazingly. The "Keller Pond", Let's find him some \$ eh?
7. TNC has been engaged and is helping think about how to get funds.
8. Tomorrow a USU crew takes off to start actually physically measuring habitat units. They will do this until the water or the BOR\$ runs out.
9. BLM has secured funding to start the vegetation mapping, a critical first step toward identifying conservation areas and restoration areas.

The Price seems to be in much better shape than the San Rafael, with more habitat diversity, nice cottonwood galleries, etc. That means the potential is very high, and that is also likely why it still gets so much fish use. That means its conservation value also extremely high.

Attachment 3 Hydrology Powerpoint

May 1<sup>st</sup> 2012/2013/2014/2015  
Water Supply Forecast

Note additional categories created in 2013.

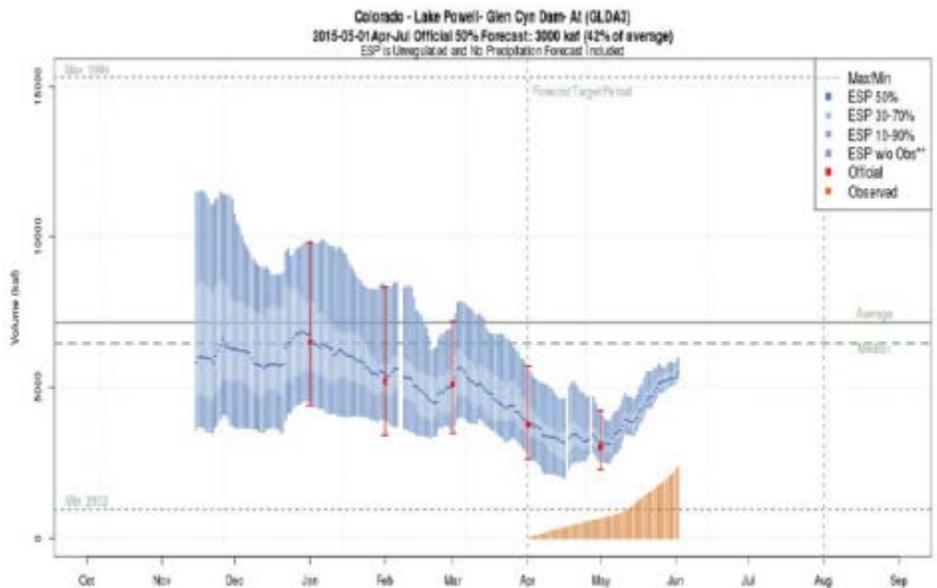


'Miracle May' for Colorado Water Levels



Eric Kuhn of the River District said "Late May storms are predicted to add an additional 1M to 1.5 M acft of inflow to lake Powell." Lake Powell's elevation of 3,593 feet, is about 100 feet above the level at which it can generate power, 100 feet equates to ~ 7.8 M acft of usable storage (USBR).

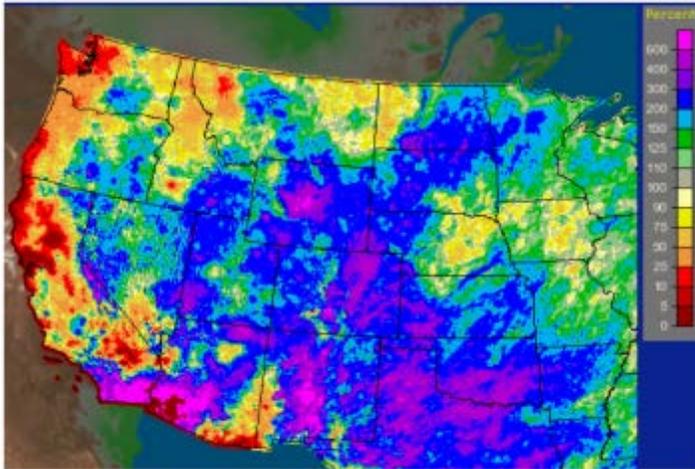
<http://www.gsentinel.com/news/articles/miracle-may-8232for-colorado-8232water-levels>



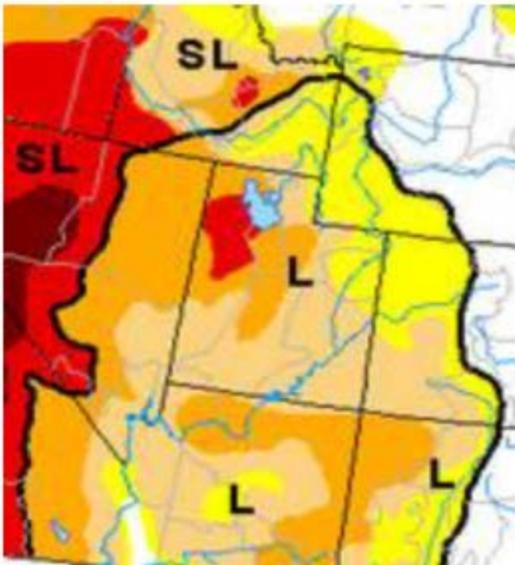
The label (2015-06-02) 50% ESP forecast is 5487 kaf.  
Plot Created 2015-06-02 06:47:54, NOAA / NWS / CBRFC  
Forecasts in the forecast target period include observed values.

**% Departure from Average Precipitation (May 2015 )**

200 to 300% of normal in locations such as Grand Junction, Salt Lake City, Denver, and Evanston, Wyoming. Clayton New Mexico received 5.45 inches (524% of normal) and Albuquerque 1.50 inches (484% of normal).



**US Drought Monitor**  
May 26, 2015



Palmer Drought Index	CPC Soil Moisture Model
Abnormally Dry	Going into drought: slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered
Moderate Drought	Some damage to crops, pastures, streams, reservoirs, or wells low; some water shortages developing or imminent; voluntary water-use restrictions requested
Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed
Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions
Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies



## Provisional

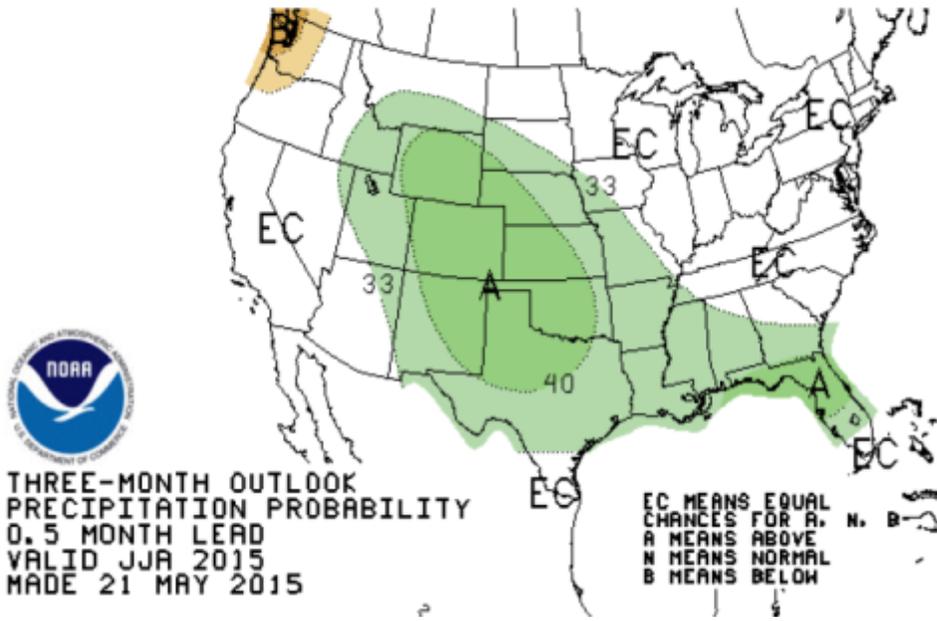
### Peak Flows at Targeted Reaches in Upper Co River 2015

River Reach	Peak 2015	Date	Predicted Peak	Predicted Date	Percent of Average peak
Yampa @ Deerlodge	9,000	25-May			63%
White R @ Watson			2,900	5-Jun	97%
Green R at Jensen	14,890	21-May			84%
Duchesne R @ Randlett	250	16-May			7%
Green R @ Green River	15,950	24-May			73%
Colorado R @ Cameo			17,500	5-Jun	100%
Gunnison R @ GJ	5,300	10-May			58%
Colorado R @ State line			23,000	5-Jun	89%
San Juan @ Bluff			4,000	5-Jun	34%

## June 1, 2015 Water Supply Forecast

River Reach	Percent of Median
Yampa @ Deerlodge	50%
White R @ Watson	60%
Duchesne R @ Randlett	24%
Green R @ Green River	78%
Colorado R @ Cameo	73%
Gunnison R @ GJ	55%
San Juan @ Bluff	26%
Lake Powell	44%

# June - August Precipitation Model Prediction



# June - August Precipitation Model Prediction

