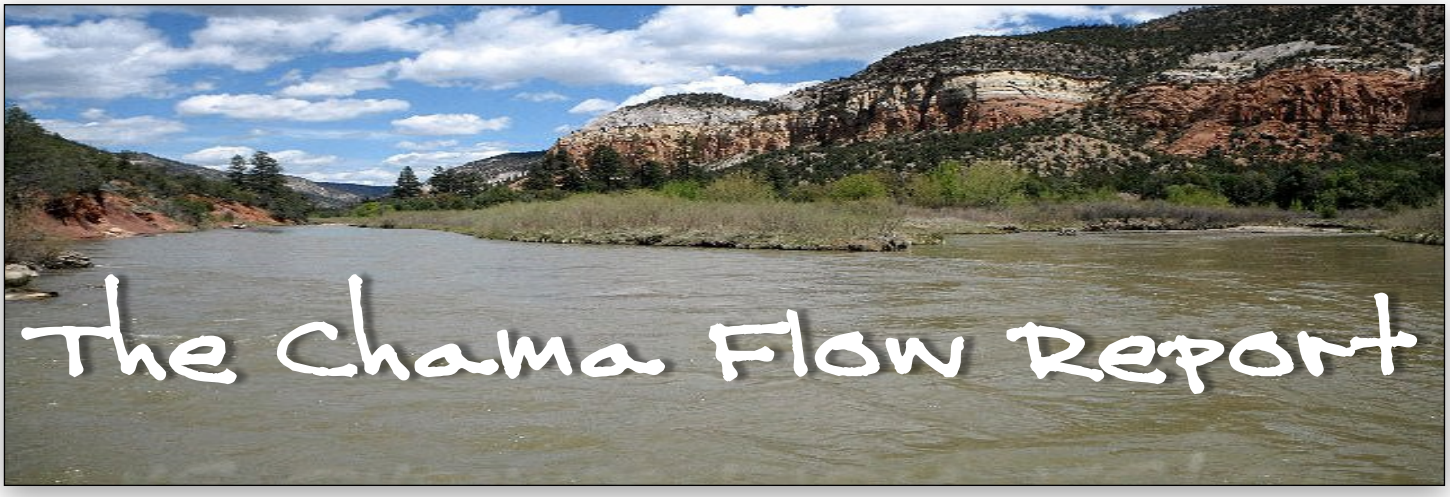


Fall 2011 Volume I, Number 2

# Recreational Flow Workshop: The Users Weigh In

EL VADO RANCH – Boaters and anglers may differ on the flows they'd like to see in the Rio Chama, but they appear to agree on two critical issues: (1) that the health of the river is of primary importance; and (2) that all the river's users desire a greater degree of predictability in the management of flows.

At an Aug. 26 meeting on the banks of the Rio Chama, a dozen recreational users and several federal agency representatives joined the Rio Chama Flow Optimization Project core team for a wide-ranging discussion on how to improve conditions on the 30-mile stretch of the Wild and Scenic Rio Chama below El Vado Dam. Representatives from commercial and private boaters, and fly and lure anglers made the trip to help develop a consensus recreational hydrograph.

The four-hour gathering brought forth dozens of observations and recommendations for "optimizing" the flow in the river, including variations in amount, magnitude, rates of change (ramping rates), duration and seasonality (*see page 4*). However, all expressed support for heightened communication between recreationalists and dam operators that, they believe, would allow them to plan recreational outings with greater certainty as to flow. Several speakers said that educating all users on the constraints and variables of flow management also would promote collaboration and consensus.

**El Vado Ranch owner David Cooper, front center, hosted agency officials and recreationists for the Aug. 26 Rio Chama flow workshop.**

This gathering was the first in a series of stakeholder meetings that are critical to the success of the Project, the mission of which is creation of a program of managed dam releases that will restore sediment transport, channel dynamics and ecological function to as close to pre-dam conditions as feasible, while maintaining or improving existing uses, such as water supply and recreation.

In wrapping up the meeting, project manager Steve Harris said that officials of the Bureau of Reclamation recognize that the management of El Vado Dam has been less than optimal for all classes of users. Harris emphasized that numerous constraints, such as dam design, legal requirements and the difficulty of satisfying dozens of water downstream users have precluded more holistic management of flows. But, he said, Reclamation officials appear ready to accommodate changes.

## Project Calendar

*Project Team Meeting*
*Nov. 11, 1 p.m.*
*Parametrix Office, Albuquerque*

*Advisory Council Meeting*
*March 2012 (TBD)*
*Santa Fe*

**The Chama Flow Report**

*A quarterly newsletter of the Rio Chama Flow Optimization Project*

**Vol. I, No. 2**
Andy Dennison, Editor



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# *Timing is Everything*

**Releases at El Vado Dam dictate the overall health of the the Rio Chama ecosystem downstream.**

Whether it's a paddler hoping to launch her boat, a farmer eyeing his thirsty crop or a cranefly larva ready to metamorphose, having water readily at hand is vitally important. Hence, improving the timing of flows is the stated goal of the Chama Flow Project.

Many elements of the Rio Chama's ecosystem have evolved to respond to the ancient hydrologic reality of snowmelt in May and June, suggesting a need for harmony with the natural **seasonality** of river flows.

Other factors are just as important for the Project biologists, geomorphologists and hydrologists who seek ecological improvements to this highly managed river system. The proper **magnitude** of the flows is also meaningful, since certain flow levels are needed to maintain the connection of the river channel to the floodplain (thus nourishing riparian communities and maintaining water quality).

Periodically providing flood flows also shapes the river's channel and thus provides habitat for breeding and feeding trout and other aquatic critters, while adequate **low flows** are important for the survival of riverine species.

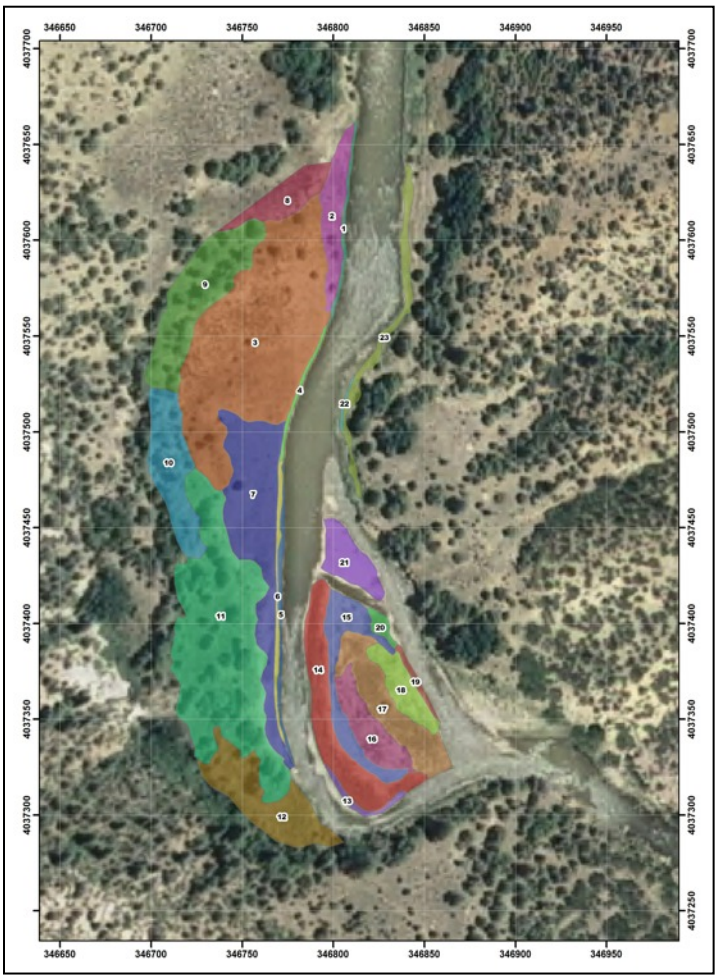
Flow **duration** and **rate of change** are additional factors be considered as we suggest an environmental flow management regime. The Project will measure the responses of the river ecosystem to this complex of factors to create the model of the river's inner workings, to suggest how managers can provide for the river's most critical functions.

We know that an achievable, as opposed to an ideal, flow regime includes proper respect for and involvement of the water users who depend on the system, and legal mandates which govern the distribution of the Chama's water.

Finally, the timing of our discussions among stakeholders matters as well, as we seek to become stewards of the river from which we derive so much benefit.

**– Steve Harris**

# Team Collects Vegetation Data




**Vegetation maps, such as this one from Dark Canyon, will enable scientists to evaluated environmental effects of managed flow regimes.**

During the 2011 field season, riparian ecologists from the Albuquerque office of Parametrix performed baseline assessments of project sites.

The surveyors from the engineering, planning and environmental sciences firm employed EcoMetrix survey procedures that calculate changes in ecological functions using a "holistic approach," including on-site collection of a site's physical properties.

Core team members delineated individual map units at the four intensive study areas (see example above), and recorded both quantitative and qualitative data for attributes including:

- aerial plant cover
- ground cover
- litter depth
- down wood
- snags
- presence of standing water
- proximity to water
- proximity to aquatic or wetland map units
- site disturbance
- surface soil texture
- native vs. non-native species

Parametrix will analyze this database to generate performance scores on a scale from 0 percent to 100 percent. Scoring curves are developed based on how attributes affect the performance of the riparian ecology. Baseline scores will be generated for individual biotic support functions in the aquatic-wetland habitats at these sites.

Field teams completed all of the field work at Dark Canyon and Benson's Bar sites and delineated map units at the other two.

## *Project Notes*

### ISC Supports Project

The New Mexico Interstate Stream Commission adopted a resolution Oct. 27 directing the agency to join the Chama Flow Project's Advisory Council, to sponsor a Project funding request from the federal WaterSMART Program, and to direct funding to assist with Project modeling of reservoir management alternatives.

In addition, the commission directed ISC modeler Dr. Nabil Shafike to assist with integrating Project work products with the Upper Rio Grande Water Operations Model (URGWOM).

### Field Season Update

High flow releases from El Vado this summer pushed back many of the Project's baseline studies until late in the field season.

Both geomorphic and benthic data collection require low flows so that investigators can wade into and across the river channel.

In October, BLM's field team, led by biologist Greg Gustina, completed macroorganism collections from four sites and expect to return to the river to resume collections in the spring. Tetra Tech investigators, led by Walt Kuhn, finished baseline sediment and geomorphic mapping.

With the completion of these studies, Parametrix' vegetation mapping team can proceed, although extending the field season into November makes scientists vulnerable to an early winter.

### Congressional Briefing

Thanks to an invitation from Interstate Stream Commission director Estevan Lopez, project manager Steve Harris interpreted the Chama Flow Project for more than 30 participants in a water management field tour visit to the Rio Chama on Sept .10. Included were representatives from the offices of New Mexico's two U.S. senators and three U.S. representatives.

### Core Team Modelers Get Briefings, Site Visits

Members of the Project core team have received information on the current rules for operation of releases from El Vado Reservoir.

Hydrologic modelers Mark Stone and Ryan Morrison got a briefing Oct. 26 from Reclamation's water operations staff on El Vado water operations. Information on present dam operations and constraints is critical to the development of an e-flow model.

Stone and Morrison also got a guided tour from Los Alamos Counties Utilities officials of both El Vado and Abiquiu dam outlet works.

# Health of Brown Trout Fishery On Anglers' Minds

At the Aug. 26 meeting with recreationists on the Rio Chama – and a subsequent meeting with Trout Unlimited – much of the discussion dealt with improving and protecting the brown trout.

Brown trout dominate the Wild and Scenic Rivers stretch below El Vado Dam, and their health directly benefits the economy of the Tierra Amarilla-Chama region. Each year, thousands of anglers fish for browns with spinners, bait and flies, most within a mile of El Vado Ranch. Some commercial and private anglers fish the entire length. The season extends from fall to spring.

In a sense, brown trout are indicators of the health of the aquatic habitat. To promote the health of the brown trout fishery, any proposed hydrograph for dam releases would accommodate both the spawning and fishing seasons. Trout like stability in flow, so their health would improve with a moderation of the magnitude and duration of releases from El Vado Dam. Trout advocates support high flows in the spring to scrub gravels and promote the invertebrate population, and lower but consistent flows during the fall-winter spawning season.

High flows help to reduce the anglers' access to fish, allowing the population to grow in population, age, size and gender. However, extremely high flows can wash out nests, and extremely low flows can cause asphyxiation of eggs and infection.

### What Anglers Have to Say

- A consistent flow during the fall and early spring fishing seasons benefits the fish.
- Turbidity caused by releases from the bottom of the reservoir for the hydro-electric power generation at El Vado Dam reduces fly-fishing success.
- A consistent, long-term flow around 300 cfs is best for native brown trout during spawning.
- Flows below about 150 cfs not only stress the trout but also make it too easy to catch fish -- in each case, reducing the fish population in the river.
- Busy-season boating trips and sudden reductions in flow can upset spring and summer insect hatches, which are critical to fishery health and productive fly fishing.
- A diversity of fish age and size is desirable, and tighter catch-and-release enforcement, especially during late-fall spawning, would help trout populations.

### What Boaters Have to Say

- Predictable weekend releases from El Vado Dam, negotiated in the late 1980's, continue to benefit most river runners.
- Unannounced flow reductions during the week created problems for rafting businesses. Commercial boaters look for better flow reliability at mid-week.
- High flows should mimic native snow melt runoff levels.
- A healthy ecosystem heightens the experience for all recreationalists.
- Flows below 400 cfs make rafting difficult.
- Above 1000 cfs makes for a "too fast" trip.
- Most private boaters favor a minimum 800 cfs flow.

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