

“Dolores River Dialogue”


Tuesday, November 30, 2010, 10:00 a.m. to 3:00 p.m.
DOLORES WATER CONSERVANCY DISTRICT MEETING ROOM
60 S. Cactus, Cortez

Lunch is provided.


Please RSVP to Marsha Porter-Norton @ 970-759-3110 or porternorton@bresnan.net by Monday, 11/29 if you're attending so we can plan for food, seating and handouts.

Agenda

- I) Introductions (10 minutes)
- II) Review of Agenda and Outcomes for the Day (10 minutes),
Facilitator, Marsha Porter-Norton
- III) DRD Restructuring Process: Brief Review and Overview (15
minutes), Members of the DRD-Steering Committee and Marsha
Porter-Norton
- IV) Proposals that the Dolores River Dialogue - Steering Committee
has been discussing with an overview of each, and questions and
answers: (1 hour 30 minutes – more time if needed)

 *Legislative Subcommittee of the Lower Dolores Plan Working Group (A
Way Forward, inquiry re: native fish on the Lower Dolores and identifying
“do-able” alternatives), Peter Mueller, The Nature Conservancy and Mike
Preston, DWCD, Co-Managers*

- *This is an active project of the Lower Dolores Plan
Working Group and its Legislative Subcommittee. The
agenda item will update the DRD on the goals and
progress of “A Way Forward.”*

 *Downstream Temperature Model (development of a model to evaluate
use of the McPhee Dam’s selective level outlet works as a potential tool to
improving the fishery(ies)), Ann Oliver, DRD Science Coordinator*

- *This project was originally supported by the Dolores
River Dialogue Technical Committee. This agenda item
will inform everyone about the concept and what it
means, and report on the latest research being done by
the DRD Science Committee.*

Lunch (30 minutes) (more on next page)

- V) Presentation by DRD Science Committee researcher Adam Coble: Recruitment and Growth of Cottonwoods (see his research abstract below). (1 hour)

 - VI) Announcements (15 minutes)
 - o 319 Watershed Study
 - o Other

 - VII) Final Wrap Up (10 minutes)
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Overview of Adam Coble's Research:

This study investigated the recruitment and growth of three riparian tree species (*Populus angustifolia*, *Populus deltoides* subsp. *wislizenii*, and *Acer negundo*) in response to variation in streamflow and climate at multiple reaches at the unregulated Upper Dolores and San Miguel Rivers and the water diverted (pre-dam) and regulated (post-dam) Lower Dolores River. We used a dendrochronological approach to determine tree age and develop standardized growth indices during the time period of 1961 through 2008. We developed 20 climate and streamflow variables to test hypotheses about relationships between establishment and growth of native riparian trees. Our results show that stream diversion during the pre-dam period (1961-1984) reduced mean flow during the summer months of July through September, while river damming (1985-2008) primarily impacted flows in May and June. Compared to the unregulated rivers, we observed an apparent lack of recruitment along the Lower Dolores River for *P. angustifolia* during the post-dam period at Reaches 1 and 3 and for *P. deltoides* subsp. *wislizenii* during the pre-dam period at Reach 6. The establishment of *P. angustifolia* across three reaches along the Dolores River was consistently associated with winter mean temperature, suggesting that the lack of recruitment during the post-dam period at Reaches 1 and 3 was not due to river damming. In contrast, the establishment of *P. deltoides* subsp. *wislizenii* was positively correlated with summer minimum flow along the Lower Dolores River. These results suggest that diversion of water through irrigation canals can have an equal, if not greater, impact than damming on the regeneration of riparian tree species due to reductions in summer base flows. Furthermore, spring maximum flow was weakly associated with the establishment of all species along the Dolores and San Miguel Rivers. For *P. angustifolia*, growth was most strongly associated with mean spring flow during the pre-dam period at Reaches 1 and 3 of the Dolores River and at the Canyon Preserve of the San Miguel River. In contrast, growth of *P. angustifolia* was most strongly associated with summer mean flow during the post-dam period at Reaches 1 and 3. Growth of *P. deltoides* subsp. *wislizenii* was rarely correlated with seasonal streamflow, while correlations were strongest for *A. negundo*. The growth of *A. negundo* was correlated with spring and summer mean flow along the Lower Dolores River for both pre- and post-dam periods at Reaches 3 and 4, as well as winter mean flow during the post-dam period at Reach 4. Palmer Drought Severity Index (PDSI) was strongly and positively correlated with the growth of all species, particularly under regulated flows at wide, alluvial valleys and during pre- and post-dam periods at high gradient, narrow canyon reaches. This result suggests that river regulation increased the sensitivity of tree growth to drought.