

**Western Wetland Conference**  
**October 24-26, 2005**  
**Golden, Colorado**

**Executive Summary**

One hundred ninety-three people representing twenty-two states and one province attended the Western Wetland Conference. The diversity of the western approaches to wetland protection, conservation and restoration was reflected in the participants who ranged from the federal, state, and local government, to private sector to nonprofit, to researchers and landowners.

The West cannot further wetland protection without partners from all of these areas. The most vulnerable wetlands are in areas that are either private lands or areas with significant attractiveness and amenity values. In order to preserve and protect what exists, as well as restore those areas that have been lost, the West needs to use every tool available to it.

**Major Themes**

Several key themes emerged, including:

- Collaboration—between scientists, managers, government, NGOs, and landowners is absolutely critical to the process of wetland protection
- Significant strides in characterizing wetland and wetland change are underway. However, a number of areas need further research and application to realize their full value, and that research needs to work hand in hand with management considerations.
- Political boundaries affect what is being used where, but doesn't have a lot to do with the resource.
- Water and water management is incredibly important to the future of wetland protection.
- Targeted education and outreach is part of the process of collaboration and improvements.

**Recommendations**

- Continue forums for collaboration at every level, from large conferences to working groups to cross-sector projects.
- Plan research and management resource allocations in tandem to ensure that the research is used and that management is asking the right questions and using the best science.
- Water availability and rights are central to most future wetland preservation and restoration efforts. Reaching out to non-wetland water quantity community is essential for future success in the wetland arena.
- Spend the time to develop relationships and longer-term partnerships, giving all parties enough time to feel comfortable, in order to promote private land wetland conservation and restoration.
- Fund efforts that show how to innovate across political and sector boundaries.

## Summary by Session

### Opening Keynote; Justice Hobbs

Water has been used, manipulated and controlled in the arid portions of North and South America from the earliest indications of permanent civilization. Whether in Machu Pichu or the American Southwest, and regardless of whether the occupants were the first Americans, Hispanics, or Anglo settlers, this pattern of control remains constant. It is a response to the aridity of the landscape.

The system of water law currently in place, the *a priori* system, is based on the notion that ownership of a stream bank does not imply ownership of the water. Further, first in time does mean special privileges in the use of water. This system of sharing has substantial implications for everyone in the West, since it means that legally defined types of manipulation and uses of water have priority. This system has been used and changed over the last 150 years, but it is the bedrock of how water management is done in the West.

Finally, water has a pull for all of us that is beyond quantity or use. Poetry can be used to express our feelings, frustration and wonder about water in the West.

### Panel: Wetlands in the West: Commonalities, Differences, and Challenges

*Duncan Patten: Water and Wetlands in the West*

*Gene Reetz: Strategies for Wetland Protection*

*Jeanne Christie: Association of State Wetland Managers*

#### Main Themes:

- Wetlands and riparian areas in the West are hydrologically distinct from Eastern systems, and so they require unique approaches to management and conservation.
- Differences in water law (ie prior appropriation doctrine) lead to differences in the legal protection status for western wetlands.
- Mapping techniques for wetlands are becoming more advanced and can be used to study multiple impacts and threats at a range of scales.

#### Significant Recommendations? Common or unique ideas from this session?

- Need to understand the hydrology of the system in order to conduct effective wetland conservation and restoration
- Understand the specific aspects of western water law and relate to wetlands
- Take advantage of developing techniques for wetland assessment using remote sensing.

#### Top Activities for Further Work:

- Continued need to promote collaboration and interaction between wetland scientists (including researchers) and practitioners including managers and regulators.

**October 25, 2004**

**8:15-9:45**

**Strategies: Education and Outreach**

*Janet Ellis: Two Montana Projects Where Information Research Can Lead to On-the-Ground Wetland Protection*

*Kathleen Kutschenreuter: Exploring the Untapped Potential of the Ramsar Convention on Wetlands*

*Dwight Shellman: Caddo Lake Community-Based Ramsar Achievements*

*John E. Tidwell: North Central Texas and the Stream Team*

Main Themes:

- Examples of regulatory and non-regulatory ways of protecting wetlands at the community level
- Importance of understanding community viewpoints and providing education based on that understanding
- Ramsar: Example of this program in a local community

Significant Recommendations? Common or unique ideas from this session?

- There are many creative options for getting community wetland protection programs going. They require out of the box thinking and getting to know locals and local regulations.

**Gathering and Using Information: Assessments**

*Brad Johnson: Landscape-Scale Analysis and Management of Wetlands Through Hydrogeomorphic Wetland Profiling*

*Josephine Axt: What Works out East Makes Sense in the West*

*Joe Rocchio: Floristic Bioassessment Tools and Ecological Integrity Scorecards*

Main Themes:

- Tools for wetland classification and assessment of condition.
- Each tool was at a different scale, which was well received by such a diverse audience

Significant Recommendations? Common or unique ideas from this session?

- The development of the vegetation index of biotic integrity (VIBI) along with the ecological system scorecard was a common theme.

Top Activities for Further Work:

- The VIBI and Ecological System scorecard could both be further developed.

**Water and Wetlands in the West: Ground Water, Irrigation, and Other Factors**

*Eloise Kendy: Impacts of Irrigation Conversion on Groundwater, Streamflow and Wetlands*

*Michael Merigliano: Balancing In-stream Flow for Fish and an Historic Diversion Supporting Riparian Vegetation*

*Robert Tiedemann: The Ecological Effects of Climate Change on the Vegetated Floodplains of Western Rivers and the Human Response to a Changed Environment*

Main Themes:

- Water is essential to maintaining wetlands
- Quantity, timing of flow, and seasons are important factors affecting wetland hydrology

Significant Recommendations? Common or unique ideas from this session?

- Management of irrigation water is important for maintaining wetlands and riparian vegetation—whether it is irrigation return flow or irrigation ditch flow
- Loss of vegetation or stress is occurring throughout the West due to hydrologic changes
- Need to better understand wetland and riparian vegetations response to changes in hydrology to be better able to maintain the habitat.

Top Activities for Further Work:

- For increasing awareness of the effects of climate change and the need to prepare for the hydrologic changes, we, as a group of wetland scientists and planners should organize and publicize this issue.

**10:15-11:45**

**Strategies: Innovations and Special Topics**

*Rob Fetter: Integrating Performance and Budget: An Innovative Approach to Wetland Conservation*

*James Wakeley: Regionalizing the Corps of engineers Wetland Delineation Manual for the Western States*

*Jeannette Baker: Watershed-Based Regulatory Approaches Towards Aquatic Resources Protection in Southern California*

Main Themes:

- Talks very differently focused in this session.
- Economic valuation can be identified for wetland functions
- The Corps is reviewing their '87 delineation manual to produce better methods for accurately identifying wetlands
- The Los Angeles Corps has conducted four SAMPS in their district.

Significant Recommendations? Common or unique ideas from this session?

- The ordinary high water mark is going to be the issue in the West as the new guidance is developed.

Top Activities for Further Work:

- Identify additional economic return or values that wetlands provide
- Encourage participation in the supplement for the wetland delineation manual
- Support development of SAMPS in other areas of the west—particularly in the scope so they can be effectively used.

## **Gathering and Using Information: Assessment and Classification**

*Nancy Keate: Building a Reference Site Network*

*Paul Adamus: Status of Rapid Methods for Assessing Western Wetlands*

*Randy Apfelbeck: Working Collaboratively in Montana to Develop and Implement Wetland Rapid Assessment Protocols to Assess Wetland Condition*

### Main Themes:

- Factor analysis
- Reference data sets; especially as they apply to rapid assessment methods in different states
- Basics of rapid assessment methods

### Significant Recommendations? Common or unique ideas from this session?

- Integrate wetlands and TMDL programs in states
- Develop further rapid assessments methods and include regression equations into rapid assessment spreadsheets
- Do watershed-based assessments
- Identify “restoration opportunity areas”

### Top Activities for Further Work:

- Assess streams and wetland at the same time
- Use reference data sets to develop standards
- Need to develop statewide rapid assessment methods for a wetland type
- Quantified standardized approach (both spatial and temporal) would be useful
- Develop partnerships further
- Include volunteers more
- Combine rapid assessment with landscape level assessments

## **Water and Wetlands in the West: Hydraulic Alteration**

*Scott Woods: Hydrologic Interactions Between an Alluvial Fan and a Slope Wetland in the Central Rocky Mountains*

*Duncan Patten: A “New” Water Source: Asset or Problem?*

*John Sanderson: Current Altered Hydrology and Simulated Historic Hydrology of an Intermountain Playa*

### Main Themes:

- Hydraulic alterations have direct effects on wetland structure and function.
- This is true if adding or subtracting water.

### Significant Recommendations? Common or unique ideas from this session?

- More research on the interaction of water and wetlands is needed

### Top Activities for Further Work:

- Ground water and surface water interactions.

**1:00-2:30**

**Strategies: Private Landowner/ Partner Forum**

**Wetland Protection: Landowners' View**

*Russell Davis: Ordway, CO*

*Scott Miller, Monte Vista, CO*

*Craig Utter: Ainsworth, NE*

*Dave Whitney: Sterling, CO*

Main Themes:

- Private landowners have an environmental ethic that rivals those in environmental fields, but that ethic is often not appreciated by those striving to address environmental problems.
- Private agricultural operations must be concerned with the bottom line and approaches to habitat and species issues work best when that perspective is accommodated.

Significant Recommendations? Common or unique ideas from this session?

- Constant private landowner outreach efforts and relationship-building can yield significant participation over the long run and create access to lands not previously open.

Top Activities for Further Work:

- Promote and sustain private landowner outreach efforts.

**Gathering and Using Information: Tracking and Reporting**

*Allison Banks-Cariveau: Riparian Conservation Project Monitoring in Colorado*

*Denine Schmitz: The Development of a Monitoring Protocol for Springs in Bighorn Canyon, WY*

*Tom Curley: Strategies for Protection of the Doe-Kag-Wats ("Place of the Deer") Wetland on the Port Madison Indian Reservation*

Main Themes:

- Avian monitoring relationships to local and larger; need for baseline and trend information
- Relationships: Biology to environment: abiotic to biotic
- Stressors, threats, disturbance
- Mapping, vegetation done by tribe was invaluable

Significant Recommendations? Common or unique ideas from this session?

- Need more resources to monitor
- Not enough information to determine what is significant, what the eco-range is

Top Activities for Further Work:

- Baseline data, more complete study of natural range and variability

- Data needs to be more available. Need to have a way to archive and manage data for the long term for the nation, region, state, and watershed.

### **Water and Wetlands in the West: Working in Landscapes**

*Russell Smith: Successful Approaches to Compensatory Mitigation Utilizing*

*Public/Private Partnerships: Challenges, Approaches and Expectations for Success*

*Paul Michel: Lessons Learned: Southern California Wetlands Recovery Project*

*Ted LaGrange: Wetland Conservation on the Great Plains: Recommendations for Strengthening Partnerships*

#### Main Themes:

- Collaboration is the key to successful implementation of conservation, restoration, and mitigation efforts.
- Citizen involvement, specifically ranchers and other landowners is especially critical.
- Future funding for programs requires demonstration of success in terms of total acres restored or some other quantifiable measure.

#### Significant Recommendations? Common or unique ideas from this session?

- Need for long-term personal involvement by agency personnel. Avoid personnel turnover on projects.
- Partnership and consensus building efforts for wetland protection and restoration must be tailored to the task at hand. Specifically, the scale of the project, regional differences, and community concerns need to be taken into account.

#### Top Activities for Further Work:

- Continue efforts towards consensus building, develop and enhance relationships between state/federal agencies and citizens.

### **3:00-4:30**

#### **Strategies: Incentives and Cooperation**

*Chris Berens: Playa Lake Conservation Programs*

*Maryann McGraw: New Mexico Wetland and Riparian Corridors: From Plan to Action*

*Richard Smith: Oklahoma Stream Team: Developing an Urban Stream Protection Program*

#### Main Themes:

- Three difference states: each had a unique approach to collaborative protection efforts.
- Approach needs to be created from ground up based on particular strengths and circumstances of each state.
- Value diversity and learn from it.

#### Top Activities for Further Work:

- Get these and other case studies of effective collaboration more widely publicized.

### **Gathering and Using Information: Tracking and Reporting II**

*Christy Carello: Conservation Monitoring, Protection and Recreational Use of a Fen Wetland*

*Cary Aloia: Characterization and Ecological Monitoring of Colorado Wetlands Program Projects*

*Lacrecia Haynie: Survey and Assessment of Playas in Eastern Colorado*

#### Main Themes:

- Conservation Monitoring

#### Significant Recommendations? Common or unique ideas from this session?

- Avian Use of wetlands

#### Top Activities for Further Work:

- Need a common definition of playas—one talk seemed to really focus on freshwater depressions.

### **Water and Wetlands in the West: Birds and Wildlife**

*Susan Skagen: En Route Shorebird Populations in Extensive Wetland Landscapes*

*Anna Noson: Bird Communities as Indicators of Grazing Impacts in Riparian Areas of Southwestern Montana*

*Heidi Morrill Hoven: Developing a Wildlife Functional Assessment Tool as a Supplement to a Slope Depressional Wetland Functional Assessment Method Used in the Salt Lake County Shorelands SAMP*

#### Main Themes:

- Using birds and wildlife at different scales and ecosystems as indicators of health and function.

#### Significant Recommendations? Common or unique ideas from this session?

- Bird Index of Biological Integrity
- Populations and finding habitat usages
- As part of a SAMP

#### Top Activities for Further Work:

- Run surveys more than once—timeline and trends established
- Using indicators for habitat prioritization

**October 26**

**8:15-9:45**

### **Strategies: Partnerships**

*Les Wetter: Wetland Policy Development in Alberta*

*Bill Goosmann: Landscape Level Mapping and Assessment of Riparian Ecosystems in Southern California*

*Tim Christian: Kansas Alliance for Wetlands and Streams - A Partnership that Works*

Main Themes:

- Three different perspectives on strategies: local grass roots, a state, and a province.
- Each are looking to protect wetlands.
- Two were non-regulatory measures while the third was a result of a policy act.
- Each was also doing outreach and education to promote their work.

Significant Recommendations? Common or unique ideas from this session?

- Partners were key in all three efforts.
- Numerous partners, including local and governmental entities were essential.

Top Activities for Further Work:

- Looking at gaps in information that could help or hinder progress
- Specifically, they could use help in improving their strategies and progress in protecting wetlands
- Target audiences, more information about outcomes of various methods, and how to chose methods for a given problem or project.

**Gathering and Using Information: Landscape and Mapping**

*Jae Chung: Landscape Level Mapping and Assessment of Riparian Ecosystems in Southern California*

*Brian Sullivan: Playas: Addressing Information Gaps to Improve Conservation*

*Richard Sumner: National Implementation of a Three-Tier Framework for Assessing Wetland Condition*

Main Themes:

- Using mapping and remote sensing for detecting change and habitat across wide areas
- Using landscape analysis in conjunction with more site specific and rapid assessment methods
- An example of Southern California wetlands mapping

Significant Recommendations? Common or unique ideas from this session?

- Using remote sensing for impacts as well as mapping is increasingly possible
- Landscape mapping is one component of a larger picture
- GIS and remote sensing tools improving continually

Top Activities for Further Work:

- Acquiring consistent remote sense data at proper times critical
- Integrating mapping analysis into wetland protection work at more than one scale
- Calibrating impact analysis

## **Water and Wetlands in the West: Applied Topics Under Change**

*Jennifer McCurdy: Chatfield Wetlands: A Case Study in Cooperative Efforts*

*Rodney Chimner: Using the Carbon Cycle to Study Mountain Fen Management and Sustainability*

*Emily Steel: The Colorado Wetlands Monitoring and Evaluation Projects: A Statewide Approach to Tracking Restored and Enhanced Wetlands*

### Main Themes:

- Collaborative effort to develop wetland site
- Evaluating carbon cycle to detect changes in peatland
- Monitoring wetland sites for bird use

### Significant Recommendations? Common or unique ideas from this session?

- Long-term monitoring needed to evaluate ecological change
- Challenge of finding ways to complete such monitoring

### Top Activities for Further Work:

- Surrogates for carbon cycle impacts in peatlands?
- Developing assessment methods for monitoring bird use in wetlands

## **10:15-11:30**

### **Linking Science to Management: Panel and Participant Discussion**

*David Merritt: Riparian Plant Ecologist, US Forest Service*

*Lynda Saul: Montana Wetland Program Managers, Montana Department of Environmental Quality*

### Main Themes:

- Scientists develop theories, managers need protocols and what to measure on the ground
- The two groups use different terminology
- Motivation for work different
- Research and theory is not sufficient for site specific projects
- Scientists tend to work in isolation
- Resource managers require coordination, cooperation
- Scientists frequently brought in to validate manager work or assumptions. For scientists, it is too late in process.

### Significant Recommendations? Common or unique ideas from this session?

- Get engineers, lawyers, river ecologists, and users together at the table early.
- Convey watershed context for river restoration.
- Emphasize cause of degradation rather than treating symptoms.
- Develop monitoring tools early
- Scientists need to receive information during process too.

### Top Activities for Further Work:

- Collaborate and work together to define and use each others' strengths and perspectives.

### **Audience Participation and Discussion:**

Question – Examples of bridging science and management?

Answer (J. Crane) – I have an example, a local watershed, the Gunnison River. We are working with CSU. The question has come up, “What is restoration?” There is a disconnect between the functions of a river and socioeconomic changes. We have worked through a variety of designs. We have included wetlands. There are multiple partners. The result is a system with more functions. We have addressed some landowner issues, such as erosion.

Answer (Duncan) – Here is another example, the floods in the Upper Yellowstone River. There is a Task Force, composed of landowners, guides, environmentalists, etc., a citizen group. The goal is to provide recommendations. We found that we needed scientific information. Thus was formed a technical/science group. The technical/science group provided input to the Task Force, which then provided recommendations for the future of the river. Scientists gave talks to the group.

Question – How many of you read scientific journals?

Answer – [Not many hands are raised.] This is a problem. Not many read these.

Question – What about grey literature? May be read more often by managers.

Comment – *Frontiers in Ecology* is a new journal. The target audience is managers.

Comment – Managers go to the web for information.

Comment – What about Google Scholar?

Comment – What about attending each others' conferences/tracks? We have had full sessions at this conference with both managers and scientists.

Comment (CDOW) – Our audience goes beyond this room to include landowners, developers, etc. There are magazines [that can inform scientists about management issues].

Comment – Ask landowners and ranchers to talk with others.

Question (G. Reetz) – As a scientist, how do you translate to the top of the management chain. They have time only for sound bites. This is a hurdle.

Answer (D. Merritt) – Start with bulleted points. Then explain more if there is interest. Like what is done in newspapers.

Comment (R. Sumner) – There is a difference in certainty, between scientists and engineers.

Question – What is the role of engineers in filling gaps?

Answer (L. Saul) – I work with consultants, who are often engineers, but make money by altering things. We need to move from dam building to restoration. We need to look at engineers as allies with our management objective of restoring systems.

Answer (D. Merritt) – One way of getting engineers on board is through using a common language, such as units used by engineers.

Comment (A. Neville) – In the Salt Lake Valley, there are a couple of groups that are working on impacts to the Great Salt Lake. There is the GSL Alliance, which first invited non-regulators, TNC, Audubon, etc. Later, the regulators and engineers were invited. These are our concerns, for example, selenium. Now there is a Steering Committee and a Science Panel. We are talking to one another. It takes only a couple of people to lead a discussion and get it going.

Comment (R. de la Vista) – I work in the San Luis Valley of Colorado. How many people here own water rights? Not many. If we don't have this perspective, it is challenging to talk to those that do. It is helpful if you can put yourself in someone's shoes.

Comment (K. Kutschenreuter) – Communication across these boundaries is iterative and takes time.

Comment (L. Saul) – On the water rights theme, what you have is valuable property. It has a marketable value. You can use creative approaches.

Comment – Regarding linking science and management, there are discussions in our SWS chapter on how to do this better. Encourage others in other chapters, programs, etc. to do this.

### **11:30-12:30**

#### **Closing Keynote: The Greatest Alchemy: Wetlands and the Arid West**

*Thomas Fleischner, Prescott College*

#### Main Themes:

- Water is and has been precious throughout civilization
- In the West, this is particularly true and can be traced through use and veneration of water, riparian and wetland areas throughout the arid deserts in the West.
- Water is not just utilitarian, but has had mystical and spiritual dimensions as well.

- Several stories from *Desert Wetlands* were shared.
- Everyone at the conference and working with wetlands in the West is part of a good and long tradition of conserving the thing that makes the land habitable.