

River and Streamflow Protection in New Mexico

Presentation to the Legislative Interim Committee on Water and Natural Resources
By Steve Harris¹, September 22, 2009

Mr. Chairman: *Over the past 35 years, I have been engaged in various pursuits relating to the rivers of the Southwest and New Mexico. Since 1979, I have operated a river company out of Taos, and in this capacity have outfitted trips for many thousands of residents of, and visitors to, our state. I am also an river rescue instructor, delivering a flood rescue curriculum to public agencies, including fire services in Dona Ana, Grant, Bernalillo and Santa Fe counties, as well as the National Park Service, US Fish and Wildlife Service and Border Patrol. Over the past 15 years, I have participated, as citizen volunteer, in many water resources management programs and followed, with great interest, the water policy discourse in local, regional and statewide water planning, not only in our state, but in Colorado, Texas and nationally.*

I have been rewarded in these efforts by having made a modest living and many friends in the scientific, farming, engineering and legal professions. What has been most gratifying, though, has been the opportunity for a close acquaintance with the rivers themselves, primarily the Rio Grande but many others as well, their beauty, their dynamics... and the risks they are now facing.

I am grateful to this Committee and to John Boller, of the Council Service, for this opportunity to present some of my observations, which I hope will be useful to you as you consider the future course of water development and the protection of the natural environment in New Mexico.

Rivers occupy a unique position in the long-running public conversation about natural resource conservation and the question of who, exactly, has responsibility for the condition of ecosystems. The truth is that New Mexico has no policy, or only a *de facto* policy, to guide the future condition of our rivers. That there is no single agency or institution, no “Department of Rivers” or “Bureau of River Management”, may be attributed to the fact that rivers are our primary source of water, a **commodity** with particular importance to both the economic aspirations of the human species and the survival of every other living thing.

Rivers have real economic value: they supply water to cities, industries and farms. In their natural channels, they perform environmental services: transporting sediments and contaminants, cycling nutrients to nourish the agro-ecosystem, recharging aquifers. Such services have tangible benefits to New Mexico, determinable as the dollar-cost of replacing these river services.

But I want to suggest that what is most important about rivers, what should command our greater attention to their condition, is deeply intangible. Rivers like the Rio Grande, the Pecos, the San Juan and the Gila are icons in our home landscape. They are the bedrock

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of indigenous cultures, a miraculous treasure of water coursing across rich valleys and stark canyons, flowing through our interior lives. We find in rivers the peace and beauty of natural processes expressing themselves to our senses, adding value to our lives.

Rivers present us with a paradox: can we both use and conserve them? I believe that New Mexico has both a need and the means to expand our thinking about rivers, to modify our present doctrine of maximum utilization of water to include consideration of the uses that rivers themselves make of that water. Valuable as drinking water and irrigation water are, the same water that we claim for these purposes can, if managed more deliberately, provide for the natural environment, as well. There are encouraging precedents for this view.

Today, I want to suggest that, if we are to get serious about leaving a legacy of living rivers to the coming generations of New Mexicans, we will need to more fully include four river protection goals into our management of water resources in the 21st Century:

1. **Water Quality** that is healthy enough for human and wildlife uses.
2. **Engineering Infrastructure**, by which I mean dams, reservoirs, levees and canals, designed to utilize water while minimizing impacts to rivers and wildlife.
3. **Ecological Infrastructure**, both aquatic and riparian, that maintains (or restores) natural habitats for entire suites of species, not just those on the threatened and endangered lists.
4. **River Flow Regimes** that provide water at times and places and in quantities appropriate for both environmental maintenance and sustainable human uses.

The Legislature has already recognized these goals to some degree, by authorizing and funding Strategic Water Reserve and River Ecosystem Restoration initiatives. I hope that these programs can continue to receive at least their modest share of state resources as legislators resolve the latest round of budget shortfalls.

Each of these elements raise interesting issues regarding how to respond appropriately, but the one I want to discuss today is the issue of providing environmental flows. The troublesome fact underlying this issue is that virtually all surface water in New Mexico is fully-appropriated, legally obligated to consumptive use. Given this circumstance it will take some creative maneuvering to augment river flows, desirable though this may be.

At this point, I must thank Representative Mimi Stewart (and her House co-sponsors) for having made a first step forward by introducing House Joint Memorial 3, the “Water Cabinet Environmental Flows Study”, in the last session.

HJM 3 stated that a policy of the state would be “to use scientifically-derived information appropriate to each stream system in managing stream flows so as to protect the environmental integrity of its rivers and riparian areas...” It further directed the administrative agencies to evaluate potential problem areas, using information previously gathered “to identify streams at risk of degradation from hydrologic alteration” in New Mexico. Its language was negotiated with agricultural groups, who recognized that the future of agriculture was being placed at risk by the hydrologic alteration of the rivers which supplied their irrigation water.

The memorial was also thoroughly vetted with the Water Cabinet agencies, who offered some of their existing information:

- Environment Department-the list of Impaired Waters;
- State Engineer-areas at risk of water shortages;
- Department of Game and Fish-river ecosystems considered “at risk” in the Comprehensive Wildlife Strategy.
- Interstate Stream Commission-river reaches with Endangered Species and/or Interstate Compact compliance issues.

Although this measure died awaiting a Senate floor vote, its history seemed to demonstrate strong, almost universal bi-partisan support in the Legislature. Since the session, I have been talking again with these agencies about their ability and willingness to, in effect, implement HJM 3. One agency head told me “this issue is not going to go away and the sooner we address it the better”.

Accordingly, I am proposing to convene a workshop, using voluntary private resources, attended by the appropriate state agencies, the water user and conservation groups referenced in the memorial, and scientific specialists from state universities and environmental consulting organizations. This session would attempt to achieve consensus on what data would be most relevant to making a general evaluation of the condition of the state’s river systems and also tackle the logistics of collecting and synthesizing the information to identify:

- Streams facing substantial risks to natural and/or agricultural ecosystems.
- Such outstanding opportunities to restore or enhance river conditions, as may exist in New Mexico.

The workshop is scheduled to take place in early January, 2010.

If the material to make an accurate report on the conditions on our rivers can be pulled together, I believe it would advance consideration of what a state environmental flows program might look like. Whether or not this group of stakeholders and scientists could make consensus policy recommendations, the legislature and the administration would be encouraged to work together toward determining appropriate policies for managing rivers in the future.

If the fact of New Mexico’s surface water being fully-appropriated, along with expanding urban water demands and the likelihood of new constraints resulting from climate change still makes this topic seem to be a mine field of future conflict, I’d like to highlight some encouraging trends:

1. With most of our river basins being subject to water deliveries under compacts and decrees, our system of storage reservoirs allow us (at least physically) to alter the timing of flows to better address the environmental challenge.
2. A number of potential water conservation measures are still available to us and we can consider the desirability of applying conservation gains to the natural environment. I urge you to consider the definition of conservation broadly. For example, I point to the Decision Support System being implemented by the

- Middle Rio Grande Conservancy District. About five years ago the District began using a computer model of its irrigation infrastructure to schedule water deliveries to its farmers. As a result, the District has been able to reduce the scale of its Rio Grande diversions by about 40%. Much of this water can remain in storage, subject to better management control.
3. Where there seems to be a need to acquire quantities of water for environmental flows, the Strategic Water Reserve mechanism allows water leasing programs that temporarily fallow valuable croplands, as opposed to permanently alienating water rights.
 4. The Texas Environmental Flows Program offers us an example of a river augmentation program that is seen as politically viable. This legislatively-established program convenes panels of both water user interests and scientific specialists in each river basin to grapple with the twin problems of environmental needs and ways of supplying them. It is being implemented in incremental fashion, so that all affected parties, which literally includes everyone, are able to trust the process.
 5. Over the past 25 years, western states have been finding new ways of using applied science and social science to address natural resource management issues of all kinds. Today, collaborative adaptive ecosystem management models are available to us.

Collaborative Management-means that the various publics may be fully represented in making recommendations to management agencies. Local values and local goals can thus be incorporated into decision-making.

Adaptive Management-means that testable hypotheses are incorporated into management actions. The results can be monitored which may, in turn, suggest refined management approaches.

Ecosystem Management-means that whole ecosystems, including human activities, will be considered, not just a single component, like commodity outputs or endangered species.

Clearly times have changed since the passage of the 1907 Territorial Water Code. New social imperatives, like a greater emphasis on environmental protection, have emerged. The present challenge is to retain what is useful to today's world and to modify that which does not serve modern needs. It is not only desirable, but possible to balance water rights administration with river protection. That river protection is desired by the public you have been elected to serve, I point to the literally hundreds of restoration projects sprouting up in nearly every community along our rivers.

In closing, I would draw your attention to a paper that is included in your packet. Its author is the late Luna B. Leopold, the eminent, New Mexico-born hydrologist. Luna urges policy-makers to adopt a philosophy of water management: [The] fact [is] that the hydrologic system is a highly interconnected pumping network...[and] the continued functioning of the system is of great importance. To test whether the system is operating satisfactorily by economic and legal criteria alone will not guarantee its continued health. What is needed is some deeper feeling." The title of his speech is "A Reverence for Rivers". I hope many of you will take the opportunity to read and reflect on his thoughts, as you consider the way forward.