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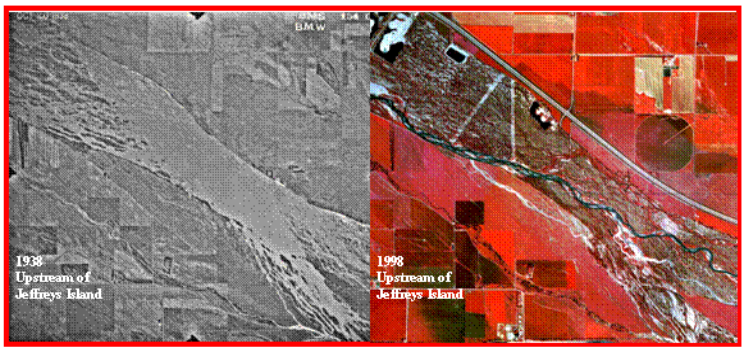
Implementation of the Endangered Species Act on the Platte River Basin:

Summary of an Interview with Dr. Curtis Brown, Platte River Study Manager



Background

Dennis Kubly of the UC Regional Office and Douglas Clark of the Denver Technical Services Center have been overseeing and conducting Reclamation funded research on water conflict management and adaptive management since 2006. During focus groups they facilitated in three Upper Colorado Region area offices, they learned that one of the most often mentioned causes for water conflict had to do with disputes over science, especially where endangered species were concerned. For example, when the question arose as to how much water an endangered species and related habitats required, scientists often gave conflicting answers.

In the time since those focus groups were conducted, Kubly and Clark have continued to investigate this issue with an emphasis on the examination of tools such as adaptive management that have shown promise for mitigating or at least managing these disputes. Most recently, they have decided to look in depth at a specific water conflict that contained disputes over science. The case selected was the Platte River Recovery effort. The Reclamation study lead, Dr. Curtis Brown, was chosen for an in-depth interview.

Kubly and Clark met with Dr. Brown on 23 August 2013 to seek to understand the conflict dynamics of the Platte Project, learn what conflict management tools had proved useful (and not), and ask about what lessons were learned. This brief paper provides a summary of the substance of the interview conducted with Dr. Brown, organized by *theme*. In other words, it is not a transcript. The content has been reorganized to make the narrative more intelligible to readers.

Theme 1: Institutional Structures

The first theme concerned institutional structures that must be created for progress to be made. Institutional structures necessary for the resolution of a dispute often are not present in the beginning of water conflict management processes. These institutions must be created for progress to be made. Two instances from the Platte River Recovery Program are illustrative.

The Recovery Program required that both Wyoming and Colorado provide additional river flows to move out of their state into Nebraska, and that those additional flows would make it to the Big Bend reach of the Platte in central Nebraska. This required that both Colorado and Nebraska be able to protect those "Program" waters. Concerns had long been raised about the states' ability to do so. Importantly, development of institutions to protect those waters was not triggered by either the Federal government or other parties putting pressure on Colorado or Nebraska -- it had to come from within.

Nebraska LB-962. At the time of the recovery program's formulation, Nebraska water law did not recognize any connection between ground water pumping and surface flows. It was legal to drill a new well immediately adjacent to the Platte River, to pump an unlimited amount of ground water, and to be viewed under law as not having depleted the flow in the river in any way. The parties to the Platte River Cooperative Agreement all recognized that the law flew in the face of basic hydrologic facts, and they were therefore concerned that the program's augmentation of river flow could literally be undermined by unregulated ground water pumping. No movement was made in Nebraska to address this foundational assumption of state water law until Nebraskans with surface water rights began to notice streams drying up due to ground water pumping.

In the court case Spear-T v. Knaub (2005), which pitted farmers against farmers based on alleged ground water depletions of Pumpkin Creek in Nebraska, that state's Supreme Court ruled that ground water users could not be held responsible for surface water depletions *unless there was a direct and substantial effect*. The court's finding opened the door for possible legal claims against ground water pumpers. This decision resulted in the creation of the Nebraska Water Policy Task Force charged to reconcile ground water use with the surface water prior appropriation system. As a result of the work of this task force, the Nebraska legislature passed LB 962, a law that established a policy and regulatory framework to prevent depletion of surface water rights through ground water pumping. Application of the law eventually led to the designation of some river basins as "over-allocated". When so designated, excess water uses were actually curtailed-- a remarkable evolution of water policy.

Colorado South Platte River Augmentation Plans. For many years, water users along the South Platte River in Colorado who did not have senior water rights had been receiving approval from the State Engineer for "augmentation plans". Under these plans, water was pumped from the river in winter, when no senior water users were diverting water, and moved to ponds or infiltration basins some distance away from the river. The diverted water was thus stored in the ground, where it would slowly move through the alluvium back to the river. The State Engineer established which equations of ground water movement would be used to calculate when and

how much of the diverted winter flows would return to the South Platte during the summer irrigation season-- when the holders of the augmentation plan could divert those flows "out of priority" to support crops. Colorado's contribution of river flows to the recovery program were based on such an augmentation plan, called the Tamarack Plan.

There were concerns among some members of the recovery program that the explosion of augmentation plans on the South Platte was depleting flows at critical times for the target species in Nebraska, regardless of the calculations and assurances of the Colorado State Engineer. There was also concern that the Tamarack Plan was not on sound legal footing, and hence was vulnerable to challenge.

Once again, there was no challenge to the existing regime of river management within the state until Colorado water users began accusing each other of stealing water through the use of scientifically unsound augmentation plans. In 2001, the state Supreme Court ruled in Empire Lodge Homeowners Association v. Moyer, limiting the ability of the state engineer to approve short-term substitute water supply plans. In response to Empire, the legislature allowed until 2006 for all well users to file for long-term augmentation plans which had to be approved in water court. This created needed institutional capacity to move negotiations forward.

Theme 2: Uncontrolled Factors

Factors beyond the control of the conflict managers can frequently impinge upon the water conflict management process. For instance, it is known that there are thousands of people illegally removing water from the Platte River watershed, even with regulation programs in place. These individuals can and do have an impact on how much water is available for fulfilling water compacts and river restoration agreements. Dan Luecke of the Environmental Defense and National Wildlife Federation noted that it is difficult, if not impossible, to stop illegal diversions of water completely. Considering this, a river restoration agreement is insufficient for offsetting these and other depletions of the river. It is essential that water be continually added to the river to restore legal and illegal depletions and to move river flow towards the natural hydrograph. To insure a successful recovery effort, it may be necessary for the Federal government to contribute funding to obtain this new water. Generally speaking, it would be better to do this earlier rather than later as the price of water generally increases over time.

When there are millions of water users in a basin, practically everyone is looking to put more of the river flow to economic use. When all of the pressure is in the direction of more use, there is no regulatory or legal system of river management that can "capture" or track all of that perfectly. This means that the "approved" diversions, on paper, will always be an absolute minimum estimate of the actual diversions, and the gap between what is regulated and what is actual --- and this could include both legal and illegal diversions --- will always grow. Thus, if the goal is to actually provide additional river flows, one must be realistic in recognizing the inevitable shrinkage in flows due to the overwhelming economic force toward more diversion, never less.

Theme 3: The Costs of a Resolving Conflicts over Science

There are three basic questions to be resolved in conflicts over science:

- "What do the species require?"
- "What caused the loss of habitat?"
- "How much will it cost the vested interests to come to a resolution?"

During a negotiation, no one in the room knows what the costs to them will be at the end of the negotiation process. It is vital, therefore, to convince stakeholders that they should come to the table to learn or ferret out their best alternative to a negotiated settlement (BATNA). In the case of the Platte River negotiations, it turned out that it was the water users who showed the most flexibility in this regard. They were the least doctrinaire parties. They were practical business people, used to working through problems, and they had a business interest in getting to a solution. Without a solution, there would have to be individual negotiations with the US Fish and Wildlife Service to gain permits. None of the parties wanted this and everyone agreed that a collective solution was the desired result.

The lesson that was learned here is that solutions to water conflicts can emerge when stakeholders bring their perceived best alternatives to negotiations and then proceed through joint learning to determine whether better collective solutions are available.

Theme 4: Resolving Target Flows Issues

There was wide disagreement among the Platte River parties both as to what the target flows should be to sustain the endangered species and whether the pattern of the hydrograph needed to mimic the normative hydrograph. The National Research Council of the National Academy of Science's review of the USFWS's use of science and its endorsement of normative flows was a vindication for that agency's science. The NAS review was THE single biggest tool for reducing overt science conflict in the entire Platte effort. After that finding, the USFWS could use the concept of normative flows to build habitat. Thus, the use of an external science review board appeared to be one way forward for creating a scientifically credible process.

Theme 5: Modeling Efforts

As noted above, when Nebraska authorities signed the Cooperative Agreement in 1997, they had no legal basis to slow or prevent continuing and unsustainable growth in ground water depletion on the Platte River in that state, which was having a detrimental impact on surface water. In addition, current extraction would likely have impacts on surface water resources in an as yet unknown time schedule. The depletions affecting surface water resources were also naturally depriving the river of water for habitat restoration. Early on, ground water modelers noted an expansion in the number of wells and in irrigated agriculture in the late 90s and in the early part of this century. Average inflows to Lake McConaughy, for example, had been reduced by half.

Ground water interests and surface water interests had been at odds for many years in Nebraska. Ground water interests were politically dominant, and refused to acknowledge any connection between ground and surface water.

Colorado and Wyoming were concerned that continued growth in ground water withdrawals would deplete the Platte and undermine the recovery effort because waters coming from those states would eventually flow through irrigation center pivots. Nebraska surface water users worried about dwindling supplies as the ground water boom expanded in that state.

The Pumpkin Creek lawsuit opened the way for at least the recognition that ground water and surface water were connected. In the wake of this lawsuit, with the growing awareness that the ESA issue was not going to go away, and with the understanding that ground water farmers were now hurting other farmers, Nebraska's governor convened the Nebraska Water Policy Task Force to find ways to reconcile ground water use with the prior appropriation system.

Eventually the state promised to pay for water offsets. After a year and a half, the task force presented a report to the governor in 2003. In time, the recommendations became law (LB 962). This gave the Nebraska Department of Natural Resources (DNR) the authority to participate in the governance of ground water extraction. It also required Nebraska natural resource districts (NRDs) to undertake management action when state authorities declared that the basin or sub-basin was fully or over-appropriated. Finally, it authorized the DNR to periodically review consumptive use versus recharge. Where extraction was unsustainable, the DNR and NRD would develop a basin-wide plan to guide ground water decision-making.

Without meaningful predictive modeling, there was no way to determine how much each farmer was depleting the river. The Cooperative Hydrological Study (COHYST) ground water simulation model was selected to inform decision-making on project stream depletions from ground water withdrawals. The lesson learned in this instance is that well-designed, credible water resource planning requires comprehensive modeling.

There is an additional point to be mentioned here, which was re-iterated by Ms. Ann Bleed, director of the Nebraska Department of Natural Resources. We are at the end of the historical phase when natural resources can continue to be used to exhaustion– whether those resources be land, minerals, air, or water. In the case of water, nearly all of the basins in the U.S. are either fully appropriated or over-appropriated. New planning and management strategies, informed by models that stress sustainability are essential going forward.

Theme 6: Direct Conflict Resolution

With the right mix of experienced, foresighted personnel, conflict can sometimes be headed off in advance. For instance, the recovery program leadership needed a competent and well-organized land committee. This effort was undertaken by Christopher Moore, a professional mediator from Collaborative Decision Resources (CDR) Associates. Two farmers chaired the land committee and, by all accounts, it worked very well. These three individuals were widely respected in

basin communities. And their view of the Platte was not at all parochial. Quite the contrary, it was over-arching and holistic and they communicated this vision up and down the river. Many constituencies on the river had never seen the renowned whooping cranes or other threatened species. Not only did they not recognize what an ecological resource the river represented, they had little or no concept as to what a resource the restored river might represent. To many such persons, it was just a plumbing system for delivering water. Over time excessive depletions had so degraded the river that it had become invisible.

The lesson learned here is that inclusion of leadership respected by affected communities can improve the likelihood of success in conflict management by putting forth individuals the various constituencies "can relate to" and who, in addition, can explain program initiatives in their own language.

Theme 7: Adaptive Management

Adaptive management is managing by the scientific testing of alternative operational strategies. It provides a way forward when there is so much uncertainty in the system as to make it difficult or impossible to say for certain what management strategy will result in the most optimal outcomes. Dale Strickland, executive director of the Platte River Recovery Program, assembled an advisory group dedicated to adaptive management development. This was used to air issues and then brief the Governance Committee on the adaptive management plan.

The states themselves never brought forth a plan. To do so would have been to admit that there was, in fact, a problem to be solved. The states never offered a coherent explanation for the loss of habitat or a mitigation strategy to the National Academy of Sciences committee. Their approach was to dispute every piece of data and every methodology that was put forth. They brought no hypotheses to the table for adaptive management and certainly no overarching explanation or proposed alternative theory. Incorporation of adaptive management into the restoration process, including involvement by the state's representatives, was spearheaded through their involvement in joint learning, including the development of conceptual models portraying potential linkages between program actions and resource responses.

The lesson learned in this instance is that in dispute resolutions processes there needs to be a reward and incentive system for stakeholders to bring solutions to the table and to thoughtfully consider the whole body of data. Without such incentives the various constituencies will be primarily if not exclusively concerned about how much it will cost them at the end of the day to "fix the problem".

Stakeholders also need to be involved in a problem-solving forum built on accumulating trust. By necessity, they must, jointly if possible, develop an understanding of relationships between proposed actions and resource responses. Where these relationships are beset with uncertainty and there are alternative mechanisms for reaching desired future conditions, scientific investigations need to be undertaken to test the utility of different management applications. This, of

course, is exactly what adaptive management is designed to accomplish, and along the way, it can also provide a forum for conflict management.

This fact again raises the question, "Should the Federal Government maintain a superfund for managing water disputes using the adaptive management or similar approaches?" Precedent for doing this sort of thing already exists. For instance, a fund currently exists for managing Indian water rights disputes. As it is, water dispute resolution processes already cost millions of dollars to manage. Until questions of who benefits and who pays are resolved, the cost for resolution continues to grow in such disputes. The basic question relevant to all parties in a dispute resolution process appears to be: "Do you want to get something done, or do you want to be right?" Could a Federal dispute management fund facilitate quicker resolutions?

Theme 8: Positive Actions Undertaken to Move the Platte River Conflict Resolution Process Forward

1. The National Academy of Sciences report was positive action. The Academy acted like a sort final appeals court. The Academy, for example, affirmed the requirement for flow management to achieve habitat restoration.

2. The lawsuits that led the Nebraska legislature to pass legislation that put ground water into the prior appropriation system were positive.

3. The adaptive management approach became something the various constituencies could agree upon.

Theme 9: Mechanical Approach to River Restoration versus Holistic Approach

"To what extent can a mechanical approach to river restoration replace a natural approach?" The answer to this question is still in play through the adaptive management program. Mechanical approaches, such as moving sediment with bulldozers only address one particular ecological goal. Natural target flows, on the other hand, work holistically on the river ecosystem. For instance, they raise ground water to the surface to bring food sources like worms and grubs to a place where the endangered species can consume them.

However, if a natural flow approach is adopted, it must be quantitatively sufficient. If a minimal target flow of, say, 3000 cubic feet per second (cfs) is adopted instead of the required 20,000 cfs, then the flows will likely not be adequate to restore habitat and, as a consequence, program opponents will invariably say, "See, target flows do not work. We told you so." In summary, there are constraints upon the actions that can be taken in conflict management processes. The allowed actions that are taken are often ineffective and this fact can result in major set-backs or failure.

In addition, negative externalities, beyond the control of the program, can also cause failure. In this case, the bird species require many habitats in many geographic locations in order to survive. Loss of any of these could have serious adverse impacts on the species. So, even if the Platte River habitat were fully

restored, the endangered species could still experience loss as other habitats continued to degrade.

Theme 10: What to Do to Keep a Conflict Resolution Program Moving Forward

The collaborative gathering of data under an agreed upon science program can go far to foster a spirit of cooperation and this activity can also be an antidote to doctrinaire politicking. It has the potential of fostering mutual respect and a cooperative spirit that can keep the program going forward.

It is also wise to identify, remember, and occasionally make use of the "hammers", which exist in many dispute resolution processes that militate against giving up on collaborative approaches. In the case of the Platte, the prospect of individual agencies having to enter into consultations with the US Fish and Wildlife Service was a hammer that kept the parties at the bargaining table.

In sum, the combination of collaborative efforts such as joint fact finding together with the threat of regulatory imposition by government agencies can be a strong incentive to keep negotiations going.

Theme 12: Unhelpful Use of Legal Concepts to Structure the Negotiations

Water user organizations involved in the Platte River recovery program expected that they would lose water, or funds, or other valuable resources at the end of the negotiation process. Most, therefore, retained and put legal counsel forward to negotiate for them. From the beginning, therefore, the joint documents reflected the efforts of this counsel to limit claims against their clients. These legal strategies may have been helpful to their clients, but had adverse consequences for the process that are worth noting.

In legal settlements, defendants will often agree to a deal but only with the condition that they do not admit guilt. This concept was brought into the Platte negotiations as a way to allow discussions toward an agreement proceed without settling "guilt". Hence, all drafts, all public documents, and all public statements by the water interests would include repeated disclaimers that they do not agree that any problem exists and they do not agree with any of the science that the government is using, etc. Some view this as "agreeing to disagree" so that the business of finding a solution can proceed. This overlooks the fact, however, that while everyone at the table may understand that these disclaimers are merely legal niceties, the public sometimes believes them and concludes that (1) "there is no justification for the recovery program", and (2) "the government is forcing the parties to negotiate against all reason and fact".

This *modus operandi* is all part of the strategy of "keeping the record clean", so that at any time in the future, the resisting parties can break off from the negotiation and disavow any real participation.

A second part of this strategy is, "attack everything, offer nothing". This approach challenges any point of fact or evidence offered, and never offers an

alternative explanation of the facts. "If you never offer any explanation, your position cannot be questioned or analyzed." In fact, your position consists only of opposition to the government's facts. Again, this approach keeps the administrative record clean, but also serves to delay the resolution process. All of this illustrates the great difficulty of carrying out scientific investigations at the same time as an ongoing interest negotiation, because any concession of adverse fact is viewed as weakening a party's negotiating position and increasing its burden of responsibility and financial obligation.

A related challenge was illustrated by the Platte River Cooperative Agreement (CA) process. The parties reached an initial agreement on the framework for a recovery program, codified in the CA, based on an initial technical analysis. All parties understood that before the program could be implemented, it needed to go through a full Environmental Impact Statement (EIS) and Biological Opinion (BO) review. However, because of the considerable effort it took to get formal, signatory agreement on the CA, most of the parties hoped that the EIS and BO would not reveal any new facts that might call to question the assumptions upon which the CA was founded. In fact, from the start, the EIS Team was viewed as the "skunk at the party" that could, at any time, upset the applecart. The more that the Team tried to understand and clarify the program proposed in the CA -- so that it could be evaluated for the EIS-- the more resistance it met from Governance Committee members who wanted to preserve their own flexibility to interpret the CA in a fashion that favored them. This reflects the universal tension between keeping things vague so that an agreement can be reached, even if it is false agreement, and making things explicit so that they can be analyzed.

Thus, legal arrangements designed to "keep the record clean" combined with the approach of attacking everything and offering nothing, and efforts to resist scientifically credible methods and findings can serve to hinder progress toward resolution.