

FEATURE ARTICLE**WESTERN FLOOD MANAGEMENT IN THE 21ST CENTURY:
A TIGHTROPE BETWEEN COMPETING VALUES**

By William A. Wilcox, Jr.

Effective flood management of western rivers is critical to the safety of countless people and their property. Despite the generally arid conditions of the country west of the 100th Meridian, rivers such as the Colorado and the Rio Grande must be managed carefully to ensure that potential devastation that could be caused by uncontrolled flooding is minimized. Prior to Western settlement, these wild rivers could sporadically flood hundreds of square miles of land. With the settlement of those lands, however, came mankind's efforts to control those rivers and put them to use in irrigating crops and quenching the thirst of growing populations. With that control came the need to control or manage river flooding. Mandates for federal, state and local agencies to manage flooding to minimize its destructive potential were quickly enacted. Today, such federal agencies as the Bureau of Reclamation, the U.S. Army Corps of Engineers (Corps), and, for waters shared with Mexico, the United States Section of the International Boundary and Water Commission (USIBWC) have broad responsibilities to ensure that the formerly wild rivers of the West do not wreak havoc on cities and towns along their routes.

The Corps of Engineers has established uniform standards for flood protection that include aggressive maintenance of levees, including "routine mowing of the grass and weeds, removal of wild growth and drift deposits, and repair of damage caused by erosion or other forces," and channels and floodways must be "clear of debris, weeds, and wild growth." In addition, dams and other structures are maintained in part to

ensure that adequate space is available to contain greater than average river flows, and releases from the dams are calculated to protect against unnecessary contributions to flood conditions. The USIBWC, for instance, has reserved storage space in the Caballo Lake reservoir in New Mexico for 100,000 acre-feet of potential flood flows.

Yet at the same time the federal agencies charged with flood control on the major Western rivers are required to meet environmental requirements such as the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA), which sometimes seem anathema to the flood management missions of the agencies. There is little or no consistency, for instance, between mowing all weeds and wild growth from flood plains and supporting wildlife species. Because flood management aims at protecting human life and property, some critics have complained that the ESA actually places a higher value on wildlife species than on human safety.

Finally, and certainly significant in any consideration of effective river and flood management, comes the application of western water law. With its application of "first in time, first in right," Western water law has, some have argued, stood in the way of effective environmental planning. Although it would appear a difficult prospect, modern engineering techniques might help agencies to successfully accomplish flood management while affording some enhanced opportunities for wildlife habitat. Wildlife habitat, however, represents, at least to some degree, a consumptive use of the water resource. This creates

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a sensitive issue for policy makers and courts to decide the relative value and priority of the property rights of water users versus endangered species.

To fully explain the conflict in values agencies must negotiate, at least general understanding of both the environmental mandates and western water law is required. There is no simple answer that can be applied throughout the region. Problems may have to be solved on more of an *ad hoc* basis from river basin to river basin. For agencies to effectively make decisions and set policy regarding flood control, however, they must not operate within a vacuum. Agencies must involve the public in decision-making to ensure points of view are not needlessly overlooked. Recent experiences of the USIBWC in dealing with public interest groups illustrate the efficacy of dealing with the problems of balancing flood control with other interests face to face instead of sitting back and letting the federal court system determine the fate of important flood management projects.

Environmental Constraints on Flood Management Planning

The main environmental planning statute for federal agencies engaged in flood management is NEPA. NEPA requires that federal agencies consider the impact of an action on the environment when taking any "major federal action significantly affecting the quality of the human environment." The implementing regulations, which were developed by the Council on Environmental Quality (CEQ), established an intricate set of rules for conducting the type of environmental analysis that is required for a given action or project. Agencies have further elaborated on those requirements in their own regulations.

An agency must prepare different types of NEPA documentation for a proposed project depending on the level of environmental impact that is possible. If an action of project definitely will not have an effect on the environment, no NEPA documentation or only minimal NEPA documentation is required. Each federal agency also has a number of "categorical exclusions" for which NEPA documentation is not required. These categorical exclusions, adopted by regulations, consist of routine actions, such as maintenance and road repair, that the agencies have

determined do not effect the environment either as an individual project or when considered in light of other projects. Under the CEQ regulations, the use of categorical exclusions is encouraged.

If an action or project could possibly cause significant environmental impacts but agency officials are not sure, the agency must do an environmental assessment (EA). An EA will determine whether significant environmental impacts would occur as a result of the action or project. The EA can assist the agency in determining whether to conduct a more thorough environmental impact statement (EIS), but an EA is not a prerequisite to an EIS. If an EA is completed and it results in a "finding of no significant impact," no further environmental documentation is required. If an agency knows that an action or project will significantly affect the quality of the environment, however, then the agency must conduct an EIS.

Whether a proposed project or action requires an EIS is not always obvious. In considering an environmental challenge to a proposed federal jail in New York City, the U.S. Court of Appeals for the Second Circuit in *Hanly v. Kleindienst* determined in 1972 that a federal agency should consider at least two factors when analyzing the environmental impacts of a project:

- (1)[t]he extent to which the action will cause adverse environmental effects in excess of those created by existing uses in the area affected by it, and
- (2) the absolute quantitative adverse environmental effects of the action itself, including cumulative harm that results from its contribution to existing adverse conditions or uses in the affected area.

The inexactitude of this and other court interpretations of NEPA illustrate why NEPA is a ripe area of litigation against the government. A successful challenge to agency actions under NEPA can result in a temporary or even permanent injunction of a public works project. Done properly, however, the NEPA process does not limit the actions an agency can take for flood management. Under NEPA, an agency can conclude that, although some flood management measures may be harmful to the environment, it is necessary to protect the safety of people and property.

The ESA, however, allows less latitude in decision-making. ESA compliance will normally occur in concert with the NEPA process, but there is no such thing as a categorical exclusion from ESA compliance. Section 7 of the ESA requires federal agencies to consult with the U.S. Fish and Wildlife Service (FWS) to determine whether an activity will subject any threatened or endangered species or its critical habitat to "jeopardy." An agency that proposes "major construction" (or other activities having a similar impact on the environment) in an area where listed species are present must prepare a "biological assessment." The FWS will then prepare a "biological opinion" that details whether a threatened or endangered species (or critical habitat) is subjected to jeopardy. The FWS determines whether the proposed action will jeopardize any threatened or endangered species (or result in the destruction or adverse modification of critical habitat) or whether any "incidental take" of an endangered species will jeopardize the species. The FWS's opinion will describe the impacts to the species, the reasonable measures to minimize harm to the species, and set forth terms with which the proponent agency must comply to implement its proposed action. If, after consultation, however, the FWS determines that the action will "jeopardize" the species, a "jeopardy opinion" will result.

Although there is a process for obtaining an exemption from endangered species requirements for an agency action, a finding by the FWS that an agency action would place a listed species in jeopardy will often terminate the proposed project. In *Tennessee Valley Authority v. Hill*, a tiny minnow-like fish, the snail darter, shut down the massive Tellico Dam project in 1978. In the Court's opinion, Justice Burger wrote:

It may be curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require permanent halting of a virtually completed dam for which Congress has expended more than \$100 million.

Yet, the provisions of the ESA required just that.

The Effect of Western Water Law

In general, the Western states follow the Prior Appropriation Doctrine in determining who is

entitled to scarce water resources. The history of the Doctrine is closely intertwined with the history of the West. The Doctrine is an outgrowth of a principle of mining law, under which the first prospector to stake a claim would be entitled to work that claim. The underlying principle of the Doctrine is "first in time, first in right." In other words, the first person to divert water from a stream and use it beneficially becomes the senior appropriator, and his water right to the amount of water he diverts is superior to all other subsequent appropriators. Beneficial uses generally include domestic uses, irrigation, industrial uses, general municipal uses, and sometimes aesthetic uses, such as swimming or boating. Water rights are typically closely monitored by local associations of appropriators, often known as ditch companies, by local water districts and by states. There is no requirement, however, that water rights be used efficiently or wisely. An appropriator may change the use or water, transfer his water right to another party, or change the point of diversion only under conditions that would protect the rights of other appropriators.

Initially, only surface waters were subject to the Prior Appropriation Doctrine, but some states have applied the doctrine, in varying degrees, to groundwater in recent years as well. Approaches are far from uniform, but most Western states now at least require some form of permit for use of groundwater.

Under some circumstances, the federal government holds a special advantage over the Prior Appropriation Doctrine. Federal reservations withdrawn from the public domain by treaty, statute, or executive order are generally entitled to a sufficient quantity of water to fulfill the purpose for which the reservation was created. This entitlement originated in the 1908 Supreme Court decision, *Winters v. United States*. In *Winters*, the Court held that Indian reservations were created for the purpose of providing the tribes with enough water to irrigate their lands to fulfill the government's policy to change the tribes from "nomadic and uncivilized people" into "pastoral and civilized people." Such water rights have seniority dating back to the time the reservations were created.

Since *Winters*, numerous cases have followed the "Winters Doctrine" in finding an implied reserved water right appurtenant set aside by the federal government for federal purposes. In *Cappaert v. United States*, for instance, the Supreme Court in

1976 expanded the scope of the Doctrine by holding that the United States was entitled to specific instream flows of groundwater needed to support the rare species of fish living in Devil's Hole, an underground spring at Death Valley National Monument. The Court emphasized that the Presidential Proclamation creating the national monument in 1952 made specific reference to Devil's Hole, and set aside the entire monument "for the preservation of the unusual features of scenic, scientific, and educational interests therein contained."

In *United States v. New Mexico*, however, the Supreme Court in 1978 rejected efforts by the United States Forest Service to protect instream flows for aesthetic, recreational, and fish-preservation purposes in the Gila National Forest in New Mexico. In *New Mexico*, the majority of the Court based its decision on the proposition that protection of instream flows for aesthetic purposes was outside the "relatively narrow purposes for which national forests were to be reserved." In dissent, Justice Powell questioned whether:

the forests which Congress intended to 'improve and protect' are the still, silent, lifeless places envisioned by the Court. . . the forests consist of the birds, animals, and fish—the wildlife—that inhabit them, as well as the trees, flowers, shrubs, and grasses.

Agencies that manage rivers primarily for flood control may or may not have some arguable claims to *Winters* Doctrine water rights. Under *New Mexico*, however, those rights would likely be applicable only for flood control purposes. The ESA, while creating a responsibility for agencies to protect rare species, did not establish any water rights with which federal agencies might establish that protection.

The USIBWC Experience

Two recent challenges to USIBWC river management illustrate that, although balancing flood control with ESA compliance and private water rights may be a daunting task, it is possible in some cases to negotiate the treacherous currents of public opinion and legal threat by working closely with stakeholders to find ways to satisfy the needs of flood management, endangered species and water appropriators. The binational International Boundary and Water Com-

mission (IBWC), comprised of a United States Section and a Mexican Section (*Comision Internacional de Limites y Aguas*, or CILA), has the mission, among other things, to provide for flood protection along the portions of the Rio Grande and Colorado River that comprise the international boundary. In addition, the USIBWC is responsible for flood management along almost 100 miles of the Rio Grande in southern New Mexico that is not an international boundary and for water deliveries to Mexico pursuant to bilateral treaties. The USIBWC has no role in allocating domestic water within the United States.

On July 31, 1990, USIBWC settled a lawsuit brought by the Sierra Club and Audubon Society. At issue was the USIBWC's vegetative maintenance program on the United States side of the Rio Grande, in what is known as the Lower Rio Grande Flood Control Project (Project), which, with approximately 270 miles of levees, is the largest of all the Rio Grande project areas. The focus of the lawsuit was on alleged endangered species violations involving the ocelot and jaguarundi. Prior to the suit, the USIBWC resisted making concessions for environmental protection. The major terms of the 19-page consent decree are:

- 1.) The USIBWC agreed to enter into formal consultation with the USFWS regarding impacts on vegetation clearing activities on the listed species.
- 2.) The USIBWC supplemented a BA it had previously completed regarding impacts of vegetation clearing in a 34-mile stretch of the Rio Grande, with a stipulation that the BA "may not conclude that formal consultation is not required." In addition, the U.S. Section was required to complete a BA on the entire remainder of the project within a year of the judgement, again with a mandate to enter formal consultation.
- 3.) Pending completion of the BAs and the USFWS consultation, USIBWC was prohibited from taking vegetative clearing actions anywhere in the Project except on the levees themselves and in certain limited areas, such as around bridges and at a siphon. This continued for about 1.5 years.
- 4.) To this day, within the 34-mile stretch historically most heavily maintained in the Brownsville

area, a wildlife corridor of at least ten meters wide, mandated by the 1990 consent decree, is exempt from USIBWC vegetative maintenance.

5.) The USIBWC agreed to conduct an EIS on the entire project as soon as funds became available. USIBWC requested funds for every fiscal year beginning in 1992. USIBWC finally received funds for the study in 1998 and is in the process of completing the study now.

As a contrast to the Lower Rio Grande Project experience, the Southwest Environmental Center (SWEC), through a public interest law firm, Land & Water Fund for the Rockies, on May 8, 1998 sent the USIBWC a 60-day notice of intent to sue over alleged violations of the ESA, involving the Southwestern Willow Flycatcher, and the NEPA in the Canalization and Rectification projects. The Canalization Project is that portion of the non-boundary Rio Grande in southern New Mexico. The Rectification Project begins in El Paso and runs south for about 100 miles to Fort Quitman, Texas. Rather than be sued and risk losing control of project maintenance activities for any period of time, USIBWC opened negotiations with the Land & Water Fund lawyers and SWEC almost immediately. On March 22, 1999, USIBWC and SWEC entered into a five-page Memorandum of Understanding (MOU) that cooperatively established solutions to satisfy the concerns of both parties. The principle terms of the MOU were:

1.) The USIBWC agreed to conduct BAs on the Canalization and Rectification projects and to submit them to the USFWS upon completion later this year. The USIBWC did not agree that formal consultation with USFWS would be required; rather, the findings of the BAs will be used to determine whether formal consultation is necessary. In other words, the agency is not forced into a determination that endangered species are affected by its operations as was the case on the Lower Rio Grande.

2.) The USIBWC agreed to complete EISs on both the Canalization and Rectification projects that will consider means of flood management more conducive to wildlife habitat. The EIS for the Canalization Project, which was already planned and funded prior

to the 60-day notice, is due for completion on August 15, 2001. Funds were requested to include an EIS for the Rectification Project in the fiscal year 2000 budget. The funding was not received, but the USIBWC will continue to request the funds in subsequent years.

3.) The USIBWC agreed to establish a pilot citizens' forum to hold open meetings to keep people informed of USIBWC activities within the two projects. The forum is comprised of Rio Grande stakeholders, including water users, environmentalists, and representatives of municipalities. The forum was already being considered by the USIBWC as a means to facilitate the exchange of information between stakeholders and the Commission. The Canalization and Rectification project forum will serve as a pilot program for other regions of USIBWC responsibility along the United States-Mexico border.

4.) The USIBWC established modest experimental "green zones" along the Canalization Project, in which natural vegetation is allowed to grow. The areas were carefully plotted by USIBWC so not to interfere with flood management and are provisional in nature, pending the outcome of the Canalization Project EIS. Two of the areas consist of five and eight river-mile stretches in which the USIBWC has not historically established levees or flood control. The third area is a five-mile stretch near the City of Las Cruces, New Mexico in which the USIBWC agreed to refrain from vegetative maintenance in a 35-foot wide swath on both sides of the river.

5.) In addition, USIBWC and SWEC cooperated in a modest tree-pole planting effort within the green zone near Las Cruces. A total of 900 trees were planted. The USIBWC had been planting about 250 trees per year for several years. Following the 900-tree effort in 1999, no further trees will be planted until their impact on water resources is fully analyzed in the Canalization Project EIS.

The MOU, particularly the tree planting, was criticized by one of the area water districts because of anticipated water losses. In retrospect, including the water districts in negotiations with the public interest group may have fostered a better understanding of the need to compromise under the circumstances. That

does not diminish the fact that the MOU, negotiated up front with the public interest group in 1998-99, provides the agency much greater latitude in performing its mission of flood management than the consent decree that was entered regarding the Lower Rio Grande years before.

Conclusion and Implications

Federal agencies responsible for flood management in the West must walk a tightrope between competing interests. On one side are the populations that are dependent on flood control for the safety of their persons and property. Many are also concerned with water conservation to sustain agricultural and municipal activities. Traditional means of flood control

by vegetative maintenance would tend to favor those interests. On the other side, however, are the agencies' requirement to protect endangered species and wildlife supporter organizations that are willing to take action to ensure the agencies comply with that requirement. To them, traditional flood management activities are unsatisfactory. Federal agencies' best hope in balancing all of these interests is to open a continued and frank dialogue among stakeholders. The best approach would be to adopt water conservation measures that would offset any additional consumptive uses resulting from wildlife habitat creation. By maintaining open and frank communications, the agencies may be able to reach solutions that can accommodate the needs for flood control and water economy and the needs of wildlife as well.

William A. Wilcox, Jr. is the Legal Advisor/General Counsel for the United States Section, International Boundary and Water Commission, United States and Mexico. (Mr. Wilcox wishes to note that the views expressed herein are those of the author and do not represent the official position of the International Boundary & Water Commission or the United States Section, International Boundary and Water Commission.)