EFFECTIVENESS OF PUBLIC INFORMATION PROGRAMS DURING 1983 COLORADO RIVER FLOODING

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What once was one of America's wildest rivers is now one of its most important. Although the majority of its drainage has four inches or less of rain annually, the Colorado River is a reliable source of water for over 14 million people and one and a half million acres of some of the world's most productive farmland.

Operated to provide both flood control and much needed water storage, the Colorado now is also one of the world's most regulated rivers. In order to provide flood control while still maintaining consistently high storage levels, the Colorado River must be controlled to the extent that under normal conditions only enough water is released from reservoirs to meet downstream water orders.

Although predicted many years earlier, the conflict between Colorado River storage and flood control needs did not become visibly evident until 1983 when unusual conditions combined in an unprecedented manner.

Late spring snows, unseasonably cool weather followed by a sudden heat wave, and full reservoirs combined to quickly push a slightly above average runoff forecast into a record inflow in less than a month. Subsequent flood control releases during the remainder of 1983 created a challenge to both Bureau of Reclamation engineering and information personnel.

From a public information perspective, five points stand out in the 1983 Colorado River flood control operations:

1. Colorado River Floodway Encroachment
2. Public Information Efforts Prior to High Releases
3. Public Information Program
4. Position of News Media
5. Reaction of News Media

Colorado River Floodway Encroachment

The damage sustained was unusual in that, with one exception, structures damaged were in a floodway which had been identified over 40 years earlier. These were structures which had been constructed inside the floodway, and even sometimes between levees, after the floodway had been defined.

Encroachment in the three-hundred-mile-long floodway between Davis Dam and the Mexican border occurred primarily on land in private ownership. Problem areas occurred in each of the three lower basin states -- Arizona, California, and Nevada.

This reach of the Colorado River bisects a desert, and it is one of the few water resources in the area. Much of the river is just a few hours drive from the metropolitan areas of Las Vegas, Los Angeles, and Phoenix.

The 1960-1980 push for recreational and second home development occurred during a 20-year period of artificially low and stable Colorado River flows caused by the filling of upstream reservoirs. In the absence of rountinely occurring flood control releases and in the presence of newly constucted dams, people gained a false sense of security. The flood plain was invaded and developed in some areas. Local officials, often located in a county with a low tax base, were lax in the enforcement of flood plain regulations.

Public Information Efforts Prior to High Releases

For many years, Bureau of Reclamation and local governmental personnel had been discussing the inevitable forthcoming high water situation with the local citizenry. Their reaction was generally polite, but doubting.

As upstream Lake Powell behind Glen Canyon Dam approached its upper levels in 1976, the Bureau of Reclamation published a report forecasting the eventual return to routine flood control releases. The following year, an information program was conducted in six of the riverside communities along the lower reaches of the river.

Although well publicized in the news media and supported with informational

pamphlets, the program drew little public interest. This was mainly because it was being conducted during one of the worst droughts in recent western history.

Two years later, a public information program jointly conducted by the Bureau of Reclamation and the Corps of Engineers met with little more success. Once again the same riverside communities were visited, and while meeting attendance was good, the inevitability of flood control releases was not comprehended. Rather than to accept the realities of flood control being presented, residents offered objections and criticism to the flood control release plan being discussed.

Lake Powell behind Glen Canyon Dam filled in 1980, but this was followed by two dry years. In 1983 the era of artificially low and stable releases in the lower Colorado River valley came to an end. Forecasted runoff had been only slightly above normal until mid-May. By June 1 the predicted runoff was 131% of normal, a figure which would jump to 210% by the end of the month.

Public Information Program

In early June, releases from Parker Dam were increased to 21,000 cubic feet per second (cfs), a damaging release level. Public information personnel and Bureau engineers visited the area and met face to face with potential flood victims and members of the news media. Engineers provided technical information on protective measures as well as estimates to water level elevations with the flood control releases.

The Region's river scheduling office initiated telephone contact with emergency service coordinators in Arizona, California, and Nevada. In the months following, any change in river operations would be preceded by a lengthy series of calls to these offices.

Long before the high water became a concern, the regional office in Boulder City, Nevada, had developed a Public Affairs Plan. It emphasized that the primary mission of the information program during this time would be to get information out for the protection of life and property. This effort would be directed to both the people being affected, and to the news media serving them.

An aggressive information effort would be conducted to get river operation facts out to those most likely to be impacted. The Bureau of Reclamation recognized that while the flood situation was naturally caused, the damaging releases would be man-scheduled. For this reason some public criticism of their river operations was anticipated. No attempt was initially made to defend these actions. Instead of attempting to place blame for the flood damage on the people who encroached upon the floodway, emphasis was placed upon objectively getting the facts out. Bureau statements were not to be defensive or accusatory.

Nearly all media contacts were coordinated through the regional office rather than from the field. This eliminated conflicting reports and answers, while at the same time providing a single contact point for answering questions and quelling rumors.

Public information personnel, particularly those brought in on temporary duty from other offices, were encouraged to be both open and responsive to questions from the public and news media. Both the Regional Director and Regional Public Affairs Officer, who served as primary spokespersons for the Bureau, provided members of the news media with their home telephone numbers.

The Regional Director frequently, and in some case daily by telephone, briefed Congressional staffs from the three lower basin states on forthcoming river operations. This provided another route for relaying information to their constituents.

Toll-free 800 telephone lines were installed to provide a daily update of river operations, levels, and projected changes. These not only were extremely well-received by the public, but they greatly reduced the number of relatively routine telephone calls which information personnel must handle. These people remained available to respond to more detailed inquiries.

Position of News Media

Most members of the news media were newcomers to Colorado River operations. Without background on how or why the river is operated to provide both flood control

and water storage, they had difficulty understanding the significance of the floodway. Numbers also posed a problem. Frequently reporters would be overwhelmed with four sets of five digit releases expressed in cubic feet per second. A fact sheet of river operation terms and procedures would have greatly facilitated their comprehension.

Reaction of News Media

Rather than to explain the facts, many news articles sensationalized and focused on the damage which occurred. This negative publicity seriously affected the local economies. Many people normally vacationing on the Colorado River rescheduled their plans even though some of the river, particularly reservoir areas, remained open to recreation use. Losses of tourism and recreation revenues exceeded the physical flood losses sustained along the river in 1983.

After the first wave of sensationalism, coverage of the media was generally fair and objective, even though usually laced with inaccuracies. A wire service reporter, unfamiliar with Hoover Dam operations, was told that in a few days water would begin to flow over the top of the Hoover spillway gates. The next morning newpapers across the country carried accounts of how water would soon be flowing over the top of Hoover Dam.

Most of the flooded areas were located in sparsely populated areas without local daily newspapers or television stations. The most reliable manner of communicating with these publics through the news media was with their local radio stations, many of which did not have wire service connections. Any time these media outlets were called upon for assistance, they eagerly responded with news interviews, actualities, or talk shows.

Summary

Through the channels listed, the Bureau of Reclamation was able to successfully communicate flood information to the victims and the general public. Although they may not have liked what they heard, for the most part they did understand what they heard.

Though much criticism of the Bureau's river operations was encountered at first, the initial non-defensive policy of responding just to river operations eventually paid off. Later in the summer, after emotions had subsided but the high releases had not, third party spokepersons spoke positively on behalf of the Bureau and its procedure for operating the river.

The centralized media response policy lessened conflicting reports and was most effective in addressing rumors, but the remote location may have created a feeling of detachment from the scene and inaccessability.

Two series of Congressional hearings in September and October pointed out that the Bureau had correctly operated the river and that if changes were in order, those changes would have to be brought about in coordination with the seven basin states to whom the river water belongs.

This was substantiated even further the following year when an even larger runoff occurred in a more traditional manner. Because the initial forecasts were high, a sufficient amount of space was created in the reservoir system to handle this inflow with only a minimum of damage.

WISCONSIN'S BOARD OF ADJUSTMENT AND BOARD OF APPEALS INFORMATIONAL TRAINING PROGRAMS

Ken C. Christopherson
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Introduction

Historically, the agencies charged with implementing the state and federal floodplain management programs have always recognized the need for providing program information to both the general public and the local municipality's chief zoning officials. Little effort, however, has been expended to provide good technical information for use by the local city, village or town boards of appeals or county boards of adjustment, who have the statutory authority to grant variances and overturn decisions of the zoning administrator. It has long been recognized that a community can have an excellent zoning ordinance and a good zoning administration staff which administers the local zoning program correctly only to have their decisions overturned by well intentioned boards who are swayed by the emotional issues rather than the factual evidence they are required to consider.

These situations have long been noted and documented through the Federal Emergency Management Agency (FEMA) initiated Community Assistance Program Evaluations (CAPE) and through the Wisconsin Department of Natural Resources (WDNR) program audits which are now being conducted on a regular basis. Based upon these facts, the WDNR has undertaken an effort to develop and disseminate good technical information for these Boards to use. The ultimate objective of this effort has been to improve the decision making abilities of the local boards of adjustment and boards of appeals, thereby maintaining and securing the integrity of the local floodplain zoning ordinance and the state and federal floodplain management programs.

Board of Adjustment and Board of Appeals Informational Materials

Wisconsin used a $2,500 training grant obtained from FEMA through Wisconsin's Division of Emergency Government (WDEG) to develop the board of adjustment and board of appeals informational materials. The WDNR contracted with a local attorney who was a recognized municipal zoning authority to develop the materials in a manner applicable to county boards of adjustment and city, village and town boards of appeals.

Although boards of adjustment and boards of appeals are similar in nature, the statutory authority and case law differed enough to warrant individual handbooks to be produced along with separate documents establishing rules of procedure for city, village and town boards of appeal and rules and by-laws governing county boards of adjustment. The remaining information which was developed entailed five checklists addressing the following topics: 1) Procedures for applicants: zoning appeals, variances and special exceptions; 2) consideration of staff recommendations; 3) conducting public hearings and on site inspections; 4) preparing and submitting board decisions; and 5) preparing case files and presentations for court hearings. Contained within these checklists are numerous forms and explanations of how to implement the information into a local zoning program.

Distribution of Materials

In Wisconsin, there are 70 counties and more than 485 incorporated cities and villages which have been recognized as having a flooding hazard potential. All of these municipalities (i.e., counties, cities and villages), were sent a complete packet containing the appropriate information for their respective boards.

Included with the distribution of materials was a letter explaining who could be contacted for additional copies of the handbooks. Sufficient copies of the handbooks were produced so that each member of each board of adjustment or board of appeals in Wisconsin could have a personal copy.

The expenses involved in editing, producing and distributing the packets of information and the handbooks were absorbed by the WDNR.

Implementation of Training Programs

In an effort to provide a clear understanding of what statutory authority and responsibility a quasi-judicial board of adjustment or board of appeals possesses, a statewide training program was initiated.

City, Village and Town Boards of Appeals

The WDNR and the University of Wisconsin Extension (UWEX) joined forces in presenting a series of three Educational Telephone Network (ETN) programs presented through a statewide radio telephone system. The UWEX has ETN outlets in central locations within each county in Wisconsin. Because of the relatively large numbers of incorporated municipalities (greater than 550) throughout the state, it was recognized that individual workshops could not be effectively conducted statewide. By utilizing the statewide telephone network system of the UWEX, the entire state was effectively canvased within a reasonable period of time at a minimal expense.

The ETN sessions consisted of presenting and discussing the board of appeals handbook over a period of three 80-minute sessions during which the participants were able to have questions answered through an open discussion format.

County Board of Adjustment

The WDNR conducted board of adjustment informational workshops throughout the state's 70 counties. The local county zoning administrators have an active state organization entitled "Wisconsin County Code Administrators" (WCCA). The organization assisted the WDNR in scheduling and coordinating the date, time and place of the informational workshops.

Staff from the WDNR comprised of an attorney and myself, as the program staff specialist, have conducted 11 workshops in centralized locations throughout the state. More than 60 of the state's 70 county boards of adjustment and their zoning staff and legal advisors (i.e., corporation counsels or district attorneys) have attended the informational workshops.

Follow-up Informational Programs

Based upon the attendance and discussion generated by the ETN sessions and the county board of adjustment workshops, it is apparent that a real need exists for continued informational programs for not only boards of adjustment and their supporting zoning and legal staff, but also for municipal planning and zoning committees who are responsible for adopting and amending zoning maps and ordinances.

At the end of each of the board of adjustment workshops participants were asked to complete an evaluation critique. The critiques that were returned were complimentary for both the information contained in the handbook and the opportunity for the discussion during the workshop. The majority of the comments favored the development of a follow-up workshop discussion format which would address such items as what the Board should and should not do when conducting a hearing, how to determine what is and isn't factual evidence, and how to properly document decisions. All the remarks received favored the workshop discussion format and seemed to evolve around one main theme which was that the materials and workshops should have been provided when the floodplain management program first began.

Reports from municipal zoning administrators indicate that their boards of adjustment and appeals have shown marked improvements not only in the hearing procedures, but also in the manner by which the boards consider the factual evidence associated with the application request, and how decisions are made by applying conclusions of law.

THE EVERGLADES IN SUBURBIA

Alf Siewers
Chicago Sun-Times

I know a town where local officials spent millions of dollars to build a system of dikes. The system was unveiled with great ceremony as the final solution to the town's flooding problems, pending completion of a larger federal project. Spring came, and basements were wet again.

That's typical of the kind of publicity that flood control projects often garner, and that floodplain management is often unfairly confused with. People not in the neighborhood tend to see such efforts as ineffective boondoggles, subsidizing people who shouldn't have built there anyway, or as government intrusion into private property rights.

Journalists, who often don't take time to know better, cover flood issues when they reach a crisis, but often don't offer any consistent coverage of floodplain issues.

What can be done about this situation? I suggest the answer is twofold, and involves substance as well as style. The importance of the topic is obvious. According to the National Weather Service, flooding tends to cause greater average annual losses in lives and property damage than any other natural disaster. At the same time, the whole issue of water management is gaining attention in the media. The Water Resources Council, for example, estimates that "seventeen subregions have or will have a serious problem of inadequate surface-water supply by the year 2000" (Anderson, 1983). Projecting a truthful image of floodplain management as a water issue, not just a technical one, and as an environmental approach, not just a public works one, is essential.

This is the difference between just larger levees, dams and reservoirs, and landscaped water parks that also provide water supplies for the community. It's the difference between headlines about pork-barrel water projects adding to the federal deficit, and ongoing coverage of innovations that involve private entrepreneurs and community groups.

Floodplain management itself provides a departure from the necessary but

perhaps excessive government approaches of the past to flood control. As one study concluded of old-style flood control projects, "Flooding eased upstream, but downstream areas grew increasingly vulnerable as their neighbors upriver sent them their flood problems, C.O.D." (Krohe, 1982).

Treating floodwater more as an economic resource, as a solution to problems of water scarcity and pollution, will link floodplain management more to economic development. There are approaches available for making this relation more clear. In the form of pilot projects, these approaches can garner more attention for floodplain efforts, become a forum for educating the public, and answer local officials who fear floodplain management will reduce tax revenues without tangible benefits.

The use of land treatment methods for dealing with waste and storm water is an important example, a system that has been compared to a spaceship in its self-contained potential. (As an aside, I note that one conservation publication in Illinois has suggested sending wetlands into outer space to manage water resources on space stations.) Such "space age" systems that combine solutions to waste, water and flood problems will capture the imagination of both the public and skeptical journalists, particularly if their cost-effectiveness holds true in the future. This cost-effectiveness is indicated by the involvement of private developers.

In Itasca, Illinois, for example, the Hamilton Lakes project of Trammell Crow Company is using a land treatment system that has significantly reduced runoff problems. "Outside of Hamilton Lakes," says one description, "hardly any other community in the nation can look favorably upon urban stormwater as an added, valuable source of water supply" (Sheaffer and Stevens, 1983). Here, after government water systems proved inadequate, the company built its own system by which landscape lakes take waste and storm water from the hotel complex and filter it back into shallow aquifers through irrigation systems.

Another development, a high-tech park planned for Colorado Springs, Colorado, is designing a similar system to be run by a special government district matching the development's borders. The proposal for the district says: "An innovative on-site wastewater management plan will be incorporated into the development, providing the basis for recreational open spaces and campus-like environs, as well as achieving goals of recycling, conservation and efficiency" (Sheaffer and Roland, 1984).

A final example of the type of pilot program that can generate excitement

among the media because of its larger vision, and among the public because of potential cost-effectiveness, is the artificial wetland. In the Chicago area, a private environmental group has incorporated and obtained corporate and government funds to design such large wetlands on public land along a floodplain. The environmentalists want to restore an example of the wetlands habitat that once covered Chicago. Interested officials want to find out the potential for waste treatment and flood control of such a natural system strengthened by careful human management. Corporate officials are interested in the potential of such systems as low-cost (and more aesthetic) alternatives to mandated treatment plants and drainage systems. Proponents argue it has potential both on a small-scale private level and on a larger scale in public lands along rivers and streams, where it can double as conservation and recreation land.

That's the kind of happy marriage of interests that the free market ideally is supposed to foster. And it's the kind of marriage that floodplain management is all about, and rightly so at a time when people are increasingly concerned about the cost of government expenditures.

Nobel Prize-winning economist Friedrich Hayek puts it this way: "It is most important for a healthy society that we preserve between the commercial and the governmental a third **independent** sector which often can and ought to provide more effectively much that we now believe must be provided by government. Indeed, such an independent sector could to a great extent, in direct competition with government for public service, mitigate the gravest danger of governmental action, namely the creation of a monopoly with all the powers and inefficiency of a monopoly. It just is not true that, as J. K. Galbraith tells us, 'there is no alternative to public management.' There often is, and at least in the U.S.A. people owe to it much more than they are aware of. To develop this independent sector and its capacities is in many fields the only way to ward off the danger of complete domination of social life by government" (Hayek, 1979).

Of course, there will be a large continuing role for government in flood control. But floodplain management lends itself naturally to this so-called independent sector. And this kind of private and community involvement not only ensures that those most interested in floodplain management will be involved and accountable, it also ensures good publicity and public support for floodplain management efforts.

How does this work in practice? Let's take a few examples of the indepen-

dent sector in action. It can start with something as small as a Boy Scout troop adopting a wetlands area as an ongoing conservation project, or adoption of a floodplain area by a local Audubon Society. In Chicago, an Audubon chapter actually owns a few acres of land in a marsh that it is working to turn into a larger park, using flood control as an argument. In Elgin, Illinois, a private game preserve owns a large tract of land along a river where it is restoring a wetlands area that will benefit flood control.

The potential for large-scale and consistent involvement of the independent sector in floodplain management is indicated in the efforts of Ducks Unlimited, a group that has collected money from thousands of individual hunters to create wetlands preserves covering millions of acres in Canada. Now this same group is providing matching funds to state governments for wetlands efforts.

Creating tax incentives for open lands along floodplains and preservation and creation of wetlands is an important policy tool for future private-sector involvement in floodplain management. Further development of legal tools is important as well. Ducks Unlimited often purchases conservation easements and creates land trusts; such mechanisms, as well as deed restrictions and covenants, could be a creative, popular, and economical supplement or, in some cases, alternative to centralized floodplain planning. And obviously insurance companies have an important role to play in this process as well.

The potential for such involvement for both flood control and environmental preservation has been indicated in studies done by the Political Economy Research Center at Montana State University (Baden and Blood, 1984). Resource economist Terry Anderson has raised the possibility of revising water law to establish clearer property rights to water and greater accountability for water runoff, thus increasing incentives for floodplain management.

Administratively, devices such as user fees and consolidation of parks and flood districts need to be examined. New EPA mandates on storm runoff may be a vehicle for change. These efforts will create interest in floodplain management, greater awareness of floodplain efforts, and build support for projects.

People need to be told what they can do as individuals. Besides holding subsidized insurance or keeping a portable radio handy in case of flood, neighborhood groups should be given information on how creation of small fenlike areas of yards and parks can make for better management of storm runoff and floods. Home owners can be told how grading of land and planting of shrubs can

prevent runoff pollution. Tax incentives could even be offered for such very local efforts, which will also increase media focus on floodplain needs as a consumer issue.

Finally, I'm reminded of a friend of mine who is a Potawatomie Indian. He once took me on a tour in his pickup truck through Chicago's south suburbs, pointing out where ancient trails and villages of his people were. Here were the swamps, here were the highlands where the trails ran, he'd point out. He told of how the marshes once rivalled the Everglades in size, extending far into Indiana, providing Indians with bountiful hunting and fishing as well as sanctuary from enemy raiders.

I think his favorite point on the tour came as we passed a spanking new office development. "They built that on a capped spring," he said, shaking his head. "They don't know you can't really cap a spring."

Then he let out a whoop and pointed. Along the side of the building was a small lake where the parking lot was supposed to be. "Now they're so worried about water supplies," he said. "Well, the water was all here."

It still is. And whether you're a Potawatomie or not, that vision of the interrelatedness of floodplain and water issues will go a long way toward improving media coverage of floodplain management.

References

Anderson, Terry L.
1983 Water Crisis: Ending the Policy Drought. Washington, DC: The Cato Institute.

Baden, John and Tom Blood
1984 The Spring Creek-Prairie Pothole Paradox. Bozeman, Montana: Political Economy Research Center.

Hayek, Friedrich A.
1979 Law Legislation and Liberty, Volume 3. Chicago: University of Chicago Press.

Krohe, James Jr.
1982 Water Resources in Illinois: The Challenge of Abundance. Springfield Illinois: Illinois Issues.

Sheaffer and Roland, Inc.
1984 Nova Metropolitan District Service Plan. Chicago, Illinois.

Sheaffer, John R. and Leonard A. Stevens
1983 Future Water. New York: William Morrow and Company.