

## VIII. Flood Insurance Issues

The National Flood Insurance Program (NFIP) is confronted by a number of issues whose resolution would greatly accelerate the achievement of its objectives. These issues deal with the following problems:

- Reorganization—Transfer to the Federal Emergency Management Agency (FEMA)
- Intergovernmental Relations
  - Within the Federal Government
  - Federal/State: The Texas Landowners Suit
  - Non-Federal Coordination
- The Emergency Program
  - Subsidized Rates for New Construction
  - Mapping of Hazard Areas
- Coastal Hazards and Erosion
- Postdisaster Recovery and Mitigation
- Government as Salesman and Agent for Technology Transfer

Three additional issues concerned with flood hazards regulations and the courts are discussed in chapter X.

- The administration of flood hazards restrictions.
- The technical justification of flood hazards maps.
- The “taking issue.”

### REORGANIZATION—TRANSFER TO FEMA

During its first decade of operation, NFIP was administered by the Federal Insurance Administration (FIA) as a unit of the U.S. Department of Housing and Urban Development (HUD). Under a reorganization plan submitted by President Carter to Congress on June 18, 1978, FIA has been detached from HUD and reassigned to the new FEMA. FEMA combines five existing agencies and four hazard-related programs. Its purposes are to place Federal emergency mitigation and response activities in one agency, and to provide “one stop” service to States and local governments. More detailed responsibilities are set forth in Executive Order 12148 of July 20, 1979.

Removal from a large cabinet department chiefly concerned with urban development to a small noncabinet agency specializing in emergency management may be expected to have a substantial influence on the future operation of NFIP, but specific implications cannot yet be determined. A major priority for FEMA is to be the mitigation of loss from all natural hazards, especially floods. This should help to improve the performance of NFIP in promoting the reduction of flood losses.

### INTERGOVERNMENTAL RELATIONS

#### Coordination Within the Federal Government

NFIP has not been effectively integrated with other Federal programs and efforts that relate to river basins; to the coastal zone; and to public construction, funding, and licensing activities in general. The decisions of such Federal agencies as the U.S. Departments of Transportation; Health, Education, and Welfare; Agriculture; and Defense; and even HUD, have, however, largely ignored the implications for flood hazards.

The coordination of Federal actions relating to floodplains and wetlands is now mandatory under Executive Orders 11988 and 11990, issued by President Carter May 24, 1977. Each of these orders requires that Federal agencies attempt to minimize the impact of their actions and policies on the areas in question. Executive Order 11988 (reproduced in full in appendix B) states in part:

Section 1. Each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for (1) acquiring, managing, and disposing of Federal lands, (2) providing Federally undertaken, financed, or assisted construction and improvements, and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

Since the publication of U.S. Water Resources Council (WRC) guidelines on February 10, 1978, 35 agencies have complied with Executive Order 11988 (as of January 1979). It will be several years before any operational effect will be detectable, due to institutional lag time between the introduction of agency floodplain goals and the acceptance within individual programs of these goals. Unfortunately, there are no incentives or sanctions to assure operational compliance with this executive order.

WRC is currently monitoring the re-writing of agency regulations throughout the Federal Government to comply with the executive orders.

A different dimension of the problem involves the failure of certain agencies to give "full faith and credit" specifically to NFIP and to actively assist in the fulfillment of its objectives. The Office of Coastal Zone Management (OCZM), for instance, makes grants to each coastal and Great Lakes State for the development and implementation of State coastal zone plans. In order to receive funding for implementation of a plan, it must be reviewed and accepted by OCZM. This would afford an excellent vehicle for the promulgation of NFIP floodplain management standards for coastal areas. States could be required as a condition to receiving plan implementation funding (under section 306 of the Coastal Zone Management Act of 1972) to consistently regulate, according to NFIP standards, all coastal hazard areas within their jurisdiction. This could be accomplished either through the local adoption of regulations, through statewide controls, or through a combination of both.

This opportunity for promulgating NFIP coastal standards through State coastal zone plans has been largely ignored. After 4 years of discussion OCZM and FIA have failed even to produce an interagency memorandum of understanding. Other similar opportunities to accomplish multiple program objectives through closer coordination may be identified. Some Federal actions and programs that impinge on floodplain management or that share some common goal with NFIP are:\*

- amendments to section 404 of the Federal Water Pollution Control Act Amendments of 1972 that relate to Federal licensing of encroachments on wetlands;

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\*Jon A. Kusler, unpublished memorandum submitted to OTA Workshop on Flood Hazards, March 1978.

- the coastal zone management program;
- a proposed system of urban rivers with the national scenic and wild rivers program;
- section 406 of the Disaster Assistance Act of 1974, which requires hazard mitigation planning as a condition for Federal disaster aid to local communities;
- new emphasis on nonstructural management within the Corps of Engineers and the soil conservation fund;
- broadened funding of the land and water conservation fund;
- proposals for greenline parks and for national heritage;
- urban recreation study;
- HUD community development block grants;
- Federal Strip Mining Act;
- section 208 of the Federal Water Pollution Control Act Amendments of 1972 concerning areawide waste treatment planning; and
- State and local critical areas programs.

### Federal/State Relations

The uncertainty and disagreement over floodplain management goals between State and Federal officials is reflected in the absence of fully effective, integrated State enabling legislation. Unwillingness on the part of local officials to pursue tough regulatory courses could be attributed to the difference with which the magnitude and immediacy of flood hazards is perceived in each institutional setting. The flood program requirements demand that local governments spend money, which they are reluctant to do, and provide technical expertise, which they are unable to do. A lack of consistent access to costly personnel and equipment reduces their ability to monitor and enforce guidelines, thereby aggravating the problem of Federal certification of compliance.

Increasing Federal floodplain development authority in the form of financial sanctions, technical assistance, and other types of leverage, has provoked litigation challenging NFIP. State governments, local jurisdictions, and citizens' organizations have cited financial loss, constitutional standing, and philosophical reservations about "big government." These fundamental reservations have the effect of undermining the legitimacy of the program. The following contentions, which serve only to illustrate the kinds of charges leveled at FIA in current litigation, demonstrate a wide range of alleged negative impacts characteristic of

Federal intrusion in an area of traditional State and local autonomy:

- unreimbursed expenses are incurred as a result of administering, enforcing, defending, and challenging NFIP;
- property tax revenues are reduced owing to the reassessment of property whose value is diminished by being designated as a floodway or a flood hazard area;
- property values for developed and undeveloped real estate are also reduced;
- Federal regulations intrude on the sovereignty of the State, violating the 10th amendment and principles of federalism inherent in the Constitution of the United States;
- designations of flood hazard areas are made without affording due process of law or the opportunity of a hearing to challenge the flood information reports;<sup>1</sup>
- Federal regulations hamper the development of commercial businesses located in floodplains, reducing sales taxes, lodgers taxes, and other revenues from tourism, commerce, and similar revenue-producing activity;
- Federal regulations reduce the population growth needed to amortize and justify community facilities, such as wastewater treatment plants; and
- communities are threatened with inverse condemnation suits by landowners for lost or diminished property value.

These accusations have been expressed directly in a lawsuit filed against FIA by a group of dissident communities and property owners discussed next.

**The Texas Landowners Suit.**<sup>2</sup>-NFIP is currently under legal challenge by a coalition of plaintiffs consisting of the State of Missouri, 40 political subdivisions in 12 States, and 30 individual landowners and associations of landowners. Their lawsuit seeks to have the mandatory aspect of NFIP declared unconstitutional. The need for Federal flood insurance or in some cases for local floodplain management, is not questioned. Objection is raised, however, to the denial of federally related financial assistance to property owners in communities that do not satisfy Federal floodplain man-

agement criteria. It is contended that section 102 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) converted NFIP from a voluntary to a mandatory program, and as such the plaintiffs' constitutional rights are violated.

The U.S. District Court for the District of Columbia in 1977 upheld the constitutionality of NFIP stating:<sup>1</sup>

The public safety, health and general welfare favor the Program. There is involved a legitimate national goal. One aspect of that goal is to equitably spread the costs of flood disasters among those landowners who most benefit from publicly funded flood disaster relief. . . The Program does not constitute a taking without the payment of just compensation.

Plaintiffs currently have an appeal filed with the U.S. Court of Appeals for the District of Columbia.

### Non-Federal Coordination

In many places, streams constitute boundaries between separate jurisdictions. Elsewhere, they flow from one jurisdiction into another. The result is that river basins and floodplains are a mosaic of political authority wherein each unit of State, regional, or local government has extensive autonomy in its use of the common riverine resource.

The consequences of flooding cut across jurisdictions almost everywhere. Both structural and nonstructural efforts to mitigate flood losses in one jurisdiction may be counteracted by inconsistent actions upstream, on the opposite side, and even downstream in the event of backwatering. Because more reliance is being placed on nonstructural measures such as land acquisition and land use regulation, it is increasingly important that the policies and actions of local governments bordering a common stream should be compatible.

Conflicts that arise among jurisdictions in the management of flood-prone areas may involve:<sup>3</sup>

- whether or not to adopt floodplain management measures,
- the use of structural as opposed to nonstructural approaches,

<sup>1</sup>Jon A. Kusler, private consultant, personal communication, 1978.

<sup>2</sup>*Texas Landowners Rights Association v. Patricia Roberts Harm, et al.*, U.S. District Court for the District of Columbia, Civil Action 77-1962, 1977.

<sup>3</sup>Ibid.

<sup>4</sup>Rutherford H. Platt, *Intergovernmental Management of Floodplains*, draft report prepared for U.S. Army Corps of Engineers, Office of Chief of Engineers, 1978.

- the degree of protection to be achieved through either structural or nonstructural means,
- the management of natural water storage areas lying in more than one jurisdiction,
- the coordination of regulations,
- the coordination of acquisition or relocation of property, and
- the exercise of extraterritorial powers.

Disputes between units of authority sharing a common floodplain frequently do not emerge until a major flood occurs. Potential areas of conflict remain unrecognized due to the infrequency of serious flooding, the prevalence of structural flood control in many watersheds, and the human tendency to discount events that have a low probability of occurrence. Without effective coordination of the policies and actions of individual units of authority, the possibility of achieving sound use of the Nation's floodplains is seriously jeopardized.

There are a number of existing and potential means to achieve some degree of intergovernmental coordination in floodplain management. At the Federal level these include: the planning procedures established by the Water Resources Planning Act of 1965; the National Flood Insurance Program; the coastal zone management program; the land and water conservation fund; the Soil Conservation Service small watershed program; the Disaster Relief Act of 1974; Executive Orders 11988 and 11990; and the mandatory referral procedures established by the Office of Management and Budget Circular A-95. Interstate compacts may be used to coordinate the actions of multiple States within a watershed. State-level measures include statewide land use planning, State floodplain management programs, shoreland zoning, critical areas regulations, and miscellaneous licensing and permit requirements. Substate regional coordination may be achieved through county governments, special districts and authorities, interlocal agreements, extraterritorial powers, and, when all else fails, through litigation.

## THE EMERGENCY PROGRAM

Among 16,100 flood-prone communities participating in NFIP on September 30, 1978, 2,756 were enrolled in the "regular program" with fully established floodplain management measures in effect. The other 13,344 communities were enrolled in

the "emergency program," which was enacted in 1969 as an amendment to the original law. Under the emergency program, communities may qualify for the sale of flood insurance (up to certain limits) on fulfilling some simple requirements (see chapter VII). Insurance is sold at subsidized rates during the emergency phase, even for new construction since the data for calculation of actuarial rates have not yet been provided by FIA.

## Subsidized Rates for New Construction

The possible construction actions in the emergency phase are contrary to the goals of NFIP as originally conceived. Virtually no local regulations are required, and new structures are at least partially insured at subsidized rates. For NFIP to successfully reduce future flood losses it is imperative that communities in the emergency phase of the program satisfy the full requirements of the program as quickly as possible. In the words of former FIA Administrator George Bernstein:

[It is the combination of effective land use controls and full actuarial rates for new construction that makes NFIP an insurance program rather than a reckless and unjustifiable giveaway programs

The adoption of land use controls and the application of actuarial rates are tied to the completion of "flood insurance rate maps" (FIRM) in each local community. A FIRM depicts the 100-year flood hazards area as determined from computer simulation studies. The hazard area itself is divided into differential zones of risk depending on topographical elevation. These risk zones are used by insurance brokers to calculate the actuarial rates applicable to each location in the floodplain.

Subsidized rates are generally felt to be appropriate for persuading owners of existing structures in hazard areas to join the program and enjoy the benefits of its coverage. There is general agreement that new structures subject to hazards should pay actuarial rates. However, those rates cannot be calculated until the relevant rate maps have been prepared. As a consequence, the present legislation states that actuarial rates are effective after publication of the initial FIRM. FIA has interpreted this to mean that subsidized rates are available for new construction before the FIRM is available. Although it is difficult to obtain the data, the

<sup>3</sup>George Bernstein, from Don P. Anderson, "Development of the Principal Elements of a Comprehensive Catastrophe Insurance System," *CPCU Annals*, September 1975, p. 130.

consequences appear to be that construction has been proceeding in the floodplains and coastal zone with the benefit of subsidized rates. This creates the very kind of situation that the flood insurance program is supposed to discourage. Miller has found that "the availability of flood insurance in a coastal community acts as an incentive to lending institutions to provide direct financing of structures in a known hazard area," and that the tendency is for insurance to sustain and often increase property values in the floodplain.<sup>b</sup>

Although losses due to moderate floods may be reduced (a public gain) because of NFIP, catastrophe potential may be increased (a public loss) because of higher property values and the increased availability of direct financing for floodplain structures. Extensive fieldwork is necessary to determine the extent and seriousness of this problem, and more importantly, to identify the institutions that are taking advantage of this provision.

### Mapping of Hazard Areas

FIA is diligently attempting to fulfill its mandate to map the floodplains of each community so that regulations can be adopted and enforced locally. As of November 1, 1978, 8,691 local studies had been initiated by FIA, most of them under contract with other Federal agencies, river basin commissions, and private engineering firms. Of these, 3,147 have been completed and the rest are still in progress. Priority has been given to those communities where flooding and/or development pressure are most extreme.

This process is expensive and laborious. A perfect floodplain map is almost impossible to achieve since error is bound to accumulate in the process of analyzing flood flow characteristics from stream gauge data. Furthermore, the base maps themselves are subject to error. Flood profiles are more accurate but local communities may lack the capability to apply these data.

The very complexity of the mapping effort is delaying conversion of communities from the emergency to the regular program. Communities are requested by FIA to use "best available information" while awaiting completion of their maps. But most of the emergency phase communities lack any seri-

ous floodplain controls, regardless of available information. As suggested in an article in *Water Resources Research* by Dingman and Platt,<sup>†</sup> it would be desirable for NFIP to apply and enforce "quick and dirty" estimates of flood hazard areas for purposes of regulation, pending completion of full-scale studies. They propose:

For interim protection on larger streams and shorelines and for permanent protection elsewhere it is imperative that quicker and cheaper methods for flood hazard area delimitation be sanctioned by the National Flood Insurance Program. A number of expedient methods have been devised and could readily be adapted as bases for regulation. Different methods would probably be appropriate for different areas, depending on the type of information available and the hydrologic and land use conditions.

The Flood Hazard Boundary Maps, produced by the NFIP, are already in the hands of local communities. If amended to eliminate gross errors, these could be used locally until better information arrives. It is illogical to consider these maps to be legally sufficient for determining who must buy flood insurance but inadequate to identify which land should be subject to floodplain restrictions.

Another method long in use at the state level is the use of fixed setbacks from the stream center or bank. Encroachment lines to protect navigability and channel capacity have been sanctioned in the courts [see *Vartelas v. Water Resources Board*, 153 A.2d 822, 1958; *Iowa Natural Resources Commission v. Van Sant*, 158 N.W2d 111, 1959].

A third technique is to refer to the area inundated by the flood of record (largest flood to have occurred in an area) or other significant historical flood as the regulatory floodplain. This approach is suggested by the state of Vermont for use in areas where other information is lacking and has been used by Massachusetts in its floodplain-mapping program along the Nashua River.

Another approach to delineation involves the use of generalized relations between regulatory flood depth and readily measurable stream and/or drainage basin characteristics . . .

Soils mapping has also been shown to be a useful tool in identifying flood prone areas in some regions [Cain and Beatty, 1968; Parker et al., 1970a, b], and where it exists, it may provide a satisfactory basis for regulation.

<sup>b</sup>H. Crane Miller, "coastal Flood Plain Management and the National Flood Insurance Program," *Environmental Comment*, November 1975, p. 12.

<sup>†</sup>Lawrence S. Dingman and Rutherford H. Platt, "Floodplain Zoning and Implications of Hydrological and Legal Uncertainty," *Water Resource Research*, Vol. 13, no. 3, 1977, p. 520.

Any of these or other "shortcut" techniques inevitably trade elegance for economy and detail for efficiency. It has been suggested that the elegance and detail of even the most sophisticated floodplain maps may be illusory. But unquestionably, courts are impressed with the sheer cost and weightiness of floodplain reports. Will less impressive techniques pass muster when legally challenged? Recent judicial trends indicate that if a community proceeds in good faith and to the best of its ability to try to protect the lives and investments of its citizens, the law will not stand in the way.

A recent FIA policy change should respond to some needs that have been identified above by FIA staff for work on long-range flood management programs.<sup>8</sup> The main goal is to "allow FIA to concentrate its resources on studying those communities where there is development or development pressure while at the same time providing more in-depth, sustained technical counsel directly to local governments on how to reduce local flood hazards."

## COASTAL HAZARDS AND EROSION

The Corps of Engineers in 1971 estimated that 2,700 miles of the Nation's coastal and Great Lakes shorelines were experiencing "critical erosion," with another 17,800 miles incurring "non-critical erosion."<sup>9</sup> A major unresolved policy issue within NFIP concerns the problem of managing coastal hazard areas. In part, this is a mapping problem. Delimitation of coastal hazard areas involves two zones:

- the A Zone, which contains the 100-year coastal floodplains; and
- the V Zone, which is that portion of the A Zone subject to heavy wave action.

The methodology for delimiting these zones is not entirely satisfactory. FIA maps in the past, for instance, have not taken into account storm surge as an element in the calculation of the V Zone. Studies are underway to correct this deficiency.

The management of coastal erosion is itself a major NFIP problem. NFIP regulations distinguish between "rapid erosion," which is an insurable

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<sup>8</sup>Gloria M. Jimenez, Federal Insurance Administration, personal communication, Apr. 27, 1978.

<sup>9</sup>U.S. Army Corps of Engineers, *National Shoreline Study*, August 1971. From the abstract.

hazard, and "gradual erosion," which is not. Studies by the Great Lakes Basin Commission and others have suggested this to be an unworkable distinction since, for example, a bluff may be undermined gradually, and eventually collapse during a storm. A related issue is whether FIA should establish minimum setbacks based on the vulnerability of a shoreline to erosion. FIA regulations contemplate the delimitation of E Zones based on erosion susceptibility but none have yet been mapped.

Theoretically, NFIP and the coastal zone management program (CZMP) are partners in the national effort to manage coastal areas. The two programs are complementary in their functions. CZMP provides grants for the development and implementation of State coastal zone plans and programs. NFIP supplies minimum flood hazard area management standards. As stated above, however, there has been a failure of coordination between the two agencies. OCZM has not explicitly required States to conform to NFIP standards as a condition for approval of their coastal plans for implementation grants.

Part of the difficulty lies within NFIP where policies towards coastal hazards have not been as clearly defined as in riverine circumstances. Mapping of coastal hazard areas in particular has been a source of problems.

## POSTDISASTER RECOVERY AND MITIGATION

An important issue to be addressed by the new FEMA will be the improvement of control over reconstruction after a disaster in hazard areas. This will require close cooperation between Federal and State agencies, especially FIA and the Federal Disaster Assistance Administration. Currently, the potential utility of section 1362 of the NFIP legislation, which authorizes public acquisition of devastated areas following a flood, is being examined.

The Massachusetts Coastal Flood of February 1978 provided an important opportunity to initiate better procedures for postdisaster mitigation. Most of the communities affected were enrolled in NFIP, several of them under the regular program. According to NFIP, rebuilding structures that are damaged beyond more than half of their fair market value must conform with applicable hazard mitigation regulations. The Massachusetts experi-

ence, which is still taking place, should provide information useful for improving mitigation procedures nationwide.

## **GOVERNMENT AS SALESMAN AND AGENT FOR TECHNOLOGY TRANSFER**

### **Marketing of Insurance**

From its inception, until 1977, NFIP operated on a partnership basis with a consortium of insurance companies, the National Flood Insurers Association (NFIA). This arrangement presumably combined the fiscal resources of the Federal Government with the marketing know-how of private enterprise. Communities would be certified by FIA for participation in NFIP according to their degree of floodplain management and NFIA would handle the selling of policies through local insurance agents. In the event of a major catastrophe, the Federal Government would supply the monetary reserves needed to meet heavy claims. (The latter has not been called on since the program's inception.)

In 1977, the FIA-NFIA partnership was terminated by the Federal Government on the grounds that NFIA was not sufficiently accountable and was making too much profit. FIA then employed a private computer firm, Electronic Data Services (EDS), to serve as a "fiscal agent" in the processing of flood insurance policies. EDS is directly accountable to FIA and no private insurance companies are involved, although policies are still sold through local private agents. With over 1 million policies in effect at the end of 1977, covering approximately \$37 billion worth of flood-prone property, NFIA apparently made an effective effort to market flood insurance. This effort will have to be sustained and expanded under the new arrangement whereby FIA directly controls the marketing side of the program.

### **Technical Assistance**

FIA is responsible for providing technical assistance to flood-prone communities and private interests to enable them to meet the floodplain management objectives of NFIP. Mapping has

been a major element of this task to date. As of November 1978, FIA had initiated 8,691 studies of local flood hazards. Of these 3,147 have been completed and 2,261 communities have been changed over from the emergency to the regular program. FIA is exploring new methodologies including computer graphics and remote sensing (satellite imagery) to speed up this effort and to update maps already issued. Anderson-Nichols, Inc., has been commissioned by FIA to thoroughly review mapping alternatives. This study is subject to oversight by a special committee on flood insurance studies of the National Academy of Sciences under contract to FIA.

An additional element of this function is direct contact between FIA staff and local officials. To date, FIA has maintained about 100 professional staff in nine field offices whose function is to meet with the officials of local communities in order to help them prepare and enforce floodplain management measures. The field staffs are backed up by a small central staff at FIA headquarters in Washington, D.C. These few persons have accomplished a remarkable job in terms of the number of communities contacted. Over 16,000 flood-prone communities have now enrolled in the program, at least on an emergency basis. But the task of converting about 13,000 of these to regular program status during the next few years is formidable.

FIA proposes, therefore, to substantially enlarge its field staffs, possibly to 600 persons nationwide. Furthermore, it is exploring the feasibility of entering into contracts with certain States to fund improved floodplain management programs similar to CZMPS. FIA might possibly establish criteria by which States could be certified, as under the Federal water pollution control program, to administer their own floodplain management programs, relatively free of Federal involvement. The feasibility of pursuing these innovative approaches to technical assistance will depend on the financial support provided by Congress.

It is suggested that the eventual success of NFIP as a vehicle for achieving a reduction of national flood losses will depend directly on the vitality of its technical assistance effort. To date, NFIP has not focused attention on public education concerning risks posed by floods, and options available for prevention, protection, and recovery.