

Regulations

Regulatory measures are among the most widely used and most effective means of helping to protect the natural and cultural resources of floodplains; they are employed at all levels of government. There are several drawbacks to using them, however. Restrictions on the use of private land in order to protect natural resources are generally viewed less favorably by the public and the courts than are restrictions to protect human lives or property. Because of this, regulations must be well designed to avoid being ruled unconstitutional takings. Finally, protective regulations sometimes conflict with flood loss reduction measures, especially with structural works.

Many federal environmental regulatory programs directly or indirectly protect floodplain natural resources. These include programs established to implement the Clean Water Act; the Safe Drinking Water Act; the Federal Insecticide, Fungicide, and Rodenticide Act; the Solid Waste Disposal Act; the Endangered Species Act; the National Historic Preservation Act; and others.

Statewide floodplain, wetland protection, or similar regulations may be applied directly by a state or, as is more often the case, by local communities according to state-established standards. Any alteration of the natural topography or habitat, or any damage to flora or fauna requires a permit in some states. Cumulative impacts are considered during the permit review process in a few states, and mitigation of the loss of natural resources is often a condition for permit issuance. Several states specifically protect wetlands with programs that outline minimal criteria for permit issuance and prohibit all other development.

Local regulations, such as zoning and subdivision regulations, building codes, housing codes, and sanitary and well codes, may directly or indirectly manage natural resources by including provisions for protecting habitat, water quality, and open space. Relevant provisions include setbacks from the shore, limited density in coastal areas, restrictions or prohibitions on certain kinds of development in such sensitive areas as barrier beaches and sand dunes, and specification of uses that will not degrade the natural resources of the site

THE WILD AND SCENIC RIVERS ACT

The Wild and Scenic Rivers Act of 1968 establishes as national policy the protection of certain selected rivers (or segments of them) with particular natural and cultural value. The National Park Service maintains a list of rivers that are potential additions to the designated system. The Act prohibits the Federal Energy Regulatory Commission from licensing any dam or other work on or directly affecting any river of the system and likewise prohibits other federal agencies from activities that would have a direct and adverse effect on the values incorporated into the Act. Further, all federal agencies are required, as part of their normal planning and environmental review processes, to avoid or mitigate adverse effects on rivers being considered for wild and scenic designation.

FEDERAL REGULATIONS AND THE NATURAL RESOURCES OF FLOODPLAINS

- The Section 404 program under the Clean Water Act helps protect the natural resources of floodplains by regulating the discharge of dredged or fill material into waters of the United States, including adjacent wetlands. Permit applications are subject to a public interest review that includes consideration of floodplain values and flood hazards, and compliance with the Environmental Protection Agency's section 404(b)(1) guidelines, which incorporate extensive environmental criteria to prevent the loss of aquatic resources and minimize adverse environmental impacts. One aspect of the guidelines provides for the mitigation of adverse impacts at one site by restoring alternative degraded sites; it has been responsible for a number of experiments in rehabilitating degraded wetlands and creating new ones.
- One of the most significant developments in protecting rare plant and animal species, many of which live in floodplain habitats, was the Endangered Species Act of 1973, which authorizes the designation of habitats critical to the survival of threatened and endangered species. It directs federal agencies not to authorize, fund, or carry out actions that may jeopardize their existence or modify their habitats. Many states have developed their own programs of identifying and protecting rare and endangered species.
- The National Historic Preservation Act of 1966 was passed, in part, because Congress recognized that federal projects, such as highways, dams, and urban renewal, had damaged or destroyed thousands of historic properties during the 1950s and 1960s. The National Historic Preservation Program has operated as a working partnership between federal, state, and local governments, private citizens, the Advisory Council on Historic Preservation, and the National Trust for Historic Preservation. The federal government provides guidelines, technical assistance, and grants in aid for state and local historic preservation efforts, and monitors its own activities so that they do not unnecessarily harm historic properties. State historic preservation officers coordinate the program, assist local governments and the public and give them advice on preservation matters, and carry out other aspects of the national program on behalf of the federal government. Preservation work at historic sites is done by local governments, nonprofit organizations and institutions, corporations, and individuals.

Development and Redevelopment Policies

Important federal policies and programs affecting the design and location of services and utilities in the nation's floodplains have been established in the executive orders on floodplains and wetlands and in accord with the Wild and Scenic Rivers Act and the Coastal Barrier Resources Act. The executive orders require federal agencies to evaluate their proposed actions in light of, among other considerations, the proposed impact on the natural resources of floodplains. Some states have executive orders to control placement of public facilities on floodplains, while others directly regulate these uses through statutes. A number of federal laws and programs provide funding and other assistance for acquiring and protecting floodplain land.

States protect natural and cultural resources with open space and recreation programs that are occasionally linked to floodplain management. Most states have at least one program through which wetlands are brought into public ownership, although that usually was not its specific intent; frequently wetlands are acquired because of their habitat, open space, or other value. Most states have now enacted legislation to protect wetlands; many of these states have found that the incremental loss of small wetland areas still results in an unacceptable cumulative loss. In response, they are acting to tighten existing wetland protection programs. A related measure is mitigation banking programs, which provide for the creation or enhancement of wetlands at one site as compensation for damage that has or will occur to wetlands as a result of development at another site. At least 10 mitigation banks were functioning in the United States as of 1986. Mitigation banking is only appropriate in certain situations and requires a great deal of administrative and planning effort, financial support, and commitment.

Several thousand communities have acquired a portion of their floodplains for parks, parkways, wildlife areas, conservation, agriculture, or other environmental or social uses. Some local jurisdictions have moved toward programs to combine other community objectives with floodplain management, including open space, hiking, cycling, water quality, aquifer protection, wetlands protection, and the provision of fish and wildlife habitat. These multiobjective programs typically take two forms: greenway or river corridor projects and community redevelopment projects. The State and Local River Conservation Assistance Program, administered by the National Park Service, is the principal federal program for providing information, technical assistance, and limited funding for such river planning.



Charles River natural flood water storage area near Dedham, Massachusetts

PROTECTION OF FLOODPLAINS AND WETLANDS THROUGH REGULATION

- Many Michigan communities have adopted combined floodplain and wild and scenic river regulations to preserve the natural resources of these areas
- Besides floodplain regulations that require permits for filling, grading, or construction, Virginia Beach, Virginia, has adopted coastal wetland and sand dune protection regulations that require building setbacks
- A zoning ordinance in Clearwater, Florida, includes special regulations for environmentally sensitive areas, including mangrove and freshwater swamps, barrier islands, coastal beaches, natural drainageways, and aquifer recharge areas
- In order to reduce bank erosion, increase groundwater infiltration, and provide wildlife habitat, several California communities have adopted ordinances regulating the removal of riparian cover along watercourses.
- In Northampton, Massachusetts, 1,500 acres of floodplain along the Connecticut River have been placed in an exclusive agricultural use district
- In East Hampton, New York, floodplain regulations are supplemented by a beach grass protection ordinance, tidal and inland wetland regulations, a dune setback regulation, and scenic easements to protect wetlands, dunes, and other areas

PROTECTION OF FLOODPLAINS AND WETLANDS THROUGH DEVELOPMENT POLICY

- A Glastonbury, Connecticut, floodplain regulation includes a density transfer mechanism under which development rights may be shifted from one place to another
 - In the largest federally funded watershed management project in history, the U.S. Army Corps of Engineers purchased 8,500 acres of wetlands in the Charles River watershed upstream from Boston, Massachusetts. These wetlands provide 50,000 acre-feet of flood water storage, eliminating the need for a flood control dam or other structure and constituting significant areas of habitat and open space
 - New Jersey used funds from the U.S. Fish and Wildlife Service's Federal Aid to Wildlife Fund to acquire additions to the 4,400-acre Cape May Wetlands, which the state maintains as a wildlife refuge. An adjacent 315-acre salt marsh was purchased, and the owner of the property donated 25% of the land to the state, providing the state's required matching funds
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