

The Role of the U.S. Army Corps of Engineers in the Coastal Zone

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The U.S. Army Corps of Engineers has a vital interest in the successful development of a strong and effective coastal zone management program in the United States. Both in our own activities in the coastal zone, and in our regulatory responsibilities for the waters and wetlands of the United States, we are deeply involved with our nation's coastal resources, and have a great interest in their present and future well-being, for the benefit of the fishing industry and for all of our people.

In my talk today, I'd like first briefly to explain the role of the Corps of Engineers in water resource management in the U.S., and then go into more detail about our activities in the coastal zone, and our support for coastal zone management. As Army Engineers we of course have responsibility for military engineering and construction. In addition, because of our large scale engineering capabilities, we have been given responsibility for the development and management of the nation's water resources. This responsibility includes many diverse activities, from maintenance of navigation to the design, construction, and operation of hydropower and flood control facilities. In the South Atlantic Division, which includes the Southeastern U.S., Puerto Rico, and the U.S. Virgin Islands, we have 12 hydropower projects, 17 major multi-purpose reservoirs, 5400 miles of waterway with 28 navigation locks, and 29 major coastal harbors.

In the coastal zone, we are responsible for such projects as maintaining and improving harbors for ocean-going commerce, restoring eroded beaches, stabilizing and maintaining small boat harbors and inlets for recreation and the fishing fleets, maintaining our intracoastal waterways, and many other activities. In addition we have responsibility for protecting all waters and wetlands of the U.S., including coastal waters, by regulation of dredge and fill activities which affect these waters.

All of these activities are under the authority of the President and Congress, and are subject to an annual review by the nation's civilian leaders. As a federal agency, the Corps is people and service oriented, responding to the desires and requirements of the American people as expressed through their elected leaders.

Most of our activities in the coastal zone have an impact upon the fishing industry, either directly or indirectly. Our relationship with the fishermen along our coast involves the provision of access for fishing vessels to the fishing grounds, and protection of the rich estuarine resources which nurture our fisheries. The commercial fishing industry is filled with uncertainties and is often governed by factors over which it has no control. The one necessity for fishermen, perhaps as much as the fish themselves, is the ability to move to and from the fishing grounds to harvest this resource. It is in the provision of a system of waterways to and from the resource areas that the Corps performs a direct service to the fishing industry. One of the ways we do this is, as I

mentioned, by maintaining and sometimes stabilizing the many small boat inlets along our coasts. For example, we have recently broken ground on the Murrells Inlet project on the coast of South Carolina. Murrells Inlet is a heavily used access point for the fishermen of the area, but has proved to be a very unreliable and sometimes treacherous navigation channel. This \$15 million Corps project includes construction of a jetty and dredging to provide adequate channel depth for reliable small boat navigation in this area. This project, although it is on the Atlantic coast, is representative of the many such projects we have constructed before along the Gulf coast, and more are planned in the future. In addition, we maintain many small boat harbors for our fishing fleets and recreation boaters.

While traffic must be maintained to and from the open waters of the marine environment, it is equally important that adequate channels be available for coast-wise traffic. To accommodate this traffic, the Corps has developed and is maintaining the Gulf Intra-coastal Waterway. This protected waterway extends from the city of Brownsville, Texas, eastward for 1,065 miles to Carrabelle, Florida. Both of these ports are of great importance to the fishing industry, and along this route the waterway passes through or by the ports of Corpus Christi, Morgan City, New Orleans, Gulfport, Bayou la Batre, and Apalachicola, all of which are fishing ports of national importance. Across this waterway each year are carried more than 102 million tons of cargo, ten percent of which are marine resources and related products.

The above projects are but a small sample of the Corps of Engineers Civil Works program presently underway in the coastal areas. The Corps believes that such developments are in the best interests of the entire coastal community, for without them the economies of our coastal areas could not survive, and our great coastal resources could not be utilized.

The other side of the coin in the coastal zone is of course the problem of overdevelopment at the expense of valuable coastal resources. Everyone familiar with the trends of the coastal areas has long recognized that increasing migration to the coastal zone is heightening the competition for the limited space in the area. An especially pressing issue is the effect of this population pressure and the demands of commerce and development on our estuarine and wetland environments. We have all become aware in recent years of the importance of our diminishing marshes and estuary bottoms as fish and wildlife breeding areas and water purification systems. In response to this awareness, the Corps of Engineers has been thrust into the regulatory field in a big way. Under a law passed in 1972, the Corps was given regulatory responsibility over all waters of the United States up to their headwaters and their adjacent wetlands. This includes coastal waters and wetlands. This program has been phased in over several years and it is a big responsibility. Very little of this vast acreage has ever been regulated before, and its mere size – almost 32 million acres in the southeast alone – makes regulation a formidable task.

In the 5 years since the Corps has assumed this responsibility, we believe we have been tough but fair enforcers of our wetlands protection program. As do most regulatory agencies, we often find ourselves in that uncomfortable middle position between two or more interests competing for the same resource. We have made some difficult decisions in both denying and granting controversial

permits for construction in the wetlands, and have gained a reputation in the United States for being strong protectors of this important resource.

There are two important issues involved in this type of regulatory program, however, which have yet to be resolved, at least in the United States. The first is the conflict which arises between the public interest and private property rights. When we deny a landowner a permit to develop his land in order to preserve a wetland area, we are accused of denying him a basic property right. We have, it is claimed, condemned his land, by denying him its highest and most profitable use, but without any compensation for the economic loss he may have suffered. We have a case in litigation, at the present time, in which a Florida developer is suing to obtain such compensation because the Corps denied him a permit to develop construction sites in a 2,000 acre mangrove swamp.

The other major problem which needs resolution is the problem of proper land-use planning in the coastal zone. A regulatory program like that which we administer in the U.S. is not designed, nor does it have the authority, to be a substitute for comprehensive land-use planning. We feel that this is more properly the responsibility of state and local governments. In the absence of good, complete, coastal zone management plans, however, we find ourselves making permit decisions which affect land use patterns. The unfortunate part of this is that the permitting process is, by its very nature, piecemeal, and does not provide the kind of comprehensive planning so badly needed in the coastal zone. This and the property rights issue are two which must be faced squarely and resolved by groups interested in coastal zone management in order to obtain the best protection of our essential marine resources.

One of the biggest problems we in the Corps face as we try to maintain our waterways and at the same time protect our marshes and estuaries is the disposal of dredged material. Every year we dredge about 350 million cubic yards of material in the United States, which has to be placed somewhere. The job of finding environmentally acceptable disposal areas is becoming increasingly difficult.

In order to solve this problem, the Corps has initiated a 5-year, \$30 million Dredged Materials Research Program. Directed by our Waterways Experiment Station in Vicksburg, this program is designed to discover more about the nature of dredged material, the effects of dredging and disposal, and new and beneficial ways in which the material can be used, so that we can develop feasible dredging and disposal alternatives for the future.

In the process of this study, we have learned many things about dredged material which will probably surprise you, and which will help us immensely in solving future disposal problems. We have learned, for example, that dredged material has a very large potential for beneficial use. It can be used to create new wetlands, to restore eroded beaches, to create wildlife habitat and fish farming areas. One disposal area manager has used it for a vegetable garden, for food for wildlife, topsoil for lawns, and construction material for roads.

One of the most attractive, productive, and beneficial use concepts for the disposal of dredged material is the creation of marshes. It has happened by accident in several locations, but there are many sites now around the United States where we are successfully creating new saltwater marshes. These experi-

ments may be the first step in allowing us to reclaim some of our diminished coastal resources.

Other parts of the program are studying the effects of open water disposal on aquatic organisms, the effects of marsh disposal on marsh grass and other organisms, the possibilities of confined disposal areas, the recycling of the constituent elements of dredged material, and many other subjects.

A large segment of the public still believes that all dredging is bad or that only upland disposal is environmentally viable. Preliminary results from the Dredge Material Research Program show that other alternatives can also be environmentally sound. So far, our studies tend to show that disposal operations usually do not adversely affect water quality and aquatic organisms, that confined disposal areas can be designed, constructed, and managed in such a way that they will have minimal impact on the environment, and that even low quality and sometimes polluted dredged material can have value for beneficial uses.

The Wetlands Protection and Dredged Material Research Programs are two instances in which the Corps is working very hard to protect our coastal resources, especially our estuaries and marshes. We also try to cooperate with fisheries interests in the daily conduct of our many other coastal projects. An excellent example of this is at our Duval County Beach Restoration Project at Jacksonville, Florida. In this case, as we were about to begin work on the restoration of the beach at Jacksonville, objections were raised by the local shrimping industry. The shrimpers contended that the borrow area where we planned to obtain the necessary sand was part of an important shrimping area, and would disrupt local shrimping activities. In response, the Jacksonville District sought and found a new borrow area, outside the shrimp beds, even though this meant a delay of the project, and higher costs.

As you can see, we are working hard to protect our coastal areas, and often work with local environmental interests to accomplish our goals. On this panel there are two individuals who have played an important part in our marshland program. Mrs. Horn, a leading environmentalist, is also a member of the Coastal Zone Advisory Board for the State of Alabama, and a member of the Mississippi Sea Grant Advisory Board for the state of Mississippi. As such her opinion is respected and sought after on many problems. Mrs. Judy Stout is Assistant Director of the University of Alabama Marine Laboratory, and is also a marshland botanist and ecologist of note. She has personally directed research that is related to our marshland problems, some under direct contract to the Corps.

It is through such people as these, as well as the counsel of the fishing and other associated interests, that the Corps has attempted to maintain our coastal areas as a viable resource.

At the same time, the Corps will continue its role as the nation's care-taker of its navigable waterways, providing access to the coastal resources.

Such a coordinated program will succeed, and through the combined efforts of the involved public agencies, and the public itself, we can use and preserve this vital national resource, our coastal estuaries. When this totally coordinated effort has been developed, and a sound coastal zone management program has been established, the Corps of Engineers will be happy and proud that it has played a part in such a needed and worthwhile program.