

Estuaries: Will Congress Save Them from Encroachments?

The rapid growth of the U.S. population and economy during the post-World War II period has posed a clear threat to a variety of natural areas, and, thus challenged, conservationists have been trying to throw up protective barriers. This year they are hoping that the U.S. Congress will enact legislation for the protection of estuaries—the countless brackish sounds, bays, tidal streams, and marshes along the Atlantic, Gulf, and Pacific coasts—and of the shallow coastal waters and marshes of the Great Lakes. Not surprisingly, however, this legislative effort is being opposed by commercial and other interests who suspect that some of their profits and advantages are about to be sacrificed to the welfare of the Great Blue Heron and other romantic causes.

Estuaries, generally very fertile areas, are highly productive of plant and animal life.* In fact, many of the fish and shellfish important to commercial and saltwater sports fishing spend part or all of their lives in estuarine waters. The still untested Water Quality Act of 1965 may protect estuaries against pollution. But dredging and filling operations constitute a separate danger against which no effective legislative response has been made.

These operations are carried on for a variety of purposes. Acres of marsh sometimes are filled in simply because the marsh is the handiest place to deposit the spoil from a channel-dredging project. Often, prime estuarine areas are dredged and filled to create residential and industrial sites, particularly in regions, such as Long Island and parts of Florida, where land values are soaring. Such projects damage estuaries in two ways, first by leaving a biological desert where the dredges have scooped material from the estuary bottom and, second, by eliminating the natural marshland.

Despite their destructiveness, land-

filled projects may be justified when they provide the only growth opportunity for cramped communities. Frequently, however, these projects represent simply a speculator's desire to buy up relatively cheap marsh, fill it in, and sell off the sites at the highest possible price. The financial incentives encouraging ventures of this kind are evident from a perusal of the real estate advertising in almost any major coastal city. For instance, a typical classified notice from the *New York Times* for a Long Island development reads: "200' waterfront, facing south on bay, completely bulkheaded, just under 1 acre, \$25,000."

The National Audubon Society, the Izaak Walton League of America, and other conservation groups are supporting an estuarine preservation bill sponsored by Representative John D. Dingell of Detroit, chairman of the House Fisheries and Wildlife Subcommittee. Essentially, the Dingell bill, in its most recent revision, would do four things: (i) provide for a study by the Department of Interior, in cooperation with the states, to determine which estuarine areas should be protected; (ii) permit Interior to enter into agreements for the management of estuarine areas owned by state and local governments; (iii) allow Interior to establish nation-

al estuarine areas, either by purchase or by easements guaranteeing that the areas shall remain inviolate—provided, of course, that Congress authorizes each such area created; and (iv) provide that there may be no dredging, filling, or excavation in any estuary without a permit from Interior or from a state operating under a plan approved by Interior for the protection of the scenic, recreational, and fish and wildlife values of estuaries.

This last provision is clearly the bill's most important—and controversial—feature. Present estuarine habitat runs to nearly 7½ million acres. Some of this acreage is in existing parks and wildlife refuges. Congress and the states may be willing to acquire an interest in and give park status to some additional areas, but it is evident that the protection of most estuaries will depend on control of dredging and filling operations affecting publicly and privately owned estuarine bottoms and marshlands not having park status.

The only permit now required for such operations is that issued by the U.S. Army Corps of Engineers, which traditionally has had jurisdiction over dredging and filling activities because of their possible effect on navigation. To comply with the Fish and Wildlife Coordination Act of 1958, the Corps of Engineers obtains the advice of Interior's Fish and Wildlife Service before issuing permits, but it is not obliged to follow that advice. Neither the Corps nor the commercial and industrial interests which are dredging and filling in estuaries want a "dual permit" system set up, with both Interior and the Corps ruling on applications.



FILL-IN OPERATIONS: The Port of Oakland is creating this dock and warehouse site on San Francisco Bay over the objection of the California Fisheries and Game Department and private conservation groups. Most of the fill material is coming from the dredging of a trench for a rapid-transit tunnel. [Ron Partridge]

* The biological significances of estuaries and the importance of preserving them is pointed up in *Estuaries*, just published by AAAS, a 757-page volume based on presentations at an international symposium held at Jekyll Island, Georgia, in 1964.

The Corps' defensive reaction seems to be largely the kind of reflexive response one expects of a government agency when its performance is criticized and another agency wants to assume a parallel function. However, the new permit authority Dingell has proposed would be concerned exclusively with nonfederal projects and would not affect the Corps' own huge program of civil works, which include many channel- and harbor-improvement projects in coastal areas. The Fish and Wildlife Service participates in the planning of these congressionally authorized projects and feels that its interests are protected.

The Corps, though admitting past laxity, notes that in relatively few cases is it now failing to follow Interior's recommendations in permit cases. The Corps received about 5000 applications for dredging and filling permits during the period 1964-66, and the Fish and Wildlife Service raised objections to 193. Of these, 147 were granted, with the Service's concurrence, after negotiation and modification of the project plan; eight were denied; and 38 were granted despite the Service's continued objections. In 29 of the 38 cases the project plans were not modified at all.

These statistics lead one to conclude that the existing permit review system administered by the Fish and Wildlife Service is weak. Estuarine areas are being destroyed at an alarming rate, yet the Service has been concurring in more than 99 percent of the dredging and filling permits granted. In the past 20 years two-thirds of California's estuarine habitat, much of it in San Francisco Bay, has been lost to dredging and filling. Loss of habitat in the estuaries of New York, New Jersey, and Connecticut for the same period runs from about 10 to 15 percent. Nationwide, including the Great Lakes marshlands, the loss exceeds 7 percent.

Twenty-one of the 29 dredging and filling permits issued over the objections of the Fish and Wildlife Service in the last 3 years were for projects in the Long Island area. Some of these had provoked a public furor. In fact, the Dingell bill is an outgrowth of a legislative initiative by a Long Island congressman, Herbert Tenzer, who in 1965 introduced a bill for the protection of estuarine areas in his district. The Service seems to be at its most alert and resolute when local citizens are raising an outcry. Yet, while dredging and filling operations

Pentagon Discloses New _____

Congress works, in theory, on the assumption that an informed electorate is an important ingredient of democratic government. But, when it comes to military affairs, committees regularly release testimony so "sanitized" by the censors that the result often has a good deal more form than substance. Following is a sample of some sanitized recent testimony by John Foster, director of Defense research and engineering, concerning tunnels employed by the Viet Cong. The long dashes (————) signify deletions by the Pentagon's censors.

DR. FOSTER: Very recently I heard of a novel scheme to determine the location of tunnels. This is a scheme which uses a ————. (Discussion off the record).

MR. SIKES (Robert Sikes, D-Fla.): Do objects such as food supplies and weapons stored there make a difference?

DR. FOSTER: No, not unless they tend to fill up the tunnel.

MR. SIKES: What about the effect of human bodies?

DR. FOSTER: People in there could cause some difficulty, depending on the number of them and their location. (Discussion off the record.)

MR. SIKES: What is the range?

DR. FOSTER: ————.

MR. SIKES: You would have to use a great many of them to be effective.

DR. FOSTER: ————.

MR. ANDREW: (George Andrews, D-Ala.): ———— chances are he could see the opening of the tunnel.

DR. FOSTER: If the opening were in that vicinity.

MR. ANDREWS: You say he would have to have ————.

DR. FOSTER: ————.

MR. SIKES: The entrance could be well camouflaged.

DR. FOSTER: ————.

MR. ANDREWS: When do you expect to have ———— it operational in Vietnam?

DR. FOSTER: The planning will depend on the experiments now being conducted. If they are successful I doubt that we would be able to make available equipment that would be useful for the services before ————.

have stirred controversy in Florida, too, all of the permits issued there by the Corps during the 1964-66 period had the Service's blessing. In fact, the Service concurred in all, or virtually all, of the permits issued in California, New Jersey, and most other states where estuaries are threatened.

Permit applications are reviewed by field offices of the Service's river-basin studies staff, which is engaged primarily in participating in the planning of federal water projects. One of the staff officials, Arthur W. Dickson, a branch chief, says the field offices often struggle under a heavy work load. In Florida, for example, applications for dredging and filling permits, numbering perhaps a few hundred annually, are reviewed by five staff biologists who devote 90 percent of their time to their other duties. According to Dickson, a staff of this size assigned by Interior to the estuarine inventory and

permit programs envisaged by the Dingell bill probably would need to give its full time to the task.

Once completed, the estuarine inventory, describing the location and quality of various areas, would help Interior make and defend its decisions in cases where important economic development and conservation interests are in conflict. Critics maintain that the Corps' procedure in permit cases is guided by no clear philosophy or rationale. By law, the Corps' primary concern is to see that the work authorized does not interfere with navigation. Moreover, given its close ties to the local officials and business interests whose clamor for water projects keeps the Corps' civil works program going, the Corps tends to share the boosters' belief that, while ducks and scenic beauty are desirable, they should not hold up Progress.

As recently revised with Interior's

help, the Dingell bill makes it clear that no blindly protectionist policy would be established to block all economic development activities on estuaries. Its principal concession to those who fear extensions of federal power is the new provision for the states themselves to act on dredging and filling requests, providing their plans for the protection of estuaries have the Secretary of Interior's approval. This formulation, similar to the one used in the Water Quality Act, is favored by the conservation agencies of Massachusetts, Michigan, and some other states. They do not want Interior's authority strengthened at their expense.

The hope is that passage of the Dingell bill would give all coastal states an incentive to enact strong estuarine protective measures and to enforce them vigorously. State fish and game and other conservation agencies are seldom high on the political pecking order, however, and in struggles with economic-development interests they tend to come off second best. In theory, if a state failed to live up to its plans to protect its estuaries, Interior would insist on deciding permit applications; in fact, this might never happen, even in the face of patently inadequate state performance.

But, at the least, the Dingell bill would lead to establishment of some new and publicly proclaimed standards for the protection of estuarine areas. Interior could use them to measure state performance, and private conservation groups could use them in appraising the performance of both state and federal agencies. From the viewpoint of its proponents, the revised bill also offers an incidental advantage. Its new emphasis on state responsibility tends to undercut the argument of the Corps of Engineers and the Bureau of the Budget that a cumbersome dual permit system would be set up. The states are entitled to control dredging and filling, and the bill simply would encourage all of them to exercise such control and to do it right.

Although Dingell predicts that the bill will be enacted this session, it faces strong opposition. State and municipal port authorities are opposing it, and the House Merchant Marine and Fisheries Committee, of which the Dingell subcommittee is a part, is usually responsive to port interests. The National Rivers and Harbors Congress and the Mississippi Valley Association are against the measure, and opposition may develop within the House Public

Works Committee, the influential overseer of the Corps of Engineers' pork barrel. Dingell believes some of the port interests can be mollified by an amendment making it clear that places such as the New York and Baltimore harbors would be beyond the bill's coverage.

But if Congress should fail to pass the bill, encroachments on the estuaries will continue without even a possibility of a conservation-oriented federal agency's being able to lift a restraining hand. The estuaries, which a panel of the President's Science Advisory Committee last year termed of "critical importance" to the large populations living near them, would remain weakly defended against the dredge and the dragline.—LUTHER J. CARTER

Appointments

John S. Robins, superintendent of the Irrigated Agriculture Research and Extension Center, Prosser, Washington, to director of research, College of Agriculture Research Center, Washington State University, succeeding **Mark T. Buchanan**, who has been appointed Director-at-Large for the Western Region, with headquarters at Berkeley. . . . **Robert J. Samuelson**, Harvard '67, *magna cum laude*, past president of the Harvard *Crimson*, to internship, *Science News* and *Comment* staff. . . . **Henry G. Schwartz**, professor of neurological surgery and acting head of the department of surgery, Washington University School of Medicine, to president of the Harvey Cushing Society. . . . **Ralph N. Haber**, associate professor of psychology, University of Rochester, to chairman of the department of psychology at the University. He will succeed **S. D. S. Spragg**, who has become University Dean of Graduate Studies, at the university. . . . **H. E. Crowther**, acting director of the Bureau of Commercial Fisheries, to director, and **J. L. McHugh**, acting deputy director, to deputy director, of the bureau. . . . **Elizabeth A. Chase**, chief of legislative services of the Division of Public Health Methods, to special assistant for legislation of the Bureau of Health Manpower, PHS. . . . **Perry J. Sandell**, director of the American Dental Association's Bureau of Dental Health Education, to assistant secretary of the Association for dental health affairs. . . .

William M. Hart, director of the Eye Research Foundation of Bethesda,

to professor of surgery and head of the section of ophthalmology, University of Missouri Medical Center. . . . **Robert E. Hubbard**, director of the Office of Institutional Research and the Administrative Data-Systems Division at Wayne State University, to executive director of the newly established Division of Educational Services at the University. . . . **Robert W. Taylor**, deputy director of Information Processing Techniques of the Advanced Research Projects Agency, Department of Defense, to director of the office. . . . **Robert L. Hess**, chairman of the executive committee of the Highway Safety Research Institute at the University of Michigan, to director of the Institute. . . . **Homer D. Babbidge, Jr.**, president of the University of Connecticut, to the National Advisory Council on Health Research Facilities. . . . **Leonard Reiffel**, chairman of the board Instructional Dynamics, Inc., Chicago, to science consultant for CBS News. . . . **Peter S. Francis**, director of research for polymer chemistry, North Star Research and Development Institute, Minneapolis, to technical director of the chemistry department, Franklin Institute Research Laboratories. . . . **Donald J. Zinn**, professor of marine ecology, University of Rhode Island, to president of the National Wildlife Federation. . . .

RECENT DEATHS

Paul Aebersold, 56; retired director of the Division of Isotopes, U.S. Atomic Energy Commission; 29 May.

Roberta F. Brinkley, 74; former dean of the Women's College of Duke University; 9 June.

Charles R. Cherington, 53; professor emeritus of government, Harvard University; 7 June.

Watson Davis, 71; director emeritus of Science Service; 27 June.

Tilly Edinger, 69; honorary associate in vertebrate paleontology, Harvard University; 27 May.

Willis A. Gibbons, 78; former associate director of research and development, U.S. Rubber Company; 28 May.

Erratum: In the obituary on Lloyd V. Berkner (*News and Comment*, 9 June, p. 1349) two erroneous statements were made. Berkner was not ". . . principal administrator of the U.S. part of [IGY] program during its operation in 1957 and 1958" as stated in paragraph 4. In paragraph 9, it is stated that "He was also radio man on the first air flight over the South Pole." Berkner was a member of that expedition, but he was not on that flight. Harold June was the radio operator.