

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IV - ATLANTA, GEORGIA 30365

DATE: **JAN 18 1985**

SUBJECT: Recommended 404(c) Determination for Site on  
Jehossee Island, S.C., (Mr. Jack Maybank)

FROM: Regional Administrator  
Region IV

TO: Josephine Cooper  
Assistant Administrator for External Affairs

Attached is this Region's Recommended Determination under Section 404(c) of the Clean Water Act with respect to the wetlands impoundment project proposed by Mr. Jack Maybank for a portion of Jehossee Island, Charleston County, South Carolina. This Recommended Determination was prepared by my designee, Howard D. Zeller, Assistant Regional Administrator for Policy and Management, who served as hearing officer for this administrative action.

I concur with this Recommended Determination and its findings. I am therefore forwarding same to you, together with the administrative record, for the making of a Final Determination in the case pursuant to 40 CFR 231.6.

  
Charles R. Jeter

Attachments

RECOMMENDED DETERMINATION  
CONCERNING THE JACK MAYBANK SITE PURSUANT TO SECTION 404(c)  
OF THE CLEAN WATER ACT

I. INTRODUCTION

Under Section 404(c) of the Clean Water Act (33 U.S.C. 1251 et seq., CWA), the Administrator of the Environmental Protection Agency (EPA) is authorized to prohibit the specification (including the withdrawal of specification) of any defined area as a disposal site for discharge of dredged or fill material, and he is authorized to deny or restrict the use of any defined area for specification (including the withdrawal of specification) as a disposal site for the discharge of dredged or fill material, whenever he determines, after notice and opportunity for public hearings, that the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.

Mr. Jack Maybank has proposed to construct approximately 47,000 linear feet of dikes (8.9 miles) in marshes on Jehossee Island, Charleston County, South Carolina. Approximately 20-35 acres of wetlands would be filled by these dikes, which would result in the creation of two separate impoundments containing a total of 900 acres (collectively referred to herein as the "Maybank Site"). The primary purpose of the proposed project is to create impoundments for duck hunting.

After consideration of the record in this case, which includes public comments, the public hearing record, and studies by EPA scientists and others, I have determined that the discharge of fill material into the Maybank Site will have an unacceptable adverse effect on fishery areas (including spawning and breeding areas), wildlife and recreational areas, as more fully set forth below.

Pursuant to 40 CFR Part 231.5, I therefore recommend that you prohibit the specification of the 900-acre Maybank Site for use as a disposal site. My findings and reasons for the recommendation are set forth below.

II. BACKGROUND AND HISTORY

Under Section 404 of the CWA, any person who wishes to discharge dredged or fill material into the waters of the United States, including wetlands, must first obtain a federal permit from the Secretary of the Army, acting through the Chief of Engineers (Corps).

The Corps issued two public notices on December 6, 1982, of permit applications by Mr. Maybank. These applications were, in fact, for the same area. One application proposed placing dikes around most of the tidal creeks at the Maybank site, and the other proposed diking across most of them. Construction of these proposed dikes would have resulted in impoundments encompassing approximately 2,000 acres of existing wetlands.

During the permit evaluation period, review agencies including EPA, the U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS), objected to issuance of the Corps' permits to fill wetlands at the Maybank site. Generally, the basis for these objections was concern over the significant adverse effects anticipated from project implementation. Such projected effects included the loss of wetlands in an area where the cumulative loss of tidal wetlands for impoundments has been significant, the anticipated adverse effects on fish and wildlife, and the loss of water exchange and filtration benefits provided by the existing wetlands. EPA also expressed its view that the project did not comply with the Section 404(b)(1) Guidelines (40 CFR Part 230). On April 11, 1983, the South Carolina Coastal Council issued a state permit which limited the impoundment size to 900 acres. On October 14, 1983, the Corps notified EPA that the applicant had modified his proposal to conform with the state permit for a 900-acre impoundment approved by the South Carolina Coastal Council.

As thus modified, the proposed project now consists of constructing approximately 47,000 feet (8.9 miles) of dikes along the remnants of old rice field embankments at two sites on Jehossee Island. These embankments apparently have not been maintained since the failure of rice culture during the first decade of this century. As a result of subsidence, erosion, and rising sea level, they are now covered by wetland vegetation and subject to periodic tidal inundations. The applicant has proposed that the new dikes extend 3.3 feet above mean high water. If dikes were constructed to that height, the diking would directly destroy approximately 21.6 acres of wetland vegetation. Moreover, experienced South Carolina Wildlife and Marine Resources Department personnel who reviewed the project have stated that the diking should be constructed to 4.5' above mean high water. Such higher impoundment dikes would require a larger base and would result in the destruction of approximately 32.2 acres of wetlands.

After Mr. Maybank modified the proposal, EPA, FWS, and the NMFS continued to object to issuance of the permit on the same grounds as stated above for the original proposal. (FWS was willing to compromise on a 160-acre impoundment, but the

applicant rejected that alternative.) Also, EPA notified the Corps that actions pursuant to Sections 404(q) and 404(c) of the CWA would be considered if the permit was not denied. The Corps issued a Notice of Intent to issue the permit on April 11, 1983. EPA Region IV then instituted actions under Section 404(c) and 404(q).

Pursuant to the Section 404(q) Memorandum of Agreement between EPA and the Department of the Army, EPA wrote to Mr. William K. Dawson, Acting Assistant Secretary of the Army (Civil Works) on May 9, 1984, describing in detail how this proposal fails to comply with the Section 404(b)(1) Guidelines, and requested a review of the District Engineer's permitting decision. Mr. Dawson thereafter declined referral of the application, concluding that EPA's objections constituted a technical disagreement between the Corps and EPA, not an issue of national importance. In declining the referral, Mr. Dawson noted EPA had the Section 404(c) procedures available to address this disagreement between EPA and the Corps.

EPA thereupon proceeded with the 404(c) action. On July 26, 1984, the Regional Administrator published in the Federal Register a Proposed Determination to prohibit, deny, or restrict the specification, or the use for specification of the Maybank site for the disposal or discharge of dredged and/or fill materials. A public hearing on this proposed determination was held in Charleston, South Carolina, on September 6, 1984. Comments supporting EPA's Proposed Determination were made by FWS and NMFS, conservation groups, and others. Also, a number of citizens expressed support for the Maybank project. At the applicant's request, the post-hearing comment period was extended through October 30, 1984, so that the applicant could file a rebuttal report further supporting his proposal. The post-comment period for completing this Recommended Determination was also extended to permit thorough evaluation of this rebuttal report and to provide further opportunity for communication with the applicant regarding alternatives to his proposed project.

### III. DESCRIPTION OF THE SITE

The 900 acres of wetlands involved in this permit application are part of an extensive wetland complex along the South Edisto River and are located approximately 30 miles southwest of Charleston, near the South Carolina Coast. This Maybank site is part of the St. Helena Sound system, 22 percent of which (26,000 acres) is already impounded. In fact, twelve thousand acres of impoundments are located within a three-mile radius of the project site. Mr. Maybank himself currently has a 278-acre waterfowl impoundment on Jehossee Island.

The two proposed impoundment areas comprising the "Maybank Site" are brackish marsh communities which are recurrently flooded by tidal action. This structural characterization is based upon field observations of water movement, soil type, and vegetation. The vegetation at the 700-acre site is dominated by giant cordgrass (Spartina cynosuroides), saltmarsh bulrush (Scirpus robustus), and Olney three-square (Scripus olneyi). These plants are used as a food source by many species of waterfowl. The other nearby 200-acre site adjacent to Watts Cut and the South Edisto River is an irregularly flooded marsh area largely vegetated with black needlerush (Juncus roemerianus).

The subject marshes probably had fewer tidal creeks prior to being diked for rice culture in the 1700's or early 1800's. Miles of ditches and dikes were constructed in the transformation of this natural habitat to rice cultivation. Although the dikes have largely disappeared since rice culture and maintenance were abandoned in the early 1900's, a vigorous tidal action, coupled with a rise in sea level of approximately one foot since that time, has kept most of the ditches open. Additional channels have developed which now interconnect many of the old abandoned ditches. The 700-acre area, often referred to as the "fishtail site," contains approximately 97,485 feet (18.4 miles) of water channels that fill with water at each high tide. The 200-acre area has two channelized connections, and an additional 4,875 feet (0.9 miles) of channels which also fill with water at each high tide. Together, the two marshes have approximately 19.3 miles of water channels that flood at each high tide.

#### IV. ECOLOGICAL VALUES ASSOCIATED WITH THE SITE

The record, including biological and hydrological studies of the site conducted by EPA's technical staff, shows that the project site is a productive wetland, typical of the area. In its present state, it contributes organic material for the nutritional needs of the fish and shellfish communities of the South Edisto estuary, provides valuable habitat for fish and wildlife, and acts as a pollutant-filtering mechanism which helps to reduce degradation of water quality in the adjacent open water system. These functions are more fully discussed below.

The project area is comprised of a variety of brackish water macrophytes. Three community types were sampled by EPA scientists for standing crop biomass; values ranged from 452 to 1041 g/m<sup>2</sup> dry weight. These values are similar to estimates reported in the literature for typical intertidal marshes

sampled in the spring of the year. The annual net primary production of the Maybank marsh area is projected to be approximately 600 to 1100 g/m<sup>2</sup> (2.7 to 4.9 tons/ac) dry weight.

The ability of a marsh to contribute nutrients to the estuarine food web is directly related to the water exchange. Marshes located higher in the tidal zone have less opportunity for regular flushing of nutrients. The elevation of the marsh floor at representative locations within the 200-acre and 700-acre Maybank parcels averages 6.9 and 7.0 feet (MLW), respectively. At these respective elevations they will be flooded by 22 and 18 percent of all high tides. Frequency of flooding at the two study sites appears typical of the project area.

EPA dye tracer studies confirmed that tidal exchange was rapid and effectively linked the benefits of primary production and nutrient cycling of the marsh to the estuary. Within 48 hours, labelled water which originated from the marsh sites was present along a 4-mile reach of the South Edisto River and Watts Cut. The marsh area, therefore, was shown to serve as a processor and exporter of nutrients and a source of detritus to the estuary. During one tidal cycle an acre of marsh provided a net export of total organic carbon (TOC) ranging from 4 to 9 lbs. The scientific literature verified that the TOC export was comparable to the export regimens of other intertidal marshes.

EPA scientists captured nineteen species of fish and shellfish in two streams at the Maybank Site. The combined standing crop of fish and shellfish from the two streams was 1406 animals with a biomass of 1.5 kg (3.3 lbs). The principal components of the fish sample were forage species; however, the young of six species of sport and commercial fishes were also taken. This confirms the findings of numerous other studies that such intertidal streams function as important nursery areas for fish and shellfish, in addition to their role in fish and wildlife food export.

Many studies by EPA and others have demonstrated that wetlands also act as a filter for dissolved and particulate pollutants. As noted, there are numerous waterfowl impoundments proximal to the Maybank Site. During the fall and winter these impoundments attract thousands of waterfowl which elevate nutrient and fecal coliform levels in the impoundment. When this impounded water is released, adjacent unconfined marshes provide secondary treatment of these pollutants. Therefore, given the present extent of impoundments in the area and the water quality degradation attendant to their operation, the value of the remaining unconfined marshes takes on added significance.

Good point

V. ALTERNATIVES TO THE PROPOSED ACTION

In evaluating what is an unacceptable adverse effect, the 404(c) regulations at 40 CFR 231.2(e) indicate that consideration should be given to relevant portions of the Section 404(b)(1) Guidelines. Therefore, those portions of the Guidelines relating to, among other things, alternative sites may be considered in evaluating the unacceptability of the environmental impacts. For example, if alternative sites were available so that wetland loss is an avoidable consequence of undertaking the project, these may be taken into account in assessing the unacceptability of the loss. (See 40 CFR 230.10(a)). *cite 404(c) preamble, too.*

Mr. Jack Maybank and his family own Jehossee Island which contains approximately 4700 acres. The proposed project could be located on the applicant's uplands on Jehossee Island. EPA personnel are familiar with several waterfowl impoundments in other states in the southeast that were built on uplands. The Charleston Corps is now processing a permit application for water control structures for a 500 acre upland impoundment for shrimp culture. In this case, water will be pumped into the upland impoundment, rather than relying on tidal mechanisms to flood the area. Aside from some water quality considerations, EPA does not have any major problems with this undertaking. But there is a significant difference between it and the subject impoundment since wetlands need not be altered when constructing the former.

*do we know roughly how much?*  
While the operational costs for upland impoundments may be somewhat higher, there are some positive trade-offs. For example, dike construction and maintenance costs of upland impoundments should be somewhat less than similar construction in wetlands. Mr. Maybank, however, had no apparent interest in an upland impoundment.

There does not appear to be any present shortage of waterfowl impoundment habitat in South Carolina. The St. Helena Sound system already contains some 26,000 acres of functional impoundments, some 12,000 of which are located within a three-mile radius of the proposed Maybank project site. Studies indicate that wintering waterfowl populations utilizing the Atlantic flyway have declined significantly over the past decade. Nevertheless, the USFWS doubts that impounding additional coastal marsh acreage in South Carolina would result in any additions to the migratory waterfowl population wintering in the state. In fact, the South Carolina Wildlife and Marine Resources Department indicated the wintering duck population does not make effective use of the food and habitat already available in existing impoundments.

Another practicable alternative, less harmful to the environment than the creation of any new impoundment, would, therefore, be for the applicant to acquire one of the numerous existing impoundments in the area for his purposes.

#### VI. PUBLIC HEARING

The public hearing held in Charleston, South Carolina, on September 6, 1984, provided the forum by which a broad spectrum of public and private agencies/interests expressed their views on the proposed permit.

The major issues raised at the hearing are summarized as follows:

- ° Dr. Howard Marshall, Delbert Hicks, and Dr. William Kruczynski (EPA, Region IV) stated that just the dike construction associated with the proposed impoundments would adversely impact extensive wetland acreage (21.6 acres); the reduced water circulation mandated by impoundment operation will dramatically reduce the value of the Maybank Site for foraging, nursery, spawning and/or breeding purposes for many fish and animal species; water outflows from this site after impoundment are likely to have such low dissolved oxygen levels that impacted fish and invertebrates could be adversely affected. Current access to the property by various public user groups, -- recreational boaters, sport fishermen, hunters, etc. -- would be eliminated; and permit issuance would set an important precedent encouraging others to plan similar undertakings, all having similar unacceptable adverse impacts.
- ° Dr. Gordon W. Thayer, National Marine Fisheries Service (NMFS), offered much the same observations/opinions as the EPA staff, viz., there would be a direct loss of routine exported detrital material through dike construction as well as an absolute decrease in carbon flux to the receiving system; a potential decrease in plant production in the impounded area; and an unacceptable modification to the current excellent fishery habitat, both in an individual and cumulative sense, which will ultimately result in long-term reductions in the area's fishery resources.
- ° Mr. Steve Gilbert, U.S. Fish and Wildlife Service (USFWS), pointed out that there is a documented 67 percent decrease in the numbers of ducks that came to South Carolina between 1967 and 1982. Gilbert said that this is not



related to a shortage of adequate wintering habitat in South Carolina, but rather to a decline in breeding habitat, climatic conditions, and possibly shortstopping in more northern states. Although good wintering habitat can be related to hatching success on northern breeding grounds, there is no indication that the quantity or quality of wintering habitat in South Carolina is, or has ever been, limiting. To increase wintering habitat by impounding additional coastal marsh acreage in South Carolina would only result in shifting ducks from one impoundment to another. Equally important, additional habitat would not result in the addition of any new individuals to the migratory waterfowl population.

Mr. Gilbert noted that there does not appear to be a need for additional impounded alligator nursery or eagle feeding habitat. He saw no evidence that the present impounded acreage in the St. Helena Sound system, of which the project area is a part, is not sufficient to support the current, or even expanded alligator and eagle populations. It is also important to note that waterfowl, eagles, alligators, and wading birds do not limit their feeding to impoundments, and are often observed feeding in the open aquatic system.

Mr. Gilbert also addressed another purported project benefit, the potential for shrimp aquaculture. The USFWS promotes aquaculture as part of its efforts to implement the National Aquaculture Act of 1980. However, it does not support aquaculture ventures at the expense of naturally functioning systems. Use of natural fisheries nursery and feeding grounds for the exclusive production of only one or a few selected species, in a manner that renders them relatively unavailable for numerous wild species, does not constitute wise public resource management, Gilbert indicated.

- ° Mr. Eric Knudsen, Research Associate, Louisiana State University, concluded, based on his studies in Louisiana, that impoundment of the permit area would nearly eliminate its contribution to the fishery productivity of the South Edisto estuary. Due to the exclusion of animals from cycling through the intertidal zone, mariculture of one or two species in the impoundment would probably not contribute an equal amount of production to the area. Even the target cultured species are not necessarily benefitted in an absolute sense. For example, he found that there were reductions of up to 96% in numbers and biomass of menhaden and shrimp from his impounded study

areas versus the open sites. Although definitive causality was not established, mortality of certain target aquaculture species also appears greater in the impounded sites. Further, the argument that benefits to the ecosystem are gained by periodic releases of nutrient-laden water is spurious, because these releases are timed to a man-made schedule, rather than a natural one.

- Mr. Lucas C. Padgett, Jr., attorney for the applicant, did not address the specific technical issues raised above in any detail. He requested that since the EPA Field report, "Maybank Project, A Study of the Intertidal Marshes and Streams," was not made available to him until September 4th, he be allowed a time extension to evaluate the document. Mr. Padgett further requested that various administrative records from the proceedings before the South Carolina Coastal Council and the Corps of Engineers concerning this project be made part of the administrative record of this proceeding, and this request was granted.

Mr. Padgett commented on an interpretation of EPA's scope of inquiry and mandate under Section 404(c), recited various definitions within the Section, and expressed his opinion that EPA had made a number of false statements on the merits of the case as well as certain procedural errors.

- Mr. Jack Maybank, the applicant, traced the background of the project and discussed some of the obstacles he had overcome in order to establish his family's title to Jehossee Island under South Carolina law. He pointed to his family's distinguished history of public service, and indicated that approval of the project would help his family produce needed income from the property and protect the Island from the types of development which have occurred on other islands in the area. Several other area residents attested to the high character and long public service of the Maybank family and urged that this project be approved.

- Mr. James Chander, an attorney representing the Sierra Club of South Carolina, spoke against the project. He indicated that the project had little or no benefit to the public, and that the adverse environmental effects of the project would constitute a public detriment. Other local citizens also expressed concern over the adverse environmental effects from the project.

VII. EVALUATION OF THE APPLICANT'S POSITION  
ON THE ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

The applicant's technical position was provided in a report entitled, "An Ecological Study of the Jehossee Island Impoundment Site." The complete report and EPA's analysis of its main conclusions have been made part of the record herein. A number of unfounded conclusions and observations appear in this permit. For example, the observation is made that the trophic conditions within similar existing impoundments in the area actually produce more organic carbon than an equivalent sized natural marsh area. The measurements which led to this conclusion, however, were the result of flawed experimental design. Because water samples were taken at the mouth of water courses during flood tides, the data more accurately reflect carbon concentrations in a riverine environment rather than that within brackish tidal channels and adjoining intertidal marsh.

Regardless of the merit of the report's conclusions on productivity comparisons, the salient issue regarding carbon production and its estuarine functioning is the carbon's availability. Of course, the gross amounts of organic material should not be entirely discounted, but carbon's usefulness depends upon whether it is available in a usable form and at the appropriate time. Phytoplankton blooms in impoundments can elevate dissolved carbon levels in a potentially usable form for many important components in the estuarine food chain. If this carbon were exported to the adjacent open marine system synchronous to the needs of user organisms, it would help to meet those needs. However, irregular water releases from impoundments are timed to a management plan designed to optimize the growth of widgeon grass, not to meet the nutritional needs of estuarine organisms. Hence, any congruency to the routine food requirements of this user group is purely coincidental, and availability of whatever carbon which is produced cannot be relied upon as it is in natural systems.

When managed <sup>water</sup> releases do occur, a large fraction of the previous high carbon productivity in the impoundment is unavailable, i.e., it has become incorporated into the sediments. The organic material which is available to meet nutritional needs is often largely wasted by this pulsed flow. The report's conclusions would have greater validity if the carbon material had a protracted residence time in the nearshore system and the managed releases coincided with periods of maximum natural population levels of user organisms.

While it is theoretically true that naturally occurring high tides can flush carbon material from impoundments to the open system at any time during the year, in practical fact, tidal flushes only occasionally export material from impoundments.

In summary, the applicant's justification for permit issuance based on the productivity and carbon cycling in impoundments was unconvincing. EPA's assessment of a managed impoundment versus an open, natural marsh reveals the much larger overall biological and public benefits of the latter. Therefore, while impoundments are by no means a complete biological loss, the absence of efficient organic detrital export militates against their justification.

The following are some other important items on which EPA scientists differ with the report's interpretations:

- o Comparisons of coliform bacteria counts from samples obtained from within existing impoundments and in adjacent tidal channels were misconstrued. The report postulates that, from the number of coliforms present in the two sample sets, water quality is actually improved through impoundment. Had these counts been taken during a period of normal waterfowl use and attendant feces loadings, a more accurate picture of the degraded water quality within the impoundment, vis-a-vis open marsh, would have been obtained.
- o Repeatedly the report alludes to regular or even daily tidal exchanges to and from the proposed impoundments. If this were the case, environmental concerns would be materially reduced. In-fact, the opportunity for this routine interaction does not exist. Hence, the notion that these sites can function as normal breeding, spawning, and residence habitat for estuarine organisms is incorrect. The incompatibility of impoundments to these fundamental, natural biological processes forms the core of our opposition to this proposal.

The report's conclusions, which contended that impoundments essentially function as natural systems, were based on a faulty understanding of tidal dynamics, estuarine hydrology/ ecology, engineering, and fishery science. This report attempts to substantiate the applicant's point of view rather than objectively examining the facts. It is replete with conclusions based on very restricted data, on an inappropriately used single element of a much larger process, or, equally as often, on an individual fact generated from flawed experimental design.

## VIII. UNACCEPTABLE ADVERSE IMPACTS

Of the statutory criteria mentioned in Section I that the Administrator can consider in determining whether a proposed discharge of dredged or fill material will have an unacceptable adverse effect upon the waters of the United States, I find that shellfish beds, fishery areas, wildlife and recreational areas are applicable to the Maybank case.

### Impacts of the Placement of Fill Material

The extensive wetland losses resulting from dike construction (8.9 miles of dikes in wetlands) have insufficient redeeming public benefits to compensate for the conversion of this valuable resource.

### Impairment of Nursery Value

The extensive network of canals and creeks interlacing the Maybank Site provides valuable spawning, nursery, and foraging habitat for resident and transient species, many of which are of recreational and commercial importance including: striped mullet, spot, southern flounder, Atlantic croaker, blue gill, channel cat, blue crab, and shrimp. Habitat is also provided for forage fish which are important to the species of recreational and commercial importance listed above. These tidal channels would be blocked by the proposed dikes. Entrance to the proposed impoundments would be restricted to nine trunk openings as specified by the Coastal Council. The extensive dikes with few exchange points would seriously limit the ingress and egress of both larval and adult fish and invertebrates. Therefore, the nursery value of the area would be severely impaired by impoundment. - w/b

### Diminished Tidal Exchange

The elevation of the marsh floor at the 200 acre site averaged 6.9 feet (MLW) and the marsh floor at the 700 acre site averaged 7.0 (MLW). At these elevations 22 to 18 percent respectively of all high tides flood the marsh areas.

The impoundments would be managed in accordance with procedures developed by the South Carolina Wildlife and Marine Resources Department. Using such procedures, impounded areas are drained in late February of each year and kept semi-dry until spring. They are then re-flooded, initially to a depth of six inches. Water addition in increments of six inches per month is then continued until, by late summer, the water

level within the impoundment has been raised to two feet above the marsh floor.

According to EPA's analysis of 26 years of data applicable to the Maybank site from the National Ocean Survey, such water level management would almost eliminate significant water exchange by tidal action between the impoundment areas and the South Edisto River. Given that the marsh floor itself is elevated at approximately seven feet (MLW), the initial six-inch increment achieved by this management would put the impoundment water level at 7.5 feet; this is higher than all but eight percent of the high tides experienced annually in that area. The next six-inch increment would raise the impoundment water level a total of one foot over the marsh floor elevation to a total elevation of eight feet (MLW), a level exceeding all but about two percent of annual high tides. As management continues to raise water levels in further six-inch increments, virtually no high tides would occur in sufficient heights to cause water exchange between the impounded area and the unimpounded estuary. Consequently, the biological benefits of frequent tidal flushing would be almost eliminated in the impounded area for the greatest portion of the year -- including the periods when most estuarine fish and invertebrates are most dependent upon tidal marsh exchanges.

#### Export of Marsh Productivity

EPA studies revealed that the Maybank Site is highly productive in its present state and a portion of this productivity is exported to the Edisto River and Watts Cut. Such productivity is essential to the maintenance of the fisheries of Coastal South Carolina. The impoundments themselves may provide a productive environment; however, there would be little export of nutrients and detrital productivity from the impoundments. Consequently, impoundment of tidal marshes would have an unacceptable adverse impact on the export of marsh productivity necessary to support estuarine food chains.

#### Water Quality Impacts on Fish and Wildlife Areas

Impoundments in South Carolina often experience water quality problems. The subject impoundment site and the proposed management schemes place severe constraints on water exchanges between the impoundments and the estuary. It is highly probable that low dissolved oxygen levels in the proposed Maybank impoundments would often be lethal to many fish and invertebrates. This problem would be most severe during the hot summer months when a reduced tidal range exists in the

South Edisto River and conditions in the impoundments conducive to rapid oxygen depletion would occur at the same time. During the summer, low dissolved oxygen concentrations in the impoundments would frequently violate the water quality standards of the State of South Carolina.

#### Public Recreational Activities

If this project were permitted, sport fishermen, hunters, outdoor photography enthusiasts, and recreational boaters would be excluded from many miles of water channels that are below MHW and to which the public under Federal law now has a right of access as a recreation area. The Maybank Site provides food and habitat for numerous fish which migrate from the marshes and are caught by recreational fishermen in the rivers and estuaries of coastal South Carolina. Recreational benefits to those who were able to rent duck blinds in the impoundments would be enhanced, but this would not be adequate to compensate for the recreational benefits lost to the general public.

#### Cumulative Impacts

The wetland losses and the resultant impacts on fish, shellfish, and wildlife resulting from the proposed project are even more significant when considered in a cumulative context. The South Edisto estuary is a part of the St. Helena Sound System which already has 22 percent (26,000 acres) of its coastal marsh impounded. These existing impoundments have imposed a substantial harm on fish, wildlife, and shellfish resources of coastal South Carolina, and make unacceptable the cumulative adverse impact of impounding the Maybank Site.

#### Section 404(b)(1) Guidelines

EPA's Guidelines at 40 C.F.R. 230.10 indicate that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. As indicated in Section V, the 404(c) regulations indicate that I should give consideration to relevant portions of the Section 404(b)(1) Guidelines in evaluating what is an unacceptable adverse effect. I have considered the availability of practicable alternatives based upon the information in the record, and conclude that a less environmentally damaging alternative to the Maybank proposal is available in uplands, and that this alternative is practicable, taking into consideration costs, technology, and logistics.)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

APR 18 1984

4PM-EA/HLM

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

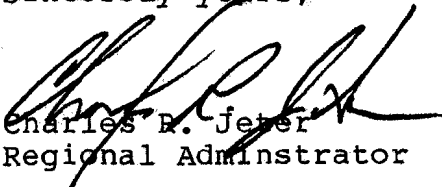
Mr. Jack Maybank  
56 Meeting Street  
Charleston, South Carolina 29401

Dear Mr. Maybank:

This is to inform you that under the provisions of Section 404(c) of the Clean Water Act, I intend to issue a public notice of a proposed determination to prohibit or withdraw the specification, or to deny, restrict or withdraw the use for specification for a disposal site of your wetland property described under the Corps of Engineers' Public Notice No. SACCO-P 82-2D-263, dated December 6, 1982 (revised October 14, 1983). I also intend to seek elevation pursuant to Section 404(q) of the Clean Water Act.

Enclosed is a copy of my correspondence to Colonel F. Lee Smith, Charleston District of the Corps of Engineers, informing him of my intention. Should you wish to discuss this matter further, I suggest you contact E.T. Heinen of my environmental review staff at (404) 881-7901 or at the above address.

Sincerely yours,

  
Charles R. Jeter  
Regional Administrator

Enclosure





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 3 1985

OFFICE OF  
EXTERNAL AFFAIRS

MEMORANDUM

SUBJECT: Section 404(c) Action on the  
Jack Maybank Site  
-- ACTION MEMORANDUM --

FROM: Allan Hirsch, Director  
Office of Federal Activities

TO: Josephine S. Cooper, Assistant Administrator  
Office of External Affairs

INTRODUCTION

The Environmental Protection Agency's (EPA) Section 404(c) regulations require, within 60 days of receipt of the Regional Administrator's Recommended Determination, that you make a Final Determination affirming, modifying, or rescinding the Recommended Determination. Those regulations further require that the Final Determination describe the satisfactory corrective action if any, make findings, and state the reasons for the Final Determination. Notice of the Final Determination must be published in the Federal Register. According to the current schedule the Final Determination should be signed by April 5, 1985.

HISTORY AND BACKGROUND

On April 11, 1984, the Corps of Engineers, Charleston District, advised EPA of their intent to issue a Section 404 permit to Mr. Jack Maybank to discharge fill for the purpose of impounding 900 acres of wetlands on Jehossee Island, South Carolina. The permit would allow Mr. Maybank to construct 8.9 miles of earthen dikes atop the remnants of old rice field embankments at two wetland sites (one approximately 700 acres and one approximately 200 acres) on Jehossee Island. The proposed impoundments would be managed to attract waterfowl and leased for hunting purposes. Mr. Maybank has also stated he intends to manage the impoundments for aquaculture, primarily shrimp farming.

The Corps decided to issue this permit over the written objections of EPA, the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Mr. Maybank has received the required State permit from the South Carolina Coastal Council. In addition, the South Carolina Wildlife and Marine Resources Department and the Office of the Attorney General of South Carolina have not objected to the issuance of the Section 404 permit.<sup>1/</sup>

Because of the clear potential for significant adverse environmental impacts that would result from the proposed project, EPA decided to initiate procedures under Section 404(q) and Section 404(c) of the Clean Water Act. On April 15, 1984, EPA notified the Charleston District Engineer and the applicant of EPA's intent to invoke Section 404(c) procedures. Pursuant to the Section 404(q) Memorandum of Agreement between EPA and the Department of the Army, EPA wrote Mr. Robert K. Dawson on May 9, 1984, describing in detail why EPA believed this proposal failed to comply with requirements of Section 404(b)(1) Guidelines, and requested review of the District Engineer's permitting decision. USFWS and NMFS also requested elevated review of the District Engineer's decision. Mr. Dawson thereafter declined referral of the decision, concluding that EPA's objections constituted a technical disagreement between the Corps and EPA, not an issue of national importance requiring further consideration. On July 26, 1984, Region IV Administrator Charles Jeter published in the Federal Register a Proposed Determination under Section 404(c) to prohibit, deny, or restrict the specification of the Maybank Site for the discharge of dredged or fill material.

A public hearing on the Proposed Determination was held in Charleston, South Carolina on September 6, 1984. Comments supporting EPA's Proposed Determination were provided by EPA, USFWS and NMFS, conservation groups, and others. Mr. Maybank, the Charleston District Engineer and several citizens provided comments in support of the proposed project. After the close of the comment period, the Regional Administrator submitted to you a Recommended Determination to prohibit specification of the Maybank Site for the discharge of dredged or fill material because of anticipated unacceptable adverse effects on fishery, wildlife and recreation areas.

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<sup>1/</sup> The State of South Carolina, through the Attorney General's Office, asserts public trust authority over wetlands below the mean high water line. However, Mr. Maybank has demonstrated fee simple ownership of this property back to the original King's Grant and subsequently the State has recognized his right to impound his property, including wetlands below mean high water.

Under Section 404(c) of the Act, you have the authority to prohibit or restrict the specification of a site for the discharge of dredged or fill material whenever you determine, after notice and opportunity for hearing, that the discharge of such material into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife or recreation areas. Before making such a determination the regulations require that you provide the opportunity for consultation with the Chief of Engineers, the landowner, and the applicant in cases where there has been application for a Section 404 permit. You must also set forth in writing and make public your findings and your reasons for making such a determination. EPA issued its Section 404(c) regulations in October, 1979 and has exercised its authority to prohibit or restrict the use of a site twice before; in 1980, in the North Miami, Florida landfill case; and in 1984, in the M.A. Norden, Mobile, Alabama case.

A thorough review of the record in this case indicates that this project, as proposed, will have an unacceptable adverse effect on fishery and recreation areas. The impoundment of 900 acres of tidal marshes at the Maybank Site is likely to result in a significant decrease in the production and export of plant biomass (primarily in the form of detritus) and severely restrict access to tidal creeks and marsh surface by numerous species of fish and shellfish. It is anticipated that these changes will adversely impact the fishery resources of the South Edisto River and the St. Helena Sound by reducing nutrient input to the estuarine food web and limiting the use of the site as breeding, feeding and nursery habitat by dependent estuarine organisms.

These impacts are magnified when considered in the context of previous wetland alteration in the area of the Maybank Site. The South Edisto estuary is part of the St. Helena Sound System which has already experienced the impoundment of 26,000 acres (22 percent) of its coastal marshes; 12,000 acres of impoundments are located within a three mile radius of the proposed project. According to figures provided by NMFS, the loss of these areas as a source of habitat and food may have contributed to a long-term reduction of fishery resources in the South Edisto River. Additional loss of the values provided by 900 acres of productive open marsh at the Maybank Site is likely to further impact the fishery resources of the area.

The Recommended Determination also includes impacts to wildlife as a basis to prohibit the site; however, my review of the record does not support this conclusion. The proposed impoundment would provide wildlife habitat and serve as an attractant (primarily due to increased availability

of preferred foods) to certain species of wildlife such as waterfowl and wading birds. However, the USFWS has concluded that sufficient overwintering habitat is available in South Carolina and additional impoundments would not contribute to increased production of these species. At the same time it would displace habitat for other wildlife such as marsh rabbits, clapper rails, and seaside sparrows which require open marsh habitat.

In addition, the Regional recommendation relies on a finding that practicable alternatives to the proposed project are available that will not result in unacceptable adverse environmental impacts. Information in the record does not conclusively demonstrate whether practicable alternatives to the proposed project do exist and, subsequently, a consideration of alternatives does not provide a substantive criterion for a decision in this case. However, the nature and extent of unacceptable adverse effects resulting from the proposed project are themselves clear and significant enough to establish an appropriate basis for a determination under Section 404(c).

Lastly, the Recommended Determination would have totally prohibited any discharge of dredged or fill material into the wetlands at the Maybank Site. Because the finding of unacceptable adverse effects stems largely from the substitution of an impoundment for the open, free flushing tidal marsh currently in place, it does not appear from the record that a total prohibition is necessary. It may well be that small fills for boat docks on similar projects could be placed without serious impacts, through imposition of appropriate conditions during the regular 404 permit process. Therefore, it seems appropriate to restrict the use of the Maybank Site as a disposal site for dredged or fill material in the form of dikes or other structures which would have the purpose or effect of impounding the project site marsh or parts thereof.

#### ANTICIPATED REACTION

The impoundment issue represents a significant controversy currently being debated in South Carolina. Lines are clearly drawn on both sides of this issue and any decision by EPA is likely to draw a significant reaction.

Numerous individuals and groups have expressed interest in this case including Senator Strom Thurmond, Representative Tommy Hartnett, former Energy Secretary James Edwards, several South Carolina landowners, the Sierra Club, the Audubon Society, the League of Women Voters, the South Carolina Sea Grant Consortium, the South Carolina Wildlife and Marine

Resources Department and others. The most vocal proponents are South Carolina landowners with interests in impounding wetlands on their property, whereas the Sierra Club, the League of Woman Voters and local conservation groups have expressed the greatest interest in seeing impoundment permits denied. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have also been actively involved in supporting EPA's action in this case.

The South Carolina Coastal Council has issued the required State CZM permit for the proposed project. In addition, the State Attorney General and the South Carolina Wildlife and Marine Resources Department have stated they would not object to the proposed project, principally on the basis that Mr. Maybank has demonstrated ownership of the Site and because the project is not in a salt marsh below mean high water. Their position is not considered "pro-impoundment;" both have objected to Mr. Reeves' proposed impoundment.

No Section 404 permits to construct new wetland impoundments have been issued in South Carolina in over ten years. It is believed that numerous owners of previously impounded wetlands in South Carolina are awaiting EPA decisions in the Maybank and Reeves cases before they decide whether to seek impoundment permits. A decision by EPA to deny or restrict the use of the Maybank Site is likely to be viewed as a policy statement by EPA regarding impoundments, having the effect of reducing future impoundment applications. In addition the Corps of Engineers may also use this decision as an important basis in their review of future permit applications.

The results of two years of impoundment research supported by the South Carolina Sea Grant Consortium is expected to be released in July, 1985. Conclusions reached as a result of this study are likely to be compared with any decision in this action. The Sea Grant people have been unwilling to release their data prior to July, but there have been indications that their report may focus on beneficial characteristics of impoundments. However, the Sea Grant study may not be directly applicable to this case because the research is being conducted in very small impoundments and is generally a qualitative analysis.

If EPA decides to deny or restrict the Maybank Site as a disposal area, Mr. Maybank has suggested he may contest the decision in court. He has also indicated that the Pacific Legal Foundation has contacted him and offered their support if he decides to contest our decision.

RECOMMENDATION

Given the demonstrated potential for unacceptable adverse effects on fishery and recreational areas in the St. Helena Sound estuary that would result from the proposed project as documented by Region IV and elaborated in the attached Final Determination, I recommend that you sign the Final Determination to restrict the use of the 900 acre Maybank Site. Under the Section 404(c) regulations, this action should be taken by April 5, 1985.

APPROVAL:

JSC  
Josephine S. Cooper  
Assistant Administrator  
for External Affairs

4/3/85  
Date

DISAPPROVAL:

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Josephine S. Cooper  
Assistant Administrator  
for External Affairs

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Date