Randolph J. Clement, Associate Planner  
City of New Orleans Planning Commission  
9th Floor - City Hall, Civic Center  
New Orleans, Louisiana 70112

Dear Randy:

Reference is made to your letter of May 27, 1976, in which you requested an estimate of the monetary losses of fish and wildlife resources associated with the authorized Lake Pontchartrain, Louisiana, and Vicinity Hurricane Protection project. The following information is submitted on a technical assistance basis only, and does not necessarily constitute the official views of the Fish and Wildlife Service.

The amounts and types of lands to be affected by the project are shown in Table 1. As indicated, major areas of marsh, swamp, and open water will be affected in the St. Charles Parish, New Orleans East, Chalmette, and Lake Pontchartrain Barrier portions of the project. The New Orleans Corps District has deferred indefinitely the construction of the St. Charles Parish feature, which contains two streams (Bayous LaBranche and Trepaignier) included in the Louisiana Natural and Scenic Streams System. Several streams contained in this system are also located in the Chalmette portion, but levees in this reach will, with the exception of an estimated 750 acres, be constructed on existing spoil disposal areas adjacent to the Mississippi River - Gulf Outlet channel. The marshes in the New Orleans East portion of the project area are presently enclosed by existing levee systems. However, as indicated in our previous correspondence, these marshes are still extremely valuable as habitat for freshwater fishes, migratory waterfowl, furbearers, and numerous non-game birds. These marshes also have limited value...
TABLE 1 - ACRES AND TYPES OF LANDS AFFECTED BY LAKE PONTCHARTRAIN, LA.:
AND VICINITY HURRICANE PROTECTION PROJECT

<table>
<thead>
<tr>
<th>Segment</th>
<th>Leveed Total</th>
<th>Leveed Marsh</th>
<th>Leveed Swamp</th>
<th>Leveed Water</th>
<th>Leveed Other</th>
<th>Unleveed Marsh</th>
<th>Unleveed Swamp</th>
<th>Unleveed Water</th>
<th>Unleveed Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Charles Parish</td>
<td>29,600</td>
<td>6,600</td>
<td>15,210</td>
<td>2,960</td>
<td>4,830</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jefferson Parish</td>
<td>21,500</td>
<td>21,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Orleans</td>
<td>16,800</td>
<td></td>
<td>16,800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citrus</td>
<td>14,800</td>
<td>1,230</td>
<td></td>
<td>13,570</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Orleans East</td>
<td>22,375</td>
<td>14,009</td>
<td>630</td>
<td>1,265</td>
<td>6,471</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chalmette</td>
<td>49,050</td>
<td></td>
<td>17,150</td>
<td>16,312</td>
<td>12,386</td>
<td>2,322</td>
<td>880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Pontchartrain Barrier</td>
<td>2,056</td>
<td>1,946</td>
<td></td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>156,181</td>
<td>14,009</td>
<td>1,860</td>
<td>1,265</td>
<td>75,491</td>
<td>24,858</td>
<td>27,596</td>
<td>5,392</td>
<td>5,260</td>
</tr>
</tbody>
</table>

Industrial, residential, commercial, agricultural, and non-swamp wooded lands

1 Modified from Table 47 of Final EIS, Lake Pontchartrain and Vicinity, La., Hurricane Protection Project (August 1974)

2 Industrial, residential, commercial, agricultural, and non-swamp wooded lands.

3 Construction of this project feature has been deferred indefinitely by the New Orleans Corps District.
to marine and estuarine fishes and shellfishes, as they provide plant
detritus to adjacent estuarine waters. We have assumed that these wet-
lands contribute to commercial fisheries production at a rate of 25% of
that of adjacent undiked wetlands.

Estimated annual fish and wildlife values in the waters and wetlands
located in the above-listed project segments are presented in Table 2.
We have only listed values for those segments where substantial losses
will occur. Commercial fisheries production represents from 69% to
91% of the total annual fish and wildlife production values in the
project segments listed. Estimated annual per-acre values range
from $12 in the New Orleans East portion to $42 in Chalmette. Per-
acre values for the Lake Pontchartrain Barrier and St. Charles Parish
portions are $37 and $40, respectively. It must be emphasized that
the present state of the art with regard to estimating fish and wild-
life production values of wetland areas is relatively unrefined.
The values we have arrived at are only crude estimates at best. The
figures utilized in computing monetary values are within the limits
prescribed by Senate Document 97, as the project was authorized in
1965 when these limits were applicable. It should be pointed out
that recent studies have shown the value of tidal marshes to be much
greater than those shown here. For instance, in computing the
commercial fisheries value of tidal marsh, investigators have added
75% of the ex-vessel (dockside) price to account for value added in
processing. These researchers have also estimated that tidal marsh
has a potential value of $2,500 per acre for waste treatment. It
should be pointed out that the cost of producing the amount of
protein contributed annually by estuarine waters and adjacent tidal
marsh by intensive agriculture is extremely high, especially when
we realize that natural fisheries production is virtually free.
The future needs projected for food demands that such natural pro-
duction areas be preserved.

Project impacts on fish and wildlife resources will be both direct
and secondary. Direct losses are associated primarily with the
destruction of marsh and water areas by dredging and filling re-
quired for project construction and maintenance. Table 3 illus-
trates these direct losses for the various project segments.

The greatest direct losses would occur with the construction of
the St. Charles Parish portion of the project. The levee constructed

of the tidal marsh. Center for Wetland Resources, Louisiana State
University, Baton Rouge, Louisiana. Publication No. LSU-SG-74-03.
30p.
### TABLE 2 - ANNUAL FISH AND WILDLIFE PRODUCTION AND VALUES

<table>
<thead>
<tr>
<th>PROJECT SEGMENT</th>
<th>COMMERCIAL FISHERIES&lt;sup&gt;1&lt;/sup&gt;</th>
<th>FURBEARERS</th>
<th>SPORT-HUNTING</th>
<th>WILDLIFE OBSERV.</th>
<th>SPORT FISHING</th>
<th>TOTAL VALUE/ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Charles Parish</td>
<td>7,530,000 lbs. $828,300</td>
<td>$49,500</td>
<td>19,800 m-days $83,200</td>
<td>9,900 m-d $19,800</td>
<td>10,400 m-days $15,500</td>
<td>$996,300</td>
</tr>
<tr>
<td>Lake Pontchartrain</td>
<td>608,000 lbs. $66,900</td>
<td>$4,000</td>
<td>*</td>
<td>800 man-days $1600</td>
<td>385 man-days $578</td>
<td>$173,078</td>
</tr>
<tr>
<td>Barrier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chalmette</td>
<td>9,430,100 lbs. $1,045,400</td>
<td>$62,000</td>
<td>24,800 m-days $104,200</td>
<td>12,000 m-d $24,000</td>
<td>8,100 m-days $12,150</td>
<td>$1,247,750</td>
</tr>
<tr>
<td>New Orleans East</td>
<td>1,064,000 lbs. $117,000</td>
<td>$28,000</td>
<td>*</td>
<td>5600 m-days $11,200</td>
<td>9,100 m-days $13,650</td>
<td>$169,850</td>
</tr>
</tbody>
</table>

<sup>1</sup> Value based on 1973 exvessel price of $0.11/lb.

*No hunting permitted.*
<table>
<thead>
<tr>
<th>PROJECT SEGMENT</th>
<th>ACREAGE REQUIRED</th>
<th>COMM. FISHERIES(^2)</th>
<th>FURBEARERS</th>
<th>HUNTING</th>
<th>WILDLIFE OBSERV.</th>
<th>SPORT-FISHING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Charles Parish</td>
<td>916(^1)</td>
<td>5,752,700 lbs.</td>
<td>$18,300</td>
<td>730 man-days</td>
<td>380 m-d</td>
<td>Negligible</td>
<td>$654,940</td>
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<td></td>
<td></td>
<td>$632,800</td>
<td>$3,080</td>
<td>$760</td>
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<tr>
<td>Lake Pontchartrain</td>
<td>2,000</td>
<td>608,000 lbs.</td>
<td>$4,000</td>
<td>*</td>
<td>800 m-d</td>
<td>385 man-days</td>
<td>$73,078</td>
</tr>
<tr>
<td>Barrier</td>
<td></td>
<td>$66,900</td>
<td>$1,600</td>
<td>$578</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Chalmette</td>
<td>750</td>
<td>228,000 lbs.</td>
<td>$1,500</td>
<td>600 man-days</td>
<td>300 m-d</td>
<td>Negligible</td>
<td>$29,700</td>
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<td></td>
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<td>$25,100</td>
<td>$2,500</td>
<td>$600</td>
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<tr>
<td>New Orleans East</td>
<td>600</td>
<td>45,600 lbs.</td>
<td>$1,200</td>
<td>*</td>
<td>240 m-d</td>
<td>Negligible</td>
<td>$6,575</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$5,015</td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td><strong>$764,293</strong></td>
</tr>
</tbody>
</table>

* No hunting permitted

1 Levee will result in an estimated 75% reduction in marine and estuarine fish production in remainder of 24,770 acre area affected in St. Charles segment.

2 Value based on average 1973 ex-vessel price of $0.11/lb.
along the edge of Lake Pontchartrain would preclude access by marine and estuarine organisms to the nursery areas contained in this area, and would significantly reduce the flow of organic detritus into Lake Pontchartrain from the enclosed wetlands. The result would be an immediate loss in commercial fisheries production in the area estimated at 75%, or 5,752,700 lbs. worth $632,800. This represents approximately 83% of the total direct project losses of fish and wildlife. Estimated annual fish and wildlife losses in the project segments include St. Charles Parish, $654,940; Lake Pontchartrain Barrier, $73,078; Chalmette, $29,700; and New Orleans East, $6,575. These losses total to $764,293. However, failure to construct the St. Charles Parish segment will reduce this figure to $109,353.

The most important secondary project impact is the acceleration of development in the wetlands to be enclosed by the proposed levee systems. These impacts are extremely difficult to quantify, since it is anticipated that development of these wetlands will be permitted to occur both with and without the project. The main effect of the project will be to accelerate this development and resultant elimination of valuable fish and wildlife resources.

We have, to date, been unable to obtain "with" and "without" the project projections on development of wetlands. However, we have learned that the New Orleans Corps District is presently conducting a detailed economic re-analysis of the project. The results of this analysis should contain land use projections needed to assess secondary losses of fish and wildlife production. However, it will take at least several weeks before this information is available. We therefore suggest that this information be obtained by your office when available, and that you use annual fish and wildlife production figures presented in Table 2 in order to predict project losses over the 100 year project life, estimated to extend to the year 2080.

Another source of concern is the installation of the barrier structures to be located in the Chef Menteur and Rigolets Passes. These structures may adversely affect movement of marine organisms into and out of Lake Pontchartrain, an important feeding and nursery area. However, insufficient biological information exists at present to project secondary damages that these features may have on fishery resources. However, we have quantified the direct damages associated with the loss of estuarine habitat which will be lost by construction of the structures (see Table 3).
I hope that this information will be useful. If we can be of further assistance, do not hesitate to contact us.

Sincerely yours,

Joséph E. Burgess, Jr.
Biologist-in-Charge