



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
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St. Petersburg, Florida 33701-5505
<http://sero.nmfs.noaa.gov>

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JUN 26 2013

Ms. Elizabeth L. Davoli
Coastal Protection and Restoration Authority
Environmental Section
Post Office Box 44027
Baton Rouge, Louisiana 70804-4027

Dear Ms. Davoli:

NOAA's National Marine Fisheries Service (NMFS) received the Solicitation of Views request transmitted by your letter dated May 22, 2013. The Coastal Protection and Restoration Authority (CPRA) of Louisiana proposes to undertake the design, construction, operation, and maintenance of the Mid-Barataria Sediment Diversion (MBSD) project included as a component in the 2012 Louisiana Master Plan. According to information transmitted with your letter, the MBSD would divert 50,000 to 75,000 cubic feet per second (cfs) of Mississippi River water into the mid-Barataria basin. It is anticipated the diversion would be operated when the Mississippi River discharge exceeds 600,000 cfs. CPRA requested NMFS provide views, comments, and concerns regarding implementation of this project. CPRA staff also indicated potential benefits and impacts from the diversion would be evaluated in a regulatory Environmental Impact Statement (EIS), pursuant to requirements of the National Environmental Policy Act.

NMFS supports efforts to ameliorate coastal wetland loss in Louisiana to maintain socio-economic, storm protection, and ecological services these habitats provide. Most coastal restoration efforts can benefit nursery and foraging functions supportive of a wide variety of economically important marine fishery species. However, the proposed diversion may have adverse impacts to economically important estuarine/marine fisheries and their habitats. NMFS is concerned the MBSD could (1) displace marine fishery species from currently productive habitats to less supportive habitats, (2) reduce marine fishery productivity, (3) convert essential fish habitat (EFH) to areas no longer supportive of some federally managed marine fishery species or their prey items, (4) render wetlands impacted by diversions more susceptible to erosion from storms, (5) degrade water quality, and (6) cause socio-economic hardship to those involved in the commercial and recreational fishing industries. To allow for informed decision-making, these issues should be thoroughly evaluated by methods acceptable to NMFS and the results incorporated into the planned EIS.

Areas within the influence of the proposed diversion are designated as EFH under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; P.L. 104-297). Categories of EFH in the Barataria basin include emergent wetlands; mangrove



wetlands; submerged aquatic vegetation; mud, sand, and shell (e.g., oyster reefs) substrates; and estuarine water column. Impacts may extend to the nearshore Gulf of Mexico and marine categories of EFH potentially impacted include water column and non-vegetated bottom. Wetlands and water bottoms in the Barataria basin have been designated as EFH for a variety of life stages of white shrimp, brown shrimp, red drum, dog snapper, lane snapper, and gray snapper. Portions of Barataria Bay near the Gulf of Mexico also serve as EFH for various life stages of bonnethead shark, Atlantic sharpnose shark, and blacknose shark. In addition to being designated as EFH for a variety of federally managed species, water bodies and wetlands in the project area provide nursery and foraging habitats supportive of a variety of economically important marine fishery species, such as American oyster, Atlantic croaker, Gulf menhaden, spotted seatrout, sand seatrout, black drum, southern flounder, blue crab, and striped mullet. Some of these species serve as prey for other fish species managed under the Magnuson-Stevens Act (e.g., mackerels, snappers, and groupers) and highly migratory species managed by NMFS (e.g., billfishes and sharks).

According to your letter, the MBSD would be operated whenever river discharge at Belle Chasse exceeds 600,000 cfs. Based upon a review of river flow stages exceeding 600,000 cfs by month for the 1964 to 2012 time period, the MBSD would likely be open most years during February through June. Although hydrologic modeling results are unavailable at this time, NMFS believes the anticipated flow rates from the MBSD could result in the freshening of most of the Barataria basin. Freshening substantial portions of the basin and localized lowering of water temperature for five months of the year from the MBSD would affect a broad range of fishery species during a variety of life stages and their prey. As an example, these months overlap the migration of brown shrimp into and out of the estuary and the initiation of immigration of white shrimp into the Barataria basin estuary. Displacement of shrimp from nursery and refugia habitat to less supportive habitats could result in decreases in shrimp production in the Barataria basin potentially without offsetting increases elsewhere. Displacement and decreases in shrimp production should be expected to have impacts on other valuable species that prey upon shrimp, such as seatrout, red drum, and red snapper, as well as to have socio-economic repercussions on commercial fishing and related industries. The proposed operations also could have substantive impacts on American oyster populations and production, especially if both the spring and fall spat set are at risk by freshwater kills of pre-spawning adults or if there are deficiencies of shell substrate for spat set in suitable salinity regimes in the lower estuary. Some examples of other economically important marine fishery species which could be impacted by MBSD include Atlantic croaker, sand seatrout, spotted seatrout, and black drum. Consequently, NMFS believes robust analyses should be undertaken for inclusion in the EIS which evaluate (1) diversion related changes in isohalines and water temperature within the Barataria basin and nearshore Gulf of Mexico, (2) species-specific variations in marine fishery resources, and (3) socioeconomic impacts to fishery user groups. The means to assess impacts to fisheries should be coordinated with NMFS and should include species-specific projections of marine fishery production both with, and without, implementation of diversions included in the Louisiana Master Plan. It should be noted the Magnuson-Stevens Act requires mitigation to offset adverse impacts to EFH. The CPRA should also include in the EIS an evaluation of alternatives to mitigate impacts to EFH for any federally managed fishery species determined to be adversely impacted by the MBSD.

The EIS should include a discussion of adverse impacts to wetland health and productivity. A variety of research findings have suggested nutrient loads in Mississippi River waters, combined with low salinity levels, could reduce soil shear strength and make affected marsh habitats more susceptible to wind and hydrologic forces associated with the passage of storm fronts. Prolonged flooding of the soil surface associated with diversion operations also could reduce the health of plants in the marsh community. Finally, Mississippi River waters contain elevated levels of atrazine, a herbicide frequently utilized for agricultural purposes. CPRA should conduct and submit a thorough, scientifically-based evaluation of the likely impacts of nutrients, atrazine, and freshwater on marsh health and susceptibility to erosion.

There is a risk the potential for diversions to reduce wetland loss and rebuild coastal habitats may be overestimated given the constraints of present and projected sediment loads in the river, man's ability to engineer a structure to efficiently divert a significant portion of the river's sediment load to the appropriate places in the receiving basin, subsidence, and sea level rise. It has been documented the sediment load of the river is less than half of the historic levels, which initially created Louisiana's coastal wetlands. When sediment supply is taken into consideration in combination with on-going and projected accelerating future relative sea level rise, the 300 square mile estimate of net land change outlined in the Louisiana Master Plan associated with the use of multiple river diversions deserves further scrutiny. Failure of diversions to provide the projected level of benefits could result in undercompensated impacts to EFH. Therefore, NMFS believes it is important for an independent scientific body to evaluate models being used to determine the potential for wetland benefits likely to occur from the MBSD project, as well as the associated risks to EFH and living marine resources.

The U.S. Army Corps of Engineers' ongoing Mississippi River Hydrodynamic Study (MRHS) is evaluating a number of issues related to diversions and their siting on the river. Details provided by your letter suggest CPRA plans to pursue a proposed location and alignment for the MBSD without the benefit of using the results of MRHS to inform the selection of an efficient diversion location. There is the potential for multiple diversions from the Mississippi River to affect the performance of any one project. However, to date, no models have been completed to determine how the MBSD would perform in combination with other diversions proposed in the Louisiana Master Plan. NMFS believes all diversions proposed for implementation by CPRA should be modeled individually, and in combination, using up-to-date site specific information, to ensure they are located and sized to best fulfill the project purpose, and unintended consequences do not result from their operations. NMFS believes the MRHS would be the best option for evaluating MBSD siting alternatives and cumulative impacts of operating multiple diversions.

The impacts of diversions on water quality should also be evaluated. Past operations of the Bonnet Carre Spillway have resulted in algae blooms in Lake Pontchartrain. NMFS recommends CPRA evaluate the likely impacts of nutrients contained in diverted river water on algae blooms and resultant water quality. Other river water contaminants and the risk of bioaccumulation in the receiving basin should also be assessed and included in the EIS.

Considering the myriad potential impacts to marsh health, fishery resources, water quality, and fishery user groups, NMFS believes a monitoring and adaptive management plan (MAMP) should be developed for inclusion in the EIS, in consultation with scientists, natural resource

agencies, and the public. The MAMP should (1) clearly identify variables and issues to be monitored, (2) describe the monitoring plan, and (3) detail the responsible party for funding, implementing and overseeing monitoring. The MAMP should identify specific adaptive management options (e.g., including alternative flow amounts, or differing the frequency, timing and duration of structure openings) to be implemented if monitoring identifies diversion operations are not supplying the desired results, or are resulting in unexpected impacts to resources of concern. The MAMP should identify an interagency group which would be responsible for overseeing diversion operations.

The proposed diversion structures would also impact the Mississippi River and Tributaries Levee Project. Wetlands and waters in the Barataria basin, floodside of the New Orleans to Venice (NOV) and Plaquemines Non-Federal Levee (NFL) are tidally influenced, designated as EFH, and are supportive of estuarine-dependent fishery resources. Impacts to these tidal habitats from the diversion structure and enlargement of the levee to offset increased water stage from the diversion should be minimized to the extent practicable and mitigated. NMFS has no comments on the bridge, railroad, and levee impacts between the Mississippi River and the protected side of the NOV and NFL because NOAA trust resources would not be adversely affected.

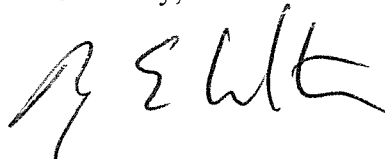
There may also be protected species concerns under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) requiring further coordination. In particular, a small resident estuarine population of bottlenose dolphins in Barataria Bay (<http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2012dobn-gmxb.pdf>) may be negatively impacted by freshwater influx to the bay. NOAA and partners have been investigating an ongoing marine mammal Unusual Mortality Event in the northern Gulf and evaluating the long-term impacts of the Deepwater Horizon oil spill on dolphins in the Gulf of Mexico. Studies show the resident dolphins in Barataria Bay are severely ill (<http://www.gulfspillrestoration.noaa.gov/2012/03/study-shows-some-gulf-dolphins-severely-ill/>). The freshwater influx to the bay from this project may further stress Barataria Bay dolphins from resulting prey changes, impacts to water quality, and potential algal blooms from nutrients in diverted water. Algal blooms are a known cause of Unusual Mortality Events in bottlenose dolphins in the southeast U.S. In addition, prolonged exposure to freshwater can be detrimental to dolphins, causing skin lesions, compromising their health, and ultimately resulting in death. Depending on the nature of construction activities associated with the project, short- or long-term impacts to dolphins may also occur and could require potential preventative mitigation measures to reduce these impacts. We recommend further coordination with NMFS Southeast Region Protected Resources Division on these potential impacts and ways to reduce them. An MMPA authorization may be needed if take of dolphins is possible during this project. More information can be found on our NMFS Headquarters' Marine Mammal Permits and Authorization web page: http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm

Early and frequent interagency coordination among CPRA, NMFS, and other federal and state resource agencies is requested for the impending planning and permit review process. Methods to assess environmental and socio-economic impacts to fisheries should be coordinated with, and deemed acceptable by, NMFS and other interested natural resource and regulatory agencies. All agencies should be provided the opportunity and time to review and comment on proposed

scopes of work for the environmental analyses and how these analyses will be incorporated into the EIS.

We appreciate your consideration of our comments. If you wish to discuss this project further or have questions concerning our recommendation, please contact Richard Hartman or Patrick Williams at (225) 389-0508, extension 203.

Sincerely,

A handwritten signature in black ink, appearing to read 'R E Crabtree', written in a cursive style.

Roy E. Crabtree, Ph.D.
Regional Administrator

cc:

NOD, Farabee, MacInnes, Wingate, Constance, Kleiss, Owen
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EPA, Dallas, Ettinger
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