

2019 Mississippi Bonnet Carré Fisheries Disaster Recovery Program Projects

In 2019, extreme Mississippi River flooding resulted in the Bonnet Carré Spillway (BCS) being operated on two separate occasions. The first opening was February 27 through April 11, with a maximum flow of 213,000 cubic feet per second (cfs). The spillway was opened a second time from May 10 through July 27, with a maximum flow of 161,000 cfs. The Mississippi Sound was inundated with freshwater from March through August of 2019, which resulted in severe impacts to multiple fisheries. These impacts included large scale mortalities of oyster reefs, loss of brown shrimp recruitment, and the displacement of several commercially important species. On September 25, the United States Secretary of Commerce declared a 2019 Catastrophic Regional Fisheries Disaster for Mississippi, Louisiana, and Alabama. Mississippi's commercial fishing, seafood, and charter industries were directly impacted by the opening(s) of the Bonnet Carré Spillway in 2019. The Mississippi Department of Marine Resources (MDMR) will conduct financial assistance in the form of direct payments to the impacted industries in order to alleviate the significant losses incurred as a result of the flooding event. Direct payments will benefit the fishery by providing economic support to continue operations, therefore providing incentive to retain the historical participants of the industries. Projects to enhance and improve Mississippi's marine fisheries and seafood businesses will also aid in the long-term stability of these industries. The MDMR will also administer restoration activities to enhance habitat damaged from the spillway openings. Where applicable, applicants must have possessed at minimum, a valid Mississippi resident commercial fishing, seafood dealer and processor, or charter boat license during the 2019 calendar year. Summaries of proposed project ideas are listed below with approximate levels of funding:

1. Financial Assistance to Mississippi's Commercial Fisheries, Seafood Dealers, and Charter Fishing Businesses

Disaster funds will be distributed directly to Mississippi's resident commercial fishing operations, brick and mortar seafood dealers, aquaculture firms, bait dealers, and charter fishing businesses who were negatively impacted by the 2019 opening(s) of the Bonnet Carré Spillway. Eligible participants will be required to have held an applicable Mississippi resident license during the 2019 calendar year and where applicable, documented landings verified through the trip ticket system. Fishermen and related seafood businesses who have been found eligible will be awarded direct payment based on availability of funds and/or MDMR documented landings during the specified license years. **Funding \$7,944,918**

2. Grant Program for New and Emerging Seafood Processing Technologies

In the last several years the seafood industry has become increasingly competitive; illustrating the need for Mississippi's industry to evolve as well as improve in order to be sustainable. The objective of this project will be to establish a grant program for certified seafood processors to utilize for the establishment of emerging seafood processing technologies/techniques as well as enhancement to existing infrastructure. Funds distributed could be used to purchase new equipment and conduct necessary facility upgrades to allow for the industry to safely process seafood geared for today's consumers. The overall outcome will provide long-term sustaining benefits for the recovering seafood industry operations. **Funding \$3,694,182**

3. **Commercial Vessel Safety Program**

This program will implement a reimbursement program for fishermen that voluntarily install additional safety equipment on their vessels, such as winch safety switches to protect themselves and their crew. The program will also reimburse fishermen for upgrades to their vessels or for investments in equipment that will mitigate their business from future disasters or improve the efficiency and/or resiliency of their operation. Reimbursement eligibility will be based on type of expense and subject to verification by staff. **Funding \$286,624**

4. **Restoration of Mississippi's Oyster Reefs**

This project will provide for the restoration of existing oyster reefs as well as the creation of new oyster reefs in the Mississippi Sound. The deployment of approved oyster cultch material will take place over a five-year period on suitable water bottoms in the three coastal counties with the majority of the effort in the Western Mississippi Sound where the most recent assessment indicates the need is greatest. This cultch planting project is estimated to cover as many acres of water bottoms with cultch material (limestone, crushed concrete or oyster shell) as needed for a successful oyster spat set. Cultch plant rates may be adjusted to maximize benefits specific for each area. Cultch plants may also be conducted in areas with historically high spat sets but lower long-term survival (e.g. high salinity areas), with the purpose of moving or relaying those juvenile oysters into areas with higher growth and survival rates (e.g. moderate salinity areas). **Funding \$5,065,540**

5. **Investigation of Point Source Pollution for Shellfish Growing Waters**

Many areas suitable for growing wild and/or aquaculture oysters within the Mississippi Sound remain unable to open for harvest due to unsuitable water quality conditions, primarily related to high fecal coliform load. Investigating high priority areas, determining source(s) of pollution, and developing strategies with local officials and communities to decrease fecal loads should be a priority. This effort will improve water quality conditions and allow suitable growing waters to be utilized for shellfish harvest. **Funding \$315,981**

6. **Expansion of Mississippi's Derelict Crab Trap Removal Program**

Mississippi has a long history of success in removing derelict crab traps from the environment cooperatively with the seafood industry, with the help of general public volunteers, and by using experimental techniques to retrieve submerged traps that would not be accessible otherwise. This important work has benefited the environment in numerous ways including the removal of marine debris within the water column, reduction in "ghost fishing" of marine resources, and removal of debris from productive marsh edges. However, due to staff priorities needing to shift to addressing on-going natural and man-made disasters, removal efforts have been lower in recent years. Many of the traps that have washed ashore during previous storms have been removed during volunteer cleanups but based on side scan surveys of a few local waterways we know that there are more traps in the environment that could be collected. An expansion of the pilot scale subsurface retrieval program could greatly reduce these numbers and this project will allow for staff to dedicate more time and resources to this program. **Funding \$70,053**

7. **Bonnet Carré Spillway Response and the Mississippi Western Sound Science Collaborative**

Over the last decade, Bonnet Carré Spillway (BCS) openings have increasingly threatened Mississippi's natural marine resources and coastal businesses. The direct introduction of large quantities of Mississippi River water into the normally brackish Mississippi Sound degrades normal water quality as seen in the summer of 2019 by harmful algal blooms (HABs) which induced water contact advisories and caused many fisheries and businesses to close. The BCS also causes major indirect impacts. It can overwhelm current monitoring networks attempting to assess sensitive historic changes in the system. This makes establishing historic and future trends virtually impossible, hindering the most effective implementation of the large-scale restoration and infrastructure projects. Openings of the BCS are virtually certain to continue as an integral part of the protection of New Orleans and the Mississippi River control system. Developing strategic science to fight for Mississippi's interests in the operation of the BCS and adapt its impacts into restoration and infrastructure planning is the goal of the newly formed Western Sound Science Collaborative (WSSC). The WSSC is a broad group of leading state scientists and managers working together to address not only BCS releases but a range of technical issues in the Western Mississippi Sound. The WSSC will coordinate existing information across Mississippi's universities and agencies to establish the specific historic and anticipated water quality variability data needed to protect Mississippi's resources. This will be accomplished by linking and enhancing existing hydrodynamic modeling platforms and expanding data networks. *Funding \$1,117,622*

8. **Mississippi Seafood Marketing Program**

The goal of this project is to revitalize Mississippi's Seafood Marketing campaign to support the seafood industry of the state and promote the use of Mississippi Seafood to consumers and restaurants alike. This initiative will also include the development and promotion of a virtual Mississippi Seafood Marketplace for fresh product permit holders, seafood retailers, and seafood wholesalers to sell their product direct to the consumer *Funding \$322,886*

9. **Online Commercial Fishing License Purchasing System**

Currently, Mississippi's commercial fishermen are only offered the ability to purchase a license during normal business hours, Monday through Friday, in person, at MDMR headquarters in Biloxi, MS or by traditional mail. With the recent issues caused by COVID-19, it is apparent that Mississippi fishermen and the MDMR would greatly benefit from a non-contact, user friendly avenue to purchase applicable licenses. The development and implementation of an online system will allow for 24-hour/seven day a week access to purchase and renew fishing licenses and provide a more efficient payment option through credit or debit cards. This system will also update and improve the commercial license database by assigning a unique identifier to each fisherman that provide a more efficient manner to reference license types that would be valuable to fisheries managers in determining eligibility for future grant programs. *Funding \$412,800*

10. **Young Commercial Fishers Training and Education Program**

Despite the iconic status of the historical commercial fisherman the average age of Mississippi's fishermen is increasing, and young fishers are not entering the fishery at the

same rate as those retiring. In today's increasingly complex world of commercial fisheries it is more difficult for youth trying to start a fishing career and it is very unlikely that they will be encouraged to consider a career in the commercial fishing industry. As this trend continues there is a risk of a loss in participation, a decrease in industry knowledge and techniques, and a long-term dip in revenue and production from an industry that contributed a profound amount to the history and heritage of the Mississippi Gulf Coast. Establishing a "Young Fishers" program could work towards educating youth on the benefits and opportunities of a potential livelihood within the commercial fishing/seafood industry. The program will include attendance at outreach events and development of resources and literature targeted toward school age youth to encourage the next generation to consider work in the fishing industry. **Funding \$274,633**

11. Expansion and Enhancement of Off-Bottom Oyster Aquaculture in Mississippi

The oyster industry in the Mississippi Sound is currently limited to a small number of Off-Bottom leaseholders and public harvestable reefs. Decreased density of harvestable oysters has limited the number of oystermen engaged in this economic sector. Diversification of the oyster industry using off-bottom aquaculture (OBOA) techniques that use racks, cages, rafts, or longlines to grow oysters has proven very successful for enhancing workforce development and job creation in Mississippi and other Gulf states. Currently, there are two main challenges for the oyster farming industry 1) A need to scale-up farm operations 2) A need to increase productivity and reduce labor costs. The OBOA program will spend significant time identifying, troubleshooting, and solving these issues for Mississippi farmers. This project will develop solutions unique to the local area/geographic limitations and will focus on the two previously mentioned aspects of the growing industry using new technologies to identify methods to streamline cultivation activities, increase distribution and ultimately grow the off-bottom industry. This project will also establish a grant and/or loan program to incentivize stakeholders to participate in off-bottom oyster aquaculture. Funds distributed to stakeholders could be used to purchase equipment, cultch materials, or assist in the permitting process which would incentivize more participation and long-term private investment in off-bottom oyster aquaculture. This program would provide affordable financing to watermen and other parties who want to start or expand commercial shellfish aquaculture operations in Mississippi. **Funding \$1,707,693**

12. Development of a Shellfish Harvester Training Video

In 2014, the ISSC set forth the requirement that all states with shellfish harvest must offer an educational training program to oyster harvesters. The training includes shellfish sanitation requirements, safe harvesting, handling, and transportation methods, etc. This program is required as a prerequisite to receiving a commercial oyster harvester license and the training certificate must be renewed every five years. The development of a training video will offer a thorough, concise, and consistent training session to all oyster harvesters and allow for remote access to the training session. In addition to the training, harvesters should receive the materials needed to complete the trip ticket and tags in the field with consideration of adverse environmental conditions. **Funding \$77,560**