Proposal to Continue the Established Stranding Response Program at IMMS

Established in 1984, the Institute for Marine Mammal Studies (IMMS) is a 501 c (3) non-profit organization specializing in both marine mammal and sea turtle conservation and is the premier stranding response organization in the state of Mississippi. IMMS has been responding to marine mammal strandings since its founding and became an active member of the Mississippi Sea Turtle Stranding and Salvage Network (STSSN) in 2010. The work conducted by IMMS has established the Mississippi Sound as vital foraging and developmental habitat for common bottlenose dolphins (*Tursiops truncatus*) and a variety of sea turtle species, most notably the Kemp's ridley sea turtle (*Lepidochelys kempii*). With decades of experience in marine mammal and sea turtle stranding response, necropsy, rehabilitation, and research, IMMS has a demonstrated history of effectively documenting these cases and researching the threats these animals face. This is of particular importance since this area is vulnerable to environmental changes due to hurricanes, storms, and anthropogenic disasters (i.e. Deepwater Horizon Oil Spill, Bonne Carre Spillway, etc.).

The Mississippi Sound is known to be a nursery for common bottlenose dolphins, most of which remain in permanent residence and show strong site fidelity to this area (Pamperin et al., 2025; Samuelson et al., 2021). This behavior makes these animals susceptible to natural and anthropogenic threats (Baker et al., 2025; Lewis et al., 2026). Though the vast majority of marine mammal strandings in Mississippi are common bottlenose dolphins, there has been a small number of other cetacean species documented ranging from pantropical spotted dolphins (*Stenella attenuata*) to large baleen whales (*e.g.* fin whale - *Balaenoptera physalus*). Each year IMMS responds to an average of 50 stranded marine mammals in Mississippi with up to 3 of these stranding alive. Successfully rehabilitated and released marine mammals provide a unique opportunity to study movements and habitat utilization. Most notably, two pygmy killer whales (*Feresa attenuata*) - a rare and poorly understood offshore species - were successfully rehabilitated at IMMS and were monitored for movements and dive patterns after release (Pulis et al., 2018). Deceased marine mammals are equally important and are further evaluated through necropsies in order to determine potential cause of death and to collect tissues for analyses. Since 2010, IMMS has been documenting the wild dolphin populations utilizing the Mississippi Sound through its Dolphin Photo ID program. This program complements the stranding program as it enables IMMS researchers to match dorsal fins from stranded dolphins to those in its fin database. In cases where a match is found, IMMS is able to create a life history of where this animal was previously documented alive. This can provide key insight into potential areas where threats are present and warrant further evaluation by federal and state partners.

Since 2010, there has been an average of 232 annual sea turtle strandings and incidental captures in Mississippi, with IMMS staff responding to a majority of these reports. There were abnormally high occurrences of incidental captures by recreational fisherman from 2010 – 2015 (Coleman et al., 2016a; Heaton et al., 2016) with the current annual average around 30 sea turtles. This highlights the significance of recreational fishing piers to the ecology of sea turtles in Mississippi. IMMS has rehabilitated and released over 1,100 sea turtles since joining the Mississippi STSSN and these efforts significantly contribute to the restoration and recovery of these species. Since 2010, IMMS has assisted the Mississippi Department of Marine Resources and the Mississippi Department of Wildlife, Fisheries and Parks in identifying the movement, migration, and site fidelity patterns of the Kemp's ridley in the northern Gulf of Mexico (Mississippi, Chandeleur, and Breton Sounds) through satellite telemetry, applying tags to over

sixty sea turtles. IMMS plans to further expand this program by including acoustic tags with receivers on frequented Mississippi fishing piers for future deployments. Previous publications have indicated seasonal movements (Coleman et al., 2016b) and site fidelity (Coleman, 2013; Lyn et al., 2012). In addition to satellite telemetry, IMMS has also documented a total of twenty-seven sea turtle nests on Mississippi beaches from 2012-2024. Our efforts have shown that in addition to loggerhead sea turtles (*Caretta caretta*), Kemp's ridleys are also utilizing Mississippi beaches to nest (Madrigal et al., 2025). The activity documented in Mississippi across IMMS' stranding response, satellite telemetry, and nesting programs highlights that the Mississippi Sound and surrounding waters provides vital habitat for all sea turtle life history stages.

Overall, IMMS has had an established, well-rounded research and conservation program for both marine mammals and sea turtles that began in 1984. Our projects incorporate successful stranding response and rehabilitation with assessments of live animal movements through dolphin photo ID and satellite telemetry. These programs complement each other and have been developed and improved over the years. Consistent stranding response and documentation of these animals is the foundation for understanding their behavior and determining current natural and anthropogenic threats. IMMS staff is trained and experienced in stranding response and has maintained relationships with NOAA Fisheries and other federal, state, and local partners. IMMS proposes to continue its stranding response, necropsy, and rehabilitation efforts in Mississippi. As the permit and stranding agreement holders for the state, IMMS' documentation of these reports and collection of this data is essential to the continuation of research and conservation efforts in Mississippi for both marine mammals and sea turtles.

References

1. Baker, J. W., Suffoletta, D. T., Lewis, J. N., Pamperin, K. M., Giordano, R. M., Madrigal, T., & Solangi, M. (2025). Impacts of the Bonnet Carré Spillway on common bottlenose dolphins in the Mississippi Sound from 2010 to 2021. *Science of The Total Environment*, *958*, 177977.
2. Coleman, A. T. (2013). Evidence of Long Distance Homing in a Displaced Juvenile Kemp's Ridley Sea Turtle (Lepidochelys kempii). *Marine Turtle Newsletter*, *137*, 10–12.
3. Coleman, A. T., Pulis, E. E., Pitchford, J. L., Crocker, K., Heaton, A. J., Carron, A. M., Hatchett, W., Shannon, D., Austin, F., Dalton, M., Clemmons-Chevis, C. L., & Solangi, M. (2016a). Population ecology and rehabilitation of incidentally captured kemp's ridley sea turtles (Lepidochelys kempii) in the Mississippi sound, USA. *Herpetological Conservation and Biology*, *11*(1), 253–264.
4. Coleman, A. T., Pitchford, J. L., Bailey, H., & Solangi, M. (2016b). Seasonal movements of immature Kemp's ridley sea turtles (Lepidochelys kempii) in the northern Gulf of Mexico. *Aquatic Conservation: Marine and Freshwater Ecosystems*, *27*(1), 253–267.
5. Heaton, A. J., Pulis, E. E., Pitchford, J. L., Hatchett, W. L., Carron, A. M., & Solangi, M. (2016). Prevalence and Transience of Ingested Fishing Hooks in Kemp's Ridley Sea Turtles. *Chelonian Conservation and Biology*, *15*(2), 257–264.
6. Lewis, J. N., Lyn, H., Johnson, L. E., Suffoletta, D. T., Pamperin, K. M., Giordano, R. M., & Solangi, M. (2026). Instances of Human Interaction in Common Bottlenose Dolphins (Tursiops truncatus) in the Mississippi Sound. *Aquatic Mammals*, *52*(1).
7. Madrigal, T., Wibbels, T., Shamblin, B. M., Smith, A., Austin, C., Busboom, K., Thompson, K., & Solangi, M. (2025). First Documented Nesting of Kemp's Ridleys (Lepidochelys kempii) in Mississippi. *Marine Turtle Newsletter, 169,* 15-17.
8. Pamperin, K. M., Lyn, H., Suffoletta, D. T., Lewis, J. N., Giordano, R. M., Johnson, L., & Solangi, M. (2025). Staying Close to Home: Assessing Site Fidelity Patterns of Bottlenose Dolphins (Tursiops truncatus) in the Mississippi Sound. *Aquatic Mammals, 51*(6), 485-497.
9. Pulis, E. E., Wells, R. S., Schorr, G. S., Douglas, D. C., Samuelson, M. M., & Solangi, M. (2018). Movements and Dive Patterns of Pygmy Killer Whales (Feresa attenuata) released in the Gulf of Mexico Following Rehabilitation. *Aquatic Mammals*, *43*(5), 555–567.
10. Samuelson, M. M., Fujiwara, M., Pulis, E. E., Pitchford, J., Howard, V. A., & Solangi, M. (2021). Comprehensive evaluation of survival and population growth for common bottlenose dolphins (Tursiops truncatus) in the Mississippi sound, USA, following the Deepwater Horizon oil spill. *Southeastern Naturalist*, *20*(1), 178-191.