**Supplemental File 2 – Species-Specific Data Layer Descriptions**

### ***Atlantic spotted dolphin***

Atlantic spotted dolphins (**Fig. S-F**) in the shelf waters (from aerial surveys) were predominantly distributed offshore near the continental shelf edge (**Fig. 1F**). The identified high-use area predominantly extended from 50 to 300 km offshore (**Fig. 2F**). Atlantic spotted dolphins (**Fig. S-G**) in oceanic waters (vessel surveys) are predominantly distributed on the nearshore edge of the oceanic model domain, just off the continental shelf (**Fig. 1G**). The identified high-use area overlapped the outer edge of the proposed WEA (**Fig. 2G**).

### ***Beaked whales***

Beaked whales (**Fig. S-H**) were most concentrated in the far offshore environment south of Louisiana in the central U.S. Gulf of Mexico (**Fig. 1H**). The high-use area partially overlapped the offshore edge of the proposed WEA (**Fig. 2H**).

### ***Blackfish (False killer whales, pygmy killer whales, and melon-headed whales)***

Blackfish (**Fig. S-I**) were broadly dispersed with some areas of higher concentration in the far offshore environment in the central Gulf of Mexico (**Fig. 1I**). Their highest-use areas were mostly outside of the proposed WEA (**Fig. 2I**).

### ***Bottlenose dolphin***

Shelf bottlenose dolphin stocks (**Fig. S-J**) were heavily concentrated in coastal environments, especially off Louisiana (**Fig. 1J**). Their high-use areas largely overlapped the nearshore edge of the proposed WEA (**Fig. 2J**). Oceanic bottlenose dolphin stocks (**Fig. S-K**) were heavily concentrated on the nearshore edge of the oceanic model domain (**Fig. 1K**), and their high-use area overlapped the offshore edge of the proposed WEA (**Fig. 2K**).

### ***Clymene dolphin***

Clymene dolphins (**Fig. S-L**) were predominantly distributed far offshore on the southwestern edge of the U.S. Gulf of Mexico (**Fig. 1L**). Their high-use area overlapped the offshore southwestern edge of the proposed WEA (**Fig. 2L**).

### ***Giant manta ray***

Giant manta ray (**Fig. S-E**) maximum probability of occurrence was highest in coastal waters and at high-slope features along the continental shelf (**Fig. 1E**). The identified high-use area predominantly extended from the shoreline out to 200 km offshore (**Fig. 2E**).

### ***Green sea turtle***

Green sea turtle (**Fig. S-T**) juveniles were scattered throughout the Gulf of Mexico, but predicted in highest concentration in the nearshore border of Louisiana and Texas, and off the Florida panhandle (**Fig. 1T**). Green sea turtle adults were predicted in highest concentrations in coastal environments, especially off southwestern Florida (**Fig. 1U**). Because of the status of green sea turtle, a score of 0.5 was assigned across the entire domain of occurrence (**Fig. 2U**).

### ***Gulf sturgeon***

Gulf sturgeon (**Fig. S-A**) critical habitat was focused on natal rivers and associated estuarine habitats in the northeastern Gulf of Mexico (**Fig. 1A: blue**). The Section 7 Mapper layer (**Fig. 1A: yellow**) was more generalized and encompassed documented sightings in Tampa Bay and deeper water. Because Gulf sturgeon received a score of 0.5, only the consultation layer was scored, as it was inclusive of the critical habitat layer (**Fig. 2B**).

### ***Kemp’s ridley sea turtle***

Kemp’s ridley sea turtle (**Fig. S-U**) juveniles were most concentrated off coastal Texas and far offshore Louisiana (**Fig. 1V**). Kemp’s ridley sea turtle adults were heavily concentrated in coastal environments, especially off Louisiana and the Florida Big Bend region (**Fig. 1W**). There was substantial overlap between the proposed WEA and the combined modeled Kemp’s ridley sea turtle high-use areas.

### ***Kogia (Dwarf and pygmy sperm whales)***

Kogia sp. (**Fig. S-M**) were predominantly located in the central Gulf of Mexico (**Fig. 1M**). Their high-use area did not overlap the proposed WEA (**Fig. 2M**).

### ***Leatherback sea turtle***

Leatherback sea turtle (**Fig. S-W**) adults were generally found in offshore environments except for nearshore concentrations predicted off Alabama and the Florida panhandle (**Fig. 1Z**). There was moderate overlap between the center and eastern edge of the proposed WEA and the Leatherback sea turtle high-use areas.

### ***Loggerhead sea turtle***

Loggerhead sea turtle (**Fig. S-V**) juveniles were most concentrated off coastal Alabama and Florida (**Fig. 1X**). Loggerhead sea turtle adults were heavily concentrated in coastal environments, especially off Alabama and the Florida panhandle (**Fig. 1Y**). There was substantial overlap between the proposed WEA and the combined modeled Loggerhead sea turtle high-use areas.

### ***Oceanic whitetip shark***

Oceanic whitetip shark (**Fig. S-B**) essential fish habitat (EFH) was focused offshore in the northwestern Gulf of Mexico (**Fig. 1B: blue**). The Section 7 Mapper layer broadly encompassed deepwater habitats within the U.S. EEZ (**Fig. 1B: yellow**). The combined Oceanic whitetip shark layer (**Fig. 2B**) scored the EFH analogous to a high-use area.

### ***Pantropical spotted dolphin***

Pantropical spotted dolphins (**Fig. S-N**) were broadly distributed in the offshore environments of the central Gulf of Mexico (**Fig. 1N**). Their high-use areas had little overlap with the proposed WEA (**Fig. 2N**).

### ***Pilot whale (short-finned)***

Pilot whales (**Fig. S-O**) were predominantly distributed off the Florida Keys (**Fig. 1O**). Their high-use area overlapped some of the offshore edge of the proposed WEA (**Fig. 2O**).

### ***Rice’s whale***

Rice’s whale (**Fig. S-D**) core area (**Fig. 1D: red**) was in the northeastern Gulf of Mexico near DeSoto Canyon and the Florida panhandle. The suitable habitat layer contained habitats between 100–400 m across the entire U.S. Gulf of Mexico (**Fig. 1D: blue**). The union of the Rice’s whale layers created a zone of high risk across the U.S. Gulf of Mexico continental shelf (**Fig. 2D**).

### ***Risso’s dolphin***

Risso’s dolphins (**Fig. S-P**) were broadly distributed in low numbers across the Gulf of Mexico, with a slightly higher concentration predicted off southwestern Florida (**Fig. 1P**). Their high-use area overlapped most of the offshore edge of the proposed WEA (**Fig. 2P**).

### ***Smalltooth sawfish (US DPS)***

Smalltooth sawfish (US DPS; **Fig. S-C**) high-use areas (**Fig. 1C: red**) were centered off southwest Florida (**Fig. 1C: blue**). The sawfish Section 7 Mapper layer covered most marine waters off Florida (**Fig. 1C: yellow**). No sawfish scored areas overlapped the proposed WEA (**Fig. 2C**).

### ***Sperm whale***

Sperm whales (**Fig. S-Q**) were broadly distributed throughout the offshore environments of the Gulf of Mexico, with highest concentrations predicted off the continental shelf and in the central Gulf of Mexico (**Fig. 1Q**). Their high-use area overlapped with the deepest, most offshore areas in the proposed WEA (**Fig. 2Q**).

### ***Spinner dolphin***

Spinner dolphins (**Fig. S-R**) were heavily concentrated on the continental shelf off the Florida panhandle and Alabama (**Fig. 1R**). Their high-use area overlapped with the offshore eastern edge of the proposed WEA (**Fig. 2R**).

### ***Striped dolphin***

Striped dolphins (**Fig. S-S**) were most concentrated in the farthest offshore environments of the central and southeastern edges of the U.S. Gulf of Mexico (**Fig. 1S**). Their high-use areas did not overlap with the proposed WEA (**Fig. 2S**).