United States Department of the Interior
BUREAU OF OCEAN ENERGY MANAGEMENT
Gulf of Mexico Regional Office
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Via Electronic Mail

Dear Ms. Firmin, Ms. Gardiner, and Mr. Ardizzone:

In accordance with section 7 of the Endangered Species Act of 1973, as amended, (87 Stat. 884, as amended; 16 U.S.C 1531, *et seq*.) (ESA), the Bureau of Ocean Energy Management (BOEM) is submitting this request to initiate informal, programmatic consultation with the U.S. Fish and Wildlife Service (FWS) and requests input on the analysis provided herein as to the extent to which ESA-listed species and designated Critical Habitat may or may not be affected by the Proposed Action. Included is a description of the Proposed Action to initiate wind energy leasing within the Gulf of Mexico (GOM) as well as the species and designated Critical Habitats that may occur within the action area (as defined by the Call Area), for which the FWS has consultation responsibilities under section 7 of the ESA.

BACKGROUND

Offshore wind is an abundant domestic energy resource that is located close to major coastal population centers. In 2009, the Department of the Interior (DOI) announced the final regulations for the Outer Continental Shelf (OCS) Renewable Energy Program, which was authorized by the Energy Policy Act of 2005. These regulations provide a framework for issuing leases, easements, and rights-of-ways (ROWs) for OCS activities that support production and transmission of energy from sources other than oil and natural gas. On November 1, 2021, BOEM published a Call for Information and Nominations (Call) concerning wind energy development in the GOM, which outlined a GOM Call Area (Call Area). The Call Area is located within the GOM's Central Planning Area (CPA) and Western Planning Area (WPA) on the OCS. A map of the Call Area is provided in **Attachment A**. On January 11, 2022, BOEM announced it was preparing a draft Environmental Assessment (EA) of potential offshore wind leasing within the Call Area. The draft EA was made available for public comment on July 20, 2022 (see below).

FWS Consultation History

On December 16, 2021, the FWS Unified Interior Regions 2, 4, and 6 provided comments in response to the Call under the authority of, and in accordance with, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the ESA of 1973, as amended (16 U.S.C. 1531 et seq.), and the National Environmental Policy Act (42 U.S.C. 4321-4347) as Interested or Affected Parties. The comments included an overview of potentially impacted ESA-listed species and recommendations to reduce such impacts.

PROPOSED ACTION

The proposed action consists of BOEM's issuance of commercial and/or research wind energy lease(s) within the GOM Call Area and granting Rights-of-Use and Easement (RUE) and Rights-of-Way (ROW) in support of offshore wind energy development. For offshore wind energy projects, a RUE grant means an easement issued by BOEM that authorizes the use of a designated portion of the OCS to support activities on a lease, whereas a ROW grant provides authorization for the use of a portion of the OCS for the construction and use of a cable or pipeline for the purpose of gathering, transmitting, distributing, or otherwise transporting electricity produced from wind energy developments, but does not constitute a project easement (see BOEM's regulations at 30 CFR § 585.112 for the full definitions). Issuances of leases and grants would allow the lessees only the right to submit plans for BOEM's consideration and approval, and do not constitute an irreversible and irretrievable commitment of resources. Therefore, this ESA consultation focuses on the potential effects of site characterization and site assessment activities reasonably expected to take place after the issuance of commercial and research wind energy leases. This analysis considers issuance of up to 18 wind energy leases within the Call Area, and the potential issuance of RUE and ROW grants on portions of the OCS in federal waters, as well as easements traversing state waters. The RUEs, ROWs, and potential project easements would be located in the OCS areas of the GOM, but future infrastructure might extend from the Call Area through to state waters and to the onshore energy grid.

BOEM expects to issue up to 18 leases over 10 years, varying in size but averaging approximately 80,000 acres each. BOEM expects to issue up to six to eight leases per sale, the first of which may be held in 2023. At this time, no other lease sales have been scheduled. Site characterization and site assessment activities are expected to occur within seven years after lease issuance, unless the lessee is granted an extension. Therefore, site characterization and site assessment activities associated with issuance of leases within the GOM Call Area could be conducted from 2023 through 2040. For example, if there are any remaining lease areas available for a last proposed sale in 2033, any associated future site characterization and site assessment activities could occur at any time from 2033 through 2040.

Site characterization and site assessment activities associated with such leases would be expected to occur in the Call Area and along potential export cable corridors to shore. Onshore activity is not part of the proposed action. It is assumed that up to two export cable corridors would be surveyed for each lease. A lessee may submit a Site Assessment Plan (SAP) to describe site assessment activities for BOEM's approval (30 CFR §§ 585.605-613). Site assessment activities include the installation, operation, maintenance, and decommissioning of up to two meteorological (met) buoys per lease and the deployment of oceanographic devices. Site characterization activities may include geophysical, geotechnical, and biological surveys of the lease area and transmission corridors. A lease does not grant the lessee the right to construct any permanent facilities; however, each met buoy would likely remain in place for approximately seven years.

Site characterization surveys are typically conducted from a vessel and may include geotechnical, High Resolution Geophysical (HRG), shallow hazard, geological, archaeological surveys (i.e., bottom surveys), and biological surveys. HRG surveys may include multibeam echosounders, magnetometers, side-scan sonars, boomers, sparkers, CHIRP sub-bottom profilers, or bubble guns. Bottom sampling may employ one or a combination of the following techniques: cone penetration tests, vibracores, deep borings, piston cores, or gravity cores. Biological surveys may include ship-based surveys for benthic habitats, marine mammals, sea turtles, birds and bats, as well as aerial-based surveys for marine mammals, birds, and bats[1]. Benthic habitat biological surveying techniques may include grab samples (e.g., standard Van Veen) and sediment profile imaging/profile view (SPI/PV) technologies.

The Call Area defines the border of the action area — an area that includes the state waters of Texas, Louisiana, Mississippi, and Alabama where wind energy-related activities (e.g., survey activity and vessel traffic) could occur (see Figure 1, **Attachment A**). The Call Area is intentionally broad to afford flexibility in the decision-making process and represents the area in federal waters where siting and assessment activities associated with the offshore wind energy leases are expected to occur. The Call Area includes the area located seaward of the GOM's Submerged Lands Act boundary, bounded on the east by the north-south line located at 89.858° W longitude, and bounded on the south by the 400-m bathymetry contour and the United States-Mexico maritime boundary established by the Treaty between the Government of the United States of America and the Government of the United Mexican States on the Delimitation of the Continental Shelf in the Western GOM beyond 200 Nautical Miles. BOEM assumes that future

[1] See https://www.boem.gov/renewable-energy/survey-guidelines-renewable-energy-development

landfalls for export cable corridors that result from leases within the Call Area may occur anywhere along the coasts of Texas and Louisiana and, therefore, surveys in coastal waters of these two states are reasonably certain to occur. No surveys are expected to occur in the coastal waters of Mississippi, Alabama, and Florida. For vessel activity, BOEM assumes only ports along the coasts of Texas and Louisiana would be utilized for the majority of vessel-related activities (see Figure 2, **Attachment A**). However, there may be situations in which ports as far east as Mobile, Alabama, could be used (e.g., in the case of a natural disaster), which is why the action area extends eastward from the Call Area to include Mississippi Sound and Mobile Bay. Port expansions and improvements are not part of the proposed action.

The scope of the proposed action is DOI's management and regulation of renewable-related activities under the OCS Lands Act. While state waters are not within the jurisdiction and authority of BOEM, this assessment considers some adjacent state waters because site characterization and site assessment activities may include surveys and vessel trips that cross between federal and state waters, and the potential adverse impacts associated with site characterization and site assessment could affect resources in state waters. The U.S. Army Corps of Engineers (USACE) has jurisdiction over some activities in state and federal waters under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The USACE has established a Nationwide Permit (NWP) (NWP 6 Survey Activities) to regulate geophysical surveys in state waters. State issued permits may also be required for surveys in state waters. Additionally, a USACE NWP (NWP 5 Scientific Measurement Devices) is required for the installation of devices and scientific equipment the purpose of which is to record scientific data, and would include the installation of met buoys in the Call Area. The USACE is not a co-action agency on this consultation; however, BOEM anticipates the deployment of meteorological buoys and carrying out of geotechnical surveys would be permitted by USACE under those existing NWPs. While site characterization activities that extend into state waters are expected to follow the issuance of a lease in the GOM Call Area, BOEM is not authorizing any activities in state waters and does not have regulatory authority to apply mitigation measures outside of the OCS.

The timing of lease issuance, as well as weather and sea conditions, would be the primary factors influencing timing of site characterization and site assessment survey activities. Lessees have up to five years to perform site characterization and site assessment activities before they must submit a Construction and Operations Plan (COP) (30 CFR § 585.235(a)(2)) but may be granted an extension. This proposed action does not include the construction, operation, or decommissioning of an offshore wind facility, including the installation of turbines or cable placement. BOEM's issuance of a wind energy lease does not authorize construction, operations, maintenance, and eventual decommissioning of an offshore wind facility. BOEM must approve a lessee's COP before construction, operations, maintenance, or decommissioning may occur. BOEM expects to hold its first renewable lease auction for offshore wind development in the GOM in early 2023, and it is assumed lessees would begin survey activities as soon as possible after receiving a lease and when sea states and weather conditions allow. Therefore, BOEM expects site characterization and site assessment activities in the GOM would likely begin within one year following execution of a lease and continue intermittently for the following five to seven years leading up to the submittal of the COP.

On January 11, 2022, BOEM announced the preparation of an environmental assessment (EA) to determine whether the issuance of leases and grants within the Call Area in the GOM would lead to reasonably foreseeable significant impacts on the environment. The draft EA was published for comment on July 20, 2022 (https://www.boem.gov/renewable-energy/state-activities/gulf-mexico-draft-ea). The proposed action for the EA is similar to that of the ESA consultation request but differs in two distinct ways. First, fishery-related biological surveys (e.g., trawl surveys, gillnet surveys, or fish/crustacean trap surveys) are not a part of this ESA consultation's proposed action. BOEM does not require the lessee to perform fishery surveys to satisfy requirements for the SAP, COP, or General Activities Plan (GAP) to describe biological resources that could be affected by the activities proposed in the plans, or that could affect the activities proposed in the plans (see 30 CFR § 585.611(a)(3); 30 CFR § 585.626(a)(3); and 30 CFR § 585.645(a)(5)) and, therefore, such surveys are not reasonably certain to follow from issuance of a lease. The Gulf of Mexico is a well-studied basin and there are many existing data sources lessees may use for characterizing the fisheries of a site. If a lessee proposes fishery surveys not included in this ESA consultation, additional ESA consultation would be necessary. Second, the proposed action for this ESA consultation does not include a transmission backbone. A transmission backbone is a shared transmission system that runs parallel to shore to connect multiple wind facilities to the onshore grid through a single cable landfall. The transmission backbone would require additional site characterization and site assessment activities. However, at this time, the location and extent of these activities are unknown. Should a lessee or lessees apply for an ROW for a transmission backbone within the Call Area, additional consultation could be necessary.

ESA-LISTED SPECIES

BOEM used the FWS' Information for Planning and Consultation (IPaC) environmental conservation online system to generate a list of ESA-listed species (including any proposed and candidate species) that could potentially be found within the action area as well as designated Critical Habitat (including habitat proposed for designation). The list is provided in the table in **Attachment B** and includes all species for the counties bordering the Call Area in Louisiana and Texas. As noted above, the action area does not include any onshore areas, only marine, coastal, and estuarine waters.

As detailed in the table in **Attachment B**, two species determined to have possible preferred habitat present within the action area and could potentially be affected by the Proposed Action are the West Indian manatee (*Trichechus manatus*) and whooping crane (*Grus americana*). Further details on potential impacts to the manatee and whooping crane are provided below. The Proposed Action is expected to have *No Effect* on any other ESA-listed species or Critical Habitat, nor will it jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated Critical Habitat.

West Indian Manatee

The West Indian manatee was reclassified from endangered to threatened under the ESA in May of 2017. The manatee typically inhabits coastal, brackish, and freshwater areas in the northern GOM (Jefferson et al., 1993; O'Shea et al., 1995). On very rare occasions, manatees have been

found in deeper waters (e.g., thousands of feet deep) (Epperson, Pers. Comm., 2013; Fertl et al., 2005). There are two subspecies of the West Indian manatee: the Florida manatee (*T. m. latirostris*), which ranges from the northern GOM to Virginia; and the Antillean manatee (*T. m. manatus*), which ranges from northern Mexico to eastern Brazil, including the islands of the Caribbean Sea (FWS, 2022a). Florida manatees have been divided into four distinct regional management units (see **Table 1**): the Atlantic Coast, Southwest, Upper St. Johns River, and Northwest Units (Waring et al., 2011).

Table 1
Florida Manatee Regional Management Units

Management Unit	Description
Atlantic Coast Unit	Occupies the east coast of Florida, including the Florida Keys and the lower St. Johns River north of Palatka, Florida
Southwest Unit	Occupies Pasco County, Florida, south to Whitewater Bay in Monroe County, Florida
Upper St. Johns River Unit	Occupies the St. Johns River south of Palatka, Florida
Northwest Unit	Occupies the Florida Panhandle south to Hernando County, Florida

Source: Waring et al., 2011

FWS jurisdiction for the manatee extends 6 miles offshore. Manatees from the Northwest Unit are more likely to be seen in the northern GOM, and they can be found as far west as Texas; however, most sightings are in the eastern GOM. Although manatees are less common in the western GOM, manatee sightings have been increasing during the warmer summer months (Fertl et al., 2005). Winter habitat use is primarily influenced by water temperature as animals congregate at natural springs and/ or artificial (e.g., power plant outflows) warm water sources (Alves-Stanley et al., 2010).

Manatees are generalist feeders and are known to consume more than 60 species of submerged aquatic vegetation (SAV). Shallow seagrass beds with access to deep channels are their preferred feeding areas in coastal and riverine habitats (FWS, 2001).

On July 14, 2021, the FWS initiated a five-year review of the manatee's ESA status (Federal Register, 2021a). The results of the review are not currently available, but the manatee recently experienced an unusual mortality event (UME) in 2021 along the east coast of Florida (UME #71). Researchers have attributed this UME to starvation due to the lack of seagrasses in the Indian River Lagoon. In recent years, poor water quality in the Lagoon has led to harmful algal blooms and widespread seagrass loss (FWC, 2022). Aside from the UME, watercraft-related mortality is the primary threat to manatees followed by loss of warm-water habitat, red tide, and entanglement (USGS, 2007).

West Indian Manatee Critical Habitat

Critical Habitat was designated for the manatee in 1976. All of the Critical Habitat areas are in Florida, outside of the action area (Federal Register, 1977).

Potential Effects of the Proposed Action

The ESA-listed West Indian manatee could occur in the action area. Potential effects of the Proposed Action for this species could include the following:

- Behavioral effects due to the presence of vessel traffic and survey equipment, including noise;
- Vessel strikes;
- Entanglement; and,
- Loss of grazing resources due to bottom disturbance.

Noise: It is unlikely that manatees would occur at water depths where the met buoys will be placed inside the Call Area. However, it is possible that manatees could encounter the nearshore surveying activities (e.g., high-resolution geophysical [HRG] or coring). Prior studies identified that manatees could detect approaching vessels (Ketten et al. 1992; Nowacek et al. 2001, 2004) but were incapable of avoiding watercraft. Based on electrophysiological and anatomical measurements, it is estimated that manatee hearing is best at low frequencies between 1,000 and 5,000 Hertz (Hz) (Bullock et al. 1982, Ketten et al. 1992) with a functional range between 400 to 46,000 Hz (Gerstein 2002). Hearing thresholds in quiet ambient conditions have shown that the manatee's sensitivity is best between 16,000 and 18,000 Hz. A slow boat measures between 10 and 2,000 Hz which places ship sounds outside of, or at the lowest range of, manatee auditory levels (Gerstein 2002). The HRG sound levels that can cause physical injury are either below or above manatee sensitivities and are not expected to occur. Surveying activities will be temporary, intermittent, and spread out, and as noted above, they could be conducted from 2023 through 2040. Manatee occurrence is rare at any time within the action area, and any disturbance is anticipated to result in only short-term displacement of individuals and is expected to be insignificant.

Geophysical (HRG) Surveys

HRG surveys are surveys that utilize electromagnetic sources to assess seafloor conditions. HRG surveys employ a sound transmitting and receiving system that converts electronic signals to acoustic pulses and then receives and converts the acoustic pulse back into an electronic signal. The difference between the time a signal is sent and received, when the sound sources are pointed toward the seafloor, is used to measure depth or differences in the density of the substrate. The three-dimension images generated from this type of surveying are used to detect topographic formations and manmade objects (e.g., shipwrecks). The acoustic characteristics of the sources used to conduct these surveys vary. Representative frequencies for HRG sources that would be used for the Proposed Action are presented in **Table 2**. HRG surveys will be used to identify and evaluate potential export cable routes, evaluate proposed turbine foundation locations, identify sensitive benthic resources, acquire shallow hazards information, obtain

information regarding the presence or absence of archaeological resources, and identify areas to be avoided for future construction activities. Information on the approximate size, type, and speed of vessels used for HRG surveys is found in **Table 3**. The amount of time each vessel will be underway is unknown; however, the estimated total activity hours for HRG surveys can be found in **Table 4**. The projected number of vessel trips for HRG surveys associated with all 18 leases is 1,238, with the assumption that HRG survey activities would occur year-round.

Table 2
Acoustic Characteristics of Representative HRG Survey Equipment

HRG Source	Highest Measured Source Level (Highest Power Setting)						
	Source Setting	PK	RMS	SEL	Pulse Width (s)	Main Pulse Frequency (kHz)	Inter-Pulse interval (1/PPS)
AA200 Boomer Plate	250 J (low)	209	200	169	0.0008	4.3	1.0
AA251 Boomer Plate	300 J (high)	216	207	176	0.0007	4.3	1.0
Applied Acoustics S-Boom (3AA252 boomer plates)	700 J	211	205	172	0.0006	6.2	1.0
Applied Acoustics S-Boom (CSP-N Source)	1000 J	209	203	172	0.0009	3.8	0.33
FSI HMS-620D Bubble Gun	Dual Channel 86 cm	204	198	173	0.0033	1.1	8.0
ELC820 Sparker	750 J (high) 1m depth	214	206	182	0.0039	1.2	1.0
Applied Acoustic Dura-Spark	2400 J (high), 400 tips	225	214	188	0.0022	2.7	0.33
Applied Acoustic Delta Sparker	2400 J at 1 m depth, 0.5 kHz	221	205	185	0.0095	0.5	0.33
EdgeTech 424 with 3200-XStopside processor	100% power, 4-20 kHz	187	180	156	0.0046	7.2-11	0.125
[1]EdgeTech 512i Sub-bottomProfiler, 8.9 kHz	100% power, 2-12 kHz	186	180	159	0.0087	6.3-8.9	0.125

Table 2 Acoustic Characteristics of Representative HRG Survey Equipment							
HRG Source	**Highest Measured Source Level (Highest Power Setting)**						
	Source Setting	**PK**	**RMS**	**SEL**	**Pulse Width (s)**	**Main Pulse Frequency (kHz)**	**Inter-Pulse interval (1/PPS)**
Knudsen 3202 Sub-bottom Profiler (2 transducers), 5.7 kHz	Power 4	214	209	193	0.0217	3.3-5.7	0.25
Reson Seabat 7111 Multibeam Echosounder	230 dB, 100 kHz	228	224	185	0.00015	100 kHz	0.05
Reson Seabat T20P Multibeam Echosounder	220 dB, 200, 300, or 400 kHz	221	218	182	0.00025	≥200 kHz	0.02
Bathyswath SWATHplus-M	100%, 234 kHz	223	218	180	0.00032	≥200 kHz	0.20
Echotrac CV100 Single-Beam Echosounder	Power 12, 80 cycles, 200 kHz	196	193	159	0.00036	≥200 kHz	0.05
Klein 3000 Side-Scan	132 kHz (also capable of 445kHz)	224	219	184	0.000343	132 kHz	0.033
Klein 3900 Side-Scan	445 kHz	226	220	179	0.000084	≥200 kHz	Unreported
EdgeTech 4200 Side-Scan	100%, 100 kHz (also a 400 kHz setting)	206	201	179	0.0072	100 kHz	0.033
Source: Highest reported source levels reported in Crocker and Fratantonio (2016). Table taken from Baker and Howson (2021).							

Table 3 Estimated Vessel Type, Speed, and Trips for High Resolution Geophysical Surveys for 18 Wind Energy Leases						
Vessel Type	**Length**	**Survey Speed**	**Transit Speed**	**Vessel Trips**		
				OCS	**State Waters**	**Total**
Survey Boat	192.9 ft [58.8 m]	8.334 km/hr [4.5 knots]	18.52 km/hr (10 knots)	1,189	49	1,238

Table 4 Estimated HRG Activity Levels for 18 Wind Energy Leases with Individual Lease Sizes of Up to 80,000 Acres					
Survey Type	**Vessel Type**	**Location**	**Distance of survey in km (includes transit to and from port)**	**Activity Hours**	**Travel Routes**
HRG Survey (Lease Areas and Associated Export Cable Routes)	Crew Boat	OCS	1,356,822	162,806	To Be Determined (TBD), Likely from existing ports
		State Waters	30,242	3,628	TBD, Likely from existing ports
		Total	1,387,064	166,434	TBD, Likely from existing ports

Vessel strikes and entanglement: Manatees could become entangled in the survey gear or struck by vessels engaged in site characterization and site assessment activities, though this is reasonably unlikely and, thereby, insignificant. A summary of the vessel traffic associated with site characterization and site assessment activities reasonably expected to take place after the issuance of commercial and research wind energy leases is provided in **Table 5**. BOEM will instruct lessees to adhere to the FWS' *Standard Conditions for Vessel Operations and Asset Deployment in Manatee Habitat During Emergency Response Activities* (Manatee Conditions/Protocols) while conducting site characterization and site assessment activities. A copy of these conditions/protocols is provided in **Attachment C**.

Table 5 Vessel Activity Associated with Site Characterization and Site Assessment Activities (18 Wind Energy Lease Sales)				
Activity	**Vessel Type(s)**	**Speed (knots)**	**Number of Trips**	**Distance Traversed (kilometers)**
High Resolution Geophysical (HRG) Surveys	Survey Boat or Crew Boat	4.5 survey/ 10 transit	1,189 - OCS 49 - State Waters 1,238 - Total	1,356,822 - OCS 30,242 - State Waters 1,387,064 - Total
Geotechnical and Benthic Surveys	Small Tugboat Small Cargo Barge	12 Towed	90	904,239

Table 5 Vessel Activity Associated with Site Characterization and Site Assessment Activities (18 Wind Energy Lease Sales)					
Activity		**Vessel Type(s)**	**Speed (knots)**	**Number of Trips**	**Distance Traversed (kilometers)**
		Jack-up Barge	7.5		
Marine Mammal and Sea Turtle Surveys (Boat Based)		Crew Boat	10	648	155,520
Avian Surveys (Boat Based)		Crew Boat	10	432	103,680
Met Buoys	Installation	Tug Boat or Deck Cargo Vessel Barge	12 Towed	72	Will depend on specific met buoy locations
	Operations/ Maintenance	Crew Boat	10	1,080	
	Decommission	Tug Boat or Deck Cargo Vessel Barge	12 Towed	72	

Loss of grazing resources: Manatees depend on SAV when in estuarine areas. Bottom-disturbing activities (e.g., grab sampling, coring) could affect these foraging areas. However, bottom-disturbing activities that could occur in shallow water estuarine areas containing SAV would be limited to the survey corridors used to evaluate potential future export cable ROWs and easements. ROW and easement surveys are typically 1,000-feet-wide or less and sampled at 1-kilometer (0.62 mile) intervals. BOEM would require lessees to follow a protocol that distances all bottom disturbing activities at least 1,000 feet from any National Marine Sanctuary boundary and 500 feet from any other sensitive benthic features including SAV, or any other hard bottom benthic feature(s). Thus, the proposed bottom-disturbing activities would have a discountable effect on benthic resources, including SAV.

The BOEM concludes that, with adherence to the protection measures in the Manatee Conditions/Protocols, the effects of the Proposed Action are insignificant and discountable. Thus, we have determined that the Proposed Action *May Affect, but* is *Not Likely to Adversely Affect* (NLAA) West Indian manatees.

Whooping Crane

Whooping cranes winter on the Aransas National Wildlife Refuge's salt flats and marshes in Texas (TPWD, 2022). A small population has been introduced into the White Lake Wetlands Conservation Area in Louisiana (LDWF, 2022).

The whooping crane is a bi-annual migrant, traveling between its summer habitat in central Canada, and its wintering grounds on the Texas coast. Autumn migration normally begins in mid-September, with most birds arriving on the Texas wintering grounds between late October and mid-November. Whooping cranes occupy winter areas for almost half a year. Spring migration departure dates are normally between March 25 and April 15, with the last birds usually leaving by May 1 (FWS, 2022b).

During the winter in Texas, whooping cranes forage in the brackish bays, marshes, and salt flats on the edge of the Texas mainland and on barrier islands. Occasionally, cranes fly to upland sites when attracted by freshwater (FWS, 2022b).

Whooping Crane Critical Habitat

Critical Habitat was designated for the whooping crane in 1978. Critical Habitat in Texas includes the Aransas National Wildlife Refuge and vicinity, including estuarine areas (Federal Register, 1978).

Potential Effects of the Proposed Action

The ESA-listed whooping crane could occur in the action area offshore Texas. Potential effects of the Proposed Action for this species could include behavioral effects due to the presence of vessel traffic and survey equipment, including noise.

Noise: Whooping cranes would not occur offshore where the met buoys will be placed inside the Call Area. However, it is possible that whooping cranes could encounter the nearshore surveying activities (e.g., HRG or coring). Surveys will be used to identify and evaluate potential export cable routes. The presence of survey vessels and related activity could cause the whooping cranes to temporarily avoid the immediate area. Any survey activities in the nearshore areas of Texas would be intermittent and temporary. Further, whooping crane Critical Habitat is not located along an anticipated cable route to an existing port. Corpus Christi and Port Lavaca, the closest port areas, are located to the south and north, respectively, with more direct access to the OCS. Therefore, it is not reasonably foreseeable that surveys would occur within whooping crane Critical Habitat during the period of potential crane overwintering.

The BOEM concludes that the effects of the Proposed Action on the whooping crane are discountable. Thus, we have determined that the Proposed Action is NLAA for whooping crane and will not adversely affect whooping crane Critical Habitat.

CONCLUSION

The Proposed Action includes BOEM's issuance of up to 18 leases within the GOM Call Area and easements (up to two per lease) for future export cable corridors. Site characterization activities (i.e., geophysical, geotechnical, archaeological, and biological surveys) and site assessment activities (i.e., installation of met buoys) are expected to take place after issuance of an OCS wind energy lease within the Call Area. Construction and operation of any commercial

wind energy facilities or port construction/enhancement is not being considered at this time and will be addressed during future consultations.

BOEM concludes that the activities associated with the Proposed Action are expected to have *No Effect* on any ESA-listed species or Critical Habitat under the FWS' purview, with two exceptions, the West Indian manatee and the whooping crane. With adherence to the protection measures set forth in the Manatee Conditions/Protocols, the Proposed Action is determined to be *NLAA* for West Indian manatees. Further, and with discountable effects, the Proposed Action is determined to be *NLAA* for the whooping crane. BOEM looks forward to any comments you may have on the information provided in this submittal and respectfully requests FWS concurrence with BOEM's determinations.

We look forward to working with FWS during this consultation process. If you have any questions or require any additional information, please contact Dr. Tre Glenn, Protected Species Biologist, Office of Environment, at tre.glenn@boem.gov or 504-736-1749.

ATTACHMENTS:

Attachment A – GOM Offshore Wind Leasing Call Area Mapping
Attachment B – GOM Offshore Wind Leasing and Site Assessment ESA Section 7 Consultation Species List
Attachment C – Standard Conditions for Vessel Operations and Asset Deployment in Manatee Habitat During Emergency Response Activities
Attachment D – References

Sincerely,

AGATHA-MARIE KALLER

Digitally signed by AGATHA-MARIE KALLER
DN: c=US, o=U.S. Government, ou=Department of the Interior, ou=Bureau of Ocean Energy Management, cn=AGATHA-MARIE KALLER, 0.9.2342.19200300.100.1.1=14001001248643
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ATTACHMENT A
GOM OFFSHORE WIND LEASE AND GRANT ISSUANCES ACTION AREA MAPPING

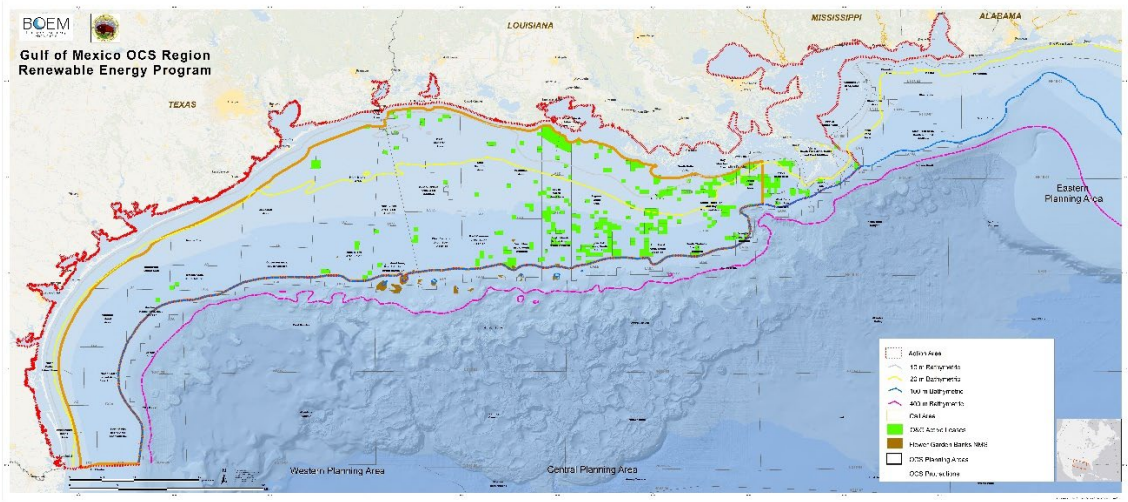

Figure 1: Action Area in the Gulf of Mexico

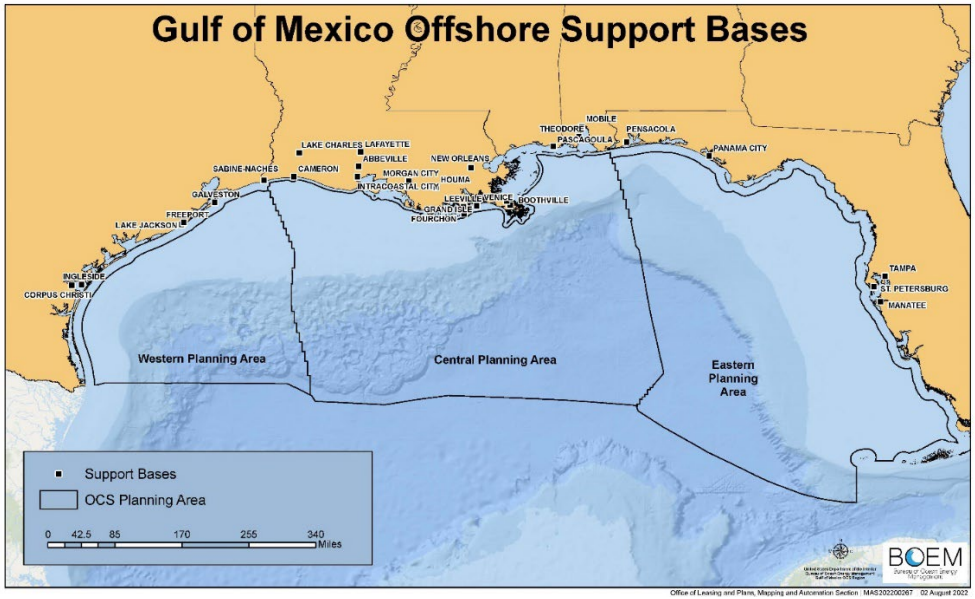

Figure 2: Major Ports in the Gulf of Mexico

ATTACHMENT B
GOM OFFSHORE WIND LEASE AND GRANT ISSUANCES AND SITE CHARACTERIZATION AND SITE ASSESSMENT ESA SECTION 7 CONSULTATION SPECIES LIST

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Mammals						
Gulf Coast Jaguarundi (*Puma yagouaroundi cacomitli*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Ocelot (*Leopardus pardalis*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
West Indian Manatee (*Trichechus manatus*)	T	No	LA, TX	They may migrate as far as Texas in the warmer seasons, typically inhabiting only shallow coastal marine, brackish, and freshwater areas. They forage in areas with seagrasses are present (BOEM, 2021).	Manatees are less common in the western GOM (BOEM, 2021) and there will only be limited survey activities that could occur in shallow coastal habitat. Vessels will have required FWS Protocols (Appendix C).	NLAA
Birds						
Attwater's Greater Prairie-chicken (*Tympanushus cupido*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Black-capped petrel (*Pterodroma hasitata*)	PT	No	Offshore	They forage offshore at the water surface at night. The diet appears to include squid, fish, crustaceans, and Sargassum or marine algae (Federal Register, 2018). .	Outside of their typical range, when observed in the GOM, they have typically been east of the action area Further, there will only be limited survey activities that could occur in the vicinity of the habitats used for resting and foraging.	No Effect
Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*)	T	No	LA, TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Northern Aplomado Falcon (*Falco femoralis septentrionalis*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Piping Plover (*Charadrius melodus*)	T	Yes – LA, TX	LA, TX	They migrate to the GOM from the northern plains for wintering. Habitats used during wintering along the coast include beaches, mudflats, sand flats, algal flats and washover passes (BOEM, 2021).	There will be no activities conducted onshore as part of the Proposed Action.	No Effect

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Red Knot (*Calidris canutus rufa*)	T	Proposed – LA, TX	LA, TX	Migrate across North and South America via the Atlantic Coast or Central and Mississippi Flyways. Habitats used during migration and for some individuals during wintering along the coast include beaches, bays, tidal flats, salt marshes, and lagoons. They forage on beaches, oyster reefs, and exposed bay bottoms, and they roost on high sandflats reefs, and other sites protected from high tides (BOEM, 2021).	The Proposed Action does not occur within preferred foraging, roosting, or nesting areas. The Proposed Action includes areas where migrating individuals could pass over. However, there will only be limited survey activities that could occur in the vicinity. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Red-cockaded Woodpecker (*Picoides borealis*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Whooping Crane (*Grus americana*)	E	Yes – TX	LA, TX	Whooping cranes winter on the Aransas National Wildlife Refuge's salt flats and marshes in Texas (TPWD, 2022). A small population has been introduced into the White Lake Wetlands Conservation Area in Louisiana (LDWF, 2022).	The Proposed Action will not affect the Aransas National Wildlife Refuge or White Lake Wetlands Conservation Area. There will be no activities conducted onshore as part of the Proposed Action. Critical Habitat is not located in a likely foreseeable pathway for export (transmission) cable access to an existing port.	NLAA (The likelihood of impacting this species is possible, but so unlikely that the risk is discountable)
Reptiles						

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Alligator Snapping Turtle (*Macrochelys temminckii*)	PT	No	LA, TX	It typically uses fresh waterbodies; however, it can presumably tolerate some salinity and brackish water. The species is generally found in deeper water of large rivers and their major tributaries; however, it is also found in a wide variety of habitats, including small streams, bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows. Adult females leave the water to nest on land. Beyond the nest, all life stages rely on submerged material (i.e., deadhead logs and vegetation) as important structure for resting, foraging, and cover from predators (Federal Register, 2021b).	The Proposed Action does not occur within preferred foraging or nesting areas. The Proposed Action will be in open estuarine areas and marine waters. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Green Sea Turtle – North Atlantic DPS (*Chelonia mydas*)	T	No	TX	They are found throughout the GOM. Adults are herbivores and reside nearshore foraging on algae and seagrasses. Their primary nesting site is located in Florida. Hatchlings reside for several years in association with *Sargassum* (BOEM, 2021).	The USFWS' jurisdiction is limited to nesting beaches and onshore habitat. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Hawksbill Sea Turtle (*Eretmochelys imbricata*)	E	No	LA, TX	Adults forage on reefs and hardbottom habitats and occasionally mangrove-fringed bays. Primarily found along Texas and Florida. Most nesting occurs along the beaches of the Caribbean Sea and rarely in Florida. Hatchlings and early juveniles are often found associated with *Sargassum* (BOEM, 2021).	The USFWS' jurisdiction is limited to nesting beaches and onshore habitat. There will be no activities conducted onshore as part of the Proposed Action.	No Effect

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)	E	No	LA, TX	Commonly occur in the GOM in coastal areas over crab rich sandy or muddy bottoms. Juveniles also frequent coastal lagoons and river mouths. Their primary nesting site is located in Mexico (BOEM, 2021).	The USFWS' jurisdiction is limited to nesting beaches and onshore habitat. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Leatherback Sea Turtle (*Dermochelys coriacea*)	E	No	LA, TX	They use the shelf and slope habitat of the GOM. They forage on jelly fish and other pelagic gelatinous organisms. Nesting in the GOM is rare and little is known about their first 10 years of development (BOEM, 2021).	The USFWS' jurisdiction is limited to nesting beaches and onshore habitat. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Loggerhead Sea Turtle – Northwest Atlantic Ocean DPS (*Caretta caretta*)	T	Yes – AL, MS	LA, TX	Nearshore waters are important for juveniles and adult foraging and migrating habitat. Juveniles also spend time in bays, sounds, and estuaries. In the GOM the major nesting areas are beaches in Mississippi, Alabama, and Florida. Hatchlings reside for several months on *Sargassum* (BOEM, 2021).	The USFWS' jurisdiction is limited to nesting beaches and onshore habitat. There will be no activities conducted onshore as part of the Proposed Action.	No Effect
Fish						

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)	T	Yes – LA	LA	Their present range extends from Lake Pontchartrain to the Suwannee River (BOEM, 2021). When outside of riverine habitat, they use bays, estuaries, and the nearshore areas (NOAA Fisheries, 2022).	The Proposed Action lies west of their current range. In the case of a weather event, vessels could be mobilized from Mississippi, which is within their known range. However, it is anticipated that any mobilization from Mississippi would be infrequent and limited.	No Effect
Pallid Sturgeon (*Scaphirhynchus albus*)	E	No	LA	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Invertebrates						
False Spike (*Fusconaia mitchelli*)	PE	Proposed – TX	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Guadalupe Orb (*Cyclonaias necki*)	PE	Proposed - TX	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Monarch Butterfly (*Danaus plexippus*)	C	No	LA, TX	For the eastern North American population, most monarchs overwinter in oyamel fir tree roosts located in mountainous regions in central Mexico. Monarchs living west of the Rocky Mountain range in North America primarily overwinter in California (FWS, 2022c).	The Proposed Action does not occur within foraging or breeding areas. Their migration flyways, although along the coast, are over land. Monarchs only travel during the day and need to find a roost (e.g., pine, fir, cedar tree) at night (USFS, 2020). There will be no activities conducted onshore as part of the Proposed Action.	No Effect

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**
Texas Fawnsfoot (Truncilla macrodon)	PT	Proposed - TX	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Texas Pimpleback (*Cyclonaias petrina*)	PE	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Plants						
Black Lace Cactus (*Echinocereus reichenbachii var. albertii*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Slender Rush-pea (*Hoffmannseggia tenella*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
South Texas Ambrosia (*Ambrosia cheiranthifolia*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Texas Ayenia (*Ayenia limitaris*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Texas Prairie Dawn-flower (*Hymenoxys texana*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect
Texas Trailing Phlox (*Phlox nivalis ssp. tesensis*)	E	No	TX	N/A – No overlap with the action area, this species does not utilize estuarine or marine waters.		No Effect

GOM Offshore Wind Leasing Site Characterization and Site Assessment ESA Section 7 Consultation Species List						
Species [a]	**Federal Status [b]**	**Designated Critical Habitat**	**State**	**Preferred Habitat**	**Potential Presence in the Action Area**	**Effect Determination [d]**

Notes:

[a] The species in this table are based on the county lists for those counties bordering the Call Area in Louisiana and Texas. Harrison and Jackson counties in Mississippi were included in case vessels will need to be mobilized out of Pascagoula or Gulfport.

[b] E – Endangered, T – Threatened, C - Candidate Species, PE – Proposed Endangered, PT – Proposed Threatened

[c] The action area does not include any onshore areas. It does include marine and estuarine waters.

[d] NLAA – May Affect, but Not Likely to Adversely Affect

ATTACHMENT C
Standard Conditions for Vessel Operations and Asset Deployment in Manatee Habitat During Emergency Response Activities

During in-water work in areas that potentially support manatees all personnel associated with the project should be instructed about the potential presence of manatees, manatee speed zones, and the need to avoid collisions with and injury to manatees. All personnel should be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Additionally, personnel should be instructed not to attempt to feed or otherwise interact with the animal, although passively taking pictures or video would be acceptable.

All on-site personnel are responsible for observing water-related activities for the presence of manatee(s). We recommend the following to minimize potential impacts to manatees in areas of their potential presence:

- All work, equipment, and vessel operation should cease if a manatee is spotted within a 50-foot radius (buffer zone) of the active work area. Personnel should be encouraged to use sunglasses with polarized lenses to improve the likelihood of seeing manatees on and below the water's surface. After the manatee has left the buffer zone on its own accord (manatees must not be herded or harassed into leaving), or after 30 minutes have passed without additional sightings of manatee(s) in the buffer zone, in-water work can resume under careful observation for manatee(s).
- If a manatee(s) is sighted in or near the Action Area, all vessels associated with the project should operate at "no wake/idle" speeds within the construction area and at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom. Vessels should follow routes of deep water (4 ft <) whenever possible.
- If used, in-water assets (e.g., booms or turbidity barriers) should be properly secured, made of material in which manatees cannot become entangled, and be monitored to avoid manatee entrapment or impeding their movement.
- Temporary signs at least 8½ " X 11" reading language similar to the following: "CAUTION BOATERS: MANATEE AREA/ IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA AND WHERE THERE IS LESS THAN FOUR FOOT

BOTTOM CLEARANCE WHEN MANATEE IS PRESENT" should be posted in a place clearly visible to the vessel operator. A second temporary sign measuring 8½ " X 11" should be posted at a location prominently visible to all personnel engaged in water- related activities and should read language similar to the following: "CAUTION: MANATEE AREA/ EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION".

- Collisions with, injury to, or sightings of manatees should be immediately reported to the Service's appropriate Texas or Louisiana contacts. Please provide the nature of the call (i.e., report of an incident, manatee sighting, etc.); time of incident/ sighting; and the approximate location, including the latitude and longitude coordinates, if possible.

ATTACHMENT D
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