

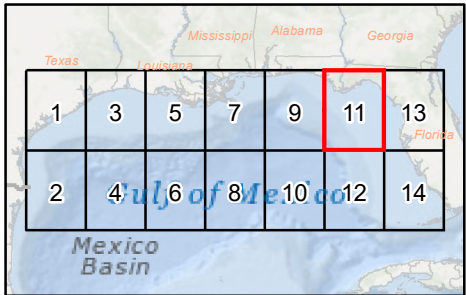
# **Biology Map 11** **Gulf of Mexico** **Offshore ESI**



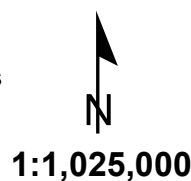
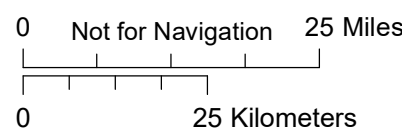
Bureau of Safety and  
Environmental Enforcement

- Benthic
- Birds
- Fish
- Herpetofauna
- Invertebrates
- Marine Mammals

- Benthic Points
- USCG Captain Of The Port Zones
- Bathymetry (Meters)
- US Exclusive Economic Zone
- AOI



**SEE MAP DATA TABLE**  
 for Status, Seasonality, and Breed  
 information about mapped species.  
 Published: February 2023





Gulf of Mexico Offshore ESI: Biology Map 11

BIOLOGICAL RESOURCES:

BENTHIC:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)													
20	Stony cup coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
21	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
28	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
34	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony cup coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
36	Sea pens			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Soft coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
37	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
41	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
43	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Soft coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
44	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
48	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
56	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
57	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
62	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Sea pens			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
69	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
73	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
76	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Lace coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
80	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
85	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
96	Stony coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
118	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Stony branching coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
121	Black coral			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Gorgonian corals			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Sea pens			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Soft coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
122	Deep sea sponge			Structure-Forming	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
	Soft coral			Solitary	Vulnerable Occurrence	J	F	M	A	M	J	J	A	S	O	N	D		
164	Deep sea coral			0 To 1 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
165	Deep sea coral			>1 To 2 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
166	Deep sea coral			>2 To 4 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
167	Deep sea coral			>4 To 6 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
168	Deep sea coral			>6 To 8 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
169	Deep sea coral			>8 Genera	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D		
229	Sargassum			-	General Distribution			M	A	M	J	J	A	S					

BIRD:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Nesting	Migrating		Molting	
1	Audubon's shearwater			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Band-rumped storm-petrel			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Black tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Bonaparte's gull			-	General Distribution	J	F	M	A	M							D	-	-	-	-	
	Bridled tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Brown booby			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Brown noddy			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Brown pelican			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Common loon			-	General Distribution	J	F	M	A	M							D	-	-	-	-	
	Common tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Cory's shearwater			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Great shearwater			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Herring gull			-	General Distribution	J	F	M	A	M					S	O	N	D	-	-	-	-
	Laughing gull			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Magnificent frigatebird			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Masked booby			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Northern gannet			-	General Distribution	J	F	M	A	M							D	-	-	-	-	-
	Parasitic jaeger			-	General Distribution	J	F	M	A	M					S	O	N	D	-	-	-	-
	Pomarine jaeger			-	General Distribution	J	F	M	A	M	J	J	A				D	-	-	-	-	-
	Royal tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Sandwich tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Seabirds			High-Vessel Srvy Ppo	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Sooty tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Wilson's storm-petrel			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	2	Audubon's shearwater			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-
		Band-rumped storm-petrel			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-
		Black tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-
		Bonaparte's gull			-	General Distribution	J	F	M	A	M							D	-	-	-	-
		Bridled tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
		Brown booby			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
Brown noddy				-	General Distribution						J	J	A	S	O	N		-	-	-	-	
Brown pelican				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
Common loon				-	General Distribution	J	F	M	A	M							D	-	-	-	-	
Common tern				-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
Cory's shearwater				-	General Distribution						J	J	A	S	O	N		-	-	-	-	
Great shearwater				-	General Distribution						J	J	A	S	O	N		-	-	-	-	
Herring gull				-	General Distribution	J	F	M	A	M					S	O	N	D	-	-	-	-
Laughing gull				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Magnificent frigatebird				-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
Masked booby				-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
Northern gannet				-	General Distribution	J	F	M	A	M							D	-	-	-	-	-
Parasitic jaeger				-	General Distribution	J	F	M	A	M					S	O	N	D	-	-	-	-
Pomarine jaeger				-	General Distribution	J	F	M	A	M	J	J	A				D	-	-	-	-	-
Royal tern				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Sandwich tern				-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
Seabirds				Low-Vessel Srvy Ppo	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Sooty tern				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
Wilson's storm-petrel				-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
3		Audubon's shearwater			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-
		Band-rumped storm-petrel			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-

Species Threatened/Endangered

Gulf of Mexico Offshore ESI: Biology Map 11 (cont.)

BIOLOGICAL RESOURCES: (cont.)

BIRD (cont.):

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Nesting	Migrating		Molting	
	Black tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Bonaparte's gull			-	General Distribution	J	F	M	A	M							D	-	-	-	-	
	Bridled tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Brown booby			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Brown noddy			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Brown pelican			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	
	Common loon			-	General Distribution	J	F	M	A	M							D	-	-	-	-	
	Common tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	
	Cory's shearwater			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Great shearwater			-	General Distribution						J	J	A	S	O	N		-	-	-	-	
	Herring gull			-	General Distribution	J	F	M	A	M					S	O	N	D	-	-	-	-
	Laughing gull			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Magnificent frigatebird			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Masked booby			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Northern gannet			-	General Distribution	J	F	M	A	M							D	-	-	-	-	-
	Parasitic jaeger			-	General Distribution	J	F	M	A	M				S	O	N	D	-	-	-	-	-
	Pomarine jaeger			-	General Distribution	J	F	M	A	M	J	J	A				D	-	-	-	-	-
	Royal tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Sandwich tern			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
	Seabirds			Med-Vessel Srvy Ppo	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Sooty tern			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-
	Wilson's storm-petrel			-	General Distribution			M	A	M	J	J	A	S	O	N		-	-	-	-	-
16	Black-capped petrel			High-Vessel Srvy Ppo	Concentration Area	F	M	A	M	J	J	A	S	O	N		-	-	-	-	-	-
17	Black-capped petrel			Low-Vessel Srvy Ppo	General Distribution	F	M	A	M	J	J	A	S	O	N		-	-	-	-	-	-
18	Black-capped petrel			Med-Vessel Srvy Ppo	General Distribution	F	M	A	M	J	J	A	S	O	N		-	-	-	-	-	-
249	Marine birds			High-Aerial Survey	Concentration Area						J	J	A				-	-	-	-	-	-
250	Marine birds			Low-Aerial Survey	General Distribution						J	J	A				-	-	-	-	-	-
251	Marine birds			Medium-Aerial Survey	General Distribution						J	J	A				-	-	-	-	-	-
253	Marine birds			High-Aerial Survey	Concentration Area	J	F										D	-	-	-	-	-
254	Marine birds			Low-Aerial Survey	General Distribution	J	F										D	-	-	-	-	-
255	Marine birds			Medium-Aerial Survey	General Distribution	J	F										D	-	-	-	-	-

FISH:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Spawning		Eggs	Larvae	Juveniles	Adults	
4	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Oct	Jan-Dec	Jan-Dec	
	Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Blacktip shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Blue marlin			-	General Distribution					M	J	J	A	S	O	N		May-Nov	-	May-Nov	May-Nov	-	-	
	Dusky shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Gag			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-May	-	Dec-Apr	Feb-May	-	Jan-Dec	
	Greater amberjack			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-May	-	-	-	Jan-Dec	Jan-Dec	
	Menhaden			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Oct-Apr	-	-	-	Oct-Apr	Oct-Apr	
	Night shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N		-	-	-	-	-	-	
	Red drum			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Aug-Nov	-	Aug-Oct	-	-	Jan-Dec	
	Red grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec	
	Red snapper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Oct	-	Jul-Nov	Jul-Nov	Jan-Dec	Jan-Dec	
	Sailfish			-	General Distribution			M	A	M	J	J	A	S	O			May-Sep	-	May-Sep	Mar-Oct	-	Mar-Oct	
	Sandbar shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	Jan-Dec	
	Scalloped hammerhead			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Scamp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Jun	-	Mar-May	Mar-May	Jan-Dec	Jan-Dec	
	Silky shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
	Skipjack tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	Jan-Dec	
	Spinner shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Tilefish spp.			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Sep	-	-	-	Jan-Dec	Jan-Dec	
	Vermilion snapper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	Jun-Nov	Jun-Nov	-	Jan-Dec	
	Whale shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
	Yellowedge grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Nov	-	-	-	-	Jan-Dec	
	8	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Oct	Jan-Dec	Jan-Dec
		Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
Blacktip shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Oct	Jan-Dec	Jan-Dec	
Bull shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
Gag				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-May	-	Dec-Apr	Feb-May	-	Jan-Dec	
Goliath grouper				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jun-Oct	-	-	-	-	Jan-Dec	
Greater amberjack				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-May	-	-	-	Jan-Dec	Jan-Dec	
King mackerel				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Oct	-	May-Oct	May-Oct	May-Oct	Jan-Dec	
Menhaden				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Oct-Apr	-	-	-	Oct-Apr	Oct-Apr	
Red drum				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Aug-Nov	-	Aug-Oct	-	-	Jan-Dec	
Red grouper				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec	
Red snapper				Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Oct	-	Jul-Nov	Jul-Nov	Jan-Dec	Jan-Dec	
Sailfish				-	General Distribution			M	A	M	J	J	A	S	O			-	-	-	-	-	Mar-Oct	
Sandbar shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Apr-Jul	Jan-Dec	Jan-Dec	
Scalloped hammerhead				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	May-Jun	Jan-Dec	Jan-Dec	
Scamp				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Jun	-	Mar-May	Mar-May	Jan-Dec	Jan-Dec	
Spanish mackerel				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Sep	-	-	May-Oct	Mar-Nov	Jan-Dec	
Spinner shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
Tiger shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jul-Aug	Jan-Dec	Jan-Dec	
Vermilion snapper				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	Jun-Nov	Jun-Nov	-	Jan-Dec	
Whale shark				-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
19		Bluefin tuna			Bluefin Tuna Hapc	Spawning Area				A	M	J						Apr-Jun	-	Apr-Jun	Apr-Jun	-	-	
174		Bigeye tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
		Blue marlin			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Nov	-	May-Nov	May-Nov	Jan-Dec	Jan-Dec
		Bluefin tuna			-	General Distribution	J	F	M	A	M	J					D	-	-	-	-	-	Dec-Jun	
	Longbill spearfish			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
	Longfin mako			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
	Night shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N		-	-	-	-	-	-	
	Sailfish			-	General Distribution			M	A	M	J	J	A	S	O		May-Sep	-	May-Sep	Mar-Oct	-	-		
	Shortfin mako			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	Jan-Dec	Jan-Dec	
	Silky shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
	Skipjack tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-May	-	-	Jun-Oct	Jan-Dec	Jan-Dec	
	Swordfish			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	
	White marlin			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jun-Jun	-	-	-	Jan-Dec	Jan-Dec	
	Yellowfin tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	May-Sep	May-Sep	-	Jan-Dec	
	175	Gag			-	Spawning Area	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Apr	Aug-Oct	-	-	-	-
		Red grouper			-	Spawning Area		F	M	A	M	J						Feb-Jun	-	-	-	-	-	
Scamp				-	Spawning Area	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Jun	-	-	-	-	-	
Yellowmouth grouper				-	Spawning Area	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	-	-	
184	Gulf sturgeon		T	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
200	Giant manta		T	High Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
201	Giant manta		T	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-	
202	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Blackfin snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	Mar-May	Jan-Dec	
	Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Blacktip shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec	
	Blue marlin			-	General Distribution					M	J	J	A	S	O	N		May-Nov	-	May-Nov	May-Nov	-	-	
	Gag			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-May	-	Dec-Apr	Feb-May	-	Jan-Dec	
	Greater amberjack			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-May	-	-	-	Jan-Dec	Jan-Dec	
	Red grouper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec	

Gulf of Mexico Offshore ESI: Biology Map 11 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH (cont.):																							
RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)										Spawning		Eggs	Larvae	Juveniles	Adults		
204	Red snapper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Oct	-	Jul-Nov	Jul-Nov	Jan-Dec	Jan-Dec
	Sailfish			-	General Distribution				M	A	M	J	J	A	S	O		May-Sep	-	May-Sep	Mar-Oct	-	-
	Sandbar shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	Jan-Dec
	Scamp			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Jun	-	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Silky shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-
	Skipjack tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Snowy grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Oct	-	-	-	-	Jan-Dec
	Tiger shark			-	General Distribution							J	A				-	-	-	Jul-Aug	-	-	
	Tilefish spp.			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Sep	-	-	-	Jan-Dec	Jan-Dec
	Vermilion snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	Jun-Nov	Jun-Nov	-	Jan-Dec
	Yellowedge grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Nov	-	-	-	-	Jan-Dec
	Blue marlin			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Nov	-	May-Nov	May-Nov	Jan-Dec	Jan-Dec
	Bluefin tuna			-	General Distribution	J	F	M	A	M	J					D	-	-	-	-	-	Dec-Jun	
	Longbill spearfish			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-
	Red grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec
	Sailfish			-	General Distribution				M	A	M	J	J	A	S	O		May-Sep	-	May-Sep	Mar-Oct	Mar-Oct	-
	Silky shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	-
	Skipjack tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-May	-	-	Jun-Oct	Jan-Dec	Jan-Dec
	Swordfish			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec
Tilefish spp.			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Sep	-	-	-	Jan-Dec	Jan-Dec	
Yellowedge grouper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Nov	-	-	-	-	Jan-Dec	
Yellowfin tuna			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	May-Sep	May-Sep	-	Jan-Dec	
205	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Oct	Jan-Dec	Jan-Dec
	Blackfin snapper			-	General Distribution				M	A	M						-	-	-	-	Mar-May	-	
	Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	May-Oct	Jan-Dec	Jan-Dec
	Blacktip shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Oct	Jan-Dec	Jan-Dec
	Bull shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Gag			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Sep-Nov	Jan-Dec
	Goliath grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jun-Oct	-	-	-	-	Jan-Dec
	Greater amberjack			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-May	-	-	-	Jan-Dec	Jan-Dec
	Lemon shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	Jan-Dec
	Red drum			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Aug-Nov	-	Aug-Oct	-	-	Jan-Dec
	Red grouper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec
	Red snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Oct	-	Jul-Nov	Jul-Nov	Jan-Dec	Jan-Dec
	Sandbar shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Apr-Jul	Jan-Dec	Jan-Dec
	Scamp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Jun	-	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Spinner shark			-	General Distribution							J	J	A	S	O	N	-	-	-	Jun-Nov	-	-
	Tiger shark			-	General Distribution							J	A				-	-	-	Jul-Aug	-	-	
	Vermilion snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	Jun-Nov	Jun-Nov	-	Jan-Dec
207	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Blackfin snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	Mar-May	Jan-Dec
	Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Blacktip shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Gag			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-May	-	Dec-Apr	Feb-May	-	Jan-Dec
	Greater amberjack			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-May	-	-	-	Jan-Dec	Jan-Dec
	Lemon shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	-	Jan-Dec
	Red grouper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-Jun	-	Jan-Dec	May-Jul	-	Jan-Dec
	Red snapper			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Oct	-	Jul-Nov	Jul-Nov	Jan-Dec	Jan-Dec
	Sandbar shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Apr-Jul	Jan-Dec	Jan-Dec
	Scamp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Feb-Jun	-	Mar-May	Mar-May	Jan-Dec	Jan-Dec
	Tiger shark			-	General Distribution							J	A				-	-	-	Jul-Aug	-	-	
	Vermilion snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	May-Sep	-	Jun-Nov	Jun-Nov	-	Jan-Dec
218	Oceanic whitetip shark		T	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
230	Atlantic sharpnose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Black grouper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-Apr	-	-	-	Jan-Dec	Jan-Dec
	Blackfin snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	Mar-May	Jan-Dec
	Blacknose shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Blacktip shark			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Blue marlin			-	General Distribution						M	J	J	A	S	O	N	-	May-Nov	May-Nov	May-Nov	-	-
	Cobia			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Apr-Sep	-	-	May-Jul	Apr-Oct	Jan-Dec
	Cubera snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jun-Sep	-	-	-	Jan-Dec	Jan-Dec
	Gag			Common	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Dec-May	-	Dec-Apr	Feb-May	-	Jan-Dec
	Gray snapper			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jun-Aug	-	-	Jun-Aug	-	Jan-Dec



Gulf of Mexico Offshore ESI: Biology Map 11 (cont.)

BIOLOGICAL RESOURCES: (cont.)

HERPETOFAUNA:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Nesting	Hatching	Internest	Juveniles	Adults
161	Loggerhead sea turtle		T	High	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-
180	Green sea turtle		T	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
	Kemp's ridley sea turtle		E	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
	Loggerhead sea turtle		T	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
182	Green sea turtle		T	High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
183	Green sea turtle		T	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
185	Kemp's ridley sea turtle		E	High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
186	Kemp's ridley sea turtle		E	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
195	Leatherback sea turtle		E	High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
196	Leatherback sea turtle		E	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
197	Leatherback sea turtle		E	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
198	Loggerhead sea turtle		T	High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
199	Loggerhead sea turtle		T	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec
243	Green sea turtle		T	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-
	Kemp's ridley sea turtle		E	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-
	Leatherback sea turtle		E	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-
	Loggerhead sea turtle		T	-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Jan-Dec	-

INVERTEBRATE:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Spawning		Eggs	Larvae	Juveniles	Adults
5	Brown shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-May	Sep-Nov	-	Jan-Dec	-	Mar-Nov
7	Royal red shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec
9	Blue crab			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Brown shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Mar-May	Sep-Nov	-	Jan-Dec	Mar-Nov	Mar-Nov
	Pink shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	-
	White shrimp			-	General Distribution						M	J	J	A	S	O	N		-	-	May-Nov	-	
203	Blue crab			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
206	Blue crab			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Pink shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	-
208	Blue crab			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Pink shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	Jan-Dec	Jan-Dec
235	Blue crab			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	Mar-Nov	Mar-Nov	Mar-Nov
	Caribbean spiny lobster			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-	Jan-Dec	Jan-Dec
	Pink shrimp			-	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	Jan-Dec	-	-	-	Jan-Dec	Jan-Dec

MARINE MAMMAL:

RAR#	Species	S	F	Concentration	Mapping Qualifier	Monthly Presence (Jan-Dec)												Mating	Calving	Pupping	Molting
11	Atlantic spotted dolphin			Present	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
	Bottlenose dolphin			Present	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
12	Beaked whales			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
13	Beaked whales			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
14	Blackfish			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
15	Blackfish			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
163	Clymene dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
188	Kogia spp.			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
213	Atlantic spotted dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
214	Atlantic spotted dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
215	Bottlenose dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
216	Bottlenose dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
219	Pantropical spotted dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
220	Pantropical spotted dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
221	Pilot whales			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
222	Pilot whales			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
225	Rice's Whale		E	Present	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
226	Risso's dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
227	Risso's dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
237	Sperm whale		E	High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
238	Sperm whale		E	Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
239	Spinner dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
244	Striped dolphin			High Use Area	Concentration Area	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-
245	Striped dolphin			Low Use Area	General Distribution	J	F	M	A	M	J	J	A	S	O	N	D	-	-	-	-