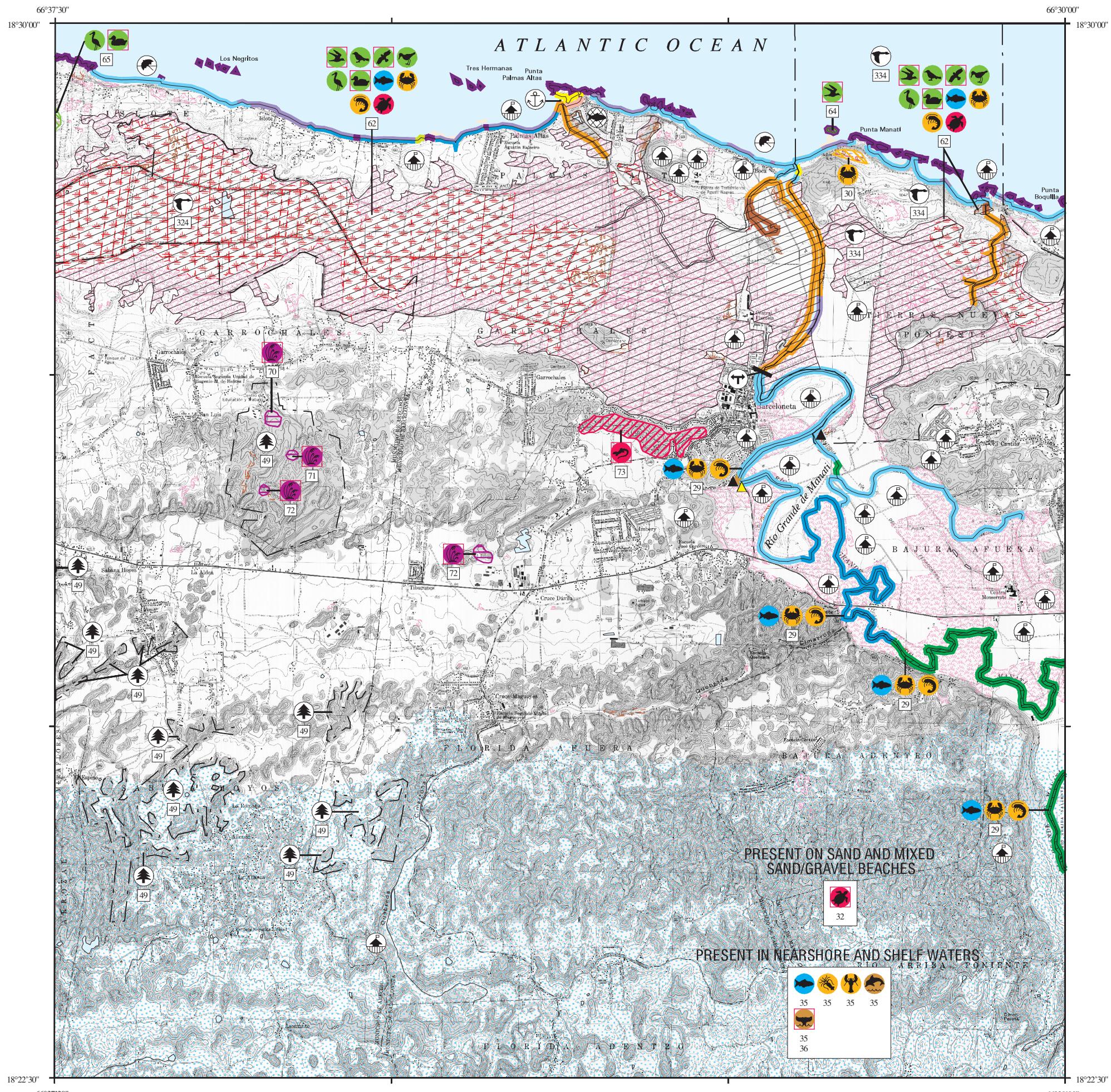


# ENVIRONMENTAL SENSITIVITY INDEX MAP



SHORELINE HABITATS (ESP)

- SHORELINE HABITATS (ESI)**

  - 1A EXPOSED ROCKY CLIFFS
  - 1B EXPOSED, SOLID MAN-MADE STRUCTURES
  - 2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK
  - 2B SCARPS AND STEEP SLOPES IN MUDDY SEDIMENTS
  - 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  - 3B COARSE-GRAINED SAND BEACHES
  - 4 MIXED SAND AND GRAVEL BEACHES
  - 5 GRAVEL BEACHES
  - 6A RIPRAP
  - 6B EXPOSED TIDAL FLATS
  - 7 SHELTERED ROCKY SHORES
  - 8A SHELTERED, SOLID MAN-MADE STRUCTURES
  - 8B SHELTERED VEGETATED LOW BANKS
  - 9A SHELTERED TIDAL FLATS
  - 9B SALT- AND BRACKISH-WATER MARSHES
  - 10D MANGROVES
  - SALT- AND BRACKISH-WATER MARSHES
  - FRESHWATER MARSHES
  - FRESHWATER SWAMPS
  - FRESHWATER SCRUB/SHRUB

STREAM REACHES (BSR)

- STREAM REACHES (KSI)

  - 1 QUIET POOL; LOW-SENSITIVE BANKS
  - 2 STRAIGHT CHANNEL WITH CURRENTS;  
LOW-SENSITIVE BANKS (MUD DOMINANT)
  - 3 MEANDERING CHANNEL; SAND POINT BARS
  - 4 MEANDERING CHANNEL; VEGETATED POINT BARS
  - 5 RAPIDS OVER BEDROCK
  - 6 MEANDERING CHANNEL; SAND AND GRAVEL  
POINT BARS
  - 7 SPLIT CHANNEL WITH COARSE GRAVEL;  
SOME RAPIDS
  - 8 SMALL FALLS; BOULDERS IN CHANNEL
  - 9 LARGE FALLS; BOULDERS IN CHANNEL
  - 10 CHANNELS WITH ASSOCIATED VULNERABLE WETLANDS

KARST

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# PUERTO RICO - ESIMAP 8

## BIOLOGICAL RESOURCES:

### BIRD:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D Nesting
62	American coot	HIGH	X X X X X X X X X X X X X X X -
	American kestrel	HIGH	X X X X X X X X X X X X X X X -
	American wigeon		X X X X X X X X X X X X X X X -
	Black skimmer		X X X X X X X X X X X X X X X -
	Blue-winged teal	HIGH	X X X X X X X X X X X X X X X -
	Brown pelican	S/F E/E HIGH	X X X X X X X X X X X X X X X -
	Caribbean coot	S T LOW	X X X X X X X X X X X X X X X -
	Common moorhen	HIGH	X X X X X X X X X X X X X X X -
	Common snipe	HIGH	X X X X X X X X X X X X X X X -
	Green-winged teal	LOW	X X X X X X X X X X X X X X X -
	Lesser scaup	LOW	X X X X X X X X X X X X X X X -
	Masked duck	S T LOW	X X X X X X X X X X X X X X X -
	Merlin	LOW	X X X X X X X X X X X X X X X -
	Northern pintail	LOW	X X X X X X X X X X X X X X X -
	Osprey	HIGH	X X X X X X X X X X X X X X X -
	Peregrine falcon	S E LOW	X X X X X X X X X X X X X X X -
	Purple gallinule	LOW	X X X X X X X X X X X X X X X -
	Red-tailed hawk	MEDIUM	X X X X X X X X X X X X X X X -
	Ring-necked duck	LOW	X X X X X X X X X X X X X X X -
	Ruddy duck	S T HIGH	X X X X X X X X X X X X X X X -
	Shorebirds	HIGH	X X X X X X X X X X X X X X X -
	Wading birds	HIGH	X X X X X X X X X X X X X X X -
	West Indian whistling-duck	S T HIGH	X X X X X X X X X X X X X X X -
	White-cheeked pintail	MEDIUM	X X X X X X X X X X X X X X X -
	White-crowned pigeon		X X X X X X X X X X X X X X X -
64	Roseate tern	S/F E/T	X X X X X X X X X X X X X X X MAY-JUL
65	Caribbean coot	S T	X X X X X X X X X X X X X X X -
	Common moorhen		X X X X X X X X X X X X X X X -
	Masked duck	S T	X X X X X X X X X X X X X X X -
	Pied-billed grebe		X X X X X X X X X X X X X X X -
	Purple gallinule		X X X X X X X X X X X X X X X -
	Ruddy duck	S T	X X X X X X X X X X X X X X X -
	Wading birds		X X X X X X X X X X X X X X X -

### FISH:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D Spawning Eggs	Larvae	Juveniles	Adults	
29	Native stream fish		X X X X X X X X X X X X X X X APR-MAY AUG-NOV	APR-MAY AUG-NOV	APR-MAY AUG-NOV	JAN-DEC JAN-DEC	
35	Pelagic fish		X X X X X X X X X X X X X X X JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC JAN-DEC	
	Reef fish		X X X X X X X X X X X X X X X JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC JAN-DEC	
62	Native stream fish		X X X X X X X X X X X X X X X -	-	APR-MAY	-	-
	Nursery fish		X X X X X X X X X X X X X X X -	-	-	JAN-DEC	-
	Snook		X X X X X X X X X X X X X X X APR-FEB	APR-FEB	JAN-DEC	JAN-DEC	JAN-DEC
	Tarpon		X X X X X X X X X X X X X X X -	-	MAY-DEC	JAN-DEC	JAN-DEC
	Tilapia		X X X X X X X X X X X X X X X DEC-JUL	DEC-JUL	DEC-JUL	JAN-DEC	JAN-DEC

### PLANT:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D
70	Banara vanderbiltii	S/F E/E	X X X X X X X X X X X X X X X
71	Stahlia monosperma	S/F T/T	X X X X X X X X X X X X X X X
72	Ottoschulzia rhodoxylon	S/F E/E	X X X X X X X X X X X X X X X

### INVERTEBRATE:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D Spawning Eggs	Larvae	Juveniles	Adults	
29	Freshwater crab		X X X X X X X X X X X X X X X APR-MAY AUG-NOV	APR-MAY AUG-NOV	-	JAN-DEC JAN-DEC	
	Native stream shrimp		X X X X X X X X X X X X X X X APR-MAY AUG-NOV	APR-MAY AUG-NOV	JAN-DEC	JAN-DEC	
30	Blue land crab		X X X X X X X X X X X X X X X JUL-AUG	JUL-AUG	JUL-SEP	JAN-DEC JAN-DEC	
35	Caribbean spiny lobster		X X X X X X X X X X X X X X X JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC JAN-DEC	
	Octopus		X X X X X X X X X X X X X X X DEC-MAR	DEC-APR	-	JAN-DEC JAN-DEC	
62	Blue crabs		X X X X X X X X X X X X X X X -	-	-	JAN-DEC JAN-DEC	
	Blue land crab		X X X X X X X X X X X X X X X JUL-AUG	JUL-AUG	JUL-SEP	JAN-DEC JAN-DEC	
	Native stream shrimp		X X X X X X X X X X X X X X X -	-	APR-MAY	-	-

### MARINE MAMMAL:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D Mating	Calving
35	Dolphins		X X X X X X X X X X X X X X X -	-
	Whales		X X X X X X X X X X X X X X X -	-
36	Humpback whale	S/F E/E VERY HIGH	X X X X X X X X X X X X X X X -	-

### REPTILE:

RAR#	Species	S/F T/E Conc.	J F M A M J J A S O N D Nesting	Hatching	Internesting	Juveniles	Adults
32	Green sea turtle	S/F E/T	X X X X X X X X X X X X X X X JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Hawksbill sea turtle	S/F E/E	X X X X X X X X X X X X X X X JAN-DEC	JAN-DEC	-	JAN-DEC	JAN-DEC
	Leatherback sea turtle	S/F E/E	X X X X X X X X X X FEB-JUN	APR-SEP	-	APR-SEP	FEB-JUN
62	Jicotea		X X X X X X X X X X X X X X X APR-JUL	JUN-OCT	-	JAN-DEC	JAN-DEC
73	Puerto Rican boa	S/F E/E	X X X X X X X X X X X X X X X -	-	-	JAN-DEC	JAN-DEC

### HUMAN USE RESOURCES:

#### FOREST:

HUN#	Name	Owner/Manager	Contact	Phone
49	BOSQUE CAMBALACHE	DRNA	DIVISION DE MANEJO BOSQUES ESTATALES	787/721-5495

#### WILDLIFE REFUGE:

HUN#	Name	Owner/Manager	Contact	Phone
324	RESERVA NATURAL CANO TIBURONES	DRNA	DIVISION DE RESERVAS NATURALES Y REFUGIOS DE VIDA SILVESTRE	787/724-2816
334	RESERVA NATURAL HACIENDA LA ESPERANZA	DRNA/PRCT	DIVISION DE RESERVAS NATURALES Y REFUGIOS DE VIDA SILVESTRE	787/724-2816

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.