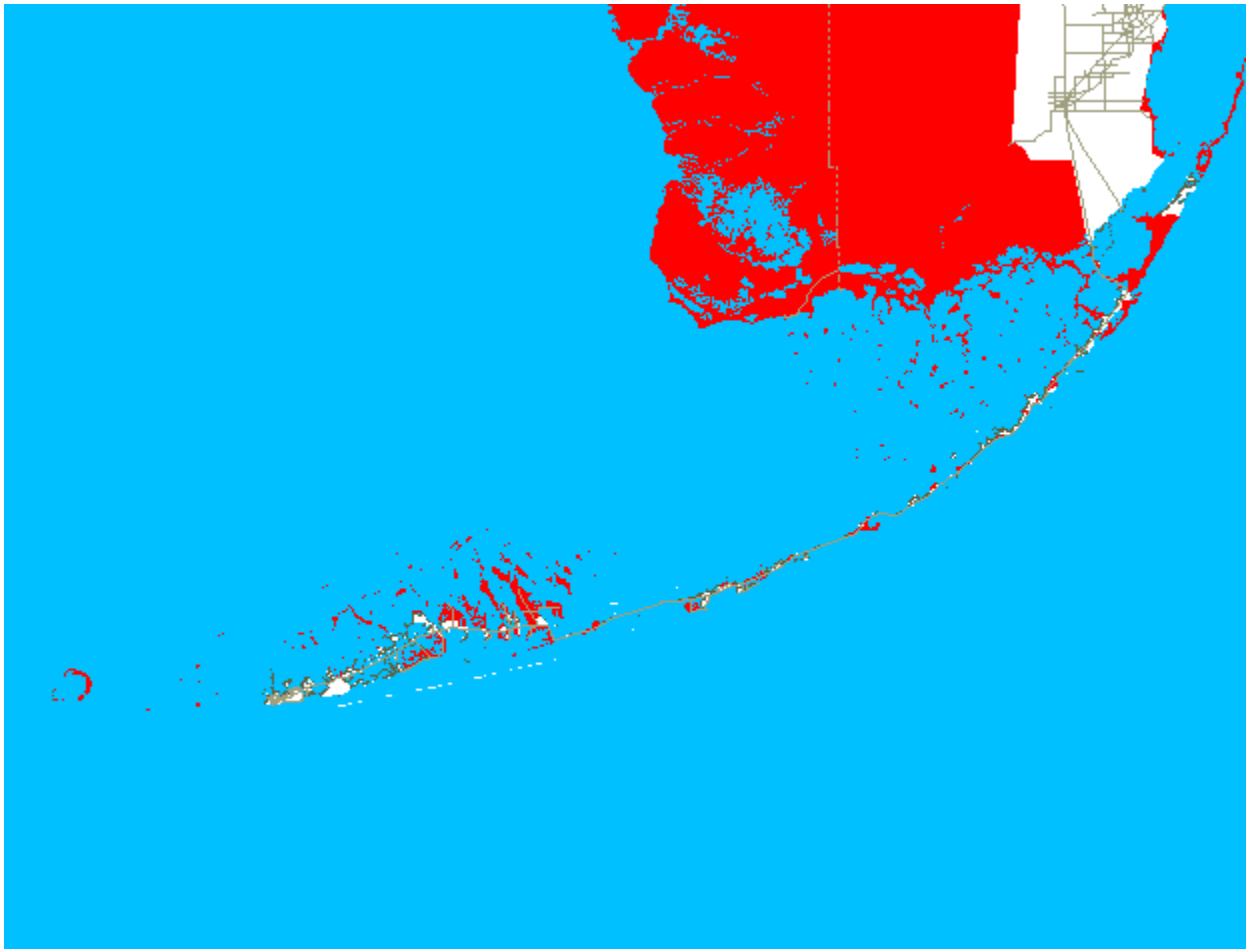


FLORIDA KEYS



DRY TORTUGAS NATIONAL PARK

Monroe County

70 land acres (28 ha) and >64,600 marine acres (>25,840 ha)

LOCATION: in the Gulf of Mexico in far western Monroe County, about 70 miles (112 km) west of Key West.

DESCRIPTION: composed of seven small coral and sand keys between the Gulf of Mexico and the Straits of Florida, Dry Tortugas National Park is one of Florida's treasures. The keys were discovered in 1513 by Juan Ponce de Leon and named after the abundance of sea turtles ("Las Tortugas") found nesting there; the "Dry" was added by subsequent mariners to note the lack of fresh water. The Tortugas consist of Bush, East, Garden, Hospital, Loggerhead, Long, and Middle keys. Construction of Fort Jefferson, the largest fort along the Gulf coast, was begun on Garden Key in 1846 and abandoned in 1866 before its completion. Loggerhead Key contains a Coast Guard station and lighthouse. Hospital Key was the site of a temporary hospital during a Yellow Fever outbreak in 1867 but is now a small sand bar of only a few acres (ha). Only Garden Key and Loggerhead Key are accessible to humans; the five other keys are undisturbed. The National Park includes 100 square miles (256 square km) of ocean surrounding the keys. Commercial fishing and the use of jet skis are prohibited within the boundaries of the park.

OWNERSHIP: U.S. National Park Service

HABITATS: *mangrove forest, *coastal strand, *artificial (fort and parade grounds), tropical hammock. East, Hospital, and Middle keys are tiny sand bars; Long Key is predominantly mangrove forest. Bush Key consists of low-growing vegetation, with mangroves along parts of the shoreline. Garden Key consists of short, grassy areas with numerous ♦coconut palms (*Cocos nucifera*), and tropical hardwoods such as gumbo-limbo, in addition to Fort Jefferson, which occupies most of the island. Until recently, Loggerhead Key consisted primarily of a dense forest of Australian-pines, but these were removed in the past few years. Loggerhead Key now is covered with cactus, agave, numerous young *Casuarina*, and scattered coconut palms and ♦large geigertrees (*Cordia sebestena*).

LAND USE: *conservation, recreation.

IBA CATEGORIES: significant populations of Special Concern, FCREPA, and IBA species; significant numbers of larids; significant numbers and diversity of Neotropical migrants; significant overall diversity; significant natural habitats; and long-term research

AVIAN DATA: The keys attract numerous Neotropical migrant species in spring and fall, and have hosted many Caribbean vagrants such as White-tailed Tropicbird, Red-footed Booby, Black Noddy, Ruddy Quail-Dove, Bahama Mockingbird, and Yellow-faced Grassquit. The keys are critical for nesting Sooty Terns and Brown Noddies, the only regular colony for each species within the continental United States. In 1988, the Marquesas Keys colony of Magnificent Frigatebirds began moving to Long Key, and by 1990, all birds were nesting at the Tortugas. In 1984, Masked Boobies began nesting on Hospital Key, and the population had increased to 19 pairs in 1998. The Tortugas are the only known nesting site of Magnificent Frigatebirds in the United States, and of Masked Boobies in the continental United States. Raptors previously were common at Loggerhead Key, preying on landbirds in the Australian-pine forest. With the trees gone, raptors and landbirds are less frequently seen. An estimated **500,000** Sooty Terns have been banded at the Tortugas since the early 1950s by William B. Robertson, Jr. and collaborators.

SPECIES	DATES	NUMBERS	COMMENTS
Masked Booby	12 Apr 1995	60 birds	100% (B)
	1998	19 pairs	100% (B)
Brown Booby	23 Apr 1997	36 birds	(N)
Magnificent Frigatebird	May 2000	100 pairs	100% (B)
Sooty Tern	1998	20,000 pairs	100% (B)
Brown Noddy	1998	>1000 pairs	100% (B)
Yellow-billed Cuckoo	2–3 May 1999	>200 birds	(M)
Ruby-throated Hummingbird	8–9 Apr 1994	200 birds	Florida record high count (M)
Blackpoll Warbler	15–18 May 1998	100s of birds	(M)
Northern Waterthrush	28 Apr 1995	45 birds	(M)
Connecticut Warbler	15–18 May 1998	>30 birds	(M)
Kentucky Warbler	8 Apr 1994	>30 birds	(M)
Hooded Warbler	8 Apr 1994	>200 birds	(M)
Orchard Oriole	8 Apr 1994	>50 birds	(M)
Long-term research	Since the 1950s		An estimated 500,000 Sooty Terns have been banded by the late Bill Robertson and collaborators
Overall diversity		303 natives 5 exotics	The fifth most diverse IBA in Florida

Masked Booby and tern breeding data provided by Gary Sprandel (Florida Fish and Wildlife Conservation Commission), all other data from observations by Wes Biggs, Dave Goodwin, Kevin Karlson, Bill Pranty, Dale Rosselet, Glen Woolfenden, and others published in *Florida Field Naturalist*.

OTHER RESOURCES: Most of Garden Key's 16 acres (6.4 ha) consist of Fort Jefferson, the largest fort east of the Mississippi River. Fort Jefferson is three stories tall, with walls eight feet (2.4 m) thick, and was constructed of over 16 million bricks. A lighthouse built on Loggerhead Key in 1858 remains in use.

THREATS: human disturbance, exotic plants

CONSERVATION ISSUES: Based on oil present on feathers of Sooty Terns nesting at Bush Key, it appears that oil spills from distant areas such as Louisiana and the Campeche Bank, Mexico reach the Tortugas in “biologically significant amounts” +(Robertson and Robertson 1996). • Visitation to the islands has quadrupled since 1984, from 18,000 recreationists to 72,000, and most of this occurs between March and July. During these five months, an estimated 245 people arrive at Garden Key daily. Development of a visitor use plan is in preparation to avoid overuse of the park by tourists. • Former (?) low altitude flights by U.S. Navy aircraft caused disturbance of the tern colonies.

NOMINATED BY: Oron Bass, Jr. (U.S. National Park Service)

REFERENCE: +Robertson, W.B., Jr., and M.J. Robertson. 1996. Sooty Tern (*Sterna fuscata*). Pages 514–531 in *Rare and Endangered Biota of Florida, Volume 5, Birds* (J.A. Rodgers, Jr., H.W. Kale, II, and H.T. Smith, editors). University Press of Florida. Gainesville, FL.

WEBSITE: <<http://www.nps.gov/drto>>

FLORIDA KEYS HAMMOCKS

Bahia Honda State Park (491 acres; 196 ha), **Crocodile Lake National Wildlife Refuge** (6686 acres; 2674 ha), **Curry Hammock State Park** (1218 acres; 487 ha), **John Pennekamp Coral Reef State Park** (2350 upland acres [940 ha]), **Key Largo Hammock State Botanical Site** (2339 acres; 935 ha), **Long Key State Recreation Area** (1083 acres; 433 ha), and **National Key Deer Refuge** (8649 acres; 3459 ha). Sites targeted for public acquisition through the **Florida Keys Ecosystem CARL–FF Project** (8566 acres [3426 ha], 2531 acres [1012 ha] acquired, with some now known as **Florida Keys Wildlife and Environmental Areas** [621 acres; 248 ha]) are: Big Torch Key, Cudjoe Key, Dove Creek Hammock, Grassy Key, Green Turtle Hammock, Key Largo Narrows Hammock, Lake San Pedro Hammock, Largo Sound Hammock, Little Knockemdown Key, Little Torch Key, Lower Matecumbe Hammock, Middle Torch Key, Newport, North Creek Hammock, North Layton Hammock, Pennekamp North Hammock, Point Charles Hammock, Ramrod Key, Snake Creek Hammock, Stirrup Key Hammock, Sugarloaf Key, Summerland Key, Tavernier Creek Hammock, Teatable Hammock, Vaca Cut, and Wahoo Key. **Boot Key** (650 acres; 260 ha) is not currently sought for public acquisition, but this option should be pursued.

Monroe County

32,032 acres (12,812 ha), with 25,347 acres (10,138 ha) acquired

[[This IBA needs additional information](#)]

LOCATION: in southern Monroe County, along the Mainline Keys (those traversed by U.S. Highway 1), extending 100 miles (160 km) from Key Largo southwest to Saddlebunch Key. Adjacent to the Everglades National Park and Biscayne Bay IBAs to the north.

DESCRIPTION: _____ This IBA includes virtually all large fragments of tropical hammock remaining on the Mainline Keys. These sites were nominated as a single unit, so specific information for most sites is not available. Visitation to the sites are as follows: _____

OWNERSHIP: U.S. Fish and Wildlife Service (Crocodile Lake National Wildlife Refuge), Florida Division of Recreation and Parks (Key Largo Hammock State Botanical Site, Curry Hammock State Park, John Pennekamp Coral Reef State Park, and Long Key State Recreation Area), Florida Division of Wildlife (Florida Keys Wildlife and Environmental Areas), and private owners (remaining acreage of the Florida Keys Ecosystem CARL–FF Project, and Boot Key)

HABITATS: *tropical hammock, *mangrove forest, tidal marsh, coastal strand, estuarine, artificial

LAND USE: *conservation, *private property

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers and diversity of raptors and Neotropical migrants; complete diversity of mangrove forest and tropical hardwood species; and significant natural habitats

AVIAN DATA: These hammocks are essential for the survival of White-crowned Pigeons in the United States, which nest on islands in Florida Bay but forage on the Mainline Keys. The hammocks are also significant stopover areas for Neotropical migrants, and the hammocks and mangrove forests are breeding habitat for several other primarily West Indian birds restricted in North America to extreme southern Florida (e.g., Mangrove Cuckoo, Gray Kingbird, Black-whiskered Vireo, “Florida” Prairie Warbler, and “Cuban” Yellow Warbler). Bird diversity for all sites combined is at least 143 native species. [[Is a bird list available for any site?](#)].

Boot Key (single-day counts in mid-Oct):

SPECIES	DATES	NUMBERS	COMMENTS
Sharp-shinned Hawk	1989–1994	mean of 329 birds (range of 66–993)	(M)
Broad-winged Hawk	1989–1994	mean of 193 birds (range of 66–415)	(M)
American Kestrel	1989–1994	mean of 75 birds (range of 39–159)	(M)
Merlin	1989–1994	mean of 31 birds (range of 15–44)	(M)
Peregrine Falcon	1989–1994	mean of 106 birds (range of 45–190)	mean of 5% (M)
Cliff Swallow	9 Oct 1993	750 birds	Florida record high count (M)
Raptors (numbers)	1989–1994	mean of 795 birds (range of 329–1808)	(M)
Raptors (diversity)	1989–1994	mean of 9 species (range of 7–13)	

Raptor data provided by Wayne Hoffman (formerly National Audubon Society) and published in +Pranty (1996a); see also +Hoffman and Darrow (1992); swallow observation by Wayne Hoffman, P. William Smith, and Bill Pranty et al., published in *Florida Field Naturalist*.

Curry Hammock State Park (seasonal counts of southbound birds 14 Sep–30 Oct 1999, 15 Sep–13 Nov 2000, and 15 Sep–13 Nov 2001):

SPECIES	DATES	NUMBERS	COMMENTS
Osprey	1999–2001	mean of 1004 birds (range of 983–1093)	(M)
Northern Harrier	1999–2001	mean of 685 birds (range of 527–786)	(M)
Sharp-shinned Hawk	1999–2001	mean of 4328 birds (range of 3697–4741)	(M)
Cooper’s Hawk	1999–2001	mean of 533 birds (range of 335–839)	(M)
Broad-winged Hawk	1999–2001	mean of 3268 birds (range of 2984–3535)	(M)
Short-tailed Hawk	1999–2001	mean of 27 birds (range of 16–38)	mean of 5% (M)
American Kestrel	1999–2001	mean of 3666 birds (range of 3029–4338)	(M)
Merlin	1999–2001	mean of 646 birds (range of 522–834)	(M)
Peregrine Falcon	1999–2001	mean of 1623 birds (range of 1432–1894)	mean of 81% (M)
Raptor (numbers)	1999–2001	mean of 16,094 birds (range of 15,804–16,553)	(M)
Raptors (diversity)	1999–2001	15 species annually, with 8 of these represented by >500 individuals each	

Data provided by Casey Lott (Hawkwatch International and Audubon of Florida); see also +Davidow (2001)

General data applicable to most sites:

SPECIES	DATES	NUMBERS	COMMENTS
White-crowned Pigeon	Annual	common	(R)
Mangrove Cuckoo	Annual	uncommon	(R)
Gray Kingbird	Annual	common	(B)
Black-whiskered Vireo	Annual	uncommon	(B)
“Cuban” Yellow Warbler	Annual	uncommon	(R)
“Florida” Prairie Warbler	Annual	uncommon	(R)
Overall diversity	_____ list	143 natives 1 exotic	

Data provided by Rick Sawicki (formerly of Audubon of Florida)

OTHER RESOURCES: The floral diversity of tropical hammocks of the Florida Keys far surpasses that of any other forests in the continental United States. • The Florida Keys are a designated Area of Critical State Concern. This IBA includes habitats for at least 24 species of rare vascular plants and 29 rare animals. Endemic mammals include the ♦”Key Largo” cotton mouse (*Peromyscus gossypinus allapaticola*) and ♦”Key Largo” woodrat (*Neotoma floridana smalli*). • Many archaeological and historical sites are known from the area, such as Indian burial mounds and middens, and 19th century settlements. • The Florida coral reef outward of the Keys is the third largest barrier reef system in the world. It supports thousands of species, including 1200 mollusks, over 450 fishes, 450 marine worms, and 100 corals +(Jaap and Hallock 1990).

THREATS: *development, human disturbance, exotic plants

CONSERVATION ISSUES: The unique tropical hardwood hammocks and pine rocklands of the Florida Keys—forests composed primarily of West Indian vegetation—shelter several extremely rare animals, but are being lost at a rapid rate due to development. If acquired completely, sites of the Florida Keys Ecosystem CARL–FF Project, together with existing conservation areas, will protect all significant, unprotected hardwood hammocks remaining in the Keys, as well as populations of several rare plants and animals. • Acquisition of the CARL–FF sites also will protect the coral reefs surrounding the Keys. • Management will be phased in and will involve mainly removing exotic plants, preventing further habitat fragmentation, removing trash and debris, posting and some fencing of the sites, and establishing some basic visitor amenities at selected sites.

Based on the clear importance of Boot Key to raptors, and its habitat significance, efforts should be undertaken to publicly acquire the site.

NOMINATED BY: Bill Pranty and Rick Sawicki (Audubon of Florida)

REFERENCES: +Davidow, B. 2001. Falcons of the Florida Keys. *Living Bird* 20: 32–38. • +Hoffman, W, and H. Darrow. 1992. Migration of diurnal raptors from the Florida Keys into the West Indies. Hawk Migration Association of North America Migration Studies, October 1992. • +Jaap, W.C., and P. Hallock. 1990. Coral Reefs. Pages 574–616 in *Ecosystem of Florida* (R.L. Myers and J.J. Ewel, editors). University of Central Florida Press. Orlando, FL. • +Pranty, B. 1996a. *A Birder's Guide to Florida*. Fourth edition. American Birding Association. Colorado Springs, CO.

WEBSITES: <<http://www.npwrc.usgs.gov/resource/othrdata/chekebird/r4/flkeys.htm>>, <<http://www.dep.state.fl.us/parks/district5/bahiahonda>>, <<http://www.dep.state.fl.us/parks/district5/johnpennekamp>>, <<http://www.dep.state.fl.us/parks/district5/longkey>>, <http://www.islandbase.com/kl-hammock/hammock_photos.htm>

GREAT WHITE HERON NATIONAL WILDLIFE REFUGE

Monroe County

192,584 acres (77,033 ha), with 6297 acres (2815 ha) of uplands

LOCATION: in southwestern Monroe County, north of U.S. Highway 1 in the Lower Keys, extending about 40 miles (64 km) east to west (from Marathon to Key West). Nearly one-third of the Refuge is designated as Wilderness, and the entire Refuge is accessible only by boat. Just east of the Key West National Wildlife Refuge IBA to the west, and contiguous with parts of the Florida Keys Hammocks IBA to the east and south.

DESCRIPTION: dozens of small keys in the Gulf of Mexico, north of the Mainline Keys. Together with Key West National Wildlife Refuge, this IBA includes all remaining offshore, raccoon-free islands in the Lower Keys available as breeding, foraging, and roosting sites for wading birds and other species. Visitation is estimated at 12,000 recreationists annually.

OWNERSHIP: U.S. Fish and Wildlife Service

HABITATS: *marine, *mangrove forest, coastal strand

LAND USE: *conservation, recreation

IBA CATEGORIES: significant populations of Threatened and FCREPA species; and significant natural habitats

AVIAN DATA: This IBA supports extremely significant populations of “Great White” Herons and White-crowned Pigeons, and probably other species as well. The Refuge probably is much more important than is indicated by the limited data below.

SPECIES	DATES	NUMBERS	COMMENTS
“Great White” Heron	1999–2000	202 nests	22% (B)
	2000–2001	147 nests	16% (B)
White-crowned Pigeon	Jun–Jul 2001	1608 pairs	18% (B)

Data provided by Tom Wilmers (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Sea turtles nest on the sandy beaches of some of the keys. • The islands are surrounded by 300 square miles (768 square km) of shallow marine habitats such as sand flats, seagrass “meadows,” and patch coral reefs.

THREATS: [will need to get this information from Tom], *sea-level rise

CONSERVATION ISSUES: The Refuge has no dedicated personnel; it is managed as a satellite of National Key Deer Refuge. • Management activities include mechanical and chemical control of exotic plants, wildlife monitoring, and law enforcement.

NOMINATED BY: Tom Wilmers (U.S. Fish and Wildlife Service)

WEBSITE: <<http://southeast.fws.gov/GreatWhiteHeron/index.html>>

KEY WEST NATIONAL WILDLIFE REFUGE

Monroe County

208,308 acres (83,323 ha), of which 2109 acres (843 ha) are uplands

LOCATION: in far southwestern Monroe County, in the Straits of Florida 0.5–31 miles (0.8–50 km) west of Key West

DESCRIPTION: Several mangrove keys west of Key West, including the Marquesas Keys. The entire Refuge is designated as Federal Wilderness and the marine portions are managed with the State. One key (Ballast Key) is privately owned. The Refuge receives about 10,000 recreationists annually, many of whom trespass.

OWNERSHIP: U.S. Fish and Wildlife Service, private (Ballast Key)

HABITATS: *mangrove forest, tropical hardwood hammock, tidal marsh, coastal strand, “non-tidal wash flats”

LAND USE: *conservation (Federal Wilderness), recreation, private

IBA CATEGORIES: significant populations of Endangered, Threatened, Special Concern, FCREPA, and IBA species; complete diversity of mangrove forests species; and significant natural habitats

AVIAN DATA: the Refuge supports large numbers of breeding “Great White” Herons and White-crowned Pigeons, contains the most important site in the Keys for wintering Piping Plovers, and supports several other groups of birds such as wading birds, shorebirds, raptors, and landbirds. The Marquesas Keys formerly supported the only breeding colony of Magnificent Frigatebirds in the continental United States, but disturbance from low-flying Navy aircraft caused the birds to move to Dry Tortugas National Park (frigatebirds still roost within the Refuge). [Is a bird list available?].

SPECIES	DATES	NUMBERS	COMMENTS
Brown Pelican	7 Jan 2001	600 birds	(N)
Magnificent Frigatebird	Jun–Aug 2000	800 birds	16% (N); all roosts combined
“Great White” Heron	Oct 1999–Feb 2000	peak of 265 nests	31% (B)
Little Blue Heron	17 Apr 2000	175 pairs	2% (B)
Reddish Egret	16 Apr 1992	15 birds	1% (N)
Osprey	1989–1991	peak of 120 nests	7% (B)
Short-tailed Hawk	single day in Nov 1996	6 birds	1% (W); Boca Grande Key
Merlin	single day in Oct 1997	43 birds	(M)
Peregrine Falcon	single day in Oct 1996	70 birds	3% (M)
Piping Plover	20 Feb 1998	29 birds	5% (W)
Laughing Gull	Jun 1996	200 nests	1% (B); Horseshoe Key
Royal Tern	Oct 1996	450 birds	(N)
Sandwich Tern	Jul 1995	60 birds	6% (N)
Least Tern	Jul 1999	525 birds	5% (N)
White-crowned Pigeon	May–Aug 2001	>2000 nesting pairs	>20% (B); 7 keys surveyed, with >1200 pairs on Barrocouta Key
Mangrove Cuckoo	1985–2001	Uncommon	(R)
“Cuban” Yellow Warbler	May–Aug 2001	Uncommon	(R)
Overall diversity	_____ list	_____ natives	
		_____ exotics	

All data provided by Tom Wilmers (U.S. Fish and Wildlife Service)

OTHER RESOURCES: Boca Grande Key and the Marquesas Keys contain tropical hardwood hammocks that support several rare plants [such as _____].

THREATS: *human disturbance, *sea-level rise, exotic plants

CONSERVATION ISSUES: Although the keys are designated as Wilderness, beaches on the keys attracts many recreationists, some of whom ignore restrictions designed to protect roosting birds. Disturbance to shorebirds at Woman Key is a particular concern, as that key is the most important site in the Florida Keys for populations of wintering Piping Plovers. Trespass of closed areas on Boca Grande Key is “blatant.” Law enforcement has helped curtail illegal trespass but the remoteness of the Refuge confounds enforcement. • Erosion of beaches from boat wakes and storms is a problem, and will be confounded by rising sea-levels. • Exotic plants, especially latherleaf and Brazilian pepper, are threats, but eradication efforts since 1987 have largely been successful. • Unpermitted commercial use of the Wilderness Area has been a recurring problem; this issue will be written into a Comprehensive Conservation Plan in 2002.

Ballast Key, an important island for roosting shorebirds and larids, is privately owned and currently for sale. Attempts to publicly acquire the key should be undertaken immediately.

NOMINATED BY: Tom Wilmers (U.S. Fish and Wildlife Service)

WEBSITE: <<http://southeast.fws.gov/KeyWest/index.html>>

PELICAN SHOAL

Monroe County
 <0.5 acre (<0.2 ha)

LOCATION: in the Straits of Florida in extreme southern Monroe County, about 5 miles (8 km) south-southeast of Boca Chica Key.

DESCRIPTION: a tiny rubble islet in the coral reef outward of the mainline Florida Keys. Pelican Shoal is designated by the Florida Fish and Wildlife Conservation Commission as a Critical Wildlife Area.

OWNERSHIP: State of Florida

HABITAT: *coral rubble islet

LAND USE: *conservation, recreation?

IBA CATEGORIES: significant populations of Threatened species; and significant numbers of larids

AVIAN DATA: Pelican Shoal supports the only native-substrate breeding colony of Roseate Terns in Florida, and is the site of North America's first (and only) Bridled Tern breeding colony. No bird list is available.

SPECIES	DATES	NUMBERS	COMMENTS
Roseate Tern	1998–2000	mean of 256 nests (range of 162–317)	mean of 79% (range of 50–97%); (B)
Bridled Tern	1998–2000	mean of 3 nests (range of 1–5)	100%; (B)

Data of Ricardo Zimbrano and Lara Coburn, compiled by Jeff Gore and Gary Sprandel (all of the Florida Fish and Wildlife Conservation Commission).

OTHER RESOURCES: none known

THREATS: human disturbance, erosion

CONSERVATION ISSUES: In 1987, Bridled and Roseate terns were discovered nesting on the shoal, but the following year, no birds nested. Evidence of “extensive human disturbance” was found, including fire pits, shell casings, and shotgun shells +(Hoffman et al. 1993). In 1989, the shoal was posted, and was declared a Critical Wildlife Area in 1990. Human entry is forbidden during the nesting season (1 April–1 September).

NOMINATED BY: Bill Pranty (Audubon of Florida)

REFERENCE: +Hoffman, W., A. Sprunt IV, P. Kalla, and M. Robson. 1993. Bridled Tern breeding record in the United States. *American Birds* 47: 379–381.

WEBSITE: <http://www.fknms.nos.noaa.gov/research_monitoring/pelican_shoal.html>