

## CAPE CANAVERAL–MERRITT ISLAND

**Cape Canaveral Air Station** (15,438 acres; 6175 ha), **Canaveral National Seashore** (57,661 acres; 23,064 ha), and **Merritt Island National Wildlife Refuge** (139,155 acres; 55,662 ha)

Brevard and Volusia counties

212,254 acres (84,901 ha)

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**LOCATION:** in northeastern Brevard County and extreme southeastern Volusia County, encompassing most of the barrier island complex from New Smyrna Beach south to State Road 528.

**DESCRIPTION:** a huge complex of barrier islands and a large peninsula jutting out into the Atlantic Ocean, and containing the Banana River, Indian River Lagoon, and Mosquito Lagoon, all large, brackish estuaries. The National Seashore and Air Station are separated from most of Merritt Island by the Mosquito Lagoon and Banana River, respectively. The Refuge and the Air Station are both active rocket launch facilities, and Space Shuttle missions also are launched from the Refuge's Kennedy Space Center. NASA purchased much of Merritt Island in the 1960s for its massive space launch complex, and later deeded much of these lands to the U.S. Fish and Wildlife Service and National Park Service to increase public use of non-essential acreage. Parts of the Refuge are off-limits to the public at all times, and other areas are closed when a Space Shuttle is scheduled to be launched. The Refuge receives over 2,000,000 recreationists and \_\_\_\_ hunters annually. [What about visitation to the Air Station – none?]

**OWNERSHIP:** U.S. Air Force (Cape Canaveral Air Station), National Aeronautics and Space Administration (Merritt Island National Wildlife Refuge; managed by the U.S. Fish and Wildlife Service, and Canaveral National Seashore; managed by the U.S. National Park Service)

**HABITATS:** **Canaveral National Seashore:** \*maritime hammock, \*tidal marsh, \*estuarine, \*coastal strand, pine flatwoods, xeric oak scrub, citrus groves. **Cape Canaveral Air Station:** \*xeric oak scrub, \*coastal strand, maritime hammock, freshwater marsh, cattail marsh, tidal marsh, artificial. **Merritt Island National Wildlife Refuge:** \*slash pine flatwoods, \*maritime hammock, \*xeric oak scrub, \*mangrove forest, \*freshwater marsh, \*tidal marsh, \*estuarine, citrus groves, coastal strand, artificial.

**LAND USE:** **Canaveral National Seashore:** \*conservation, \*recreation, hunting. **Cape Canaveral Air Station:** \*military and commercial space launching facility, conservation. **Merritt Island National Wildlife Refuge:** \*commercial launch facility, \*conservation, recreation, hunting

**IBA CATEGORIES:** significant populations of Endangered, Threatened, Special Concern, and FCREPA species; significant numbers of aquatic birds, wading birds, and larids; significant overall diversity; and significant natural habitats

**AVIAN DATA:** Together, these sites form a large, contiguous conservation area vital to several listed species, including the second-largest remaining population of Florida Scrub-Jays. Merritt Island also contains extensive wetlands, and supports large numbers of waterfowl, wading birds, shorebirds, and larids. Peak concentrations of waterfowl can exceed 100,000 individuals in winter, mostly Lesser Scaup [so says the checklist; need to document this – got a nice recent reference for scaup, but still need other waterfowl data]. Canaveral National Seashore was one of two sites from which the largest migration of Neotropical migrants in Florida (estimated at “hundreds of thousands” of birds) was observed—and many made landfall—in the span of about *one hour* 17 October 1999, the day following the passage of Hurricane *Irene*. Merritt Island Refuge formerly contained one of only two populations of the “Dusky” Seaside Sparrow, but impoundment of salt marshes on the Island, primarily for mosquito control, was one factor that caused its extinction. Bird diversity of all sites combined is **313** native species. the fourth most diverse IBA in Florida. [Is a bird list available for Cape Canaveral Air Station?].

**Canaveral National Seashore:**

<b>SPECIES</b>	<b>DATES</b>	<b>NUMBERS</b>	<b>COMMENTS</b>
Great Egret	1987–1993	mean of 385 pairs (range of 271–592)	mean of 2% (B)
Snowy Egret	1987–1993	mean of 442 pairs (range of 184–1224)	(B)
Tricolored Heron	1987–1993	mean of 368 pairs (range of 188–733)	mean of 2% (B)
Reddish Egret	1987–1993	mean of 14 pairs (range of 9–17)	mean of 3% (B)
White Ibis	1987–1993	mean of 2112 pairs (range of 715–7226)	mean of 12% (B)
Glossy Ibis	1987–1993	mean of 174 pairs (range of 50–423)	mean of 12% (B)
Wood Stork	1987–1993	mean of 48 pairs (range of 0–122)	mean of <1% (B)
Wading birds [ <u>including</u> Cattle Egrets?]	1987–1993	mean of 3904 pairs (range of _____)	(B)
	1987–1991	mean of 14,064 birds (range of _____)	(N)
Merlin	17 Oct 1999	50 birds	four-hour survey (M)
Peregrine Falcon	_____ 1997	>20 birds	1% (M)
Florida Scrub-Jay	2000	>20 groups	<1% (R)
Neotropical migrants	17 Oct 1999	“hundreds of thousands” of birds (60% Palm Warblers, 15% each Blackpoll and Cape May warblers, 5% Black-throated Blue Warblers, and 100s of Yellow- billed Cuckoos and Gray Catbirds)	(M); part of the largest fallout observed in Florida
Overall diversity	_____ list	_____ natives _____ exotics	

Wading bird data from +Smith and Breininger (1995), Peregrine Falcon data from the 1997 Merritt Island National Wildlife Refuge Annual Narrative, scrub-jay data provided by John Stiner (\_\_\_\_), Neotropical migrant data from +Rademaker and Rademaker (in press).

**Cape Canaveral Air Station:**

<b>SPECIES</b>	<b>DATES</b>	<b>NUMBERS</b>	<b>COMMENTS</b>
Royal Tern	1 Dec 1995	1052 birds	(W)
Florida Scrub-Jay	1999	104 groups	2% (R)

Tern data provided by Eric Stolen (Dynamac Corporation), scrub-jay data provided by Ted Stevens (The Nature Conservancy)

**Merritt Island National Wildlife Refuge:**

<b>SPECIES</b>	<b>DATES</b>	<b>NUMBERS</b>	<b>COMMENTS</b>
Great Egret	2000	300 pairs	2% (B)
Snowy Egret	2000	325 pairs	(B)
Little Blue Heron	2000	350 pairs	5% (B)
Tricolored Heron	2000	535 pairs	(B)
White Ibis	2000	1000 pairs	5% (B)
Glossy Ibis	2000	55 pairs	3% (B)
Roseate Spoonbill	2000	45 pairs	4% (B)
Wading birds	2000	2610 pairs	(B)
Lesser Scaup	16 Jan 2001	32,698 birds	(W)
<u>American Coot</u>			
<u>Waterfowl</u>			
Shorebirds	winter 1993–1994	4645 birds	(W)
Bald Eagle	1998–1999 and 1999–2000	14 nests	1% (B)
Wilson's Plover	2000	3 pairs	1% (B)
Caspian Tern	2000	35 pairs	10% (B)

Florida Scrub-Jay	1992–1993	400 groups	15% (R)
Overall diversity	undated list – 1982?	313 natives 4 exotics	Additional species from observations in <i>Florida Field Naturalist</i>

Scaup data from +Herring and Collazo (2001), eagle GIS coverage provided by Julia Dodge (Florida Fish and Wildlife Conservation Commission), shorebird data from +Sprandel et al. (1997), scrub-jay data from +Pranty (1996b), other data provided by Gary Popotnik (U.S. Fish and Wildlife Service). Also see +Breininger (1997).

**OTHER RESOURCES: Canaveral National Seashore** contains a mix of temperate and tropical habitats; Turtle Mound is the northernmost location for many tropical species. The Seashore includes 24 miles (38 km) of undeveloped beaches and dunes, the longest stretch of undeveloped coastal strand remaining along Florida's Atlantic coast. Over 4000 sea turtles nest on the beach annually. Over 100 archaeological sites are known, including many on the National Register. • **Cape Canaveral Air Station** contains a large population of the ♦“Southeastern” beach mouse (*Peromyscus polionotus niveiventris*), a Federally Threatened species. There also are a number of aboriginal and recent archaeological sites. The name “Canaveral,” referring to the easternmost point on the Cape, was named by \_\_\_ in \_\_\_ and is one of the first-named landmarks in North America. (The site was renamed Cape Kennedy for several years after President Kennedy's assassination, but reverted back to Cape Canaveral for historical reasons). • In addition to 317 species of birds, **Merritt Island National Wildlife Refuge** contains **over 1000 plant species** [all native?], 80 fishes, 53 reptiles (including 3 exotics), 32 mammals (5 exotics), and 19 amphibians (1 exotic). • Together, the Refuge and Seashore support 14 Federally listed animals.

**THREATS:** \*human disturbance, \*exotic plants, \*habitat succession, \*feral hogs, development

**CONSERVATION ISSUES: Canaveral National Seashore:** Long-term fire suppression has resulted in heavily overgrown scrub habitat, and Florida Scrub-Jay populations have declined severely. Management currently includes mechanical treatment of scrub and prescribed fire. • Exotic plants, primarily Brazilian pepper and Australian-pine, are serious threats. Seashore staff is working with the state and county to remove exotic vegetation. • Impoundment of the salt marshes for mosquito control has extensively altered the habitat. Many of these impounded marshes are being reconnected to the Mosquito Lagoon. • **Cape Canaveral Air Station:** A long history of fire exclusion has resulted in oak scrub on the Station becoming extremely overgrown, which threatens the continued survival of Florida Scrub-Jays onsite. Extensive habitat disturbance and fragmentation has occurred from development of launch facilities. Station personnel are conducting a moderate amount of scrub restoration, using mechanical means and controlled burning, but the effort is on too small a scale to allow the scrub-jay population to recover. The Station also has a large volume of traffic on many roads, which may be further impacting scrub-jay populations. • There is great potential for the invasion of exotic plants into several areas. • **Merritt Island National Wildlife Refuge:** Long-term fire exclusion has resulted in heavily overgrown scrub habitat, and Florida Scrub-Jay populations have declined severely. Management for scrub-jays needs to be increased and accelerated, as numbers are declining from habitat succession. In the early 1990s, 500 groups of scrub-jays were estimated to occur—less than half that could occur with additional habitat management—and this number has been further reduced in recent years. Management currently includes mechanical treatment of scrub and prescribed fire. • Invasive exotic plants (Brazilian pepper and Australian-pine) are a serious threat, and are chemically and mechanically controlled. • Extensive alteration of the salt marshes for mosquito control has extensively altered the habitat by ditching and impounding, and helped to cause the extinction of the “Dusky” Seaside Sparrow. Currently, many of these impounded marshes are being reconnected to the Mosquito Lagoon. • Trappers remove 3000 feral hogs per year. • For other information on the “Dusky” Seaside Sparrows, and the actions and inactions that drove it to extinction, see +(Sharp 1970), +(Delany et al. 1981), +(Walters 1992), and +Kale (1996).

**NOMINATED BY:** Eric Stolen (Dynamac Corporation) and Gary Popotnik (U.S. Fish and Wildlife Service)

**REFERENCES:** +Breininger, D.R. 1997. Avifauna of an unimpounded salt marsh on Merritt Island. *Florida Field Naturalist* 25: 1–10. • +Delany, M.F., W.P. Leenhouts, B. Sauselein, and H.W. Kale, II. 1981. The 1980 Dusky Seaside Sparrow survey. *Florida Field Naturalist* 9:64–67. • +Herring, G., and J. Collazo. 2001. Wintering Lesser Scaup population dynamics at Merritt Island National Wildlife Refuge (Florida). Poster presented to the Waterbird Society, Niagara Falls, Canada, November 2001. • +Kale, H.W., II 1996. Dusky Seaside Sparrow (*Ammodramus maritimus nigrescens*). Pages 7–12 in *Rare and Endangered Biota of Florida, Volume V, Birds* (J.A. Rodgers, Jr., H.W. Kale, II, and H.T. Smith, editors). University Press of Florida. Gainesville, FL. • +1997 Merritt Island National Wildlife Refuge Annual Narrative. [need full reference] • +Pranty, B. 1996a. Distribution of the Florida Scrub-Jay, 1992–1993. Final report submitted to the U.S. Fish and Wildlife Service, Cooperative Agreement No. 14-16-0004-91-950, Modification No. 5. Jacksonville, FL. • +Rademaker, K., and C. Rademaker. In press (2002). First recent record of the Kirtland's Warbler in Florida. *Florida Field Naturalist* 30: \_\_\_\_\_. • +Sharp, B. 1970. A population estimate of the Dusky Seaside Sparrow. *Wilson Bulletin* 82: 158–166. • +Smith, R.B., and D.R. Breininger. 1995. Wading bird populations of the Kennedy Space Center. *Bulletin of Marine Science* 57:230–236. • +Sprandel, G.L., J.A. Gore, D.T. Cobb. 1997. Winter shorebird survey. Final performance report, Florida Game and Fresh Water Fish Commission. Tallahassee, FL. • +Walters, M.J. 1992. *A Shadow and a Song: The Struggle To Save an Endangered Species*. Chelsea Green Publishing Co. Post Mills, VT.

**WEBSITES:** <<http://merrittisland.fws.gov>>,  
<<http://www.nps.gov/cana>>,  
<<http://www.npwrc.usgs.gov/resource/othrdata/chekbird/r4/merritt.htm>>