

Sanibel Island

What began as a sandbar is now Sanibel, a barrier island fringed with mangrove trees, shallow bays, and white sandy beaches located off the southwest coast of Florida.

For over 2,000 years the Calusa Indians made the lush island, with its ready source of food from the sea, their home. By the mid-1800s, European settlers arrived and soon displaced the Calusa tribe.

For years the island was mainly used by farmers until a fierce hurricane in 1926 destroyed the agriculture industry. Construction of the Sanibel Causeway in 1963 opened the way for tourism on the island.



J. N. “Ding” Darling National Wildlife Refuge

Jay Norwood Darling was instrumental in the effort to block the sale of a parcel of environmentally valuable land to developers on Sanibel Island. At Darling’s urging, President Harry S. Truman signed an Executive Order creating the Sanibel National Wildlife Refuge in 1945.

The refuge was renamed in 1967 in honor of the pioneer conservationist. The refuge consists of over 6,400 acres of mangrove forest, submerged seagrass beds, cordgrass marshes, and West Indian hardwood hammocks. Approximately 2,800 acres of the refuge are designated by Congress as a Federal Wilderness Area.



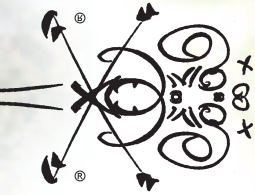
The refuge was created to safeguard and enhance the pristine wildlife habitat of Sanibel Island, to protect endangered and threatened species, and to provide feeding, nesting, and roosting areas for migratory birds. Today, the J. N. “Ding” Darling National Wildlife Refuge provides important habitat to over 220 species of birds.



"Ding" Darling Foundation

J. N. "Ding" Darling

Born in Norwood, Michigan in 1876, Jay Norwood Darling was to become one of the most well known men of his era. A nationally syndicated editorial cartoonist, he was famous for his witty commentary on the many different subjects that concerned the nation.



An affable, dynamic, and talented man, Darling began his cartooning career in 1900 with the *Sioux City Journal*. After joining the *Des Moines Register* as a cartoonist in 1906, he began signing his cartoons with the nickname "Ding" – derived by combining the first initial of his name with the last three letters.

In 1924, "Ding" was honored with a Pulitzer Prize for a cartoon that espoused hard work. He would again win this prestigious award in 1942. An avid hunter and fisherman, Darling became alarmed at the loss of wildlife habitat and the possible extinction of many species. As an early pioneer for wildlife conservation, he worked this theme into his cartoons and influenced a nation.

In July 1934, President Franklin D. Roosevelt appointed “Ding” Darling as the Director of the U.S. Biological Survey, the forerunner of the U.S. Fish and Wildlife Service. In his 18 months as Director, Darling initiated the Federal Duck Stamp Program, designed the first duck stamp, and vastly increased the acreage of the National Wildlife Refuge System. He also developed partnerships with state universities to train scientists in the emerging study of wildlife biology.





“Ding” Darling Foundation

With the passage of the Migratory Bird Hunting and Conservation Stamp Act in 1934, all waterfowl hunters 16 years and older became required by law to purchase a Federal Duck Stamp. Proceeds from the sales of these stamps are used to purchase wetlands for the protection of wildlife habitat. Since 1934, over \$750 million in funds have been raised and more than 5.3 million acres of habitat have been purchased for wildlife.

Darling also designed the Blue Goose logo, the national symbol of the refuge system. Rachel Carson, author of *Silent Spring*, scientist and chief editor for the U.S. Fish and Wildlife Service from 1932-52, wrote of the emblem, “Wherever you meet this sign, respect it. It means that the land behind the sign has been dedicated by the American people to preserving, for themselves and their children, as much of our native wildlife as can be retained along with our modern civilization.”



This blue goose, designed by “Ding” Darling, has become a symbol of the National Wildlife Refuge System.



Cindy Anderson/USFWS

Francine Litofsky



USFWS



Estuarine Ecosystem

The J. N. “Ding” Darling National Wildlife Refuge is located within an estuary, an area where salt water and fresh water mix. Estuaries create some of the most nutritionally rich habitat for thousands of species of plants and animals in an intricate food web. The basis of this food web in South Florida is the extensive mangrove forests and productive seagrass beds. Microorganisms thrive on the decaying leaves of seagrasses and mangroves, providing additional food for other animals. Rich in marine life, these shallow waters attract thousands of fish, shrimp, crabs, and snails, which are preyed upon by the numerous wading birds of the refuge.

Seagrass beds and mangrove forests serve as shelter, nursery, and feeding areas for many fish species such as mullet, snook, red drum, snapper and other marine organisms. Refuge waters provide essential habitat for fish that help to support the world class sport fishing of this estuary. Healthy seagrass beds are essential to grazing species such as the endangered West Indian manatee and green sea turtles.



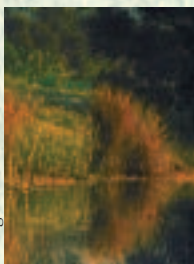
The estuary is also important to the thousands of shorebirds such as red knots, dunlin, and numerous sandpipers that use the refuge as resting and feeding grounds during their migrations. Great blue heron, reddish egret, roseate spoonbill, and other wading birds use the many islands as roosting sites, and many nest on the rookery islands found in the estuary. The refuge is also a haven for many threatened and endangered species, such as the Florida manatee, wood stork, and American crocodile.

Uplands and Interior Wetlands

The sand and shell ridges of ancient beach berms provide relatively high and dry ground on the interior of the island and are dominated by sea grapes and cabbage palms. Saw palmetto, wild coffee, Jamaica caper, and other subtropical shrubs form the understory of this forest environment. Tracts of hardwood forests, called hammocks, are vegetated by gumbo limbo, strangler fig, mastics, and other tropical trees.



The upland vegetation provides essential food and shelter to migrating songbirds during their long migratory journeys. Many animals find homes in this woodland environment such as: bobcats, marsh rabbits, racoons, gopher tortoise green anole and Southern black racers.



The freshwater wetlands on the island's interior exist as isolated strands of what historically was an extensive system of marshlands found throughout Sanibel Island. Among the grasses can be found such marsh vegetation as *Spartina*, leather fern, sedges, and cordgrass. Alligators, river otters, turtles, and frogs are among the many wildlife species that are commonly found in this habitat.

Refuge Management

The J. N. "Ding" Darling National Wildlife Refuge achieves its goal of conserving wildlife by managing wildlife habitat. Refuge managers and biologists make concerted efforts to restore, enhance, and protect habitat types against the ever changing conditions found on the refuge.

In the late 1960s the refuge built a dike through the estuary to create two areas of impounded water in an effort to control mosquito populations. For many years, the water level was kept high during the mosquito breeding season in an attempt to prevent mosquitoes from laying their eggs on the exposed mud flats. Unfortunately, this also degraded the overall health of the habitat in the impoundments and reduced their usefulness for all wildlife.

Kendra Willet/USFWS



Today, the water levels follow the natural tidal fluctuations. The water levels in the impoundments are artificially lowered only to coincide with the spring and fall shorebird migrations in order to provide optimal feeding habitat for the hundreds of birds that use the refuge as a refueling area.

Cindy Anderson/USFWS



Exotic plants can quickly invade refuge lands and out-compete native plants, degrading habitat necessary for wildlife. To combat the invasion, the refuge staff chemically and mechanically treats hundreds of acres of non-native plants, such as Brazilian pepper and Australian pine.

Prescribed fires are used to maintain a variety of plant communities, mimic natural fire cycles, and reduce devastating fire conditions. Controlled fires help wildlife by enhancing new plant growth, eliminating thick undergrowth, and controlling non-native plants.

Scientists from the refuge and partner organizations study wildlife populations and habitat conditions to ensure management and public use actions benefit a healthy ecosystem.

Paul Ryan/USFWS





South Florida Ecosystem

Millions of acres of unique South Florida environments have been lost to meet the needs of agriculture and growing cities. Restoration of the South Florida ecosystem, including the Everglades, has become one of the largest coordinated conservation and restoration efforts ever undertaken. Private organizations and local, state, and federal governments are working together to restore this fragile environment.

The health of J. N. “Ding” Darling National Wildlife Refuge and its estuarine environment are dependent on the health of the Everglades watershed, which encompasses the Kissimmee River, Lake Okeechobee, and the Caloosahatchee River. Artificially regulated freshwater releases into the Caloosahatchee directly affect the refuge and its water quality. Too much freshwater (or too little), at the wrong time, can debilitate the fragile estuarine ecosystem and its dependent wildlife.

Recreational Opportunities Education Center

Visitors can orient themselves with the refuge and receive valuable information at the “Ding” Darling Education Center. This state-of-the-art Center was constructed with \$3 million in private donations from the refuge friends’ group, the “Ding” Darling Wildlife Society. The Center, opened in 1999, features interactive exhibits on refuge ecosystems, the work of “Ding” Darling, migratory flyways, the National Wildlife Refuge System, and a hands-on area for children.

The Center is open January 1 – April 30 from 9:00 am to 5:00 pm, and May 1 – December 31 from 9:00 am to 4:00 pm, and is free of charge. The Center is staffed by the hundreds of volunteers that donate their time to the refuge. These volunteers provide

David Meardon



information and assist with any questions from visitors. Outside the front doors of the Education Center can be found an information board that identifies recent wildlife sightings.

The “Ding” Darling Wildlife Society operates a bookstore in the Education Center. Visitors can find numerous field guides, nature books, children’s books, shirts, postcards, and many other items. Proceeds from the store help to support the programs on the refuge. Visitors can also purchase a Federal Duck Stamp in the bookstore. Money from the sale of the Federal Duck Stamp is used to purchase land for the National Refuge System.

Cindy Anderson/USFWS



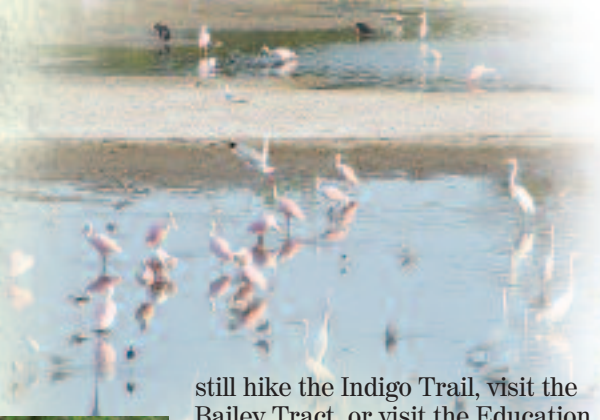
Wildlife Observation/Wildlife Drive

The most popular place to view wildlife on the refuge is Wildlife Drive. This 4-mile, one-way road leads you through the heart of a mangrove forest. While on Wildlife Drive, you will begin to appreciate why “Ding” Darling wanted to protect this fragile and fascinating environment. Today, nearly 800,000 visitors travel Wildlife Drive annually.



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Visitors can access Wildlife Drive by vehicle, guided tram, bicycle, or on foot Saturday through Thursday. **The Drive is closed to all access on Fridays** to allow staff to perform maintenance of the road and viewing areas and conduct biological studies. It also provides time of reduced disturbance for the wildlife. You can



still hike the Indigo Trail, visit the Bailey Tract, or visit the Education Center explore Tarpon Bay with our refuge concessionaire. Visit: www.tarponbayexplorers.com

An entrance fee of \$5.00 per vehicle or \$1.00 per pedestrian/bicyclist over 15 years old is required. Those visitors carrying a current Federal Duck Stamp, Senior Pass, Access Pass, Annual Pass or Refuge Annual Pass are not required to pay the entrance fee. A self-guided tape/CD about the Wildlife Drive and a souvenir booklet are available for purchase in the Education Center.

Visitors may tour the Wildlife Drive and most of the trails by bicycle. All bicyclists must obey the one-way law on Wildlife Drive. From the Education Center, it is an 8-mile loop along Wildlife Drive returning along the main bike path along Sanibel-Captiva Rd., or a 4-mile loop along Wildlife Drive returning via cross-dike along the Indigo Trail.



The best time to observe wildlife is near low tide when the birds are feeding in the exposed mud flats. Early morning or evening can also be a time of heightened wildlife activity. November through April are the optimum months for bird viewing on the refuge. Water and insect repellent can be purchased in the bookstore, and binoculars can be checked-out at the Information Desk in the Education Center.

Cindy Anderson/USFWS



Wildlife can often be seen close to the road or trails. Alligators can be seen basking along the water's edge, herons and egrets often fish near the water control gates, and raccoons and marsh rabbits can be seen feeding in the brush. **For your own safety, please do not approach or feed any wildlife. These animals are wild and can be dangerous. Feeding of wildlife is illegal, and violators will be prosecuted.**

Hiking

There are three trails that can be accessed from Wildlife Drive

The Indigo Trail, 4-mile, round-trip, Indigo Trail leaves from the Education Center parking lot and ends at the universally accessible cross-dike, which extends from the Drive. Along the trail, visitors often spot wildlife such as alligators, night-heron, or white ibis.

Cindy Anderson/USFWS



The Wulfert Keys Trail off the Wildlife Drive is a short 1/3-mile-long trail which follows a power line access to Pine Island Sound. Here, visitors will get a spectacular view of the Sound and may see brown pelicans and osprey.

The Calusa Shell Mound Trail is a 1/3-mile, universally accessible, interpretive boardwalk that originates near the end of Wildlife Drive. The Trail meanders through a hardwood hammock that has grown on top of an ancient Calusa Indian Shell Mound. Visitors will learn about the ancient Indians, as well as the unique hammock environment while reading the interpretive panels. This is an excellent place to spot warblers and other migratory songbirds during the spring and fall migrations.

George Graham



Bailey Tract

Located off of Tarpon Bay Road, the Bailey Tract is a unique area of the refuge. This 100-acre parcel is an



interior wetland where freshwater plants and wildlife dominate. The trails can be accessed by walking or biking from sunrise to sunset. Those searching for freshwater bird species and songbirds are not often disappointed during spring and fall migration. Also seen in this area are numerous alligators and turtles. The lucky person may even spot a bobcat.

Fishing

Recreational fishing and dip netting of crabs in the refuge is a welcomed activity when done in accordance with current Florida state fishing and refuge regulations and in compliance with refuge special designation areas. Visitors should refer to the J. N. "Ding" Darling *Fishing and Boating* brochure and the Florida fishing regulations, both of which can be found in the Education Center, for more information. Many people fish for sheepshead, spotted sea trout, snook, redfish, and the occasional tarpon along the Wildlife Drive. Fishing from a boat is also allowed in accordance with state and refuge regulations. Visitors should pick up a refuge boating and fishing brochure to see specific regulations, closed areas, and no motor zones.



Canoeing/Kayaking

There are two designated kayak/canoe launch sites along the right side of Wildlife Drive where visitors may launch. The impoundments on the left side of Wildlife Drive are closed to all vessels and public access beyond the





area closed signs.

Guided kayak and canoe tours are offered from Canoe Adventures along Wildlife Drive and in Tarpon Bay with Tarpon Bay Explorers. There is also kayaking/canoeing around Buck Key off of Captiva Island.

Wildlife Photography

Nature photography, bird watching, and observing other wildlife is encouraged anywhere along the Wildlife Drive or the trails. Visitors should be courteous to others and respectful of wildlife. You may stop and park on the right-hand side of Wildlife Drive and comply with all “area closed” signs. When there is wildlife on or near the Drive, do not approach or disturb. There are often volunteers along the Drive and trails who can answer questions and identify birds.

Tarpon Bay Recreational Area

Tarpon Bay Explorers is the refuge’s licensed concessionaire. They run the guided tram tours along Wildlife Drive leaving from the Education Center parking lot. They provide kayak/canoe and sealife interpretive tours, where visitors can view refuge marine life up close. Visitors may also rent bicycles, kayaks, canoes, pontoon boats, and fishing equipment; purchase bait and fishing licenses; or book a charter fishing trip.

Refuge Concessionaire
Tarpon Bay Explorers
 239/472-8900
 900 Tarpon Bay Rd.
 Sanibel, FL 33957
tarponbayexplorers.com



Canoe Adventures
 239/472-5218



“Ding” Darling
Wildlife Society
 239/472-1100
 1 Wildlife Dr.
 Sanibel, FL 33957
dingdarlingsociety.org



Alison Hagerup Beach



ROOSEVELT CHANNEL

Buck Key

WULFERT CHANNEL

Captiva Island

Runyon Key

Turner Beach



Blind Pass Beach



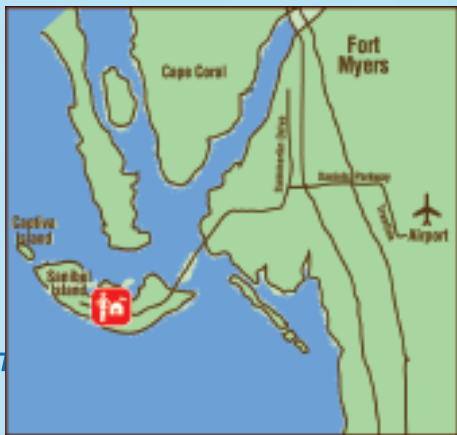
Bow
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The J. N. “Ding” Darling National Wildlife Refuge is located on the subtropical barrier island of Sanibel in the Gulf of Mexico.

The refuge is part of the largest undeveloped mangrove ecosystem in the United States. It is world famous for its spectacular migratory bird populations.

J. N. “Ding” Darling is one of over 550 refuges in the National Wildlife Refuge System administered by the U.S. Fish & Wildlife Service.



Indigo Trail - Open daily sunrise-1/2 hour before sunset

Wildlife Drive - CLOSED FRIDAYS

One-way for vehicles and bicycles

Sunrise to 1/2 hour before sunset

Motorized vehicles \$5

Hiker/biker \$1

Children 15 and under free

Tram tours available (239) 472-1351

Visitor/education center - Free entry

Hours vary, call for information: (239) 472-1100

Bailey Tract - Open daily

Sunrise to sunset - Free entry

GULF OF MEXICO

For more information visit www.fws.gov/dingdarling or call (239) 472-1100

Legend



Refuge lands



Refuge lands closed areas -
Access on designated trails only



Refuge water boundary



Canoe/kayak trail



Foot/bicycle trails - Walk bikes on all boardwalks



Wildlife Drive - Closed to all access on Fridays.
One-way for vehicles and bicycles



J.N. "Ding" Darling Wilderness Area
Motor boat use allowed except in no motor zone.



No Motor Zone - pole/paddle only



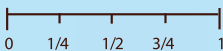
Wulfert Flats Pole/Troll Zone
- Seagrass protection area. No combustion engine zone - pole/troll only.



SOUND



Scale in Miles





Fishing access - All refuge waters are open to fishing. Florida State fishing regulations apply. Crabbing permitted, see specific crabbing regulations.



Visitor/Education Center and Administration Headquarters



Canoe/kayak launch site



Red Mangrove Overlook



Cross Dike Pavillion



Observation tower

R.O.W

Clinic for The Rehabilitation of Wildlife Healing Winds Visitor and Education Center

SCCF

Sanibel-Captiva Conservation Foundation Nature Center
This private center offers exhibits, walking trails and guided tours. Operation hours are posted.

Shell Museum

Bailey-Matthews Shell Museum

Historical Village

Sanibel Historical Museum and Village



Picnic areas



Public beach access



Tram pick-up/drop-off at the "Ding" Darling Education Center (visitor center)



TARPON BAY RECREATION AREA—Tarpon Bay Explorers rentals – kayaks/canoes, bicycles and boats, guided tours, pontoon, kayak, and fishing
phone: 239-472-8900



PROHIBITED REFUGE ACTIVITIES

- Collecting
- Camping
- Feeding or disturbing wildlife
- Pets not on a leash
- Skateboarding
- Possession of unauthorized firearms
- Inline skating/rollerblading
- Crabbing with baited line or trap
- Entry into Area Closed Section
- Biking against traffic flow on Wildlife Drive
- Entering Wildlife Drive from Wulfert Rd.

EMERGENCY CALL 911
Sanibel Police Dept. (239) 472-3111

J.N. "Ding" Darling National Wildlife Refuge Calendar of Events

Nature has its own timetable, here are some sightings to look for.

January

- Interpretive programs and tours are held January-March
- An abundance of shorebirds, waterfowl, wading birds, passerines, and raptors can be found
- Numerous waterfowl can be observed

February

- Wading birds begin to show breeding plumage
- Shorebirds are plentiful and often seen feeding on mudflats

March

- Florida Jr. Duck Stamp Art Competition entries are due
- Refuge water impoundment draw down to coincide with shorebird migration
- Peak of osprey nesting
- Some adult spoonbills leave the refuge to head to nesting grounds

April

- Earth Day Festival – in cooperation with island partners
- White pelicans begin to migrate north
- Peak of wading bird nesting
- Peak of snowy plover nesting
- Black-necked stilts begin to nest at the Bailey Tract

May

- International Migratory Bird Day – 2nd weekend in May
- Mangrove cuckoo sightings are more frequent
- Sea turtles begin to nest on Sanibel beaches
- Male alligators may be heard bellowing to attract a mate

Denny Souters



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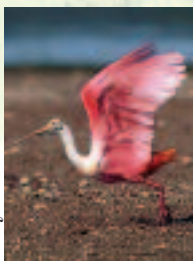
Terry Baldwin



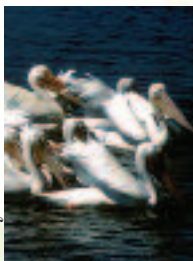
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Denny Souers



Denny Souers



Terry Baldwin



June

- National Boating and Fishing Week
- Sea turtle nesting continues
- Female alligators begin to nest

July

- 4th of July Parade – in cooperation with the City of Sanibel
- Manatees can be found in Tarpon Bay

August

- Manatees can be found in Tarpon Bay
- Sea turtle hatchlings are emerging from their nests
- Beginning of migratory bird season

September

- National Public Lands Day
- Ding” Darling Children’s Editorial Cartoon Contest
- National Estuaries Day – last Saturday in September
- Spoonbills returning to refuge

October

- Ding” Darling Days/National Wildlife Refuge Week
www.dingdarlingdays.com
- Refuge water impoundment draw down to coincide with shorebird migration
- Shorebirds are visible in refuge impoundments

November

- White pelicans begin to arrive on the refuge

December

- Manatees can be seen at Lee County Manatee Park

Other Yearly Events

- Homeschool Day – varies by subject and month
- Jr. Refuge Manager Badge – daily in Education Center
- Earthcaching Activity for families-daily in Education Center

**J.N. "Ding" Darling
National Wildlife Refuge
1 Wildlife Drive
Sanibel, FL 33957
239/472 1100
www.fws.gov/dingdarling
email: dingdarling@fws.gov**

**U.S. Fish & Wildlife Service
1 800/344 WILD
<http://www.fws.gov>**

October 2010



U.S. Fish & Wildlife Service

J. N. "Ding" Darling

National Wildlife Refuge

