

Florida Sandhill Crane
Grus Canadensis pratensis

This profile is a short summary of information to introduce the species and does not summarize all available information on the species.

Listing status: USFWS = not listed
FWC = Threatened

Trend: In 1975, a population estimate based on mail surveys, known distribution, and approximate population density generated a population of 4,000 birds (Nesbitt 1996, Hipes et al. 2000). A GIS analysis of landcover in 2003 using occupied, suitable crane habitat and annual home range sizes, age structure, and average flock size yielded a population estimate of 4,594 cranes. The same analysis was used based on landcover in 1974 and yielded a population estimate of 7,142 cranes. This resulted in a 35.7% decline in the crane population statewide from 1974 to 2003. Furthermore, when the 2003 landcover information was compared to land-use data from 2006, it was found that only 12.2% of occupied, suitable habitat remained in areas of conservation lands. This habitat is probably not actively managed for cranes, and is therefore of average quality. Based on this assumption, there are probably no more than 263 breeding pairs of sandhill cranes currently being sustained on public lands in Florida (Nesbitt and Hatchitt 2007).

Threats: Habitat loss and degradation is the most common threat to this species. Florida sandhill cranes predominately use shallow freshwater marshes and adjacent uplands, both of which are easily degraded. Florida sandhill cranes also are sensitive to nest disturbance during the breeding season, as well as vehicle mortality when caring for fledgling young (Hipes et al. 2000).

Notes: During the winter months (October – March), large numbers of greater sandhill cranes are seen in FL. Any sandhill cranes observed during the summer are likely FL sandhill cranes.

Prioritization information:

PLCP PVA proportion of pops modeled to persist on public lands = **0.33**

PLCP PVA probability of a 50% decline on public lands = 0.00

Millsap updated biological score = **27**

Millsap updated supplemental score = **16**

Legacy population trend = **Declining**

Legacy population status = Medium

Summary: This species triggers 4 of the 6 parameters, making it a moderate to high priority.

Life History: The Florida sandhill crane is a resident subspecies of the sandhill crane (*Grus Canadensis*). Florida sandhill cranes utilize a variety of open habitats

including prairies, freshwater marshes, pastures, open pinelands, agricultural areas, and transition zones between these habitats (Hipes et al. 2000, Stys 1997).

Florida sandhill cranes are perennially monogamous. Juvenile birds remain with their parents until around ten months of age, and then leave to join other non-breeding individuals. These flocks are important socially as breeding pairs are often created during this time. Unpaired adult cranes whose mate died or disappeared also join these flocks and will re-pair with a new mate (Stys 1997).

Standing water is an important nesting component for Florida sandhill cranes. Nests consist of herbaceous plant material mounded in shallow water or in marshy areas. Water conditions vary depending on amount and seasonality of rainfall, and can have an impact on nesting success (Stys 1997). Nesting begins as early as December, but more typically in January and extending through June. Renesting will occur if eggs or chicks are lost (Dwyer and Tanner 1992). Average clutch size is 1-2 eggs, with an incubation period of 29-31 days. Young are precocial and accompany foraging adults within one week of hatching (Stys 1997). Chicks can fly within 70 days and are independent by 10 months of age (Nesbitt 1996, Stys 1997).

Diet is varied, and includes vegetative material and seeds of various plants, as well as acorns and dew berries. Agricultural crops and various invertebrates are also eaten (Nesbitt 1996).

Florida sandhill cranes utilize a variety of upland habitats. Upland habitats should be relatively open with a majority of the vegetative cover equal to or less than 20 inches in height (Stys 1997, Nesbitt 1996).

Home range size vary by age class and time of year. One study of 31 individuals found a mean annual home range size of 936 ha, with an average of 447 ha for adult pairs and 2,132 ha for subadults (Nesbitt and Williams 1990). Stys (1997) reported north central Florida cranes had home range sizes of 253 ha, 180 ha, and 124 ha during pre-nesting, nesting and post-nesting, respectively. Paired adults on the Kissimmee Prairie had a mean annual home range of 183 ha. As habitat conditions degrade, pairs or groups will leave their home range and travel up to 15 km to find resources. Breeding may be delayed or abandoned if suitable foraging or breeding habitat cannot be located (Nesbitt 1996, Nesbitt and Williams 1990).

Habitat Parameters for Florida sandhill crane: In uplands used for foraging, maintain vegetation < 20 inches in height.

Minimum Habitat Requirement:

From PVA: areas able to support > 6 females (approx \geq 1200 acres of good habitat; Marty Folk, pers.com.).

From Literature:

Best Management Practices:

- Prescribed burning can be used to maintain upland habitats in suitable conditions for use by Florida sandhill cranes. They have been observed feeding just after a fire and may use the area for several weeks post-fire

(Nesbitt 1996). Burning should be conducted outside of the nesting season and after the young are able to sustain flight (Stys 1997).

- Mowing and grazing can be used to maintain upland habitats. Florida sandhill cranes respond to these activities positively by using the habitat for foraging. However, livestock can reduce quality of wetland habitat by reducing amount of vegetation in and around wetlands. When installing fencing for cattle, consider placing “walk throughs” every 0.3 miles.
- Management and protection of nesting areas is important. Known nests should be protected by a 400 foot buffer to reduce likelihood of disturbance. Seasonality of wetland management activities should be considered to avoid flooding existing nests or detrimentally impacting foraging habitat. Reducing disturbance to nest areas decreases chances of abandonment or other negative impacts (Dwyer and Tanner 1992).

Monitoring Protocol:

- For relatively small areas of suitable habitat, ground surveys can be used. The surveyor should select an observation point and observe the area from this point. If the birds are present, observation from a single point will reduce chances of disturbance.
- Large areas that cannot be observed from a single point should be surveyed using transects with as close to 100% coverage as possible across all areas of suitable habitat. Aerial transects are commonly used during the breeding season because nests are often very conspicuous and easy to spot from the air.
- The number of territorial pairs can be determined by conducting a call-count.
- When conducting surveys during the nesting season, care should be taken not to disturb adults on the nest, especially during the hot part of the day.

For more information on monitoring: see Dwyer & Tanner 1992 and Stys 1997.

PLCP PVA Summary: The Wildlife Habitat Conservation Needs in Florida project created a PVA (http://research.myfwc.com/features/view_article.asp?id=29815) for this species was conducted based on a dispersal distance of 25 km (considered conservative) and a potential habitat of 854,458 ha, of which 208,402 ha (24%) are on managed lands. The initial population size for the model was 2000 females based on the estimated state population of 4000 pairs. Carrying capacity was estimated at 5,695 pairs based on a density of 0.67 pairs per km² given the total amount of modeled potential habitat. This yielded 5 populations for all potential habitat and 9 populations for habitat on managed lands.

Florida sandhill cranes exhibit delayed maturity in which females generally do not attempt to breed until around 3 years old. The PVA model was based on females in two stages, juveniles (age 2-3) and adults (age 3+). This resulted in a growth rate of 1.055. Two models were used, one for all potential habitat and one for managed habitat. Under both models, the probability of a large decline is low. Adult survival is modeled to have the most impact on long-term population trends. Little is known about factors influencing adult survival,

indicating that this is an area that should be a focus of management and future research in Florida sandhill cranes.

The model assumed no catastrophes and no changes in habitat. Further, Nesbitt & Hatchitt (2007) used 2003 landcover data (but a different model) and estimated the amount of occupied suitable habitat to be 2,055,415 ha, with 12.2% occurring on conservation lands.

2003 Landcover used for model:

Dry prairie	Shrub and brushland
Freshwater marsh and wet prairie	Grassland
Sawgrass marsh	Improved pasture
Cattail marsh	Unimproved pasture
Shrub swamp	

FNAI Natural Communities used:

Depression marsh	Improved pasture
Dry Prairie	Semi-improved pasture
Marsh Lake	Wet Prairie

FNAI field guide description of habitat: Prairies, freshwater marshes, and pasture lands.

Avoids forests and deep marshes but uses transition zones and edges between these and prairies or pasture lands. Will frequent agricultural areas like feed lots and crop fields, and also golf courses and other open lawns, especially in winter and early spring. Nest is a mound of herbaceous plant material in shallow water or on the ground in marshy area. Favors wetlands dominated by pickerelweed and maidencane.

Important Links:

FNAI Field Guide to rare animals:

http://www.fnai.org/FieldGuide/pdf/Grus_canadensis_pratensis.PDF.

Nature Serve:

<http://www.natureserve.org/explorer/>

The Birds of North America Online: Sandhill Crane

<http://bna.birds.cornell.edu/bna/species/031/articles/introduction>

Pertinent Documents/Literature:

Dwyer, N.C. and G.W. Tanner. 1992. Nesting success in Florida sandhill cranes. Wilson Bull. 104(1):22-31.

Hipes, D., D.R. Jackson, K. NeSmith, D. Printiss, and K. Brandt. 2000. Field guide to the rare animals of Florida. Florida Natural Areas Inventory, Tallahassee.

- Nesbitt, S.A. and K.S. Williams. 1990. Home range and habitat use of Florida sandhillcranes. *J. Wildl. Management.* 54(1):92-96.
- Nesbitt, S.A. 1996. Florida Sandhill Crane (*Grus Canadensis pratensis*) in Rare and Endangered Biota of Florida (J.A. Rodgers, H.W. Kale, H.T. Smith, Eds.) Vol V. pp 219-229.
- Nesbitt, S.A. and J.L. Hatchitt. 2007. Trends in habitat and population of Florida sandhill cranes. Pending publication.
- Stys, B. 1997. Ecology of the Florida sandhill crane. Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 15. Tallahassee, Fl. 20 pp.
http://research.myfwc.com/publications/publication_info.asp?id=49382.