

Significance of human interaction and interference on osprey populations in the Everglades



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Bio-monitoring the North American osprey (*Pandion haliaetus*; Pandionidae) provides insight into the effects of human disturbances and persistent pollutants on coastal fauna and ecosystems.



Osprey is a water-bounded top predator and feeds mainly on fish.

Changes in osprey population abundance and distribution can be representative of the effects of various contaminants on their reproduction (Grove *et al.*, 2009). Partners in Flight estimates a global breeding population of 500,000 with 21 percent spending some part of the year in U.S.



A few Ospreys overwinter in the south of USA including Florida.

The South Florida Wildlife Center (SFWC) is involved in wildlife rescue, rehabilitation and release in tri-county area of Palm Beach, Broward, and Miami-Dade (Everglades conservation areas).

Rescue centers : a positive interference.



Indirectly have a function of environmental monitors.

Suspicious cases of death are recorded and reported to the authorities when necessary.

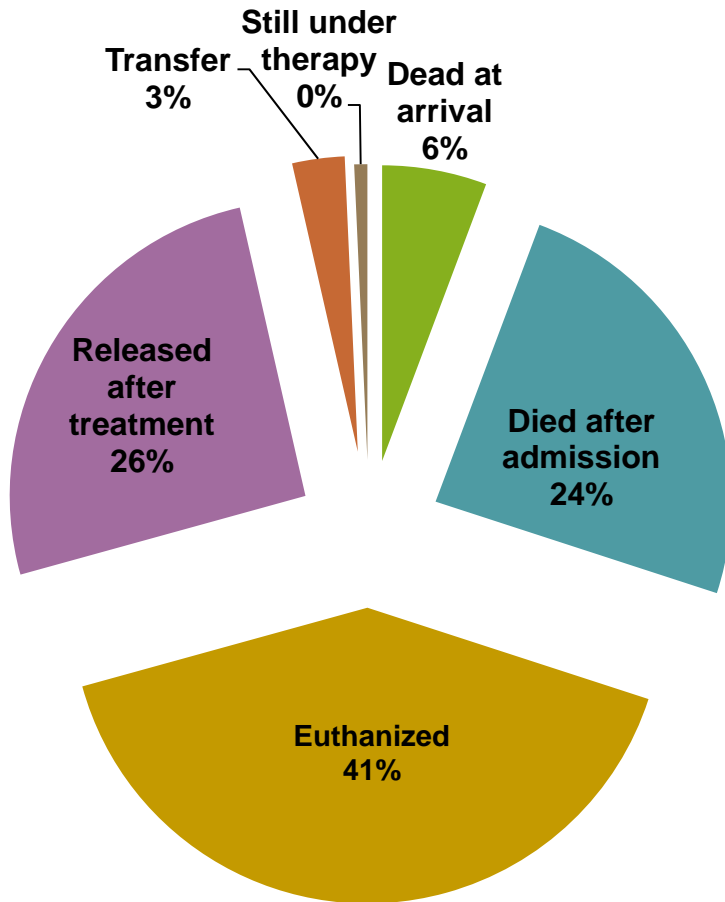
Records of osprey death and valuable source of data would be lost without rescue centers.

To educate public and causing positive public intervention for wildlife.

Reporting and/or transporting injured or orphaned osprey to rescue centers for care increases chances of survival for injured and orphaned osprey.

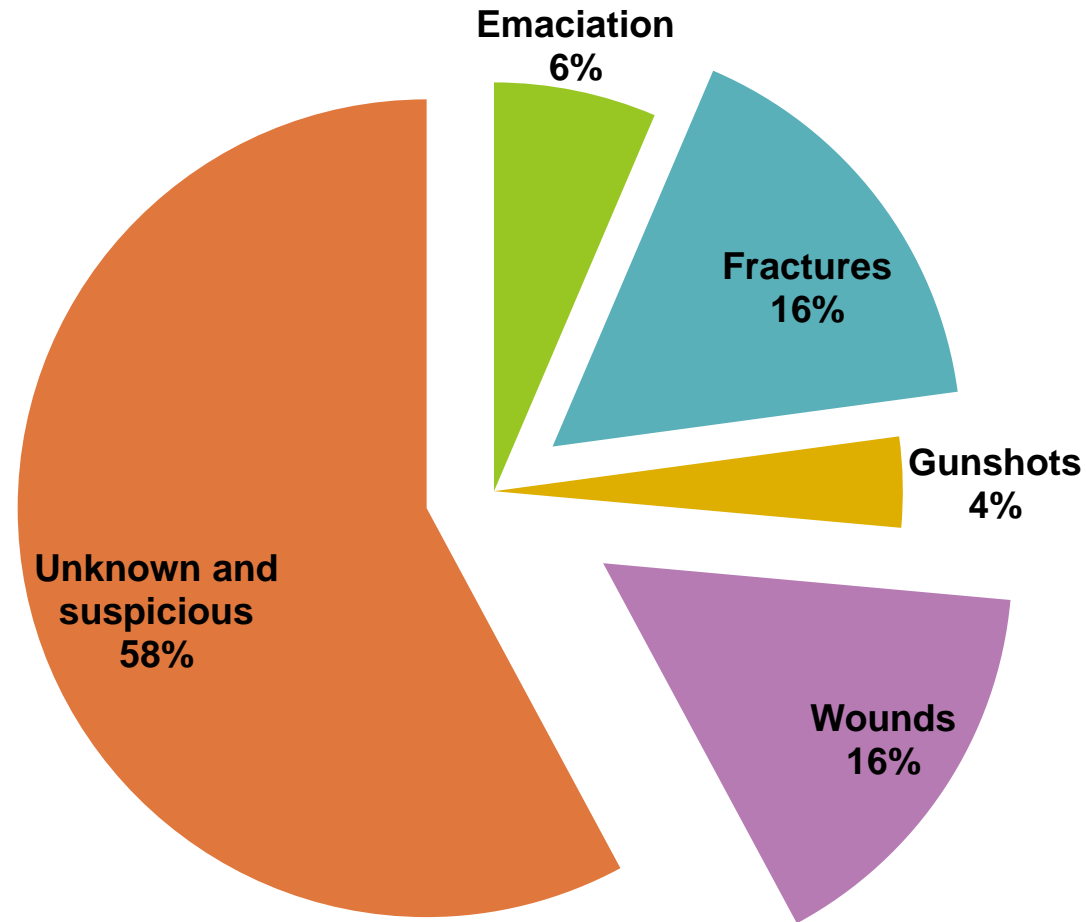


Admissions outcome



Admission data for 140 ospreys between 2009 and 2014. Six percent (8/140) were dead at arrival, 24% (34/140) died after admission, 41% (57/140) had to be euthanized to avoid unnecessary suffering, 26% (36/140) were successfully treated and released, 3% (4/140) were transferred and one is still under care.

Causes for admission between 2009 and 2014 Florida (n=140)



Analysis of data shown emaciation (9/140), fractures (23/140) possible caused by collision or trauma, gunshots (5/140), wounds (22/140) possible due to interaction between species or collision and unknown or suspicious events (81/140). Total cases for admission due to physical injury 36%.

What is happening in a nearby state , South Carolina

- In 2013, admission data collected by the Avian Conservation Center in South Carolina showed physical injury was the primary cause of admission (35%; 13/37) followed by unknown causes (32%; 11/37).
- Other causes of admission were represented by cases of ingestion of foreign substances, developmental issues, heavy flea infestation, harmful algal bloom, parasites, starvation and two admissions related to internal causes (total of 13/37 cases).



Physical injuries to osprey can be indicative of human-induced injuries, whether intentional or unintentional. Unintentional harm can be caused by man-made objects such as electric poles, entanglement, accidental collisions, abandoned fishing gears and the removal of natural habitats due to urban development.



Intentional harm includes gunshots, intentional collisions, poisoning and damage to nests.



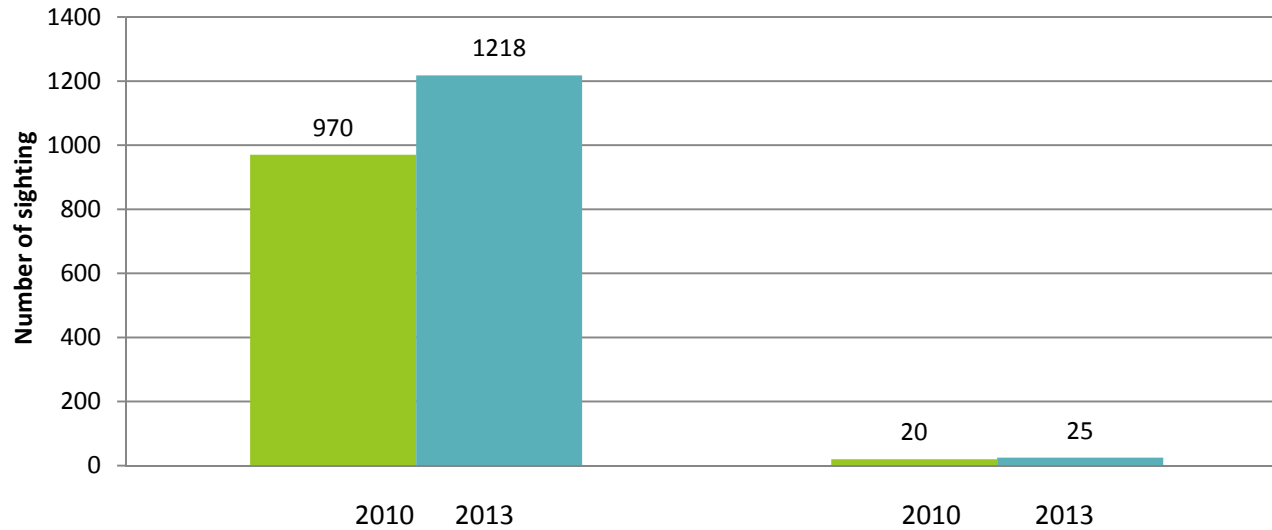
Disturbing nests violate the federal Migratory Bird Treaty and individuals can be subject to a fine up to \$ 15,000.



Causes of admission were emaciation, fractures and trauma possibly due to collision with vehicles or man-made structures, gunshot wounds, methane burns or electrocution and injuries possibly due to interaction between species.

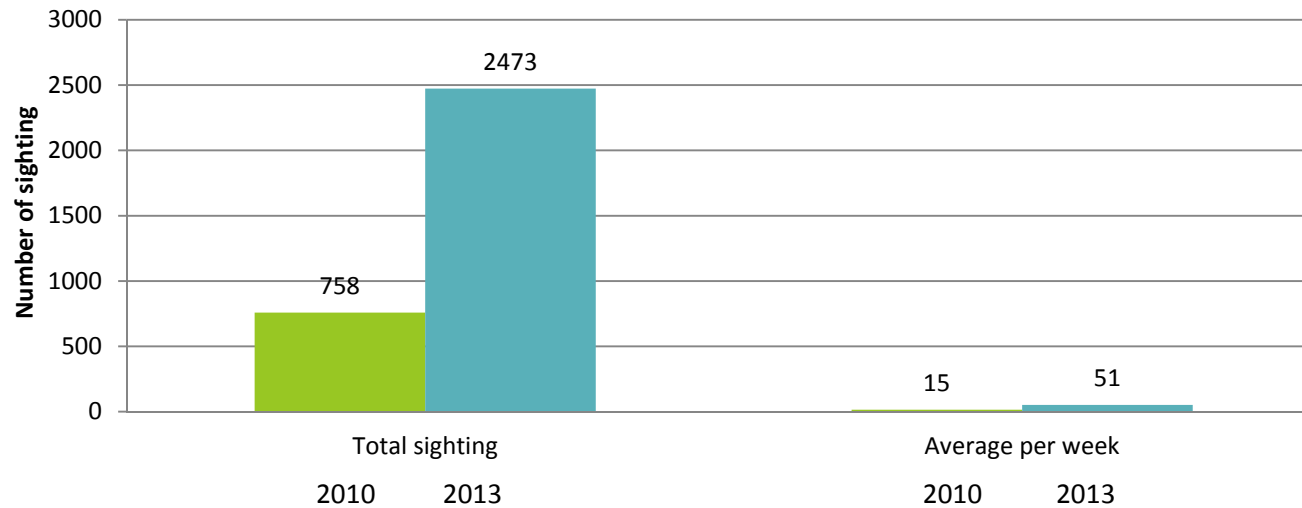


Osprey sightings for Everglades National Parks Monroe, Miami –Dade, Collier



(eBird Basic Dataset database
Version: EBD_relMay-2014;
Cornell Lab of Ornithology,
Ithaca, New York)

Osprey sightings in South Carolina all counties



More osprey sighting in one year could be due to more individuals looking for them or folks spending more time observing, there is no standardization of effort.

This is essential when making comparisons between years. Participation in eBird has been a recent and fast-growing trend, which very likely explains the observed increase in ospreys sighted in South Carolina and Florida and reported to the eBird network.



Rescue efforts are a positive and significant human interaction and interference on osprey populations. As wildlife is nowadays very challenged, public involvement in conservation has to be valued and endorsed. Avian and wildlife rescue centers need to be acknowledged and networking between them and research lab involved in eco-studies need to be considered for those cases of suspicious and unknown deaths .



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