

## Peregrine Falcon Nest Boxes

The peregrine falcon is a state endangered species in South Dakota, with no current confirmed nesting locations. South Dakota's endangered species law requires that the Departments of Agriculture and Game, Fish and Parks work to restore species listed as threatened or endangered. Having established breeding pairs of peregrine falcons in South Dakota will facilitate the downlisting and delisting of the species and help restore a species that historically nested in the Black Hills of South Dakota.

One technique employed by many states and other cooperators involved with peregrine falcon recovery is the placement of nest boxes in urban areas, a practice that has seen great success over the years. This document provides guidance and recommendations if you are considering building and placing a nest box for peregrine falcons.

### Nest Box Construction

In the wild, peregrine falcons typically select nest sites on the ledges of tall cliffs. Instead of building a true nest, they make scrapes in loose material to form a depression. Proper nest box designs should replicate these conditions by providing a sheltered cavity with an open front, nesting substrate, and room for the young to grow and develop.

- A standard mount nest box diagram and construction blue print can be found at [https://www.raptorresource.org/pdf/standard\\_mount\\_doc.pdf](https://www.raptorresource.org/pdf/standard_mount_doc.pdf)
- The recommended size is approximately 23"x32"x20".
- Place 3" to 4" of pea gravel in the bottom of the box for a nesting substrate. It is important to make sure the pea gravel is rounded: if it is too rough it may crack the eggs.
- Drill small holes into the bottom of the box to provide drainage.
- Consider South Dakota's strong winds and make sure the nest box is securely attached.
- As the young develop they will begin exploring their nest site. Having a raised edge around the nest box will help keep them contained as they become more independent. If the nest box is elevated, it is a good idea to install a wooden ramp extending from the building roof into the nest box that the chicks can use to return to their nest if they leave prematurely. The ramp should have a rough surface or horizontal planks attached to provide proper traction.

Example of an elevated nest box structure with access ramp for young.



*Photo from the National Aviary Falconcam, Pittsburgh, PA*

## **Nest Box Placement**

Some of the best locations for nest boxes in urban settings are on the top of tall buildings or utility smokestacks relatively near water. If peregrines have been observed in the area they may indicate their preference for a particular building or structure if they are regularly seen perching, roosting or feeding nearby. Where possible, place nest boxes in locations that will not receive direct sunlight throughout the day which increases the risk of eggs or young overheating.

Peregrine falcons will accept a considerable amount of human activity, but they will not tolerate disturbance near the nest and will fiercely protect their young. Disturbance levels should be considered when choosing the location of a nest box to consider the safety of the birds and humans. Do not place boxes in areas of high human activity such as above building entrances, apartment buildings or main walkways.

## **Nest Site Monitoring and Maintenance**

Peregrines may take to a new nest box rapidly, or it is possible that the site may be completely ignored. If a pair of falcons becomes established at your site, contact a wildlife diversity biologist with the SD Department of Game, Fish and Parks to discuss proper management of the nest. Limited, brief visits to the nest box should be conducted by department staff to determine nest productivity and to leg-band young birds. Otherwise, the pair should not be disturbed during the nesting seasons. Nest cameras are a great way to monitor nests without causing any disturbance to the adults or young. They are also a great education and public relations opportunity.

Any maintenance to the nest box should take place during the winter when the peregrines are not actively breeding. Any leftover prey remains should be removed, new nesting substrate should be added if necessary, and the nest box structure should be inspected to make sure it is still secure.

## **What to Expect**

Adult peregrine falcons begin arriving and searching for nest locations in early March to April. They typically lay 3-4 eggs with one egg laid every 48 hours. Incubation starts after the second egg is laid and takes about 32 days until the chicks hatch. During this time the adults will sit on their young to keep them warm (brooding), making it difficult to view the nestlings. About 3 weeks after hatching the adults spend less time brooding their young and put more effort into hunting prey to feed their rapidly growing chicks. At about 6 weeks of age, the young will be nearly full grown, will have replaced their white down with flight feathers, and are ready to attempt flying.

## **Risks to Adults and Young**

Breeding and raising young in an urban environment has inherent risks to peregrine falcons. Building windows, powerlines, and vehicles are all potential collision hazards to flying birds. When the young falcons first learn to fly they may become grounded where the adults are unlikely to care for them, especially if the area receives high activity. In these cases it may be necessary to capture the young and

return them to the nest site if they are unharmed. It will be important to be in contact with a licensed raptor rehabilitator or veterinarian experienced with raptors in the event of an injury.

Pigeons, or rock doves, are a main food source for peregrines nesting in cities. Be aware that some places may be poisoning nuisance pigeons with avicides and if a peregrine consumes a poisoned pigeon they may become sick or die. It is possible that a municipality may agree to temporarily suspend pigeon poisoning. This consideration should be part of the planning and coordination process.

### **Other Considerations**

Peregrines will bring prey items back to their nests where they will be plucked before eating or stored for later consumption. Their primary prey in urban locations includes pigeons, starlings, blackbirds and other small birds. Left-over carcasses, feathers, and bones may get dropped from nest ledges. Regular perches will also show signs of “whitewash” from excrement below the birds’ nest ledge. The presence of this detritus can be a nuisance to building residents and should be considered during site selection.

Setting up and monitoring nest boxes on tall structures can be dangerous, especially with the added challenge of dealing with defensive peregrine parents. When coordinating with building owners in the initial stage of locating a nest box site, it is important to discuss liability concerns. The SD Department of Game, Fish and Parks is not responsible for any injuries that may occur while accessing nest box sites.

The peregrine falcon is a state endangered species and is therefore protected by South Dakota’s endangered species law in addition to the Federal Migratory Bird Treaty Act. Because of this, once peregrine falcons establish a nest it is protected from destruction or removal. The exceptions are to alleviate damage to property or protect human health, following receipt of a permit from the SD Game, Fish and Parks’ Secretary. More information on South Dakota’s endangered species law can be found at [http://legis.sd.gov/Statutes/Codified\\_Laws/DisplayStatute.aspx?Type=Statute&Statute=34A-8&cookieCheck=true](http://legis.sd.gov/Statutes/Codified_Laws/DisplayStatute.aspx?Type=Statute&Statute=34A-8&cookieCheck=true) . Once a pair establishes a nest they will often return to the same site in following breeding seasons. If a building owner decides they no longer want a nest at their property the nest box can be removed, and ideally moved to a new site, after the breeding season when adults and young peregrines are no longer present.

**If assistance is needed for a downed or injured peregrine, please contact your regional SDGFP Wildlife Program Manager <http://gfp.sd.gov/agency/contacts/contact-wildlife-offices.aspx>, or Wildlife Diversity Biologists Eileen Dowd Stukel or Casey Heimerl. During nonbusiness hours please contact your local Conservation Officer <http://gfp.sd.gov/agency/contacts/contact-co.aspx> .**

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