

**Barred Owl**  
*(Stirx varia)*

Pilesgrove Township  
March 3, 2011  
Training Day

*“Barred Owl”*



PHOTOGRAPHY AND TEXT:  
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### A BRIEF LIFE HISTORY

Federally Not Listed  
State Threatened

#### **Barred Owl (*Strix varia*)**

Often represented as “*Who Cooks for You, Who Cooks for You allll*”, the common vocalization of the barred owl resonates throughout its home range throughout the year. This call is most often heard at the peak of its breeding period from late February to early April. The song is most often heard at night but sometimes vocalized during the day.

#### **Identification:**

The barred owl is a large puffy looking owl with brown barring on the upper breast and belly – this characteristic gives the owl its name. The throat is white and the round head lacks ear tufts. The facial disk is grayish white with a brown outline. Sexes are similar in plumage; females can be larger than males. Juveniles resemble adults. The eyes of the barred owl are brown. The only other owl in New Jersey with brown eyes is the Barn Owl (*Tyto alba*). The barn owl is about the same size as a barred owl but slender in body with a pure white underbelly, distinctively copper yellow above. The only other owl the barred could be confused with is the great horned owl, (*Bubo virginianus*), a much larger owl with yellow eyes and rich brown plumage. In addition to the physical differences these owls display both the barn and the great horned owl have different preferences for habitat.

Typical Barred Owl:



### Habitat Parameters for Barred Owls in New Jersey

1. Prefers contiguous, remote, older growth forested wetlands with mixed wetland habitat types (see image below);
2. Mature wet woods with large enough cavities for nesting;
3. Often these woods have an open understory through which the owls can fly and hunt;
4. Habitats can be upland under certain conditions where old enough forested growth exists in concert with the owls nesting parameters;
5. In South Jersey Atlantic White Cedar (*Chamaecyparis thyoides*) and Pitch Pine (*Pinus rigida*) seems to be preferred in lowland cedar swamp habitats featuring typical understory vegetation of sweetbay (*Magnolia virginiana*) and highbush blue berry (*Vaccinium corymbosum*). A dense understory component within these habitats is often notably dominated with catbriars (*Smilax sp.*);
6. Old mature forests for nesting habitat noted throuout the owls range, trees with > 20" dbh. Forest with dead wood not excluded – broken topped snags have been used;
7. Laidig and Dobkin (1992) suggested that barred owl forage along open areas adjacent to cedar bogs where a variety of rodent prey are known to occur and in less favorable oak-pine upland habitats which feature less dense understories than wetland habitats;
8. Although studies are mixed on the subject of barred owl/great horned owl coexistence it appears that in general where great horned owls are found the likelihood of barred owl presence decreases;

### Mixed Wetland and Wetland Forested Habitat



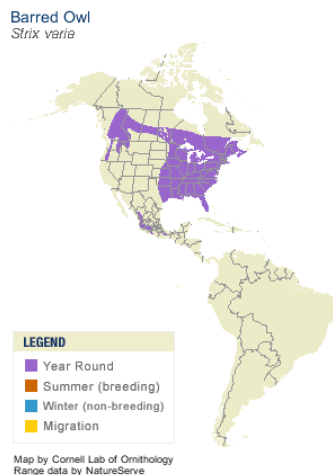
### Feeding Habits

The diet of the Barred Owl consists mostly of mice of many species, but it also feeds on small mammals, mostly rodents, and also birds as large as grouse, doves, and even domestic ducks. It occasionally wades into water to capture fish or terrapins. The Barred Owl hunts by waiting on a high perch at night, or flying through the woods and swooping down on prey. It generally hunts near dawn or dusk, though it may also hunt on cloudy days. It may fly even in full daylight when disturbed. Of the North American owls, it is the species most likely to be active during the day, especially when raising chicks.<sup>(Wikipedia)</sup>

In pellet studies from New Jersey the diet is known to be remarkably diverse – mice, voles, squirrels, rabbits, moles, rats, chipmunks, salamanders, crayfish, spiders, snails, slugs, insects, fish, frogs, lizards and small snakes..... Pheeewww. The Barred owls ability to pounce on prey from above rather than swoop in laterally may permit the species to hunt in denser forest understories typically found in Pine Barrens.

### Breeding Biology

Calling in February through April becomes more intense in these peak breeding months. The calling helps to strengthen pair bonds and reinforce territories. Pairs will often nest in successive years in the same tree. Large cavities within dead trees or dead limbs of live trees serve as nesting sites. In areas where the habitat is otherwise adequate for the species life history requirements but where nesting sites are scarce these owls may use the abandoned nests of hawks, crows, or squirrels. All potential owl nesting sites should be examined within potential barred owl habitat to confirm presence/absence. 2-3 white eggs are deposited between March and mid-April in an unlined nest cavity - 1 brood per year. Male's delivers food while female incubates eggs for 28 to 33 days. 3 weeks of brooding is necessary before young are able to branch out. Both parents provide food at this time. At about six weeks, the young are able to fly but may continue to be fed by their parents for their first summer and possibly even longer.



### Limiting Factors and Threats

The loss, alteration, degradation, and fragmentation of forested habitats are the primary threats facing barred owls in New Jersey. Throughout the state, increasing development has eliminated upland forest buffers and encroached upon wetland forests, degrading habitat for these owls. The cutting of dead trees, stand thinning, and controlled burns can eliminate nesting cavities or render sites unsuitable for breeding owls. Younger second growth forests rarely provide cavities that are large enough for nesting barred owls.

Habitat fragmentation can result in isolated populations that experience low recruitment and may suffer from localized extinctions. Within fragmented woodlots, barred owls are increasingly vulnerable to human disturbance and predation by great horned owls. Runoff and siltation resulting from the construction of building or roads may also degrade water quality within wetland habitat (Endangered and Threatened Wildlife of New Jersey, Niles and Bean, Rutgers, Univ. Press, 2003).

### Barred Owl Fast Facts:

1. Older chick usually survives when food is scarce;
2. Barred Owls have been seen at Vernal Ponds in spring taking advantage of amphibian conjugations;
3. Paired owls are seen to perform mutual preening (allopreening) before they change the guard while caring for young near their nesting site;
4. Historically in NJ barred owls were shot as trophies or because of alleged poultry predation. Barred owl declines in NJ today seem to correlate with habitat fragmentation;
5. The belly feathers of some Barred Owls are pink. This coloring may be the result of eating a lot of crayfish;
6. Great Horned Owl is the most serious predatory threat to the Barred Owl. Although they often live in the same areas, the Barred Owl will avoid parts of its territory occupied by a Great Horned Owl. Great Horned owls have been known to kill barred owls;
7. Because of its association with bottomland habitats this owl is often referred to as the “Swamp Owl”.



**NJ STATE SURVEY GUIDELINES:**

**Based on Methodologies as sited in the:  
“Protocols for Establishment of Exceptional Resource Value Wetlands Pursuant to the  
Freshwater Protection Act (N.J.S.A. 13:9B-1 ET Seq.) Based on Documentation of State or  
Federal Endangered or Threatened Species” May 2008  
Division of Land Use Regulation**

**Survey Requirements:**

Dobkin and Laidig (1990) surveyed for barred owls using taped vocalizations consisting of six 10 second sets of barred owl vocalizations followed by 50-60 seconds of silence. The tape player speaker was rotated 180n degrees between each 10 second interval for a period of five minutes. A listening period of five minutes followed each taped sequence. Survey points were located approximatyely 1km (0.6 mi) apart. Surveys should be conducted after sunset, when wind speeds are less than 8 mph, and when precipitation was absent, light or intermittent (Valent 1987). While barred owls may respond to taped calls during any month of the year, greater success has been documented during March-July. Smith (1978) reported greater owl response success during May-July and after 8:00P.M. Note that taped vocalization survey may not always conclusively demonstrate species absence, particularly when the survey is done outside the breeding season.

**Author’s Notes on Protocol and Survey Methodology:**

1. Identify potential habitat prior to calling survey field visits through the use of aerial maps and NJDEP Landscape Map – IMap;
2. Utilize the local knowledge base for the species to identify known and potential sites – local environmental groups, universities, bird clubs, and Audubon Society Chapters can be indispensible as it pertains to the species presence;
3. 5 visits are often necessary to the same potential areas in order to thoroughly canvass potential habitat. By adhering to this protocol one can eliminate the possibility that an owl was not in this part of its home range during the calling survey period;
4. Identifying a control site when possible will allow the surveyor to verify territorial behavioral timing of the species;
5. Because habitats for paired owls can exceed 3,000 acres consistency and patience are key to identifying presence of species;
6. Identification of sub-habitat types with the understanding of the species life history will aid the surveyor in increasing his or her success rate. Case in point would be the identification of vernal habitat within a wetland forested tract of suitable size – this may be a good location to set up a calling survey point in March when these habitats have the greatest chance of luring in owls that may be taking advantage of their activity.

## **APPENDIX A**

### **Rare Species Report**

#### **Example Barred Owl (*Strix varia*)**