

**Project Perch's mission is to protect and nurture the Burrowing Owl in SE Florida.
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Project Perch's BuOw Blog 9

Friday, September 20, 2013

Before the Coop

The Burrowing owls had been feeding like crazy and we knew they had babies. We were busy trying to make sure we watched from dawn until dusk so we wouldn't miss anything. Then came Tropical Storm Andrea and on June 7, the burrow flooded and the owlets were lost. Then everything slowed down. We worried the owls would leave, disperse and follow the other owls, but lucky for us they stayed around the burrow. We started to focus on showing some of the owl's neighbors and friends. Then on June 21, a mother wood duck paraded at least 10 ducklings right past the burrow. The ducklings rested in the grass right at the burrow entrance. We laughed. The owls were clearly not home and the visit made for great pictures, video and posts.

The Coop Arrives

Later that week, the owls seemed nervous, checking skyward all the time. They would retreat into the burrow and stay there. We thought they were worried about an aerial predator, but on June 26 we would learn just how real their concern was. We caught the Cooper's hawk visit on camera at 6:56am and it would return 4 more times that day (7:25, 8:15, 10:07am and 6:06pm). The hawk was scary and we worried for these young owls. The hawk visits were incredibly short; some of them lasting just a few seconds.

The next two days seemed quiet, but then on June 29, the Cooper's hawk returned. It landed at the burrow at 6:32, 6:33 and did a fly by at 6:45 and 7:19am. The hawk seemed to perfect exactly how to land and peer way down into the burrow. Art Nelson (from the Cape May Bird Banding Station) warned us that the "Coop" can be quite crafty and he had seen one reach down into a nesting box with its long legs. Not what we wanted to hear. On July 12 at 8:36am, the shadow of the hawk could be seen and at 9:09am the male owl did a burrow dive. We were learning to recognize the owls' behaviors whenever the hawk was around. On July 13, the owls dove into the burrow at 6:48 and 8:02am. The hawk was back on July 23 at 6:34 and 8:07am and again on August 3. This hawk was not giving up, it was here to stay.

The Resident Coop

The teacher believes this Cooper's hawk is the same one she has seen hanging around. It is a young hawk, in its second year and is the same age as the owls. She would see it periodically on the chain link fence and "encourage" it away from the Burrowing owls and try to send it towards the pigeons on the nearby buildings. Our posts about the hawk were very popular. As fans wrote things like "bad hawk", one viewer reminded us "The Coop has to eat too". We hoped it would find its meals elsewhere.



June 26, 2013: A Nervous Owl at 6:56am, The Cooper's Hawk Stares Then Down at 8:15am

The Cooper's hawk is listed as a resident species in Florida, that can be found throughout the state and breeds in many localities.¹ Dr. Mealey confirmed there are two populations of Cooper's hawks in Florida, resident and migratory.² The first successful nesting record for Broward County was back in the 50's.² He has seen Cooper's hawks hunting owls at the sports fields in Sunrise, Florida.² "The resident population is fairly new and successfully breeding."²

The Cooper's hawk has adapted well to city life and takes advantage of neighborhood bird feeders.³ Studies show their recent numbers are actually higher in towns than in their natural habitat, forests and urban environments provide them with an abundance of pigeon and dove prey.³ But this urban hawks' mostly dove diet has a downside because studies also show that Cooper's hawk nestlings suffer from a parasitic disease acquired from eating dove meat.³ So in this very urban setting, with plenty of pigeons and doves around, it should be no surprise that there is a resident Cooper's hawk also trying to make a living and calling this area home.

Cooper's Hawks: Are they the Primary Avian Predator of Urban Florida Burrowing Owls?

We looked at the research to see if the Cooper's hawk was the main avian predator of Florida Burrowing owls. Robert Myrkalo's 2005 study did not discuss predators in detail, but he does indicate that hawks possibly killed three juvenile owls when they found transmitters next to feather piles, the tell tale sign of a hawk attack.⁴ He also describes twice flushing an unidentified hawk from the brush that was within 50m of the owl's burrow.⁴ He sees a hawk fly up out of the brush and catch a Burrowing owl in mid air.⁴ The two birds tumble to the ground and the owl survives.⁴

Betty Gilbert summarizes the hazards that they found when studying the owls in Cape Coral, Florida, an urban area in western Florida. The list was in order of importance: vehicles, predatory hawks, house cats and other animals.⁵ The volunteers monitoring owls in Cape Coral indicate that the Cooper's hawk is the most common avian predator of the Burrowing owls there.⁶ They also have witnessed a Cooper's hawk carrying off an adult owl.⁶

Perhaps the best reference to look at to see the risks these owls face is the mortality data that is presented by Brian Mealey in his study of Burrowing owls in Broward and Miami Dade counties from 1988-1990, urban areas on the east coast of Florida. "Of 18 owls, 9 (50%) were killed by cars, 4 (22%) by drowning, 2 (11%) due to burrow collapse, 2 (11%) by predation, and 1 (5%) by electrocution."⁷ Since these owls live in a very urban setting in Broward County, they are probably far more likely to be hit by a car or drown. While doing his research, Dr. Mealey saw a Cooper's hawk actually dive into the burrow while chasing after an owl; the hawk was unsuccessful.² In this developed landscape, it makes perfect sense that the major avian predator for the urban Burrowing owl is the urban Cooper's hawk.

The Cooper's hawk

According to Sibley's Guide to Birds, the Cooper's hawk is stealthy and ambushes its prey by sneaking up from behind. Another technique this hawk will use is to fly fast and low, abruptly change directions up and over an object, and attack the unsuspecting prey on the other side.⁸ Cooper's hawks normally kill their prey by holding it away from their body and squeezing it to death and they prefer smaller birds that are easier to carry away.⁸ They will wait silently upon a tree, light pole or fence post and will often remain perched when approached from beneath.⁸

In pursuit of prey their flight becomes powerful, quick and very agile; allowing the bird to thread its way through tree branches at top speed, but dashing through vegetation to catch prey is a dangerous lifestyle.³ In a study of more than 300 Cooper's hawk skeletons, 23% showed old, healed-over fractures in the bones of the chest, especially of the furcula (wishbone).³ This very dangerous life means the average lifespan of the Cooper's hawk in the wild is a year and a half.⁸ Compare that to the Florida Burrowing owl, whose average lifespan in the wild is estimated at 3 to 4 years.⁸

Hawk Migration and the Florida Burrowing Owl Dispersal

In August, our urban, resident owls that rarely leave their burrow were hard to find. Their fans were worried. The Burrowing owls disperse in August and in the previous blog, we discuss that owls were historically nomadic and their movements coincide with the fire season and the onset of the rains in Florida when their burrows flood.^{7,9} Most of the young have fledged and so the owls have been described as being more "nocturnal" and "arboreal".⁹ Another reason this dispersal makes perfect sense is that it is very well timed with peak hawk migrations.

Hawk Mountain Sanctuary in Connecticut has combined data from the last 60 years.¹⁰ Their data indicates that by mid-August most of the hawks are migrating (Kestrels, Broad Winged, Osprey, Red-Tailed, Bald Eagles, Northern Harriers, Sharp-Shinned and Cooper's) and their numbers peak in September and October.¹⁰ Red-Shouldered Hawks begin migrating in September and by October, the rest of the hawks have begun the journey (Merlins, Peregrines, Goshawks, Rough-Legged and Golden Eagles).¹⁰ So if you are a Burrowing owl, not hanging out by the burrow all day and staying scarce may be the safest strategy.

Now rewind the clock to before there were cars and cattle grazing and remove some of the biggest man-made reasons for mortality in Burrowing owls, being hit by cars and burrow collapse. Now the biggest risks to an owl are drowning or hawk attack. Back then the owls lived in larger colonies, making them even more attractive to a hungry migrant. So leading a more solitary, nocturnal life as the hawks migrate through seems the most prudent way to go. This also explains why owls spend more time scanning (approximately 50%); more than any other activity.¹¹ Now, if we could just retrain them to scan for cars too.

School Children and Chain Link Fences: A Buffer from Avian Predators

The children do not come back to school until late August in Florida, this year it was August 19. So the school yard owls, who are somewhat buffered from avian predators during the hustle and bustle of school, have nothing but quiet in early to mid-August. Even the resident hawks are deterred from areas where the children are playing sports, clamoring between classrooms and making a commotion almost every hour throughout the day.

Seems the owls also do not mind burrows near fences, specifically the chain link fences that surround school grounds. Dr. Mealey indicated the fences acted as a break. Although the fence limits the owls from getting away, it more importantly prevents a hawk from swooping in from behind. The owls would much prefer a dive into a safe burrow than trying to flush into the air and then out maneuver a more powerful flyer. For the owls in the camera, they always put their backs to the fence. If someone or something is walking down the street, they will turn around to watch, but

normally they stand and rest and preen with their backs to it. Because this fence also separates the owls from the road, it forces them to fly 8 feet high first before they can cross the road, protecting them from both hawks and vehicles.

More on the Coop

On August 23 the teacher found the hawk hiding on the light post's electrical box. It was a sunny day and the hawk was hidden by the shade from the post. By August 27, we noticed the owls were out during school dismissal times. We felt like they were relieved to have some parts of the day that felt safe from hawks. Gone were the days where the owls hung out all day in front of the camera, preening and resting. The owls remained careful in September. On the 15th, the hawk surprised them with a sneak attack from the left, late at night (7:33pm) and then tried the exact same thing 2 days later. This hawk is crafty and persistent.

After this latest hawk visit, we were joking about putting some bird seed out to attract some more pigeons and doves. We also joked whether this was a Burrowing owl cam or a Cooper's hawk cam, as the videos of the hawk's visits are very popular. The Cooper's hawk is not only the most popular guest, but by far the most frequent guest so far. We learned how demanding this hawk's job is and will always remember what that fan said, "The Coop's got to eat too".



November 14, 2013: The Coop Flying Around

Post Script

A photographer, Ken Schneider, went out to the school to get some nice close up pictures of the owls for us. Ken said the owls reacted first to the Coop flying around and before he even knew what was going on, the Cooper' Hawk had swooped down towards the owls. He caught this shot of the Coop flying away. It was like that Coop buzzed the burrow just to make sure he made it into the photo shoot and he did.

Post Post Script

On New Year's Eve, the Coop visited the owls briefly. The owls had owlets, but they were still confined to the burrow. Then on January 2, 2014 at 9:53am the adults would dive into the burrow and the Pesky Coop would land and walk around. The Coop would hop down into the burrow entrance and reach its talons down into the burrow looking for owl. The Coop would flush but come back 2 more times before it finally left for the day. We labeled the post and video "Terrifying". It would be our most popular post to date, getting more than 2,617 likes and 16 shares on Facebook. Some days it was definitely a Coop Cam and as long as the owls were safe, that was fine.

Sources:

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- ¹⁰ <http://www.hawkmountain.org/raptorpedia/peak-migration/page.aspx?id=348>
- ¹¹ Nixon, Anders. 2006. Effects of Translocation on the Florida Burrowing Owl, *athene cunicularia floridana*. University of South Florida, <http://scholarcommons.usf.edu/etd/2648/>