



IDFG staff attaching a transmitter to an adult pelican at Blackfoot Reservoir;  
PHOTO BY: Colleen Moulton, IDFG

## Studying the surprisingly elusive American white pelican

by Colleen Moulton\*, Avian Ecologist  
Idaho Department of Fish and Game

During the summer of 2018, Idaho Department of Fish and Game (IDFG) attached transmitters to the backs of 25 American white pelicans captured in Blackfoot Reservoir in southeast Idaho. The goal of this project was to determine the breeding status of pelicans foraging in the Blackfoot River and to assess their use of other water bodies in the region. The original plan was to capture an equal number of males and females, and to catch them with modified leg hold traps along the river.

But the pelicans apparently had other plans. First, they refused to go anywhere near our traps, gingerly sidestepping each one while we looked on, increasingly impatiently, from a distance. We tried baiting them, we tried setting up a large grid of traps,

we tried rocket nets and net guns; we tried it all. Nothing. Almost a month passed us by without a single bird caught. And then, opportunity and creativity (and perhaps a little desperation) struck. Our first bird was caught, with a salmon dip net, from the side of a boat. You may wonder, how does one catch a pelican on the water while in a boat? As it turns out, when these birds swallow a big fish, they often can't fly for a while. Which presents a perfect opportunity to catch them. The trick is to get to them before they have a chance to regurgitate (i.e., vomit) the fish and fly away. It quickly became affectionately known as the "pelican rodeo". And it was highly effective. We quickly caught all 25 birds we were after! Success?! Sort of.

One thing we quickly noticed was that every bird we were catching was a male. We tried targeting birds close to the breeding colony in Blackfoot Reservoir, located on Gull Island, with the hopes of finding a female. Still no luck. All 25 of the birds we trapped and put transmitters on were males. As with most research projects, we now had more questions: Where are the females foraging? When are the females foraging? Do they not swallow as large fish so they are the ones that flew away without being caught? All good questions that would unfortunately have to be answered some other time.

We did learn some really amazing things about the

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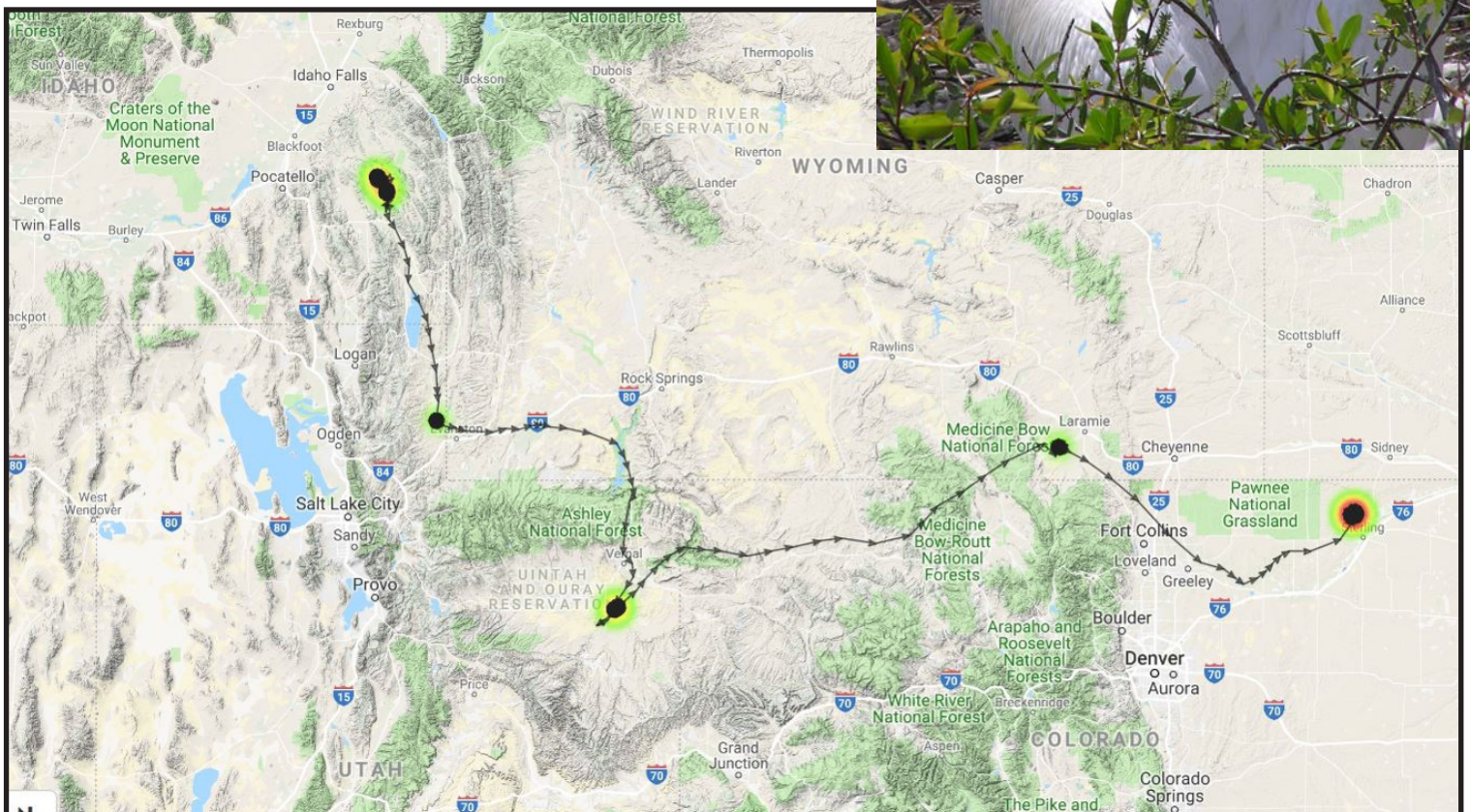
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**Top:** IDFG staff attaching a transmitter to an adult pelican at Blackfoot Reservoir; **Right:** Adult pelican on Gull Island in Blackfoot Reservoir; **Bottom:** Flight path of one transmitter-carrying pelican from Blackfoot Reservoir to eastern Colorado.  
**Photos:** Colleen Moulton/IDFG

males we caught. About half of them appeared to be nesting on Gull Island, and many of them were making regular trips of 30 miles or more to forage. Some were even commuting down to the Great Salt Lake on occasion. And one bird flew 200 miles in about 4 hours (50 miles per hour!), headed for a lake in eastern Colorado to take advantage of a good shad fishery. He would soon be joined by a couple of other transmitter-carrying pelicans who also apparently knew about the shad. Watching these birds move around the west, and south into Mexico, it has become clear that their concept of “local” is much larger than our own, and they carry with them an incredible internal map of where the safe resting waters are, and where the fish are and when.





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# Watchable Wildlife

## Watching the Wild Side

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Idaho Department of Fish and Game

Living with wildlife in the neighborhood can be fascinating. You can learn a lot about animal behavior and how these animals live their lives. It can also give you the chance to practice being a good wildlife viewer.

There's no doubt that seeing a wild animal in your yard is exciting! However, you don't want to scare or disturb the animal. So what do you do? The best thing is to stay indoors. Use your house as a huge wildlife viewing blind. Stay quiet and move slowly as you approach a window. A pair of binoculars can really give you a good view. Help your family members stay quiet and still as you watch the animal. Make sketches or take photos of the animal or write some notes about what it is doing.

Using a blind and being still and quiet are good skills you can use no matter where you watch wildlife. Many wildlife management areas or nature centers have viewing blinds for visitors. Using them helps you observe wildlife without the animals knowing you are present. Viewing blinds can give you a front-row seat to seeing some pretty cool things!

A vehicle is a good blind if you and your family see an animal near a road. If this happens, make sure to pull off the road and turn on your hazard lights to warn other drivers. Stay inside the car to watch the animal. Use binoculars if you have them. It's okay to roll down a window if you can remember to be quiet. Wild animals have very good hearing and will hear you talking.

It's important to pay attention to what the animal is doing. This can tell you if the animal is becoming uncomfortable. If the animal suddenly stops what it was doing and becomes restless, it is not comfortable. It might swish its tail, perk its ears toward you, or begin to make alarm calls. These are signs for you to slowly and quietly leave. By doing so, you will not cause the animal stress or make it use valuable energy trying to get away from you. Being a responsible wildlife watcher is the best way to learn about your wild neighbors.



PHOTO BY: Public Domain



PHOTO BY: Public Domain

### Looking for Wildlife Signs

Urban wildlife is all around us, but sometimes we don't actually see the animals; sometimes we just see evidence that they have been around. See how many tracks you can find around your home and neighborhood.



Coyote: photo by Public Domain/USFWS



Bobcat: photo by Public Domain/USFWS



Deer mouse: photo by Public Domain/USFWS



Red fox: photo by Public Domain



Mule deer: photo by Public Domain/USFWS



Raccoon: photo by Public Domain/Cindy



Striped skunk: photo by Public Domain/USFWS



Canada goose: photo by Public Domain/USFWS



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*on wildlife-watching  
activities in Idaho*



### Each Year in Idaho:

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- 236,000 people traveled to watch birds
- \$82 MILLION spent on trip-related expenses to view wildlife (food, lodging, and transportation)

*Wildlife Watchers  
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- Birdwatching has the potential to raise awareness about the value of conservation and wildlife management.

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*across Idaho*





## Great Basin Collared Lizard

by Chuck Peterson\*, Professor - Idaho State University  
and John Cossel, Jr. \*, Professor - Northwest Nazarene University

The Great Basin Collared Lizard (*Crotaphytus bicinctores*) is one of the most interesting reptiles in Idaho because of its relatively large size, distinctive appearance, behavior, restricted range, and conservation status. It is a member of the lizard family *Crotaphytidae*. The family and scientific names are derived from the Greek word *krotaphos* (side or temple of the head) and the Latin words *bi* (two) and *cinctus* (banded). Other common names for this species are Desert Collared Lizard and Mojave Black-collared Lizard.

Great Basin Collared Lizards are easy to identify because of their distinctive appearance. With a body length of up to 4" and a total length of up to 13", it is one the largest of the 11 species of lizards found in Idaho. It has a relatively large, dinosaur-like head, two distinct black collars, and small body scales (bottom photo). The males get larger than females, have relatively bigger heads, brighter colors, and black markings on the throat and groin. Females in the breeding season develop bright orange markings.



PHOTO BY: Chuck Peterson

**Above:** Ventral view of male Great Basin Collared Lizard. Note the dark markings on the neck and groin. **Below:** Female Great Basin Collared Lizard. Note the bright orange colors. The dark material at the back of her mouth is from eating grasshoppers.



PHOTO BY: John Cossel, Jr.



PHOTO BY: Charles Peterson



As the name implies, these lizards are found within the Great Basin of western North America (Figure 1). In Idaho, they are found in the southwestern portion of the state, along the Snake River Plain and surrounding Owyhee foothills. There are reliable, historical records of their occurrence in Owyhee, Canyon, Ada, and Elmore counties. However, all documented records within the past 15 years are only from Owyhee County (Figure 2). We encourage people to use the iNaturalist mobile app or website ([www.inaturalist.org](http://www.inaturalist.org)) to report their observations of this species so we will have a better idea of their current distribution in Idaho.

Great Basin Collared Lizards generally inhabit dry, rocky areas (washes, boulder-strewn hillsides, rock piles, and talus slopes) with sparse vegetation (Figure 3). Von Pope, a former Boise State University graduate student and Idaho Power biologist, found that they occurred in only four habitat categories in Idaho: salt desert shrub, big sagebrush, perennial grassland, and shrub-steppe annual grassland. He also found they were also more likely to use steeper, southwest facing slopes. John Cossel and his students found that they usually selected rocks from 10" to 39" in size for basking, perching, and protection.

Because they are territorial and sit-and-wait predators, these lizards show relatively limited movements. John Cossel and his students used a variety of techniques to study their movements, including fluorescent dusting and radiotelemetry (Figure 4). They found that home range sizes were limited by the amount of suitable habitat and were highly variable, from 0.12 to 12 acres. Males had larger home ranges that might overlap with those of females but not those of other males. These lizards see well and are able to determine when other males are entering their territories. Dispersal movements are not well known.

In Idaho, the activity of collared lizards is limited by temperature. They are generally active during the day from April to September but might be observed earlier or later if the temperature is warm enough. They can be seen perching on



**Figure 1** Great Basin Collared Lizard range map.  
U.S. Geological Survey - Gap Analysis Project, 2018,  
U.S. Geological Survey - Gap Analysis Project Species Range Maps  
CONUS\_2001: U.S. Geological Survey data release,  
<https://doi.org/10.5066/F7Q81B3R>



**Figure 2** iNaturalist Great Basin Collared Lizard observations as of October 2020.



PHOTO BY: Chuck Peterson

**Figure 3** Great Basin Collared Lizard habitat in Owyhee County, Idaho.



top of rocks during the day. At night, they usually retreat under rocks or into burrows. They hibernate in cold weather, presumably in burrows or under rocks.

Great Basin Collared Lizards are mostly carnivorous. They mainly feed on arthropods and other reptiles, especially other lizards. They are also known to eat small amounts of flowers and leaves. They are sit-and-wait predators, hunting from rocks which they may leave to pursue prey. They will also leap into the air to capture insects.

Predators may include mammals, birds, snakes, and other lizards. One of the telemetered collared lizards in Cossel's study was found inside a gopher snake. Another transmitter from a lizard was found in an owl pellet. Defensive adaptations include fleeing into crevices, under rocks, or into burrows. Collared lizards sometimes actually run on their hindlimbs when threatened. Collared lizards have strong jaws and will bite to defend themselves. Unlike some lizards, they do not have the ability to lose their tail along fracture planes.

Great Basin Collared Lizards are oviparous. They lay about 1-7 eggs in sandy soil, rodent burrows, or under rocks. In Idaho, which is in the northern portion of their range, they presumably lay only 1 clutch per year, probably in June, with hatching by August.

Because of their limited range in Idaho and special habitat requirements, Great Basin Collared Lizards are considered a "Species of Greatest Conservation Need." Resurveying of historical locations is needed to better determine the status and trends of this species in Idaho. Population densities of up to about two lizards per



**Figure 4** Female and male Great Basin Collared Lizards in Owyhee County, Idaho. The male is wearing a small radiotransmitter.

acre have been documented in good habitat. The primary threats to this species include loss or alteration of suitable habitat by development, fire, and invasive, nonnative plants. Conversion of native shrublands to invasive grasses has probably inhibited lizard dispersal and decreased prey availability. The use of pesticides to control insects appears to have affected some populations. Past collecting for the pet trade has reduced the size of some populations. Quarrying for ornamental rocks has reduced habitat in localized areas. Hopefully by learning more about this species and taking the appropriate actions (especially habitat management), we will be able to assure its continued presence in Idaho.



**Above:** Great Basin Collared Lizard egg in a burrow under a rock. **Below:** Hatchling Great Basin Collared Lizard.



**DRAWING BY:** Ashelee Rasmussen



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Kit Fox  
PHOTO BY: Public Domain, BLM

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