A Perfect Place for Pelicans

Great Salt Lake (GSL) is a unique geographical feature that supports many organisms, including the charismatic American White Pelican (Pelecanus erythrorhynchos). Gunnison Island, located in the North Arm of GSL, houses the largest breeding colony of American White Pelicans in the western United States. Every spring, an average of 11,000 pelicans nest and raise young on Gunnison Island in Great Salt Lake, taking advantage of the natural protection from predators like coyotes. In recent years, however, Great Salt Lake experienced low water levels, which also allowed a land bridge to form between the mainland and Gunnison Island. The land bridge could allow predators and humans to access the island, and potentially harm the pelican population in Utah.

UDWR Research

The Utah Division of Wildlife Resources (UDWR) currently studies pelican migration and survivorship using the following methods:

- Solar-powered GPS transmitters on adults (Figure 1)
- Leg bands and wing tags on fledglings from Gunnison Island (Figure 4)
- Airplane surveys since 1976

Pelican populations are dynamic and fluctuate from year to year. Some data, such as arrival and departure dates from the island, cannot be gathered due to the remoteness of Gunnison Island. Pelican populations are dynamic and fluctuate from year to year. Some data, such as arrival to the island, cannot be gathered due to the remoteness of Gunnison Island and the timing of pelican migration. Here was an opportunity for a new project—one that could gather data about the timing of pelican migration without disturbing the birds.

Opportunity for Research

Great Salt Lake Institute at Westminster saw an opportunity to support research on American White Pelicans and formed the PELI Project, a collaboration with many partners. The PELI Project aims to understand Utah's American White Pelican migration patterns, breeding behavior, and survival rates. The first phase of the PELI Project included the “PELIcam,” a way to observe pelicans through remote cameras.

“PELIcam” Takes Off!

Partner organizations helped install 15 remote trail cameras on Gunnison Island in March 2017 to document pelican behavior and potential predators. The cameras take pictures of animals when they detect movement. So far, tens of thousands of pictures have been gathered, from predators to amusing pelican pictures (Figure 4). The PELIcam (Figure 3) is a live publicly accessible camera, which takes a wide picture of various pelican pods every five minutes (gslpelican.org).

Research Directions

Along with undergraduate research examining minimum banding size and survival rate of pelicans, pictures of pelicans will be used to learn more about pelicans in Utah. This season, 170,000 photographs from the remote trail cameras and the live PELIcam on Gunnison Island will be crowdsourced so that citizen scientists can help researchers understand more about:

- Arrival and departure times
- Rates of siblicide
- Potential predators on the island
- Nesting behavior

Citizen Science- PELI-can you help us?!

Resights of leg-banded and wing-tagged pelicans are crucial in understanding population dynamics. The UDWR has banded 5,000 pelicans annually since 2011, but currently, less than 2% of live birds are resighted. Interested birders can keep an eye out for pelicans with leg bands or wing tags (Figure 2, Figure 7b), and report any sightings to reportband.gov.