

# Round Trip Flights: Salt Lake City to Mazatlán

John Neill works with the Utah Division of Wildlife Resources as an Avian Biologist for the Great Salt Lake Ecosystem Program. He began with the program in 2001 and has developed a deep appreciation of the Great Salt Lake and its abundant life by conducting lake-wide bird surveys. Adam Brewerton is the Conservation Wildlife Biologist with the Utah Division of Wildlife Resources. He enjoys working with bats and pelicans but focuses on the multitude of non-game birds and mammals found north of Salt Lake City, Utah.



Few people are aware of how important Utah's Great Salt Lake is to American white pelicans (*Pelecanus erythrorhynchos*). The largest pelican colony west of the Continental Divide lives on the Gunnison Island Wildlife Management Area in the remote, northwestern portion of the lake. Over the past 10 years, the colony has averaged 11,000 breeding adults each year. That places it among the top five largest pelican colonies in the birds' North American range.

Pelicans are listed as a Wildlife Species of Concern on Utah's Sensitive Species List, and conservation efforts have helped the birds immensely. At least 8% of the entire continental population of American white pelicans visits northern Utah during the breeding period, and many more visit the state during migration.

While that's great news for biologists and those who love the birds, it's also led to conflicts as pelicans fly to and from Gunnison Island and surrounding wetlands, lakes, reservoirs, and rivers. The most serious concern is the potential for pelican-airplane collisions. The Salt Lake International Airport is near the southeastern side of the lake. Pelicans often feed on fish in freshwater marshes near the airport. They have also been observed circling in thermals at high altitudes near the airport. Pelican collisions with airplanes arriving and departing the airport have caused more than \$1 million in damage. Even more concerning is the potential for a fatal airplane crash.

USDA-Wildlife Services personnel have used various forms of hazing and habitat modifications to keep pelicans near the airport at bay. But to ensure the techniques are effective as they can be, the movement patterns of pelicans need to be fully understood. More about that later.

Strawberry Reservoir, one of the nation's premier trout-fishing waters, is another place pelicans are posing a challenge. The reservoir is 190 km southeast of Gunnison Island. The number of pelicans at Strawberry Reservoir has increased dramatically between 2000 and 2013. Although a recent diet study showed that pelicans consume primarily non-game Utah sucker (*Catostomus ardens*) and Utah chub (*Gila atraria*), fisheries managers are concerned about pelicans deterring the spawning runs of Bonneville cutthroat trout (*Oncorhynchus clarkii utah*) into reservoir tributaries.



Photo by John Neill

Bonneville cutthroat trout are native to Utah and are listed as a Conservation Agreement Species on the state's Sensitive Species List.

Studying the pelicans' movement, as they travel from Gunnison Island to foraging areas at the

reservoir and the airport, will help wildlife managers target and prioritize management options to limit impacts from pelicans.

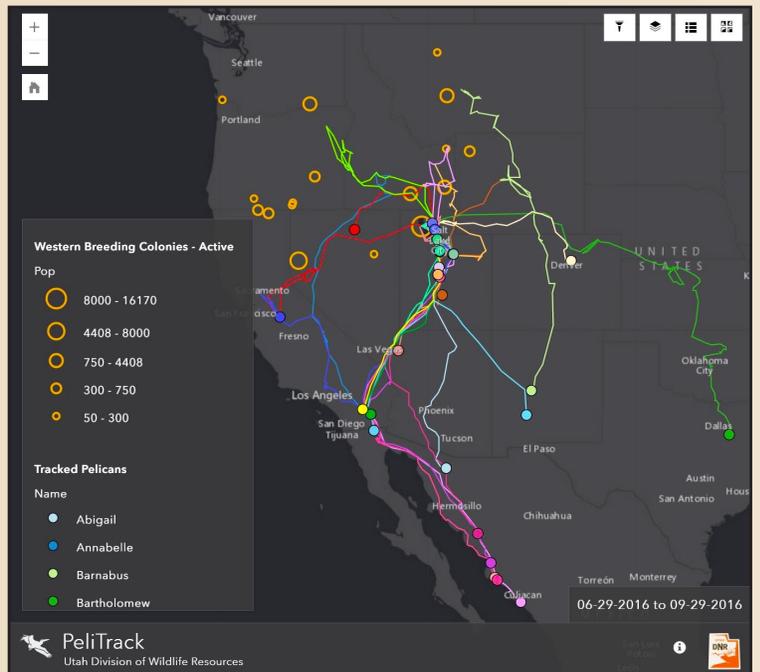
Banding and patagial wing marking of pelicans since

2011 have provided some information on pelican movement patterns, but satellite tracking can provide much more information. Using a baited bow-net trap, foot-hold traps and a net gun, biologists with the Utah Division of Wildlife Resources (UDWR) have trapped 32 pelicans at Strawberry Reservoir and wetlands surrounding the Great Salt Lake over the last two years.

After being trapped, each pelican was fitted with a 70g solar-powered GPS PTT. The transmitters use satellites from the Argos Data Collection and Location System to track local and regional movements. And the movements aren't just done on a local basis; some of the pelicans have traveled as far south as Mexico.

Anyone with an internet connection can view these movements through an online pelican tracking map ([www.wildlife.utah.gov/pelican\\_webmap](http://www.wildlife.utah.gov/pelican_webmap)) developed by the UDWR. Map features include a pelican colony layer, a resight location layer of wing tag data from Idaho and Utah pelican colonies, and the ability to filter the data by individual pelican and time period. Overlaying all the data at once provides a great tool to identify major foraging, stopover, and wintering areas and the migratory pathways that join them.

Although an inhospitable environment with no freshwater, Gunnison Island provides a safe area free of disturbances to raise young pelicans.  
Photo by Don Paul



Screenshot of pelican tracking website created by the Utah Division of Wildlife Resources.

The Salt Lake City International Airport, USDA-Wildlife Services, Tracy Aviary, U.S. Fish and Wildlife Service, Utah State University, and the UDWR have joined together to make tracking the pelicans possible. Through this partnership, we hope to fit 39 more pelicans with transmitters, build awareness and support for pelican conservation and research by tracking their movement patterns, involve the local community in watching their movements, and lessen the potential for human-pelican conflict.