Great Egrets (Ardea alba) are present year-round in the San Francisco Bay Area. Other populations are known to migrate large distances, but egrets on the West Coast have never been tracked. In order to determine the migratory status of a Tomales Bay, CA breeding population, we equipped Great Egrets captured there during 2017 and 2018 with solar powered, backpack GPS tags which record the birds’ location every 5 minutes.

A: Annual migration tracks of four Great Egrets (coded by color), using a variety of habitats including various agricultural lands and irrigation canals.

B: Tracks of four Great Egrets that did not leave the Bay Area over the course of a year, making short trips between Tomales Bay and nearby inland areas, foraging in creeks, ponds, and grasslands.

C: Noon locations over the course of two weeks from one bird, colored to represent how many hours tides were below 1 foot each day, permitting egrets to forage in eelgrass beds.

D: Hourly locations over the course of one day for one Great Egret; points are colored green when eelgrass beds were accessible (tides < 1 ft) and red when eelgrass beds were covered (tides > 1 ft).

Conclusions:

Some Great Egrets breeding on Tomales Bay migrate, and use the Central Valley extensively. Other Great Egrets remain in the Bay Area year-round.

Eelgrass is an especially important foraging habitat for Great Egrets. When tides permit access to eelgrass beds, nearby Egrets primarily forage on the bay. During prolonged periods of eelgrass inaccessibility, many Egrets leave the vicinity of Tomales Bay.

The variety and scale of landscape used by locally breeding Great Egrets emphasizes the need to consider conservation and climate change issues beyond the Bay Area in order to protect these wetland predators and the ecosystems they inhabit and influence.