

**Pacific Seabird Group Aleutian Tern Technical Committee  
2021 Annual Report**

Assembled by Mike Goldstein and Susan Oehlers (U.S. Forest Service)  
Co-Chairs

**IN THE FIELD**

**Surveys and observations**

- Alaska Maritime NWR (**USFWS Heather Renner et al.**) conducted a survey of the Aleutian tern (ALTE) colony on Chirikof Island in June 2021.
- **Robin Corcoran (USFWS Kodiak NWR)** regularly surveyed for terns at five sites along the Kodiak road system. Aleutian tern nesting was documented at two sites (Kalsin and Middle Bays) and suspected at two sites (Pasagshak River and Burton Ranch). The largest road system colony at the Kalsin Spit had an average high count of 89 Aleutian terns (SE = 7, n = 8 counts between June 1 and July 31). Nest survival was low based on 23 monitored nests at Kalsin, and only 11 fledglings were documented. In June and August we visited an additional seven remote Aleutian tern colonies at the northeastern end of the Archipelago (Afognak-Shuyak Islands) and recorded low numbers (< 11 individuals) at three colonies.
- **Susan Oehlers** (U.S. Forest Service) and **Piper Nunn** (Student Conservation Association) surveyed Yakutat area colonies. In addition to direct counts associated with acoustic monitors and general colony observations and population estimates, 2 full colony modified direct counts were conducted:
  - June 8, Black Sand Spit, estimated 242 ALTE (and 142 Arctic terns-ARTE)
  - June 18, Italio River, estimated 153 ALTE (and 65 ARTE)
- A subset of committee members (representing **USFWS, USFS, ADF&G, OSU, Audubon, Tern Again Consulting**) in collaboration with **Trent McDonald** (McDonald Data Sciences) developed and implemented a pilot survey plan in Northeast Bristol Bay during the 2021 field season, with the goal to refine methods for implementing a statewide (AK) ALTE survey starting in 2023. Aerial surveys were conducted based out of King Salmon, AK, extending northwest to Goodnews Bay and southwest to Cold Bay. A total of 49 tern colonies were detected during aerial surveys, including 10 colonies with Aleutian terns. To assess detectability, we conducted intensive aerial surveys at a portion of cells contained within the initial survey area. Ground counts were conducted at 2 colonies. Data from the 2021 pilot effort are currently being analyzed. We anticipate the data collected during the pilot effort will provide occupancy and abundance estimates, and allow analyses of presence-based habitat selection, for the study area. The results of these analyses will serve as the basis for/further inform the final statewide sampling strategy.

**Acoustic Monitoring**

- Volunteers **Kate Persons, Peter Rob, and Carol Gales** deployed a songmeter in the Nome area on June 15, 2021. At the time of deployment an estimated 20 ALTE were present and 2 ARTE were present. The song meter was retrieved on September 9th, 2021.

- **Robin Corcoran (USFWS Kodiak NWR)**. Five song meters were deployed at the tern colony in Middle Bay and seven at the colony in Kalsin Bay.
- **Susan Oehlers (USFS)**. Six song meters were deployed at the Black Sand Spit tern colony. A total of 19 direct counts associated with songmeter sites were conducted over the course of the season.

## ANALYSIS/LABORATORY

- **Jill Tengeres (Oregon State University)** continued analyses for her M.S. thesis examining the breeding ecology and foraging niche of Aleutian Terns (*Onychoprion aleuticus*) in the Kodiak Archipelago. Four egg-shell fragments and one chick down sample from the National Museum of Natural History and two eggshell fragments from the Peabody Museum were obtained for  $^{13}\text{C}$  and  $^{15}\text{N}$  compound-specific isotope analysis of amino acids. Samples were collected as early as 1865 through 1970 and will be used for a comparison of modern and historic Aleutian tern pre-laying female adult diet. Additional funding was acquired from the USFWS Alaska Region Ecological Services division for compound-specific analysis of individual amino acids (CSIA-AA) in carbon isotopes to examine shifts in pre-laying Aleutian tern diet and foraging habitat. This analysis will be used to verify that the variation in recently completed bulk stable isotope analysis (BSIA) of  $\delta^{13}\text{C}$  results is related to changes in diet as a result of shifts in foraging location, not different isotopic baselines between years.

## MANUSCRIPTS

- **Renner, Renner, Lyons, Zykov, Revyakina and Oehlers** published a manuscript on UAS surveys of terns with Bird Conservation International: [Aleutian Tern \*Onychoprion aleuticus\* abundance estimates at four globally significant colonies | Bird Conservation International | Cambridge Core](#)

## FUNDING

- A subset of the committee members (lead applicant **Robb Kaler**, USFWS) applied for and were awarded a National Fish and Wildlife Foundation Pacific Seabird Program award to initiate a statewide ALTE population census.