

Sea Duck Joint Venture
Annual Project Summary
FY 2016 – (October 1, 2015 to Sept 30, 2016)

Project Title: PR143: Annual distribution and movements of Pacific scoters: addressing gaps in population delineation of surf, white-winged and black scoters

Principal Investigator(s): Jason Schamber, Alaska Department of Fish and Game; jason.schamber@alaska.gov

Partners: USFWS, Migratory Bird Management, Alaska Region

Project Description: This project builds on the efforts of past satellite telemetry projects by addressing remaining information gaps in delineation of the Pacific populations of SUSC, WWSC, and BLSC. Specifically, this project will mark adult female scoters with PTTs during winter in major coastal regions of AK; that includes marking SUSC and WWSC in Southeast and South-central AK, and BLSC in western AK.

Objectives:

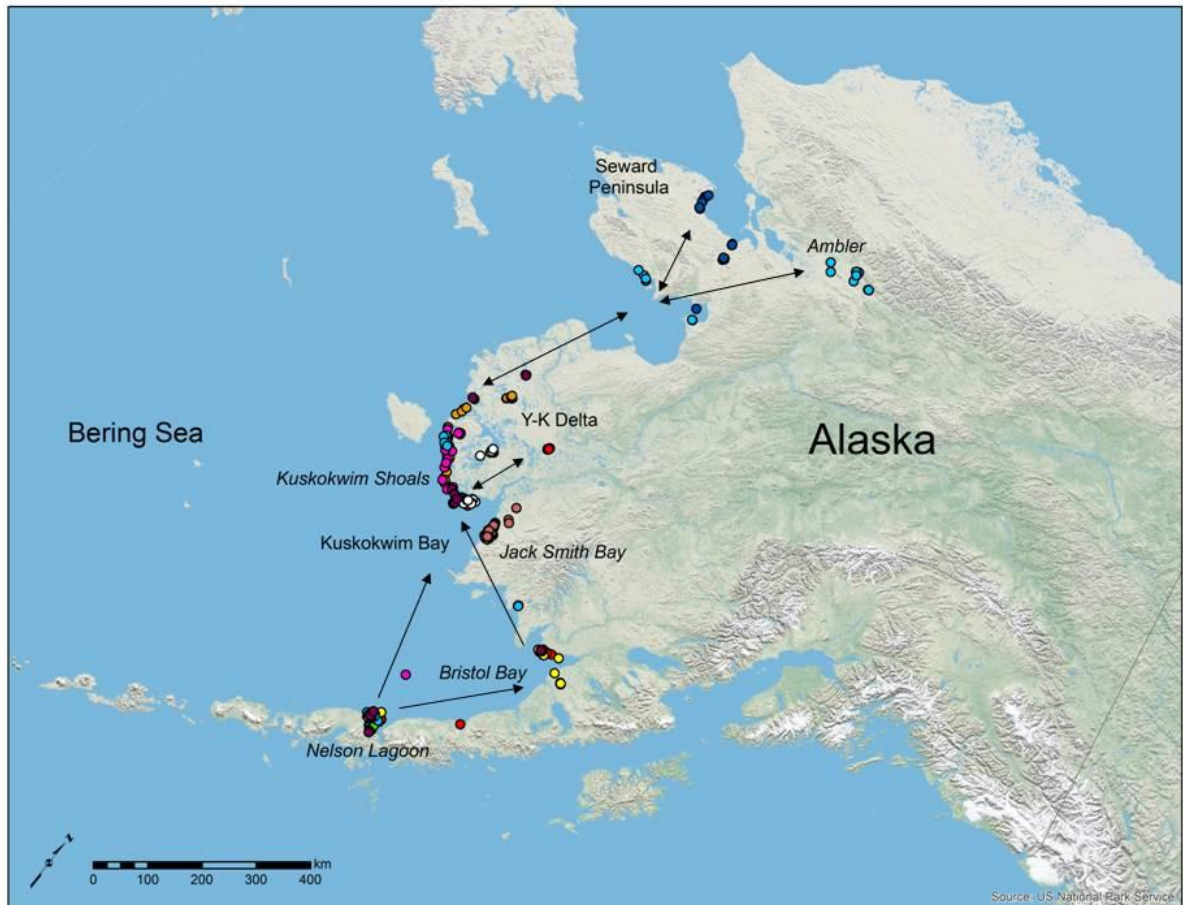
1. Describe the timing and pattern of seasonal movements and the associated annual variability for SUSC, WWSC, and BLSC wintering in coastal regions of AK
2. Identify habitats/areas used for breeding, molting, wintering, and staging
3. Identify coastal habitats used by a large proportion of marked birds that may indicate high significance at the population level to inform harvest and habitat conservation efforts
4. Determine inter-annual return rates of marked birds to habitats used during major life-cycle stages (i.e., breeding, wintering, molting, staging)
5. Combine data from this project with existing data for Pacific scoters to delineate independent population units

Preliminary Results:

In April 2015, we completed the first (of 4 years) year of PTT deployments. We spent 10 days in Nelson Lagoon, Alaska with the intent of deploying 8 PTTs in adult female BLSCs. However, we were able to work successfully for only 1 of those days because of adverse weather conditions (30-40 knot winds, fog, snow, and rain) that weren't conducive to boating and trapping. We terminated our stay after 10 days because the extended forecast was for similar weather conditions. The result was the instrumentation of 1 adult female BLSC. We anticipated that conditions (i.e., inclement weather, capture difficulties) at Nelson Lagoon were possible that it would require 2 years to achieve an effective sample size, so we proposed to return in 2016 and were successful in deploying 10 PTTs as planned.

The female marked in 2015 departed Nelson Lagoon in early May and stopped over at Egegik Bay, Kuskokwim Bay and the Black River (Y-K Delta) enroute to the Seward Peninsula; which is 1 of 3 major BLSC breeding areas. The bird remained inland on the Seward Peninsula for the breeding period. Notably, this is only the second bird out of 89 previous BLSCs marked from across their range that migrated to the Seward Peninsula. Following summer, the bird migrated to Kvichak Bay and stayed through the molting period. After molt, the bird migrated to the near-Aleutian Islands near Umnak Island. This was the final location for this bird; the PTT discontinued transmitting in early December 2015 (map in Appendix 3). In April 2016, we returned to Nelson Lagoon for the second year of PTT deployments. We captured a total of 59 black scoters and instrumented 10 females (3 ASY and 7 SY) with PTTs. Currently, 7 of 10 females are alive and their PTTs are providing good location information. A single female apparently died within 5 days following post-surgery release, as indicated by a rapid drop in the temperature sensor. Another female apparently died in early August, also indicated by the temperature sensor. A third female's PTT failed to transmit data after 9 August.

The median departure date of females from Nelson Lagoon was 25 April (range=15 April–10 May). Most females stopped at 1 to 3 spring staging areas in the Bristol Bay or Kuskokwim Bay regions (map in Appendix 3). Eight of 9 females spent the summer period at an inland location; one female spent the summer offshore in Jack Smith Bay near the Kuskokwim River. Five females spent the summer at locations on the Yukon-Kuskokwim Delta; one female was located in the Bristol Bay region; one female was located on the Seward Peninsula, and one female spent the summer ~180 km inland from the coast near the village of Ambler at the base of the Brooks Range. After summer, all females migrated to the Kuskokwim Shoals area, where they currently reside (indicating important post-breeding habitat).



Project Status:

When this project was first proposed, we planned to conduct captures in western AK in 2015–16, South-central AK (Prince William Sound; PWS) in 2017 and at Southeast, AK (Juneau) in 2018 (see below). The rationale for that schedule was simply to begin in the west and work toward the east. However, we have adjusted the schedule of captures to Juneau in 2017 and PWS in 2018 to improve the chances of a successful capture effort. Captures in these areas will be timed with herring spawn events, which tend to concentrate large groups of birds that are focused on a readily available food source, thus increasing the probability of capture success and possibly improving post-surgery survival of instrumented birds. However, there has been little herring spawn in PWS over the last two seasons. This may be a temporary *El Nino* event, which was in effect over the last 2 years and disrupted other marine processes (forage fish, die-offs of seabirds) as well. Thus, we have postponed the PWS capture effort to 2018, anticipating that herring spawn will return and reduce the risk that PTTs will not be deployed. Rather, we will capture and mark scoters (target sample is 9 WWSC, 16 SUSC) in the Juneau area in 2017.