



# The Threatened, Endangered, and Diversity Program

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## *2023 Newsletter*





# The Threatened, Endangered, and Diversity Program

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## Our Mission

*The Threatened, Endangered, and Diversity (TED) Program works proactively with state, federal, and private partners to conserve wildlife species before they become threatened or endangered, to recover species already imperiled, and to keep “common species common.”*

It has been an exciting and busy year for the [TED](#) Program! Recognizing that one of the TED Program’s important roles is to keep partners, stakeholders, and the general public informed about our work on high-priority species, we are pleased to bring you our first annual newsletter. Here we provide a summary of our activities over the past year and showcase some of our key projects and success stories. We hope this newsletter will become a mechanism for not only educating you about our work, but also for providing opportunities for new partnerships and exchange of ideas and information. We hope that you enjoy this issue and welcome feedback on ways to improve it!

## The TED Team



## *In This Issue:*

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### Project Updates

This year’s project updates on Alaska’s species of conservation concern

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### ESA Corner

Updates on species listing decisions

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### Media Outreach

The TED program in the news, community outreach, and the conservation stamp

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TED Program staff include (from left to right) Travis Booms, Chris Barger, Julie Hagelin, Jenell Larsen Tempel, Katie Christie, Arin Underwood, Chris Krenz, Tory Rhoads, Moira Ingle, Tracey Gotthardt, and Karen Blejwas



# 2023 in Review

30

Publications



55

Species of  
greatest  
conservation need



16

Graduate  
students and  
interns



7

Professional  
presentations



56

Partners and  
collaborators



11

Public presentations



22

Conservation working  
groups, recovery  
teams, and technical  
committees



9

Seasonal  
employees



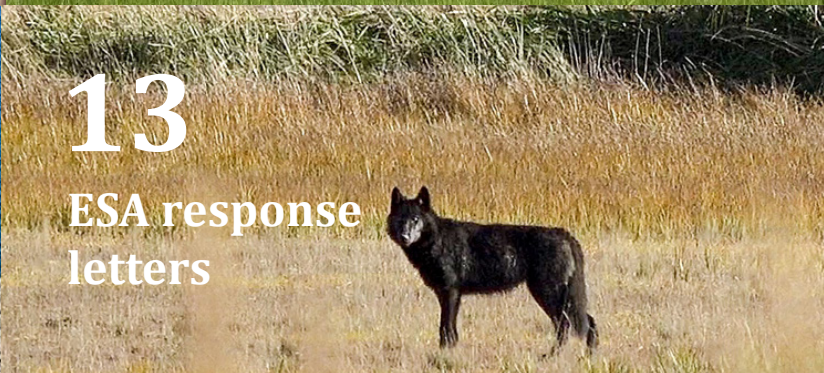
87

Volunteers assisted  
with work



13

ESA response  
letters





# Project Updates

## Lesser Yellowlegs

Katie Christie and Arin Underwood led the Lesser Yellowlegs crew through the swampy wetlands of Anchorage this spring, resighting banded birds that had returned from their South American wintering grounds. The Lesser Yellowlegs is a shorebird that breeds in boreal wetlands and is a species of conservation concern in Alaska due to noted population declines. This year, the crew monitored yellowlegs nests and banded chicks and adults for a demography study. The goals of this research are to gather data on the species' abundance, survival, reproduction, and

exposure to threats during migration to uncover the causes of the population declines. Field work on Lesser Yellowlegs is simultaneously being conducted in Fairbanks, Alaska, Churchill, Canada, the Prairie Pothole Region of North Dakota, and Argentina to investigate potential conservation concerns for this declining species. Meanwhile, the Lesser Yellowlegs Working Group is collaborating with private landowners to create habitat in key stopover areas and working with hunting groups in South America to achieve a sustainable harvest. If you see a Lesser Yellowlegs with green leg bands, please report it to [yellowtringa@gmail.com](mailto:yellowtringa@gmail.com).

## Raptor Surveys

Travis Booms completed annual cliff-nesting raptor surveys this summer on the Seward Peninsula. These surveys have been ongoing since 2005 and are designed to monitor the status of raptor populations in Western Alaska. His team noted unusually low occupancy and productivity for Golden Eagles, Gyrfalcons, Rough-legged Hawks, and Common Ravens, possibly due to avian influenza and this year's late spring. Booms' recent research also demonstrated that Alaska is home to a quarter (approximately 12,700) of the U.S. population of Golden Eagles.



## Aleutian Tern

The Aleutian Tern nests along the coastline from southeast to western Alaska and migrates to overwintering sites in Asia. Declines in the number of birds returning to colony sites across the state prompted scientists to launch a large monitoring and research effort aimed at understanding what is causing the decline at known colonies. A multi-agency statewide survey was initiated in 2022 in the Bristol Bay area. During the 2023 season, surveys transitioned to the southeast, with one of the best monitored locations of nesting Aleutian Terns on Kodiak Island. This bird is a declining species and of concern as nest failure is common.



## Southeast Bats

Karen Blejwas and Tory Rhoads continued their work monitoring swarming activity and hibernation of little brown bats near Juneau. Swarming is an important, but not well understood part of the annual cycle of hibernating bat species. White-nose syndrome (WNS) is a disease caused by an invasive fungus that is devastating bat populations on the east coast, and while it has not yet reached Alaska, swarming sites represent one of the most likely routes of



TED biologist Tory Rhoads pioneered challenging field work on Aleutian Terns in 2022, earning the Director's Award for wildlife research in 2023.



transmission for the fungus that causes the disease. This year, the TED program partnered with Wildlife Conservation Society Canada to establish a regional bat hub with standardized protocols to monitor bat populations across Southeast Alaska and British Columbia as part of the North American Bat Monitoring Program (NABat).

NABat is a continent-wide collaborative research effort to better understand status and trends in North American bat populations. In partnership with the US Forest Service, Blejwas and Rhoads used acoustics to survey nine grids in June and July. TED staff also conducted NABat acoustic surveys in southcentral Alaska.

## Alaska Hare

Three times larger than the snowshoe hare, the Alaska hare, also known as the tundra hare, is the largest lagomorph in the state and an endemic species to western Alaska. Used for recreational and subsistence harvest, little is understood about their vital rates, distribution, and population trends. The large hares can also be difficult to track down and study in the winter due to their remote and environmentally challenging habitats and low densities.

Alaska hares can have home range sizes upwards of 7,000 acres compared to snowshoe hares of around 30 acres. Their maximum straight-line daily movement



has also been observed at 13km, which is more than 25 times that of a snowshoe hare!

Chris Barger has been developing novel methods to study these hares as part of his PhD dissertation at the University of Alaska Fairbanks. Barger and his colleagues developed methods to infer population status using pellet counts and the capture and outfitting of hares with GPS collars to track annual movements, and explored variation in the hares' winter diet using fecal pellets. Four years of field work has been completed at three remote locations and relationships with communities familiar with the hare in western Alaska have been established. This has not only helped in the development of some of the research methods, but has enabled the identification of management measures to meet the public use, such as setting harvest limits and season lengths.

## Red Knot



In 2023, the second field season commenced for the Red Knot project led by Jenell Larsen Tempel. Red Knots are impressive long-distance migratory shorebirds, and the goal of this project is to estimate the number of Red Knots that stop to rest and forage in Controller Bay, an important spring stopover location. This spring, two field camps were stationed in the bay to conduct surveys of birds that had previously been captured and outfitted with uniquely labeled leg flags (see above image), with dedicated wildlife photographers greatly improving the number of these marked birds recorded.

## Bank Swallow

The Bank Swallow is the smallest of the swallow species and nests in colonies and tunnels in sandbanks. This little gray and white bird has undergone a 94% population decline in North America since 1970, likely due to migration stressors. This year the TED Program partnered with Environment Canada to understand migration and patterns of population decline across the species' breeding range. In the field, Julie Hagelin deployed 99 Motus tags in interior Alaska to help identify key stopover sites and wintering areas for the swallow, in an effort to guide future conservation actions.





## Collared Pika

On the talus slopes of southcentral Alaska, Katie Christie's collared pika crew surveyed pika territories, resighted tagged pikas from previous years, and tagged new pikas. This alpine lagomorph spends its summers foraging for flowers, leaves, and grasses to store in its haypile, which it feeds on beneath the snow throughout the winter. These small mammals are potentially vulnerable to changes in temperature and vegetation composition in the alpine zone. After multiple years of data collection, a clearer picture is emerging of the ecology of this poorly understood species in Alaska, and we now have baseline data for future assessments of population change.



## Citizen Science

### Birds 'n' Bogs

Led by Arin Underwood, the Southcentral [Birds 'n' Bogs Program](#) finished its 11th survey season this year with volunteers monitoring 54 wetlands across the region. This long-term monitoring project surveys for water bird species in local lakes and coastal areas including loons, grebes, swallows, and yellowlegs.



### Bat Monitoring Projects

The Southcentral Bat Citizen Science Program has sent bat detectors out to volunteers this summer to monitor the numbers and nightly calls of local little brown bat populations. A rocket box style bat house big enough for 200 bats was also installed by volunteers in Potter Marsh in 2022 and had its first evidence of bat habitation in 2023! The bat house has guano around its base and sparks educational discussions on Alaska's bat species at the popular board walk.



# ESA Corner

## Alexander Archipelago Wolf

This year the Alexander Archipelago Wolf was reviewed for potential listing under the Endangered Species Act (ESA) by the U.S. Fish and Wildlife Service (USFWS), which found that the listing was not warranted. The Alexander Archipelago wolf is a subspecies of gray wolf found in Southeast Alaska that has been petitioned for listing twice before. Each time the listing was found not warranted.

After the most recent petition for listing, the TED ESA team Moira Ingle and Jenell Larsen Tempel, along with Alaska Department of Fish and Game (ADF&G) management and research biologists, carefully reviewed current threats and research on the wolf, concluding that the wolves are not at risk of becoming in danger of extinction and that current management protocols are

sustainable. The team provided this information to USFWS, which concurred with the conclusions and declined to list this wolf subspecies.

## Sunflower Sea star

The sunflower sea star is commonly found in marine waters ranging from the Aleutian Islands in Alaska south along the outer coastline of the U.S into Baja California and Mexico. A major predator in marine ecosystems, this sea star is regarded as the swiftest, largest, and heaviest sea star in the North Pacific. From 2013 to 2017, an outbreak of Sea Star Wasting Disease contributed to precipitous population declines of over 90%, particularly in the southern portion of the species range. Observed declines in Alaska, which constitutes the majority of the species range, were not as severe as they were elsewhere. The cause of this disease is unknown, but there is evidence that warmer temperatures played a role. In response to the observed decline, the species was recently petitioned for listing under the ESA and proposed as threatened in March of this year. The National Marine Fisheries Service should make a final listing determination by March 2024.

TED and ADF&G Commercial Fisheries staff participated in development of a [Roadmap to Recovery](#) for the sunflower sea star. Also, ADF&G is increasing efforts to collect information on distribution and abundance on sea stars during annual dive surveys.



# Media Outreach

2023 was an amazing year for community outreach and science communication. Travis Booms was featured in the National Geographic Wild show Dr. Oakley Yukon Vet. The [episode](#) shows Dr. Oakley joining Booms in the field to research lead contamination levels of Golden Eagle nestlings. The show was an excellent opportunity to demonstrate to the public how TED program biologists conduct field work in remote, difficult-to-access places, to collect high-priority data on species of conservation concern. The opportunity to partner with Dr. Oakley also highlights new approaches the TED Program is using to share important research results and conservation actions people in Alaska can take to reduce threats to wildlife. Booms also received a Director's Achievement award for Wildlife Publications for a paper published in the journal [Science](#), which documents the implications of lead poisoning in eagles across North America.



# In the News

Julie Hagelin's research on the migratory pathways, stopovers sites, and wintering areas of interior Alaska's Olive-sided Flycatcher was featured in the [New York Times](#) in 2023: "How to Track a Songbird from Alaska to Peru."



Check out [Alaska Fish and Wildlife News](#) online to see this year's publications on species of conservation concern! This year's issues feature ammo and eagles, tracking flycatchers, terns, and how to conserve local bird species.



# The Conservation Stamp

[Purchase](#) this year's conservation stamp to support fish and wildlife research, monitoring, and education programs in Alaska.

ADF&G biologists work to understand and conserve a broad array of Alaska's species and their habitats, from raptors to shorebirds and small mammals. Outreach specialists work to make educational resources and outdoor skills available to the public.

The 2024 stamp is a Pacific Walrus by artist and ADF&G biologist Arin Underwood. This large pinniped lives in the Bering and Chukchi Seas where they haul out on sea ice and along the mainland coast and islands of Russia and Alaska. The most distinctive feature of walruses, both male and female, is their two ivory tusks, which are long upper canine teeth that grow throughout their life. Behind and above the walrus are Aleutian Terns, a rare seabird whose only continental population exists in Alaska.



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Cover: Blake Richard

2023 in Review (left to right): Arin Underwood, Shelby McCahon, Arin Underwood, Seth Beaudreault, Travis Booms, ADF&G, Arin Underwood, Arin Underwood, Arin Underwood, Abby McAlister

Project Updates: (Lesser Yellowlegs) Arin Underwood, (little brown bat) Dani Owens, Tory with tern) Lisa Hupp, (Alaska Hare) Chris Barger, (tagged Red Knot) Blake Richard, (Banding Bank Swallow) Tory Rhoads, (birdwatcher in the bay) Blake Richard, (Collared pika) Arin Underwood, (Birds 'n' Bogs volunteers) Arin Underwood

ESA Corner: (Alexander Archipelago wolf) ADF&G

Media Outreach: (Julie with an Olive-sided Flycatcher) ADF&G

Conservation Stamp: (Shorebirds in the bay) Blake Richard

Photo credit page: (Iris field) Arin Underwood