

# Shorebirds for Today and Tomorrow

An Educational Program for Schools in the Yukon-Kuskokwim Delta

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## WHY SHOREBIRD OUTREACH?

The Division of Subsistence of the Alaska Department of Fish and Game (ADF&G) recently completed a study on subsistence harvest and indigenous knowledge about shorebirds in the Y-K Delta. We found that members of subsistence communities have seen fewer shorebirds in their regions. Older generations were more familiar with birds and their Yup'ik names. And people are interested in learning more about shorebirds and where they migrate. Thus, we developed a youth education program about shorebirds. We would like to invite local educators to collaborate and use a suite of educational materials and activities about shorebirds based on the Yup'ik culture and the environments of the Y-K Delta.

Shorebirds breed in large numbers in the Delta, then migrate around the world during the winter. Their numbers are declining due to many factors, especially habitat loss in wintering areas. Birds are subsistence food and cultural resources, and thus Native peoples are important partners in bird conservation.

Shorebirds are an exciting educational theme! They connect the past with the future and create context for lessons on habitat, migration (geography and reading), populations (math), bird identification (dichotomous keys), animal adaptations, and socio-emotional skills that help students relate with other places, people, and cultures along the migration routes of shorebirds.

## WHAT DOES THE PROGRAM LOOK LIKE?

The program is geared toward two age groups (grades 4–8 and 9–12) and is aligned with the latest curriculum standards. Resources are available online and as hard copies for educators and students. A first cycle of classroom activities is happening from January to June 2022.

**1. Educator's workshop:** project staff meet online with educators to share materials and activities.

**2. Educator's package:** interested educators sign up and request the classroom materials. Materials are also available online.

**3. Pre-program assessment:** before the classroom activities, educators and students take a short and fun online survey to gauge current knowledge, help finetuning the program, and assess its outcomes.

**4. Classroom activities:** Educators can choose from diverse materials and activities and adapt them to best meet local educational needs and goals. Materials include pamphlets in Yup'ik and English, stickers, lesson slides, short documentary films, bird calls, and coloring sheets, all with a strong emphasis on Yup'ik language and culture. Project staff is available to assist as needed.

**5. Post-program assessment:** at the end of the semester, educators and students take a short online survey to see if and how learning has changed and to advise on how to improve the program.



## PLACE- AND CULTURE-BASED ACTIVITIES

**MATH: don't put all your eggs in one bucket.** In this activity, students learn how animal populations grow and observe the relationship between the size of a population and the number of young that are born each year. This activity incorporates the traditional method of estimating, counting, and sorting eggs.

**SCIENCE: who is that bird?** This guide helps students focus on the calls and features of shorebirds found in the Y-K Delta. Use a dichotomous key—based on Yup'ik traditional ways to name and categorize birds—to tell shorebirds apart and learn their Yup'ik names. Then, let's build a bird, focusing on the form and function of their physical adaptations. Students get a head start by using beak, feet, and wing illustrations created by an Alaskan biologist.

**CULTURE: Yup'ik language and traditional knowledge are intertwined.** Yup'ik language and culture weave together the diverse activities and materials of this program. A fun song about *iisuraar* (sandpiper), audio clips for pronunciation of Yup'ik bird names, a 6-page pamphlet all about shorebirds... bring these materials to Yup'ik language classes or seamlessly blend them together with other educational topics.

**GEOGRAPHY: migration headaches and challenges!** Play an action-packed game that illustrates the incredible journeys shorebirds make between their northern breeding areas, the southern wintering areas, and the in-between rest stops. Then, up the challenge with a fun round-robin of activity cards where students act out specific challenges (habitat loss, food scarcity, weather, etc.) that migrating birds are faced with. Will they make it to the breeding ground before it is too late? Use Google Earth to investigate and map the habitat where the birds spend winter. What habitat do the birds need? Can they find it in their winter home?

**SOCIAL STUDIES: birds that flock together...** Build a colorful flock in your classroom to celebrate all you have learned about shorebirds. Then display your flock, give them wings, and send them to another classroom.

**SOCIO-EMOTIONAL & LANGUAGE ARTS: when home isn't there anymore.** This writing exercise develops empathy and taking the perspective of a wildlife species. What if you traveled thousands of miles to your wintering grounds only to find it's not there anymore?

## PROGRAM PARTNERSHIPS AND FUNDING

This project is a partnership including the ADF&G divisions of Subsistence and Wildlife Conservation-Education and Outreach Program, schools, and communities in the Y-K Delta. The documentary films are a partnership with the Cornell Lab of Ornithology-Conservation Media Program. This project is funded by the ADF&G, U.S. Fish and Wildlife Service, and National Fish and Wildlife Foundation.

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