

# Shorebird Sister Schools Program (SSSP) and Connecting Cultures

## Concepts

- By following shorebirds' movements, we can discover new places and people throughout the world.
- Following shorebird migration broadens our understanding of how we are connected to other people and places and how our actions can influence global conservation efforts.
- Different types of communication media provide a corridor to other places and people.
- Culturally knowledgeable citizens demonstrate an awareness and appreciation of the relationships, processes, and interactions among all elements in the world.

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*\*Additional profiles will be posted on the Web at <http://sssp.fws.gov>. We welcome additional profiles. If you would like to write one for your state or country please contact the SSSP coordinator at [sssp@fws.gov](mailto:sssp@fws.gov).*





# An Overview of The Shorebird Sister Schools Program

## What Is the Shorebird Sister School Program (SSSP)?

The Shorebird Sister Schools Program (SSSP) is an Internet-based, multidisciplinary, environmental education program that provides a forum for students, biologists, and shorebird enthusiasts to track, discuss, share information, and learn about shorebirds throughout the year.

The primary components of the program include:

- World Wide Web site, <http://sssp.fws.gov>
- Shorebird E-mail Network (Listserve).
- Educator's guide for Grades 2-12.

Through SSSP your students can:

- Learn about shorebirds, their habitats, and migration.
- Participate in spring tracking projects and learn how researchers use the scientific study method.
- Connect with others to learn about shared natural resources and different cultures.
- Nominate their hometown as a "shorebird sister city" to recognize their community's good land stewardship for shorebirds.
- Develop a variety of academic and life skills using shorebirds as a theme.

## How the SSSP Got Its Start

The Shorebird Sister Schools Program began as a supplemental education program of the Kachemak Bay shorebird festival in Homer, Alaska, hosted by the Alaska Maritime National Wildlife Refuge, the local Chamber of Commerce, and local schools. In the early years of the festival, local schools took advantage of the amazing phenomenon that occurs when hundreds of thousands of shorebirds stop at the Kachemak Bay for two weeks in May while

en route to the Arctic breeding grounds. Local festival planners recognized their education efforts were focused only on the two weeks while the birds were in Homer, so they began looking for a way to make the phenomenon of migration more tangible to students. How could this be accomplished? A local teacher proposed the use of E-mail to build an information-sharing network among schools located along the Pacific Flyway. Students from each stopover site would monitor the progress of shorebird migration and report their observations by sending E-mail to the other schools participating in the project. In 1994, seventeen schools from California to Alaska were connected using a basic Internet E-mail service. It was archaic and very slow, but it worked—SSSP was born! The success in the beginning and now is due entirely to the partnership among educators, students, community members, and biologists.

Today, people subscribing to the network include educators, students, biologists, wildlife refuge managers, planners, and shorebird enthusiasts. The Web site is used by thousands of people each month, especially during peak migration, and has expanded from a Pacific Flyway focus to include all major United States and East Asian-Australasian flyways. The Web site is in English, Spanish, Japanese, and Russian. The educator's guide has been translated into Spanish, Russian, Japanese, and Portuguese. Currently, people from numerous countries and most United States are involved in the SSSP program. The program is an integral part of the U.S. Shorebird Conservation Plan. In collaboration with partners, U.S. Fish and Wildlife Service researchers, managers, and educators work together to help guide this education program

toward accomplishing long-term shorebird conservation goals.

## How Can My Students Get Involved in the SSSP?

- Subscribe to the E-mail Network so you can receive a monthly update on upcoming events and activities for your students, and new features on the Website.
- Visit National Wildlife Refuges and other wildlife areas to experience shorebirds in their habitat, and then share your students' observations through the SSSP Website.
- Download educational materials and activities, migratory maps, links to related sites, and shorebird photos from the program Website.
- Incorporate the activities, handouts, and shorebird information from the educator's guide *Explore the World with Shorebirds!* into your lesson plans.
- Register your school as a Shorebird Sister School through the Website.
- Send original poems, essays, and artwork for posting on the Website.
- Participate in migration tracking projects by collecting data for biologists or by tracking the migration of shorebirds on a classroom map.

## Learn more, contact the Shorebird Sister Schools Program Coordinator

U.S. Fish and Wildlife Service  
698 Conservation Way  
Shepherdstown, WV 25443-9713  
304/876 7783 (phone), 304/876 7231 (fax), [sssp@fws.gov](mailto:sssp@fws.gov) (e-mail)



# Shorebird Sister Schools Program

## *Vision:*

*The Shorebird Sister Schools Program (SSSP), through education and outreach, engages public participation in the conservation of shorebird species and their wetland, grassland, and shoreline ecosystems.*

## **Goals:**

- Link science and education to facilitate public awareness, knowledge, and assistance in the conservation of shorebird populations in order to reverse species decline and maintain populations not declining.
- Link science and education to facilitate public awareness, knowledge, and assistance in the conservation of wetland, grassland, and shoreline ecosystems important to shorebirds throughout their range.
- Foster shorebird education throughout the major flyways in the Western Hemisphere and the Central Pacific and East Asian-Australasian Flyways.

## **Objectives:**

- Share with all interested educators, communities and partners the tools developed for the SSSP for use with SSSP activities and other education programs.
- Work with SSSP coordinators and partners to identify and develop new tools to support shorebird and ecosystem education and the SSSP.
- Raise awareness and knowledge about shorebirds and their habitats at identified important wetlands in collaboration with National Wildlife Refuges and partners.
- Facilitate community-based shorebird conservation through schools and other youth groups that will be demonstrated by community support and involvement in the conservation of the wetland, grassland, and shoreline ecosystems.
- Promote development of projects that link shorebird populations, ecosystems, and people throughout flyways in order to connect local conservation activities to the larger hemispheric conservation effort.
- Provide opportunities for students to learn about endangered, threatened, and vulnerable species and ecosystems in their local areas.



# How to Join the Shorebird E-mail Network (Listserve)

A unique attribute of the Shorebird Sister Schools Program is the active participation of shorebird enthusiasts, kids, educators, and wildlife biologists in the E-mail Network. This Network serves two primary functions:

- A forum to share ideas, educational activities, ask questions, and more.
- A monthly eNews that may include new highlights on the SSSP Website, grant information, updates on bird related issues, and more.

Everyone is invited to subscribe and post messages on education activities, shorebirds, or related topics.

The Shorebird E-mail Network is not a chat room but a system that sends a posted message to all the E-mail addresses listed in the membership. Network members subscribe to receive the free electronic mail. The Shorebird Sister Schools Coordinator monitors the communication to ensure that you receive only relevant information.

## 1. Computer System Requirements

- Computer: monitor, keyboard, mouse, computer (IBM clone or Apple/MacIntosh)
- An active Internet connection
- Internet browser — Netscape, SPRY, Mosaic, Microsoft Internet Explorer, etc. — some free to schools and some available commercially

## 2. Setup an E-mail Address

To interact with the network, you will need an E-mail address. This will allow you to send and receive mail messages from other members of the network.

## 3. Join the Network (Figure 1)

You can join directly from the Web site, <http://sssp.fws.gov>, by clicking on the “Get Involved” link and going to “Join SSSP” or you can send an e-mail to [fws-shorebirds-request@lists.fws.gov](mailto:fws-shorebirds-request@lists.fws.gov)

Figure 1

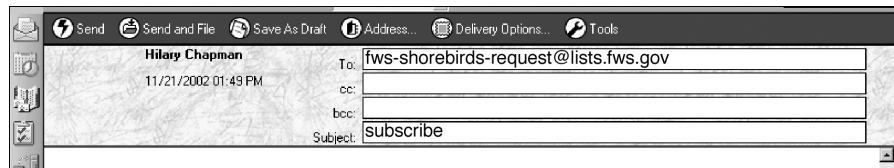
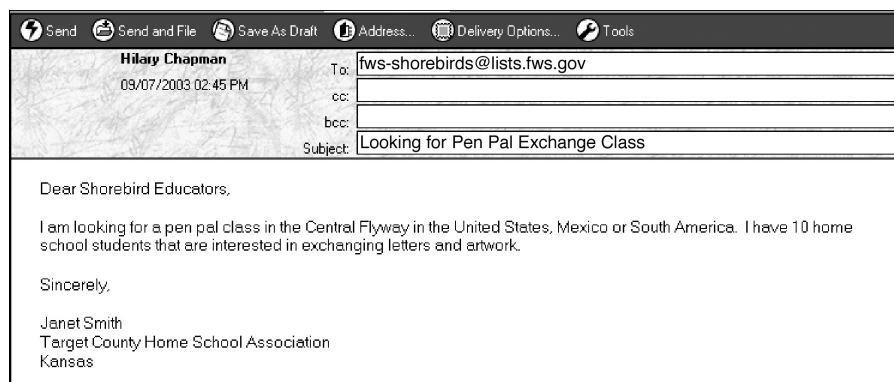


Figure 2



[request@lists.fws.gov](mailto:request@lists.fws.gov) with the word “subscribe” in the subject field.

You will receive a return message saying that you have been added to the Network. If you have any trouble signing up, please contact the Shorebird Sister School Program Coordinator at [sssp@fws.gov](mailto:sssp@fws.gov).

## 4. To Post (Send) a Message to the Network (Figure 2)

Send an E-mail message to the network at the address [fws-shorebirds@lists.fws.gov](mailto:fws-shorebirds@lists.fws.gov). You can also send your message directly to the SSSP Coordinator, [sssp@fws.gov](mailto:sssp@fws.gov), and the coordinator will post your message.

*The following are some ideas on how you can use the E-mail Network:*

### Educators can:

- Ask for educational resources
- Ask about volunteer opportunities to help with shorebird research

- Ask for another educator interested in pan pal exchange

- Share new resources for shorebird education

- Share lesson plans and/or look for a particular lesson plan

### Shorebird Conservation Organizations can post

- New Western Hemisphere Shorebird Reserve Sites
- Upcoming distance learning broadcast events
- Requests for volunteers
- Conference announcements or information
- Updates on various environmental issues such as West Nile Virus

# How to Use the Shorebird Sister Schools Website

The World Wide Web can offer teachers and students all over the world a wealth of resources for learning about and sharing information on shorebirds. The Shorebird Sister Schools site at <http://sssp.fws.gov> provides information and links to enhance your students learning and allow them to more fully participate in SSSP.

Here are just a few suggestions on how you can use the SSSP Web site.

## Register as a Shorebird Sister School.

By registering as a “shorebird sister school,” participants can learn about other schools, find pen pals, receive new materials, and help the SSSP Coordinator track who’s involved for program evaluation. To sign up, go to <http://sssp.fws.gov>.

## Follow shorebird migration.

Through the Website you can track shorebird migration by clicking on the “Tracking” link and then “View Shorebird Sightings.” This allows you to monitor the movements of shorebirds reported by researchers, students, and volunteer participants through the Website. Use your own large wall map to track shorebird migration as reports come in via the Website.

## Ask a biologist a question about shorebirds.

Through the E-mail network, students can E-mail to biologists questions they have not been able to answer through other sources.

Example Questions:

### QUESTION:

Hi, my name is Susan Flores and I just wanted to ask the specific diet of Pacific Golden Plovers also known as Asiatic Golden - Plovers. Do they eat insects, fish, crabs, shrimp or something else? They do stop here in Hong Kong at the Mai Po Marshes. Thank you.

Yours sincerely,  
Susan, [svflores@netfront.net](mailto:svflores@netfront.net)

### ANSWER

Pacific Golden Plovers here in Hawaii tend to inhabit open, grassy areas (parks, golf courses, cemeteries). During a recent observation of them, we noted that they ate earthworms and a variety of insects. We also noted that they pecked at the ground an average of 6 times per minute in an attempt to get food. How often they were successful has yet to be determined. Hope this info is helpful. Aloha from Ewa Beach, Hawaii  
Reece Olayvar, [hikehi@hgea.org](mailto:hikehi@hgea.org)

### QUESTION:

I was wondering if shorebird migration starts around Argentina, then they go to the Delaware Bay to eat the horseshoe crab eggs, then they go to the artic to reproduce, then what do they do when they are going back? They don't have the horseshoe crab eggs to eat, and when do they leave the artic?

Dawn Bole  
[boledawn@smyrna.k12.de.us](mailto:boledawn@smyrna.k12.de.us)

### ANSWER:

In answer to your question, my understanding is that during the fall migration the shorebirds are found over a wider area and variety of habitats and eat a wider variety

of invertebrates. Clam spat found in peat banks is one item I have heard of. Probably small clams, mussels, mole crabs, etc are also consumed. Shorebirds begin leaving the artic and migrating south in August. Gregory Breese, biologist  
United States Fish and Wildlife Service

## Follow tracking projects.

Each year biologist tracking projects are featured. Check the Web site for opportunities to participate.

## Learn how to use the Web site archives.

Give your students questions to which they must find answers in the archived E-mail messages on the Web site. For example, students could answer the following questions using the archived E-mails from Fall/Winter 2001:  
*Where are people from who are reporting observations of Piping Plovers? Where are people from who are reporting Red Knots? What bird are people in Hawaii observing? What birds have been seen in Alaska in the spring? What new book on shorebirds has been reported? What was reported from Russia? What banded bird was sighted and reported?*



Figure 3

Hi from Anchorage Alaska and the Heritage Christian School!!

We are students with Mrs.Galvis' combined 5th & 6th grade class. We just took a field trip to Homer Alaska for the Katchemak Bay Shorebird Festival. We had a great time! We were able to view the birds as the tide was coming in and we watched as thousands and thousands of birds got closer and closer to us--Very cool!! We also had two other stations: at one we dug around in the mud and learned about the invertebrates that the shorebirds eat and the other we learned about bird banding. We would love to hear from other schools in Alaska, the lower 48 or, even better, from students from other countries. Our bird list is below.

**Species sited:**

Dunlin	100 - 200
Western Sandpiper	1000's
Semipalmated Plover	5
Golden-Plover	2 (probably American Golden Plover)
Black-bellied Plover	2
Dowitcher	10
Bald Eagle	2
Canada Goose	1 (flying overhead)

**Date:** May 5, 2000

**Time:** 1- 3:30 pm

**Other:** High Tide (coming in)

**Weather:** Sunny, warm in mid 50's, wind variable

**Site:** Mud Bay

**Habitat Type:** Mud flats

**Food found in the mud:** clams, blue mussels, Baltic macomas, worms, snails

We had a terrific time and thought that the day was interesting and awesome. We learned a lot and became a lot more knowledgeable about shorebirds. It was very worthwhile and we will encourage our families to come out and watch the shorebird migration too.  
Please write back.

Sincerely,  
Mrs. Galvis' 5th and 6th grade class  
Heritage Christian School

**Report shorebird observations.  
(Figure 3)**

Report shorebird observations from a class field trip or from your school yard by going to <http://sssp.fws.gov> "Tracking" link and click on "Report Shorebird Sighting".

Example Posting:

**Find pen pals interested in shorebirds.**

Use the Website to find a "sister school" for a pen pal exchange. Students can share with pen pals what they have learned about shorebirds, habitats, conservation, and also learn about each other's communities and culture. Click on the "About SSSP" and go to "Who's Participating?"

**Join an Internet field trip.**

Distance learning events that will bring live learning and adventure right into your classroom are posted on the Web. Click on the "Resources" link to learn about upcoming events.

**Exhibit your student's shorebird projects. (Figure 4)**

Send your creative writings and artwork by following the directions posted on the Web site, <http://sssp.fws.gov>, at "Get Involved" and then click on "Student Gallery." Submit a copy of the SSSP release form with your work. The release form is also available on the Web site. For photo submissions, a separate form is available on the Web and in this guide's Field Trip Planner.

**Learn on the "For Kids" corner of the Web site.**

Take a shorebird quiz, print coloring pages, view student artwork or photographs of shorebirds in the field, or link to other conservation Web sites especially for kids.

# Shorebird Sister Schools Program

## *Student Gallery Release Form*

Name: \_\_\_\_\_ Grade: \_\_\_\_\_

School: \_\_\_\_\_

Item type: ☐ essay ☐ poetry ☐ artwork

I grant permission to the U.S. Fish and Wildlife Service Shorebird Sister Schools Program to post my work on the Shorebird Sister Schools Web site and use in publications.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_

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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_



# Use the chart below to help you plan how and where SSSP can fit into your program.

## Integrating the Shorebird Sister Schools Program (SSSP) into Your Community:

<i>Assessment:</i>	<i>Are you a teacher?</i>	<i>Are you a non-formal educator?</i>
Where does SSSP fit into your program?	In what subject areas will SSSP meet your goals: science, social studies, math, technology, geography, English?	Does SSSP fit into the conservation goals of your organization?
What do you need to implement the program?	<ul style="list-style-type: none"> <li>■ Shorebird habitat area for a field trip</li> <li>■ Shorebird and invertebrate knowledge</li> <li>■ Field Equipment Kits for your students that contain binoculars, identification guides, and magnifying glasses</li> <li>■ A spotting scope (a valuable extra)</li> <li>■ Computer(s) and E-mail account to send field observation data to the Shorebird Sister Schools E-mail Network</li> <li>■ Language translation assistance if you are doing an international pen pal exchange</li> </ul>	<ul style="list-style-type: none"> <li>■ Interested school or student groups</li> <li>■ Integration of SSSP into organization goals</li> <li>■ Shorebird and invertebrate expertise</li> <li>■ A computer laptop for entering field observation data with students during the field trip (or afterward at your desk)</li> </ul>
How to fill needs?	<p>Ask a local conservation organization to fund field trip and equipment expenses.</p> <p>Write a grant to fund field trip and equipment expenses. Many small grants are available.</p> <p>Contact a local biologist, bird club, National Wildlife Refuge, or conservation organization to provide expertise in the classroom and on the field trip.</p> <p>Team up with a computer science class or school librarian to integrate the technology activities.</p> <p>Team up with a foreign language teacher/student or a local association whose members speak the language.</p>	<p>Talk to local principals or teachers about the program. Ask which school, teacher, and/or school program SSSP might fit into. Get a contact name.</p> <p>Work with a local student conservation organization like a school biology club or Boy Scout or Girl Scout clubs.</p> <p>Gain your supervisor's support. Develop a plan to demonstrate how SSSP will help meet your institution's conservation goals.</p> <p>Work with local biologists to establish partnerships and to assist with the biological aspects of the program.</p>

<sup>1</sup>See *Classroom Activities* section on how the *Explore the World with Shorebirds!* curriculum meets National Education Standards

## Integrating the Shorebird Sister Schools Program (SSSP) into Your Community:

Assessment:	Are you a teacher?	Are you a non-formal educator?
How do I begin the program?	<p>There are many ways to integrate the <i>Explore the World with Shorebirds!</i> activities into your program. Activities, information, and field trips can be integrated into teaching units throughout the year. The example below is a very general overview focusing on two possible options:</p> <ol style="list-style-type: none"> <li>1. Is your unit on habitats or ecosystems? Begin with wetlands, then use shorebirds as an example of an indicator of wetland health for the students to study. Optional activities might include: <ul style="list-style-type: none"> <li>What are wetlands? <ul style="list-style-type: none"> <li>■ Wetland Metaphors</li> <li>■ Match the Habitat Cards</li> <li>■ Seven Types of Habitat</li> </ul> </li> <li>What are shorebirds? <ul style="list-style-type: none"> <li>■ Shorebird Profiles</li> <li>■ What Makes a Bird a Shorebird?</li> </ul> </li> <li>How does what you learn apply to the field? <ul style="list-style-type: none"> <li>■ Plan a field trip with a local environmental center that has wetlands and, if possible, shorebirds. Use: <ul style="list-style-type: none"> <li>■ Shorebird Field Study</li> <li>■ Mud Creature Study</li> <li>■ Sampling Local Shorebird Populations</li> </ul> </li> </ul> </li> </ul> </li> <li>2. Work with your environmental education contact at a local environmental center to plan the integration of the curriculum. Plan field trips to the center and guest speakers for the classroom to support your topics. Do pre-and post-activities from the curriculum to support the unit of study. Have your class post messages to the SSSP shorebird discussion group about what they are learning and what shorebirds they have seen. Send your postings to <a href="mailto:fws-shorebirds@lists.fws.gov">fws-shorebirds@lists.fws.gov</a>.</li> <li>3. Use the Educator's Guide and the Shorebird Sister School Web site (<a href="http://sssp.fws.gov">http://sssp.fws.gov</a>) for background information and connections to other resources.</li> </ol>	<p>Work closely with the local school or student club that you have partnered with to implement the program. Important points to keep in mind when planning are:</p> <ul style="list-style-type: none"> <li>■ Tie activities to national, state, or local education standards your area schools use.</li> <li>■ Work with the teacher to plan assessment activities to monitor the progress of the students.</li> <li>■ Help support teachers and students in their planning and posting of messages to the SSSP E-mail Network.</li> <li>■ Provide biological resource support for the teacher, giving presentations in the classroom and assistance on field trips.</li> </ul>

Questions: Contact the Shorebird Sister Schools Coordinator at [sssp@fws.gov](mailto:sssp@fws.gov) or call 304/876 7783.

# Register as a Shorebird Sister School Participant

## Who can register?

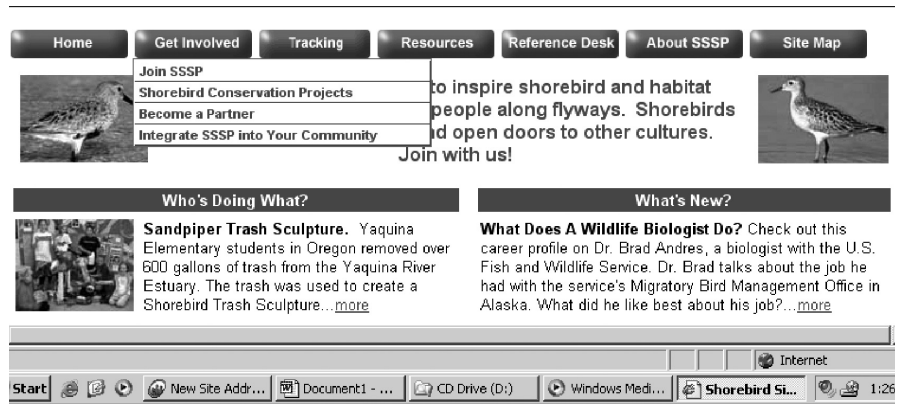
Anyone participating in SSSP can register including schools, nonformal education centers (nature centers, parks, refuges, etc), home schools, youth groups (scouts, 4-H clubs, etc), individual shorebird enthusiasts, partner agencies and organizations, and biologists.

## Why register?

- You will receive new materials as they are developed.
- You will learn where other participants are located.
- You will join a network of other participants along your flyway.
- If you choose to do a pen pal exchange, this will be an easy way to find a pen pal.
- You will help support the annual reporting and evaluation process needed to continue the program.

## How do you register?

Go to the Shorebird Sister Schools Website at <http://sssp.fws.gov> click on "Get Involved" and then "Join SSSP." Fill out the form provided and submit it electronically through the Web site. It's that simple!



# How to Begin a Shorebird Sister Schools Pen Pal Exchange

## 1. Set objectives and plan your activities.

Before you begin, ask yourself “What do I want my students to learn from the exchange?” Set some reasonable objectives and then align your activities to help meet each of your objectives. For example:

Students will be able to:

- Describe two cultural similarities and/or differences between pen pal communities.

Pen pals can exchange pictures of their communities and activities and describe their daily life activities — the sports they play, their families and favorite family activities, holidays in their communities; and local weather and geography.

- Name two shorebirds in English and the languages of their pen pals.

Pen pals can exchange pictures of shorebirds from the SSSP Web site with their common names at the bottom.

- Compare the appearance of these two shorebirds when in different plumage-breeding vs. non-breeding.

Pen pals can choose two shorebird species and describe how they look when they see them in their communities and including pictures if possible.

- Describe the similarities and differences between shorebird habitat here and those in the pen pals’ countries.

Pen pals can exchange drawings and descriptions of the invertebrates and wetlands in their communities.

## 2. Consider logistics and follow through.

If there are not enough pen pals for each student to receive one, you may want to pair students or do one pen pal letter for the entire class. If there are more students than you can respond to from the pen pal partner school, invite another teacher to participate.

Once you commit, please follow through; otherwise the children waiting for the pen pal exchange will be very disappointed.

## 3. Register As A Shorebird Sister School

Go to the SSSP Web site (<http://sssp.fws.gov>), click on “Get Involved,” and then “Join SSSP.” Fill out the form and check the box for “Shorebird PenPals.”

## 4. Request a pen pal class.

Go to the “About SSSP” link SSSP Website <http://sssp.fws.gov>. Look at the “Who’s Participating?” link to find another group interested in exchanging pen pals. Send the group’s contact an E-mail message including the following information:

- Where your school is located: town, state, and flyway

- How many students are in your class

If you would like to exchange pen pals with another country who may not speak the same language, send an E-mail message to the SSSP Coordinator ([sssp@fws.gov](mailto:sssp@fws.gov)) asking for assistance. The SSSP Coordinator will assist in making the international contact. However, you must consider how you will handle translating the pen pals from another country into English. For example, could the Spanish class or teacher at your school assist with the translations? Is there an organization in your community that could assist with translations?

Next, establish communication with the pen pal exchange teacher.

- If possible, share your project objectives with each other. Sharing expectations will help broaden your understanding of each other and improve communication and success.

- Make sure each teacher knows how long, how often, and what will be exchanged. Remember, school year calendars can be different too!



### **Tips on What to Send to Your Pen Pals**

Keep exchanges simple and balanced. Do not send elaborate packages that cannot be reciprocated. If you question whether or not to send an item, consider selecting something else.

### **Help Your Pen Pals Get to Know Each Other**

Use the *Cultural Profiles* in this section to learn more about the culture, customs, and shorebird habitat in the country of the pen pal(s) with whom your students correspond.

Help your students on their first letters. Give them some ideas and guidelines on what to write and share based on the objectives you have established for the project. The first letters could focus on introducing themselves, their community and their culture. Later letters could discuss wetlands, birds, weather, and other activities.

- Send photos of the children, the local community and habitats.
- Have each student write an autobiography.

### **Handmade Items Are the Best**

Crafts, drawings and sketches are great, especially for international exchanges, but remember that the students may not be able to translate the letters.

- Start a mural that your pen pal class could finish.

- Have students create a comic strip or board game depicting local birds and wetlands or explaining topics such as migration or conservation.

- Develop a chart depicting the average weather by month in your community and corresponding numbers of birds.

### **Avoid Expensive Items or Things That Require High Technology**

If you want to send a video or cassette tape, ask your pen pal teacher if he or she has the proper equipment before sending it.

- Patches, buttons, and pins are easy and simple to send.
- Maps, brochures, and pictures of the local community are other inexpensive but interesting options.



# Cultural Connections in a Conservation Context

What more clearly demonstrates the global scope of environmental issues than the decline of migratory bird populations? When birds migrate across political boundaries, they don't pass through customs or receive any notification that they have crossed a line on a human-devised map. Shorebirds that breed in North America migrate through or winter in no fewer than 41 countries!

When birds depend on multiple habitats, they may be at the mercy of the attitudes of the people who view them through varied perspectives. The farmer may see the birds through different eyes than the industrial worker, the politician, or the naturalist. This creates a range of personal views and behaviors that will positively and negatively impact migratory bird species.

Research has shown that populations of many long-distance migrants have declined, but most researchers have not yet shown where the greatest impact on these declining populations occurs. Is it in the United States, Canada, Mexico, or Central or South America? When the landscape is changing everywhere, it is difficult to point to one particular location that puts the birds at greatest risk. But it is clear that, if we are to conserve habitat and support the

survival of these species, we must work together across our different cultural and geographic borders. If a conservation project creates more habitat for birds in Latin America, will it make any difference if available habitat in the United States continues to decline?

Migratory bird conservation requires that we communicate with our neighbors in other cultures and countries to understand each other's perspective, what each of us values, and our varied attitudes toward birds and their habitat. Education can help us share perspectives and concerns about the issue. Research will help us understand the needs of the birds in each of their habitat areas, especially collaborative research that includes partners along the migration path. Conservation efforts that can bridge cultural and geographic gaps will be most likely to achieve the most positive results for birds. A good example is the ongoing research on the Red Knot which migrates from Tierra del Fuego, Argentina to the Atlantic coast of the United States, to the Canadian Arctic. Researchers from Argentina, the United States, and Canada are working together to understand the complex reasons for this bird's decline.

Education can facilitate awareness and knowledge about migratory birds and the diverse values and attitudes that people have toward them. Because the Shorebird Sister Schools Program is working to connect people along flyways for the conservation of shorebirds, it can help facilitate connections between cultures too.

SSSP provides several ways to learn about other cultures.

- Tips for teaching about culture background and student activities
- Cultural profiles of some SSSP partner countries (more will be posted on the Web site)
- Pen pal exchanges
- E-mail Network
- SSSP registration on the Web site
- Cultural extension for many of the activities in the educator's guide—look for this symbol!



To learn more about the E-mail Network and SSSP registration, go to the [beginning of this section](#).





# List of Activities with Cultural Connections

The following activities have optional cultural extensions. Look for the symbol of the earth to quickly locate the cultural extension. Have fun learning about other cultures!

## Introduction to Shorebirds

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# Increasing Cultural Awareness Activity

**Grade Level:** upper elementary/  
middle school and high school

**Duration:** one class period, two  
optional if you add research time

**Skills:** vocabulary, discussion,  
team building, communication,  
comparison,

**Subjects:** language arts, fine arts,  
social studies; technology optional  
(if students do research)

**Vocabulary:** culture

## Overview:

Students will study the cultural profiles in this section, present what they learn to the class, then work in pairs to compare similarities and differences between the cultures they studied.

## Concepts:

- By following shorebirds movements, we can discover new places and people throughout the world.
- Following shorebird migration broadens our understanding of how we are connected to other people and places and how our actions can influence global conservation efforts.
- Culturally knowledgeable citizens demonstrate an awareness and appreciation of the relationships, processes, and interactions among all elements in the world.

## Objectives:

After this activity, students will be able to:

- Define culture.
- Name two reasons it is important to understand and respect other cultures.
- List two similarities and differences between two cultures

## Materials:

- Copies of the cultural profiles for each group

Note: New cultural profiles not in the educator's guide can be found on the Shorebird Sister Schools Program Web site, <http://sssp.fws.gov>.

- Atlas or world map

## Introduction

### How can we practice cultural sensitivity? Guidelines for teaching about cultures:

Regardless of the topic of classroom discussion, we benefit from understanding the genuine complexity of cultural viewpoints and customs among us. We have a great diversity of cultures in many of our classrooms in the United States. This is a starting point for teaching about cultural sensitivity and awareness. Cultural awareness will help students be successful as adults in interactions that will occur daily in their personal and professional lives. The common exchange of ideas, products, information, materials, and people increases the importance of being globally and culturally aware, especially in a world of tumultuous events.

Culturally sensitive teachers realize that those individuals raised in different cultures may be different but are equally human and deserving of respect. The most successful teachers:

- Practice viewing cultures and situations non-judgmentally.
- Work to uncover and neutralize their own stereotypes, biases, assumptions and prejudices.
- Teach students to view differences as wonderful features.

A common cross-cultural problem is that those with little cross-cultural experience often view those from other cultures (and their behaviors) as strange, weird or even inferior. Teachers who successfully teach about other cultures help students to appreciate the differences as unique, interesting and novel. The following activity will increase your students' cultural awareness and their understanding of the culture of other people participating in the SSSP.

## Procedure

1. Present the following mini-activities below to introduce students to the importance of being aware of other cultures.

### What is the importance of teaching about cultures?

The culture in which we grow up shapes the way we see things. As a quick example, what do you read below?

*A bird  
in the  
the hand*

If you read "a bird in the hand," you missed the second "the." Why? You saw with your mind rather than with your eyes.

Similarly, spell aloud these words:

*joke  
smoke  
folk  
the word for the white of an egg*

If you spelled "yolk," you spelled the word for an egg's yellow, partially because the exercise led you into a pattern.

Similarly, the culture in which we grow up leads us into patterns and shapes our views toward natural resource conservation or environmental issues.

- If you grow up in a culture in which your survival depends on the birds, fish and mammals you eat, you develop a strong connection to those birds.
- If you grow up in settings and amid cultural groups in which more birds seem to live in cages than in the wild, you may find that birds appeal to you aesthetically but rank lower in priority than, say, motorcycles or lunch.

Because we feel our cultural conditioning in ways we often do not notice, we need to teach about culture so we can understand how others relate to conservation issues.

### What is culture?

Culture is:

- A set of perceptions and systems with which we grow up and which we believe are true, real, and the way things should be.
- The rules for behavior that shape, color and filter how we see the world and how we interact.
- The assumptions and assigned meanings that we give to behaviors.

Your culture and cultural conditioning shapes the way in which you relate to everything in your world.

### Why do we need to learn about other cultural groups?

In teams of three, brainstorm words or phrases that come to mind when you see or think about each of these words:

- Rich people
- Skinny people
- Eskimos
- Japanese people
- Egyptians
- Southerners
- Gang members
- Men
- Women

If you are like most people, certain words came to mind when you when you saw or thought about most of these nine categories; and perhaps you had no idea what to write about one or two categories. What this activity shows is that we have stereotypes about some cultural groups and occasionally no information about others. When interacting with people, it is good to keep an open mind (not let our personal biases influence what we think about others) and make the effort to understand other perspectives.

2. Divide students in teams of two and assign each team a cultural profile. Ask each team to:
  - Find where the country is located in the atlas or world map.
  - Read the cultural profile and identify five interesting aspects of that culture. Two of the team's choices must relate to shorebirds and/or the environment.
  - Present what the team has learned to the class.

Note: Interesting aspects of each culture do not have to be different from that of students. They can present aspects that are similar, such as the culture they are studying also enjoys computer games.

Optional Team Assignment: Give each team time to research its assigned country using encyclopedias and/or the Internet. In addition to the five interesting aspects in the cultural profile, ask students to include in their presentations additional information not included in the cultural profile, such as the country's national bird, popular music, sports, heroes, food, dress, etc.

3. After the presentations, assign or allow students to find a partner who studies a different culture.

Ask the students to interview their partners and identify two differences and two similarities between the cultures they study.

4. Facilitate a group discussion among the class about what they learned from each other.

### Additional Activities:

1. Pen Pal Exchanges
 

The class can request to do pen pal exchanges with another class in the United States or in another country. Follow the directions from the "How to Begin a Shorebird Sister Schools Pen Pal Exchange."
2. Research Other Shorebird Sister Schools
 

Go to Who's Participating on the [SSSP Web site](#). Click on the dots representing other Sister schools. Ask students to choose three and learn the following:

  - School or group name.
  - Location (Ask advanced students to figure out in which flyway the school is located)
  - What type of shorebirds lives there and in what type of habitat?
  - One item unique to that school or group's community.

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# Culture and Shorebirds of Alaska

## Daily Life in Alaska

Alaska is one of the most culturally diverse areas of North America. In addition to cultures found in the lower 48 United States, many are unique to Alaska, including Indian, Unangan (Aleut), and Eskimo groups. The vast array and diversity of cultures in Alaska make for highly contrasting tales of daily life. From urban to subsistence lifestyles, Alaskans are confronted with challenges posed not only by the natural world around them, but also by changes to policies and government, both locally and nationally.

Much of rural Alaska maintains a subsistence lifestyle rooted in traditional practices from generations past. Whales, seals, birds, fish and other animals are still harvested by many rural communities. They not only serve as a food source but also play a role in many aspects of culture. Animal skins and parts may be used for clothing, cooking implements, weapons, and often in traditional ceremonies.

“Urban” Alaskans experience the typical day-to-day life of many Americans. Television, computers, Game Boys, and gadgets of all types have found a place in Alaska. Residents of urban Alaska mirror other citizens of cities with long work days, two-income families, and daycare for children. However, many Alaskans in urban areas take advantage of nearby wilderness areas, national forests, and state parks. There are many opportunities to experience nature and outdoor life within a short drive, and this increased accessibility to untouched wilderness makes for a convenient escape from typical city life. Spring and summertime are busy with the migration of fishermen to salmon-rich streams, while wintertime welcomes the swish of skis and buzz

of snowmobiles zooming along the packed snow.

## Shorebirds in Alaskan Cultures

Birds play a tremendous role in the lives of Alaskans. Both traditionally and in modern times, birds are recognized as important spiritual, social, and economic natural resources. Many cultures in Alaska have a spiritual connection to birds through tales and legends passed on from generation to generation, while other groups look to birds for recreation and a means to reconnect with nature.

One example of the traditional importance of birds is found in the Tlingit and Haida cultures. The Tlingit and Haida are two of the major groups of native people living in southeast Alaska. Besides the seasonal use of bird eggs for food and other such subsistence uses, one bird in particular is known for its importance in Tlingit and Haida cultures. The raven, the largest North American passerine, or “songbird,” is a supernatural figure in their belief systems, known for its intelligence, deception, and tricks. Tlingit and Haida Indians organize their populations into two important social divisions, Raven and Eagle or Wolf. These two groups, in turn, contain many clans that are represented by various animal or mythical crests. This social organization is respectfully retained today, and one can still admire the beautiful artwork that represents these clans on the large wooden clan houses in several Southeast Alaskan towns. While most birds have some link to traditional cultures in Alaska, shorebirds have more recently been recognized as important socioeconomic resources. These marathon migrants are celebrated by several Alaskan communities through festivals and events, bringing not only awareness of the need for shorebird and habitat

conservation, but also an economic boom to host communities. The Kachemak Bay Shorebird Festival of Homer and the Copper River Shorebird Festival of Cordova, Alaska, are two examples of communities celebrating shorebirds. The spectrum of people who attend these festivals to marvel at the numbers of shorebirds includes; birdwatchers, naturalists, students, educators, families, and tourists. Shorebird festivals in Alaska continue to grow, becoming increasingly popular and serving as major attractions to residents and tourists looking to reconnect with nature through birds.

## Shorebirds and Their Habitat in Alaska

Because of its size and northerly position, Alaska provides breeding habitat for more shorebird species than any other state in the U.S. Shorebirds take advantage of rocky shores along the Aleutian Islands, mudflats within Kachemak Bay and the Copper River Delta, marshes of the Yukon-Kuskokwim National Wildlife Refuge, or tundra along the northern coasts.

The diversity of habitat within Alaska is reflected in the diversity of bird life and numbers that visit the state each year. Seventy-one species of shorebirds have occurred in Alaska; 37 of them, including several unique Beringian species and Old World subspecies, regularly breed in the region. Most of these species migrate south of the U.S.- Mexico border, and one-third migrate to South America or the islands in the Central Pacific. Concentrations of shorebirds at several coastal staging and migratory stopover sites exceed one million birds; on the Copper River Delta alone, five to eight million shorebirds stop to forage and rest each spring.



### **Shorebird Species of High Concern\* in Alaska**

Pacific Golden-plover  
Wandering Tattler  
Whimbrel  
Black Oystercatcher  
Bristle-thighed Curlew  
Hudsonian Godwit  
Marbled Godwit  
Black Turnstone  
Surfbird  
Rock Sandpiper Dunlin  
Buff-breasted Sandpiper  
Short-billed Dowitcher  
Bar-tailed Godwit

*\* High concern means that biologists have indications these species may be declining, so they are high priority for research.*

### **Threats to Shorebirds in Alaska**

The previous century witnessed unprecedented changes to natural landscapes throughout much of the United States. Alaska, however, remains largely unchanged with less than 1 percent of the state having been permanently altered by human settlement and activity. This is not to imply that ecosystems in Alaska are not being affected by human activities. On the contrary, the nation's demand for natural resources drives Alaska's economy, particularly development and production of oil and gas, timber and commercial fisheries. The threats posed to shorebirds by these and other activities are both real and potential. Shorebird-specific conservation issues identified in the Alaska Shorebird Conservation Plan include oil and gas development and infrastructure, marine-based recreation, mining development, subsistence harvest, and increased populations of native and introduced predators.

### **Shorebird Conservation in Alaska Today**

To ensure the conservation of shorebirds in Alaska, a group of scientists, educators, and naturalists from various governmental agencies and non-governmental organizations formed the Alaska Shorebird Group (ASG) in 1997. The ASG was created to raise the visibility of shorebirds in Alaska, achieve consensus on needed conservation actions, and exchange information on issues, research findings, and education. The ASG provides information and conservation recommendations for Alaska to the National Shorebird Council for consideration in the U.S. Shorebird Conservation Plan.

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# Culture and Shorebirds of One Canadian Arctic Province—Nunavut

## Daily Life in Nunavut

Nunavut became the largest native land claim settlement in Canadian history on April 1, 1999. Because it is newly established you may not see it designated on maps. Nunavut covers a vast expanse of land—over 2-million square kilometers—one-fifth of Canada. Yet, only 27,000 people scattered over 13 communities live there! Half of Nunavut lies on the northern part of Canada's mainland, and the rest is distributed throughout a large archipelago of hundreds of islands, including Canada's largest, Baffin Island. Eighty percent of the people in Nunavut are Inuit (Native Americans).

The Inuit and their predecessors have occupied this land for the past 5,000 years. (One individual is an Inuk, two are Inuuk, and three or more are Inuit). The language of the Inuit is Inuktitut, and there are almost as many dialects as there are communities in Nunavut. Still, the Inuit dialects are similar enough so that people from Siberia to Greenland are able to communicate.

The main way to get to Nunavut is by air. Supplies such as fuel oil for heating, construction materials, and bulk food shipments are transported to Nunavut on large ships during the summer season when the sea routes are open. The only "highways" in Nunavut are the snowmobile routes that hunters follow during the winter, across frozen land and ocean to favoured hunting spots.

Changes in technology over the past few decades have brought Nunavut into the modern world. Several weekly flights link most communities to larger centers in southern Canada, such as Ottawa, Winnipeg and Edmonton. Satellite television and the Internet connect Nunavut communities to the rest of the world.

Most Inuit have experienced tremendous changes in their lifetimes. Most people over the age of forty were born in camps on the mainland. Back then, families lived in seasonal camps, camping close to where sea mammals and caribou were plentiful enough to provide them with food, clothing and shelter. Today, Inuit live in modern houses, purchase food and supplies at the local Northern Store and visit the nurses at the local Health Center when they are ill. Young people attend modern, well-equipped schools, wear brand-name clothing, play computer games and drink vast amounts of soda pop.

Despite the rapid leap into the modern world, Inuit are still firmly rooted in their culture and land. The forces of the natural environment are ever present, and the connections to wildlife are still strong. Store-bought food is prohibitively expensive for many, at least double or more than the cost of food in southern Canada. Hunting is necessary to keep families healthy. Hunting and camping are also a big part of family life. Many families, from infants to elders, head out "on the land" for weeks at a time, beginning in the glorious month of June when the sun does not set north of the Arctic Circle.

## Birds in Inuit Culture

In a culture where wildlife has been the key to survival for thousands of years, there is a strong connection to birds in general. Birds appear frequently in Inuit art, in distinctive and colorful prints and in sculpture. People believe that birds must be respected. Making fun of birds invites the risk that the birds will get back at those who mock them.

When a child caught his first bird, he would give it to the midwife who assisted at his birth. Children, especially boys, learn to hunt at a very young age in Nunavut. Killing

small animals (such as birds and ground squirrels) with rocks is a way young boys learn to practice their hunting skills before they move on to larger animals. Many adults take pleasure (and pride) in watching their young people develop these skills, so the practice is not discouraged.

To have thrived in the arctic environment for as long as they have, Inuit had to be innovative and self-sufficient. The inflated skins of duck feet became children's toys. Containers were built of dried-out, inflated bird feet, sewn together, claws and all. The skins of Gulls or Ptarmigan were made into hand towels used after butchering and eating. Bird wings became brooms, used to sweep out debris from sod houses, and they are still in use today in tents, homes and boats. In the Belcher Islands in southernmost Nunavut, Inuit used bird skins to make parkas when there were not enough caribou skins available.

Migrating birds signal the approach of spring, which is eagerly anticipated by everyone. People will often call their local radio station with great excitement to announce the first sighting of a snow bunting in their community.

## Shorebirds and Their Habitat

Most of Canada's nearly 40 species of shorebirds breed almost exclusively in or near the Arctic. Arviat and Coral Harbor are two locations in Nunavut where shorebirds may be seen. Many of these species, particularly the long distance migrants, are in decline. The Buff-breasted Sandpiper is perhaps the only "species of concern" at this time.

Shorebirds are important in the tundra food web. They feed on small invertebrates and in turn are prey for foxes and weasels, owls and hawks.



### **Shorebird Conservation in Nunavut**

Today, the Nunavut government struggles to fill job vacancies for several reasons. Many Inuit have received very little education. There is also a lack of housing in the territory. This is causing all government programs, including biological programs, to suffer. While time, patience and perseverance are needed, there are still many reasons to be optimistic.

Efforts are underway to incorporate the worldview and experience of Inuit into the school programs and educator's guide imported from southern Canada. There is currently no specific "bird" education in Nunavut schools, but this will change in the coming years, especially in communities with large concentrations of migrating or nesting birds. The talented and dedicated personnel at the Nunavut Department of Education, located in Arviat, are progressive and open to new ideas.

The Canadian Wildlife Service (CWS) is actively working to conserve wildlife, including shorebirds in the Nunavut region. More information is needed about artic-breeding shorebirds to determine how best to conserve them. Preliminary data suggest that 80 percent of Arctic-nesting shorebirds are declining. CWS has developed a Northern Shorebird Conservation Strategy to help conserve these birds. As part of the strategy, CWS is doing shorebird research to learn more about the shorebirds and their habitat. Researching these birds in the vast area of Nunavut is a challenge. Biologists only have the short summer breeding season to study the birds each year. Also, because of the very large size of Nunavut and the few people who can do this work, CWS biologists are only able to study small portions of the region each year.

### **Shorebirds of Nunavut**

Black-bellied Plover  
Semi-palmated Plover  
Common-ringed Golden-Plover  
Lesser Golden-Plover  
Ruddy Turnstone  
Dunlin  
Pectoral Sandpiper  
Least Sandpiper  
Baird's Sandpiper  
Purple Sandpiper  
Buff-breasted Sandpiper  
Semi-palmated Sandpiper  
Stilt Sandpiper  
White-rumped Sandpiper  
Red Phalarope  
Northern Red-necked Phalarope

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### **More Info on Nunavut:**

<http://www.gov.nu.ca/Nunavut/>

### **View Map:**

<http://www.gov.nu.ca/Nunavut/English/about/>

# Culture and Shorebirds of Hawai`i

## I. Daily Life in Hawai`i

The residents of the islands of Hawai`i are literally worlds apart from the rest of the nation, isolated in the huge Pacific Ocean. With a cultural diversity to rival New York City, the islands are truly a thriving melting pot. So different are the lifestyles, you can see the hustle and bustle of the Asian and Mainland cultures and still be laidback with true islander style. Island life reflects many different races living together and mixing their foods, cultures and views of the natural world. The “plate lunch,” a popular local dish, is a good example of the blending of cultural cuisines with rice, macaroni salad, and a meat dish such as teriyaki chicken. Another example of this cultural mix is the local “Pidgin” English which combines Hawaiian, Chinese, Japanese, Filipino, Tahitian and other Pacific Island languages with English.

In a climate so moderate, it is easy to see why most people here tend to be healthy and active. Sports like soccer, baseball, football, volleyball and surfing are enjoyed year-round. The toughest part is going to school on a beautiful day in paradise! Schools add Hawai`i flavor to the classroom with cultural activities and marine science field trips. When one goes about their day in a living laboratory it is easy to see all aspects of this amazing ecosystem and watch the changes that occur with each season. Only here can you be drenched by rain in the rainforest mountain tops or baked by the hot and arid sun on the lava fields all in the same field trip.

Most kids have seen the movie **Lilo & Stitch** and while there is disagreement with the portrayal of locals in the movie, the essence of `OHANA, family in Hawaiian, really stands clear. The family unit is a very strong bond in Hawai`i. With the high cost of land and basic necessities, extended families must pool their resources to afford to live in their island home. Families stay close by and help each other out. Calabash families, which include good friends and extended family, are the norm in Hawai`i. Everyone is “Uncle” and “Auntie” and you always kiss your family on both cheeks when you see them! Here, ALOHA is more than a word, it is a way of Life.

## II. Shorebirds in Hawaiian Culture

Shorebirds have been coming to Hawai`i for thousands of years, long before humans had discovered the beauty and richness of these islands. In fact, some people think that the Kōlea (the Pacific Golden-Plover) led the first people to Hawai`i. Shorebirds have rich traditions in Hawaiian culture, songs, chants, and legends. Native Hawaiians were familiar with these yearly visitors, and found them both mysterious and beautiful. Come share the songs, sayings and legends of these beloved shorebirds of Hawai`i!

*“Kōlea Kau āhau, a uliuli ka umauma ho`i i Kahiki”* means the “plover that perches on the mound, waits till his chest darkens, then departs to foreign places.” Kōlea are one of the most common shorebird on the islands, “vacationing” here during the fall, winter, and spring, then departing for the short Arctic summer to nest.

Kōlea, ‘Ūlili (Wandering Tattler) and ‘Akekeke (Ruddy Turnstone) are considered messengers of the gods according to Hawaiian legends.

Kāhuli aku was an old chant about Kōlea and the singing tree snails of legend (the Kāhuli or shell). That chant is now a classic children’s song, much like “Ring Around the Rosy”. The snails chirp in the evening and ask the birds (Kōlea) to bring them a drink of water. Here is their song:

**Kāhuli aku**

<b>Kāhuli aku</b>	Turn little shell
<b>Kāhuli mai</b>	Turn this way little shell
<b>Kāhuli lei `ula</b>	The tree shell is a red ornament in
<b>Lei `ākōlea</b>	The lei of the `ākōlea fern
<b>Kōlea, Kōlea</b>	Little bird, little bird
<b>Kī`i ka wai</b>	Go down to the stream
<b>Wai `ākōlea</b>	Sip the sweet nectar
<b>Wai `ākōlea</b>	From the `ākōlea fern

### III. Hawaiian Shorebirds and their Habitat

The migratory shorebirds that visit Hawai`i nest in the Arctic regions of Alaska, Canada, and Siberia. In the fall they migrate to warmer areas. Birds may stop and winter in the Hawaiian Islands or they may continue flying south. Some shorebirds travel as far as the South Pacific, South America, New Zealand and Australia.

We know the shorebirds that are commonly found in Hawai`i by slightly different names. Try to pronounce them, if you dare!

Hawaiian Name	Phonetic Spelling	Meaning	Common Name
Kōlea	ko-lay-ah	“one who takes and leaves”	Pacific Golden-Plover
`Ūlili	oo-lee-lee	sound of it’s call	Wandering Tattler
`Akekeke	ah-k-k-k	sound of it’s call	Ruddy Turnstone
Huna-kai	hoo-na-kie	“sea foam”	Sanderling
Kioea	key-oh-ay-a	Also the name of a Hawaiian forest bird with a very long decurved bill; they are now extinct	Bristle-thighed Curlew
Ae`o	ay-oh	“one standing tall”	Hawaiian Stilt

While in the Hawaiian Islands, shorebirds are found from the Big Island of Hawai`i to Kure Atoll Wildlife Sanctuary. Most of Hawai`i’s wetland habitats have been drained for housing, agriculture and other land uses. Did you know that Waikiki, on the island of O`ahu, used to be a huge coastal marsh? National Wildlife Refuges (NWR) such as Kealia Pond NWR and James Campbell NWR provide a safe haven for multitudes of shorebirds to enjoy. For a map and description of the little known, remote islands of Hawai`i go to <http://pacificislands.fws.gov/wnwr/nwrindex.html#hawaii>.

Shorebirds like the Kōlea and `Ūlili are common visitors each year, seen in large numbers around the islands. However species like the Kioea (the Bristle-thighed Curlew) are anxiously anticipated in small numbers each year. They usually spend time in the northwestern Hawaiian islands, all of which are protected as NWRs or State Wildlife Sanctuary. Once young Kioea find an island home, they will live there for three years, without migrating! Unusual for shorebirds, the Kioea molt most of their flight feathers simultaneously. Some birds are even flightless for up to two weeks as they await new flight feathers.

The Hawaiian Stilt, Ae`o, is one of the rare and endangered waterbirds found elegantly wading in Hawaiian ponds, mudflats and marshes. It is considered endangered because of low population numbers. The Ae`o is closely related to the Black-necked Stilt on the mainland but is found only in the Hawaiian Islands. They are permanent residents throughout the main Hawaiian Islands, except Lāna`i and Kaho`olawe. In 1985, all of the main islands were searched for Ae`o, resulting in a total population of 1,200. Now the numbers have increased slightly to approximately 2,000. Historically, this bird has suffered from hunting, predation by non-native animals like mongoose and rats, and habitat loss.

#### **IV. Shorebird Education in Hawai`i**

In addition to managing the Shorebird Sister Schools list serve, curriculum and lending box, the USFWS has created an educational packet with information focusing on the shorebirds found in Hawai`i including the more common Pacific Golden-Plover, Bristle-thighed Curlew, Sanderling, Ruddy Turnstone, and Wandering Tattler. It gives educators and students an overall idea of the types of birds that spend all or some of their lives in the islands. We have chosen to highlight the Pacific Golden Plover because they are so easy to observe, often occurring in our neighborhood school grounds!

Kōlea Watch, a very active research project, focuses on the amazing migration of Kōlea to Alaska and gives our young students an opportunity to engage in “real” research. This project was founded by the University of Hawai`i, Mānoa to connect current scientific researchers and kids throughout Hawai`i. Since 1978, scientists have been banding Kōlea in Hawai`i and Alaska. During that time, they discovered that Kōlea leave O`ahu every year around April 25, give or take a couple of days. Now we are trying to determine if the birds leave on the same day from other islands? To find out more about this project, check out the web site at [www.hawaii.edu/bird/](http://www.hawaii.edu/bird/) or stay tuned to the SSSP list serve, we post regular updates on the Kōlea project there.

# Culture and Shorebirds of Paraguay

## Daily Life in Paraguay

Paraguay has two official languages, Spanish and Guaraní. The inhabitants of the eastern region prefer to speak Guaraní (the native language) and those living in the western region, or the Chaco, speak various other native languages that differ from Guaraní. Even though there are many other native languages spoken here, it is possible to communicate throughout the country in Spanish.

Because of the diversity of social conditions in Paraguay, it is difficult to describe a typical day. Yet it is fair to say that children living in the interior of the country are more connected with nature than those living in the cities. In order to get to school, many children have to cross streams, countryside, and small forests, giving them opportunities to become familiar with many wildlife species. After about five to seven hours in school, students play or do small chores outside where

they again have a chance to learn a great deal about their local wildlife.

In contrast, children who live in the capital spend more time watching television, going on the Internet, and playing computer games after school. The birds living around the city often pass by unnoticed by people who live there.

## Shorebirds in the Paraguayan Culture

The majority of native birds can be identified by a specific name in the native language. Shorebirds found only during one part of the year in our country have the Guaraní name mbatui and almost always appear gray in color due to their nonbreeding plumage.

The Paraguayan culture has a lot of myths and legends that surround birds in general. The presence of some birds is said to predict rain, pregnancy, hidden love, or death. Many birds are said to be mythic

characters that were transformed into birds. For example, one bird has the Guaraní name *el kuarahy memby*, meaning “child of the sun.”

Although there are not any known rituals, festivals, or customs specifically associated with shorebirds, migratory birds in general get special recognition. Each year in October, the Guyra Paraguay Association organizes an international festival of birds.

## Shorebirds and Their Habitats in Paraguay

Migratory shorebirds are found in the greatest numbers at the Bay of Assention and the lagoons of Chaco Central.

The Bay of Assention is known globally as a conservation site for birds. Here you can find 26 species of migratory birds that breed in the Northern Hemisphere. The largest congregation of the rare Buff-breasted Sandpiper is found here.

## Shorebirds of Paraguay

<i>Scientific Name</i>	<i>Spanish Name</i>	<i>English Name</i>
<b>Common Shorebirds</b>		
<i>Pluvialis dominica</i>	Mbatuirusu	American Golden-Plover
<i>Trioga flavipes</i>	Pitotio chico	Lesser Yellowlegs
<i>Trioga solitaria</i>	Mbatuitui	Solitary Sandpiper
<i>Actitis macrura</i>	Playero manchado	Upland Sandpiper
<i>Bartramia longicauda</i>	Mbatui flu	White-rumped Sandpiper
<i>Calidris fuscicollis</i>	Playerito rabadilla blanca	Pectoral Sandpiper
<i>Calidris himantopus</i>	Playerito pectoral	Stilt Sandpiper
<i>Phalaropus tricolor</i>	Falaropa comu'n	Wilson's Phalarope
<i>Calidris aplina</i>	(need Spanish name here)	Dunlin

## Endangered Shorebirds

<i>Numenius borealis</i>	Playero esquimal	Eskimo Curlew
<i>Tryngites subruficollis</i>	Playerito canela	Buff-breasted Sandpiper





At the Lagoons of Chaco Central, 64 migratory species have been sighted. The latest census counted 47,500 birds and 21 species, including a group of 25,000 Wilson's Phalaropes and 2000 flamingos. Lagoon of Chaco Central is also home to the largest number of Dunlin in the interior of South America. As many as 4000 White-rumped Sandpipers, 1 percent of the entire global population, have been counted here.

### **Shorebird Conservation in Paraguay**

Unfortunately, shorebirds, and wildlife in general, are not nationally recognized as important. The principle threats facing shorebirds in Paraguay today are the same threats facing shorebirds all over the world--loss of biodiversity and loss of habitat. The expansion of agriculture, the clearing of forests for production of coal, expansion of transportation systems, air pollution, and channelization of lakes all present severe and immediate threats for migratory birds of Paraguay. In general, there is little social support for the conservation of biological diversity and even less for conservation of migrant species. At this time the government supports socio-economic development at the expense of nature.

However, there are organizations like Guyra Paraguay that are working for the protection of migratory birds in Paraguay. Since 1999 a database tracks numbers and species that use sites designated as conservation areas for shorebirds. Today, Guyra Paraguay is working on management plans for these conservation sites and educational activities that build awareness and support for conservation.

### **Suggestions for Pen-Pal Programs**

A student exchange would be an excellent way to motivate individuals to understand and conserve shorebirds and share knowledge. Try initiating activities that promote interest in the observation of migratory birds or that create bird observation programs for children during school and afterwards. Contact Guyra Paraguay at the address below to facilitate a pen-pal program.

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# Culture and Shorebirds of Argentina

## Daily Life in Argentina

Most people living in the capital city of Argentina have little contact with nature. City kids spend most of their time watching TV. Their favorite TV programs are cartoons, science fiction movies, and series.

However, the situation is different throughout the rest of the country. In the small cities, children spend most of the day in contact with nature. This helps them to become more involved with and caring toward the environment.

Today, Argentina is going through hard economic times. Few people are able to invest their time and their money to promote “ecotourism.”

## Shorebirds in Argentinean Culture

Bird-watching is not developed in Argentina, although there are some small bird-watching groups like the *Foundation for Wildlife* and the *Shorebird Sister Schools Program*. These organizations promote special celebrations such as

International Migratory Bird Day (first Saturday of October), which often coincides with the arrival of migrating birds to each region, and Beach Cleaning Days.

These celebrations have taken place in Rio Grande (Tierra del Fuego) and San Antonio Oeste (Rio Negro) for four years. They include a beach-cleaning campaign, bird-watching trips, and activities to teach about birds. It is common for the entire community to participate in the special activities. Parents, kids, and teachers join wildlife biologists and conservation officers on the beaches to welcome the birds back from their long migratory trips.

## Argentina’s Most Important Shorebird Sites

*Litoral Marítimo Bonaerense, Bahía de Samborombón*

More than 100,000 shorebirds live here each winter. It is a resting and feeding place for

large concentrations of Hudsonian Godwits.

### ■ *Reserva Costa Atlántica de Tierra del Fuego*

More than 500,000 shorebirds live here each winter. This is an important site for large concentrations of Nearctic non-reproductive shorebirds, especially Red Knot, White-rumped Sandpiper, Sanderling and Hudsonian Godwit.

### ■ *Bahía de San Antonio Oeste*

More than 100,000 shorebirds feed and rest here for the winter. This area is a rich fish-spawning ground, abundant in clams and mussels. Here you will commonly find Red Knot, White-rumped Sandpiper, Hudsonian Godwit, American Golden-Plover, Greater Yellowlegs and Lesser Yellowlegs.

## Shorebird Conservation in Argentina

Many institutions work toward

## Shorebirds Common to Argentina

<i>English Name</i>	<i>Scientific Name</i>	<i>Spanish Name</i>
Red Knot	<i>Calidris canutus</i>	Playero rojizo
Hudsonian Godwit	<i>Limosa haemastica</i>	Becasa de mar
White-rumped Sandpiper	<i>Calidris fuscicollis</i>	Playero de rabadilla blanca
Sanderling	<i>Calidris alba</i>	Playerito blanco
Ruddy Turnstone	<i>Arenaria interpres</i>	Vuelvepiedaras
Baird’s Sandpiper	<i>Calisris bairdii</i>	Playero de rabadilla parda
Two-banded Plover	<i>Charadrius falklandicus</i>	Chorlo de doble collar
Collared Plover	<i>Charadrius collaris</i>	Chorlito de collar
Black Oystercatcher	<i>Haematopus ater</i>	Ostero negro
Rufous-chested Dotterel	<i>Zonibyx modestus</i>	Chorlito pecho canela
Magellanic Oystercatcher	<i>Haematopus leucopodus</i>	Ostero austral



the conservation of the natural environments migratory birds depend upon. Government and non-government organizations, museums, universities, and national and provincial parks bring people together to watch, record information, band, and monitor bird populations. These groups also train environmental educators so that they can teach environmental conservation to the people in their own community.

There are also worldwide-known institutions that affect the health of the natural resources of Argentina. Law also influences the conservation of the natural environment.

### **Threats to Migratory Shorebirds Along the Atlantic Coast**

Pollution is one of the main threats shorebirds face in Argentina today. Other threats to include tourism, degradation and loss of habitat, wild dogs, agriculture, and climate change.

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# Cultural Profile of Japan

## Daily Life in Japan

As in the United States, a lot of children's time is spent on TV, computers, and computer games like Pokemon, replacing time spent outside connecting with nature. In fact, Pokemon is a Japanese creation by the computer game company Nintendo. Children these days are not getting important outdoor experiences like swimming in the sea, watching birds, catching worms, and hiking in the mountains. Some educators in Japan are now working with the school system to connect kids to their local environment.

Regarding pen pal exchanges, the Japanese school year begins in April and ends in March.

## Shorebirds in Japanese Culture

The number of people in Japan who enjoy bird-watching seems to be decreasing gradually. It is safe to say that young people today do not have much of an interest in bird-watching. This is the case for other nature-related activities too.

Even among birders, shorebird-watching is not especially popular because the birds are relatively

difficult to identify. The birds are seen only in their winter plumage or when they are just beginning to molt into their breeding plumage. The few shorebird enthusiasts who do understand how amazing shorebird migration is greatly enjoy watching these birds.

In Japan, birds are categorized as chidori. Most Japanese people are familiar with the term "chidori" since we call a kind of pattern or design called a "chidori pattern." When a drunken man or woman walks in a zigzag pattern, they say that he or she is doing a "chidori walk." The word "chidori" can also be found in traditional Japanese songs, which may show that Japanese people in past generations were more familiar with chidori than the Japanese of today.

## Shorebirds and Their Habitats in Japan

Japan is in the East Asian-Australasian shorebird flyway. Shorebirds born in Siberia or Alaska fly to wetlands in Japan, Korea, and China to rest and feed in the course of their long distance migration. Some species of shorebirds such as Dunlins

and Grey Plovers stay in Japan in winter, but most shorebirds fly further to southern wetlands in the Southeast Asian countries, Australia and New Zealand. Shorebirds can be seen throughout Japan, both in the northernmost and southernmost parts of the country, where they can find good wetlands with a variety of creatures to feed upon such as crabs, long worms, clams and others.

One endangered species that is rarely seen in Japan is the Spoon-billed Sandpiper. During fall migration of 2002, a few Spoon-billed Sandpipers appeared in Japan, and enthusiastic birders went to the tidal flats to view them.

## Important Shorebird Sites in Japan

Six East Asian-Australasian Shorebird Network sites have been designated so far:

- Yatsu tidal flat in Chiba prefecture
- Tokyo Port Bird Sanctuary in Metropolitan Tokyo (artificially-created wetland)

## Some Shorebirds in Japan

Dunlin	Sanderling	Red-necked Stint
Grey Plover	Common Sandpiper	Mongolian Plover/Lesser Sand Plover
Grey-tailed Tattler	Little Ringed Plover	Terek Sandpiper
Ruddy Turnstone	Kentish Plover	Eurasian Curlew
Whimbrel	Great Knot	Far Eastern Curlew
Bar-tailed Godwit	Pacific Golden Plover	Common Greenshank
Latham's Snipe	Common Redshank	Common Snipe
Eurasian Oystercatcher	Greater Painted-Snipe	Black-tailed Godwit

- Osaka Nanko Bird Sanctuary in Osaka City (artificially-created wetland)
- Yoshinogawa River estuary in Tokushima prefecture
- Kashima shingomori tidal flat in Saga prefecture
- Manko estuary in Okinawa prefecture

This is a short list of the many other important shorebird sites not yet included in the Shorebird Network:

- Banzu tidal flat at the mouth of river Obitsu in Chiba prefecture
- Fujimae tidal flat in Nagoya city
- Hakata Bay in Fukuoka prefecture
- Sone tidal flat in Fukuoka prefecture
- Daijyugarami tidal flat in Saga prefecture
- River mouth of Kumagawa in Kumamoto prefecture

Yatsu, Manko, and Fujimae are designated as wetland sites of international importance.

### **Shorebird Conservation in Japan**

Japanese people, in general, do not know much about shorebirds. Shorebird education is one of the keys to the success of shorebird conservation. Shorebird education should be provided not only to children, but also to adults. Japan's shorebird education programs is adapted from the Shorebird Sister Schools Program in the United States and is proving to be a useful way to raise public awareness. We are working to encourage people from different groups (schools, government, bird-watchers) to become involved in wetlands conservation in their local communities.

Shorebird-monitoring (surveys) is carried out by biologists and bird-watchers. The information gathered from monitoring is very important for determining what wetlands to protect. So far, biologists have determined, based on the survey information, that 70 wetlands meet the criteria for the shorebird site network. Biologists also band birds to learn where the shorebirds go when they leave Japan.

### **Threats to Shorebirds and Their Habitats in This Flyway**

In the years after the Second World War, 40 percent of tidal flats in Japan had already been turned into lands for agriculture, housing, and factories. Today there are some large scale plans for wetland restoration.

“Restoration,” along with “conservation,” has become buzzwords in Japan recently. We understand that carrying out “restoration” is not an easy task. Many wetlands have been damaged, so the restoration of wetlands cannot be done haphazardly or quickly; it must be done with care and attention.

Habitat loss in China, Korea, and some Southeast Asian countries may become more critical in the future. These countries, in particular China, are developing at an extremely rapid pace.

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# SSSP Mexican Culture Profile

## Historical Background

Native indigenous cultures have inhabited Mexico for thousands of years. Their traditions, languages and culture in general, have been passed from generation to generation. Mexico has also been invaded by many other countries, such as Spain, that have introduced their language, religion, and culture into Mexico's indigenous culture. As a result, Mexico is a melting pot of many different cultures. In Mexico, each person's relationship with the environment varies according to the habitat, culture, social-economic status, and traditions of each specific place.

## Daily Life of a Child in Mexico

Children in rural areas are often more in touch with nature. Nature is part of their daily routine. Often they have chores to do before going to school, some help to milk the cows others take care of the chickens or feed the animals, others have to go fetch water from nearby rivers or wells. There are no Nintendo games or endless TV watching.

Children in cities suffer from the same technological disease as those in the rest of the world. Children have electronic games and watch lots of television. Many do not have chores to do. Many city children have never seen a cow and often think that milk comes from a package and money from ATMs.

Environmental education is now part of school curriculum for first through sixth grades. But, students do not yet go on many field trips to learn about their local habitats.

## Mexican Perceptions of Birds

The bird-watching movement is fairly new. Environmental education and knowledge of birds has been increasing over the past two decades. Birders and ornithologists (biologists who

study birds) have been training indigenous or local people in wildlife conservation and bird observation. Conservation activities have also become alternative income. Local people serve as guides and guardians of their own environment.

Common names for birds vary according to each language and area within Mexico, for this reason ornithologists always refer to birds using their scientific name. Some, like the Mexican people Amuzgos, call most birds of prey "eagles" and all the songbirds and parrots "real birds." Native indigenous people know birds according to their own observations. The first thing they are likely to tell you is whether a bird is edible or not, and whether it is a good or bad omen.

Basically a "good" bird is one that they can get some benefit from. In the Mexican state of Oaxaca the Amuzgos will eat doves and ducks, besides domesticated birds like chickens and turkeys. In Michoacán, the Nahuas will eat Chachalacas (*Ortalis poliocephala*) all year round, some doves and pigeons (*Columba flavivestris*, *Zenaidura macroura*, *Columbina passerina*), and a few cormorants and ducks (*Phalacrocorax* spp. and *Anas* spp.). Not all cultures like the same birds. In the coast of Michoacán, for instance, people scare away or kill Orange-fronted parakeets (*Aratinga canicularis*) because they eat the corn crops.

Some birds are regarded as "bad" or pests, such as crows and grackles that eat corn and woodpeckers and orioles that eat fruit. Cowbirds and blackbirds are other bird pests that come in such great numbers they look like "black clouds." On the coasts, some fishermen consider some sea birds as competitors to their fishing livelihood. For example, in

La Mancha, in the Mexican state of Veracruz, fishermen believe the large numbers of cranes and egrets are problems.

Some cultures have traditional beliefs attached to birds. For many people owls represent a bad omen. There is even a popular saying that "Cuando el tecolote canta, el indio muere" (when the owl sings, the Indian dies). Hummingbirds are used as charm amulets or for love remedies. Road-runner broth is said to heal pains and problems in the legs.

Birds have been part of the Mexican culture for thousands of years. In most Mexican cultures, there are folklore songs and dances which have birds as their main theme. Some describe the bird's courtship, some their flight or even their migration. Even the very foundation of Mexico is linked with a bird. The legend goes that the wandering natives were told by their God to settle down in the place where they will find a golden eagle eating a snake on top of a cactus in a middle of a great lake. This scene is represented over and over again in the Mexican flag, currency, and government seal.

## Mexican Shorebirds and Their Habitat

Mexico is a very biologically rich country. It has more species of plants and animals than the United States and Canada put together. Forty-seven shorebird species migrate through, breed, or spend the nonbreeding season in Mexico. It has been estimated that one third of the shorebirds wintering in the Pacific Coastal region of North America occur in two bays in the state of Sinaloa: Ensenada Pabellones and Bahía Santa María. The former hosts nearly ten percent of the world population of American Avocets (*Recurvirostra americana*) during the winter. Moreover, 50





percent of North American Pacific Coast Snowy Plovers, (*Charadrius alexandrinus*) nest in Baja California.

Shorebirds are found along both coasts, the Atlantic and Pacific, as well as within the inland states of Chihuahua, Durango and Jalisco. On the West Coast the major shorebird areas are located in Baja California, and in the states Sinaloa and Nayarit. On the East coast shorebirds are found along the coast during the winter migration and all year round in the Yucatan peninsula.

The following categories of shorebirds are present in Mexico:

- Resident (For example: Snowy Plover, *Charadrius alexandrinus*, Northern Jacana, *Jacana spinosa*)
- Short distance migrants (For example: Mountain Plover, *Charadrius montanus*, American Avocet, *Recurvirostra americana*),
- Intermediate-distance migrants (For example: Western Sandpiper, *Calidris mauri*, Long-billed and short-billed dowitchers, *Limnodromus* spp.)
- Long distance migrants (For example: Pectoral Sandpiper, *Calidris melanotos*, and Stilt Sandpiper, *Calidris himantopus*)

### **Shorebird Conservation in Mexico Today**

The most serious threat for shorebirds in Mexico is habitat destruction. There have been several attempts to protect shorebirds by conserving the habitat for all birds. One of the most important tools to protect wetland sites in Mexico is to declare them as wetlands of international importance by the Ramsar Convention ([www.ramsar.org](http://www.ramsar.org)). In addition, shorebird experts have been meeting in Mexico to work on the Mexican Shorebird Conservation Plan whose goal is “to provide for the life cycle needs of shorebirds that utilize habitats in Mexico.”

To the public, there is no real distinction of shorebirds as a separate group. People only have some understanding of shorebirds in the few places where they winter or stop over. This is due mainly to the work of biologists or conservation organizations working in these places. A focus on shorebird education in Mexico is fairly new. Though general bird education has been going on for a longer time in the states of Michoacan, Veracruz, Chiapas, Guanajuato and elsewhere.

The Shorebird Sister Schools Program (SSSP) began in 1997 along the East Coast of Mexico. The Institute of Ecology started SSSP in the La Mancha basin area in the State of Veracruz. Seven

elementary schools from different municipalities in the La Mancha basin were involved as well as another rural school in Xalapa. In 1998 the first shorebird festival was organized by the Institute of Ecology at the La Mancha research center CICOLMA. Since then the festival has taken place every spring on a weekend in March or April. For information about the dates and activities of the La Mancha Shorebird Festival contact Gudelia Salinas ([gudelia@ecologia.edu.mx](mailto:gudelia@ecologia.edu.mx)) or Dr. Patricia Moreno ([patricmo@ecologia.edu.mx](mailto:patricmo@ecologia.edu.mx)), coordinators of the La Mancha project.

Some biologists and environmental organizations in the states of Sinaloa and Nayarit, along Mexico's Pacific Coast, are beginning to organize shorebird festivals. Also, some teachers in the state of Nayarit are getting their schools involved with shorebird education and conservation by working with local groups and the Shorebird Sister Schools Program.

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