

# Native Bird Conservation

## Oregon State Standards

Science

5.1, 5.2, 5.2L.1

6.1, 6.2

7.1, 7.2, 7.2L.2

6.1, 6.2

7.1, 7.2, 7.2L.2

8.1, 8.2, 8.2E.4

H.1, H.2, H.2E.2,

H.2E.4

## Common Core Standards

ELA

SL.5.1d

SL.5.2

SL.6.1

SL.6.1b

SL.6.1c

SL.6.1d

SL.6.2

SL.7.1

SL.7.1b

SL.7.1c

SL.7.1d

SL.7.2

SL.8.1

SL.8.1c

SL.8.1d

SL.8.2

SL.9-10.1

SL.9-10.1c

SL.9-10.1d

SL.11-12.1

SL.11-12.1c

SL.11-12.1d

## Vocabulary

- Avian
- Migrant species
- Endemic species
- Invasive species

**Summary:** Students learn about connections between human society and the natural world through reading and discussing bird conservation issues.

**Time:** 60 minutes

**Grade Level:** 5th - 12th

### Goals

- To discuss the connections between human behaviors and bird conservation
- To provide familiarity with current bird conservation issues

### Learner Objectives

Students will... .

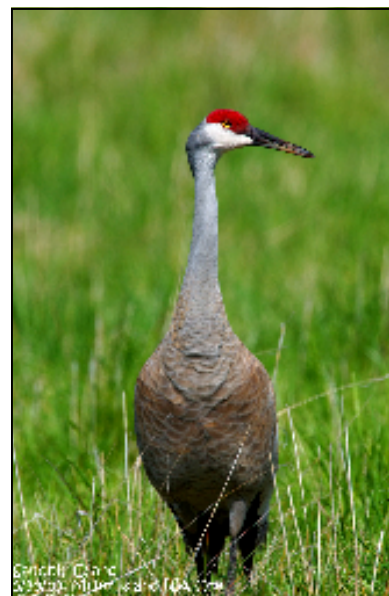
- Students will read to each other and discuss the major threats to bird populations
- Students will discuss how birds indicate the overall state of the environment
- Students will take action by creating an informative conservation poster

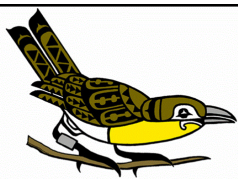
### Materials

- 7 Student Discussion Topics sheets (included)
- Posterboard
- Markers and/or poster paint

### Background Information

Birds are an important part of our heritage and they serve as bellwethers of our ecological, cultural, and economic well-being (State of the Birds, 2009). Because birds respond quickly to changes in the environment they are important indicators of ecosystem health. Throughout history birds have been celebrated by human cultures as important icons. Birds are also economically important. Over 45 million bird watchers generate more than \$80 billion in revenues and more than 65,000 jobs annually. Bird tourism is growing in popularity throughout North America, providing opportunities for community and economic development. In the northern forests of North America, birds provide natural pest control services that are valued at over \$5 billion annually. Birds provide similar benefits for farmers who use bird-friendly agricultural practices in the tropics.





# Native Bird Conservation

## Background Information continued

North America's bird populations are declining, a warning sign that the ecosystems on which we all depend are in failing health (State of the Birds, 2009). However, there is evidence that conservation actions can reverse declines. With growing attention on birds as indicators of our overall well-being, bird conservation is becoming a tool for working towards a more sustainable future.

Many North American birds are long distant migrants. These **migrants** make annual movements between breeding and winter grounds, usually moving north and south between areas of different latitude. They breed in the northern temperate habitats during the summer, and then migrate to southern tropical habitats where they spend the winter. Even some of our smallest birds, including warblers and hummingbirds, migrate thousands of miles each year. Migratory bird populations are among those in decline, because of the threats they face during the summer and winter, and along their migratory pathways (Berlanga et al, 2010).

Some of North America's most at risk birds are **endemic species**. Endemics are only found in very specific geographic areas that are usually quite small. These species have very restricted ranges and are often non-migratory. They also tend to be habitat specialists and are vulnerable to changes in their environments.

## Getting Ready

- Read over background information and student discussion topics
- Print copies of the 7 Student Discussion Topics, enough so each student may have a copy of one topic.

## Discuss!

- Ask students to explain reasons why they think birds are important.
- Discuss background information.
- Tell students that they are now going to look closer at problems for bird species, and also think of ways to help birds and the environment.

## Vocabulary on the fly

**avian** - relating to birds

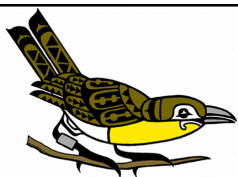
**fire-suppression** - preventing fires from occurring naturally in an ecosystem

**habitat degradation** - human impact in an area that harms or destroys the conditions suitable for wildlife to survive

**channelize** - to engineer a natural waterway or river into a determined (straightened) path, often disturbing the natural river cycles

**invasive species** - a species that disrupts a natural ecosystem by dominating and damaging the habitat, often a non-native species that was transported by humans to a new ecosystem

**Resource competition** - an interaction between organisms or species in which a limited resource is needed by both, and the presence one organism/species inhibits the fitness of the other



# Native Bird Conservation

## Investigate

1. Hand out discussion topics to students, one topic per student. Tell students they have different topic discussions on their handouts.
2. Ask one student to share their topic by reading it aloud to the class. After the student has finished, clarify any necessary ideas and ask students to comment. For example, “Has anyone seen examples of this in our local region? or in the news?”
3. After the seven discussion topics have been shared, have students get into small groups according to the topic they received on their handout.
4. Allow students time (about 15 minutes) to discuss their topic and brainstorm *conservation ideas* of how to mitigate negative effects on birds and the environment. Ask students to think about ideas that are preventative as well as what can be done to fix what has happened already. If students need encouragement, ask them to think about different people or groups that can make conservation efforts (i.e. students, scientists, communities, governments, organizations etc...) Students should come up with at least as many conservation ideas as there are students in their group.  
*Note: If time allows, provide students with books or internet to search for other conservation ideas or practices.*
5. Tell students that they will now each make a conservation poster about their discussion topic, and include at least one of their group’s conservation ideas to illustrate.

## International Partnerships for Bird Conservation: Partners in Flight

Successful bird conservation relies on the hard work of different stakeholders; scientists, government and non governmental organizations, citizens, policy makers, informed citizens.

Partners in Flight (PIF) launched in 1990 in response to growing concerns about bird population declines. PIF is a collaborative effort among government, academia, industry, First Nations and tribes, non governmental organizations, and individuals to “keep common birds common.” PIF works to combine and coordinate bird conservation efforts throughout the hemisphere for stewardship of landbirds and their associated habitats. To learn more about PIF visit





# Native Bird Conservation

## Conclusion

1. After students have completed their posters, ask one representative from each group to share what they discussed to help prevent damage to bird species and the environment.
2. Hang student posters on the board and allow students to browse each other's work. Encourage further student discussion about the topics and conservation ideas in the posters.

## Link to KBO lessons:

**Human impacts to Wetlands** - Students observe a local wetland or riparian area and while walking, collect data of human impact. Students explore ways to improve the area.

**State of the Birds** - Students explore an annual North American report of the state of birds and conservation through looking at different habitats, environmental issues, and illustrating a bird success story.

**Stakeholder Role Play** - Students objectively assume the roles of different community members in a town where proposed development is being discussed in a town council style meeting. Varying points of view are explored as students put forth arguments in character, while working toward a goal of consensus.

## Literature Cited

Kilby, Annie T. and John Alexander. Shared Birds of Ashland and Guanajuato: Conserving our Natural and Cultural Heritage. The Klamath Bird Observatory 2012

Major Threats to Birds. 2012 Cornell Lab of Ornithology's All About Birds website available online: <http://www.birds.cornell.edu/AllAboutBirds/conservation/planning/threats> accessed December 20, 2012

## Creating an environmentally-friendly classroom:

Model environmentally conscious behaviors like using reusable lunchboxes and water bottles, reusing paper.

Be open to discussion of controversial topics, encourage student to consider all sides of an issue.

Spend time outside and encourage curiosity.

Adopt an outdoor project: bird feeders, gardening, trash pick-up, building interpretive trail.

Encourage students to think about how their actions are connected to their communities, and the natural environment.

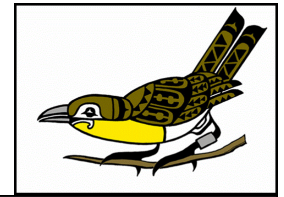
Read environmentally themed books:

- *The Lorax* by Dr. Seuss
- *Earth Book for Kids: Activities to Help Heal the Environment* by Linda Schwartz
- *Common Ground: The Water, Earth and Air We Share* by Holly Bang
- *The Waterhole* by Graeme Base

For more books suggestions for different ages: [www.eeweek.org/resources/green\\_reading.htm](http://www.eeweek.org/resources/green_reading.htm)

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



## Student Discussion Topics\*

Cut out Discussion Topics along the dotted line.

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### Bird Conservation Discussion Topic #1

#### **Habitat Loss and Degradation**

This is the number one threat to birds. Loss of habitat is due mostly to development and agriculture. For example, over 95% of the tallgrass prairie habitat in the U.S. has been destroyed since the 1800s. Other examples of habitat degradation in the US include forests that depend on natural fire cycles but are prevented from burning, forests that have been clearcut, desert/shrubland that has been over-browsed by cattle, wetlands that have been drained or filled in, and rivers that have been straightened and channelized.

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### Bird Conservation Discussion Topic #2

#### **Increased Numbers of Competitors**

Invasive species are often able to out-compete native species. When habitat resources like food, shelter and water become scarce, native species find it difficult to compete and survive. For example, between 1969 and 1993 Snow Goose populations have tripled, and the habitat in the arctic tundra has suffered from over-browsing. With the reduced vegetation shorebirds that breed on the tundra are declining.

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### Bird Conservation Discussion Topic #3

#### **Direct Exploitation**

Some bird species are declining due to illegal hunting and capture for pet trade. Each year tens of thousands of migratory birds, like the Painted Bunting, are captured for the caged bird trade on their wintering grounds in Mexico, Cuba and Central America. Painted Buntings have declined 60% during the last 30 years, according to Breeding Bird Survey data.

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### Bird Conservation Discussion Topic #4

#### **Introduced Predators**

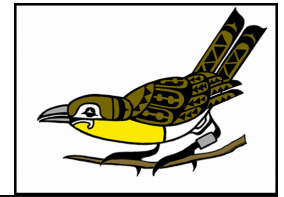
Sometimes non-native species become problematic predators in their new habitat, especially on islands. Many island species have evolved in absence of predators, and have adaptations like nesting on the ground. Hawaii and Guam are well-known examples where many of the native birds have gone extinct due to predation by introduced cats, dogs, rats, mongoose, ferrets, brown tree snake, monitor lizards, sheep, goats, pigs, and more.

\* Modified from Cornell Lab of Ornithology's website.

Available: <http://www.birds.cornell.edu/AllAboutBirds/conservation/planning/threats>

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## Student Discussion Topics

Cut out Discussion Topics along the dotted line.

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### Bird Conservation Discussion Topic #5

#### **Chemical Toxins**

Birds can become sick or die from eating toxins, or absorbing them through their skin. Examples of such toxins include pesticides, herbicides, metals, oil spills, and bilge discharges. Many scavenging birds each year become poisoned from ingesting lead bullet fragments in animals shot by humans, including Bald Eagles and Turkey Vultures. The number one threat to the recovery of the endangered California Condor is lead poisoning.

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### Bird Conservation Discussion Topic #6

#### **Indirect Chemical Pollution**

Sometimes pollution can remain in an ecosystem or get translated to another form. For example, acid rain has recently been linked to population declines in forest birds. Acid rain washes calcium out of the soil and decreases the amount of calcium-rich prey for birds like thrushes, which require a calcium source to produce eggs.

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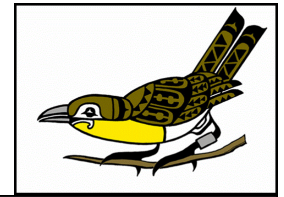
### Bird Conservation Discussion Topic #7

#### **Disease**

Avian diseases, including avian malaria, pox, House Finch disease, and West Nile virus, are leading causes of death among some bird populations. Many of Hawaii's native birds suffered drastic population declines once introduced mosquitoes began transmitting avian malaria between birds.

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## Additional Student Discussion Topics

1. Human disturbance of nesting, feeding, and roosting areas. Disturbance can come from kayaks, jet skis, low flying aircraft, pets and feral animals, off-road vehicles.
2. Many seabirds suffer from the longline and gill net fisheries when they become entangled and drown.
3. Diminished food supplies as a consequence of overfishing, excessive nutrients released into water, habitat alteration that reduces prey (salinity changes in estuaries, forest structure), and replacement of food sources with invasive species.
4. Degraded quality of foraging habitat by the invasion of introduced species or by fisheries that trawl the sea bottom.
5. Public dislike for some species, such as colonial waterbirds that nest or roost in urban and suburban areas, may be a barrier to long-term conservation. Examples include Double-crested Cormorant, Ring-billed Gull, or vultures.
6. Increased human populations bring additional sources of bird mortality, from communication towers, wind power development, domestic cats, lighted buildings along migration corridors, nest parasitism, and competition with exotic species such as European Starlings and House Sparrows.
7. Can you think of any other Bird Conservation issues? Have you see potential issues in your community?