

## LESSON 1

### Seabirds

#### Grades 4 to 7

### Objectives

- Identify what makes a bird a seabird.
- Identify why seabirds have certain adaptations.
- Understand challenges to learning more about seabirds.
- Relate structure and behaviour of local organisms to their survival

### Materials

**Station 1:** Plastic chicken egg; Plastic pear to simulate a Common Murre egg; Station 1 card

**Station 2:** Seabird skull; Station 2 card

**Station 3:** Pictures of seabird heads: eg. storm petrel, albatross, ancient murrelet, etc.; Station 3 card

**Station 4:** Pictures of seabird showing legs: eg. storm petrel, albatross, ancient murrelet, tufted puffin, etc.; Toy duck with legs that move; Station 4 card

**Station 5:** Stuffed specimens of storm petrel and albatross; Tape measure; Letter that weighs 14 grams (same as storm petrel); package that weighs 9 kilograms (same as albatross); Station 5 card

**Station 6:** Box with lid; Station 6 card

**Bird Baffle Discovery Box** (from the Haida Gwaii Museum)

**Book:** *Zoobooks: Seabirds* by John Bonnett Wexo

**Publication:** *Ocean News Issue 3: Seabirds*, Bamfield Marine Station, Bamfield, B.C. VOR 1B0 (Ocean News can be ordered from the above address.)

**Reference Book:** *Living Legacy of Gwaii Haanas III Marine Bird Baseline 2000 and Marine Bird Related Management Issues throughout the Haida Gwaii Region, Report 36* by Anne Harfenist, N.A. Sloan and P.M. Bartier (available from Parks Canada Gwaii Haanas office on Haida Gwaii)

### Concepts

- Seabirds are well adapted for their lives in the ocean.
- The more we learn about seabirds the more we can learn about the ocean since they spend most of their lives there.
- Many seabirds live around Haida Gwaii.

### Activities

#### 1. Introduction

##### What is a seabird?

*A: A seabird spends most of its time at sea. They only come onto land to mate and nest. Some like Ancient Murrelets nest in burrows under the ground and some like marbled murrelets nest high in trees. They need special adaptations to live at sea.*

##### Can you think of any seabirds that live here?

*A. Examples: Storm Petrel, Tufted Puffin, Ancient Murrelet, Pelagic Cormorant, Marbled Murrelet, Rhinoceros Auklet*

Gulls are not seabirds. They spend time on land and you can find gulls far from the sea.

Ask if any students have been to Limestone Island. If so, find out what they learned about Ancient Murrelets.

Show students the photo of the storm petrel (photo credit Janet Gifford-Brown). This was a rescue bird that was successfully released. It was found in the Skidegate Landing ferry parking lot after a big storm. The bird was brought to Janet because she does bird rehabilitation. Janet got some seawater for it to drink and let it rest. Then the storm petrel was released and it was fine.

##### What do seabirds eat?

*A. They eat small fish such as herring or sand lance.*



## 2. Seabird Adaptations

Can you think of any special adaptations seabirds would have to have to live in the ocean? How would they get water to drink?

*A: Examples of seabird adaptations:*

- Seabirds have salt gland to remove salt from seawater to drink.
- Tufted puffins have spines on their tongues and the roofs of their mouths to help them catch and hold slippery fish. They can carry up to 20 fish in their beaks.
- Some seabirds like puffins and have wings that help them swim underwater.
- Seabirds can move very well in water but not so well on land.
- The shape of some seabird eggs helps prevent them from falling off the cliffs where they nest.

### Activity Stations

Divide the class into six groups so they can go to the stations set up around the room. Explain what students are supposed to do at each station. The text for the cards to put at each station in on the next page.

#### Station 1. Eggs

Unlike most eggs, Common Murre eggs are pear-shaped. Compare the pear and the chicken egg.

See for yourself why a pear shaped egg is safer than a regular shaped egg. Tap one and then the other with the stick. How does it move?

Why would the shape of the egg be important?

*Hint: Common Murres nest on cliffs.*

Check the back of the card for the answer.

*A. A regular shaped egg will roll off the edge. A pear shaped egg will spin in a circle and not off the cliff even in a strong wind.*

#### Station 2. Salt Glands

Seabirds swallow a lot of salt with their food. Their kidneys can't process it all so they have salt glands above their eyes to help.

Look at the seabird skull. Notice the rounded

shapes above the eye sockets. That is where the salt glands are. It excretes a strong salty liquid that flows inside the beak and drips off the tip.

#### Station 3. Vision

Seabirds have excellent vision but their eyes are small to protect them from the bright light reflecting at sea. Because their eyes are on the sides of their heads they can spot predators without turning.

Ask students to find a partner. Partners stand back to back. Each person closes his or her right eye. Look as far as you can to the left and the right without turning your head. How far can you see each way?

#### Station 4. Feet

Notice how far back on the body the legs of seabirds are. They may be very good swimmers but can be clumsy on land.

What are seabird feet adapted for?

*Hint: Think of what types of movement they need to use them for.*

Look on the back of the card.

*A. Seabird feet are adapted for propulsion, swimming and steering while on or under the water.*

#### Station 5. Weight and Wingspan

The largest seabird is the albatross. Its wingspan can be up to 3.35 metres (11 feet). The albatross weighs over 9 kilograms (20 pounds).

The smallest seabird is the storm petrel. Its wingspan is 15 centimetres (8 inches). The storm petrel weighs 14 grams (½ ounce). A chocolate bar or bag of chips weighs about 70 grams!

Use the tape measure to see how big each bird is from wing tip to wing tip. See how heavy a storm petrel is by comparing the weight of the objects at this station. *The letter weighs what a*



*storm petrel weighs and the package weighs  
what an albatross weighs.*

### **Station 6. The Ocean**

The ocean is like a big box with a lid on. What does that mean?

Should people care about what is happening to seabirds? Why?

Look on the back of the card.

*A. The ocean is the least known part of the world today. Seabirds are near the top of the food chain. They go in and sample the 'ocean box' every day and we can observe them and study them to get some idea of what is going on underneath the water.*

*The ocean is like a box because if something happens in one part of the ocean it affects other parts too. It is all one and animals can't escape to a new ocean.*

*Everything that goes into the ocean has an impact so we need to pay close attention to what we throw into the ocean. Seabirds are one of the animals that are affected the most.*

### **Conclusion**

Discuss what students learned after they have visited all six stations.

### **Extension**

#### **Activity 1. Communication**

Ancient Murrelet parents practice calling distinctive calls back and forth with their chick when they are in the burrow. When the chick is ready to leave the nest, the parents go out to sea. The chick follows later at night when there are fewer predators around. When the chick comes to sea for the first time, it finds its parents on the ocean by recognizing and following the call of its parent.

Try this game: Students work in pairs. They decide on a sound that they will call to each other. One student from each pair is blindfolded and stands at one end of the room. Everyone calls back and forth until all the partners have found each other. After the game, discuss the challenges there were in finding your partner. What challenges would an Ancient Murrelet chick or parent face?

When 2 gulls land near each other, they face away from each other to reduce the potential for aggression. How do you think that works? Try it.

#### **Activity 2. Adaptations**

Use materials from the Bird Baffle Discovery Box from the Haida Gwaii Museum. Compare the Rhinoceros Auklet to the Saw-whet owl (skulls, feet, wings, photos)

How are they different?

*A: The owl has feet for perching and killing while the auklet has feet for swimming. The owl doesn't spend any time at sea. The owl flies to catch its' prey while the auklet swims. The shape of the wings is also different.*

Are the eyes on the sides or front of the head?

*A: The owl's eyes are on the front of its head. They have excellent binocular vision. They must be able to see well at night. An owl's eyes are much bigger than an auklet's eyes. The auklet has eyes on the side of its head so it can see if there are any predators coming up behind it.*





**Marine Matters Curriculum 3**  
**Lesson 1 • Seabirds • Grades 4 – 7**

**Activity Station Cards**

*Print these pages double sided and cut out each station card.  
Information and activities will be on the front and answers on the back of each card.*

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**Station 1. Answer**

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**Station 6. The Ocean**

The ocean is like a big box with a lid on. What does that mean? Should people care about what is happening to seabirds? Why? Look on the back of the card.



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**Activity Station Cards**

**Station 4. Answer**

*A. Seabird feet are adapted for propulsion, swimming and steering while on or under the water.*

**Station 6. Answer**

*A. The ocean is the least known part of the world today. Seabirds are near the top of the food chain. They go in and sample the 'ocean box' every day and we can observe them and study them to get some idea of what is going on underneath the water.*

*The ocean is like a box because if something happens in one part of the ocean it affects other parts too. It is all one and animals can't escape to a new ocean. Everything that goes into the ocean has an impact so we need to pay close attention to what we throw into the ocean. Seabirds are one of the animals that are affected the most.*