

Alaska's

Wild Wonders: Waterfowl

Duck, duck, goose...and swan!



Goose!
Canada goose



Dabbling duck!
Mallard



Diving duck!
Common merganser



Swan!
Trumpeter swan

In this Issue:

Learn about ducks, geese, and swans in Alaska. Discover why waterfowl are amazing, and go find some waterfowl to watch near you...

Let's dive in!

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For Educators:

Find Alaska wildlife-inspired curricula and lots of other learning resources: alaska.gov/go/n4ug

Artwork by Kim McNett



What's a waterfowl?

Waterfowl are a group of birds that live in and around water - specifically ducks, geese, and swans.

But aren't there other waterbirds?

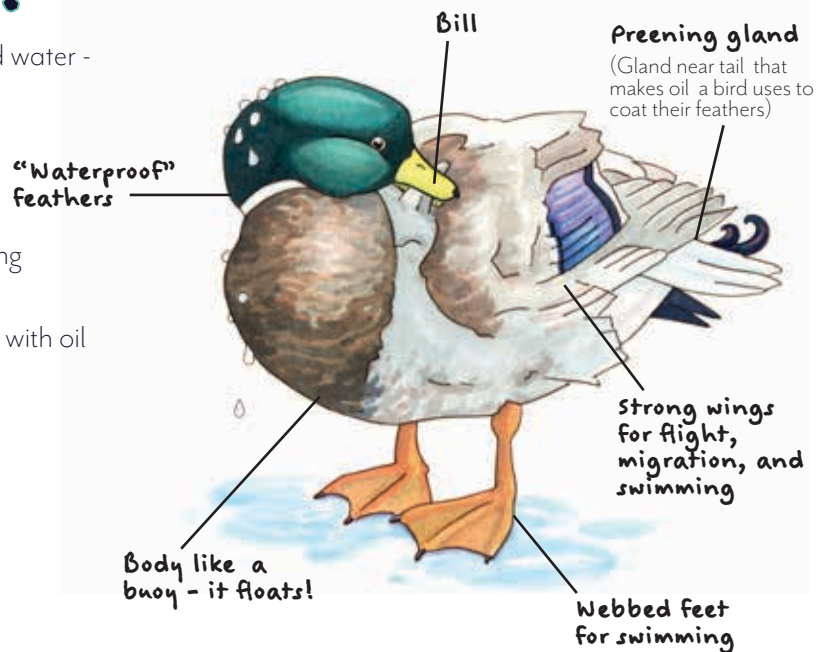
All waterfowl are birds that:

1. Have **webbed feet** and a body that floats for swimming
2. Have specialized **bills** for eating.
3. "Waterproof" their feathers by **preening** (grooming) with oil
4. Have the ability to fly, many **migrate** seasonally

Loons, eagles, or puffins, for example? Yes.

But they are in different groups. The way animals are grouped can get a little tricky.

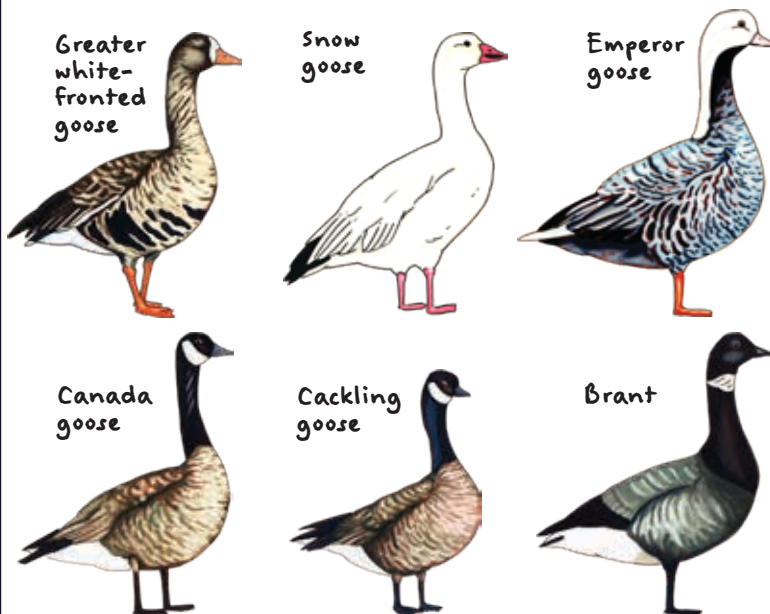
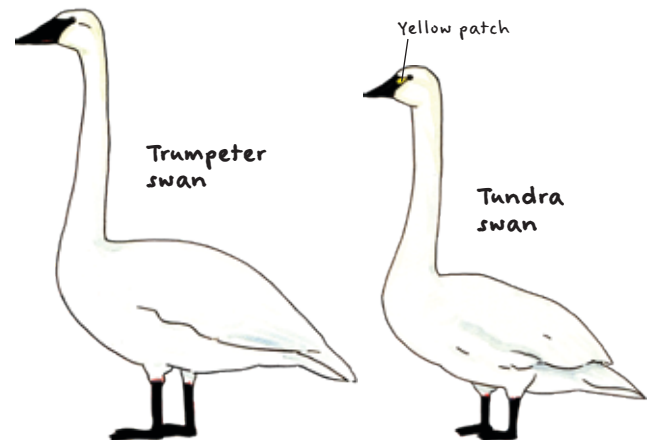
Luckily, the term waterfowl is simple. If a bird is a waterfowl, it must be a duck, goose, or swan.



Swans are sizeable

Swans are the biggest birds in the waterfowl family. Like all waterfowl, they have large bodies that help them float. Swans have really long necks that allow them to reach underwater and pluck up their food, such as plants, aquatic insects, and some fish.

There are two species of swans that nest in Alaska every year: Trumpeter swans and Tundra swans. Trumpeter swans are bigger, nest across northern and western Alaska, and are known for their sounds. Yep, they sound like a trumpet! Tundra swans are smaller, have higher pitched calls, and have a distinct yellow patch on their bill. Tundra swans nest in interior, central and southeast Alaska.



Geese are mostly grazers

Geese are smaller than swans and larger than ducks. They also have relatively large bodies that help them float in water and stay warm in cold weather.

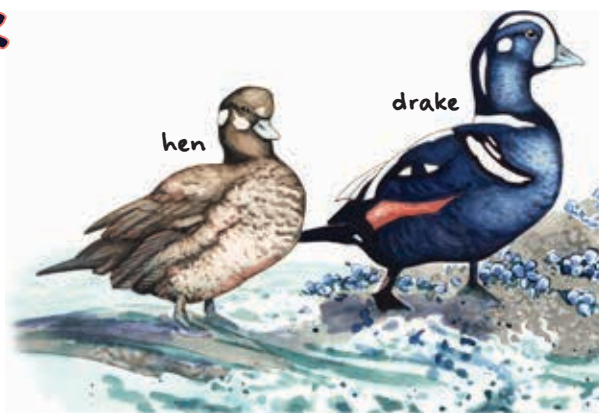
Six species of geese nest in Alaska in the summer: Greater white-fronted, snow, emperor, Canada, cackling, and brant.

Geese also have long necks (but not as long as swans!) that they use to **graze**, or eat plants, both in and out of the water.

They have short bills made for tearing plants that they like to eat. Some species eat other things. Emperor geese eat small animals like mussels (pg. 7) on beaches and in shallow waters in the ocean in addition to plants. Geese are known to be noisy, and use a variety of sounds like honks, hisses, clucks, and whistles to communicate with each other and other species nearby.

Duck, duck, duck, and duck

The group with the most species of waterfowl is **ducks**, with 27 species that nest in Alaska. Ducks are the smallest waterfowl, and have a few important differences from swans and geese. Male and female ducks are usually different in color, which is called **dimorphism**. **Drakes** (male ducks) are flashy and bright for part of the year to attract females, while **hens** (female ducks) need to blend in with their habitat to avoid predators while they nest and raise ducklings on their own. There are three main types of ducks: dabbling, diving, and perching. Each drake below is shown in breeding/flashy plumage. These are just a few examples; there are many more species in each group to discover!



Harlequin ducks (diving sea ducks)

Ducks that dabble

Dabbling ducks (sometimes called puddle ducks) find food in shallow waters and stay near the surface. Their legs and feet are farther forward on their bodies, making it easier for them to walk and hang out on land. To feed in water, they tip forward and put their head and neck underwater, while their body stays afloat. They can also make shallow dives.

Green-winged teal



American wigeon



Northern pintail



Ducks that perch

There is only one species of **perching duck** in Alaska. Wood ducks are not common, but they are found most often in Southeast Alaska, and rarely, other places in the state. Perching ducks have legs more like dabbling ducks, but they have long claws on their toes to help them grip and perch in trees or on logs on the ground or shore. They also nest in holes in trees!

Wood duck



Draw the shape of any waterfowl:

Ducks that dive

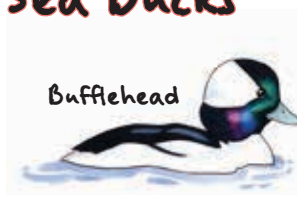
Diving ducks have body parts and behaviors that help them dive to find food in deeper waters. Their legs are farther back on their body, which gives them more power to push themselves downward in the water. Diving ducks have a **dive reflex**, which is a set of natural responses to being underwater. They can squeeze air out of their feathers as they dive, which makes them sleek and fast underwater. By slowing their heart rate and carrying extra oxygen in their blood, they can stay underwater for a long time and some species can dive down hundreds of feet. They can also recover quickly from long dives—which matters when the food is underwater and they have to go back for more!

Greater scaup



Sea Ducks

Bufflehead



Long-tailed duck



Sea ducks are a group within the category of diving ducks that live and eat in the ocean during winter, while they nest on land in forests or tundra in summer. Sea ducks have a special ability to drink ocean water and filter out the salt. Many sea ducks also have an extra thick layer of **down feathers** (see pg. 4!) to keep them warm in the cold waters.

Common eider



Surf scoter

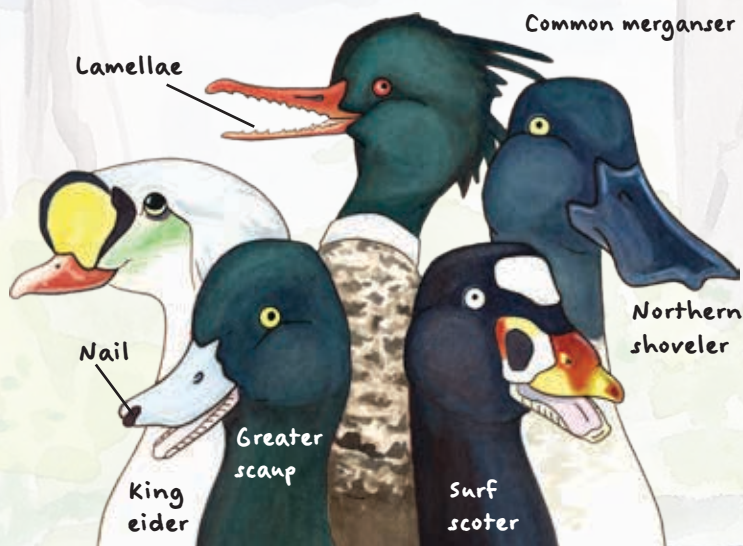


Why are waterfowl wonderous?

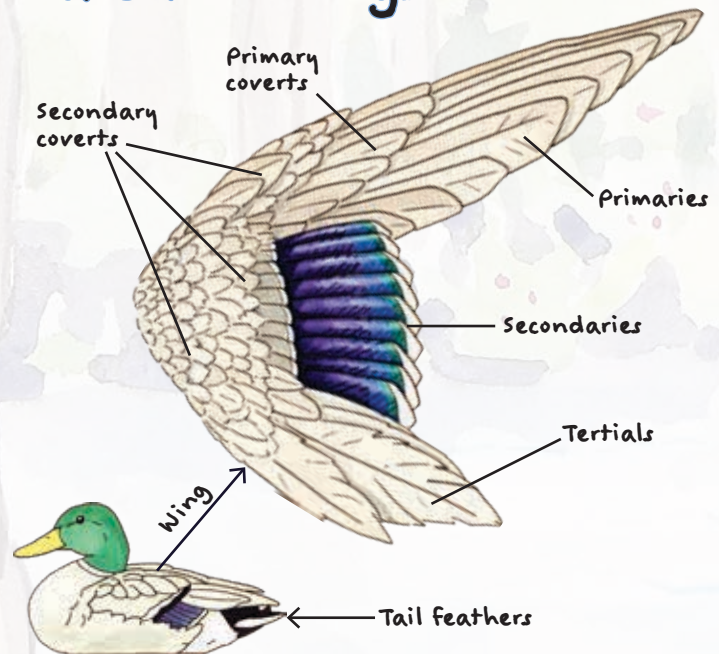
Waterfowl have many **adaptations**—specific body parts and behaviors that help them survive in the places that they nest, migrate, and winter.

Bills

Waterfowl have **bills** that allow them to catch or collect different kinds of food. Bills have different shapes for specific food types: some to cut or tear plants, some that are comb-like to keep food in while filtering water out, and others to catch fish. Waterfowl bills have **lamellae**, which are actually ridges of keratin (a kind of protein). These ridges can look teeth-like, but they are really for filtering or holding on to foods. Waterfowl bills also have hard tips to dig with and move food items around called a **nail**—almost like a fingernail. Pick one species below to research. What do they eat when nesting? Migrating? In winter?



Waterfowl Wings



Feathers, plumage, molt!

Plumage means ALL of the feathers on a bird that cover the body. Plumage color and pattern can help you figure out which species of waterfowl you're watching. For ducks, plumage can help you tell if you are looking at a male or female *and* what season it is. When male ducks are bright and flashy, it is a sign of the **breeding** season; when they are more camouflaged, it is the non-breeding season. Waterfowl lose and regrow, or **molt**, their plumage twice a year. All waterfowl molt their flight feathers before migrating south in the late summer or early fall—as a result, for several weeks they can't fly!

Feathers are fascinating, and waterfowl have many different kinds that help them fly, swim, and stay warm. Wings have several kinds of flight feathers: stiff **primaries** that provide power, shorter **secondaries** that help with lift, and **tertials** that smooth and protect the other flight feathers. **Contour feathers** cover the outside of the whole body, including on the wings, where they are called **coverts**. **Tail feathers** help steer birds in flight. **Down feathers** provide warmth, like a thick puffy coat under the contours, which act as a waterproof jacket. Many waterfowl species also pluck some of their own down feathers to add to their nest.

Flight & Migration

Waterfowl are often **migratory**, meaning they travel long distances between where they nest and spend the winter. Many swans, geese, and ducks that nest in Alaska fly thousands of miles to escape snow and ice,, and find food all winter. Some migrate much farther than others, and some species are much better swimmers and divers than flyers. There is a trade-off to being good at either; good flyers are not as good at swimming, and good swimmers are not as good at flying.



Common goldeneye drake

Nesting behavior

All waterfowl nest somewhere around **water bodies**. Some species nest very close and some farther away, some on the ground, some on rafts of plants or islands away from predators, and some in holes in trees.

Swans and geese have male-female pairs that **mate** long-term (sometimes for life) and have strong family ties. Both parents raise chicks. For most duck species, hens lay eggs, sit on nests, and raise chicks alone. Waterfowl species line their nests with down, or soft underfeathers, to help keep eggs warm until chicks hatch.

Where would you want to nest? Look up the nesting behavior of your favorite waterfowl species!

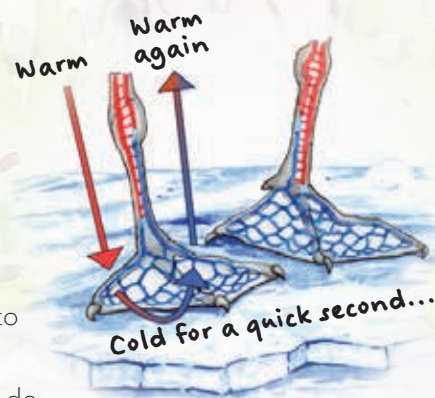
Common goldeneyes are diving ducks that like to nest in cavities in trees - often made by another species like woodpeckers.

Chicks have to jump when they get old enough to fledge, or leave the nest.

Feet

Waterfowl have **webbed feet** to help them swim. The webbing spreads out in the water, giving birds a bigger surface to push with and propel forward. Webbed feet do for swimming what wings do for flight. Webbed feet can also help waterfowl with walking in mud, and as a tool to steer while flying or landing.

Have you ever wondered how waterfowl feet don't freeze in cold water or standing on ice? In waterfowl legs, **arteries** carrying warm blood from the heart are right next to **veins** with cooler blood returning from their feet. Because the veins and arteries are so close together, the feet may be almost freezing, but the overall **body temperature** of the bird does not cool off. In extreme cold, waterfowl can limit blood flow to their feet (so less blood gets cold), or stand on one foot and tuck the other into their warm body feathers.



Sketch a bill, nest, or wing:

Find one to use as a model - outside, in a book, or online!



Canvasbacks are diving ducks that can nest on floating rafts of vegetation.

Why should we care about waterfowl?

Waterfowl are important to **ecosystems**, people, and communities. Humans **harvest** many waterfowl species for food. In many remote areas of Alaska, people rely on the return of waterfowl in the spring as a nutritious food source after long winters. For some communities, harvesting wild bird eggs is also important. There are also fall hunting seasons for waterfowl across the state that vary by species and region.

Waterfowl are important for many reasons other than for food. Waterfowl that have been harvested have been the source of materials to make things including tools, clothing, bedding, and decorations. People enjoy watching birds, and migratory waterfowl signal the change of seasons. Swans, geese, and ducks are important to the same ecosystems and food webs that humans belong to and rely on. Studying and learning about waterfowl is a big part of conserving healthy populations of them into the future.

A biologist placing a band on a mallard hen.



Following birds over time

ADF&G is one of many organizations that work together to monitor bird **populations** in Alaska, including waterfowl. These efforts are important to prevent overhunting, and also so biologists know when bird populations are changing for other reasons. Marking birds is one of the main ways biologists can identify individual birds, follow those birds over their lives, and learn about different species of waterfowl.

Bands

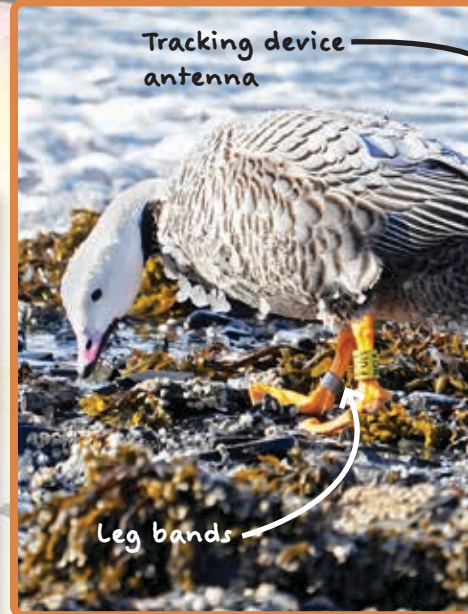
One way that scientists track individual birds is to place a metal leg **band** with a unique number on individual birds. Banded birds can be identified, **resighted**, and followed over time. Bands are usually metal, but specific projects may also place a second colored band to help make bands easier to spot and read. Biologists can learn a lot from reports of resighted birds, like how long they survive, where they migrate to and from, where they are seen along the way, if they nest every year, and more!

Canada goose with a collar, which is one type of device used to track waterfowl.



Tracking device antenna

Leg bands



Tracking devices

Scientists also place **tracking devices** on birds to learn even more about where they spend time. Devices send data about where birds are in real time to biologists through different signals: radio, satellite, or even through cell phone towers. Tracking devices give biologists way more information than bands, as they can observe bird behavior over months and years in detail, as it happens. Biologists can track exactly when waterfowl migrate, where they stop along the way, how long they spend in each place, and what they do in bad weather.

The Emperors of Alaska

Emperor geese live in Alaska year-round, nesting in a few remote places of western Alaska, and wintering along the Aleutian, Alaska Peninsula and Kodiak coastlines. They also nest along the coast of northeast Russia. Emperors are sometimes called “beach geese” because they find food in the winter along beaches, like seaweeds, algae, eel grass, mussels, and barnacles. Biologists have learned a lot about emperor geese from following individual birds over long periods of time with bands and tracking devices.



Emperor goose
hen and nest



Emperor geese foraging
on the beach in winter.



Draw a waterfowl foot and add a leg band!

What do the feet/legs of
your favorite waterfowl look
like? Find a photo to help!

Emperor Ecology

What biologists have learned from banding and tracking:

1. Emperor geese families stay together for two years - longer than other species of geese.
2. Hens do not nest every year. Every few years, they take a break.
3. Hens sometimes adopt and raise goslings from other hens!
4. Where geese nest, and where they spend the winter. Emperor geese return to the same place every winter.
5. How many geese survive their first year.
6. Birds struggle the most when they are molting, and during the winter.
7. If a nest fails, hens do not try to nest again within the same year.
8. Birds that winter in Kodiak are heavier. Young geese survive the first year in Kodiak more often than in other places they winter.

How can you get involved?

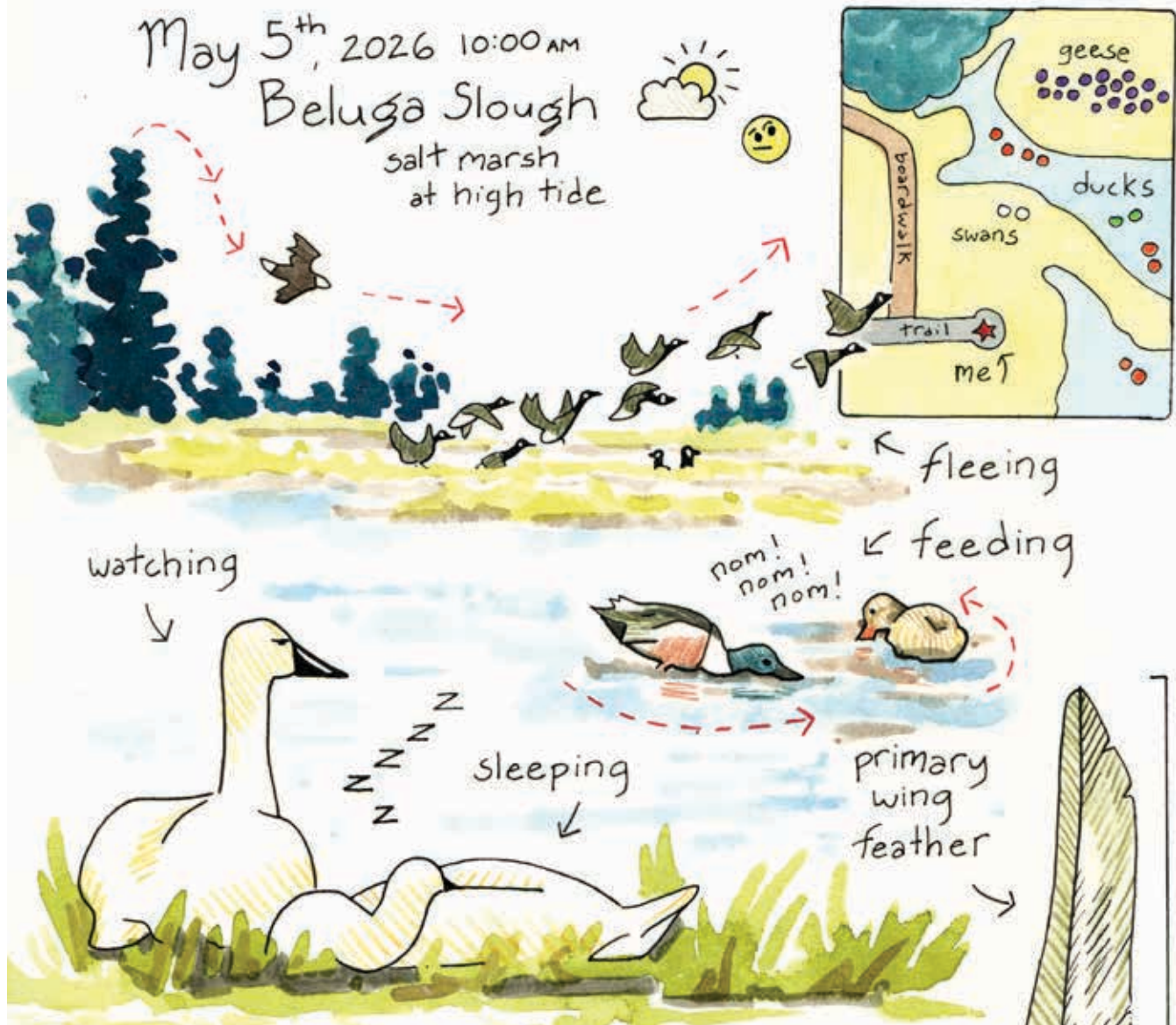
Because waterfowl are **migratory**, they spend time in certain places in Alaska at certain times of year. Many species are only in Alaska for the warmer months. Others summer in one area of the state and move to another to find food in winter (like emperor geese!).

Start by learning which waterfowl visit or nest around where you live.

1. Find out where and when to go to see waterfowl - and make **observations** (see the nature journal activity on the next page!).
2. If you notice bands/tagging devices on waterfowl species, try to read the band with **binoculars** or a **spotting scope**. Then, report the bands you could read online at: www.reportband.gov.
3. Learn which species are important for harvest in your community. Find the *Waterfowl Hunting Regulations Summary* to learn more about hunting waterfowl in Alaska here: waterfowl.adfg.alaska.gov
4. Sometimes you can help band, resight, or survey for waterfowl in your area. Be on the lookout for opportunities!

EDUCATORS! Find extensions on the webpage for this issue - scan the QR code on the back cover.

Nature Journal: Go Watch Waterfowl!



A **nature journal** is a book, or even a page, that you make about places you visit and what you notice while outdoors. In this entry, which elements were drawn? Which were described in words? Which were counted or measured with numbers?

Instructions:

Find a place to watch waterfowl. Use all of your senses to notice what is around you. Then, record your observations with pictures, words, and numbers.

Educators: find a journal worksheet and other fun extensions here ----->



Date



Location



Weather



Habitat



Animals/
Behaviors



Feelings



Surprises/
Questions



Bird List

- canada goose 20+
- mallard 12+4
- northern shoveler 2
- crow 12
- swan 2
- eagle 1
- song sparrow 3
- swallow 6+
- pintail 4



Kimi MWA 26