

# Forest Birds Fast Facts

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- LIGHT:** Dominated by tall trees, layered canopy = very shady, openings made from a fallen tree provide sunny areas
- AIR:** Trees slow wind, except along forest edges and openings. Shade = cool temps
- WATER:** Fog and rain collect in tree branches and drip to ground.
- SOIL:** Lots of organics (needles, decaying leaves, tree trunks) makes lots of space for air and water. Soil absorbs and holds water like a sponge.



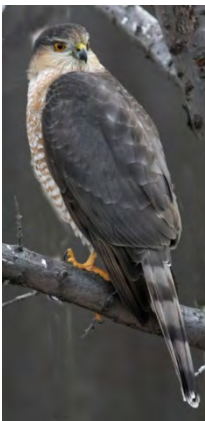
Varied Thrush



Common Raven



Northern Flicker



Sharp-shinned Hawk

## Varied Thrush

- Slender bill good at gleaning soft foods like insects, pillbugs, snails, worms, fruits and some seeds from ground.
- Hops and pauses to look for food. Flips leaves and debris with bill.
- Perching feet – three toes forward, hind toe back.
- Can sing 2 separate notes at same time and breathe while singing.

## Common Raven

- Versatile beak. Eats everything from carrion and garbage, to eggs, nestlings, insects, seeds, rodents and fruit.
- Strong, sturdy feet and grasping toes to manipulate food and perch.
- Acrobatic flight, hops on ground. Uses sight to find food.

## Northern Flicker

- The toes are placed two forward, two back to grip firmly, while the tail feathers are stiff and pointed to help brace while pounding.
- Bill is shaped like a chisel. Flickers don't excavate as much as other types of woodpeckers so have a slightly curved bill and less sharp.
- Flickers eat insects and are especially fond of ants (flickers will forage on the ground as well as on trees). Probe and explore crevices.
- Distinctive flight – flap, dip, flap, dip
- Woodpeckers have long, sticky and barbed tongues to extract bugs. The tongue wraps around the back of skull when not in use. Can be up to 5 inches long.
- Woodpeckers pound on hollow items to attract mates and mark territory. They are known to pound on metal stove pipes and flashing.
- 'red-shafted' refers to the pigment of the feather shaft. Pigments are derived from what the bird eats (usually red, oranges and yellow). Contrast to structural feathers which reflect color based on the structure of the feather (ducks, hummingbirds – usually purples, greens and blues).

## Sharp-shinned Hawk

- Has short, rounded wings and long tail to maneuver quickly.
- Long legs and long, thin toes catch other birds in flight and puncture prey – at safe distance from body and head.
- Sharp, pointed beak used to tear prey apart to eat, leaving wings and feathers behind.



Chestnut-backed Chickadee



Marbled Murrelet – winter



Marbled Murrelet - nesting

### **Chestnut-backed Chickadee**

- Short, conical and pointed bill to glean insects, spiders and seeds from branches and trunks.
- Strong legs and feet – can forage up-side-down and on branch tips.
- Grasp seeds with feet and hammer with bill.
- Dark cap and bib
- Groups with other small birds to forage – for predator protection and perhaps feeding efficiency (minimizes territorial disputes).
- Make a nasally “chick-a-dee-dee-dee” call to warn of potential danger. The number of ‘dee’s indicates how close the danger is.

### **Marbled Murrelet**

- Diving seabird that nests in old-growth coastal conifers.
- Webbed feet placed far back on body combined with slender pointed wings help birds ‘fly’ underwater to catch fish and crustaceans.
- No hind toe.
- Can’t soar – wings modified for swimming.
- Needs tree branches that are at least 6” diameter on which to nest.
- Because it is a rapid, but not precise flyer – there must be large spaces between branches so it can land. This bird drops straight off branch to gain speed for take-off.

# Dunes/Grasslands Fast Facts

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**LIGHT:** Few trees and shrubs = very sunny

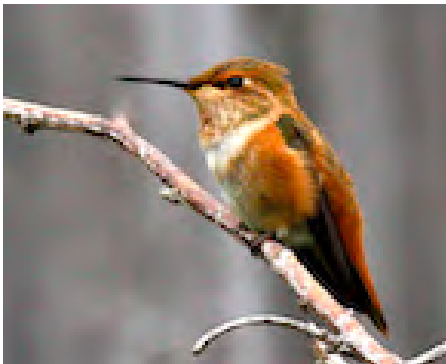
**AIR:** Open = very windy. Lack of shade = hot temps

**WATER:** High water table = seasonal wetlands. Sand drains quickly = dry

**SOIL:** Sandy with lots of space for air. Sand historically unstable and moved with wind.



Barn Owl



Rufous Hummingbird

## Barn Owl

- Nocturnal – active at night, rests during the day. Barred and mottled plumage helps owls hide during day.
- Strong feet and sharp talons to catch and kill prey. Can rotate third toe to side making a web of talons to catch and hold prey.
- Swallows small mammals (mice and voles), sometimes amphibians, reptiles and insects whole.
- Regurgitates pellets of fur, bones and non-digestible parts. One rodent per pellet or many insects per pellet.
- Has a facial ruff – a concave disc of feathers to serve as a reflector for sound to travel to ears. One ear is higher on head than other – can triangulate sound to locate prey. Hunts almost exclusively by sound and is able to remember its territory (like having a map of your town).
- 47,000 hearing receptors in brain.
- Feathers have fringed edges to break up air currents (minimize turbulence) and allow for silent flight.
- Eyes are so large they do not rotate in sockets – so can swivel the neck 180 degrees.

## Rufous Hummingbird

- Long slender bill and tongue designed to extract plant nectar. Also eats insects, spiders and tree sap. Tongue is like woodpeckers – wraps skull.
- Must eat its weight in nectar each day. But only feeds 14-18 times per hour, each session lasting less than a minute.
- When not feeding it rests by perching (to allow food to pass from crop to digestive tract). Short legs and weak feet – will use wings to change position on perch.
- It takes less than an hour for the hummer to extract sugars from food – so it poops often. Gets water from nectar.
- Builds nests on branches made of lichen, moss, and leaves bound with spider silk. Nest stretches to meet the space needs of growing chicks.
- Slows down its metabolism at night or during bad weather decreasing body temperature to conserve energy in a behavior called torpor.



Western Snowy Plover

### Western Snowy Plover

- Run, Stop, look, peck - visual foraging.
- Upright posture, big eyes, round head, thick neck and short, thick bills.
- Walking feet – minimized hind toe.
- Nests in scrape on upper beach and dunes, needs high level of camouflage. Note markings and use of oyster shell around nest site. Will use broken wing display to distract predators from nest.



American Goldfinch

### American Goldfinch

- Short, conical bill to break and eat seeds, some insects
- Strong legs and feet to forage on thin branches and plants.
- Fast wing beats and undulating flight.
- Nests in trees.
- “potato chip” call



Song Sparrow

### Song Sparrow

- Short, conical bill – eats seeds, berries, some crustaceans and mollusks.
- Primarily feeds on ground, in brush piles and shrubs and uses double scratch technique. Both legs reach forward and scratch back at same time on ground – noisy.
- Ground nester under shrubs and brushpiles.
- *Melospiza melodia* – has a very recognizable song.



Streaked Horned Lark

### Streaked Horned Lark

- Uses sharp beak and long claws to dig in ground.
- Eats insects, spiders, snails and seeds.
- Long, pointed wings good for flying in windy conditions.
- Has short legs and long claws – elongated hind claw.
- Male performs elaborate flight and song to attract attention of female. Rises 800', circles and dives back to ground where he struts with horns raised and wings drooped.
- Ground nester – shallow depression lined with plant material.

# Mudflats and Saltmarsh Fast Facts

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**LIGHT:** No trees or shrubs = very sunny

**AIR:** Open = very windy. Lack of shade = hot temps

**WATER:** Brackish water, tidal influence (ongoing changing water and salinity levels)

**SOIL:** Sandy, muddy or gravely depending on stream locations. Lots of dead material.



Green-winged Teal

## Green-winged Teal

- Dabbling duck or “puddleduck” – tips rear-up and head down in water
- Smallish webbed feet, forward on body. Easily walks and swims.
- Bill has lamellae – finely toothed comb-like structures that filter microscopic invertebrates from mud by straining water through bill.
- Eats aquatic invertebrates, seeds and plants.
- Large wing to weight ratio =slow flyer, easy liftoff, more maneuverable.
- Migrates to arctic to breed & nest; winters at the refuge.



Great Blue Heron

## Great Blue Heron

- Long legs and toes help it wade and travel on mud and in water.
- Long neck and bill help it catch and eat fish, amphibians, small mammals and nestlings. “S” curve of allows for lightning quick speed.
- Stalk and spear.
- Nests high in trees with other herons (colony nester) to protect from predators like raccoons. Makes a nest out of woven sticks.
- Serrated talon for preening.



Black Turnstone

## Black Turnstone

- Turns stones and ground debris with bill in search of mollusks and crustaceans.
- Migrates to arctic tundra to nest. Fast and agile flyer.



Dunlin

## Dunlin

- Medium length, slender bill probes in bare, wet mud for worms, crustaceans and mollusks. Uses touch & smell.
- Walking feet – short, elevated hind toe.
- Often conserves heat by standing on one leg (tucking other into body).
- Migrates to wet, coastal arctic to nest. Long, narrow, pointed wings for rapid, direct, long-distance flight.
- Fast and agile flyer – will rapidly change directions as group to confuse predators such as peregrine falcons.
- Diet is rich and can gain large amounts of weight in winter.



Short-billed Dowitcher



Bald Eagle



Peregrine Falcon

### Short-billed Dowitcher

- Long, straight bill used to probe rapidly up and down in wet mud like a sewing machine (called “stitching”).
- Distinct pale eyebrow.
- Migrant. Breeds in arctic wetlands.

### Bald Eagle

- Search for prey with sharp eyesight.
- Opportunistic – will eat carrion, trash and kill small mammals and birds.
- Will often dive onto ducks and geese to tire them before grasping with talons.
- Sharp, pointed beak can quickly kill prey and is used to tear off chunks to swallow.

### Peregrine Falcon

- Pointed wings for fast flight. Tucks and dives at high speeds (fastest in world).
- Uses long legs and strong, long toes and feet to punch prey in mid-air.
- Winter on coast due to large concentrations of prey – shorebirds and waterfowl.
- Some nest locally on cliffs and ledges using nests made by other raptors and crows/ravens.
- Most raptors migrate during the day (which is likely why most songbirds, waterfowl and shorebirds migrate at night).

# Freshwater Streams, Wetlands and Ponds

## Fast Facts

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**LIGHT:** Streams often shaded by trees. Wetlands can be open and sunny

**AIR:** Moving water with riffles increases dissolved oxygen in water

**WATER:** Fresh water. Streams are generally clear. Wetlands can be murky with tannins

**SOIL:** Wet soils. Can be gravelly in streams and rich in organics with finer particles in wetlands and ponds



Red-winged Blackbird

### Red-winged Blackbird

- Strong, straight, pointed bill has muscles that can forcefully open-up to spread grasses, “gaping”. Eye location and bill shape means they can see between open mandibles (bill) to forage. Highly versatile and effective feeder.
- Often nests in cattail marshes and feeds in fields.
- Uses red epaulets on wings to establish territory.



Tree Swallow

### Tree & Barn Swallows

- Short, wide mouth and long pointed wings helps catch insects while flying at high speeds (needs open areas). Will eat berries and seeds, if insects are unavailable.
- Short legs with perching feet.
- Migrates south for winter.
- Will drink and bathe while flying.
- Barn Swallow builds nests of mud pellets and straw on ledges and walls away from predators. Lines nest heavily with feathers.
- Tree Swallow is a cavity nester – lives in woodlands next to water.



Barn Swallow

### Hooded Merganser

- Elongated, slender bill with sharp serrations allow it to grip slippery fish and aquatic invertebrates.
- Diver – webbed feet located back on body. Compresses air out of feathers to minimize buoyancy – this helps it to dive.
- Compact plumage and heavy down to stay warm and dry.
- Nests in tree cavities.



Hooded Merganser



Belted Kingfisher

### **Belted Kingfisher**

- Large head, long sharp bill
- Hunt by sight, sometime perching, sometimes hovering over water.
- Weak feet only good for perching.
- Dives after prey (mostly fish) head first.
- Perch or hover, dive, perch, kill & eat
- Makes a long tunnel in bank to nest.



Cedar Waxwing

### **Cedar Waxwing**

- Upright posture and crest.
- Plump body, sleek plumage and pointed wing, small legs and feet.
- Eat primarily fruit, some insects, and will move often to get it.
- Excretes wax on tips of wing and tail feathers (gets from fruit it eats).



# Bay Fast Facts

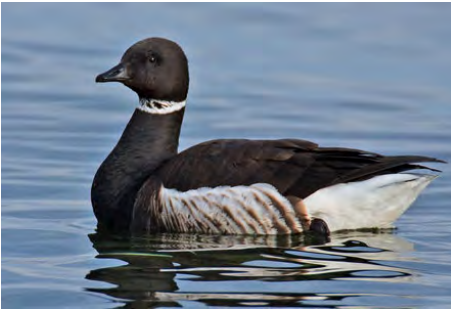
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**LIGHT:** No trees or shrubs = very sunny, Shallow = light to bottom in most places

**AIR:** Open = very windy, lack of shade = hot temps

**WATER:** Brackish water, tidal influence (changing water and salinity levels)

**SOIL:** Sandy, muddy or gravelly. Lots of dead material.



Brant

## Brant

- Dabbler or grazer – long legs and webbed feet placed mid-body for ease of walking and swimming.
- Buoyant – rides high in water.
- Flattish bill to eat vegetation – primarily eelgrass in winter. Will eat some aquatic invertebrates.
- Migrates to arctic tundra to breed.



Pacific Loon

## Pacific Loon

- Large, flat and webbed feet placed back on the body propel loons underwater. Hind toe is small and flattened to minimize drag in water.
- Diver – sits low on water compared to dabblers. Less buoyant.
- Looks through water to sight prey before diving, often putting its head into the water. Must have clear water to effectively hunt.
- Pointed bill is used to catch fish (not spear). It likely helps streamline the bird underwater.
- Dense plumage keeps them waterproof and warm.
- Migrate to arctic lakes to breed.



Glaucous-winged Gull

## Glaucous-winged Gull

- Highly opportunistic and can thrive nearly anywhere.
- Strong, thick bill can catch and kill prey. Will eat carrion, trash, nestlings, eggs, small mammals, invertebrates.
- Sometimes drops clams and other mollusks from flight to break them.
- Long, slender legs and webbed feet make it easy to walk and swim.
- Leg color helps ID.



Caspian Tern

## Caspian Tern

- Migrant – sharp, pointed wings for fast flight.
- Searches for food with eyes.
- Plunge dives and catches small fish with bill near surface.
- Red-orange bill and black cap.
- Migrates north to coastal Washington for breeding.



Brown Pelican



Osprey

### **Brown Pelican**

- Spot, dive, sieve, and swallow – Dives head first from up to 65 ft. above water, folding wings back and opening bill near impact. Does not submerge, like many plunge divers.
- Pouch can hold up to 10 liters of water (that's 17.5 pounds!).
- Big webbed feet allow it to swim easily.
- Exercises its pouch to keep it limber – stretching head up and turning pouch inside out across neck.

### **Osprey**

- Highly specialized to catch and eat fish.
- Has barbed pads on feet to hold slippery and wet prey.
- Search for prey with eyes then plunge into water feet first.
- Carry prey back to perch to eat, usually with prey positioned head first to minimize drag.