

Olympic Peninsula Fall Explorer

September 10 - 17, 2026 | Species List

with Naturalist Journeys



Compiled by guides Stephen Grace and Corina Giron. Our clients included Tracy, Jane, Sully, Shirley, Mike, Jan, Linda, Rich, Don and Ann.

Our fall circuit of Washington's Olympic Peninsula sampled an exceptional range of habitats in a remarkably compact geographic area: the dry northeastern rain shadow, Salish Sea shorelines and offshore waters, the Dungeness estuary and riparian forest, subalpine meadows of the Olympic Mountains, temperate rain forest, rocky intertidal habitat, and the exposed outer Pacific coast. The trip provided an excellent cross-section of the peninsula's resident birds, southbound migrants, post-breeding seabirds, and newly arriving winter visitors, with 100 species representing 39 families recorded over the course of the tour.

September 9 — Angle Lake Park, SeaTac

A small group began with optional pre-tour birding at Angle Lake Park. Bird activity was modest, but the woodland provided our first characteristic Pacific Northwest species, including Chestnut-backed Chickadee and Steller's Jay.

Chestnut-backed Chickadee is closely associated with moist coniferous forests. Its distribution is centered along the Pacific Coast from southeastern Alaska through British Columbia, Washington, Oregon, and California, with additional inland populations in parts of the northern Rockies and adjacent interior Northwest. The Steller's Jay here represented the dark coastal form, whose blue streaking on the black crest contrasts with the white crest streaks of interior birds. Together, the two species provided an immediate avian introduction to the conifer forests of the region.

September 10 — Port Townsend and the Northeastern Rain Shadow

We began the main tour in Port Townsend, within the northeastern Olympic rain shadow. A residential yard planted with native vegetation proved remarkably productive.

Chestnut-backed Chickadee, Black-capped Chickadee, Red-breasted Nuthatch, Pine Siskin, White-crowned Sparrow, Spotted Towhee, Anna's Hummingbird, and Steller's Jay were active among the conifers and feeding areas. Oregon-form Dark-eyed Junco showed its characteristic dark hood contrasting with a warm brown back and flanks, while Song Sparrow represented the dark, heavily streaked Pacific form typical of western Washington.

Hairy Woodpecker also showed the dark Pacific form, with light brownish to dusky underparts and much less white spotting in the wings than its more crisply patterned eastern counterparts.

Band-tailed Pigeon was still present as well. This large native pigeon is closely associated with western forests and often gathers in late summer around fruiting trees and other seasonal food sources. The species occurs year-round in western Washington, but numbers often thin in fall as birds track shifting food supplies and some move south.

Red Crossbills were particularly conspicuous. Recordings made before the tour, confirmed by spectrogram analysis, identified these birds as Type 4 Red Crossbills, often called “Douglas-fir Crossbills.” Type 4 is especially associated with coastal Douglas-fir, although it also uses spruces, white pines, and other conifers when cone crops are favorable. Their presence around Port Townsend reflected the species’ nomadic response to shifting conifer-seed abundance.

At Kah Tai Lagoon, a tidally flushed estuary until a road was built across its mouth in 1930, we encountered Ruddy Duck, Northern Pintail, Hooded Merganser, Red-winged Blackbird, Cedar Waxwing, and Belted Kingfisher. Despite its altered hydrology, the lagoon remains a productive wetland and important bird habitat. A Greater Yellowlegs showed its characteristic active feeding style, charging through shallow water in pursuit of prey.

Along the marine shoreline at Fort Worden, gulls became a major component of the avifauna. Resident Glaucous-winged Gulls provided useful comparison with California Gulls, which are common in the Puget Trough during September migration. Heermann’s Gulls were another notable seasonal visitor, their charcoal-gray bodies and vivid red bills making them especially distinctive. Most breed on islands in Mexico’s Gulf of California, then disperse north along the Pacific Coast after nesting, reaching Washington in greatest numbers from summer into fall.

Surf Scoters offshore at Point Wilson were our first of the trip, the adult males readily distinguished by bold white head patches and swollen multicolored bills. Along marine coasts they feed heavily on benthic invertebrates, especially mussels and clams. Small shellfish can be swallowed whole, with the muscular gizzard crushing the shells during digestion.

Late in the day, the Port Townsend waterfront produced one of our largest shorebird concentrations. Hundreds of Black Turnstones gathered along the shoreline with smaller numbers of Surfbirds, while a single Ruddy Turnstone was a particularly nice find; the species is uncommon to rare in the Puget Trough at any season and is considered rare there in September. The mixed flock repeatedly lifted, wheeled over the water, and resettled along the shore.

September 11 — Salish Sea, Smith Island, San Juan Islands & Victoria Waters

A full-day boat trip through the Salish Sea provided the strongest marine birding of the tour. Near Smith Island, a Tufted Puffin flew past the boat, showing its white face, massive orange bill, golden head plumes, and dark, football-shaped body. The species has declined dramatically in Washington and is state-listed as Endangered, making this one of the most significant bird sightings of the trip.

Common Murres were abundant, at times forming rafts of hundreds. Particularly interesting were adults accompanied by dependent, still-flightless young. Murre chicks leave their nesting colonies at about three weeks of age, before they can fly, and go to sea with the male parent, which continues feeding and caring for them for several more weeks. Because the chicks are flightless, father-chick pairs disperse from their breeding colonies by swimming. Some of the birds reaching Washington waters originate at colonies along the Oregon coast, and father-chick pairs have been documented moving north along the outer Washington coast and into the Strait of Juan de Fuca. These conspicuous pairs were part of the large post-breeding concentrations of murres we encountered in the Salish Sea.

Rhinoceros Auklet and Pigeon Guillemot added two more alcids. Red-necked Grebe and Common Loon were also present, consistent with the seasonal increase of nonbreeding diving birds in Washington's inland marine waters as fall advances.

All three regularly occurring Washington cormorants were present: Double-crested, Pelagic, and Brandt's. Brandt's Cormorant was especially numerous on offshore rocks. Of the three, Brandt's is the species most strongly associated with exposed marine coasts. In Washington it breeds primarily on rocky islands and cliffs along the outer coast and is scarce in inland waters during the breeding season, but becomes much more common in the Strait of Juan de Fuca and northern Puget Trough after nesting.

Steller Sea Lion occupied nearby haul-outs in substantial numbers, surrounded by gulls and a single Harlequin Duck.

The route continued through the San Juan Islands and into Canadian waters near Victoria, where we encountered a Humpback Whale. Humpbacks were heavily depleted by commercial whaling and largely disappeared from the Salish Sea. A few individuals began returning regularly by the early 2000s, and their use of these historic feeding grounds increased dramatically during the 2010s.

On the return trip, an unexpected Northern Fur Seal was seen in the water. Its small head, very short pointed snout, prominent pale whiskers, dense-looking pelage, and long flippers helped distinguish it from the more familiar California Sea Lion. Northern Fur Seals are highly pelagic, spending most of their lives in the open North Pacific, so encountering one well inside the Salish Sea was a genuine surprise.

September 12 — Dungeness Estuary, Dungeness River & Three Crabs

Today we focused on the Dungeness watershed, beginning with tidal flats and shallow estuarine habitat at Dungeness Landing. Western and Least Sandpiper picked and probed across exposed mud, while Short-billed and Long-billed Dowitcher fed nearby with their characteristic rapid sewing-machine motion. Killdeer was abundant, and Black-bellied Plover was also present, including one adult still retaining extensive black breeding plumage. Great Blue Heron and Belted Kingfisher worked the margins, Harbor Seal rested on Cline Spit among loafing gulls and Common Merganser, and an adult Bald Eagle perched prominently in a Douglas-fir above the shoreline.

Careful listening and scanning of the shrubs produced Orange-crowned Warbler and Yellow-rumped Warbler—the only warblers recorded on the trip—along with Bewick's Wren.

At Railroad Bridge Park, Turkey Vulture and Common Raven rode the thermals overhead, the raven giving its characteristic deep, resonant croaks while the vulture circled silently on broad wings. In the riparian forest below, Downy Woodpecker and Northern Flicker were active among the trees. We also found rows of sap wells made by Red-breasted Sapsucker, although the bird itself remained unseen. Sapsuckers maintain these shallow wells to harvest sap, creating a food source also used by hummingbirds and other birds, mammals, and insects.

We paused to examine the remarkable hanging nests of Bushtit, woven from spider silk, moss, lichen, grasses, and other plant material, before encountering the birds themselves moving through the vegetation.

Golden-crowned Kinglet descended from the canopy as part of a mixed-species flock centered on Chestnut-backed Chickadee. Several Brown Creeper moved with the flock, giving us excellent views as they spiraled upward along tree trunks. In the nonbreeding season, Chestnut-backed Chickadee commonly associates with kinglets, nuthatches, creepers, and other small woodland birds. These mixed-species flocks become increasingly conspicuous after the breeding season, allowing birds to forage together while benefiting from the vigilance of many individuals for potential predators.

The highlight along the Dungeness River was American Dipper. One bird gave prolonged views while bobbing along the river margin and repeatedly entering fast water. The American Dipper is North America's only truly aquatic songbird, capable of walking and swimming underwater while searching for aquatic invertebrates, small fish, and fish eggs.

At Three Crabs, restored estuarine and nearshore wetlands adjoining open fields produced Northern Shoveler, Marbled Godwit, Peregrine Falcon, Northern Harrier, Cooper's Hawk, and Savannah Sparrow. Restoration at the former Three Crabs site reestablished ecological function across more than 40 acres of estuarine, riparian, and nearshore wetlands. The combination of tidal habitat, open country, and marine shoreline made this a particularly diverse late-summer birding site.

September 13 — Hurricane Ridge: Montane & Subalpine Habitats

We moved from the dry Sequim lowlands into the Olympic Mountains, crossing a compressed sequence of lowland, montane, and subalpine habitats. At Hurricane Ridge, subalpine meadows and wind-pruned conifers supported an entirely different bird community. Horned Lark appeared briefly in open country, while Canada Jay approached closely around the forest margins. Canada Jay remains year-round in northern and high-elevation forests, storing food with sticky saliva beneath bark, under lichens, and among conifer foliage for later use.

Sooty Grouse became the principal target, and persistence eventually produced several individuals in the meadow vegetation. Their seasonal ecology is notable: many mountain populations move from open breeding areas into denser conifer forest at higher elevations in late summer and fall rather than descending for winter. There they feed heavily on conifer needles, buds, and twigs. These seasonal movements can extend many miles, with much of the distance traveled on foot.

An Olympic Chipmunk, an endemic Olympic Peninsula subspecies of Yellow-pine Chipmunk, added a mammalian reminder of the biological isolation of the Olympic high country.

September 14 — Ruby Beach & Hoh Rain Forest

At Ruby Beach, a falling tide exposed rocky intertidal habitat beneath offshore sea stacks. Scoters rode the swells, Bald Eagles perched on Sitka spruce limbs above the shore, Wandering Tattlers worked the wave-washed rocks, and Double-crested, Pelagic, and Brandt's Cormorants were all visible on the offshore stacks. A Fox Sparrow in the coastal thickets was also of interest: birds of the dark Sooty group breed locally along Washington's outer coast, while additional Sooty Fox Sparrows migrate through from farther north in fall.

The intertidal habitat added a broader ecological dimension to the morning, with Giant Green Anemones, sea stars, mussels, limpets, crabs, jellyfish, and barnacles among the organisms exposed by the falling tide.

We then moved inland to the Hoh Rain Forest, where precipitation is dramatically greater than in the Sequim rain shadow. The old-growth forest is dominated by Sitka spruce and western hemlock, with Douglas-fir and bigleaf maple also present, along with abundant epiphytes, snags, and nurse logs. Roosevelt Elk were present in the forest, as was a particularly memorable pale Pacific banana slug.

The avian highlight was Pacific Wren. One individual remained visible for unusually prolonged views while moving through the understory and giving sharp scolding calls. Although the species is famous for its long, remarkably complex breeding song, this September bird was vocalizing with calls rather than song. Pacific Wren is especially characteristic of moist old-growth forests with fallen logs, upturned roots, mosses, ferns, and dense understory.

September 15 — Kalaloch Outer Coast & Coastal Forest

Birding from the Kalaloch bluffs produced an excellent marine assemblage. Black Oystercatcher worked the rocky shoreline, while large numbers of Surf Scoter and White-winged Scoter rested and fed offshore. Western Grebe rode the swells farther out, and Common, Pacific, and Red-throated Loon appeared and disappeared as wave crests lifted them into view. While scanning the ocean for birds, we also spotted a Sea Otter floating among the waves.

On the beach, Caspian Tern—the largest tern in the world—gave excellent scope views, its massive red bill especially conspicuous. Western Gull, characteristic of Washington's outer coast, was much more prominent here than during our earlier birding on the inland Salish Sea. We also saw birds with intermediate mantle and wingtip tones consistent with Western-Glaucous-winged hybrid ancestry. Such birds are common in Washington's hybrid zone and are informally known to birders as "Olympic Gulls"; their plumage often falls between the dark-backed, black-wingtipped Western Gull and the paler Glaucous-winged Gull.

A single Bonaparte's Gull in nonbreeding plumage was another nice find, its dark ear smudge standing

out against the otherwise pale head. Unusually for a gull, Bonaparte's Gull regularly nests in trees in the boreal forest—the only gull species known to do so routinely.

Sanderling fed along the swash zone, repeatedly following retreating waves down the beach before racing back ahead of the incoming surf. A Western Sandpiper foraged among them.

A Merlin then swept through the shoreline birds before perching at the edge of the coastal forest. Its very dark plumage was consistent with the Pacific "Black Merlin" form, which occurs along the Pacific Northwest coast.

In nearby old-growth western redcedar forest, bird activity was relatively quiet beneath the heavy canopy, a characteristic experience in these immense, multilayered forests where much of the wildlife is dispersed through the canopy or concealed within dense vegetation. Golden-crowned Kinglet and Chestnut-backed Chickadee called overhead, while another Pacific Wren approached and scolded in response to an imitated Northern Pygmy-Owl call. A Hairy Woodpecker was sighted, but no Pileated Woodpecker called or showed itself despite numerous characteristic rectangular feeding excavations in snags.

Repeated seawatches from Kalaloch produced Sooty Shearwater far offshore. These highly pelagic migrants breed in the Southern Hemisphere and move north into the North Pacific after breeding. They are common along Washington's outer coast from spring through fall and are the shearwater most regularly seen from shore there. Seeing them from land connected the coastal birding directly to a migration system spanning much of the Pacific Ocean.

A male American Wigeon in subdued eclipse plumage was also present in Kalaloch Creek.

September 16 — Sol Duc Valley, Elwha River & Port Townsend

The final field day began in the old-growth forest of the Sol Duc Valley. Varied Thrush, American Dipper, and salmon were among our targets, but bird activity was limited apart from kinglets high in the canopy and an American Robin—one of relatively few we encountered during the tour. The habitat itself—cold river, towering conifers, moss-draped trunks, and dense fern understory—provided another superb example of the lush west-side old-growth forests of the Olympic Peninsula.

The Elwha River produced one of the most memorable ecological observations of the trip. Chinook Salmon were actively spawning in restored habitat above the former dam sites. Shortly after we discussed the role of salmon eggs as food for American Dipper, a dipper appeared among the spawning fish. Several observers watched it emerge with a bright orange salmon egg in its bill.

The observation provided an unusually direct illustration of the connection among ocean, salmon, river, and bird. Pacific salmon acquire much of their adult biomass at sea and carry marine-derived nutrients inland when they return to spawn. Eggs, carcasses, aquatic invertebrates, scavengers, and other pathways then move those nutrients through freshwater and riparian food webs. On the Elwha, researchers documented the rapid return of marine-derived nutrients to the freshwater food web

following dam removal, including their incorporation into American Dipper.

Our final birding stop brought the trip full circle in Port Townsend. A Golden-crowned Sparrow had arrived in the same yard where we had begun six days earlier. The species breeds in shrubby tundra and mountain habitats in Alaska and northwestern Canada, then migrates south to winter mainly along the Pacific Coast. Its appearance provided an appropriate final marker of the advancing autumn migration.

Summary

Across the week, the defining feature was not any single rarity but the rapid turnover of bird communities across the peninsula: Red Crossbill and Chestnut-backed Chickadee in rain-shadow conifers; Black Turnstone, Surfbird, and Surf Scoter along the Salish Sea; Tufted Puffin, Rhinoceros Auklet, Common Murre, and cormorants offshore; shorebirds on Dungeness mudflats; American Dipper in cold mountain rivers; Sooty Grouse and Canada Jay in the subalpine zone; Pacific Wren in temperate rain forest; and Sooty Shearwater passing beyond the surf of the outer coast.

The route demonstrated especially well how topography, marine influence, precipitation, elevation, habitat, and seasonal migration combine to produce the exceptional avian diversity of the Olympic Peninsula.

BIRDS: 100 species were recorded, of which 2 were Heard Only, 0 were Endemic, 3 were Introduced, 1 was Pre-tour Only, and 1 is listed as Endangered in Washington State.

The eBird link below details the 100 species of birds our group observed during the tour. If you're new to eBird, be sure to click "Show All Details" on the right side of the list to expand the report and reveal where and when each of the birds were seen and how many.

Naturalist Journeys Olympic Peninsula Fall Explorer

9–17 Sep 2026 (9 days)

Following is a list of the birds, mammals, and other species we were fortunate to observe during the trip.

PT = Pre-tour Only, **H** = Heard Only, **I** = Introduced

DUCKS, GEESE, AND WATERFOWL: Anatidae (12)

Canada Goose *Branta canadensis* — Highly adaptable, breeding from Arctic and boreal regions to agricultural landscapes and city parks. Migrating geese often travel in V-shaped formations that can reduce aerodynamic costs for birds following the leader. Seen pre-tour and at Dungeness Landing.

Northern Shoveler *Spatula clypeata* — Its oversized spatulate bill is lined with roughly 110 fine lamellae that act like a sieve, filtering tiny crustaceans, other aquatic invertebrates, and seeds from shallow water. Observed at Three Crabs.

American Wigeon *Mareca americana* — Often called the “baldpate” for the male’s pale forehead. Its short, goose-like bill is well suited to grazing on grasses and aquatic vegetation. Wigeon also sometimes steal food brought to the surface by coots and diving ducks. One male in subdued eclipse plumage was observed in Kalaloch Creek.

Mallard *Anas platyrhynchos* — One of the world’s most widespread and adaptable ducks and the principal wild ancestor of nearly all domestic duck breeds. The striking contrast between the colorful drake and mottled-brown female provides a classic example of sexual dimorphism: bright male breeding plumage functions in courtship and sexual signaling, while the female’s subdued coloration provides camouflage, especially while nesting. Common throughout the tour.

Northern Pintail *Anas acuta* — An elegant, long-necked dabbling duck; the breeding male’s elongated central tail feathers give the species its name. At Kah Tai Lagoon, we watched one dabbling with its tail tipped skyward, and at Three Crabs we saw Northern Pintail both feeding and in flight.

Green-winged Teal *Anas crecca* — North America’s smallest dabbling duck. It favors shallow wetlands and flooded margins, where it feeds by dabbling and picking seeds and small invertebrates from the surface. Seen foraging close to shore at Dungeness Landing and Three Crabs.

Harlequin Duck *Histrionicus histrionicus* — Named for the colorful costume of the traditional harlequin character. It breeds along fast, turbulent mountain streams and spends the nonbreeding season along rocky marine coasts. Seen in the Salish Sea among the San Juan Islands.

Surf Scoter *Melanitta perspicillata* — The adult male is unmistakable, with bold white head patches and a swollen multicolored bill. Surf Scoters dive for mussels, clams, and other benthic invertebrates. Seen in small numbers near Point Wilson and Three Crabs and in large rafts off Kalaloch and Ruby Beach; a few rested on shore.

White-winged Scoter *Melanitta deglandi* — The largest of North America’s three scoters. The white wing patch is conspicuous in flight, and the species dives for clams, mussels, snails, and other hard-shelled prey that can be swallowed whole and crushed in the muscular gizzard. Seen offshore at Kalaloch, with a couple of individuals resting on the beach.

Hooded Merganser *Lophodytes cucullatus* — The male can raise and lower its striking fan-shaped black-and-white crest. Like other mergansers, it is a diving predator that takes small fish, crustaceans, and aquatic insects. A group of females was seen at Kah Tai Lagoon.

Common Merganser *Mergus merganser* — A large fish-eating duck with narrow, serrated bill edges that help grip slippery prey. Broods sometimes combine into groups tended by multiple females, with 40 or more young recorded. Observed at Three Crabs.

Ruddy Duck *Oxyura jamaicensis* — A compact diving duck with a stiff tail often held upright at a jaunty angle. In breeding display, males beat the bill against the inflated neck and chest, forcing air through the feathers and creating bubbles on the water, then finish with a distinctive belch-like call. One was observed at a distance through the scope at Kah Tai Lagoon.

PHEASANTS, GROUSE, AND ALLIES: Phasianidae (1)

Sooty Grouse *Dendragapus fuliginosus* — A characteristic grouse of western conifer forests. Males give remarkably low, ventriloquial hoots during the breeding season, and many mountain populations move upslope into dense conifer forest in late summer and autumn, with much of the journey made on foot. After a long search in the subalpine zone at Hurricane Ridge, we found one—and then six more appeared, including one at very close range.

PIGEONS AND DOVES: Columbidae (4)

Rock Pigeon *Columba livia* (1) — Native to Eurasia and North Africa and domesticated for thousands of years. Domestic pigeons have long been used as message carriers and are famous for their homing ability. Common in developed areas, with many seen at Fort Worden and Friday Harbor.

Band-tailed Pigeon *Patagioenas fasciata* — A native pigeon of western coniferous and mixed forests that tracks shifting crops of berries, acorns, and other foods. Band-tailed Pigeons occur year-round in western Washington, although local numbers can change substantially with season and food supply. Seen well in Steve and Amy's backyard bird sanctuary, though they were a bit too shy to come to the tray feeder they favor when no one is on the back porch.

Eurasian Collared-Dove *Streptopelia decaocto* (1) — After a dramatic natural expansion across Europe in the twentieth century, this species became established in the Bahamas in the 1970s and then spread rapidly across North America. Recorded at Dungeness Landing.

Mourning Dove *Zenaida macroura* — Named for its soft, mournful cooing voice. Its pointed wings produce a distinctive whistling sound during takeoff and flight. Seen in Steve and Amy's backyard and at Three Crabs.

HUMMINGBIRDS: Trochilidae (1)

Anna's Hummingbird *Calypte anna* — The only hummingbird that regularly remains year-round on the Olympic Peninsula. During display dives, males climb high above a target and plunge steeply, producing a sharp sound with specialized tail feathers. Seen well in Steve and Amy's backyard bird sanctuary, where the males' iridescent gorgets glowed brilliantly in the sunlight. A male performed display dives near the Holiday Inn Express in Sequim, and several visited feeders at Railroad Bridge Park.

RAILS, GALLINULES, AND COOTS: Rallidae (1)

American Coot *Fulica americana* — Seems ducklike but is a member of the rail family, with broad lobed toes instead of fully webbed feet. Coots swim readily but also walk on shore and graze on aquatic vegetation. Seen at Kah Tai Lagoon.

OYSTERCATCHERS: Haematopodidae (1)

Black Oystercatcher *Haematopus bachmani* — A rocky-shore specialist that uses its powerful red bill to pry, chisel, and stab mussels, limpets, chitons, and other intertidal invertebrates. Distant scope views came at Ruby Beach, followed by much better looks at Kalaloch the next morning.

PLOVERS AND LAPWINGS: Charadriidae (2)

Black-bellied Plover *Pluvialis squatarola* — North America's largest plover. Breeding adults show a striking black face, throat, and belly against silvery upperparts; nonbreeding birds are much plainer. Several were seen at Dungeness Landing, including one adult still retaining extensive breeding plumage.

Killdeer *Charadrius vociferus* — Named for its ringing "kill-deer" call and readily recognized by the adult's two black breast bands. The species is famous for its broken-wing distraction display near nests and young. Seen foraging at close range on the mudflats at Dungeness Landing.

SANDPIPERS AND ALLIES: Scolopacidae (11)

Marbled Godwit *Limosa fedoa* — A large shorebird with a very long, slightly upturned, bicolored bill and cinnamon-colored underwings. Most breed on northern Great Plains prairies, with smaller breeding populations elsewhere, and spend the nonbreeding season mainly along coasts. Seen in flight at Three Crabs.

Short-billed Dowitcher *Limnodromus griseus* — Feeds with the rapid, piston-like probing action that gives dowitchers their familiar “sewing-machine” appearance. Short- and Long-billed Dowitcher can overlap extensively in plumage and bill length, so voice is often the most reliable field distinction; Short-billed typically gives a mellow, rapid series of notes often rendered as “tu-tu-tu.” Seen well at Dungeness Landing.

Long-billed Dowitcher *Limnodromus scolopaceus* — Extremely similar to Short-billed Dowitcher; its sharper, higher-pitched “keek” call is among the best field marks, while bill length alone is unreliable. Seen well at Dungeness Landing.

Wandering Tattler *Tringa incana* — A sturdy gray shorebird of wave-washed rocks, with yellow legs, a straight dark bill, and a characteristic habit of bobbing its rear body and tail while walking. The name “tattler” refers to its loud alarm calls, while “wandering” reflects its far-ranging movements across the Pacific. Compared with Spotted Sandpiper, it is larger and grayer, with a gray chest in nonbreeding plumage and no white wing stripe in flight. Two were seen in the rocky intertidal at Ruby Beach.

Greater Yellowlegs *Tringa melanoleuca* — A tall, long-legged shorebird with bright yellow legs and a long, slightly upturned bill. It often feeds actively, striding or running through shallow water after small fish and aquatic invertebrates. Seen well at Kah Tai Lagoon, where Three-spined Stickleback are abundant and are an important prey item for foraging yellowlegs.

Ruddy Turnstone *Arenaria interpres* — A stocky shorebird famous for flipping stones, shells, and wrack to expose hidden prey. It is a scarce fall migrant in the Puget Trough and is considered rare there in September. One was seen at Point Hudson among hundreds of Black Turnstones.

Black Turnstone *Arenaria melanocephala* — A Pacific Coast specialist that flips stones and dislodges intertidal prey with its stout bill. In flight it shows a striking black-and-white pattern across the wings, back, and tail. Hundreds were watched at close range at Point Hudson, repeatedly lifting and wheeling together before settling back to forage.

Surfbird *Calidris virgata* — A stout rocky-shore sandpiper that commonly mixes with Black Turnstones. In nonbreeding plumage it is paler and grayer than a Black Turnstone, with a heavier body, stout bill, and greenish-yellow legs. Seen among the much more numerous Black Turnstones.

Sanderling *Calidris alba* — The familiar wave-chaser of sandy beaches, sprinting after retreating surf and racing back ahead of incoming water. Unusually among sandpipers, it lacks a hind toe and has only three toes on each foot, an adaptation that helps it run rapidly over sandy shores. Seen during the Salish Sea boat trip and repeatedly along the outer Pacific coast.

Least Sandpiper *Calidris minutilla* — The smallest shorebird in the world. Its yellowish legs, tiny size, and generally browner, darker plumage help distinguish it from the larger, black-legged Western Sandpiper. Its short, fine bill usually shows a slight droop at the tip. A few were seen at Dungeness Landing.

Western Sandpiper *Calidris mauri* — A tiny black-legged shorebird, generally paler and grayer than Least Sandpiper, with a fine bill that usually droops slightly at the tip and is often longer, especially in females. It breeds mainly in western Alaska and migrates primarily along the Pacific Coast to wintering areas extending from western North America through Mexico and Central America into northern South America. Observed along the Salish Sea and outer Pacific coast.

AUKS, MURRES, AND PUFFINS: Alcidae (4)

Rhinoceros Auklet *Cerorhinca monocerata* — A close relative of puffins. Breeding adults grow a small upright “horn” on the bill that is shed after the breeding season, and like other alcids they propel themselves underwater with their wings. Observed at Fort Worden, Point Hudson, and during the Salish Sea boat trip, including many immature and nonbreeding-plumaged birds.

Tufted Puffin *Fratercula cirrhata* — Washington lists the Tufted Puffin as Endangered after a major long-term decline. In Washington it still breeds on islands along the northern outer coast and at Smith and Protection Islands in the Strait of Juan de Fuca. One breeding-plumaged bird was seen well in flight near Smith Island during our boat trip.

Pigeon Guillemot *Cepphus columba* — A nearshore alcid that nests in rock crevices and occasionally in human-made structures. Breeding adults are dark with bold white wing patches and bright red feet; nonbreeding birds become mottled gray and white. Seen during our Salish Sea boat trip.

Common Murre *Uria aalge* — Murre chicks leave crowded nesting ledges at only about three weeks of age, before they can fly, and go to sea with the male parent, which continues feeding and guarding them. We encountered enormous rafts of murre—dozens to hundreds at a time—and had close views of several father-chick pairs.

GULLS, TERNS, AND SKIMMERS: Laridae (6)

Bonaparte's Gull *Chroicocephalus philadelphia* — A small, delicate, ternlike gull. Nonbreeding adults show a thin black bill and a neat dark ear spot; unlike most gulls, the species commonly nests in trees in boreal forest. One nonbreeding bird stood alone on Kalaloch Beach, conspicuously smaller than the nearby large gulls.

Heermann's Gull *Larus heermanni* — Most of the world population breeds on islands in Mexico's Gulf of California, then disperses north along the Pacific Coast after nesting. The charcoal-gray adults with red bills are characteristic late-summer visitors to Washington. Seen repeatedly on both the Salish Sea and outer coast.

Ring-billed Gull *Larus delawarensis* — A medium-sized gull named for the black ring near the tip of the adult's yellow bill. It is widespread across North America and uses lakes, rivers, estuaries, fields, and coastlines. One was recorded at Dungeness Landing.

Western Gull *Larus occidentalis* — A characteristic large gull of the Pacific Coast, breeding from Washington south through California and Baja California. Adults show a dark slate-gray mantle and black wingtips. Several were seen well on the outer coast, allowing direct comparison with paler Glaucous-winged Gulls.

California Gull *Larus californicus* — Primarily an inland breeder in western North America, but after nesting, many birds disperse westward to marine waters. This post-breeding movement makes California Gull especially common in the Puget Trough, along Washington's outer coast, and even well offshore from July through October. Large numbers were seen throughout our September tour in both the Salish Sea and along the Pacific coast.

Glaucous-winged Gull *Larus glaucescens* — A common large gull of Washington's inland marine waters and outer coast, with pale gray wingtips rather than the black wingtips of Western Gull. It hybridizes extensively with Western Gull; birds of mixed ancestry are widespread in Washington and are informally called "Olympic Gulls." Very common throughout the tour, especially around the inland Salish Sea.

Caspian Tern *Hydroprogne caspia* — The world's largest tern, immediately recognizable by its massive red bill and powerful flight. Its harsh, grating calls are much deeper than those of smaller terns. Seen and heard in flight at Three Crabs and seen well on the beach at Kalaloch.

GREBES: Podicipedidae (3)

Pied-billed Grebe *Podilymbus podiceps* — A compact, brownish grebe with a thick, chickenlike bill; breeding adults show a black band across the bill. It often rides very low in the water and can disappear almost without a splash by adjusting its buoyancy, trapping water in its plumage so that it can sink deeply or remain just below the surface. Seen at Kah Tai Lagoon.

Red-necked Grebe *Podiceps grisegena* — Breeding adults show a rich chestnut neck, dark cap, and pale

gray face. Courtship includes highly ritualized “discovery,” “weed,” and “greeting” ceremonies rather than the spectacular rushing display characteristic of Western and Clark’s Grebes. Red-necked Grebe breeds mainly on inland freshwater lakes and wetlands, then moves to marine waters after breeding; in Washington it is common in winter on the Salish Sea and along the outer coast. Seen among the San Juan Islands during our boat trip.

Western Grebe *Aechmophorus occidentalis* — An elegant, long-necked, black-and-white grebe of western North America. We checked the facial pattern carefully: in Western Grebe the black cap extends below and surrounds the eye, whereas in Clark’s Grebe the eye is largely surrounded by white; Western also tends to have a duller yellow to olive bill. Western Grebe breeds mainly on large freshwater lakes, reservoirs, and marshes, then moves largely to marine waters in winter. In Washington, many winter in the Salish Sea and along the outer coast, although wintering numbers in the state’s inner marine waters have declined dramatically since the late 1970s. Observed riding the swells off Kalaloch.

LOONS: Gaviidae (3)

Red-throated Loon *Gavia stellata* — The smallest North American loon, with a slender bill that is often held slightly upturned. Breeding adults have a gray head and reddish throat patch. One seen at Kalaloch was still retaining substantial breeding color.

Pacific Loon *Gavia pacifica* — A striking breeding-plumaged loon with a silvery-gray head, black throat, and bold vertical black-and-white striping on the neck. It breeds on northern tundra lakes and spends the nonbreeding season largely on marine waters of the Pacific. Seen from Kalaloch.

Common Loon *Gavia immer* — A powerful diving bird famous for the yodels, wails, and tremolos of its northern breeding lakes. Breeding adults have a glossy black head and neck and a checkered black-and-white back. A breeding-plumaged bird and another bird in flight were observed at Three Crabs; birds in nonbreeding plumage were seen from Kalaloch.

SHEARWATERS AND PETRELS: Procellariidae (1)

Sooty Shearwater *Ardenna grisea* — One of the world’s great long-distance migrants. Sooty Shearwaters breed in the Southern Hemisphere, especially around New Zealand and southern South America, then migrate north across the Pacific to feed in productive North Pacific waters. By September, many are beginning their southward migration back toward Southern Hemisphere breeding grounds. Birds were seen flying far offshore from Kalaloch.

CORMORANTS AND SHAGS: Phalacrocoracidae (3)

Brandt’s Cormorant *Urile penicillatus* — A large, strictly coastal cormorant with a heavy bill. Breeding adults develop vivid blue gular skin bordered by buffy feathers; outside the breeding season the throat becomes much less colorful. Many were seen roosting on offshore rocks during our Salish Sea boat trip.

Pelagic Cormorant *Urile pelagicus* — The smallest and most slender of Washington’s regularly occurring cormorants, with a thin bill and relatively long tail. Breeding adults show white flank patches and fine white head and neck plumes. Observed repeatedly in the Salish Sea and along the outer Pacific coast.

Double-crested Cormorant *Nannopterum auritum* — A widespread cormorant with orange-yellow facial skin. Its feathers become readily waterlogged, reducing buoyancy while diving; afterward it often perches with wings spread to dry. Seen pre-tour at Angle Lake and repeatedly around the Salish Sea and outer Pacific coast.

HERONS, EGRETS, AND BITTERNS: Ardeidae (1)

Great Blue Heron *Ardea herodias* — North America's largest heron. It stalks fish, amphibians, crustaceans, and occasionally small mammals, and in flight carries the neck folded back in an S-shape. Seen repeatedly at Kah Tai Lagoon and around the Salish Sea.

PELICANS: Pelecanidae (1)

Brown Pelican *Pelecanus occidentalis* — A spectacular plunge-diver that folds its wings and drops headfirst into marine waters after fish. Pacific populations rebounded dramatically after DDT-related eggshell thinning and other pressures were addressed. Squadrons flew low over the waves at Kalaloch, and we had excellent looks near the mouth of Kalaloch Creek; the species became a group favorite.

NEW WORLD VULTURES: Cathartidae (1)

Turkey Vulture *Cathartes aura* — One of the few birds with a highly developed sense of smell, allowing it to locate carrion partly by odor. It typically soars with the wings held in a shallow V, rocking gently in rising air. Seen on thermals over Steve and Amy's backyard, Friday Harbor, and Railroad Bridge Park.

OSPREY: Pandionidae (1)

Osprey *Pandion haliaetus* — A fish specialist with a reversible outer toe and spiny foot pads that help grip slippery prey. In flight it commonly turns a captured fish headfirst to reduce drag. One was seen flying over Three Crabs.

HAWKS, EAGLES, AND KITES: Accipitridae (4)

Cooper's Hawk *Astur cooperii* — An agile woodland hawk with short, rounded wings and a long tail, well suited to pursuing birds through trees and shrubs. It also hunts frequently around feeders and suburban neighborhoods. One flew past us at Three Crabs and then perched for scope views.

Northern Harrier *Circus hudsonius* — A low-flying raptor of marshes and open country. Its owl-like facial disk channels sound toward the ears, allowing it to use hearing as well as vision when hunting. Brown female-type birds coursed low over the marshes at Three Crabs.

Bald Eagle *Haliaeetus leucocephalus* — A major North American conservation success story: populations recovered strongly after DDT restrictions, legal protection, and habitat recovery. Both adult and immature birds were seen perched and in flight throughout the tour.

Red-tailed Hawk *Buteo jamaicensis* — A widespread, highly variable buteo that favors open country with elevated hunting perches. Adults typically show the familiar brick-red tail. One was seen perched on a power pole as we drove away from Dungeness Landing.

KINGFISHERS: Alcedinidae (1)

Belted Kingfisher *Megasceryle alcyon* — One of the relatively few North American birds in which the female is more colorful than the male; females add a rusty belly band below the blue-gray breast band. It hunts by watching from perches or hovering before plunging after aquatic prey. Heard several times and seen well at Kah Tai Lagoon and Dungeness Landing.

WOODPECKERS: Picidae (4)

Downy Woodpecker *Dryobates pubescens* — North America's smallest woodpecker. Its short bill and small size let it forage on slender branches and stems that larger woodpeckers seldom use. A male gave us excellent close views at Railroad Bridge Park.

Hairy Woodpecker *Leuconotopicus villosus* — A larger relative of Downy Woodpecker with a much longer, heavier bill. Pacific birds are darker and browner below and show less white spotting in the wings than eastern birds. Seen well in Steve and Amy's backyard bird sanctuary and along the road to Big Cedar Grove.

Pileated Woodpecker *Dryocopus pileatus* (HO) — North America's largest widespread woodpecker and a powerful excavator that often leaves large rectangular feeding holes in dead wood. We heard its calls and drumming in the Hoh Rain Forest and found characteristic excavations there and at Big Cedar Grove.

Northern Flicker *Colaptes auratus* — Unusual among woodpeckers in foraging extensively on the ground, where ants make up a large share of its diet. Most Olympic Peninsula birds are of the western Red-shafted form, with salmon-red wing and tail linings. Heard and seen repeatedly from the northeastern rain shadow to Hurricane Ridge.

FALCONS AND CARACARAS: Falconidae (2)

Merlin *Falco columbarius* — A compact, powerful falcon specialized for pursuing small birds in fast, direct flight. At Kalaloch, one Merlin swept through the shoreline birds, sending them into the air, before perching atop a Sitka spruce. Its exceptionally dark plumage was consistent with the Pacific "Black Merlin" subspecies, *Falco columbarius suckleyi*, a rare breeder in coastal forests from Alaska south through British Columbia to Washington. Merlins become much more widespread in western Washington during migration and winter.

Peregrine Falcon *Falco peregrinus* — One of the world's fastest birds, capable of exceeding 200 mph during steep hunting stoops. Peregrines prey primarily on other birds; along coasts and estuaries, shorebirds and waterfowl are important prey. One was observed perched at Three Crabs, where prolonged scope views allowed us to study this formidable aerial predator at rest.

CROWS, JAYS, AND MAGPIES: Corvidae (4)

Canada Jay *Perisoreus canadensis* — A year-round resident of northern and high-elevation conifer forests. It uses sticky saliva to fasten cached food beneath bark, lichens, and conifer foliage, helping it survive winter and even nest while snow still blankets the landscape. Several approached closely at Hurricane Ridge.

Steller's Jay *Cyanocitta stelleri* — A large crested jay of western forests. Coastal birds in our region have very dark heads with blue streaking on the crest, contrasting with the whiter forehead markings of many interior birds. Seen at close range in Steve and Amy's backyard and heard frequently in forested habitats.

American Crow *Corvus brachyrhynchos* — A highly intelligent and social corvid. Family groups may remain together for years, and young from earlier broods sometimes help build nests, feed later broods, and defend the territory. Compared with Common Raven, American Crow is smaller, with a lighter bill, smoother throat, and a shorter tail that appears rounded or squared in flight; its familiar call is a clear "caw." Common throughout the tour and frequently heard and seen.

Common Raven *Corvus corax* — A massive corvid with a heavy bill, shaggy throat feathers, and a wedge-shaped tail. Compared with American Crow, it is much larger and heavier-billed, with longer, narrower wings and a distinctly wedge-shaped tail in flight. Its voice is typically a deep, resonant croak rather than a crow's harsher "caw." Ravens are accomplished soarers and aerial acrobats and often walk with a deliberate, almost swaggering gait on the ground. We watched them soaring at Railroad Bridge Park and had an unusually close look at one walking proudly along the road in the Hoh Rain Forest.

TITS, CHICKADEES, AND TITMICE: Paridae (2)

Black-capped Chickadee *Poecile atricapillus* — A year-round resident capable of controlled nighttime hypothermia to conserve energy and well known for caching food. Its hippocampus, a brain region important in spatial memory, enlarges in autumn as food caching intensifies and later shrinks again as those demands lessen. In western Washington it is especially associated with deciduous and mixed woodland, edges, wetlands, and yards rather than the densest coastal conifer forest. We encountered it mainly in lower-elevation mixed habitats early in the tour.

Chestnut-backed Chickadee *Poecile rufescens* — A characteristic bird of moist Pacific coastal conifer forests, with additional disjunct inland populations in the northern Rockies. In the nonbreeding season it commonly joins—and often sits at the heart of—mixed-species flocks with kinglets, nuthatches, creepers, and other small woodland birds. Seen in Steve and Amy’s backyard and repeatedly on forest walks.

LARKS: Alaudidae (1)

Horned Lark *Eremophila alpestris* — A ground-dwelling bird of open country, named for the small black feather tufts that breeding males can raise on the head. The species occupies open habitats ranging from prairie and tundra to alpine and subalpine openings. We had distant views at Hurricane Ridge.

LONG-TAILED TITS: Aegithalidae (1)

Bushtit *Psaltiriparus minimus* — A tiny, highly social songbird that travels in busy flocks. Pairs build remarkable hanging, socklike nests from spider silk and plant material; adult females have pale eyes, while adult males have dark eyes. At Railroad Bridge Park we examined an inactive nest and then found the birds themselves moving through Ocean Spray and other shrubs.

KINGLETS: Regulidae (1)

Golden-crowned Kinglet *Regulus satrapa* — A tiny conifer-forest bird weighing only a few grams, yet capable of surviving very cold northern winters through high metabolism and excellent insulation. Several descended from the canopy at Railroad Bridge Park, giving us unusually good views of their bright crowns as they traveled with a mixed-species flock.

NUTHATCHES: Sittidae (1)

Red-breasted Nuthatch *Sitta canadensis* — A conifer specialist famous for moving headfirst down trunks, letting it inspect bark from angles unavailable to many other birds. Its nasal “yank-yank” call is a characteristic sound of western conifer forests. Seen well in Steve and Amy’s backyard and at Railroad Bridge Park and heard repeatedly during the tour.

TREECREEPERS: Certhiidae (1)

Brown Creeper *Certhia americana* — Superbly camouflaged against bark, Brown Creeper typically begins low on a trunk and spirals upward while probing crevices with its fine, decurved bill. Several traveled with the mixed flock at Railroad Bridge Park, giving excellent views as they hitched up tree trunks in their distinctly mouse-like fashion.

WRENS: Troglodytidae (2)

Pacific Wren *Troglodytes pacificus* — One of the smallest forest birds in the region but the source of an extraordinarily complex song: males can string together dozens of phrases in songs lasting 5–10 seconds. In the Hoh Rain Forest, one bird perched in the open for exceptional views. Another came in close in the Big Cedar Grove but was seen only fleetingly by a few. Late in the season, the birds we encountered gave sharp scolding calls rather than their full breeding songs.

Bewick's Wren *Thryomanes bewickii* — Recognizable by its long white eyebrow, cocked tail, and varied song. Once widespread in eastern North America, it disappeared from much of that region during the twentieth century; the causes remain uncertain, with habitat change and competition with House Wren among the proposed factors. One individual was briefly glimpsed in shrubs at Dungeness Landing.

DIPPERS: Cinclidae (1)

American Dipper *Cinclus mexicanus* — North America's only truly aquatic songbird. It dives and walks along streambeds, using its wings underwater while taking aquatic insect larvae, small fish, and fish eggs; nictitating membranes protect the eyes. One gave prolonged views in the cold Dungeness River, and on the Elwha we watched another carry a bright orange Chinook Salmon egg—one of the tour's most memorable observations.

STARLINGS: Sturnidae (1)

European Starling *Sturnus vulgaris* (I) — Introduced to New York City's Central Park in the late nineteenth century, with major releases in 1890 and 1891, the species spread rapidly across North America. An accomplished vocal mimic, it can incorporate the calls and songs of other birds—and even environmental sounds—into its remarkably varied repertoire. Fresh autumn plumage is heavily spotted because the newly grown feathers have pale tips; as those tips wear away through winter, the glossy, less-spotted breeding plumage is gradually revealed. Common at Kalaloch.

THRUSHES AND ALLIES: Turdidae (1)

American Robin *Turdus migratorius* — One of North America's most familiar and adaptable thrushes, occupying habitats from lawns and forest edges to mountains and coastal clearings. Although present year-round in western Washington, the population changes seasonally: many local breeding birds move south or disperse after nesting, while robins from farther north migrate into or through the region later in fall. We saw surprisingly few during this particular tour, perhaps reflecting that seasonal transition before larger fall and winter flocks had formed.

WAXWINGS: Bombycillidae (1)

Cedar Waxwing *Bombycilla cedrorum* — A highly social fruit-eater named for the waxy red appendages that tip the secondary wing feathers. During courtship, pairs may pass berries or other small objects back and forth, and birds feeding heavily on overripe fruit can occasionally become intoxicated by fermentation. A flock passed us at Kah Tai Lagoon.

FINCHES, EUPHONIAS, AND ALLIES: Fringillidae (3)

House Finch *Haemorhous mexicanus* — Native to western North America and Mexico. In the 1940s, illegally sold cage birds marketed as "Hollywood Finches" were released around New York City and Long Island, founding the eastern population. From there, House Finch spread rapidly across much of the continent and eventually met the native western population in the Great Plains. Seen at Railroad Bridge Park.

Red Crossbill *Loxia curvirostra* — The crossed mandibles are specialized for prying apart conifer cone scales and extracting seeds. North American Red Crossbill occur in multiple call types with differing

average bill sizes and conifer associations; recordings made before the tour and examined as spectrograms identified our Port Townsend birds as Type 4, often called the “Douglas-fir Crossbill.” Type 4 is strongly associated with Douglas-fir but is not restricted to it, and Red Crossbill can breed in almost any season when cone crops are abundant. Many visited the birdbaths in Steve and Amy’s backyard sanctuary, providing exceptional views.

Pine Siskin *Spinus pinus* — A highly nomadic finch whose movements track irregular conifer-seed crops. In poor seed years, large numbers may irrupt far beyond areas where they were abundant the previous season. Seen well in Steve and Amy’s backyard bird sanctuary.

NEW WORLD SPARROWS: Passerellidae (7)

Fox Sparrow *Passerella iliaca* — The Sooty Fox Sparrow group includes some of the darkest and largest Fox Sparrows, with rich brown plumage and heavy spotting below. Sooty Fox Sparrows breed locally along Washington’s outer coast, while additional birds from farther north move through western Washington in fall. One was seen in the thickets at Ruby Beach among Song Sparrows.

Dark-eyed Junco *Junco hyemalis* — The Oregon form predominates in western Washington, with a dark hood contrasting with a warm brown back and flanks and flashing white outer tail feathers in flight. Many populations breed in the Pacific Northwest, while additional birds arrive for winter. Common during the tour.

White-crowned Sparrow *Zonotrichia leucophrys* — Young birds learn the local song tradition, producing striking regional dialects. First-winter birds retain brown and buff or gray crown stripes rather than the crisp black-and-white head pattern of adults. Seen well in Steve and Amy’s backyard bird sanctuary, including immature birds.

Golden-crowned Sparrow *Zonotrichia atricapilla* — Breeds in tundra and shrubby mountain habitats from British Columbia north through Alaska, then winters primarily along the Pacific Coast. The first Golden-crowned Sparrow of the season appeared in Steve and Amy’s backyard when we returned on the final day of the tour.

Savannah Sparrow *Passerculus sandwichensis* — A widespread bird of grasslands, meadows, saltmarshes, and other open habitats, with a song that includes a thin, insectlike buzz. The common name refers to Savannah, Georgia; the scientific name comes from Sandwich Sound—the historic name for Prince William Sound in Alaska, where the specimen underlying the original scientific description was collected. Seen at Three Crabs, Hurricane Ridge, and Ruby Beach.

Song Sparrow *Melospiza melodia* — One of North America’s most geographically variable birds; Cornell currently recognizes 24 subspecies. Coastal and northern populations are generally darker and more heavily streaked than the pale forms of arid regions. Seen at several locations throughout the tour, with Pacific Northwest birds showing the region’s characteristic dark, heavily streaked appearance.

Spotted Towhee *Pipilo maculatus* — A large, dark sparrow famous for its vigorous two-footed backward scratching through leaf litter—the familiar “towhee two-step.” Its red eyes, rufous flanks, and boldly white-spotted upperparts are distinctive. Glimpsed among shadowy bushes in Steve and Amy’s backyard sanctuary and at Railroad Bridge Park.

TROUPIALS AND ALLIES: Icteridae (1)

Red-winged Blackbird *Agelaius phoeniceus* — One of North America’s most abundant birds. Breeding males advertise from marsh vegetation by flashing red-and-yellow shoulder patches and giving the familiar “konk-la-ree” song. Numerous birds were observed at Kah Tai Lagoon, both overhead and among the cattails.

NEW WORLD WARBLERS: Parulidae (2)

Orange-crowned Warbler *Leiothlypis celata* — Despite the name, the small orange crown patch is usually concealed. A common western breeder in shrubby and open woodland habitats, it often forages quietly among leaves and low vegetation. One silent bird was glimpsed briefly in the open at Dungeness Landing.

Yellow-rumped Warbler *Setophaga coronata* — One of North America's most adaptable warblers. Its ability to digest waxes in berries allows many individuals to remain farther north in winter than most other warblers. One was seen at Dungeness Landing; together with Orange-crowned Warbler, it was the only warbler species recorded on the tour.

CARDINALS AND ALLIES: Cardinalidae (1)

Western Tanager *Piranga ludoviciana* (PT) (HO) — A long-distance migrant that breeds widely in western coniferous and mixed forests and winters mainly in Mexico and Central America. In autumn many move quietly through a broad variety of wooded habitats. One was heard calling at Angle Lake Park during the pre-tour outing.

MAMMALS — 11 species

RODENTS: Rodentia

Olympic Chipmunk *Neotamias amoenus caurinus* — An Olympic Peninsula endemic subspecies of Yellow-pine Chipmunk, found nowhere else in the world. Especially characteristic of subalpine forest and meadow habitats in the Olympic Mountains, it reflects the long biogeographic isolation of the peninsula. One was encountered at Hurricane Ridge.

Douglas Squirrel *Tamiasciurus douglasii* — This small, feisty native squirrel—often called a “chickaree”—was seen at the Dungeness River Nature Center and in the Hoh Rain Forest. A classic larder hoarder, it stores large quantities of conifer cones and seeds in middens and also eats fungi, sometimes wedging mushrooms into branch crotches to dry and cache for later use.

CARNIVORES: Carnivora

WEASELS AND OTTERS: Mustelidae

North American River Otter *Lontra canadensis* — Three sleek otters were observed swimming at Fort Worden. River Otters are amphibious members of the weasel family that use rivers, lakes, estuaries, bays, and even marine shorelines. They are agile aquatic predators that feed mainly on fish but also take crayfish, crabs, amphibians, and other prey.

Sea Otter *Enhydra lutris* — The largest member of the weasel family. Seen in the Pacific surf at Kalaloch. Sea Otters possess the densest fur of any mammal—up to about a million hairs per square inch at its thickest—and lack the insulating blubber typical of most marine mammals. Washington's Sea Otters were extirpated by the fur trade and reestablished after 59 animals from Amchitka Island, Alaska, were released on the Washington coast in 1969 and 1970. By preying on sea urchins and other grazers, Sea Otters can strongly influence kelp-forest structure and are considered a keystone species.

PINNIPEDS: Pinnipedia

Harbor Seal *Phoca vitulina* — Many were seen hauled out during our San Juan Islands boat trip and on Cline Spit near Dungeness Landing, with another swimming in the surf at Kalaloch and

exceptionally close views at John Wayne Marina. Harbor Seals divide their time between coastal waters and haul-outs, feeding opportunistically on fish, shellfish, crustaceans, and cephalopods.

Steller Sea Lion *Eumetopias jubatus* — The largest member of the eared-seal family. A few were seen swimming near Point Wilson Lighthouse at Fort Worden, and large numbers occupied rocky haul-outs during our Salish Sea boat trip. Their external ear flaps and ability to rotate the hind flippers forward beneath the body distinguish sea lions and other eared seals from true seals.

Northern Fur Seal *Callorhinus ursinus* — Despite its name, this is an eared seal in the sea lion family, Otariidae, rather than a true seal. An unexpected find well inside the Salish Sea. Northern Fur Seals are highly pelagic, spending most of their lives in the open North Pacific. Their small heads, very short pointed snouts, extremely dense fur, prominent pale whiskers in adults, and exceptionally long flippers help distinguish them from the more familiar California Sea Lion.

CETACEANS: Cetacea

Harbor Porpoise *Phocoena phocoena* — A small, shy cetacean glimpsed from Hood Canal Bridge and in the Strait of Juan de Fuca during our whale watch. Harbor Porpoise has only a very short, poorly defined beak rather than the prominent snout of many dolphins and shows a low, triangular dorsal fin; its brief, unobtrusive surfacings can make it surprisingly difficult to follow.

Humpback Whale *Megaptera novaeangliae* — A Humpback Whale was observed in Canadian waters near Victoria. Researchers identify individuals from the unique combination of pigmentation, scars, shape, and trailing-edge pattern of the underside of the tail flukes. Humpbacks have extraordinarily long pectoral fins—approaching one-third of body length—and some populations use coordinated bubble-net feeding to concentrate schooling prey.

EVEN-TOED UNGULATES: Artiodactyla

Columbian Black-tailed Deer *Odocoileus hemionus columbianus* — The coastal subspecies of Mule Deer, native to western Washington and other portions of the Pacific Northwest west of the Cascade crest. It favors conifer forest, woodland edges, brushy openings, and disturbed habitats. Seen at close range in Port Townsend, along the drive toward Hurricane Ridge, and in the Hoh Rain Forest.

Roosevelt Elk *Cervus canadensis roosevelti* — The largest North American elk subspecies; mature bulls can exceed 1,000 pounds. A cow was seen along the road into the Hoh Rain Forest. The subspecies was named for Theodore Roosevelt in 1897, and protecting Olympic Peninsula elk and their forest habitat was a major reason President Roosevelt established Mount Olympus National Monument in 1909. Olympic National Park today protects one of the great wild populations of Roosevelt Elk.

OTHER SPECIES — selected natural-history observations

RAY-FINNED FISHES: Actinopterygii

Coho Salmon *Oncorhynchus kisutch* — Juvenile Coho were seen in a small spring creek in the Hoh Rain Forest. Young Coho typically remain in freshwater for about a year or longer before smolting and migrating to sea; small stream fish that retain parr marks and have not yet become silvery are fry or parr rather than smolts. Most then spend about 18 months to two years feeding and growing in the ocean before returning with remarkable fidelity to the stream or watershed where they were born to spawn.

Like other Pacific salmon, Coho die after spawning, returning the marine-derived nutrients stored in their bodies to the freshwater and forest ecosystems where their lives began.

Chinook Salmon *Oncorhynchus tshawytscha* — Observed actively spawning in the Elwha River in habitat reopened after removal of the Elwha and Glines Canyon dams. Chinook rapidly recolonized reaches above the former dam sites, and September is an excellent time to see adults and their large redds in accessible portions of the restored river. Chinook typically spend about 2–4 years feeding and growing in the ocean, although individuals may remain at sea from 1–6 years before returning to freshwater to spawn. Like other Pacific salmon, they die after spawning, returning marine-derived nutrients to the river and surrounding ecosystem.

ECHINODERMS: Echinodermata

Ochre Sea Star *Pisaster ochraceus* — A classic keystone predator of Pacific rocky shores. At Ruby Beach we found individuals ranging from deep purple to brilliant orange. By consuming California Mussels and other prey, Ochre Sea Stars can prevent mussels from monopolizing limited rock surface and thereby help maintain intertidal diversity.

Pacific Sand Dollar *Dendraster excentricus* — We found white tests scattered along Kalaloch Beach, and one dead individual with some of its spines still intact. Living sand dollars are covered with thousands of tiny gray-to-purple spines used for locomotion and feeding. Juveniles possess an extraordinary adaptation to life in shifting sand: they selectively ingest dense mineral grains, especially magnetite-rich grains, and store them in an intestinal diverticulum that acts as a “weight belt,” adding ballast that helps keep the young animals anchored in moving sediment. As the sand dollars grow larger, they eventually shed this internal ballast.

ARTHROPODS: Arthropoda

CRUSTACEANS: Crustacea

Acorn Barnacles *Subclass Cirripedia* — These seemingly motionless animals are highly specialized crustaceans that feed by sweeping feathery modified legs called cirri through the water. Charles Darwin devoted roughly eight years to an exhaustive study of living and fossil barnacles, work that deepened his understanding of variation, species boundaries, and classification.

Gooseneck Barnacle *Pollicipes polymerus* — A stalked barnacle of wave-battered rocky shores. Medieval Europeans once believed that Barnacle Geese developed from gooseneck barnacles or similar objects growing on floating timber—an imaginative explanation for birds that appeared in winter but nested far to the north beyond the experience of most observers.

Pelagic Gooseneck Barnacles *Lepas spp.* — Found attached to floating debris collected from the ocean. Once submerged, they extended feathery cirri to filter food from the water. Unlike their rocky-shore relatives, these pelagic barnacles typically spend their adult lives attached to drifting objects such as logs, buoys, floating seaweed, and marine debris.

Thatched Barnacle *Semibalanus cariosus* — A large acorn barnacle of exposed Pacific shores, readily recognized by its heavy shell plates and deeply sculpted ribs with projecting edges that give the shell a distinctly thatched appearance.

Dungeness Crab *Metacarcinus magister* — Shells and molts along the shore gave us an opportunity to distinguish dead crabs from shed exoskeletons. The species takes its common name from Dungeness, Washington, where the first commercial fishing for it developed; a small West Coast fishery was underway by 1848. Dungeness Crab remains one of Washington’s most important commercial shellfish.

Kelp Crab *Pugettia sp.* — Seen clinging to pilings at Friday Harbor. Northern Kelp Crab and Graceful

Kelp Crab both occur in the region, so without a diagnostic photograph it is safest to leave our animal at genus level. Kelp crabs are closely associated with kelp, eelgrass, and other marine vegetation and feed heavily on algae.

Beach Hoppers *Family Talitridae* — Small terrestrial amphipod crustaceans were abundant among wrack and debris along Ruby Beach, springing away when disturbed. Beach hoppers consume stranded seaweed and other organic material and in turn provide an important food source for shorebirds and other beach predators.

INSECTS: Insecta

MANTISES: Mantodea

European Mantis *Mantis religiosa* — Seen at the Dungeness River Nature Center. This large mantis is introduced rather than native to Washington and is now well established in much of the state. Through binoculars we could see the characteristic dark “bull’s-eye” marking on the inner surface of the grasping foreleg, one of the species’ most useful field marks.

DRAGONFLIES AND DAMSELFLIES: Odonata

Blue Dasher *Pachydiplax longipennis* — Seen perched during the pre-tour walk at Angle Lake. This small skimmer dragonfly often perches conspicuously; mature males develop a powdery blue abdomen, while females and immature males are more strongly patterned with yellow.

Eight-spotted Skimmer *Libellula forensis* — Observed perched at Angle Lake. The name refers to the eight dark wing spots of this dragonfly; mature males also develop conspicuous white patches between the dark marks, creating one of the most striking dragonfly wing patterns in western North America.

Common Green Darner *Anax junius* — Seen flying at Angle Lake. This large green-and-blue dragonfly is Washington’s official state insect, designated in 1997. Common Green Darner includes both migratory populations capable of long seasonal movements and populations whose individuals remain more locally resident.

MOLLUSKS: Mollusca

CHITONS: Polyplacophora

MOPALIID CHITONS: Mopaliidae

Hairy Chiton *Mopalia ciliata* — Identified by the dense fringe of bristles surrounding its eight shell plates. Like other chitons, it grazes with a radula whose teeth are reinforced with iron-rich minerals, allowing them to scrape algae from hard rock.

TRUE LIMPETS: Patellogastropoda

Limpets *Order Patellogastropoda* — Cone-shaped shells conceal surprisingly mobile marine snails. Many limpet species return repeatedly to a favored resting place, gradually fitting the shell margin to a “home scar” in the rock. Limpets are important prey for Black Oystercatchers and other intertidal predators.

WHELKS: Buccinoidea

Whelks *Superfamily Buccinoidea* — Predatory or scavenging marine snails seen in a striking range

of colors. Feeding strategies vary by species, but many use a muscular proboscis and radula to attack other mollusks, worms, or carrion.

MUSSELS: Mytilidae

California Mussel *Mytilus californianus* — A foundation species of wave-exposed Pacific rocky shores, forming dense beds that create habitat for many smaller organisms. Mussels anchor themselves with tough byssal threads and are major prey for Ochre Sea Stars, Black Oystercatchers, and other coastal predators.

BANANA SLUGS: Ariolimacidae

Pacific Banana Slug *Ariolimax columbianus* — Encountered in the Hoh Rain Forest and along the Big Cedar trail. Its copious mucus aids locomotion, limits water loss, and can deter predators. Banana slugs consume fungi and decaying plant material and can help disperse fungal spores. Only Steve volunteered for the traditional Pacific Northwest rite of passage: kissing one.

CNIDARIANS: Cnidaria

Aggregating Anemone *Anthopleura elegantissima* — Formed colorful carpets across the rocky intertidal at Ruby Beach. Individuals reproduce both sexually and by fission; repeated cloning can create large patches of genetically identical anemones. Where unrelated colonies meet, specialized stinging structures called acrorhagi can be used in territorial battles, often leaving a narrow bare zone between colonies.

Giant Green Anemone *Anthopleura xanthogrammica* — A large intertidal predator whose tentacles capture mussels, crabs, small fishes, even birds. Much of its vivid green coloration comes from photosynthetic algae and dinoflagellates living symbiotically within its tissues.

Giant Plumose Anemone *Metridium farcimen* — Seen on pilings at Friday Harbor. This large, feathery anemone thrives on docks, pilings, and rocky subtidal surfaces, where hundreds of fine tentacles capture suspended plankton from passing water.

Pacific Sea Nettle *Chrysaora fuscescens* — A large sea nettle was washed ashore at Ruby Beach. This common jelly of the Washington outer coast is especially conspicuous in coastal waters during summer and fall. Sea nettles are active predators whose long tentacles bear stinging nematocysts used to capture zooplankton, small fishes, and other soft-bodied prey.

PLANTS: Plantae

BRYOPHYTES: Bryophyta

Rain-forest Mosses — Mosses draped Bigleaf Maple limbs and covered logs throughout the Hoh Rain Forest. Species we discussed included Oregon Beaked Moss (*Kindbergia oregana*), Cat-tail Moss (*Isoetecium myosuroides*), Menzies' Tree Moss (*Antitrichia curtipendula*), and Stair-step Moss (*Hylocomium splendens*). These are epiphytes or ground-layer plants, not parasites: they obtain water and nutrients from precipitation, dust, and their immediate substrate rather than tapping the host tree's vascular system.

VASCULAR PLANTS: Tracheophyta

LYCOPHYTES: Lycopodiophyta

Oregon Spikemoss *Selaginella oregana* — Despite its moss-like appearance, this epiphyte is a vascular lycophyte rather than a true moss. Its feathery sprays often drape moss-covered branches in humid coastal forests and contributed to the Hoh's hanging-garden appearance.

FERNS AND HORSETAILS: Polypodiopsida

HORSETAILS: Equisetaceae

Scouring Rush *Equisetum hyemale* — A living representative of an ancient vascular-plant lineage. Silica deposited in the stems makes them abrasive; historically, the stems were used for scouring and polishing wood and other materials.

CHAIN FERNS: Blechnaceae

Deer Fern *Struthiopteris spicant* — A native forest fern with two visibly different frond types: broad, spreading sterile fronds and narrower, more upright fertile fronds. The older scientific name *Blechnum spicant* remains common in field guides.

WOOD FERNS: Dryopteridaceae

Western Sword Fern *Polystichum munitum* — One of the signature evergreen ferns of Pacific Northwest forests. Its long, leathery fronds can form extensive understory stands, especially in moist lowland and coastal forests.

LADY FERNS: Athyriaceae

Lady Fern *Athyrium filix-femina* — A delicate native fern of moist forests, streambanks, and openings. Unlike evergreen Sword Fern, its soft, finely divided fronds generally die back for winter and return from perennial rhizomes in spring.

POLYPODY FERNS: Polypodiaceae

Licorice Fern *Polypodium glycyrrhiza* — Often grows on mossy trunks, logs, rocks, and Bigleaf Maples in humid coastal forest. Its creeping rhizomes are intensely sweet and licorice-flavored. The fronds can curl or dry during summer drought and revive with cooler, wetter weather.

GYMNOSPERMS: Pinophyta

PINES, SPRUCES, FIRS, AND HEMLOCKS: Pinaceae

Douglas-fir *Pseudotsuga menziesii* — Despite its common name, it is not a true fir. Its cones bear distinctive three-pointed bracts that have inspired the familiar field mnemonic of mice hiding beneath the cone scales. It is one of the dominant and economically important conifers of western North America.

Sitka Spruce *Picea sitchensis* — Capable of attaining greater size than any other spruce, Sitka Spruce is a defining tree of the cool, wet Pacific coast. Its strong, lightweight wood became important in aircraft construction and remains prized for soundboards in guitars, pianos, and other instruments.

Western Hemlock *Tsuga heterophylla* — Washington's state tree and a dominant conifer in many mature coastal forests. The drooping leader and delicate, unevenly sized needles are useful field marks; mature bark becomes deeply furrowed.

CYPRESSES AND CEDARS: Cupressaceae

Western Redcedar *Thuja plicata* — A culturally foundational tree for many Indigenous peoples of the Northwest Coast; English-language accounts sometimes describe it as a "Tree of Life" because wood, bark, roots, and branches have been used for canoes, houses, baskets, clothing, tools, and ceremonial objects. Exceptional individuals can live for more than a thousand years.

ANGIOSPERMS: Magnoliophyta

MONOCOTS

ARUM FAMILY: Araceae

Western Skunk Cabbage *Lysichiton americanus* — A wetland and seep specialist famous for its brilliant yellow spring spathe surrounding a flower-bearing spadix. The flowers were long past during our September visit, but the enormous leaves—among the largest of any native western herb—remained conspicuous in wet forest.

EUDICOTS

MAPLES: Sapindaceae

Bigleaf Maple *Acer macrophyllum* — True to its name, this western maple has exceptionally large leaves and massive spreading limbs. In the Hoh Rain Forest, its branches support luxuriant communities of mosses, lichens, Licorice Fern, and Oregon Spikemoss. By September some leaves were beginning to add yellow to the autumn palette.

Vine Maple *Acer circinatum* — Often a sprawling shrub or small tree, with flexible stems that arch through forest openings and sometimes root where they contact the ground. Its leaves can turn brilliant crimson, orange, and yellow in autumn, adding warm color beneath the conifers.

BIRCH FAMILY: Betulaceae

Red Alder *Alnus rubra* — A fast-growing pioneer tree whose root nodules house Frankia bacteria that fix atmospheric nitrogen and enrich young or disturbed soils. The bark itself is gray to gray-brown, but patches of pale crustose lichens often make trunks look strikingly white—one reason they can resemble birch or aspen at a distance.

CARROT FAMILY: Apiaceae

Cow Parsnip *Heracleum maximum* — A giant native member of the carrot family with broad leaves and large, umbrella-like flower clusters. Young stems were traditionally eaten by some Indigenous peoples after careful preparation, but the sap contains furanocoumarins and can cause phototoxic skin reactions. Seen at Hurricane Ridge.

GINSENG FAMILY: Araliaceae

Devil's Club *Oplopanax horridus* — An iconic shrub of moist Pacific Northwest forests, armed with dense sharp spines. It has deep cultural and medicinal significance for many Indigenous peoples of the region, and its bright red fruits are eaten by wildlife including bears and birds.

PEA FAMILY: Fabaceae

Lupine *Lupinus spp.* — The flower spikes were long gone at Hurricane Ridge, but the plants remained recognizable by their palmately compound leaves, with narrow leaflets radiating from a central point like the fingers of a hand. Like many legumes, lupines form symbioses with nitrogen-fixing bacteria in root nodules.

HEATH FAMILY: Ericaceae

Pacific Madrone *Arbutus menziesii* — An evergreen broadleaf tree instantly recognizable

by smooth reddish bark that peels in thin sheets to reveal fresh green to chartreuse bark beneath. Clusters of orange-red berries provide autumn and winter food for thrushes, waxwings, and other wildlife.

Pacific Rhododendron *Rhododendron macrophyllum* — Washington's state flower. Its spectacular pink spring blossoms were long gone during our September tour, but we examined its thick, leathery evergreen leaves at SeaTac. The species favors acidic soils in conifer forest and forest-edge habitats.

Salal *Gaultheria shallon* — A ubiquitous evergreen shrub of coastal forests, with leathery leaves and dark edible berries. Its durable foliage is also harvested commercially for use as floral greenery.

Evergreen Huckleberry *Vaccinium ovatum* — A glossy-leaved evergreen shrub of coastal forests. Its dark purple-black berries feed many birds and mammals and are also eaten by people.

Red Huckleberry *Vaccinium parvifolium* — Often grows from decaying stumps and nurse logs in moist forests, creating the impression of a shrub sprouting from an old tree. Its translucent red berries are eaten by birds, mammals, and people.

HONEYSUCKLE FAMILY: Caprifoliaceae

Black Twinberry *Lonicera involucreata* — A shrub of moist forests, wetlands, and stream margins. Paired black berries sit within conspicuous red to maroon bracts; earlier in the season, paired yellow tubular flowers attract hummingbirds and other pollinators. Several grow in Steve and Amy's backyard.

ROSE FAMILY: Rosaceae

Oceanspray *Holodiscus discolor* — A common native shrub whose summer flower clusters resemble foamy cream-colored plumes. Its hard wood was used by Indigenous peoples for arrows, digging sticks, and other tools. At Railroad Bridge Park we found an inactive Bushtit nest woven into an Oceanspray shrub.

Baldhip Rose *Rosa gymnocarpa* — Named for its small red hips, which lose the leafy sepals from the tip as they mature and therefore look "bald." The flowers were long past, but the distinctive hips remained.

Nootka Rose *Rosa nutkana* — A native rose of shorelines, thickets, and open habitats. The large pink flowers had finished, leaving conspicuous red hips rich in vitamin C and used as food by wildlife.

Salmonberry *Rubus spectabilis* — One of the first native berries to ripen each year, with fruits ranging from yellow-orange to deep red. The berries were gone by September, but we practiced a field mnemonic for the leaves: folding the terminal leaflet back leaves the two side leaflets spread like a pair of butterfly wings.

Himalayan Blackberry *Rubus armeniacus* — A Eurasian invasive and widespread Class C noxious weed in Washington. Its thick, angular, arching canes bear formidable curved prickles and can form nearly impenetrable thickets. The ripe black fruits we encountered were, despite the plant's invasive status, delicious.

FOUR O'CLOCK FAMILY: Nyctaginaceae

Yellow Sand Verbena *Abronia latifolia* — A native plant of coastal dunes and sandy shorelines. Its sprawling stems, fleshy leaves, and clusters of bright yellow flowers are well adapted to salt spray and shifting sand. We admired it near Point Wilson at Fort Worden.

CACTUS FAMILY: Cactaceae

Brittle Pricklypear *Opuntia fragilis* — A remarkably cold-hardy cactus native to Washington, although uncommon in the state. We examined a plant at Steve and Amy's house before driving through the dry Olympic rain shadow. Its small stem pads detach readily and can root where they land, allowing vegetative spread.

AMARANTH FAMILY: Amaranthaceae

Pacific Pickleweed *Salicornia pacifica* — A native salt-marsh plant with fleshy, jointed stems and leaves reduced to tiny scales. Its succulent tissues tolerate the saline conditions that exclude most vascular plants. We examined it at Three Crabs and discussed the salty taste responsible for the nickname "sea asparagus."

ALGAE

BROWN ALGAE: Phaeophyceae

Bull Kelp *Nereocystis luetkeana* — An annual brown alga that can grow extraordinarily rapidly and form dense surface canopies, creating three-dimensional habitat for fishes and invertebrates. The waters west of Smith Island support the largest persistent bull-kelp bed in Washington State. We passed this extensive kelp forest during our boat trip and later examined a plant washed ashore at Kalaloch.

Giant Kelp *Macrocystis pyrifera* — The world's largest kelp, capable of exceeding 100 feet and reaching about 175 feet under ideal conditions. Numerous gas-filled floats lift the blades toward sunlight and create complex underwater forests. We examined material washed ashore at Kalaloch.

Feather Boa Kelp *Egregia menziesii* — A robust brown alga of wave-exposed Pacific shores, built around long, flattened straplike axes bearing many small lateral blades and floats. Its flexible form tolerates heavy surf. We examined a specimen washed ashore at Kalaloch.

MICROALGAE: PHYTOPLANKTON

Diatoms and Other Phytoplankton — Microscopic individually but ecologically immense, phytoplankton form the base of most marine food webs and account for a large share of global photosynthesis and oxygen production. Diatoms are especially important in nutrient-rich Pacific Northwest waters; each cell is enclosed in an intricately patterned silica shell called a frustule. We saw golden-brown diatom suds on shore at Ruby Beach.

FUNGI

Conks (Bracket Fungi) *various species* — Shelf-like fungal fruiting bodies emerging from trunks, snags, and logs. Some are perennial and add new growth layers over successive years. They are the visible reproductive structures of fungi whose mycelia may be decomposing wood deep within the tree.

Short-stemmed Russula *Russula brevipes* — A large whitish mycorrhizal mushroom that is often partly buried in forest litter. It is famous as a common host of the parasitic fungus *Hypomyces lactifluorum*: when colonized, the pale *Russula* is transformed into the bright orange-red form known as a "lobster mushroom." Seen at Big Cedar Grove.

LICHENS

Fairy Vomit Lichen *Immadophila ericetorum* — Found in the Hoh Rain Forest. This unforgettable lichen forms pale greenish mats on decaying wood or organic soil, dotted with tiny pink fruiting bodies that account for its whimsical common name.

Lungwort *Lobaria pulmonaria* — A large leafy lichen whose lobes resemble lung tissue, inspiring centuries-old medicinal associations under the "Doctrine of Signatures." It thrives in humid forests and is

sensitive to air pollution. Cyanobacteria housed in specialized structures can contribute biologically fixed nitrogen to forest ecosystems.

Methuselah's Beard *Usnea longissima* — A spectacular beard lichen of cool, humid old forests, hanging from branches in long unbranched garlands that can reach several feet. Like many epiphytic lichens, it is sensitive to air pollution and depends on clean, moist air.

Witch's Hair *Alectoria sarmentosa* — A pale green, hairlike lichen that drapes conifer branches in humid forests. Arboreal lichens provide food and nesting material for a variety of forest animals and are sensitive indicators of air quality.

ECOLOGICAL COMMUNITIES

Temperate Rain Forest — The Hoh demonstrated one of the finest remaining examples of temperate rain forest in the lower 48 states. Annual precipitation in Olympic's west-side rain-forest valleys reaches roughly 140–167 inches, supporting immense Sitka Spruce and Western Hemlock, epiphyte-laden maples, nurse logs, fungi, mosses, and ferns.

Subalpine Meadows — Hurricane Ridge showcased the park's subalpine zone, where a short growing season, deep winter snow, wind, and summer drought create a mosaic of meadow and wind-pruned conifers. These meadows support a distinctive community that includes wildflowers, insects, Sooty Grouse, and endemic Olympic Marmot.

Coastal Mudflats — At Dungeness, protected lagoons and mudflats are repeatedly flooded and exposed by tides. The silty substrate supports abundant algae and invertebrates such as mollusks and marine worms, creating rich feeding grounds for ducks and migrating shorebirds.

Rocky Intertidal Zone — Ruby Beach revealed an exceptionally diverse but physically demanding habitat. With each tidal cycle, organisms alternate between submersion and exposure while coping with waves, drying, temperature swings, and changing salinity. Sea stars, anemones, barnacles, mussels, chitons, limpets, crabs, and algae partition this narrow band between land and sea.

Kelp Forest — Bull Kelp and Giant Kelp create some of the most productive coastal habitats in the temperate ocean. Their blades, stipes, holdfasts, and surface canopies add three-dimensional structure that provides shelter and nursery habitat for fishes and invertebrates and feeding habitat for seabirds and marine mammals.