SOME COMMON CREATURES OF CAPE PERPETUA SCENIC AREA SIUSLAW NATIONAL FOREST, OREGON



Compiled by **TOM BRIGHT**

For the CAPE PERPETUA INTERPRETIVE CENTER





Herein are several picture guides to the most common creatures I have encountered over the past two summers of observation and photography at Cape Perpetua. The guides are far from comprehensive and only include those plants and animals seen frequently and repeatedly. They are meant as quick references, to be carried on walks and tours of the campground and nearby trails and seashore. There are many more species out there and more detailed study requires use of guide books or web sites devoted to the various groups of organisms.

This is a public domain document and may be employed freely for any educational purpose. Each guide, of 2 to 4 pages, may be printed and used by interpreters on "walks" as well as by visitors on "self-guided" tours. Laminated versions have proved to be most effective and durable and we have had good success laser printing them on water-resistant paper.



Sand Dragon, Cape Perpetua beach, July 2012

This year, Tom Bright is a Forest Service volunteer at the Cape Perpetua Interpretive Center and co-host, with his wife Cindy, of the Cape Perpetua Campground for American Land & Leisure. A retired Professor of Oceanography from Texas A&M University, he now lives in Sagle Idaho and can be contacted at ctmoose37@gmail.com.

General comments on the Tide Pools:

The tide pools at Cape Perpetua are depressions in impermeable, wave-resistant, ancient lava flows and basalt that form the rocky coastal platforms and headlands there. These igneous formations are overlain by thick, permeable sandstone and gravel deposits. Being less durable, the sandstone and gravel formations are eroded by storm wave action and runoff to form steep bluffs that are set back some distance from the typical high tide line.

There are several different types of pools in the lava flow zone, depending on their location. Those closest to the bluffs are typically filled with fresh water supplied by rain, runoff and ground-water seepage from the adjacent permeable sandstone and gravel deposits. These "Fresh-Water Pools" often contain tadpoles of the local tree frogs, which could not survive in salt water. They also have populations of tiny sea fleas and isopods that feed in the debris and algae on the pool bottoms. Tubeweed is common in the Fresh-Water Pools because it has a very broad salinity tolerance and can thrive in fresh to hypersaline conditions. The slippery green mats of Tubeweed generally follow the path of major fresh-water flow from the bluffs onto the rocky shore platform. As inflow diminishes in the late summer the Tubeweed mats become dessicated around the edges and often bleach white.

Away from the base of the bluffs but above the high tide line, some of the pools that fill with downward flowing fresh water may also receive input of salt water from wave action and can be considered a type of Fresh-Water/Splash Pool hybrid. Water salinity in these can be quite variable depending on the balance between fresh and salt water input and solar evaporation.

Many "Splash Pools" are isolated from the fresh water inflow from above and also too elevated to be inundated by the tide. They are filled primarily with salt spray from wave action. Subject to solar evaporation, these pools can contain hypersaline water. In mid to late summer, some of the smaller isolated Splash Pools may lose all of their water to evaporation, leaving deposits of pure sea salt, or "Tide Pool Salt". The Fresh Water Pools and Splash Pools are generally surrounded by dry, bare lava rock and basalt, devoid of marine growth. The upper zone harboring Fresh-Water Pools and Splash Pools is the "Supratidal" or "Supralittoral" Zone.

True "Tide Pools" exist somewhat lower and farther out on the platform, where they are filled and flushed by the tides with normal marine water (about 35-36 parts per thousand ratio of dissolved salt to water). The tide comes in and goes out twice daily on this coast. The range of tide fluctuation is variable depending on the time of the month and moon phase. At full and new moons the tidal range may be as high as 9 or 10 feet, whereas at half moons it may be only 6 or 7 feet. Actually, for the purpose of viewing Tide Pools at Cape Perpetua, the tidal range isn't necessarily a critical factor. Even when the tide ranges are moderate, some of the most interesting pools are exposed at low tide and can be toured for a substantial time.

The upper tidal limit is generally marked by a transition from bare, gray-black rock to crustal populations of small Acorn Barnacles and yellowish mats of Little Rockweed. This is the upper transition from the Supratidal to the "Intertidal" or "Littoral" Zone which extends vertically down 10 feet or so and contains an abundant, hearty, diverse and colorful assemblage of shoreline creatures. The Intertidal is often subdivided into Upper, Middle and Lower zones with varying balances of species distribution and population abundances that are related to the organisms' tolerances to different degrees of inundation and exposure, as well as feeding and predator-prey dynamics.

Below the Intertidal Zone is the permanently submerged "Subtidal" or "Upper Sublittoral" Zone which contains many of the same species that occur in the Intertidal, and more. Here and in the Lower Intertidal you can see brilliant red and orange patches of sponge, as well as the larger kelps and their associated biota.

Several species of birds are commonly seen feeding in the intertidal, including Crows, Ravens, Gulls, Turnstones, Yellowlegs and Sparrows. Cormorants and Scoters dive for fish in the Subtidal Zone, close to the edge of the intertidal platform and right in the surf zone. Brown Pelicans plunge dive a little farther off. Sea Lions are seen working the subtidal, as well as River Otters, who will climb up onto the outer rocks of the platform. There are Raccoon tracks. A Coyote came through the supratidal one day.







SOME COMMON TIDEPOOL ANIMALS OF CAPE PERPETUA SCENIC AREA, OREGON





Giant Green Anemone (6")



Aggregating Anemone (1")



Red Trumpet Tubeworm (1")



Blue Mussel (small)



California Mussel (large)



Lined Chiton (1.5")





Black Katy (3") Mossy Chiton (1.5")





Shield Limpet (3/4") Keyhole Limpet (1.5")



Nudibranch (2")



Shaggy Mouse Nudibranch (1.5")



Sea Lemon Nudibranch (2.5")



Northern Striped Dogwinkle (1/2")



Black Turban Shell



Octopus

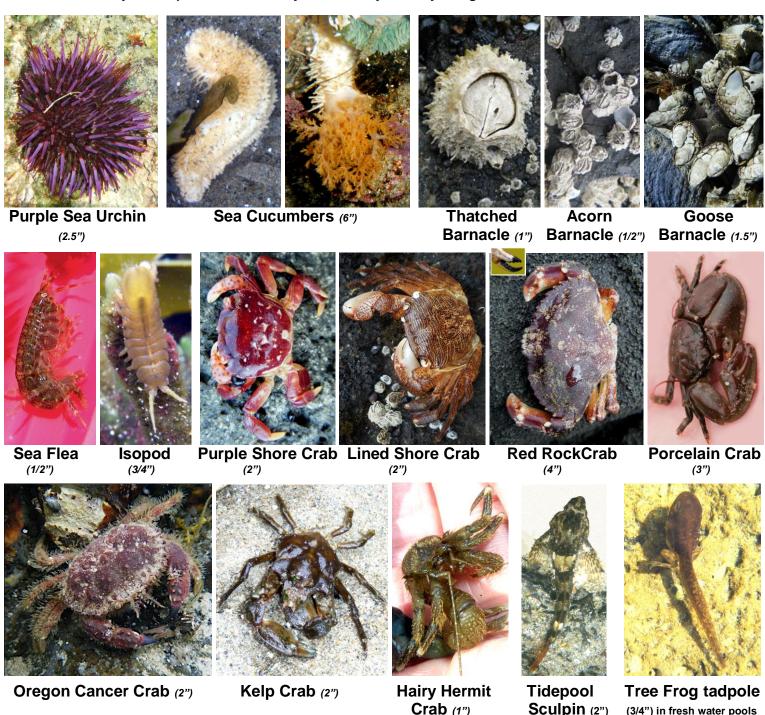


Ochre Sea Star



Sunflower Star Page 1

This will help you recognize a few of the most common animals in the tidepools of Cape Perpetua. There are many more species to find and you can study them by using the books available in the Visitor Center.



Sizes given are typical but the creatures are almost always somewhat larger or smaller

out of shell

This was a joint effort by the Forest Service rangers and volunteers at Cape Perpetua Visitor Center The pictures were taken at Cape Perpetua by *Tom Bright, Carol Daviscourt, and Rex & Peg Lavoie*Animal identifications were by *Tom Bright, Reba Eggert and Kyle Eggert*

You can download this guide free by going to http://www.pamperingcampers.com/cape_perpetua_campground.html

Please leave plants and animals just as you found them. State and Federal parks, refuges and Scenic Areas are nature preserves, where all living things are protected for others to enjoy.

near the bluff



SOME COMMON TIDEPOOL PLANTS OF CAPE PERPETUA SCENIC AREA, OREGON









Tubeweed (slippery mats in splash zone, often bleached)

Sea Lettuce







Sea Moss (short tangled mats)

Dead Man's Fingers

Sea Palm (foot high, in surf)









Rockweed (brownish clumps in upper intertidal)

Little Rockweed (yellowish mats near upper tide limit)











Sea Cabbage

Feather Boa (several feet long)

Stiff Stipe Kelp

Dense Clumped Kelp

This will help you recognize a few of the most common plants in the tidepools of Cape Perpetua. There are many more species to find and you can study them by using the books available in the Visitor Center.







Turkish Washcloth

Black Pine (mats)

Iridescent Seaweed

Leathery Strap Seaweed







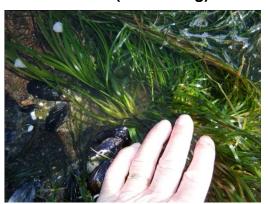




Nori (edible, used to wrap sushi)

(Encrusting) Calcareous Algae (Erect Jointed)







Surf Grass (The only seagrass in the tidepools, a flowering plant)

Tubeweed, Ulva intestinalis (hollow, associated with fresh water runoff, often sun bleached, very slippery where exposed to the air) Sea Lettuce, Ulva spp. (bright green blades, edible) Sea Moss, Cladophora spp. (short, mossy mats) Dead Man's Fingers, Codium (spongy texture)

Sea Palm, Postelsia palmaeformis (on some wave-exposed rocks, in strong surf)

Rockweed, Fucus gardneri (midrib on blades, the "popper" bulbs which are present on some blade tips produce eggs) Little Rockweed, Pelvetiopsis limitata (often in dense, yellowish mats, no midrib on blades)

Sea Cabbage, Saccharina sessile (may be blistery-wrinkled or smooth, no stem-like "stipe")

Feather Boa, Egregia menziesii (long, sinuous, feathery and waves gracefully in the surge)

Stiff Stipe Kelp, Laminaria (fan of blades at end of long, stiff, stem-like stipe)

Dense Clumped Kelp, Laminaria (long blades on flexible stipes)

Turkish Washcloth Mastocarpus (small clumps in with and about size of rockweed, "pimply" texture)

Black Pine, Neorhodomela larix (forms low, dark mats where exposed to air)

Iridescent Seaweed, Mazzaella splendens (rubbery blades with shifting iridescent purple highlights)

Leathery Strap Seaweed Dilsea (purplish, thick, rubbery, "embossed leather" texture)

Nori, Porphyra spp. (edible seaweed used as sushi wrap, drab greenish to purplish)

Encrusting Calcareous Algae, Lithothamnion and several other genera (pink to purple crusts on rocks and shells)

Erect Jointed Calcareous Algae, Bossiella and several other genera (this picture is Bossiella dichotoma) Surf Grass, Phyllospadix spp. (the only seagrass likely in the tidepools, it is a flowering plant, not one of the seaweeds, which are all algae)

You can download this guide free by going to http://www.pamperingcampers.com/cape_perpetua_campground.html



SOME COMMON BIRDS OF CAPE PERPETUA CAMPGROUND AND ADJACENT SEASHORE

SIUSLAW NATIONAL FOREST, OREGON











Rufous Hummingbird









Wilson's Warbler

Chestnut-backed Chickadee









White-crowned Sparrow





Swainson's Thrush

Black-headed Grosbeak



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Black Turnstone

Surf Scoter (male & female)









Pelagic Cormorant

Double-crested Cormorant













Turkey Vulture (red, naked head)

Peregrine Falcon

Bald Eagle

The Marbeled Murrelet is a threatened species that nests high in the old growth spruce and fir trees of the surrounding forest. It feeds on fish in the adjacent coastal waters. About the size of a Robin, these birds often fly over the campground during the early morning hours of the mid-summer breeding season, traveling back and forth between the ocean and their nests to feed the young. You may catch a glimpse of them from the group camp site around dawn and a while thereafter. They are fast and fly high, usually above the trees.



This guide will help you recognize some common birds you may see in the Cape Perpetua campground and on the adjacent beach and rocky shore. You can download it free by going to http://www.pamperingcampers.com/cape_perpetua_campground.html

There are more species to see and you can study them using books available at the Visitor Center, or call up the Audubon Society on-line bird guide http://www.audubonbirds.org/ or Cornell University's "All About Birds" http://www.allaboutbirds.org/guide/search

Scientific names:

Rufous Hummingbird (Selasphorus rufus) Wilson's Warbler (Wilsonia pusilla) Chestnut-backed Chickadee (Parus rufescens) White-crowned Sparrow (Zonotrichia leucophrys) Song Sparrow (Melospiza melodia) Swainson's Thrush (Catharus ustulatus) Black-headed Grosbeak (Pheucticus melanocephalus) Violet-green Swallow (Trachycineta thalassina) Band-tailed Pigeon (Columba fasciata) American Robin (Turdus migratorius) Cedar Waxwing (Bombycilla cedrorum) American Dipper (Cinclus mexicanus) Gray Jay (Perisoreus Canadensis) Steller's Jay (Cyanocitta stelleri), camp robbers, don't feed them Common Raven (Corvus corax), ditto! but worse American Crow (Corvus brachyrhynchos) Black Turnstone (Arenaria melanocephala) Surf Scoter (Melanitta perspicillata) Pelagic Cormorant (Phalacrocorax pelagicus) **Double-crested Cormorant** (Phalacrocorax auritus) Brown Pelican (Pelecanus occidentalis) Western Gull (Larus occidentalis) Turkey Vulture (Cathartes aura) Peregrine Falcon (Falco peregrinus) Bald Eagle (Haliaeetus leucocephalus) Marbled Murrelet (Brachyramphus marmoratus)

Pictures by Tom Bright, Rex & Peg Lavoie, Betty Massey and Jo Leach Reviews and Comments by Paul Engelmeyer and Lori Robertson

August 2012



SOME COMMON ANIMALS OF CAPE PERPETUA CAMPGROUND SIUSLAW NATIONAL FOREST, OREGON





small flat tail Townsend Chipmunk









belly fold

Raccoon

Bushytail Woodrat or "Packrat" (rat-sized)

orange belly

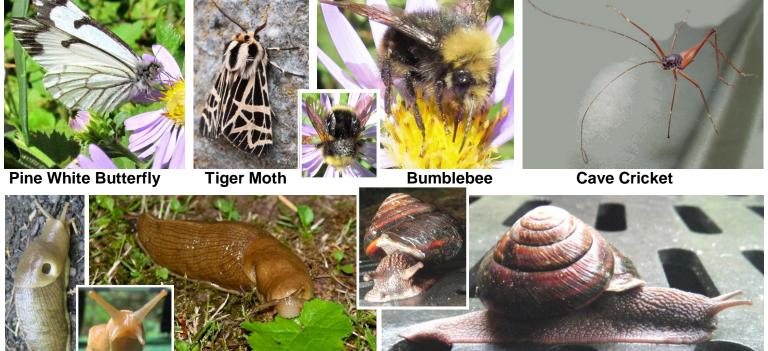
Rough-skinned Newt (poisonous skin, no scales)

Northern Alligator Lizard (scaly)



Northwestern Garter Snake (2 or 3 feet long)

Coastal Cutthroat Trout



Banana Slug Roman Snail

This guide will help you recognize some common creatures you may see in the Campground. You can download it free by going to http://www.pamperingcampers.com/cape_perpetua_campground.html
There are more species to find and you can study them using books available at the Visitor Center or call up "A Field Guide to the Lowland Northwest" by Rob Sandelin at http://share3.esd105.wednet.edu/rsandelin/Fieldguide/Fieldguide.htm

Elk and deer move through the campground, crossing the creek on game trails, usually at night.

A rare Pine Marten hunts in the trees

Scientific names:

Brush Rabbit (Sylvilagus bachmani)

Townsend Chipmunk (Eutamias townsendi)

Deer Mouse (Peromyscus maniculatus) long, thin, bicolored tail which is dark above and white below Shrew (Sorex sp.) resembles a mole or small mouse but with 5 toes, long rat-like tail, pointy snout, tiny eyes Bushytail Woodrat (Neotoma cinerea), the local "Packrat"

Raccoon (Procyon lotor)

Northwestern Garter Snake (*Thamnophis ordinoides*), variable colored stripes, harmless Coastal Cutthroat Trout (*Oncoryhynchus clarcki*)

Northern Alligator Lizard (*Eligaria coerulea*), keeled scales on back, whitish belly with folded flap Rough-skinned Newt (*Taricha granulosa*), very poisonous skin if you somehow ingest it Bumblebee (*Bombus sp.*)

Cave Cricket (one of about 500 species in the Family Rhaphidophoridae)
Pine White Butterfly (Neophasia menapia)

Tiger Moth (one of the thousands of species of the moth Family Arctiidae)
Banana Slug (Ariolimax sp.) probably Pacific Banana Slug (A. columbianus)
Roman Snail (Helix sp.) invasive species, native to Europe, where it is human food

Pictures taken in the campground by *Tom Bright, Betty & Fred Massey and Rex & Peg Lavoie*August 2012 Page 2



THE MOST COMMON BERRIES OF CAPE PERPETUA CAMPGROUND SIUSLAW NATIONAL FOREST, OREGON













Himalayan Blackberry (thorny vine or bush, non-native, productive late summer, edible delicious)









Salmonberry (bush, ripe May to July, edible and tasty when salmon to reddish color)











Thimbleberry (bush, large leaves, soft when ripe, fall off easy, edible, sweet & tangy)











Red Elderberry (tree or bush, not edible for humans but birds love them, abundant in campground)





Black Twinberry (bush, not edible for humans)

Coast Strawberry (edible, delicious)



Red Huckleberry (bush, edible, tasty)

This will help you recognize some common berries you may see in the Campground. You can download it free by going to http://www.pamperingcampers.com/cape_perpetua_campground.html There are more species to find and you can study those using books available at the Visitor Center. A useful on-line reference is "A Field Guide to the Lowland Northwest" by Rob Sandelin at http://share3.esd105.wednet.edu/rsandelin/Fieldguide/Fieldguide.htm

Scientific names:

Himalayan Blackberry (Rubus bifrons) Salmonberry (Rubus spectabilis) Thimbleberry (Rubus parviflorus)

Red Elderberry (Sambucus racemosa) (mildly poisonous, bitter, will give you the runs) Salal (Gaultheria shallon)

Black Twinberry (Lonicera involucrata) (unpalatable, bitter, birds like them) Coast Strawberry (Fragaria chiloensis) (herbaceous ground cover, tiny berries, a rare treat) Red Huckleberry (Vaccinium parvifolium)

Pictures were taken in or near Cape Perpetua Campground by Tom Bright and Rich Titgen

May 2012 Page 2

COMMON SPECIES OBSERVED BY T. BRIGHT AT CAPE PERPETUA DURING SUMMER 2011 and 2012

SEAWEEDS and ALGAE (all in tide pools)

Tubeweed (Ulva intestinalis)

Sea Lettuce (Ulva spp.)

Sea Moss (Cladophora spp.)

Dead Man's Fingers (Codium sp.)

Sea Palm (Postelsia palmaeformis)

Rockweed (Fucus gardneri)

Little Rockweed (Pelvetiopsis limitata)

Sea Cabbage (Saccharina sessile)

Feather Boa (Egregia menziesii)

Stiff Stipe Kelp (Laminaria sp.)

Dense Clumped Kelp (Laminaria sp.)

Turkish Washcloth (Mastocarpus sp.)

Black Pine (Neorhodomela larix)

Iridescent Seaweed (Mazzaella splendens)

Leathery Strap Seaweed, (Dilsea sp.)

Nori (Porphyra spp).

Encrusting Calcareous Algae (Lithothamnion spp.)

Erect Jointed Calcareous Algae (Bossiella dichotoma) (plus several other genera and species)

MARINE FLOWERING PLANTS (in tide pools)

Surf Grass (Phyllospadix spp.)

BERRIES (all in campground)

Himalayan Blackberry (Rubus bifrons)

Salmonberry (Rubus spectabilis)

Thimbleberry (Rubus parviflorus)

Red Elderberry (Sambucus racemosa)

Salal (Gaultheria shallon)

Black Twinberry (Lonicera involucrata)

Coast Strawberry (Fragaria chiloensis)

Red Huckleberry (Vaccinium parvifolium)

CNIDARIA (in tide pools)

Giant Green Anemone (Anthopleura xanthogrammica)

Aggregating Anemone (Anthopleura elegantissima)

MARINE WORMS (in tide pools)

Red Trumpet Tubeworm (Serpula columbiana)

TERRESTRIAL MOLLUSKS (all in campground)

Banana Slug (Ariolimax sp.)

Pacific Banana Slug (A. columbianus)

Roman Snail (Helix sp.)

MARINE MOLLUSKS (all in tide pools, except for Purple Olive on the beach)

Blue Mussel (Mytilus trossulus)

California Mussel (Mytilus californianus)

Lined Chiton (Tonicella lineata)

Black Katy (Katharina tunicata)

Mossy Chiton (Mopalia muscosa)

*Woody Chiton (Mopalia lignosa) (seen in tide pools by Sue Buckley)

Shield Limpet (Lottia pelta)

Keyhole Limpet (Diadora sp.)

Opalescent Nudibranch (Hermissenda crassicornis)

Shaggy Mouse Nudibranch (Aeolidia papillosa)

Sea Lemon Nudibranch (Peltodoris nobilis)

Northern Striped Dogwinkle (Nucella ostrina)

Black Turban Shell (Chlorostoma funebralis)

*Purple Olive (Callianax biplicata) (shallow burrows in beach sand)

Octopus (Octopoda)

ECHINODERMS (all in tide pools)

Ochre Sea Star (Pisaster ochraceus)

Sunflower Star (Pycnopodia helianthoides)

Purple Sea Urchin (Strongylocentrotus purpuratus)

Sea Cucumbers (Holothuroidea)

MARINE CRUSTACEANS (all in tide pools, except for mole crab on the beach)

Thatched Barnacle (Semibalanus cariosus)

Acorn Barnacle (Balanus glandula)

Goose Barnacle (Pollicipes polymerus)

Sea Flea (Amphipod)

Isopod (Idotea sp.)

*Sea Roach (Ligia sp.)

Purple Shore Crab (Hemigrapsus nudus)

Lined Shore Crab (Pachygrapsus crassipes)

*Green Shore Crab (Hemigrapsus oregonensis)

Red RockCrab (Cancer productus)

Porcelain Crab (Petrolisthes sp.)

Oregon Cancer Crab (Cancer oregonensis)

Kelp Crab (Pugettia sp.)

Hairy Hermit Crab (Pagurus hirsutiusculus)

*Pacific Mole Crab (Emerita analoga) (burrowing in beach sand)

FRESH WATER CRUSTACEANS (in Cape Creek)

*Crayfish (Astacoidea)

MITES (in tide pools)

Red Velvet Mite (Neomolgus littoralis) (minute, bright red, moving "specks" on the rocks)

INSECTS (all in campground)

Bumblebee (Bombus sp.)

Pine White Butterfly (Neophasia menapia)

Tiger Moth (one of the thousands of species of the moth Family Arctiidae)

Cave Cricket (one of about 500 species in the Family Rhaphidophoridae)

FRESH-WATER FISH (in Cape Creek)

Coastal Cutthroat Trout (Oncoryhynchus clarcki)

MARINE FISH (in tide pools)

Tidepool Sculpin (Oligocottus maculosus)

REPTILES AND AMPHIBIANS (all in campground, except for tadpole)

Northwestern Garter Snake (Thamnophis ordinoides)

Northern Alligator Lizard (Eligaria coerulea)

Rough-skinned Newt (Taricha granulosa)

Tree Frog tadpole (in Supratidal fresh water Pools)

MAMMALS (all in campground except as noted)

Brush Rabbit (Sylvilagus bachmani)

Townsend Chipmunk (Eutamias townsendi)

Deer Mouse (Peromyscus maniculatus)

Shrew (Sorex sp.)

Bushytail Woodrat (Neotoma cinerea) (the local "Packrat")

Raccoon (Procyon lotor) (also at tide pools)

*Pine Marten (Martes americana)

*Elk (Cervus canadensis) (detected only by footprints and trail sign in campground and at creek)

*Blacktail Deer (Odocoileus hemionus) (on slope below day use area)

*River Otter (Lutra Canadensis) (Subtidal Zone and hauled out on rocks of tide pool platform)

*Coyote (Canis latrans) (Supratidal area of tide pool platform)

BIRDS (all in campground except as noted)

Rufous Hummingbird (Selasphorus rufus)

Wilson's Warbler (Wilsonia pusilla)

Chestnut-backed Chickadee (Parus rufescens)

White-crowned Sparrow (Zonotrichia leucophrys) (also feeding at tide pools and along highway)

Song Sparrow (Melospiza melodia) (also at tide pools)

Swainson's Thrush (Catharus ustulatus)

Black-headed Grosbeak (Pheucticus melanocephalus)

Violet-green Swallow (Trachycineta thalassina) (nesting in bluff near creek mouth at beach)

Band-tailed Pigeon (Columba fasciata)

American Robin (Turdus migratorius)

Cedar Waxwing (Bombycilla cedrorum) (near creek mouth at beach)

American Dipper (Cinclus mexicanus) (in Cape Creek)

Gray Jay (Perisoreus Canadensis)

Steller's Jay (Cyanocitta stelleri)

Common Raven (Corvus corax) (also at tide pools)

American Crow (Corvus brachyrhynchos) (also at tide pools)

Black Turnstone (Arenaria melanocephala) (tide pools only)

*Yellowlegs (tide pools only)

Surf Scoter (Melanitta perspicillata) (Subatidal off tide pools)

Pelagic Cormorant (Phalacrocorax pelagicus) (Subatidal off tide pools)

Double-crested Cormorant (Phalacrocorax auritus) (Subatidal off tide pools)

Brown Pelican (Pelecanus occidentalis) (Subatidal off tide pools)

Western Gull (Larus occidentalis)(tide pools and beach)

Turkey Vulture (Cathartes aura) (soaring along coast)
Peregrine Falcon (Falco peregrinus) (near Visitor Center)

Bald Eagle (Haliaeetus leucocephalus)(beach)

Marbled Murrelet (Brachyramphus marmoratus)(flying over campground and feeding in Subtidal)