

The *NatureMapping* Program Guidelines for Fish and Wildlife

Tell us what you see...



And where you see it...

The *NatureMapping* Program

A tool to keep common animals common

A tool to bring experts and citizens in partnership

A tool to prepare your biodiversity report card by mapping and monitoring nature



Revised July, 2007

The *NatureMapping* Program

Introduction

The *NatureMapping* Program invites citizens to join a nationwide effort to collect wildlife data. People involved in *NatureMapping* became better informed about the own area's biology and ecology, and they help make sound decisions about how we all live with fish and wildlife.

NatureMapping is a proactive approach to keeping common animals common. Through *NatureMapping*, communities can explore their biodiversity and develop an understanding on what is adequate protection for the environment on which they and us depend.

BACKGROUND

The *NatureMapping* Program began as a pilot project in 1992 with the Washington Department of Fish and Wildlife and the Washington Cooperative Fish and Wildlife Research Unit conducting the Washington Gap Analysis Project at the University of Washington. These agencies formed a partnership to meet needs for collecting and verifying data and environmental study experiences. The pilot project began with 23 teachers in September, 1993 and grew to 500 participants by 1996. The *NatureMapping* Program now involves citizens, community groups, city, county, and state agencies and organizations in multiple states.

ABOUT THE PARTNERS

The Washington Department of Fish and Wildlife Project WILD environmental education program actively seeks opportunities for citizens to become involved in aspects of managing fish and wildlife in their community. As a co-founder of the *NatureMapping* Program, the Washington Department of Fish and Wildlife provided personnel to assist training the public in *NatureMapping*'s online data entry and materials for the Biodiversity - Water Module, and assist *NatureMapping* field research projects where agency biologists are involved.

The National GAP Program uses Geographical Information Systems (GIS) and satellite imagery to create a habitat and predicted range maps for wildlife in each state.

The *NatureMapping* Program helps local communities by making these GIS datasets available to *NatureMappers* to determine a pattern of wildlife presence linked to the habitat within their local communities. The Program incorporates public data collected at the local level into a dataset that may be compared to expert data across the state. The *NatureMapping* Program takes wildlife observations into the realm of serious environmental studies for all citizens and creates a lifetime interest.

The *NatureMapping* Program

How to Participate

Getting started:

1. Get your Identification number through the *NatureMapping* Program web site
<http://depts.washington.edu/natmap/about/howto.html>
2. Read the Data Collection Protocols Instructions on page 6

The *NatureMapping* Program materials and products include:

- ✦ “Biodiversity Module - Wildlife”, workshops
 - ✦ Teacher Preparation (intro to “Data Collection and Monitoring”)
 - ✦ Data Collection and Monitoring
 - ✦ How to Ask Your Scientific Question to Design a Project
 - ✦ Field Research Project Training – (working with researchers on a project that *NatureMappers* integrate their projects into)
- ✦ On-line “Biodiversity Modules – Water, Marine/Nearshore
- ✦ NatureTracker data collection software to use with handheld computers and GPS units.

Identification Principles

Identification	If faced with a choice on identification, select species most abundant in your area. If you see a species you would not expect to see, but you are sure of its identity, record it and add a “2”. Time will tell if the species is expanding its range of it was a rare sighting. If you are unsure of it’s identify, still record it and enter a “1” next to it.
Accuracy	Identification of a species is more important than an accurate count of the number of animals.
Size	Knowing the size of the animal is helpful. Field guides list the body length of birds including the tail. Baby raptors, such as hawks, owls, and eagles are just as large as their parents when they leave the nest.
Habitat Description	Describe the types of habitat. For example, wetlands, riparian corridors, forests, meadows, low, medium or high developed neighborhoods. Use common habitat codes listed in these guidelines to guide your description.
Habitat Use	Species can use different types of habitats at different times at different times of the year. They may also use different habitats depending on their age and sex. For example, tadpoles are confined to water, while adult frogs may spend much of their time on land. Female ducks may use shrubs to hide their young, while males may not use shrubs at all.
Markings	Identifying marks may be similar on different species. The “horns” of the Great- horned owl are also found on screech owls. The difference between the birds is size. A screech owl is about the length of an adult’s hand from wrist to fingertip and a Great-horned owl’s length is approximately from fingertip to elbow.
Migration	Know what species migrate when. Over 50% of the bird species we see migrate, either within the state or across state lines. One hundred and twenty-one bird species found in Washington State migrate to Mexico and South America, and are referred to as neotropical migrants. Swallows, warblers, and osprey are summer visitors, while snow geese and many birds of prey fly south from Alaska and Canada to winter in the northern states. During April through May and September through October, birds migrate to their breeding or wintering grounds. Over these same months, native species may migrate from lowlands to the mountains and back again.

When Observing Wildlife

Birds

- ✕ Adult bird activity is highest at sunrise and sunset year round. In spring, baby birds must be fed from sunrise to sunset.
- ✕ Birds that eat insects depend on insect activity which increases as the day warms. On rainy and chilly days, birds may be active late morning and early afternoon.
- ✕ Nocturnal animals are active from dusk to dawn: rodents, frogs, bats, owls, common nighthawks and poorwills. Ducks will catch insects at night if enough moonlight is available.

Reptile and Amphibians (grouped together are called herps)

- ✕ Mainly found from spring through fall. Use field guides to distinguish markings and colors.
- ✕ Leave specimens where they are found. Studies show a significant decline in frogs in some popular lakes is due to tadpole collection by vacationers.
- ✕ Non-poisonous snakes may be handled to count the upper lips (yes, lips) and belly plates to determine the species. Use protective gloves to avoid irritating bodily secretions when gently handling species.

Mammals

Identifying by location: Mammals provide a challenge. You should not expect to see a wild mammal in the field. Check your species lists and field guides for species you may see and look for signs like tracks, scat, etc. Many species look alike, such as chipmunks, but their ranges may not overlap. The geographic location would indicate what species you saw. To help you make a positive identification, experts need the animal's description and location.

When identification is a challenge: If you cannot identify different species of mammals, record the species code letters followed by 99. Species codes such as MY99 for bats are also available for shrews, moles, voles, mice, pocket gophers etc.

For example, there are 14 species of bats in Washington. Bats are usually seen at dusk, flying over water, open fields, and high in the canopy of forests. They are often mistaken for starlings or swallows.

Identification by tracks: Mammals may be identified by tracks. One way to find tracks is to put out soot trays (complete instructions online under Resources) prepared by burning small cotton cloth strips with a gentle flame producing a fine layer of soot on aluminum trays under bushes with cans of cat food placed in the middle. The footprints are lifted from the soot using wide, clear packing tape, and pressed onto white sheets of paper. Take the paper to experts for proper identification. This is a technique used by volunteers at Golden Gate State Park, California.

The NatureMapping Program

Wildlife Data Collection Protocols



Name and Observer ID #: Observer ID numbers are either assigned during a workshop or through the website under “How to Participate”.

Species: Try to identify the species as best as possible. (Photographs are accepted, if you have questions on the identification.) Please do not omit the species if you are not sure.

Sure or Unsure: If unsure of the identity, put a “1” after the species name. (If you can identify the species, but it “shouldn’t be there”, put a “2” next to the name.

Date: The month and year.

County and State: County and state where you are observing wildlife.

Township/Range/Section (TRS): Location is very important. We need to know where a species was observed either using a TRS, or latitude/longitude. A township/range grid is 36 square miles. It is made up of 36 sections, each section 1 square mile. The Washington DeLorme Atlas, your mortgage papers if you are a home owner, U.S. Geological Survey maps, have the grids marked on them. An example is T21N R03E S21 – Township 21 North, Range 3 East and Section 21.

Latitude/Longitude: Latitude and longitude should be reported if you don’t know the TRS or if you have a Global Positioning System (GPS) unit, mapping software, or Internet sites. If you use a GPS, please set the unit to WGS84. (If you can’t set the Datum in your GPS, then WGS84 is the default datum). If possible, set the GPS unit to record in Decimal Degrees (e.g. 47.465553).

Source of Identification: How did you find the animal? Did you see it, hear it, was it dead along the side of the road? Did you see tracks?

How many did you find? Count the number of animals you see.

Estimate: If there are a lot of individuals, you can make an estimate. A quick way to estimate is to count 10 birds, tadpoles, fish, etc. and estimate how many other sets of 10 animals you see. Put a check in the Estimate column.

Description of Location: Try to describe the area based on the type of vegetation. For example, alpine meadows, conifer forest, low developed (lots of trees, lawns, parks, golf courses), medium developed (new housing developments, large apartment complexes, etc.), freshwater marsh surrounded by shrubs or assign a Habitat Code from the list below.

Habitat Code: Habitat Codes are 3-digits; the 2nd and 3rd digits provide more details of the habitat. A complete listing is available on-line.

100 – Non-vegetated (sandy beach, rocks, ice, snow)
200 – Development
300 – Agriculture
400 – Lakes and Rivers

500 – Wetlands, streams, estuaries
600 – Non-forested (grasslands,
700 – Deciduous/Hardwood forest
800 – Deciduous/Conifer mixed forest
900 – Coniferous forest

Reporting Your Observations

Instructions to complete the NatureMapping Data Collection Form are below and in more detail on-line. Sample form on next page.

Observers name	Record your name, and your school or group affiliation if applicable. Enter address including the zip code.
Location	Report Township/Range/Section, latitude/longitude or UTM
Date	Month/Year (Day is optional)
Species name/code	Use the state species list
How observed?	Options are saw, heard, saw & heard, carcass, on nest, or signs like tracks, droppings or scat, feathers, bones
How many?	Record actual numbers when you can. With large groups or flocks, make a mental picture of 5 or 10 in the group and estimate how many sets of five or ten individuals there are in the entire group.
Habitat code	Where was the species when you observed it? Describe your surrounding area. Start with the General Habitat codes, then move onto the full descriptive habitat code.
How sure are you?	Options are if you know the identify of the species and it “shouldn’t be there”, or you aren’t sure of the identification
Comments	Describe with as much detail as possible each species if you cannot identify them, or interesting information

Upload your *NatureMapping* Program spreadsheet at
<http://depts.washington.edu/natmap/about/howto.html>

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Data Collection Form

Observer's Name (ID): _____

City/County/State: _____

Date	Species Name (ID Code)	Unsure (1 or 2)	<i>How Observed?</i> (saw, heard, tracks, etc.)	TRS Lat/Long	How many did you see?	Habitat Code

The *NatureMapping* Program

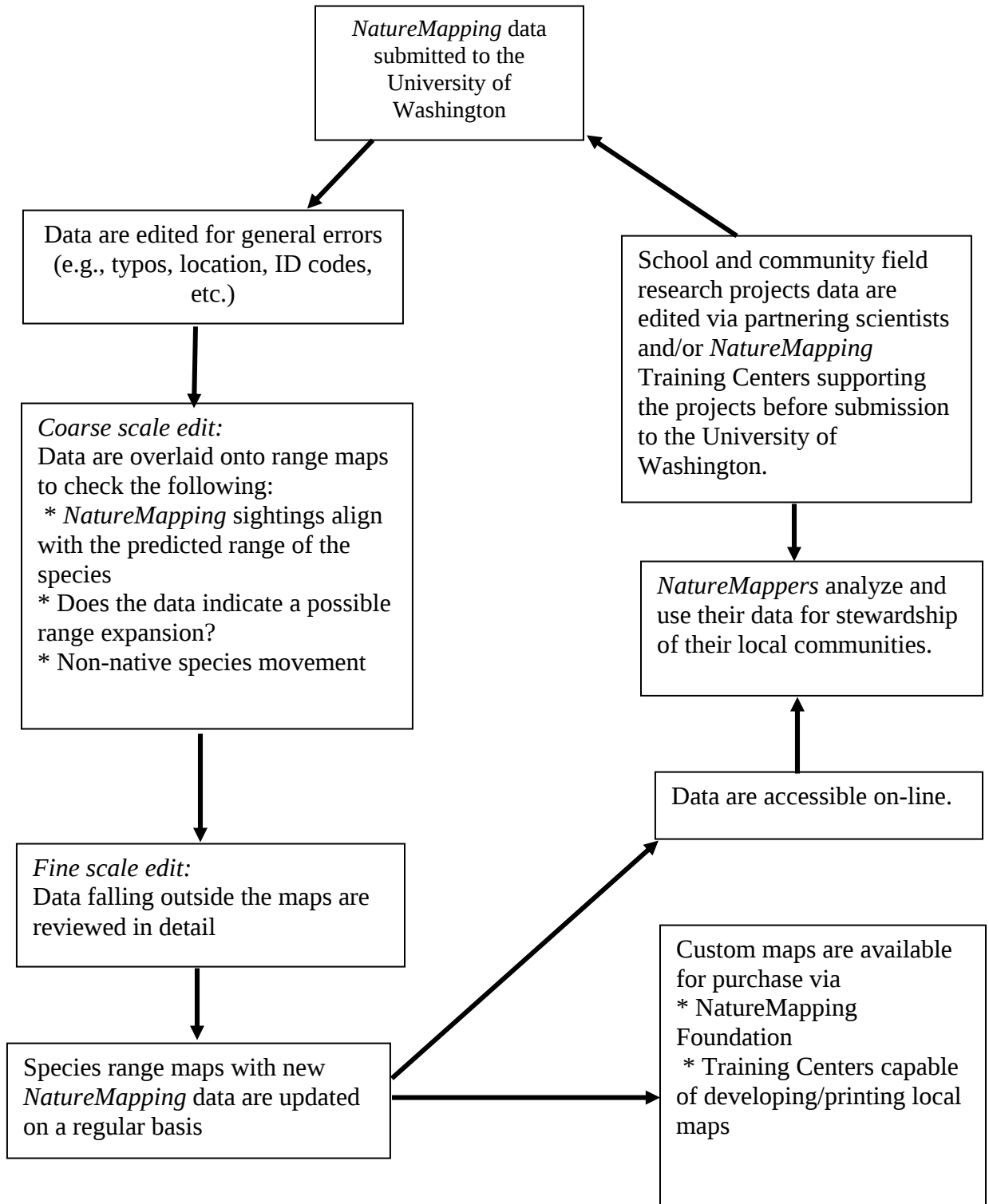
Data Collection Form - Example

Observer's Name (ID): Sally Smith

County/State: Douglas, WA

Date	Species Name (ID Code)	Unsure (1 or 2)	How Observed? (saw, heard, tracks, etc.)	TRS Lat/Long	How many did you see?	Is this an estimate?	Habitat Code
5/6/2009	American robin		Saw	47.613426 -120.356483	10		231
“	Porcupine		Sign - chew	“	1		900
“	Western screech owl		Heard	“	1		962
“	Great horned owl		Saw/Heard	“	2		231
“	Dandelion		Saw	“	999	Y	221
5/23/2009	Thatch- mound ants		Saw	“	7000	Y	900
“	Tunicate spp.		Saw	47.50505 -121.70623	1		556

Where Does Your Data Go? (and how to get it back)



The *NatureMapping* Program

Washington Cooperative Fish and Wildlife Research Unit
College of Forest Resources
University of Washington



Species of Washington



- *Amphibians*
- *Reptiles*
- *Fish*
- *Birds*
- *Mammals*



For more information on NatureMapping

<http://depts.washington.edu/natmap>

Amphibians

(27 species)

Frogs/Toads

(13 species)

RA99	Unidentified Rana	<i>Rana sp.</i>
RACAT	Bullfrog	<i>Rana catesbeiana</i>
RANCA	Cascades frog	<i>Rana cascadae</i>
SPIN	Great basin spadefoot	<i>Scaphiopus intermontana</i>
RACL	Green frog	<i>Rana clamitans</i>
RAPI	Northern leopard frog	<i>Rana pipiens</i>
PSRE	Pacific treefrog (Chorus frog)	<i>Hyla regilla</i>
RAAU	Red-legged frog	<i>Rana aurora</i>
RALU	Spotted frog (Eastside)	<i>Rana luteiventris</i>
RAPR	Spotted frog (Westside)	<i>Rana pretiosa</i>
ASTR	Tailed frog	<i>Ascaphus truei</i>
BUBO	Western toad	<i>Bufo boreas</i>
RASY	Wood frog	<i>Rana sylvatica</i>
BUWO	Woodhouse's toad	<i>Bufo woodhousei</i>

Salamanders/Newts

(14 species)

AM99	Unidentified Ambystoma	<i>Ambystoma sp.</i>
RHCAS	Cascade torrent salamander	<i>Rhyacotriton cascadae</i>
RHKE	Columbia torrent salamander	<i>Rhyacotriton kezeri</i>
DICO	Cope's giant salamander	<i>Dicamptodon copei</i>
PLDU	Dunn's salamander	<i>Plethodon dunni</i>
ENES	Ensatina	<i>Ensatina eschscholtzi</i>
PLLA	Larch mountain salamander	<i>Plethodon larselli</i>
AMMA	Long-toed salamander	<i>Ambystoma macrodactylum</i>
AMGR	Northwestern salamander	<i>Ambystoma gracile</i>
RHOL	Olympic torrent salamander	<i>Rhyacotriton olympicus</i>
DITE	Pacific giant salamander	<i>Dicamptodon tenebrosus</i>
TAGR	Roughskin newt	<i>Taricha granulosa</i>
AMTI	Tiger salamander	<i>Ambystoma tigrinum</i>
PLVA	Van Dyke's salamander	<i>Plethodon vandykei</i>
PLVE	Western redback salamander	<i>Plethodon vehiculum</i>

Birds

(405 species)

MEFO	Acorn woodpecker	<i>Melanerpes formicivorus</i>
BRCAL	Aleutian canada goose	<i>Branta canadensis leucopareia</i>
SESA	Allen's hummingbird	<i>Selasphorus sasin</i>
REAM	American avocet	<i>Recurvirostra americana</i>
BOLE	American bittern	<i>Botaurus lentiginosus</i>
ANRU	American black duck	<i>Anas rubripes</i>
FUAM	American coot	<i>Fulica americana</i>
COBR	American crow	<i>Corvus brachyrhynchos</i>
CIME	American dipper	<i>Cinclus mexicanus</i>
PLDO	American golden-plover (Lesser)	<i>Pluvialis dominica</i>
CATR	American goldfinch	<i>Carduelis tristis</i>
FASP	American kestrel	<i>Falco sparverius</i>
FAPEA	American peregrine falcon	<i>Falco peregrinus anatum</i>
ANRUBE	American pipit	<i>Anthus rubescens</i>
SERU	American redstart	<i>Setophaga ruticilla</i>
TUMI	American robin	<i>Turdus migratorius</i>
SPAR	American tree sparrow	<i>Spizella arborea</i>
PEER	American white pelican	<i>Pelecanus erythrorhynchos</i>
ANAAM	American wigeon	<i>Anas americana</i>
SYAN	Ancient murrelet	<i>Synthliboramphus antiquus</i>
CAAN	Anna's hummingbird	<i>Calypte anna</i>
FAPET	Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>
STPAR	Arctic tern	<i>Sterna paradisaea</i>
MYCI	Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
CABA	Baird's sandpiper	<i>Calidris bairdii</i>
HALE	Bald eagle	<i>Haliaeetus leucocephalus</i>
COFA	Band-tailed pigeon	<i>Columba fasciata</i>
RIRI	Bank swallow	<i>Riparia riparia</i>
	Barn owl (see Common barn owl)	
HIRU	Barn swallow	<i>Hirundo rustica</i>
STVA	Barred owl	<i>Strix varia</i>
BUIS	Barrow's goldeneye	<i>Bucephala islandica</i>
LILA	Bar-tailed godwit	<i>Limosa lapponica</i>
CEAL	Belted kingfisher	<i>Ceryle alcyon</i>
THBE	Bewick's wren	<i>Thryomanes bewickii</i>
HABA	Black oystercatcher	<i>Haematopus bachmani</i>
MENI	Black scoter	<i>Melanitta nigra</i>
CYNI	Black swift	<i>Cypseloides niger</i>
CHNI	Black tern	<i>Chlidonias niger</i>
ARME	Black turnstone	<i>Arenaria melanocephala</i>
MNVA	Black-and-white warbler	<i>Mniotilta varia</i>
PIAR	Black-backed woodpecker	<i>Picoides arcticus</i>

PLSQ	Black-bellied plover	<i>Pluvialis squatarola</i>
COER	Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>
PIPI	Black-billed magpie	<i>Pica pica</i>
PAAT	Black-capped chickadee	<i>Parus atricapillus</i>
ARAL	Black-chinned hummingbird	<i>Archilochus alexandri</i>
NYNY	Black-crowned night-heron	<i>Nycticorax nycticorax</i>
DINI	Black-footed albatross	<i>Diomedea nigripes</i>
PHME	Black-headed grosbeak	<i>Pheucticus melanocephalus</i>
RITR	Black-legged kittiwake	<i>Rissa tridactyla</i>
HIME	Black-necked stilt	<i>Himantopus mexicanus</i>
DEST	Blackpoll warbler	<i>Dendroica striata</i>
ELLE	Black-shouldered kite (White-tailed)	<i>Elanus leucurus</i>
DENI	Black-throated gray warbler	<i>Dendroica nigrescens</i>
AMBI	Black-throated sparrow	<i>Amphispiza bilineata</i>
DEOB	Blue grouse	<i>Dendragapus obscurus</i>
CYCR	Blue jay	<i>Cyanocitta cristata</i>
SUNE	Blue-footed booby	<i>Sula nebouxii</i>
POLCA	Blue-gray gnatcatcher	<i>Polioptila caerulea</i>
ANDI	Blue-winged teal	<i>Anas discors</i>
DOOR	Bobolink	<i>Dolichonyx oryzivorus</i>
BOGA	Bohemian waxwing	<i>Bombycilla garrulus</i>
LAPH	Bonapartes gull	<i>Larus philadelphia</i>
PAHU	Boreal chickadee	<i>Parus hudsonicus</i>
AEFU	Boreal owl	<i>Aegolius funereus</i>
PHPEN	Brandt's cormorant	<i>Phalacrocorax penicillatus</i>
BRBE	Brant	<i>Branta bernicla</i>
EUCY	Brewer's blackbird	<i>Euphagus cyanocephalus</i>
SPBR	Brewer's sparrow	<i>Spizella breweri</i>
BUPL	Broad-winged hawk	<i>Buteo platypterus</i>
CEAM	Brown creeper	<i>Certhia americana</i>
PEOC	Brown pelican	<i>Pelecanus occidentalis</i>
MOAT	Brown-headed cowbird	<i>Molothrus ater</i>
TRSU	Buff-breasted sandpiper	<i>Tryngites subruficollis</i>
BUAL	Bufflehead	<i>Bucephala albeola</i>
PUBU	Buller's shearwater	<i>Puffinus bulleri</i>
ATCU	Burrowing owl	<i>Athene cunicularia</i>
PSMI	Bushtit	<i>Psaltiriparus minimus</i>
BRCAMI	Cackling canada goose	<i>Branta canadensis minima</i>
LACAL	California gull	<i>Larus californicus</i>
CACAL	California quail	<i>Callipepla californica</i>
STELCA	Calliope hummingbird	<i>Stellula calliope</i>
BRCA	Canada goose	<i>Branta canadensis</i>
AYVA	Canvasback	<i>Aythya valisineria</i>
CATME	Canyon wren	<i>Catherpes mexicanus</i>

DETI	Cape May warbler	<i>Dendroica tigrina</i>
STCA	Caspian tern	<i>Sterna caspia</i>
PTAL	Cassin's auklet	<i>Ptychoramphus aleuticus</i>
CACAS	Cassin's finch	<i>Carpodacus cassinii</i>
VISO	Cassin's vireo (Solitary vireo)	<i>Vireo solitarius</i>
BUIB	Cattle egret	<i>Bubulcus ibis</i>
BOCE	Cedar waxwing	<i>Bombycilla cedrorum</i>
PARU	Chestnut-backed chickadee	<i>Parus rufescens</i>
CAOR	Chestnut-collared longspur	<i>Calcarius ornatus</i>
DEPEN	Chestnut-sided warbler	<i>Dendroica pennsylvanica</i>
SPPA	Chipping sparrow	<i>Spizella passerina</i>
ALCH	Chukar	<i>Alectoris chukar</i>
ANCY	Cinnamon teal	<i>Anas cyanoptera</i>
AECL	Clark's grebe	<i>Aechmophorus clarkii</i>
NUCO	Clark's nutcracker	<i>Nucifraga columbiana</i>
SPPAL	Clay-colored sparrow	<i>Spizella pallida</i>
HIPY	Cliff swallow	<i>Hirundo pyrrhonota</i>
TYAL	Common barn-owl	<i>Tyto alba</i>
BUCL	Common goldeneye	<i>Bucephala clangula</i>
QUQU	Common grackle	<i>Quiscalus quiscula</i>
GAIM	Common loon	<i>Gavia immer</i>
MERME	Common merganser	<i>Mergus merganser</i>
URAA	Common murre	<i>Uria aalge</i>
CHMI	Common nighthawk	<i>Chordeiles minor</i>
PHNU	Common poorwill	<i>Phalaenoptilus nuttallii</i>
COCOR	Common raven	<i>Corvus corax</i>
CAFL	Common redpoll	<i>Carduelis flammea</i>
GAGA	Common snipe	<i>Gallinago gallinago</i>
STHI	Common tern	<i>Sterna hirundo</i>
GETR	Common yellowthroat	<i>Geothlypis trichas</i>
ACCO	Cooper's hawk	<i>Accipiter cooperii</i>
EMOC	Cordilleran flycatcher	<i>Empidonax occidentalis</i>
	Crow (see American crow)	
CALFE	Curlew sandpiper	<i>Calidris ferruginea</i>
JUHY	Dark-eyed (Oregon) junco	<i>Junco hyemalis</i>
CHICK99	Domestic chicken	
DUCK99	Domestic duck	
GOOSE99	Domestic goose	
PHAU	Double-crested cormorant	<i>Phalacrocorax auritus</i>
PIPU	Downy woodpecker	<i>Picoides pubescens</i>
CAALP	Dunlin	<i>Calidris alpina</i>
BRCAO	Dusky canada goose	<i>Branta canadensis occidentalis</i>
EMOB	Dusky flycatcher	<i>Empidonax oberholseri</i>
PODNI	Eared grebe	<i>Podiceps nigricollis</i>

TYTY	Eastern kingbird	<i>Tyrannus tyrannus</i>
CHCAN	Emperor goose	<i>Chen canagica</i>
EUMO	Eurasian dotterel	<i>Charadrius morinellus</i>
ALAR	Eurasian skylark	<i>Alauda arvensis</i>
ANPE	Eurasian wigeon	<i>Anas penelope</i>
STVU	European starling	<i>Sturnus vulgaris</i>
COVE	Evening grosbeak	<i>Coccothraustes vespertinus</i>
BURE	Ferruginous hawk	<i>Buteo regalis</i>
OTFL	Flammulated owl	<i>Otus flammeolus</i>
PUCA	Flesh-footed shearwater	<i>Puffinus carneipes</i>
OCFU	Fork-tailed storm-petrel	<i>Oceanodroma furcata</i>
STFO	Forster's tern	<i>Sterna forsteri</i>
PAIL	Fox sparrow	<i>Passerella iliaca</i>
LAPI	Franklin's gull	<i>Larus pipixcan</i>
DEBI	Fulvous whistling duck	<i>Dendrocygna bicolor</i>
ANST	Gadwall	<i>Anas strepera</i>
LAHY	Glaucous gull	<i>Larus hyperboreus</i>
LAGL99	Glaucous-Western hybrid gull	
LAGL	Glaucous-winged gull	<i>Larus glaucescens</i>
AQCH	Golden eagle	<i>Aquila chrysaetos</i>
RESA	Golden-crowned kinglet	<i>Regulus satrapa</i>
ZOAT	Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
AMSA	Grasshopper sparrow	<i>Ammodramus savannarum</i>
DUCA	Gray catbird	<i>Dumetella carolinensis</i>
EMWR	Gray flycatcher	<i>Empidonax wrightii</i>
PECA	Gray jay	<i>Perisoreus canadensis</i>
PEPE	Gray partridge	<i>Perdix perdix</i>
LETE	Gray-crowned rosy finch (Rosy finch)	<i>Leucosticte tephrocotis</i>
ARHE	Great blue heron	<i>Ardea herodias</i>
CASAL	Great egret	<i>Casmerodius albus</i>
STNE	Great gray owl	<i>Strix nebulosa</i>
BUVI	Great horned owl	<i>Bubo virginianus</i>
AYMA	Greater scaup	<i>Aythya marila</i>
ANAL	Greater white-fronted goose	<i>Anser albifrons</i>
TRME	Greater yellowlegs	<i>Tringa melanoleuca</i>
BUVIRE	Green heron (Green-backed heron)	<i>Butorides virescens</i>
PICH	Green-tailed towhee	<i>Pipilo chlorurus</i>
ANCR	Green-winged teal	<i>Anas crecca</i>
FARU	Gyr Falcon	<i>Falco rusticolus</i>
PIVI	Hairy woodpecker	<i>Picoides villosus</i>
EMHA	Hammond's flycatcher	<i>Empidonax hammondii</i>
HIHI	Harlequin duck	<i>Histrionicus histrionicus</i>
ZOQU	Harris' sparrow	<i>Zonotrichia querula</i>
LAHE	Heermann's gull	<i>Larus heermanni</i>

CAGU	Hermit thrush	<i>Catharus guttatus</i>
DEOC	Hermit warbler	<i>Dendroica occidentalis</i>
LAAR	Herring gull	<i>Larus argentatus</i>
LOCUC	Hooded merganser	<i>Lophodytes cucullatus</i>
WICI	Hooded warbler	<i>Wilsonia citrina</i>
POAU	Horned grebe	<i>Podiceps auritus</i>
ERAL	Horned lark	<i>Eremophila alpestris</i>
FRCO	Horned puffin	<i>Fratercula corniculata</i>
CARME	House finch	<i>Carpodacus mexicanus</i>
PADO	House sparrow	<i>Passer domesticus</i>
TRAE	House wren	<i>Troglodytes aedon</i>
LIHA	Hudsonian godwit	<i>Limosa haemasticta</i>
VIHU	Hutton's vireo	<i>Vireo huttoni</i>
PACY	Indigo bunting	<i>Passerina cyanea</i>
PAEB	Ivory gull	<i>Pagophila eburnea</i>
	Junco (see Dark-eyed junco)	
	Kestrel (see American kestrel)	
	Kingfisher (see Belted kingfisher)	
CHVO	Killdeer	<i>Charadrius vociferus</i>
BRBR	Kittlitz's murrelet	<i>Brachyramphus brevirostris</i>
CALA	Lapland longspur	<i>Calcarius lapponicus</i>
CAME	Lark bunting	<i>Calamospiza melanocorys</i>
CHGR	Lark sparrow	<i>Chondestes grammacus</i>
LAAT	Laughing gull	<i>Larus atricilla</i>
DIIM	Laysan albatross	<i>Diomedea immutabilis</i>
PAAMO	Lazuli bunting	<i>Passerina amoena</i>
OCLE	Leach's storm-petrel	<i>Oceanodroma leucorhoa</i>
EMMI	Least flycatcher	<i>Empidonax minimus</i>
CAMI	Least sandpiper	<i>Calidris minutilla</i>
STAN	Least tern	<i>Sterna antillarum</i>
AMLE	Leconte's sparrow	<i>Ammospiza leconteii</i>
CAPS	Lesser goldfinch	<i>Carduelis psaltria</i>
AYAF	Lesser scaup	<i>Aythya affinis</i>
TRFL	Lesser yellowlegs	<i>Tringa flavipes</i>
MELE	Lewis' woodpecker	<i>Melanerpes lewis</i>
MELI	Lincoln's sparrow	<i>Melospiza lincolnii</i>
EGCA	Little blue heron	<i>Egretta caerulea</i>
LAMI	Little gull	<i>Larus minutus</i>
LALU	Loggerhead shrike	<i>Lanius ludovicianus</i>
NUAM	Long-billed curlew	<i>Numenius americanus</i>
LISC	Long-billed dowitcher	<i>Limnodromus scolopaceus</i>
ASOT	Long-eared owl	<i>Asio otus</i>
CLHY	Long-tailed duck (Oldsquaw)	<i>Clangula hyemalis</i>
STLO	Long-tailed jaeger	<i>Stercorarius longicaudus</i>

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OPTO	Macgillivray's warbler	<i>Oporornis tolmiei</i>
FRMA	Magnificent frigatebird	<i>Fregata magnificens</i>
ANPL	Mallard	<i>Anas platyrhynchos</i>
LIFE	Marbled godwit	<i>Limosa fedoa</i>
BRMA	Marbled murrelet	<i>Brachyramphus marmoratus</i>
	Marsh hawk (see Northern harrier)	
CIPA	Marsh wren	<i>Cistothorus palustris</i>
PLHY	Mckay's bunting	<i>Plectrophenax hyperboreus</i>
FACO	Merlin	<i>Falco columbarius</i>
LARCAN	Mew gull	<i>Larus canus</i>
PTIN	Mottled petrel	<i>Pterodroma inexpectata</i>
SICU	Mountain bluebird	<i>Sialia currucoides</i>
PAGA	Mountain chickadee	<i>Parus gambeli</i>
CHMO	Mountain plover	<i>Charadrius montanus</i>
ORPI	Mountain quail	<i>Oreortyx pictus</i>
ZEMA	Mourning dove	<i>Zenaida macroura</i>
	Mudhen (see American coot)	
VERU	Nashville warbler	<i>Vermivora ruficapilla</i>
	Nighthawk (see Common nighthawk)	
COVI	Northern bobwhite	<i>Colinus virginianus</i>
COAU	Northern flicker	<i>Colaptes auratus</i>
FUGL	Northern fulmar	<i>Fulmarus glacialis</i>
ACGE	Northern goshawk	<i>Accipiter gentilis</i>
CICY	Northern harrier	<i>Circus cyaneus</i>
SUUL	Northern hawk-owl	<i>Surnia ulula</i>
MIPO	Northern mockingbird	<i>Mimus polyglottos</i>
ICGA	Northern oriole	<i>Icterus galbula</i>
PAAM	Northern parula	<i>Parula americana</i>
ANAC	Northern pintail	<i>Anas acuta</i>
GLGN	Northern pygmy-owl	<i>Glaucidium gnoma</i>
STSE	Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
AEAC	Northern saw-whet owl	<i>Aegolius acadicus</i>
ANCL	Northern shoveler	<i>Anas clypeata</i>
LAEX	Northern shrike	<i>Lanius excubitor</i>
SENO	Northern waterthrush	<i>Seiurus noveboracensis</i>
COCA	Northwestern crow	<i>Corvus caurinus</i>
	Oldsquaw (see Long-tailed duck)	
COBO	Olive-sided flycatcher	<i>Contopus borealis</i>
VECE	Orange-crowned warbler	<i>Vermivora celata</i>
POGRA	Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>
PAHA	Osprey	<i>Pandion haliaetus</i>
SEAU	Ovenbird	<i>Seiurus aurocapillus</i>
PLFU	Pacific golden-plover	<i>Pluvialis fulva</i>
GAPA	Pacific loon	<i>Gavia pacifica</i>

EMDI	Pacific slope flycatcher (Western)	<i>Empidonax difficilis</i>
DEPA	Palm warbler	<i>Dendroica palmarum</i>
CYPS	Parakeet auklet	<i>Cyclorrhynchus psittacula</i>
STPA	Parasitic jaeger	<i>Stercorarius parasiticus</i>
FAPEP	Peale's peregrine falcon	<i>Falco peregrinus pealei</i>
CAMEL	Pectoral sandpiper	<i>Calidris melanotos</i>
PHPEL	Pelagic cormorant	<i>Phalacrocorax pelagicus</i>
FAPE	Peregrine falcon	<i>Falco peregrinus</i>
POPO	Pied-billed grebe	<i>Podilymbus podiceps</i>
CECO	Pigeon guillemot	<i>Cepphus columba</i>
	Pigeon hawk (see Cooper's hawk)	
DRPI	Pileated woodpecker	<i>Dryocopus pileatus</i>
PIEN	Pine grosbeak	<i>Pinicola enucleator</i>
CAPI	Pine siskin	<i>Carduelis pinus</i>
PUCR	Pink-footed shearwater	<i>Puffinus creatopus</i>
GYCY	Pinyon jay	<i>Gymnorhinus cyanocephalus</i>
STPO	Pomarine jaeger	<i>Stercorarius pomarinus</i>
FAME	Prairie falcon	<i>Falco mexicanus</i>
PRCI	Prothonotary warbler	<i>Protonotaria citrea</i>
CARPU	Purple finch	<i>Carpodacus purpureus</i>
PRSU	Purple martin	<i>Progne subis</i>
SIPY	Pygmy nuthatch	<i>Sitta pygmaea</i>
	Raven (see Common raven)	
LOXCU	Red crossbill	<i>Loxia curvirostra</i>
CACANU	Red knot	<i>Calidris canutus</i>
PHALFU	Red phalarope	<i>Phalaropus fulicaria</i>
PHAE	Red-billed tropicbird	<i>Phaethon aethereus</i>
MESE	Red-breasted merganser	<i>Mergus serrator</i>
SITCA	Red-breasted nuthatch	<i>Sitta canadensis</i>
SPRU	Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
VIOL	Red-eyed vireo	<i>Vireo olivaceus</i>
AYAM	Redhead	<i>Aythya americana</i>
RIBR	Red-legged kittiwake	<i>Rissa brevirostris</i>
SPNU	Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>
POGR	Red-necked grebe	<i>Podiceps grisegena</i>
PHLO	Red-necked phalarope	<i>Phalaropus lobatus</i>
BULI	Red-shouldered hawk	<i>Buteo lineatus</i>
BUJA	Red-tailed hawk	<i>Buteo jamaicensis</i>
GAST	Red-throated loon	<i>Gavia stellata</i>
AGPH	Red-winged blackbird	<i>Agelaius phoeniceus</i>
CEMO	Rhinoceros auklet	<i>Cerorhinca monocerata</i>
LADE	Ring-billed gull	<i>Larus delawarensis</i>
AYCO	Ring-necked duck	<i>Aythya collaris</i>
PHCO	Ring-necked pheasant	<i>Phasianus colchicus</i>

COLI	Rock dove	<i>Columba livia</i>
CAPT	Rock sandpiper	<i>Calidris ptilocnemis</i>
SAOB	Rock wren	<i>Salpinctes obsoletus</i>
PHLU	Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>
CHRO	Ross' goose	<i>Chen rossii</i>
BULA	Rough-legged hawk	<i>Buteo lagopus</i>
RECA	Ruby-crowned kinglet	<i>Regulus calendula</i>
OXJA	Ruddy duck	<i>Oxyura jamaicensis</i>
AREIN	Ruddy turnstone	<i>Arenaria interpres</i>
PHPU	Ruff	<i>Philomachus pugnax</i>
BOUM	Ruffed grouse	<i>Bonasa umbellus</i>
SERUF	Rufous hummingbird	<i>Selasphorus rufus</i>
EUCA	Rusty blackbird	<i>Euphagus carolinus</i>
XESA	Sabine's gull	<i>Xema sabini</i>
CEUR	Sage grouse	<i>Centrocercus urophasianus</i>
AMBE	Sage sparrow	<i>Amphispiza belli</i>
ORMO	Sage thrasher	<i>Oreoscoptes montanus</i>
CALAL	Sanderling	<i>Calidris alba</i>
GRCA	Sandhill crane	<i>Grus canadensis</i>
PASA	Savannah sparrow	<i>Passerculus sandwichensis</i>
SAYSA	Say's phoebe	<i>Sayornis saya</i>
	Screech owl (see Western screech owl)	
ICPA	Scott's oriole	<i>Icterus parisorum</i>
APCO	Scrub jay	<i>Aphelocoma coerulescens</i>
CHSE	Semipalmated plover	<i>Charadrius semipalmatus</i>
CALPU	Semipalmated sandpiper	<i>Calidris pusilla</i>
ACST	Sharp-shinned hawk	<i>Accipiter striatus</i>
TYPH	Sharp-tailed grouse	<i>Tympanuchus phasianellus</i>
CAAC	Sharp-tailed sandpiper	<i>Calidris acuminata</i>
LIGR	Short-billed dowitcher	<i>Limnodromus griseus</i>
ASFL	Short-eared owl	<i>Asio flammeus</i>
DIAL	Short-tailed albatross	<i>Diomedea albatrus</i>
PUTE	Short-tailed shearwater	<i>Puffinus tenuirostris</i>
DICA	Shy albatross	<i>Diomedea cauta</i>
PLNI	Snow bunting	<i>Plectrophenax nivalis</i>
CHCAE	Snow goose	<i>Chen caerulescens</i>
EGTH	Snowy egret	<i>Egretta thula</i>
NYSC	Snowy owl	<i>Nyctea scandiaca</i>
CHAL	Snowy plover	<i>Charadrius alexandrinus</i>
TRSO	Solitary sandpiper	<i>Tringa solitaria</i>
	Solitary vireo (see Cassin's vireo)	
MELME	Song sparrow	<i>Melospiza melodia</i>
PUGR	Sooty shearwater	<i>Puffinus griseus</i>
PORCA	Sora	<i>Porzana carolina</i>

CASK	South polar skua	<i>Catharacta skua</i>
	Sparrow hawk (see American kestrel)	
STOC	Spotted owl	<i>Strix occidentalis</i>
ACMA	Spotted sandpiper	<i>Actitis macularia</i>
PIER	Spotted towhee (Rufous-sided)	<i>Pipilo erythrophthalmus</i>
DECA	Spruce grouse	<i>Dendragapus canadensis</i>
	Starling (see European starling)	
CYST	Steller's jay	<i>Cyanocitta stelleri</i>
CAHI	Stilt sandpiper	<i>Calidris himantopus</i>
ERALS	Streaked horned lark	<i>Eremophila alpestris strigata</i>
MEPE	Surf scoter	<i>Melanitta perspicillata</i>
APVI	Surfbird	<i>Aphriza virgata</i>
BUSW	Swainson's hawk	<i>Buteo swainsoni</i>
CAUS	Swainson's thrush	<i>Catharus ustulatus</i>
MEGE	Swamp sparrow	<i>Melospiza georgiana</i>
BRCAT	Taverner's canada goose	<i>Branta canadensis taverneri</i>
VEPE	Tennessee warbler	<i>Vermivora peregrina</i>
LATH	Thayer's gull	<i>Larus thayeri</i>
URLO	Thick-billed murre	<i>Uria lomvia</i>
PITR	Three-toed woodpecker	<i>Picoides tridactylus</i>
MYTO	Townsend's solitaire	<i>Myadestes townsendi</i>
DETO	Townsend's warbler	<i>Dendroica townsendi</i>
TABI	Tree swallow	<i>Tachycineta bicolor</i>
TYME	Tropical kingbird	<i>Tyrannus melancholicus</i>
CYBU	Trumpeter swan	<i>Cygnus buccinator</i>
AYFU	Tufted duck	<i>Aythya fuligula</i>
FRCI	Tufted puffin	<i>Fratercula cirrhata</i>
CYCO	Tundra swan	<i>Cygnus columbianus</i>
CAAUR	Turkey vulture	<i>Cathartes aura</i>
BALO	Upland sandpiper	<i>Bartramia longicauda</i>
BRCAF	Vancouver canada goose	<i>Branta canadensis fulva</i>
IXNA	Varied thrush	<i>Ixoreus naevius</i>
CHVA	Vaux's swift	<i>Chaetura vauxi</i>
CAFU	Veery	<i>Catharus fuscescens</i>
POOGR	Vesper sparrow	<i>Pooecetes gramineus</i>
TATH	Violet-green swallow	<i>Tachycineta thalassina</i>
RALI	Virginia rail	<i>Rallus limicola</i>
HEIN	Wandering tattler	<i>Heteroscelus incanus</i>
VIGI	Warbling vireo	<i>Vireo gilvus</i>
SIME	Western bluebird	<i>Sialia mexicana</i>
BRCAMO	Western canada goose	<i>Branta canadensis moffitti</i>
AEOC	Western grebe	<i>Aechmophorus occidentalis</i>
LAOC	Western gull	<i>Larus occidentalis</i>
TYVE	Western kingbird	<i>Tyrannus verticalis</i>

STUNE	Western meadowlark	<i>Sturnella neglecta</i>
CAMAU	Western sandpiper	<i>Calidris mauri</i>
OTKE	Western screech-owl	<i>Otus kennicottii</i>
PILU	Western tanager	<i>Piranga ludoviciana</i>
COSO	Western wood-pewee	<i>Contopus sordidulus</i>
NUPH	Whimbrel	<i>Numenius phaeopus</i>
	Whistling swan (see Trumpeter's swan)	
SICAR	White-breasted nuthatch	<i>Sitta carolinensis</i>
ZOLE	White-crowned sparrow	<i>Zonotrichia leucophrys</i>
PLCH	White-faced ibis	<i>Plegadis chihi</i>
PIAL	White-headed woodpecker	<i>Picoides albolarvatus</i>
CAFUS	White-rumped sandpiper	<i>Calidris fuscicollis</i>
LALE	White-tailed ptarmigan	<i>Lagopus leucurus</i>
ZOAL	White-throated sparrow	<i>Zonotrichia albicollis</i>
AESA	White-throated swift	<i>Aeronautes saxatalis</i>
LOLE	White-winged crossbill	<i>Loxia leucoptera</i>
ZEAS	White-winged dove	<i>Zenaida asiatica</i>
MEFU	White-winged scoter	<i>Melanitta fusca</i>
MEGA	Wild turkey	<i>Meleagris gallopavo</i>
CASE	Willet	<i>Catoptrophorus semipalmatus</i>
SPHTH	Williamson's sapsucker	<i>Sphyrapicus thyroideus</i>
EMTR	Willow flycatcher	<i>Empidonax traillii</i>
PHTR	Wilson's phalarope	<i>Phalaropus tricolor</i>
WIPU	Wilson's warbler	<i>Wilsonia pusilla</i>
TRTR	Winter wren	<i>Troglodytes troglodytes</i>
AISP	Wood duck	<i>Aix sponsa</i>
SYHY	Xantus' murrelet	<i>Synthliboramphus hypoleucus</i>
CONO	Yellow rail	<i>Coturnicops noveboracensis</i>
DEPE	Yellow warbler	<i>Dendroica petechia</i>
COAM	Yellow-billed cuckoo	<i>Coccyzus americanus</i>
GAAD	Yellow-billed loon	<i>Gavia adamsii</i>
ICVI	Yellow-breasted chat	<i>Icteria virens</i>
XAXA	Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>
DECOR	Yellow-rumped warbler	<i>Dendroica coronata</i>

Fish

(87 total species)

ALSA	American shad	<i>Alosa sapidissima</i>
THAR	Arctic grayling	<i>Thymallus arcticus</i>
SASA	Atlantic salmon	<i>Salmo salar</i>
ICME	Black bullhead	<i>Ictalurus melas</i>
PONI	Black crappie	<i>Pomoxis nigromaculatus</i>
ICFU	Blue catfish	<i>Ictalurus furcatus</i>
LEMA	Bluegill	<i>Lepomis macrochirus</i>

CACO	Bridgelip sucker	<i>Catostomus columbianus</i>
SAFO	Brook trout	<i>Salvelinus fontinalis</i>
ICNE	Brown bullhead	<i>Ictalurus nebulosus</i>
SATR	Brown trout	<i>Salmo trutta</i>
SACO	Bull trout	<i>Salvelinus confluentus</i>
LOLO	Burbot	<i>Lota lota</i>
CYCA	Carp	<i>Cyprinus carpio</i>
ICPU	Channel catfish	<i>Ictalurus punctatus</i>
ONTSSNF	Chinook salmon (KING), Snake Ri	<i>Oncorhynchus tshawytscha</i>
ONTSSNS	Chinook salmon (KING), Snake Ri	<i>Oncorhynchus tshawytscha</i>
ACAL	Chiselmouth	<i>Acrocheilus alutaceus</i>
ONKE	Chum salmon (DOG)	<i>Oncorhynchus keta</i>
ONCLCL	Coastal cutthroat	<i>Oncorhynchus clarki clarki</i>
COAL	Coastrange sculpin	<i>Cottus aleuticus</i>
ONKI	Coho salmon (SILVER)	<i>Oncorhynchus kisutch</i>
CORH	Cottus rhotheus	<i>Cottus rhotheus</i>
ONCL	Cutthroat	<i>Oncorhynchus clarki</i>
SAMA	Dolly varden	<i>Salvelinus malma</i>
THPA	Eulachon	<i>Thaleichthys pacificus</i>
PYOL	Flathead catfish	<i>Pylodictis olivaris</i>
SAAG	Golden trout	<i>Salmo aguabonita</i>
CAAU	Goldfish	<i>Carassius auratus</i>
ESAN	Grass pickerel	<i>Esox americanus</i>
ACME	Green sturgeon	<i>Acipenser medirostris</i>
LECY	Green sunfish	<i>Lepomis cyanellus</i>
ONNELAN	Kokanee (landlocked sockeye)	<i>Oncorhynchus nerka</i>
COPL	Lake chub	<i>Couesius plumbeus</i>
SANA	Lake trout	<i>Salvelinus namaycush</i>
COCL	Lake whitefish	<i>Coregonus clupeaformis</i>
MISA	Largemouth bass	<i>Micropterus salmoides</i>
CAMA	Largescale sucker	<i>Catostomus macrocheilus</i>
RHFA	Leopard dace	<i>Rhinichthys falcatus</i>
SPTH	Longfin smelt	<i>Spirinchus thaleichthys</i>
RHCA	Longnose dace	<i>Rhinichthys cataractae</i>
CACA	Longnose sucker	<i>Catostomus catostomus</i>
COMA	Margined sculpin	<i>Cottus marginatus</i>
GAAF	Mosquitofish	<i>Gambusia affinis</i>
COBA	Mottled sculpin	<i>Cottus bairdi</i>
CAPL	Mountain sucker	<i>Catostomus platyrhynchus</i>
PRWI	Mountain whitefish	<i>Prosopium williamsoni</i>
RHCASS	Nooky dace	<i>Rhinichthys cataractae ssp.</i>
ESLU	Northern pike	<i>Esox lucius</i>
PTOR	Northern squawfish	<i>Ptychocheilus oregonensis</i>
NOHU	Olympic mudminnow	<i>Novumbra hubbsi</i>

ENTR	Pacific lamprey	<i>Entosphenus tridentatus</i>
LEAR	Pacific staghorn sculpin	<i>Leptocottus armatus</i>
COBE	Paiute sculpin	<i>Cottus beldingi</i>
MYCA	Peamouth	<i>Mylocheilus caurinus</i>
ONGO	Pink salmon (HUMPBACK)	<i>Oncorhynchus gorbuscha</i>
COAS	Prickly sculpin	<i>Cottus asper</i>
LEGI	Pumpkinseed	<i>Lepomis gibbosus</i>
PRCO	Pygmy whitefish	<i>Prosopium coulteri</i>
ONMY	Rainbow trout	<i>Oncorhynchus mykiss</i>
RIBA	Redside shiner	<i>Richardsonius balteatus</i>
COPE	Reticulate sculpin	<i>Cottus perplexus</i>
COGU	Riffle sculpin	<i>Cottus gulosus</i>
LAAY	River lamprey	<i>Lampetra ayresi</i>
AMRU	Rock bass	<i>Ambloplites rupestris</i>
CASP	Salish sucker	<i>Catostomus sp.</i>
PETR	Sand roller	<i>Percopsis transmontana</i>
CYAG	Shiner perch	<i>Cymatogaster aggregata</i>
COCON	Shorthead sculpin	<i>Cottus confusus</i>
COCOG	Slimy sculpin	<i>Cottus cognatus</i>
MIDO	Smallmouth bass	<i>Micropterus dolomieu</i>
ONNEANA	Sockeye salmon (RED)	<i>Oncorhynchus nerka</i>
ONNESNA	Sockeye salmon (RED) (Snake Ri	<i>Oncorhynchus nerka</i>
RHOS	Speckled dace	<i>Rhinichthys osculus</i>
PLST	Starry flounder	<i>Platichthys stellatus</i>
ONMY	Steelhead	same as rainbow trout - code
MOSA	Striped bass	<i>Morone saxatilis</i>
NOGY	Tadpole madtom	<i>Noturus gyrinus</i>
TITI	Tench	<i>Tinca tinca</i>
GAAC	Three-spine stickleback	<i>Gasterosteus aculeatus</i>
GIBI	Tui chub	<i>Gila bicolor</i>
STVI	Walleye	<i>Stizostedion vitreum</i>
LEGU	Warmouth	<i>Lepomis gulosus</i>
LARI	Western brook lamprey	<i>Lampetra richardsoni</i>
ONLEW	Westslope cutthroat	<i>Oncorhynchus clarki lewisi</i>
POAN	White crappie	<i>Pomoxis annularis</i>
ACTR	White sturgeon	<i>Acipenser transmontanus</i>
ICNA	Yellow bullhead	<i>Ictalurus natalis</i>
PEFL	Yellow perch	<i>Perca flavescens</i>

Mammals

(135 total species)

TATA	Badger	<i>Taxidea taxus</i>
CASCAN	Beaver	<i>Castor canadensis</i>
OVCA	Bighorn sheep	<i>Ovis canadensis</i>

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URAM	Black bear	<i>Ursus americanus</i>
ODHE	Black-tailed deer	<i>Odocoileus hemionus</i>
LYRU	Bobcat	<i>Lynx rufus</i>
OVCACAL	California bighorn sheep	<i>Ovis canadensis californiana</i>
VUVUC	Cascade red fox	<i>Vulpes vulpes cascadenis</i>
ODHEC	Columbian black-tailed deer	<i>Odocoileus hemionus columbianus</i>
ODVIL	Columbian white-tailed deer	<i>Odocoileus virginianus leucurus</i>
CALAT	Coyote	<i>Canis latrans</i>
CEEL	Elk	<i>Cervus elaphus</i>
MUER	Ermine	<i>Mustela erminea</i>
MAPE	Fisher	<i>Martes pennanti</i>
CALU	Gray wolf	<i>Canis lupus</i>
URAR	Grizzly bear	<i>Ursus arctos</i>
MUFR	Long-tailed weasel	<i>Mustela frenata</i>
VUVUS	Lowland red fox	<i>Vulpes vulpes subsp</i>
LYCA	Lynx	<i>Lynx canadensis</i>
MAAM	Marten	<i>Martes americana</i>
MUVI	Mink	<i>Mustela vison</i>
ALAL	Moose	<i>Alces alces</i>
APRU	Mountain beaver	<i>Aplodontia rufa</i>
RATA	Mountain caribou	<i>Rangifer tarandus</i>
ORAM	Mountain goat	<i>Oreamnos americanus</i>
FECO	Mountain lion	<i>Felis concolor</i>
ODHEH	Mule deer	<i>Odocoileus hemionus hemionus</i>
ODVIO	Northwest white-tailed deer	<i>Odocoileus virginianus ochrourus</i>
SYBO	Northern bog lemming	<i>Synaptomys borealis</i>
MYCO	Nutria	<i>Myocastor coypus</i>
OCPR	Pika	<i>Ochotona princeps</i>
ERDO	Porcupine	<i>Erethizon dorsatum</i>
ANAM	Pronghorn	<i>Antilocapra americana</i>
PRLO	Raccoon	<i>Procyon lotor</i>
VUVU	Red fox	<i>Vulpes vulpes</i>
LUCA	River otter	<i>Lutra canadensis</i>
OVCACAN	Rocky Mountain bighorn sheep	<i>Ovis canadensis canadensis</i>
CEELN	Rocky Mountain elk	<i>Cervus elaphus nelsoni</i>
CEELR	Roosevelt elk	<i>Cervus elaphus roosevelti</i>
SPGR	Spotted skunk	<i>Spilogale gracilis</i>
MEMEP	Striped skunk	<i>Mephitis mephitis</i>
DIVI	Virginia opossum	<i>Didelphis virginiana</i>
ODVI	White-tailed deer	<i>Odocoileus virginianus</i>
GUGU	Wolverine	<i>Gulo gulo</i>
Marine		(10 species)
ZACA	California sea lion	<i>Zalophus californianus</i>

PHDA	Dall's porpoise	<i>Phocoenoides dalli</i>
ESRO	Gray whale	<i>Eschrichtius robustus</i>
PHVI	Harbor seal	<i>Phoca vitulina</i>
OROR	Killer whale	<i>Ocvinus orca</i>
MIAN	Northern elephant seal	<i>Mirounga angustirostris</i>
CAUR	Northern fur seal	<i>Callorhinus ursinus</i>
EUJU	Northern sea lion	<i>Eumetopias jubatus</i>
PHPH	Pacific harbor porpoise	<i>Phocoena phocoena</i>
ENLULU	Sea otter	<i>Enhydra lutris lutris</i>
ENLUNE	Sea otter	<i>Enhydra lutris nereis</i>

Bats

(16 species)

MY99	Bat spp.	
EPFU	Big brown bat	<i>Eptesicus fuscus</i>
MYOCA	California myotis	<i>Myotis californicus</i>
MYTH	Fringed myotis	<i>Myotis thysanodes</i>
LACI	Hoary bat	<i>Lasiurus cinereus</i>
MYKE	Keen's myotis	<i>Myotis keenii</i>
MYLU	Little brown myotis	<i>Myotis lucifugus</i>
MYEV	Long-eared myotis	<i>Myotis evotis</i>
MYVO	Long-legged myotis	<i>Myotis volans</i>
ANPA	Pallid bat	<i>Antrozous pallidus</i>
LABO	Red bat	<i>Lasiurus borealis</i>
LANO	Silver-haired bat	<i>Lasionycteris noctivagans</i>
MYLE	Small-footed myotis	<i>Myotis leibii</i>
EUMA	Spotted bat	<i>Euderma maculata</i>
PLTOT	Townsend's big-eared bat	<i>Plecotus townsendii</i>
PIHE	Western pipistrelle	<i>Pipistrellus hesperus</i>
MYYU	Yuma myotis	<i>Myotis yumanensis</i>

Domestic

(7 species)

CAT99	Domestic cat
COW99	Domestic cow
DOG99	Domestic dog
GOAT99	Domestic goat
HORSE99	Domestic horse
PIG99	Domestic pig
SHEEP99	Domestic sheep

Chipmunks

(4 species)

TAMI	Least chipmunk	<i>Tamias minimus</i>
TARU	Red-tailed chipmunk	<i>Tamias ruficaudus</i>
TATO	Townsend's chipmunk	<i>Tamias townsendii</i>
TAAM	Yellow-pine chipmunk	<i>Tamias amoenus</i>

Ground squirrels

(6 species)

SPBEE	California ground squirrel	<i>Spermophilus beecheyi</i>
SPSA	Cascade golden-mantled ground squirrel	<i>Spermophilus saturatus</i>
SPCO	Columbian ground squirrel	<i>Spermophilus columbianus</i>
SPLA	Golden-mantled ground squirrel	<i>Spermophilus lateralis</i>
SPTO	Townsend's ground squirrel	<i>Spermophilus townsendii</i>
SPWA	Washington ground squirrel	<i>Spermophilus washingtoni</i>

Mice

(8 species)

MU99	Mouse spp.	
PEMA	Deer mouse	<i>Peromyscus maniculatus</i>
PEPA	Great basin pocket mouse	<i>Perognathus parvus</i>
MUMU	House mouse	<i>Mus musculus</i>
PEOR	Long-tailed deer mouse	<i>Peromyscus oreas</i>
ONLE	Northern grasshopper mouse	<i>Onychomys leucogaster</i>
ZATR	Pacific jumping mouse	<i>Zapus trinotatus</i>
REME	Western harvest mouse	<i>Reithrodontomys megalotis</i>
ZAPR	Western jumping mouse	<i>Zapus princeps</i>

Moles

(4 species)

SC99	Mole spp.	
SCLA	Broad-footed mole	<i>Scapanus latimanus</i>
SCOR	Coast mole	<i>Scapanus orarius</i>
NEGI	Shrew-mole	<i>Neurotrichus gibbsii</i>
SCTO	Townsend's mole	<i>Scapanus townsendii</i>

Pocket gophers

(10 species)

PE99	Pocket gopher spp.	
THTAD	Brush prairie pocket gopher	<i>Thomomys talpoides douglasi</i>
THMAL	Cathlamet pocket gopher	<i>Thomomys mazama louiei</i>
THTA	Northern pocket gopher	<i>Thomomys talpoides</i>
THMAME	Olympic pocket gopher	<i>Thomomys mazama melanops</i>
THMAG	Roy prairie pocket gopher	<i>Thomomys mazama glacialis</i>
THMAC	Shelton pocket gopher	<i>Thomomys mazama couchi</i>
THMATA	Tacoma pocket gopher	<i>Thomomys mazama tacomensis</i>
THMAT	Tenino pocket gopher	<i>Thomomys mazama tumuli</i>
THMA	Western pocket gopher	<i>Thomomys mazama</i>
THTAL	White salmon pocket gopher	<i>Thomomys talpoides limosus</i>

Rabbits

(7 species)

LECA	Black-tailed jack rabbit	<i>Lepus californicus</i>
SYFL	Eastern cottontail	<i>Sylvilagus floridanus</i>
ORCU	European rabbit	<i>Oryctolagus cuniculus</i>

SYNU	Nuttall's cottontail	<i>Sylvilagus nuttallii</i>
SYID	Pygmy rabbit	<i>Brachylagus idahoensis</i>
LEAM	Snowshoe hare	<i>Lepus americanus</i>
LETO	White-tailed jack rabbit	<i>Lepus townsendii</i>

Rats (5 species)

RAT99	Rat spp.	
RARA	Black rat	<i>Rattus rattus</i>
NECI	Bushy-tailed woodrat	<i>Neotoma cinerea</i>
NEFU	Dusky-footed woodrat	<i>Neotoma fuscipes</i>
RANO	Norway rat	<i>Rattus norvegicus</i>
DIOR	Ord's kangaroo rat	<i>Dipodomys ordii</i>

Shrews (11 species)

SO99	Shrew spp.	
SOTROD	Destruction Island shrew	<i>Sorex trowbridgii destructioni</i>
SOMO	Dusky shrew	<i>Sorex monticolus</i>
SOCI	Masked shrew	<i>Sorex cinereus</i>
SOME	Merriam's shrew	<i>Sorex merriami</i>
SOPAC	Pacific shrew	<i>Sorex pacificus</i>
SOBE	Pacific Water shrew	<i>Sorex bendirii</i>
SOPR	Prebles shrew	<i>Sorex preblei</i>
SOHO	Pygmy shrew	<i>Sorex hoyi</i>
SOTRO	Trowbridge's shrew	<i>Sorex trowbridgii</i>
SOVA	Vagrant shrew	<i>Sorex vagrans</i>
SOPAL	Water shrew	<i>Sorex palustris</i>

Squirrels (9 species)

TADO	Douglas' squirrel	<i>Tamiasciurus douglasii</i>
SCCA	Eastern Gray squirrel	<i>Sciurus carolinensis</i>
SCNI	Fox squirrel	<i>Sciurus niger</i>
MACA	Hoary marmot	<i>Marmota caligata</i>
GLSA	Northern flying squirrel	<i>Glaucomys sabrinus</i>
MAOL	Olympic marmot	<i>Marmota olympus</i>
TAHU	Red squirrel	<i>Tamiasciurus hudsonicus</i>
SCGRI	Western gray squirrel	<i>Sciurus griseus</i>
MAFL	Yellow-bellied marmot	<i>Marmota flaviventris</i>

Voles (14 species)

MI99	Vole spp.	
MIOR	Creeping vole	<i>Microtus oregoni</i>
MICA	Gray-tailed vole	<i>Microtus canicaudus</i>
PHIN	Heather vole	<i>Phenacomys intermedius</i>
MIPEK	Kincaid's meadow vole	<i>Microtus pennsylvanicus kincaidi</i>

MILO	Long-tailed vole	<i>Microtus longicaudus</i>
MIPE	Meadow vole	<i>Microtus pennsylvanicus</i>
MIMO	Montane vole	<i>Microtus montanus</i>
ONZI	Muskrat	<i>Ondatra zibethicus</i>
LACU	Sagebrush vole	<i>Lagurus curtatus</i>
MITOPU	Shaw Island vole	<i>Microtus townsendii pugeti</i>
CLGA	Southern red-backed vole	<i>Clethrionomys gapperi</i>
MITO	Townsend's vole	<i>Microtus townsendii</i>
MIRI	Water vole	<i>Microtus richardsoni</i>
CLCA	Western red-backed vole	<i>Clethrionomys californicus</i>

Reptiles

(26 species)

Lizards

(7 species)

ELCO	Northern alligator lizard	<i>Elgaria coerulea</i>
SCGRA	Sagebrush lizard	<i>Sceloporus graciosus</i>
PHDO	Short-horned lizard	<i>Phrynosoma douglassi</i>
UTST	Side-blotched lizard	<i>Uta stansburiana</i>
ELMU	Southern alligator lizard	<i>Elgaria multicarinata</i>
SCOC	Western fence lizard	<i>Sceloporus occidentalis</i>
EUSK	Western skink	<i>Eumeces skiltonianus</i>

Snakes

(12 species)

LAZO	California mountain kingsnake	<i>Lampropeltis zonata</i>
THSI	Common garter snake	<i>Thamnophis sirtalis</i>
TH99	Garter snake spp.	<i>Thamnophis</i>
PIME	Gopher snake	<i>Pituophis melanoleucus</i>
HYTO	Night snake	<i>Hypsiglena torquata</i>
THOR	Northwestern garter snake	<i>Thamnophis ordinoides</i>
COLCO	Racer	<i>Coluber constrictor</i>
DIPU	Ringneck snake	<i>Diadophis punctatus</i>
CHBO	Rubber boa	<i>Charina bottae</i>
CONTE	Sharptail snake	<i>Contia tenuis</i>
MATA	Striped whipsnake	<i>Masticophis taeniatus</i>
CRVI	Western rattlesnake	<i>Crotalus viridis</i>
THEL	Western terrestrial garter snake	<i>Thamnophis elegans</i>

Turtles

(7 species)

CLMY	Green sea turtle	<i>Chelonia mydas</i>
DECO	Leatherback sea turtle	<i>Dermochelys coriacea</i>
CACAR	Loggerhead sea turtle	<i>Caretta caretta</i>
LEOL	Olive Ridley sea turtle	<i>Lepidochelys olivacea</i>
CHPI	Painted turtle	<i>Chrysemys picta</i>
PSSC	Pond slider	<i>Trachemys scripta</i>
CLMA	Western pond turtle	<i>Clemmys marmorata</i>