

GLOSSARY

abundance pattern the establishment of an identifiable increase in a population over a period of time

adaptations inherited physiological or behavioral mechanisms which enable an organism to survive

adipose fin located on posterior dorsal surface; no bones or spines; contains fatty deposits, hence name; often removed on hatchery fish for easy identification

adult an organism which has matured to a stage capable of reproduction

alevin newly hatched salmonid; yolk sac attached

anadromous migratory life cycle which begins in fresh water, moves to salt water, then returns to fresh water to spawn; derived from Greek - *up running*

anatomy the component parts of a living multicellular organism; the study of those parts

anchor ice heavy ice buildup in streams; creates very cold pockets of water which can freeze fish

aquatic pertaining to water

attitude assumptions based on implied beliefs and values, with a predicted behavior; e.g., "Foxes should not be controlled"

belief an information-based assumption; may be right or wrong; i.e., "Where there are more pheasants, there are more foxes"

bypass screens very fine screens which allow water, but not fingerlings to pass; used to protect fish from areas such as turbines or irrigation ditches

caddis fly larvae tube-making aquatic insect larvae

carnivore A carnivore is an animal that gets food from killing and eating other animals

carrying capacity the concept that each ecosystem or environment's nutrient and energy resources will support a maximum number of each species due to limited resources

catadromous migratory life cycle which begins in salt water, moves to fresh water, then returns to salt water to spawn; derived from Greek – *down running*

caudal fin located on the distal posterior end of the spine; largest fin; often referred to as tail fin

ceded area land yielded or given up especially by treaty

Celilo Native American society in the Columbia River Basin; traditional culture based on salmon

Celilo Falls enormous water falls and rapids where Celilo and other Indians traditionally fished for salmon, which were flooded as result of the construction of Bonneville Dam

channel area area of a plane transect across a stream

channel gradient degree of slope of stream channel; steepness

channel movement lateral movements of a stream channel in response to kinetic energy of stream; can be initiated by flooding

chinook *Oncorhynchus tshawytscha*, (“on-ko-rink-us tau-wee-cha) a species of salmon characterized by large body size, large irregular spots on back, upper sides and tail, black gums (king salmon)

chum *Oncorhynchus keta*, (“on-ko-rink-us kee-ta”) a species of salmon characterized by purple, yellow, and pink streaks on sides during spawning; broadest migratory range (dog salmon)

coho *Oncorhynchus kisutch*, (“on-ko-rink-us ki-sooch”) a species of salmon characterized by blue black and silver flanks at sea, turning dark green and bright red in fresh water; white gums (silver salmon)

coloration the hues and patterns with which an organism is colored

compile to bring many pieces of information into one comprehensive document

compromise to collaborate; to give up part of one’s own interests in order to reach an agreement

conservation careful planning and use of resources to save and protect them

contour a line on a map which represents a particular altitude or height above sea level

cover brush or other material which provides shade or a camouflaged hiding place

Coyote a Native American character frequently depicted as clever and cunning

cutthroat *Oncorhynchus clarkii*, (“on-ko-rink-us clark-ee-i”) a species of Pacific trout characterized by blue-green coloration on back and silver on sides; vivid red “slash” along lower jaw

debris dead plant material in stream or coarse woody material which provides shelter for fry and fingerlings

decadal shift a change over a decade, such as population numbers

detritus Undissolved organic or inorganic matter resulting from the decomposition of parent material

dichotomous key a written procedure which uses couplets of questions for taxonomic identification, as found in field guides

discharge fluid which flows from land or a structure in the water into a river, stream or lake

dissolved oxygen (D.O.) oxygen in an aqueous solution as molecular oxygen (O₂)

diversity the kinds and numbers of species in an ecosystem or environment

dorsal fin located mid-dorsally on the spine; generally a large fin

ecological pertaining to the interactions between and among the biotic and abiotic (physical) elements of an ecosystem; derived from Greek – *house (ecos) knowledge (logos)*

ecosystem all of the living and non-living components of an environment

eddies areas of reverse flow in an aquatic system

egg in plants and animals, the cell produced by ovaries; in most cases, they begin development into an individual organism upon fertilization by sperm

embedded set or fixed firmly in a surrounding mass; applies equally to physical objects and concepts

endangered threatened with extinction

Endangered Species Act federal law which protects species which are threatened with extinction

environment the place within which phenomena occur; often refers to our natural world

evidence facts which are observable and measurable

exponential a number increased to a power; in populations, growth which is measured as a power

fertilized an egg whose membrane has been penetrated by the nucleus of a sperm

fingerling stage in salmonid life cycle between fry and smolt; salmon are “finger-sized” in this stage

fishery geographical location where fish are commercially caught; species or type of fish caught by anglers

fleet boats or ships which engage in coordinated movements

food web all of the plants and animals in an ecosystem organized into an interrelated “who eats whom” structure

forum a place where people come together for the purpose of discourse

fox walk a technique used to approach wildlife quietly; involves rolling of the foot from outside to inside when walking

fry young salmon which have absorbed their yolk sac and begun to feed

generation all of the offspring produced in a given season or time period

gill cover bony plate which protects gill tissue

gravels beds of small rocks, up to several inches in diameter, in a stream, where salmon deposit their eggs and milt

habitat the environment in which an organism lives; its “address”

hatcheries constructed facilities where milt from returning male salmon is used to artificially fertilize eggs taken from returning female salmon; development from egg to fingerling takes place within the confines of the facility

heat stress physiological response to elevated temperatures; extremes can lead to coma and death

herbivore A herbivore is an animal that gets its energy from eating plants, and only plants

home stream the stream where a return salmon had hatched from an egg

homing Scientists hypothesize that salmon navigate at sea with the aid of an inner magnetic map and a strong sense of day length, thus a salmon knows approximately where it is in relation to its home stream

indicator species a species of plant or animal which exhibits a strong sensitivity to an altered range of environmental conditions; used to indicate health of the ecosystem

individual sensitization the idea that each person must develop his or her own empathy with organisms in their environment

inference arriving at a conclusion or decision from known facts

in situ occurring in the place in the environment; literally, “in the place;” opposite *in vitro*, literally, “in the glass;” in the lab

irrigation water diverted from streams or rivers or pumped from groundwater, often used for crops

issue a situation, event or phenomenon which is disputed

iteroparous producing offspring in successive, e.g., annual or seasonal batches, as is the case in most fishes.
Opposite of semelparous

key a series of questions, which correctly answered, identifies an organism

life cycle life history in stages, e.g. begins in fresh water, moves to salt water, then returns to fresh water to spawn

litter the plant debris deposited on a forest floor or streambed

macroinvertebrates animals without backbones large enough to identify with the unaided eye; often aquatic insects

mating behaviors observable and predictable kinetic behaviors which result in the fertilization of animal eggs by animal sperm

methodology the steps and protocols which contribute to the application of a process

microhabitat within a habitat, this is the actual zone of interaction between the organism and its home environment

migratory behaviors which result in the movement of an organism from one location to another; cyclical, often synchronized with seasons or stage in life cycle

milt salmon sperm

monitor to observe and record, especially over time

Native American people who are indigenous to the Americas

Nez Perce Native American people who are indigenous to Idaho, Oregon, and Washington

niche the physical habitat and function of an organism in its ecosystem; its “occupation”

nitrogen bubbles nitrogen in the gaseous state in water; concentrations are increased by aeration and/or rapid submersion to depth

Northern Pike Minnow a species of fish with large digestive system, capable of holding several fish at a time; prey on salmon in reservoirs

observations records of sensory inputs according to protocols which include operationally defined criteria

Oncorhynchus (“on-ko-rink-us”) a genus of animals referring to NW salmon, steelhead, and cutthroat trout; derived from Greek – *hook nosed*

opinions a belief not based on certainty; a judgement

organism a living thing

out of phase an anticipated cycle which shifts unexpectedly out of its pattern

parameter a specific entity or condition which is measured, and whose value varies with its conditions

parr salmonid fry before smoltification

pectoral fin lateral antero-ventral fin; analogous to arms in a human

pelvic fin lateral postero-ventral fins; analogous to legs in a human

pH a measure of the activity of hydrogen ion in an aqueous environment

physical structure the abiotic components of a stream

physiological adaptations cellular and molecular adaptations of organisms to their environments or reproductive strategies

pink *Oncorhynchus gorbuscha*, (on-ko-rink-us gor-boo-scha) most abundant species of Pacific salmon; large oval black spots on tail and back; rigid two-year life cycle

pool place where water in a stream exhibits a very weak current

population the number of individuals in a species within a prescribed area

porous state of having holes; absorbs water

quadrant a measured area, usually a small piece of land

questionnaire a set of questions designed to elicit opinions about an issue

reproduce to make a copy of; in living organisms, to produce offspring

resource something which is ready to use or put to a purpose

riffle graded place in a stream where water runs over gravels and its surface is broken

rights that which a person has a just claim to

riparian area containing a stream and its associated plants and floodplain

root wad the twisted roots of a tree which has fallen from the stream bank into a stream; provides protection for small fish

runoff water which lands on a surface, is not absorbed, and runs into a stream or other water body

salmon a group of bony fish; members of the family Salmonidae

salmonids common name, or contraction of Salmonidae

sampling using a portion of an environment or population for measurement or observation

scour the abrasive effect of rapidly moving water on the sides and bottom of a stream, creating deeper water habitat and pools

sediment geological material which has moved from land to stream and settles to the bottom

sediment-free stream bottoms which contain no land-derived fine geological material

semelparous term describing the fact the most salmon spawn only once during their lifetime

simulation an enactment of an actual event or process which provides its participants with participatory practice which they would not otherwise experience

smolt stage in salmonid life cycle in which some fingerlings undergo the physiological changes necessary for movement into salt water

smoltification occurs when fry enter estuary, the process by which salmonids adapt to saltwater

sockeye *Oncorhynchus nerka*, (on-ko-rink-us ner-ka") species of salmon whose greenish blue finely speckled back and silver sides turn bright red on return to fresh water; some remain in fresh water all of their lives (kokanee); juveniles prefer lakes to streams

spawning area that part of the stream bottom which contains gravels suitable for depositing eggs

species the definitive taxonomic group; a group of organisms which interbreed, but do not breed with other related organisms

spores asexual reproductive cells of some plants, fungi and protozoa

stable in a state of dynamic equilibrium, and not subject to easy disturbance

steelhead *Oncorhynchus mykiss*, (“on-ko-rink-us my-kiss”) a species of anadromous trout with metallic blue back and silversides; a red band on sides during spawning

stream water flowing toward base and its bed

streambed the rock, gravel and sediments which form the bottom of a stream

stream channel in cross-section, the land structure which holds a stream; consists of a main path and lateral channels, which may not be immediately obvious

stream flow water running through a stream channel; movement of water through its channel as measured in meters per second

stream gradient steepness of the longitudinal slope of a stream bed

substrate the nutrients and physical composition of a streambed

summit a gathering of people for a decision making meeting

surface area the square measure of the exterior of an entity

Takilma Native American tribe which historically inhabited the Rogue River basin

taxa a group or category, at any level, in a system for classifying plants or animals

taxonomy the study of characteristics of organisms which differentiate them from others

temperature amount of kinetic energy in a system

temperature tolerance the range of temperatures which an organism endures without mortality

thermal responses all of the behavioral and physiological responses of an organism to a range of temperatures

topographic map a depiction of the surface area of a geographic feature in which it is illustrated by continuous lines representing intervals of elevation

treaty an agreement, binding and legal, between two or more sovereign nations; sovereignty refers to the right of selfgovernment and self-determination, or the ability of people to make decisions for themselves

turbidity the amount of suspended matter in a water body; a measurement of such suspended matter

turbines large bladed shafts which are turned by water, and whose rotary motion is used in dams to generate electricity

value a worth attached to some event, place, idea, etc.; e.g., “Foxes are beautiful and important creatures”

vitelline vein the vitelline vein, running through the centre of the yolk sac picks up oxygen from the water

water quality an assessment of the content of a water body such as its chemical composition

watershed the basin which holds a water system including main channels and tributaries

watershed management using the geology, hydrology, sociology and biology of watersheds to plan their use
