

Definition of Terms as Related to OBMEP Work

Abundance

Refers to the total number of individual organisms in a population or subpopulation. In this plan, abundance refers to the total number of spawning adults within a population.

Active Channel

Short term geomorphic feature, defined by the bank break that marks a change to permanent vegetation. (2) The portion of a channel in which flows occur frequently enough to keep vegetation from becoming established. An active channel is formed and maintained by normal water and sediment processes (Armantrout 1998). The active channel is defined as the channel area wetted under ordinary base flow conditions. This is usually denoted by the start of terrestrial vegetation (Williams and Thom 2001, Nightengale and Simenstad 2001, Konar 1998).

Adaptive management

A management process applying the concept of experimentation to design and implementation of natural resource plans and policies.

Adaptive trait

Characteristics that improve an individual's survival and fitness.

Adfluvial bull trout

Bull trout that migrate from tributary streams to a lake or reservoir to mature (one of three bull trout life histories). Adfluvial bull trout return to a tributary to spawn.

Acute Toxicity

Any poisonous effect produced within a short time after exposure to a toxic compound, usually within 24 to 96 hours

Advisory Level

A level of chemical concentration in fish or shellfish whereby consumption of the fish would pose a human health risk. Levels may be determined by various federal or state agencies and may lead to advisories such as restricted consumption or consumption bans. Typical chemicals for which advisories exist include PCBs, chlordane, and dioxin.

Agricultural Lands

Fields, pastures and orchards that are managed to produce food and fiber for people. Agricultural lands provide a source of income and employment, open space for recreational activities and important habitat for wildlife. Agricultural lands can be a source of negative environmental impacts (e.g., water pollution from eroded soils, fertilizers, herbicides and pesticides).

Age class

A group of individuals of a species that have the same age (e.g., 1 year old, 2 year old, etc).

Aggrading stream

A stream that is actively building up its channel or floodplain by being supplied with more bedload than it is capable of transporting.

Algae

Simple rootless plants that grow in bodies of water (e.g., estuaries) at rates in relative proportion to the amounts of nutrients (e.g., nitrogen and phosphorus) available in the water.

Alkalinity

The total measurable bases (OH, HCO₃, CO₃) in a volume of water; a measure of a material's capacity to neutralize acids; pH 7.

Alluvial fan

A fan-shaped sedimentary deposit composed of streamflow and/or debris flow sediments, either fully or partially extended, located at a topographic break such as the base of a mountain front, escarpment, or valley side.

Alluvial Sediments

Relating to mud and/or sand deposited by flowing water. Alluvial deposits may occur after a heavy rain storm.

Alluvium

A general term for clay, silt, sand, gravel, or similar unconsolidated material deposited by a stream or other body of running water.

Ambient Water-Quality Criteria for the Protection of Aquatic Organisms :

Non-enforceable guidelines for short-term (acute) and long-term (chronic) exposures to some pesticides. These guidelines provide the basis for state standards.

Anadromous Fish

Fish that spend their adult lives in the sea but swim upriver into fresh water to spawn (e.g., salmon, striped bass, American shad).

Analysis

A statistical procedure which groups members of a population into similar categories or clusters on the basis of more than one ecological indicator.

Anoxic (Anoxia)

A condition where very little or no oxygen is present in the water body.

Anthropogenic

Originating from man, not naturally occurring.

Anthropogenic Cover

Land cover associated with human activities, such as agricultural fields, rock quarries, and urban areas. Literally, "land cover created by humans."

Aquifer

An area of underground soil or rock, both porous and permeable, that allows ground water to easily move. Aquifers are capable of yielding supplies of water and typically consist of unconsolidated deposits or gravel, sand, sandstone, granite, or fractured rock such as limestone. Aquifers can be classified as confined or unconfined.

Artificial propagation

The use of artificial procedures to spawn adult fish and raise the resulting progeny in fresh water for release into the natural environment, either directly from the hatchery or by transfer into another area.

Backwater

(1) Water backed up or retarded in its course compared with its normal or natural condition or flow. (2) A naturally or artificially formed arm or area of standing or slow moving water partially isolated from the flow of the main channel of a river. (3) Seasonal or permanent water bodies found in the lowest parts of floodplains, typically circular or oval in shape (Armantrout 1998).

Backwater Pools

Backwater pools are habitat units located along the channel margins but are otherwise enclosed-though still connected to the main channel (or side channel). Note: backwater pools as defined here include "alcoves" as described by Nickleson et al.(1992).). 2) Backwater pools-a pool type formed by an eddy along channel margins downstream from obstructions such as bars, rootwads or boulders, or resulting from an obstruction blockage. (Berkley.edu 2004)

Bankfull Depth

Depth of water measured from the surface to the channel bottom when the water surface is even with the top of the streambank (Armantrout 1998). This is equivalent to the Thalweg depth plus the bankfull height during low flow conditions.

Bankfull Height

The average high water height occurring at a return interval of 1 to 3 years that is most responsible for channel formation. The bankfull height can be identified through examination of the reach for the following indicators as described below. Note that all six indicators are rarely present at an individual site. . Examine stream banks for an active floodplain. This is a relatively flat, depositional area that is commonly vegetated and above the current water level. . Examine depositional features such as point bars. The highest elevation of a point bar usually indicates the lowest possible elevation for bankfull stage. However, depositional features can form both above and below the bankfull elevation when unusual flows occur during years preceding the survey. Large floods can form bars that extend above bankfull whereas several years of low flows can result in bars forming below bankfull elevation. . A break in slope of the banks and/or change in the particle size distribution from coarser bed load particles to finer particles deposited during bank overflow conditions. . A defined elevation where mature key riparian woody vegetation exists. The lowest elevation of birch, alder, and dogwood can be useful, whereas willows are often found below the bankfull elevation. . Examine the ceiling of undercut banks. This elevation is normally below the bankfull elevation. . Stream channels actively attempt to reform bankfull features such as floodplains after shifts or down cutting in the channel. Be careful not to confuse old floodplains and terraces with the present indicators. (AREMP 2004)

Bankfull Width

Channel width between the tops of the most pronounced banks on either side of a stream reach (Armantrout 1998).

Bar

A submerged or exposed ridge-like accumulation of sand, gravel, or other alluvial material formed in the channel, along the banks, or at the mouth of a stream where a decrease in velocity induces sediment deposition (Armantrout 1998).

Beaver Pond

Ponds containing water impounded by a dam built by a beaver (Armantrout 1998).

Bedload

Sediment particles that are moved on or immediately above the streambed, such as the larger heavier particles (gravel, boulders) rolled along the bottom; the part of the load that is not continuously in suspension.

Braided Stream

A complex tangle of converging stream channels separated by sand bars or islands. Characteristic floodplains where the amount of debris is large in relation to the discharge (StreamNet 2004). A stream that forms an interlacing network of branching and recombining channels separated by islands and channel bars. Generally a sign of stream disequilibrium resulting from transportation of excessive rock and sediment from upstream areas and characteristic of an aggrading stream in a wide channel on a floodplain.

Bypass system (fish)

Structure in a dam that provides a route for fish to move through or around a dam without going through the turbines.

Canopy Cover

Percentage of ground or water covered by shade from the outermost perimeter or natural spread of foliage from plants. Small openings within the canopy are excluded if the sky is visible through them. Total canopy coverage may exceed 100% due to the layering of different vegetation strata such as understory and groundcover (Armantrout 1998).

Canopy cover (of a stream)

Vegetation projecting over a stream, including crown cover (generally more than 1 meter (3.3 feet) above the water surface) and overhang cover (less than 1 meter (3 feet) above the water).

Carrying capacity (fish)

Refers to the maximum average number of fish that can be sustained in a habitat over the long term

Cascade

1) Highly turbulent series of short falls and small scour basins with very rapid water movement as it passes over a steep channel bottom with gradients exceeding 8%. Most of the water surface is broken by short irregular plunges creating white water, frequently characterized by very large substrate, and a well defined stepped longitudinal profile that exceeds 50% in supercritical flows (Armantrout 1998). 2) Water movement is rapid and very turbulent over steep channel bottom. Most of the water surface broken in short, irregular plunges, mostly whitewater (Kaufman et al. 1999). 3) A habitat type characterized by swift current, exposed rocks and boulders, high gradient and considerable turbulence and surface agitation, and consisting of a stepped series of drops (AFS 1985).

Channel morphology

The physical dimension, shape, form, pattern, profile, and structure of a stream channel.

Channel stability

The ability of a stream, over time and in the present climate, to transport the sediment and flows produced by its watershed in such a manner that the stream maintains its dimension, pattern, and profile without either aggrading or degrading.

Channelization

The straightening and deepening of a stream channel to permit the water to move faster, to reduce flooding, or to drain wetlands.

Char

A salmonid belonging to the genus *Salvelinus* and related to both the trout and salmon. The bull trout, Dolly Varden trout, brook trout, and the Mackinaw trout (or lake trout) are all members of the char family. Char live in the icy waters (both fresh and marine) of North America and Europe.

Chlorophyll/Chlorophyll a

A group of green pigments found in green plants, including phytoplankton, that are active in harnessing energy during photosynthesis. Chlorophyll a is a measure of the green pigment in phytoplankton. The measured concentration of chlorophyll a in surface waters used as a surrogate for phytoplankton levels.

Climate

The average of patterns of a region or locality, based upon long-term statistics, including extremes (such as flood and droughts) and deviations from normal.

Cluster Clay

Substrate particles that are smaller than silt and generally less than 0.004 mm in diameter (StreamNet 2004).

Cobble

Substrate particles that are smaller than boulders and are generally 64-256mm in diameter. Can be further classified as small and large cobble. Commonly used by salmon in the construction of a redd (StreamNet 2004).

Cobble embeddedness

See also: Embeddedness. A term expressing what percentage of gravel, cobble or boulder particles in the stream bottom substrate are surrounded by fine sediment.

Community

Any group of organisms belonging to a number of different species that co-occur in the same habitat or area and interact through trophic and spatial relationships

Community structure

Number of species and their abundance within a community.

Complex interacting groups

Multiple local populations that may have overlapping spawning and rearing areas within a geographic area.

Confluence

1) The act of flowing together; the meeting or junction of two or more streams; also, the place where these streams meet. 2) The stream or body of water formed by the junction of two or more streams. (StreamNet 2004).

Core area

The combination of core habitat (i.e., habitat that could supply all elements for the long-term security of bull trout) and a core population (a group of one or more local bull trout populations that exist within core habitat) constitutes the basic unit on which to gauge recovery within a recovery unit. Core areas require both habitat and bull trout to function, and the number (replication) and characteristics for local populations inhabiting a core area provide a relative indication of the core area's likelihood to persist. A core area represents the closest approximation of a biologically functioning unit for bull trout.

Core habitat

Habitat that encompasses spawning and rearing habitat (resident populations), with the addition of foraging, migrating, and overwintering habitat if the population includes migratory fish. Core habitat is defined as habitat that contains, or if restored would contain, all of the essential physical elements to provide for the security of allow for the full expression of life history forms of one or more local populations of bull trout. Core habitat may include currently unoccupied habitat if that habitat contains essential elements for bull trout to persist or is deemed critical to recovery.

Core population

A group of one or more bull trout local populations that exist within core habitat.

Dam

A concrete or earthen barrier constructed across a river and designed to control water flow or create a reservoir (StreamNet 2004).

Deposition (stream)

The settlement or accumulation of material out of the water column and onto the streambed. Occurs when the energy of flowing water is unable to support the load of suspended sediment.

Depositional areas (stream)

Local zones within a stream where the energy of flowing water is reduced and suspended material settles out, accumulating on the streambed.

Dike

1) (engineering) An embankment to confine or control water, especially one built along the banks of a river to prevent overflow of lowlands, a levee (StreamNet 2004). 2) A tabular body of igneous rock that cuts across the structure of adjacent rocks. A massive wall or embankment built around a low-lying area to prevent flooding (Bates and Jackman 1984).

Discharge (stream)

With reference to stream flow, the quantity of water that passes a given point in a measured unit of time, such as cubic meters per second or, often, cubic feet per second.

Distinct population segment

A listable entity under the Endangered Species Act that meets tests of discreteness and significant according to U.S. Fish and Wildlife Service and NOAA Fisheries policy.

Diversion

The transfer of water from a stream, lake, aquifer, or other source of water by a canal, pipe, well, or other conduit to another watercourse or to the land, as in the case of an irrigation system (StreamNet 2004).

Domestication

The process of fish becoming genetically adapted to conditions of artificial propagation. Because fish are adapted to conditions of artificial propagation, their survival and the survival of their offspring is less than that for naturally produced fish that are genetically adapted to natural conditions.

Ecosystem

A community of organisms and their physical environment interacting as an ecological unit.

Effective population size

The number of breeding individuals that would give rise to the same amount of random genetic drift as the actual population, if ideal conditions held.

Embeddedness

The extent that boulders, larger cobbles or gravel are surrounded by or covered by fine sediment, such as sands, silts, and clays. Embeddedness is determined by examining the extent (as an average %) that boulders, cobble and gravel particles on the substrate surface are buried by fine sediments (Lestelle 2004).

Entrainment

Process by which aquatic organisms are pulled through a diversion, turbine, spillway, or other device.

Ephemeral Flow

Streamflows in channels that are short lived or transitory and occur from precipitation, snow melt, or short term water releases (Armantrout 1998).

Evolutionarily Significant Unit (ESU)

A population or group of populations that is reproductively isolated from other population units and represents an important component in the evolutionary legacy of the species.

Exotic

. A non-native or foreign organism or species that has been introduced into an area.

Extant

Existing or living at the present time.

Extirpation

The total elimination of a species from a particular local area.

Falls

1) Free falling water with vertical or nearly vertical drops as it falls over an obstruction. Falling water is turbulent and appears white in color with trapped air bubbles (Armantrout 1998). 2) Free falling water over vertical or near vertical drop into a plunge pool; water turbulent and white over high falls (Kaufman et al. 1999).

Fecundity

The number of eggs readied for spawning by a female. It is usually expressed as the number of eggs per size (length or weight) of female.

Fine sediment (fines)

Sediment with particle sizes of 2.0 mm (.08 inch) or less, including sand, silt, and clay.

A device to help fish swim around a dam.

Floodplain

The area that parallels the stream course and that is inundated by flood waters on an infrequent basis (more than every 2 years on average to once in 100 years or more). The floodplain is typically confined by topographic features and can cover the entire valley floor from terrace to terrace or only a small portion when dikes or levees are present.

Floodprone Depth

Equal to two times the bankfull depth (Rosgen 1996).

Floodprone Width

Equal to the valley width at floodprone depth (Rosgen 1996).

Flow regime

The quantity, frequency, and seasonal nature of water flow.

Fluvial

Pertaining to streams or produced by stream action.

Fluvial bull trout

Bull trout that migrate from tributary streams to larger rivers to mature (one of three bull trout life histories). Fluvial bull trout migrate to tributaries to spawn.

Functionally extirpated

Describes a species that has been extirpated from an area; though a few individuals may occasionally be found, they are not thought to constitute a viable population.

Geometric mean

A measure of central tendency that is applied to multiplicative processes (e.g., population growth). It is calculated as the antilogarithm of the arithmetic mean of the logarithms of the data.

Geomorphology

The shape or form of a natural surface or object, also, the study of the land surface and the processes producing them (e-streams 2004).

Genotype

The set of alleles (variants of a gene) possessed by an individual at a particular locus or set of loci.

Glide

Hawkins et al. (1993) indicates that there is a general lack of consensus regarding the definition of glides, despite a commonly held view that it remains important to recognize a habitat type that is intermediate between pool and riffle. The ODFW habitat survey manual (Moore et al. 1999) defines a glide as an area with generally uniform depth and flow with no surface turbulence, generally in reaches of < 1% gradient. Glides may have some small scour areas but are distinguished from pools by their overall homogeneity and lack of structure. They are generally deeper than riffles with few major flow obstructions and low habitat complexity (Lestelle 2004). Glides generally appear as low turbulent moving water with smooth, unbroken surface (Kaufman et al. 1999).

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Habitat connectivity (stream)

Suitable stream conditions that allow fish and other aquatic organisms to move freely upstream and downstream. Habitat linkages that connect to other habitat areas.

Hatchery produced fish

Fish produced from parents that were selected and spawned artificially.

Headwaters

The source of a stream. Headwater streams are the small swales, creeks, and streams that are the origin of most rivers. These small streams join together to form larger streams and rivers or run directly into larger streams and lakes.

Hooking mortality

Death of a fish from stress or injury after it is hooked and reeled in, then released back to the water.

Hybridization

Any crossing of individuals of different genetic composition, typically different species, resulting in hybrid offspring.

Hydrologic response

The response of a watershed to precipitation; usually refers to streamflow resulting from precipitation.

Hydrologic unit (code)

Watersheds that are classified into four types of units: regions, subregions, accounting units, and cataloging. The units from the smallest (cataloging units) to the largest (regions). Each unit is identified by a unique hydrologic unit code, or HUC number, consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.

Hyporheic zone

Area of saturated sediment and gravel beneath and beside streams and rivers where groundwater and surface water mix. This subsurface water moves mainly in a downstream direction.

Independent population

A group of fish of the same species that spawns in a particular lake or stream at a particular season and which, to a substantial degree, does not interbreed with fish from any other group spawning in a different place or in the same place at a different season.

Interior Columbia Basin Technical Recovery Team (ICBTRT).

Expert panel formed by NOAA Fisheries to work with local interests and experts and ensure that ICBTRT recommendations for delisting criteria are based on the most current and accurate technical information available.

Intermittent flow

Flows that occur at certain times of the year only when groundwater levels are adequate but may cease entirely in low water years or be reduced to a series of separate pools (Armantrout 1998).

Intermittent stream

A stream that flows only at certain times of the year as when it receives water from springs (or by surface water) or when water losses from evaporation or seepage exceed the available streamflow.

Interspecific competition

Competition for resources between two or more different species.

Intrinsic potential

The potential of the landscape to support a fish population. It is used when historic population characteristics are unknown.

Introgression (genetic)

The spread of genes of one species into the gene pool of another by hybridization or by backcrossing (interbreeding between hybrid and parental species).

Iteroparous

Fish that are capable of spawning more than once in their life cycle are considered iteroparous.

Kelt

Salmon that have spawned and return to the ocean, mainly steelhead, are considered a kelt.

Large Woody Debris (LWD)

LWD is defined here as non-living woody material with small end diameter of at least 10 cm (4 inches), and length of at least 1.5 m (5 ft) (Kaufman et al. 1999).

Legacy effects

Impacts from past activities (usually a land use) that continue to affect a stream of watershed in the present day.

Lentic

Pertaining to a non-flowing or standing body of fresh water, such as a reservoir, lake or pond.

Limiting factor

A factor that limits a population from achieving complete viability with respect to any Viable Salmonid Population (VSP) parameter.

Local population

A group of fish of the same species that spawn within a particular stream or portion of a stream system. Multiple local populations may exist within a core area. A local population is considered to be the smallest group of fish that is known to represent an interacting reproductive unit. For most waters where specific information is lacking, a local population may be represented by a single headwater tributary or complex of headwater tributaries. Gene flow may occur

- between local populations (e.g., those within a core population), but is assumed to be infrequent compared with that among individuals within a local population.
- Lotic system**
Pertaining to a flowing body of fresh water, such as a river or stream.
- Mass wasting**
Loss of large amounts of material in a short period of time, i.e., downward movement of land mass material or landslide. Also known as a *blowout* or *scouring event*.
- Metapopulation**
A group of semi-isolated subpopulations of a species that are interconnected and that probably share genetic material.
- Mid-Channel Bar**
Bar formed in the mid-channel zone, not extending completely across the channel. (Armantrout 1998). The highest elevation of a bar often indicates the lowest possible elevation for bankfull stage.
- Migratory corridor**
Stream reaches used by fish to move between habitats. A section of river or stream used by fish to access upstream spawning areas or downstream lake or ocean environments.
- Migratory life-history form (bull trout).**
Bull trout that migrate from spawning and rearing habitat to lakes, reservoirs, or larger rivers to grow and mature.
- Morphology**
Refers to the form and structure of an organism , with special emphasis on external features, or a stream channel.
- Naturally produced**
Fish produced from naturally spawning parents.
- Nonnative species**
Species not indigenous to an area. Local example of which is the eastern brook trout (*Salvelinus fontinalis*) found in streams and rivers in the western United States.
- Occupancy unknown**
Refers to areas in which fish (e.g., bull trout) occurred historically, but their current status (presence) is unknown.
- Peak flow**
Greatest stream or river discharge recorded over a specified period of time, usually a year, but often a season
- Phenotype**
Expressed physical, physiological, and behavioral characteristics of an organism that may be due to genetics, the environment, or an interaction of both.
- Piscivorous**
Describes fish that prey on other fish for food.
- Primary Pool**
1) Have a maximum depth equal to or greater than 1.5 times the crest depth. Pools are generally characterized by still water, low velocity, smooth, glassy surface, and deep compared to other parts of the channel (Kaufman et al. 1999). AREMP

(2004) further describes pool characteristics as observed under low flow conditions as follows: . Pools are depressions in the streambed that are concave in profile, laterally and longitudinally. . Pools are bounded by a head crest (upstream break in streambed slope) and a tail crest (downstream break in streambed slope). . Pools have a water surface gradient close to "0" and are associated with "slower" flowing water. . Only consider main channel pools where the thalweg runs through the pool, and not backwater pools. . Pool span at least 90% of the wetted channel width at any location within the pool. . Pool length, measured along the thalweg, is greater than its width, measured perpendicular to the thalweg, at the widest point. . Maximum pool depth is at least 1.5 times the pool tail depth.

Pool Tailout

Defined as a distinct break or "crest" in streambed slope occurring downstream from a pool (AREMP 2004).

Potential local population

A local population that does not currently exist, but that could exist, if spawning and rearing habitat or connectivity were restored in the area, and contribute to recovery in a known or suspected unoccupied area.

Precocious

A fish described as maturing particularly early in development.

Probability of persistence

The probability (usually expressed as a percentage) that a population or subpopulation of fish will survive and be present in a specific geographic location through some future time period, usually 100 years.

Productivity

A measure of a population's ability to sustain itself or its ability to rebound from low numbers. The terms "population growth rate" and "population productivity" are interchangeable when referring to measures of population production over a entire life cycle. In this plan, productivity is measured as recruits per spawner (spring Chinook and steelhead) or the long-term trend in numbers of adults (bull trout).

Rapid

1) Moderately steep stream area (4-8% gradient) with supercritical flow between 15% and 50%, rapid and turbulent water movement, surface with intermittent whitewater, with breaking waves, coarse substrate, with exposed boulders at low flows and a planar longitudinal profile (Armantrout 1998). 2) Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves (Kaufman et al. 1999).

Reach

The basic unit used in assessing the health or condition of an entire lotic system.

Recovery subunit (bull trout)

Portions of larger recovery units treated separately to improve management efficiency.

Recovery unit (bull trout)

Recovery units are the major units for managing recovery efforts; each recovery unit is described in a separate chapter in the recovery plan. A distinct population segment may include one or several recovery units. Most recovery units consist of

one or more major river basins. Several factors were considered in our identifying recovery units, for example, biological and genetic factors, political boundaries, and ongoing conservation efforts. In some instances, recovery unit boundaries were modified to maximize efficiency of established watershed groups, encompass areas of common threats, or accommodate other logistic concerns. Recovery units may include portions of mainstem rivers (e.g., Columbia and Snake rivers) when biological evidence warrants inclusion. Biologically, recovery units are considered groupings of bull trout for which gene flow was historically or is currently possible.

Recruitment

1) The introduction of materials into a stream through windfall, erosion or other riparian disturbance, e.g. "LWD recruitment." 2) The successful addition through birth and death of new individuals (fish) to a specific population.

Redd

A nest constructed by female fish of salmonid species in streambed gravels where eggs are deposited and fertilization occurs. Redds can usually be distinguished in the streambed gravel by the cleared depression, and an associated mound of gravel directly downstream.

Resident life history form (bull trout)

Bull trout that do not migrate, but that reside in tributary streams their entire lives (one of three bull trout life histories).

Revetment

A sloped facing built to protect existing land or newly created embankments against erosion or wave action, currents, or weather. Revetments are usually placed parallel to the natural shoreline (e-streams 2004). See also: Rip Rap

Riffle

1) Shallow reaches with low sub-critical flow (1-4% gradient) in alluvial channels of finer particles that are unstable, characterized by small hydraulic jumps over rough bed material, causing small ripples, waves and eddies without breaking the surface tension. Stable riffles are important in maintaining the water level in the pool immediately upstream of the pool (Armantrout 1998). 2) Riffles can be generally characterized by moving water with small ripples, waves and eddies -- waves not breaking, surface tension not broken (Kaufman et al. 1999).

Riparian area

Area with distinctive soils and vegetation between a stream or other body of water and the adjacent upland. It includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation.

Riparian Vegetation

Vegetation that is growing on or near the banks of a stream that is more dependent on water than vegetation that is found further upslope (Armantrout 1998).

Rip Rap

Boulders or rubble used to construct a jetty or revetment (California Coastal Comm. 1987)

Run

An area of swiftly flowing water without surface agitation or waves, which approximates uniform flow and in which the slope of the water surface is roughly parallel to the overall gradient of the stream reach (AFS 1985). Runs are considered to be part of the glide designation for this program.

Salmonid

Fish of the family Salmonidae, including trout, salmon, chars, grayling, and whitefish. In general usage, the term most often refers to salmon, trout, and chars.

Scour

Scour is the hole left behind when sediment (sand and rocks) is washed away from the bottom of a river. Although scour may occur at any time, scour action is especially strong during floods. Swiftly flowing water has more energy than calm water to lift and carry sediment down river.

Sediment

Fine grained material and organic material in suspension, in transition or deposited by air, water, or ice on the earth's surface (California Coastal Comm. 1987)

Semelparous

Fish that spawn only once in their life are considered semelparous

Side Channel

A side or secondary channel is any channel separated directly from the main channel at the upstream end by an island/bar with an elevation above bankfull. There must be clearly defined bankfull indicators at some point along the side channel (AREMP 2004).

Smolt

A juvenile salmon or steelhead migrating to the ocean and undergoing physiological and behavioral changes to adapt its body from a freshwater environment to a saltwater environment.

Source population

Strong subpopulation that are within a metapopulation and that contribute to other subpopulations and reduce the risk of local extinctions.

Spatial structure

The geographic distribution of a population and all the processes that affect the distribution.

Spawning and rearing habitat

Stream reaches and the associated watershed areas that provide all habitat components necessary for spawning and juvenile rearing for a local fish population. Spawning and rearing habitat generally supports multiple year classes of juveniles of resident or migratory fish and may also support sub-adults and adults from local populations of resident fish.

Spillway

The part of the dam that allows high water to flow (spill) over the dam.

Stochastic

The term is used to describe natural events or processes that are random. Examples include environmental conditions such as rainfall, runoff, and storms, or life-cycle events, such as survival or fecundity rates.

Stock

The fish spawning in a particular lake or stream(s) at a particular season, which to a substantial degree do not interbreed with any group spawning in a different place, or in the same place at a different season. A group of fish belonging to the same population, spawning in a particular stream in a particular season.

Storage reservoir

An artificial storage place for water, from which the water may be withdrawn for irrigation, municipal water supply, or flood control.

Subwatershed

Topographic perimeter of the catchment area of a stream tributary.

Suspended load (washload)

The part of the total stream load that is carried for a considerable period of time in suspension, free from contact with the stream bed, it consists mainly of silt, clay, and sand.

Suspended sediment

Solids, either organic or inorganic, found in the water column of a stream or lake. Sources of suspended sediment may be either human induced, natural, or both.

Take

Activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to engage in any such conduct to a listed (Endangered Species Act) species.

Thalweg

Path of a stream that follows the deepest part of the channel (Armantrout 1998).

Tolerance

Represents the range of an environmental factor (e.g., temperature, fine sediment, water velocity, etc.) within which an organism or population can survive.

Transplantation

Moving naturally produced fish from one stream system to another without the use of artificial propagation.

Trophic status

Referring to the nourishment status or biological productivity of a water body; determined largely by nutrient concentrations (i.e., phosphorous and nitrogen) and the resultant synthesis of organic compounds by green plants in the presence of these nutrients and light energy.

Uncertainty

A lack of knowledge about stochastic events and the ecological and social processes that affect fish.

Viability curve

A curve showing the relationship between population abundance and productivity. Populations that fall above the curve are at a lower risk of extinction than populations that fall below the curve.

Viable population

An independent population that has negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year timeframe

Water right

Any vested or appropriation right under which a person may lawfully divert and use water. It is a real property right appurtenant to and severable from the land on or in connection with which the water is used; such water right passed as an appurtenance with a conveyance of the land by deed, lease, mortgage, will, or inheritance.

Watershed

The area of land from which rainfall (and/or snow melt) drains into a stream or other water body. Watersheds are also sometimes referred to as drainage basins or drainage areas. Ridges of higher ground generally form the boundaries between watersheds. At these boundaries, rain falling on one side flows toward the low point of one watershed, while rain falling on the other side of the boundary flows toward the low point of a different watershed.

Wetted Width

Width of water surface measured perpendicular to the direction of flow at a specific discharge. Widths of multiple channels are summed to represent the total wetted width (Armantrout 1998).

Woody debris

Woody material such as trees and shrubs; includes all parts of a tree such as root system, bowl, and limbs. Large woody debris (LWD) generally refers to the woody material whose smallest diameter is greater than 10 centimeters, and whose length is greater than 1 meter.

Year class (cohort)

Fish in a stock born in the same year. For example, the 1997 year class of steelhead includes all steelhead born in 1997 which would be one year old in 1998. Occasionally, a stock produces a very small or very large year class that can be pivotal in determining stock abundance in later years.