US Army Corps of Engineers®
Portland District

WILLAMETTE VALLEY SYSTEM OPERATIONS AND MAINTENANCE

FINAL ENVIRONMENTAL IMPACT STATEMENT

CHAPTER 8 GLOSSARY

A

Access point: A place where people access a site for recreation. An access point might include a boat launch, a campground, a parking area, etc. A recreation area may contain one or more access points.

Acre-foot: The volume of water that will cover an area of 1 acre to a depth of 1 foot. Equals 325,851 gallons.

Action agency: Under the ESA, any Federal agency that undertakes, authorizes, or funds a Federal action (i.e., an activity or program).

Activities: Activities necessary to implement a measure, program, operations, or maintenance (e.g., construction of a selective withdrawal structure).

Adaptation: A change (in a program) in response to environmental or population factors that necessitate an appropriate response to better support wild population improvements.

Adaptive management: A systematic approach for improving resource management by learning from management outcomes. An adaptive approach involves exploring alternative ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of management actions, and then using the results to update knowledge and adjust management actions (USFWS 2009).

Adaptive management and governance framework: A governance framework as part of the Adaptive Management Plan will specifically describe how USACE will continue to work with the WATER forum to design a robust research, monitoring, and evaluation plan to inform decision-making during implementation of the selected alternative.

Adfluvial: Adults spawn and juveniles rear in freshwater streams but migrate to lakes or reservoirs for feeding as sub-adults or adults, then migrate back to flowing water for spawning.

Adult fishway: An in-river ladder that helps fish to maneuver past a barrier such as Willamette Falls.

Adult fish facility: A facility located downstream of dams where fish are collected to be transported and released upstream of dams or for hatchery program purposes.

Amalgamation: A chemical process that uses mercury as a bonding agent for various metals.

Ambient air: Ambient air is the air in the atmosphere surrounding a particular place, such as a powerplant.

Ammocoetes: A larval stage of Pacific lamprey that are filter feeders that draw overlying water into burrows they dig into soft bottom substrates. During the larval stage, they spend most of their time feeding on algae, detritus, and microorganisms (Wikipedia 2025).

Anadromous fish: Fish, such as salmon or steelhead trout, that hatch in fresh water, migrate to and mature in the ocean, and return to fresh water as adults to spawn.

Analysis Area: The area of primary study for resources analyzed in Chapter 3, Affected Environment and Environmental Consequences. Broadly, the analysis area is the Willamette River Basin. An analysis area may differ in Chapter 4, Cumulative Effects, depending on the resource analyzed.

Anoxia: A condition of no, or at times very little, dissolved oxygen in marine or freshwater systems (Diaz 2016).

Artifact: An object of any type made by human hands. Tools, weapons, pottery, and sculptured and engraved objects are artifacts.

Attainment areas: Federally designated areas with pollution levels below the National Ambient Air Quality Standards.

Nonattainment areas: Federally designated areas with pollution levels above, and in violation of, the National Ambient Air Quality Standards.

Augment: Increase; in this application, to increase river flows above rates that would occur under normal operation by releasing more water from storage reservoirs.

Average megawatt (aMW): A unit of energy that represents 1 megawatt of electric power capacity continuously over a year. Because there are 8,760 hours in a year, ne aMW is equal to 8,760 megawatts per hour.

B

Base flow: The portion of streamflow that is sustained between precipitation events, fed to streams by delayed pathways.

Bathymetry: The measurement of water depth.

Best Management Practices: Protocols for the operation of hatchery facilities and hatchery programs to appropriately meet objectives of hatchery programs.

Biomagnification: The concentration of toxins in an organism because of its ingesting other plants or animals in which the toxins are more widely disbursed.

Bioturbation: The process of disturbance and mixing of soil or sediment by organisms.

Brownfield site: A property where the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

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

C

Capacity: The maximum load that a generator, piece of equipment, substation, transmission line, or system can carry under existing service conditions. Baseload capacity is the power output that can be continuously produced to run at least 70 percent of the time. Firm capacity is the capacity whose availability is ensured to the purchaser.

Carrying capacity: The maximum population that a given area can sustain.

CE-QUAL-W2: A two-dimensional (longitudinal/vertical) hydrodynamic reservoir and river model (Wells 2019).

Cohort: A group of fish spawned during a given period, usually within a year.

Conservation Plan: A plan prepared annually which provides flow requirements based on the basin water supply for that year.

Conservation Pool: the set amount of water in a reservoir dedicated for storage needs for municipal, domestic, agricultural (irrigation), industrial, fish and wildlife, water quality, and/or recreational use.

Conservation Season: March through October, including the filling season (spring) and the release season (summer), when the WVS reservoirs impound water for release later in the year.

Context: The significance of an action must be analyzed in several contexts such as society as a whole, the affected region, the affected interests, and the locality. Both short- and long-term effects are relevant.

Critical water year (or "critical water conditions"): Represent the historical water year (in this case, 1937) when the capability of the hydropower system produces the least.

Cubic feet per second (cfs): A unit of measurement pertaining to flow or discharge of water. One cfs is equal to 449 gallons (1.7 cubic meters) per minute.

Cultural resources: The non-renewable evidence of human occupation or activity as seen in any district, site, building, structure, artifact, ruin, object, work of art, architecture, or natural feature that was part of human history at the national, state, or local level.

D

Deltaic: Pertaining to or characterized by a delta. A delta is a nearly flat alluvial tract of land at the mouth of a river, commonly forming a triangular or fan-shaped plain.

Demand: For electrical energy, the rate at which it is used, whether at a given instant or averaged over any designated period of time.

Discharge: Volume of water flowing past a point at a given time, usually expressed in cubic feet per second.

Dissolved gas concentrations: The number of elements or compounds normally occurring as gases, such as nitrogen and oxygen, which are held in solution in water, expressed in units such as milligrams of the gas per liter of liquid.

Diversion: A location where water is withdrawn from a river for municipal, industrial, irrigation, or other consumptive use.

DPS (distinct population segment): A vertebrate population or group of populations that meet certain criteria of being discrete or isolated from other populations of the species and significant to preservation of the genetic diversity of the species (61 FR 4722).

Draft: Release of water from a storage reservoir.

Draft rate: The rate at which water, released from storage behind a dam, reduces the elevation of the reservoir.

Drawdown: The distance that the water surface of a reservoir is lowered from a given elevation as water is released from the reservoir. Also refers to the act of lowering reservoir levels.

E

Economic value: The difference between the maximum amount a recreationist would be willing to pay to participate in a recreational activity and the actual cost of participating in that activity. This is referred to by economists as consumer surplus or net economic value.

Electricity: Electric current used or regarded as a source of power.

Endangered: A plant or animal species or sub-species that is in danger of extinction throughout all or a significant portion of its range because its habitat is threatened with destruction, drastic modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors; federally endangered species are officially designated by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service and published in the Federal Register.

Endemic: Native or limited to a certain region.

Energy: As commonly used in the electric utility industry, electric energy means kilowatt-hours, or joules (the level of power delivered multiplied by the amount of time that the level of power is delivered). Used interchangeably with, although technically not a synonym of, power.

Entrainment: The drawing of fish and other aquatic organisms into tubes or tunnels carrying water for cooling purposes into thermal plants or for power generating purposes into hydroelectric plants. Entrainment increases mortality rates for those organisms.

Entrainment rates: The metric of unintentional passage of organisms through regulating outlets, turbines, or spillways.

Evolutionarily Significant Unit (ESU): A Pacific salmon population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species.

Exploitation rate: The percentage of a fish population that is caught by fishing.

F

Faunal biodiversity: Refers to the abundance and variety of wildlife in a geographic area such as the analysis area.

Fen: A peat-forming wetland that relies on groundwater input and requires thousands of years to develop.

Firm power: Power or power-producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Fishery: Generally defined as a group of individuals or vessels that catch finfish or harvest shellfish, with specific commonalities in activity, including the fish species or stock targeted, the gear used, the location of activity, and the season of activity.

Fish hatchery: A facility in which fish eggs are incubated and hatched and juvenile fish are reared for release to rivers or lakes.

Fish horn: An outlet that was originally constructed for fish passage to the adult fish facility.

Fish ladders: A series of ascending pools constructed to enable salmon or other fish to swim upstream around or over a dam.

Fish passage facilities: Features of a dam that enable fish to move around, through, or over without harm. Generally, an upstream fish ladder or a downstream bypass system.

Floating screen structure: Capture structure that relies on gravity flows (and may also utilize supplemental pumped flow).

Flow: The volume of water passing a given point per unit of time.

Flow stages. The levels of water in a river measured in relation to a reference elevation.

Fluvial: Fish that live entirely within flowing water and may migrate between larger rivers and smaller tributaries.

Forebay: The portion of the reservoir at a hydroelectric plant which is immediately upstream of the generating station.

Freshet: A rapid temporary rise in streamflow caused by heavy rains or rapid snowmelt.

Fry: Juvenile fish less than about 60 mm in length.

Full pool: The maximum level of a reservoir under its established normal operating range.

G

Generation: The act of producing electricity from other forms of energy (e.g., chemical, kinetic, gravitational, potential) or the amount of electrical energy produced.

H

Hatchery Genetic Management Plans (HGMPs): Technical documents that thoroughly describe the composition and operation of each individual hatchery program.

Hydraulic head: The vertical distance between the surface of the reservoir and the surface of the river immediately downstream from the turbines and dam.

Hydroelectric: The production of electric power through use of the gravitational force of falling water.

Hydrology: The science that studies the continuous cycle of evapotranspiration, precipitation, and runoff, driven by solar energy.

Hydrosystem: An at least partially regulated freshwater system made up of water and the associated aquatic environments within a delimited geographical entity that fish use to complete their life cycle.

I

Independent population: "A group of fish of the same species that spawns in a particular lake or stream (or portion thereof) 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 (McElhany et al. 2000).

Inflow: Water that flows into a reservoir or forebay during a specified period.

Intake: The entrance to a conduit through a dam or water facility.

Intensity: Refers to the severity of the action. A significant effect may occur even if the effect may be beneficial on balance.

Intertie: A transmission line or system of transmission lines permitting a flow of energy between major power systems. The Bonneville Power Administration transmission grid has interties to British Columbia, Canada; California; and eastern Montana.

IP (Intrinsic Potential): "The estimated relative suitability of a habitat for spawning and rearing of anadromous salmonid species under historical conditions inferred from stream characteristics including channel size, gradient, and valley width" (ODFW and NMFS 2011).

Islanded power generation: Generating power while isolated from the main system to provide power to local communities.

Iteroparity: A reproductive strategy where an organism has multiple reproductive cycles over its lifetime.

J

Jobs: Combined full- and part-time jobs on an annualized basis.

Juvenile: The early freshwater stage in the life cycle of anadromous fish up to and including when they migrate downstream to the ocean as a smolt.

K

kcfs: Thousand cubic feet per second; a measurement of water flow equivalent to 1,000 cubic feet of water passing a given point in 1 second.

Kelts: Post-spawn steelhead adults that migrate to the ocean.

L

Labor income: includes employee compensation and proprietary income. Employee compensation consists of wage and salary payments as well as benefits (e.g., health and retirement benefits) and employer paid payroll taxes (e.g., employer social security contributions and unemployment taxes). Proprietary income consists of payments received by self-employed individuals (such as doctors and lawyers) and unincorporated business owners.

Levee: An embankment constructed to prevent a river from overflowing.

Life history: The pattern of survival and reproduction or an organism along with the traits that directly affect survival and the timing or amount of reproduction (Oxford Bibliographies 2013).

Littoral zone: The shallower waters near the shore of a reservoir or lake.

Limiting factors: Conditions that adversely affect habitat, thereby limiting the sustainability of populations (e.g., salmon).

Load: The amount of electric power or energy delivered or required at any specified point or points on a system. Load originates primarily at the energy-consuming equipment and electrical appliances of customers.

Load shaping: The adjustment of storage releases so that generation and load are continuously in balance.

Low pool: At or near the minimum level of a reservoir under its established normal operating range.

M

Macrophytes: Aquatic plants that are macroscopic, or large enough to be seen with the naked eye.

Mainstem: The principal river in a basin, as opposed to the tributary streams and smaller rivers that feed into it.

Maintenance: Work to restore equipment, assets, facilities or components to design conditions or to conditions that have been determined to be sufficient to meet a prescribed level of performance; replacement of parts, systems, or components; preventive maintenance and inspection/monitoring of facilities or equipment and other activities needed to preserve or maintain the asset. Maintenance and repairs, as distinguished from capital improvements, exclude activities directed towards expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, its current use.

Major maintenance: A non-repetitive item of work or aggregate items of related work for which the total estimated cost exceeds the limit set forth by Engineering Circular 11-2-222 and which does not qualify as major rehabilitation.

Major rehabilitation: Rehabilitation projects are projects to restore or ensure continuation of project functions or outputs.

Maximum pool: The maximum level to which the reservoir surface is allowed to rise during normal operating conditions.

McKenzie core legacy population: The McKenzie River Chinook salmon population, which is considered the strongest remaining population and the best hope for recovery of Upper Willamette Basin Chinook salmon. This population has been designated a “legacy” or “stronghold” population by fishery managers.

Measures: Proposed combination of activities that would be taken under an alternative to meet the purpose and need for the Proposed Action. Alternatives are formulated by suites of measures.

Megawatt (MW) and kilowatt (kW): A watt is a unit of power, equal to one joule of energy per second. One kilowatt equals one thousand watts. One megawatt represents 1,000 kilowatts or 1 million watts. MW is a standard metric describing electric power generating capacity.

Megawatt hour (MWh) and kilowatt hour (kWh): MWh and kWh are energy measurements denoting electricity production or consumption. One MWh equals 1,000 kWh. In the electricity context, power (MW) is the rate of producing, transferring, or using energy, and energy (MWh) is power used over a period of time.

Methylation: The introduction of a methyl radical into a substance (Merriam-Webster 2023). Mercury is methylated by anaerobic microorganisms such as sulfate-reducing bacteria in water and sediment (Eckley et al. 2015).

Minimum operating pool (MOP): The minimum elevation of the established normal operating range of a reservoir.

Model: A mathematical function with parameters that can be adjusted so that the function closely describes a set of empirical data. A "mathematical" or "mechanistic" model is usually based on biological or physical mechanisms and has model parameters that have real-world interpretations. In contrast, "statistical" or "empirical" models involve curve-fitting to data where the math function used is selected for its numerical properties. Extrapolation from mechanistic models (e.g., pharmacokinetic equations) usually carries higher confidence than extrapolation using empirical models (e.g., logic).

N

Nature-based structures: Landscape features that are used to provide engineering functions relevant to flood risk management while producing additional economic, environmental, and/or social benefits.

Nitrous oxides: Refers to the gas nitrous oxide (NO2). Nitrogen oxide(s) is a broad category that encompasses several gases including nitric oxide (NO) and nitrogen dioxide (NO2).

Non-natal fish: Fish that rear in streams where they were not born.

North American Vertical Datum of 1988 (NAVD 88). An agreed upon leveling network on the North American Continent that is affixed to a single origin point on the continent and is used to standardize elevation references.

O

Operating limits: Limits or requirements that must be factored into the planning process for operating reservoirs and generating projects. (Also see operating requirements.)

Operating requirements: Guidelines and limits that must be followed in the operation of a reservoir or generating project. These requirements may originate in authorizing legislation, physical plant limitations, or other sources. Non-power operating requirements pertain to navigation, flood control, recreation, irrigation, and other non-power uses of a river.

Ordinary High Water Mark: The jurisdictional boundary for streams and rivers.

Outages: Periods, both planned and unexpected, during which the transmission of power stops or a particular power-producing facility ceases to provide generation.

Outflow: The volume of water per unit of time discharged at a project [dam].

Outplanting: The release of hatchery-origin Chinook salmon and steelhead back into streams (e.g., to spawn naturally above WVS reservoirs) after collection at adult fish facilities.

P

Parr: Juvenile salmon larger than about 60 mm that have developed vertical stripes and spots.

Particulates: Substances that consist of minute separate particles, such as dust or soot.

Peak load: The maximum load in a stated period of time. It may be the maximum load at a given instant in the stated period or the maximum average load within a designated interval of the stated period of time. Peak can also be used to refer to the maximum capacity or energy.

Peaking or peaking capacity: The generating capacity available to assist in meeting that portion of the load that is above baseload. Alternatively, the maximum output of a generating plant or plants during a specified peak-load period.

Phytoplankton: The plant portion of floating or weakly swimming organisms, often microscopic in size, in a body of water.

Pool: Reservoir; a body of water impounded by a dam.

Pore water: Groundwater that exists in gaps between individual particles in soil or rock. Pore water pressure refers to the pressure of groundwater held within soil or rock.

Power: The rate of energy production or transfer. Power is expressed in watts (1 watt = 1 joule per second) and used interchangeably with energy, although it is technically not a synonym of energy. Power delivered to a load is also called demand.

Power pool: The reservoir capacity between the inactive and conservation pools and is only designated for reservoirs that have power production capabilities.

Priority species: Aquatic and terrestrial weeds identified by Krass et al. (2021) as plants that should be prioritized for survey and treatment within the Willamette River Basin.

Project: Related to a "planned undertaking" (as opposed to the traditional USACE meaning used to describe each dam and its related components (see Projects).

Projects: Used to describe hydroelectric generation facilities that are generally large and include several facilities such as dams, impoundments, diversions, and pumped storage (U.S. Department of Energy 2024).

Propagule: Vegetative structures capable of giving rise to a new plant.

Pyroclastics: Rocks composed of rock fragments that were produced and ejected by explosive volcanic eruptions and then consolidated.

R

Raceway: A channel or series of tanks used in aquaculture to culture fish and other aquatic organisms (e.g., hatchery).

Ramping rates: The speed at which the water discharged from a dam increases or decreases.

RECONS: A proprietary USACE input-output modeling methodology that allows for the estimation of changes in economic contributions from a given investment.

Record of Decision (ROD): A document notifying the public of a decision made by a Federal agency, together with the reasons for making that decision. Records of Decision are published in the Federal Register.

Recreation area: A reservoir, river reach between reservoirs, or the Pacific Ocean off the coast of Oregon and Washington, used for recreation. A recreation area may have one or more access points.

Recruits: The number of offspring that successfully survive and return to breed.

Redd: Salmon spawning nest in gravel.

Refill: Refers to the annual process of filling a reservoir in the spring to the maximum conservation season elevation, at which point the reservoir is considered "full."

Regional economic contributions: These reflect economic activity within a specific geographic region supported by expenditures for a particular economic sector (e.g., recreational visitation). Contributions are often measured in terms of sales (spending), jobs, income, and value added, though other measures may be used.

Regulating outlet (RO): Lower elevation dam outlet to allow flow through the dam while not using any hydroelectric turbine.

Reliability: For a power system, a measure of the degree of certainty that the system will continue to meet load for a specified period of time.

Replacement potential: Whether each generation of a salmon species produce enough juveniles to at least replace itself.

Replacement: Replacement (also, reach replacement) refers to cohort replacement rate. This is the number of adults that return to spawn in a given location compared to the number of adults that were transported upstream to produce those fish.

Re-regulating dam: A project whose primary purpose is to enable higher variation in flow from an upstream dam, typically in a sub-daily timeframe and has minimal usable flood or conservation season storage.

Reservoir elevations: The levels of the water stored behind dams.

Reservoir storage: The volume of water in a reservoir at a given time.

Residence time: The average amount of time that water spends in a lake.

Resident fish: Fish species that reside in fresh water throughout their lives.

Residualize: When migrating juvenile salmonid smolts lose their urge to migrate, physiologically revert to their freshwater life form, and remain in fresh water rather than migrate to sea.

Resource agencies: A term that references agencies with fisheries expertise and/or responsibility for fishery resources in the Willamette River Basin, including USACE, BPA, NMFS, USFWS, ODFW, and ODEQ.

Riprap: Broken rock, cobbles, or boulders placed on the bank of a stream or river for protection against the erosive action of water.

River Mile. A measure of distance in miles along a river from its mouth. River mile numbers begin at zero and increase further upstream.

Rule curves: Seasonal reservoir elevation targets or restrictions, represented graphically as curves, that guide reservoir operations.

Run: In reference to salmon—different runs of salmon refer to distinct populations of the same salmon species that migrate to spawn in fresh water at different times of the year.

Run-of-river dam: A dam developed primarily for navigation and hydropower generation. Water runs through run-of-river dams as it arrives as opposed to being held in storage in a reservoir (modified from https://www.bpa.gov/learn-and-participate/community-education/hydropower-101/power-generation).

S

Salmonids: Fish of the taxonomic family Salmonidae, such as salmon, trout (including steelhead), char, and whitefish. Pacific salmonids in the genus *Oncorhynchus* include Chinook (king), coho (silver), sockeye (red), chum (dog), and pink (humpback).

Scoping: The process of defining the scope of a study, primarily with respect to the issues, geographic area, and alternatives to be considered. The term is typically used in association with soliciting input from the public (e.g., non-governmental organizations, individuals, other government agencies, stakeholders) to help define the scope of environmental documents prepared under the National Environmental Policy Act.

Sedimentation: The settling of material (such as dust, silt, or other particles) into water and eventual deposition on the bottoms of streams, rivers, lakes, and reservoirs.

Self-determination: A term specific to tribal policy as used in this EIS. Laws and policies are established to promote Indian self-determination (https://crsreports.congress.gov/product/pdf/IF/IF11877/2).

Simulation: The representation of an actual system by analogous characteristics of a device that is easier to construct, modify, or understand, or by mathematical equations (i.e., a model).

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

Spawning: The release and fertilization of eggs by fish.

Spending: Equivalent to the sales by firms in the region. This can be expressed in terms of (1) recreation expenditures, and/or (2) final demand, which is the total sales by firms in the region from all buyers, including recreationists, as well as businesses and households in subsequent rounds of spending.

Spill: Water passed over a spillway or through a regulating outlet without going through turbines to produce electricity. Spill can be forced, when there is no storage capability and flows exceed turbine capacity, or planned, for example, when water is spilled to enhance juvenile fish passage.

Spillway: Overflow structure of a dam.

Splash dam: A temporary wooden dam used to raise the water level in streams to float logs downstream to sawmills.

Stochastic: Involving chance or probability.

Storage reservoirs: Reservoirs that have storage for regulating high inflows to reduce downstream flooding or storing spring runoff for use later in the dry season.

Streamflow: The rate at which water passes a given point in a stream, usually expressed in cubic feet per second.

Substrate: The base on which an organism lives. For example, soil is the substrate for seed plants (Merriam Webster Dictionary).

Subyearlings: Juvenile fish less than 1 year old.

Surplus energy: Energy generated that is beyond the immediate needs of the producing system. This energy may be sold on an interruptible basis or as firm power.

System flood control: Flood protection provided along the Willamette River and its tributaries downstream of the Willamette Valley System of reservoirs.

T

Tailrace: The canal or channel that carries water away from a dam.

Tailwater: The water surface immediately downstream from a dam or hydroelectric powerplant.

Thermistor strings: Water quality equipment that measures reservoir temperature (i.e., temperature at set depths).

Thermocline: A thermocline (also known as the metalimnion in lakes) is a distinct layer based on temperature within a large body of fluid (e.g., water, as in a lake) with a high gradient of distinct temperature differences associated with depth (Wikipedia 2025).

Threatened: Legal status afforded to plant or animal species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range, as determined by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

Transmission path: A path refers to a route over which the power flows from one point to another (i.e., the direction power flows across a transmission line).

Tules: The name commonly applied to fall Chinook salmon originating on the lower Columbia River.

Turbidity: A measure of the optical clarity of water, which depends on the light scattering and absorption characteristics of suspended and dissolved material in the water.

Turbine: Machinery that converts kinetic energy of a moving fluid, such as falling water, to mechanical or electrical power.

V

Value added: An estimate of gross regional product. It is a combination of employee compensation, business owner income, industry profits, and indirect business taxes.

Velocity: Speed; the rate of linear motion in a given direction.

Viable Salmonid Population (VSP): A salmonid population that meets threshold criteria for spatial structure, diversity, productivity, abundance, and risk of extinction as determined by the NOAA Viable Salmonid Population (VSP) framework (McElhaney et al. 2000). In general, higher VSP scores indicate greater viability. VSP scores are calculated from the output of salmonid population models. These models tend to cover all or most of the salmonid life cycle. Most information comes from the hydrosystem because the ocean phase of the life cycle is less understood.

Viewshed: The view of an area from a specific vantage point.

W

Warm monomictic lake: A lake that is able to circulate freely once a year in the winter at or above 39.2°F (4°C) and is stably stratified for the remainder of the year; not ice-covered (Wetzel 2001).

Water conditions: The overall supply of water to operate the hydroelectric generating system at any given time, taking into account reservoir levels, snowpack, any need to provide water or retain water to meet various operating constraints (such as the water budget, flood control, flow constraints, etc.), weather conditions, and other factors.

Water control diagram: A diagram used to illustrate reservoir elevation targets for the reservoirs, known as water-year-based rule curves.

Water particle travel time: The theoretical time that a water particle would take to travel through a given reservoir or river reach. It is calculated by dividing the flow (volume of water per unit time) by the cross-sectional area of the channel.

Water retention time: The length of time that a particle of water is resident in a lake or reservoir, based on rates of inflow, outflow, and circulation within the waterbody.

Water rights: Priority claims to water. In Western states, water rights are based on the principle "first in time, first in right," meaning older claims take precedence over newer ones.

Water year: One hydrologic cycle corresponding to October 1 through September 30. The start of a water year is typically prior to the start of higher winter flows in the Willamette River Basin.

Willamette Valley System (WVS): The 13 USACE-managed dams, reservoirs, and bank protection structures in the analysis area.

Y

Yearlings: One-year-old juvenile salmon and steelhead.

Z

Zooplankton: Aquatic animals that cannot actively swim against the current and cannot make their own food by photosynthesis.

Photo by Christie Johnson (USACE Media Images Database 2024)
Water-skiing on Green Peter Reservoir.