The definitions in this list are provided for clarification of terms used throughout this program.

A

Act — See Northwest Power Act.

adaptive management

A scientific policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as vehicles for learning. Projects are designed and implemented as experiments so that even if they fail, they provide useful information for future actions. Monitoring and evaluation are emphasized so that the interaction of different elements of the system are better understood.

anadromous fish

Fish that hatch in freshwater, migrate to the ocean, mature there and return to freshwater to spawn. For example, salmon or steelhead.

applicable federal laws

The Endangered Species Act and the Clean Water Act.

B

biological diversity

The variety of, and variability among, living organisms and the ecological complexes in which they occur. Biological diversity at its most basic level is the genetic diversity (genetic variation found within each species), phenotypic and morphological diversity (physical, life history and behavioral variation found within each species), species diversity (number of species in a given ecosystem), and community/ecosystem diversity (variety of habitat types and ecosystem processes extending over a region).

biological performance

The responses of populations to habitat conditions, described in terms of capacity, abundance, productivity, and life history diversity.

biological potential

The biological potential of a species means the potential capacity, productivity and life history diversity of a population in its habitat at each life stage.

blocked areas

Areas in the Columbia River Basin where hydroelectric projects have created permanent barriers to anadromous fish runs. These include the areas above Chief Joseph and Grand Coulee dams, the Hells Canyon Complex and other smaller locations.

Bonneville Power Administration (Bonneville)

The sole federal power marketing agency in the Northwest and the region's major wholesaler of electricity. Created by Congress in 1937, Bonneville sells power to public and private utilities, direct service customers, and various public agencies in the states of Washington, Oregon, Idaho, Montana west of the Continental Divide, (and parts of Montana east of the Divide) and smaller adjacent areas of California, Nevada, Utah and Wyoming. The Northwest Power Act charges Bonneville with additional duties related to energy conservation, resource acquisition, and fish and wildlife.

Bureau of Reclamation, U.S. Department of the Interior

An agency that administers some parts of the federal program for water resource development and use in western states. The Bureau of Reclamation owns and operates a number of dams in the Columbia River Basin, including Grand Coulee and several projects on the Yakima River.

bypass system

A channel or conduit in a dam that provides a route for fish to move through or around the dam without going through the turbine units.

C

captive broodstock

Fish raised and spawned in captivity.

carrying capacity

The number of individuals of one species that the resources of a habitat can support.

Columbia River Compact

An interstate compact between the states of Oregon and Washington by which the states jointly regulate fish in the Columbia River.

Columbia River System

The Columbia River and its tributaries.

Columbia River Treaty

The treaty between the United States and Canada for the joint development of the Columbia River. It became effective on September 16, 1964.

Corps of Engineers, U.S. Department of the Army (Corps)

An agency with the responsibility for design, construction and operation of civil works, including multipurpose dams and navigation projects.

cost-effective

Where equally effective alternative means of achieving the same sound biological objective exist, the

alternative with the minimum economic cost is considered the most cost-effective measure.

D

dissolved gas

The amount of chemicals normally occurring as gases, such as nitrogen and oxygen, that are held in solution in water, expressed in units such as milligrams of the gas per liter of liquid. Supersaturation occurs when these solutions exceed the saturation level of the water (beyond 100 percent).

E

ecosystem

The biological community considered together with the land and water that make up its environment.

environmental characteristics

The environmental conditions or changes sought to achieve the desired changes in population characteristics.

escapement

The number of salmon and steelhead that return to a specified point of measurement after all natural mortality and harvest have occurred. Spawning escapement consists of those fish that survive to spawn.

estuary

The part of the wide lower course of a river where its current is met and influenced by the tides.

extinction

The natural or human-induced process by which a species, subspecies or population ceases to exist.

F

Federal Energy Regulatory Commission (FERC)

The Commission issues and regulates licenses for construction and operation of non-federal hydroelectric projects and advises federal agencies on the merits of proposed federal multipurpose water development projects.

fish and wildlife agencies

This category includes the Fish and Wildlife Service, U.S. Department of the Interior; the Idaho Department of Fish and Game; the Montana Department of Fish, Wildlife and Parks; the National Marine Fisheries Service, U.S. Department of Commerce; the Oregon Department of Fish and Wildlife; and the Washington Department of Fish and Wildlife.

Fish Passage Center

The center established under section III (D)(6) of the program.

flows

The rate at which water passes a given point in a stream or river, usually expressed in cubic-feet per second (cfs).

flow augmentation

Increased flow from release of water from storage dams.

H

habitat

The locality or external environment in which a plant or animal normally lives and grows. As used in this program, habitat includes the ecological functions of the habitat structure.

harvest management

The process of setting regulations for the commercial, recreational and tribal fish harvest to achieve a specified goal within the fishery.

hydroelectric power or hydropower

The generation of electricity using falling water to turn turbo-electric generators.

hydrosystem

The hydroelectric dams on the Columbia River and its tributaries.

I

Implementation Team

A policy-level working group established by the National Marine Fisheries Service to provide advice on the implementation of the biological opinion on the effects of the federal dams in the Columbia River basin. The IT oversees the Technical Management Team, which deals with hydrosystem operations, and the System Configuration Team, which deals with structural changes at the dams to improve fish passage.

impoundment

A body of water formed behind a dam.

irrigation screens

Screens using wire mesh placed at the point where water is diverted from a stream or river. The screens keep fish from entering the diversion channel or pipe.

J

juvenile

Fish from approximately one year of age until sexual maturity.

M

mainstem

The main channel of the river in a river basin, as opposed to the streams and smaller rivers that feed into it. In the fish and wildlife program, main-

stem refers to entirety of the Columbia and Snake rivers.

mainstem passage

The movement of salmon and steelhead around or through the dams and reservoirs in the Columbia and Snake rivers.

mainstem survival

The proportion of anadromous fish that survive passage through the dams and reservoirs while migrating in the Columbia and Snake rivers.

metadata

Data exist in two forms — primary data and metadata. Primary data are numbers or counts — for example, the number of adult fish counted in a given time period, interval and location. Metadata describe how those numbers were obtained, including the monitoring design (selection of times and locations), objectives, and methods.

mixed-stock fishery

A harvest management technique by which different species, strains, races or stocks are harvested together.

N

natural production

Spawning, incubating, hatching and rearing fish in rivers, lakes and streams without human intervention.

naturally spawning populations

Populations of fish that have completed their entire life cycle in the natural environment and may be the progeny of wild, hatchery or mixed parentage.

Northwest Power Act

The Pacific Northwest Electric Power Planning and Conservation Act (16 U.S.C. 839 et seq.), which authorized the creation of the Northwest Power Planning Council. The act directs the Council to develop this program to protect, mitigate and enhance fish and wildlife, including related spawning grounds and habitat on the Columbia River and its tributaries, to establish an Independent Scientific Review Panel to review projects implementing this program that are proposed for funding by Bonneville, and to make final recommendations to Bonneville on implementation projects.

O

off-site mitigation

The improvement in conditions for fish or wildlife species away from the site of a hydroelectric project that had detrimental effects on fish and/or wildlife, as part or total compensation for those effects. An example of off-site mitigation is the fish passage restoration work being conducted in the Yakima River Basin for the detrimental effects caused by mainstem hydroelectric projects.

operational losses

The direct wildlife losses caused by the day-to-day fluctuations in flows and reservoir levels resulting from the operation of the hydrosystem.

P

passage

The movement of migratory fish through, around, or over dams, reservoirs and other obstructions in a stream or river.

PIT tags

Passive Integrated Transponder tags are used for identifying individual salmon for monitoring and research purposes. This miniaturized tag consists of an integrated microchip that is programmed to identify individual fish. The tag is inserted into the body cavity of the fish and decoded at selected monitoring sites.

plume

The area of the Pacific Ocean that is influenced by discharge from the Columbia River, up to 500 miles beyond the mouth of the river.

population

A group of organisms belonging to the same species that occupy a well-defined locality and exhibit reproductive continuity from generation to generation.

powerhouse

A primary part of a hydroelectric dam where the turbines and generators are housed and where power is produced by falling water rotating turbine blades.

R

rearing

The juvenile life stage of anadromous fish spent in freshwater rivers, lakes and streams before they migrate to the ocean.

reservoir

A body of water collected and stored in an artificial lake behind a dam.

resident fish

Fish that spend their entire life cycle in freshwater. For program purposes, resident fish includes landlocked anadromous fish (e.g., white sturgeon, kokanee and coho), as well as traditionally defined resident fish species.

resident fish substitutions

The enhancement of resident fish to address losses of salmon and steelhead in those areas permanently blocked to anadromous (ocean-migrating) fish as a result of hydroelectric dams.

riparian habitat

Habitat along the banks of streams, lakes or rivers.

run

A population of fish of the same species consisting of one or more stocks migrating at a distinct time.

S

salmonid

A fish of the Salmonidae family, which includes soft-finned fish such as salmon, trout and whitefish.

smolt

A juvenile salmon or steelhead migrating to the ocean and undergoing physiological changes (smoltification) to adapt its body from a freshwater to a saltwater existence.

spawn

The act of fish releasing and fertilizing eggs.

species

A group of individuals of common ancestry that closely resemble each other structurally and physiologically and that can interbreed, producing fertile offspring.

spill

Releasing water through the spillway rather than through the turbine units.

spillway

The channel or passageway around or over a dam through which excess water is released or "spilled" past the dam without going through the turbines. A spillway is a safety valve for a dam and, as such, must be capable of discharging major floods without damaging the dam, while maintaining the reservoir level below some predetermined maximum level.

stock

A population of fish spawning in a particular stream during a particular season. They generally do not interbreed with fish spawning in a different stream or at a different time.

subbasin

A set of adjoining watersheds with similar ecological conditions and tributaries that ultimately connect, flowing into the same river or lake. Subbasins contain major tributaries to the Columbia and Snake rivers.

supplementation

The release of hatchery fry and juvenile fish in the natural environment to quickly increase or establish naturally spawning fish populations.

subbasin planning

A coordinated systemwide approach to planning in which each subbasin in the Columbia system will be evaluated for its potential to produce fish in order to contribute to the goal of the overall system. The planning will emphasize the integration of fish and wildlife habitat, fish passage, harvest management and production.

T

target population

A species or population singled out for attention because of its harvest significance or cultural value, or because it represents a significant group of ecological functions in a particular habitat type.

terminal fishery

A fishery designed to increase harvest of abundant fish stocks and minimize effects on depleted stocks by focusing the fishery on locations where the abundant stocks are produced — in net pens, for example — and where the fish also return to spawn.

Technical Management Team

A technical working group established by the National Marine Fisheries Service to provide advice on how to operate the federal dams in the Columbia River Basin in a manner that minimizes fish and wildlife impacts. The TMT deals with issues such as reservoir storage levels, flow augmentation, and spill.

transboundary

Refers to U.S. and Canadian border..

transportation

Collecting migrating juvenile fish and transporting them around the dams using barges or trucks.

tribes

In this program, these include the Burns-Paiute Tribe; the Coeur d'Alene Tribes; the Confederated Tribes of the Colville Reservation; the Confederated Salish-Kootenai Tribes of the Flathead Reservation; the Confederated Tribes of the Umatilla Reservation of Oregon; the Confederated Tribes of the Warm Springs Reservation of Oregon; the Confederated Tribes and Bands of the Yakama Nation; the Kalispel Tribe of Indians; the Kootenai Tribe of Idaho; the Nez Perce Tribe of Idaho; the Shoshone-Paiutes of the Duck Valley Reservation; the Shoshone-Bannock Tribes of the Fort Hall Reservation; and the Spokane Tribe of Indians.

W

watershed

The area that drains into a stream or river. A subbasin is typically composed of several watersheds.

weak stock

A stock of fish where the long-term survival of the stock is in doubt. Typically this is a stock where the population is small and is barely

reproducing itself or is not reproducing itself. While ESA-listed stocks are considered weak stocks, the term also includes other populations that would not yet qualify for ESA listing.

wild populations

Fish that have maintained successful natural reproduction with little or no supplementation from hatcheries.