

Appendix 1. Glossary

Aquaculture: the cultivation or farming of aquatic organisms such as fish and shellfish under captive conditions for purposes of human consumption.

Aquatic ecological systems: dynamic spatial assemblages of ecological communities that occur together in an aquatic landscape with similar geomorphological patterns, are tied together by similar ecological processes (e.g., hydrologic and nutrient regimes, access to floodplains and other lateral environments) or environmental gradients (e.g., temperature, chemical and habitat volume), and form a robust, cohesive and distinguishable unit on a hydrography map.

Assessment unit: the area-based polygon units used in the optimal site selection algorithm and attributed with the amount and quality of all targets located within them. These units are non-overlapping and cover the entire ecoregion. The assessment unit chosen for the WPG was a 750-hectare hexagon.

Automated portfolio: in the WPG, a data-driven portfolio created by the SITES algorithm operating on hexagonal assessment units (terrestrial and marine) or linear assessment units (marine only).

Base layer: a data layer in a GIS that all other layers are referenced to geometrically.

Biodiversity: the full range of natural variety and variability within and among organisms, and the ecological complexes in which they occur. This term encompasses multiple levels of organization, including genes, subspecies, species, communities, and ecological systems or ecosystems.

Cadastral: relating to landed property, usually including the dimensions and value of land parcels, used to record ownership.

Candidate species: plants and animals that the U.S. Fish and Wildlife Service believe should be considered for status review. A status review may conclude that the species should be added to the federal list of threatened and endangered species.

Coarse filter: refers to the communities or ecological systems, which if protected in sufficient quantity should conserve the vast majority of species in the ecoregion.

Conservation target: (see target)

Core team: the interdisciplinary group that is accountable for the completion of the ecoregional assessment project.

Cost: a component of the SITES algorithm that encourages SITES to minimize the area of the portfolio by assigning a penalty to factors that negatively affect biodiversity, such as proximity to roads and development. In the WPG assessment, a cost was assigned to each assessment unit in the ecoregion.

Crosswalk: a comparison of two different vegetation classification systems and resolving the differences between them to form a common standard.

Declining: species that have exhibited significant, long-term reduction in habitat/and or numbers, and are subject to continuing threats in the ecoregion.

Disjunct: disjunct species have populations that are geographically isolated from each other.

Ecological drainage unit (EDU): aggregates of watersheds that share ecological characteristics. These watersheds have similar climate, hydrologic regime, physiography, and zoogeographic history.

Ecological integrity: the probability of an ecological community or ecological system to persist at a given site is

partially a function of its integrity. The ecological integrity or viability of a community is governed primarily by three factors: demography of component species populations; internal processes and structures among these components; and intactness of landscape-level processes which sustain the community or system.

Ecological land unit (ELU): mapping units used in large-scale conservation assessment projects that are typically defined by two or more environmental variables such as elevation, geological type, and landform (e.g., cliff, valley bottom, summit). Biophysical or environmental analyses based on ELUs combined with land cover types and satellite imagery can be useful tools for predicting locations of communities or systems when field surveys are lacking.

Ecological system (see terrestrial ecological systems or aquatic ecological system)

Ecoregion: a relatively large area of land and water that contains geographically distinct assemblages of natural communities, with boundaries that are approximate. These communities share a large majority of their species, dynamics, and environmental conditions, and function together effectively as a conservation unit at global and continental scales.

Element occurrence (EO): a term originating from the methodology of the Natural Heritage Network that refers to a unit of land or water on which a population of a species or example of an ecological community occurs. For communities, these EOs represent a defined area that contains a characteristic species composition and structure.

Endangered species: any species which is in danger of extinction throughout all of its range; a species that is federally listed as Endangered by the U.S. Fish and Wildlife Service under the Endangered Species Act.

Endemic: species or communities that are largely restricted to an ecoregion (or small geographic area within an ecoregion), and depend entirely on this area for survival.

Extirpation: the extinction of a species or a group of organisms in a particular local area.

Fine filter: species of concern or rare communities that complement the coarse filter, helping to ensure that the coarse filter strategy adequately captures the range of viable, native species and ecological communities. Endangered or threatened, declining, vulnerable, wide-ranging, very rare, endemic, and keystone species are some potential fine filter targets.

Focal group: a collection of organisms related by taxonomic or functional similarities.

Fragmentation: the process by which habitats are increasingly subdivided into smaller units, resulting in increased insularity as well as losses of total habitat area.

Functional landscapes: large areas (usually greater than 1,000 acres [405 hectares]) where the natural ecological processes needed to conserve biodiversity can be maintained or potentially restored.

Functional network: a well-connected set of functional landscapes within an ecoregion or across multiple ecoregions.

GAP (National Gap Analysis Program): Gap analysis is a scientific method for identifying the degree to which native animal species and natural communities are represented in our present-day mix of conservation lands. Those species and communities not adequately represented in the existing network of conservation lands constitute conservation “gaps.” The purpose of the Gap Analysis Program (GAP) is to provide broad geographic information on the status of ordinary species (those not threatened with extinction or naturally rare) and their habitats in order to provide land managers, planners, scientists, and policy makers with the information they need to make better-informed decisions.

GAP status: the classification scheme or category that describes the relative degree of management or protection of specific geographic areas for the purpose of maintaining biodiversity. The goal is to assign each mapped land unit with categories of management or protection status, ranging from 1 (highest protection for maintenance of

biodiversity) to 4 (no or unknown amount of protection).

GIS (Geographic Information System): a computerized system of organizing and analyzing spatially-explicit data and information.

Global rank: an assessment of a biological element's relative imperilment and conservation status across its geographic distribution, ranging from G1 (critically imperiled) to G5 (secure). Assigned by the Natural Heritage Network, global ranks for species and communities are determined by the number of occurrences or total area of coverage (communities only), modified by other factors such as condition, historic trend in distribution or condition, vulnerability, and impacts (see Appendix 6 for more information).

Goal: in ecoregional assessments, a numerical value associated with a species or system that describes how many populations (for species targets) or how much area (for systems targets) the portfolio should include to represent each target, and how those target occurrences should be distributed across the ecoregion to better represent genetic diversity and hedge against local extirpations.

Ground truthing: assessing the accuracy of GIS data through field verification.

Historic species: species that were known to occupy an area, but most likely no longer exist in that area.

Impact: the combined concept of ecological stresses to a target and the sources of that stress to the target. Impacts are described in terms of severity and urgency.

Impacts assessment: for each conservation area in the portfolio, the overall impact to the area is ranked as High, Medium, or Low. The overall impact ranking is a gestalt ranking by the project team, taking into account the conservation targets in the area and the varied impacts to the targets.

Imperiled species: species that have a global rank of G1-G2 by Natural Heritage Programs/Conservation Data Centers. Regularly reviewed and updated by experts, these ranks take into account number of occurrences, quality and condition of occurrences, population size, range of distribution, impacts and protection status.

Integration: a portfolio assembly step whereby adjacent sites that contain high-quality occurrences of both nearshore marine and terrestrial targets are combined.

Limited target: a geographically restricted species or community that occurs in the ecoregion and within a few other adjacent ecoregions.

Linear communities or systems: occur as linear strips and are often ecotonal between terrestrial and aquatic systems. Similar to small patch communities, linear communities occur in specific conditions, and the aggregate of all linear communities comprises only a small percentage of the natural vegetation of the ecoregion.

Littoral cell: a geographic region of the coast, such as between two headlands, that is self-contained with respect to all sources and losses of beach sand.

Macrohabitats: units of streams and lakes that are similar with respect to their size, thermal, chemical, and hydrological regimes. Each macrohabitat type represents a different physical setting that correlates with patterns in freshwater biodiversity.

Matrix-forming systems or matrix communities: communities that form extensive and contiguous cover, occur on the most extensive landforms, and typically have wide ecological tolerances.

Minimum dynamic area: the smallest area necessary for a reserve or managed area to have a complete, natural disturbance regime in which discrete habitat patches may be colonized from other patches within the reserve.

Nearshore marine zone: the area of the marine environment extending from the supratidal area above the ordinary or mean high water line to the subtidal area. In the Willamette Valley-Puget Trough-Georgia Basin ecoregional

assessment, the nearshore marine area extends below to -40 meters, because beyond that depth data were less available. This also approximates the photic zone, or depth of macrophytes. The WPG consists of 1,509,733 ha of nearshore marine zone.

Non-vascular plant: in the WPG assessment, this term refers to lichens, moss and fungi.

Occurrence: spatially referenced locations of species, communities, or ecological systems. May be equivalent to Natural Heritage Program element occurrences, or may be more loosely defined locations delineated through the identification of areas by experts.

Partners in Flight: a cooperative program among U.S. federal, state, and local governments, philanthropic foundations, professional organizations, conservation groups, industry, the academic community, and private individuals, to foster conservation of migratory bird populations and their habitats in the Western hemisphere.

Peripheral: a species or community that only occurs near the edges of an ecoregion and is primarily located in other ecoregions.

Population: a group of individuals of a species living in a certain area that maintain some degree of reproductive isolation.

Portfolio: (see portfolio of sites)

Portfolio of sites: in the WPG assessment, the identified and delineated suite of priority conservation areas that are considered the highest priorities for conservation in the ecoregion.

Priority Conservation Area: areas of biodiversity concentration that contain target species, communities and ecological systems. Boundaries need to be refined during site conservation planning for adequate protection and to ensure supporting ecological processes are maintained for the targets within.

Quartile: any one of the four equal groups into which a statistical sample can be divided.

Reach: the length of a stream channel that is uniform with respect to discharge, depth, area and slope.

Seral: of, relating to, or constituting an ecological sere (a sere is a series of ecological communities formed in ecological succession).

Shoreline segments: nearshore marine elements of the integrated portfolio that are measured as linear features representing coarse filter targets.

SITES: software consisting of computerized algorithms specifically designed for The Nature Conservancy. SITES is an optimal site selection algorithm that selects conservation sites based on their biological value and suitability for conservation.

SITES goal: the goal adjusted for input to the SITES optimal site selection algorithm. SITES goals differed from goals (see “goal” definition) where there were not enough occurrences of a target in the ecoregion to meet the goal. In this case, the SITES goal was set to take all available occurrences in the ecoregion.

Small patch systems: communities or systems that form small discrete areas of vegetation cover and that are dependent upon specific local environmental conditions, such as hydric soil.

Special occurrences: in the WPG, all occurrences that were chosen in the final integrated portfolio that were not contained within a delineated conservation area or a marine shoreline segment.

Species aggregate: where multiple species are represented by a single target, as in the case of a multi-species shorebird colony target or a single species such as the American widgeon used, for example, in representing multiple species of dabbling ducks. Species aggregates were used most extensively in the marine analysis.

Subtidal area: the subtidal begins at approximately the mean lower low water line (zero feet elevation) to the –20 meter isobath. In the Willamette Valley-Puget Trough-Georgia Basin Ecoregional Assessment, the subtidal area extends into the deeper subtidal of –40 meters.

Suitability: the likelihood of successful conservation at a particular place relative to other places in the ecoregion. For the terrestrial portion of the WPG assessment, four GIS layers were used to construct the suitability index: GAP status, urban growth areas, landcover/land use, and roads.

Supratidal area: area above the mean high water line, such as the top of a bluff or the extent of a saltmarsh in the upper intertidal; the upper limit of the nearshore marine zone.

Target: also called conservation target. An element of biodiversity selected as a focus for the conservation assessment. The three principle types of targets are species, ecological communities, and ecological systems. Also see Species Aggregate.

Terrestrial ecological systems: dynamic spatial assemblages of ecological communities that 1) occur together on the landscape; 2) are tied together by similar ecological processes (e.g. fire, hydrology), underlying environmental features (e.g., soils, geology) or environmental gradients (e.g., elevation, hydrologically-related zones); and 3) form a robust, cohesive, and distinguishable unit on the ground. Ecological systems are characterized by both biotic and abiotic (environmental) components and can be terrestrial, aquatic, marine, or a combination of these.

Threatened species: any species that is likely to become an endangered species throughout all or a significant portion of its range; a species federally listed as Threatened by the U.S. Fish and Wildlife Service under the Endangered Species Act.

Umbrella species: species that by being protected, may also protect the habitat and populations of other species.

Urban Growth Area (UGA): an area designated, within which urban growth will be encouraged and outside of which growth can only occur if it is not urban in nature. Urban growth areas around cities are designated by the county in consultation with the cities; urban growth areas not associated with cities are designated by the county.

Viability: the ability of a species to persist for many generations or an ecological community or system to persist over some time period. Primarily used to refer to species in this document.

Vulnerable: vulnerable species are usually abundant, may or may not be declining, but some aspect of their life history makes them especially vulnerable (e.g., migratory concentration or rare/endemic habitat).

Widespread: a species or community typically found in the ecoregion, but common in several other ecoregions; the bulk of its distribution is elsewhere (or, the majority of the target occurrences exist in other ecoregions).