

Appendix A

Glossary of Selected Terms

Abiotic

A non-living component of the environment.

Adaptive Management

A dynamic planning process that recognizes that the future cannot be predicted perfectly. In response to these imperfect predictions, planning and management strategies are modified frequently as better information becomes available. It is a continuous process requiring constant monitoring and analysis of past actions, which are then fed back into current decisions.

Algae

Any of several groups of autotrophs (organisms that produce organic material from inorganic chemicals and energy) that lack the structural features (true leaves, roots, and stems) of the higher plants.

Annual Increment

A management section addendum, prepared annually, to facilitate implementation of a Natural Resource Management Plan section. The annual increment concisely provides detail and cost estimates of proposed work or projects to be accomplished during a fiscal year.

Artificial Hard Substrate

An artificial habitat that may consist of rock riprap, seawalls, pier pilings, floating docks, mooring systems, and derelict ships/ship parts.

Assessment

An evaluation that can be based on a single measurement or observation, or can incorporate a series of observations to obtain a better estimate of a particular parameter; often an assessment or inventory serves as the first step towards establishing a monitoring project.

Baseline

Serving as a basis against which future assessments are compared, such as for biological surveys.

Bathymetry

The science of mapping the contours of ocean and bay floors or lake beds.

Bayscaping

Appropriate native and water-conserving landscaping designs.

Beaches and Dunes

Habitats along the shoreline that are subject to wind and wave turbulence, salt spray, shifting sands, high temperatures, and desiccation.

Benthic

Occurring or related to the bottom of the oceans and other water bodies.

Benthos

The collective name for organisms that dwell on, in, or close to bottom habitats from intertidal to deep seafloor sediments.

Best Management Practices (BMPs)

Practical, economical, and effective management or control practices that will achieve desired results, such as reducing or preventing water pollution. Usually applied as a system of practices based on site-specific conditions rather than singly. BMPs may be developed by local, state, or federal agencies, or by other parties in partnership with these agencies, for such activities as agriculture, forestry, and construction.

Bight

An inward bend or curve in a coastline.

Bioaccumulation

An increase in concentration on account of biological activity, such as through concentration of contaminants in higher trophic levels of food chains; an effect that increases the potential for chronic effects of sediment contaminants in long-term exposures.

Biological Diversity (Biodiversity)

The diversity of life and its processes; this concept includes living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

Biological Assessment

A biological evaluation conducted as part of the interagency regulations under the Endangered Species Act. The purpose of the assessment is to allow the regulatory agency to determine whether or not the proposed action is likely to

adversely affect the continued existence of a species listed as endangered or threatened, or proposed for listing.

Biomass

The total weight of living organisms in a given sample.

Biotic

A living component of the environment.

Bloom

A sharp increase in the population of phytoplankton; blooms may be largely natural events, or they may occur as a result of water pollution events.

Brackish

A term referring to seawater diluted by freshwater; somewhat salty, but not as saline as open ocean water.

Candidate Species

A species being considered by the Secretary of Interior or Commerce for formal listing under the federal Endangered Species Act, but not yet the subject of a proposed listing. Also, a species formally noticed by the California Fish and Game Commission as under consideration for, or as proposed for, listing under the California Endangered Species Act.

Cetaceans

Highly evolved marine mammals with a “blowhole” on the apparent top of the head, flippers as anterior swimming appendages, and horizontal flukes as posterior swimming appendages.

Chlorophyll

A member of a set of several green pigments important in photosynthesis.

Clean Water Act

The informal name generally applied to the 1977 amendments to the 1972 federal Water Pollution Control Act. The Clean Water Act requires that federal agencies maintain the “physical and biological integrity of the nation’s waters;” the act is generally implemented through permit processes that are the shared responsibility of the Environmental Protection Agency and the U. S. Army Corps of Engineers.

Coastal Act

The California Coastal Act (Public Resources Code section 30000 *et seq.*), a 1976 legislative act that implemented the 1972 Coastal Initiative. The Coastal Act established the California Coastal Commission as a major regulatory agency,

together with identified standards for many kinds of activities that may be proposed with the area covered by the Act (the Coastal Zone).

Coastal Created Lands and Disturbed Uplands

Habitats created by deposition of dredged sediments from other locations.

Coastal Zone

An area specifically identified by a coastal state in its approved Coastal Zone Management Plan. It is an area of coastal waters and adjacent shorelines strongly influenced by each other, including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches. Excluded from the coastal zone are lands solely subject to or held in trust by the federal government, its officers, or agents.

Coliform

A group of rod-shaped bacteria, including species found in the intestinal tracts of humans and other warm-blooded animals. Coliform counts are used as one measure of the degree to which water has been polluted by sewage, although coliform organisms enter the aquatic environment from many sources other than sewage.

Consensus

A decision-making process in which all parties involved explicitly agree on the final decision. Consensus-based decision-making does not mean that all parties are completely satisfied with the final outcome, but that the decision is acceptable to all because no one feels that his or her vital interests or values are violated by it.

Conservation

The prudent care, protection, and management of natural or environmental resources that reflect sound resource stewardship for present and future generations.

Copepod

A taxonomic category of small crustacean; typically a dominant element in zooplankton.

Creosote

A preservative made from creosote plants, found in pier pilings, from which polycyclic aromatic hydrocarbons are released.

Critical Habitat

The geographic area in which are found those physical or biological features essential to the conservation of a species listed and published by the U.S. Fish

and Wildlife Service or the National Marine Fisheries Service under the authority of the federal Endangered Species Act.

Demersal Fish

Fish that characteristically remain close to the seafloor. Contrast "Pelagic Fish."

Deposit Feeders

Animals that ingest bottom sediments in order to feed upon detritus and associated bacteria accumulating on and within the sediment.

Detritus

Fresh to partly decomposed plant and animal matter.

Diatoms

Single-celled (i.e., microscopic) algae with two-part, perforated, silicious shells. Diatoms are often the most common type of phytoplankton in an estuary.

Dinoflagellate

A unicellular organism with two unequal flagella.

Dissolved Oxygen

As usually expressed, the concentration of oxygen in water at a specified temperature and atmospheric pressure. It is used as a measure of the water's ability to support aquatic life. Low concentrations do not support fish or similar organisms.

Dredge Spoil

Bottom sediments or materials that have been excavated from a waterway.

Ecosystem

A unit of land or water comprising populations of organisms considered together with their physical environment; in a strict sense the term includes all of these elements and the processes through which the elements affect one another.

Ecosystem Functions

The interacting processes among ecosystem elements and their environment. Scientifically a complex concept, involving energy and matter flows, population regulation and stability, and the effects of stressor agents on the state of the ecosystem. An ecosystem may become dysfunctional or nonfunctional under sufficient stress.

Ecosystem Management

A management concept that draws on a long-term vision of desired future ecological conditions, integrating ecological, economic, and social factors. The

goal of ecosystem management is to maintain and improve native biological diversity and the sustainability of ecosystems, while supporting human needs, through accommodating and incorporating natural ecological processes as major elements in the system's management.

Emergent Vegetation

Plants that are rooted in and grow in the sediments at the bottom of a saltwater, brackish, or freshwater body, and which stand erect above the water surface. Compare "Submergent Vegetation."

Endangered Species Act

The federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA). These laws require that federal and/or state and local agencies not approve projects that could lead to the extinction of species of fish, wildlife, or plants. These requirements are generally carried out through a process that involves listing species or other taxonomic units, together with mandatory consultations among permit-granting agencies and trustee agencies for projects or programs that could affect listed species (or habitats, in certain cases).

Endangered or Threatened Species

A species that has been listed by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service for special protection and management under the federal Endangered Species Act, or by the California Fish and Game Commission for protection under the California Endangered Species Act.

Endemic

Naturally found only in a particular location or a restricted geographical area.

Enhancement

To increase the functions and values present in a low-quality or degraded habitat area; may be applied to wetlands, dunelands, or other natural ecosystem types.

Entrainment

A physical process in which material is picked up and carried along in moving water.

Environmental Resources

Landforms, soils, waters, and their associated flora and fauna that have an intrinsic value for ecological or environmental purposes, independent of cultural or commercial value. Compare "Natural Resources."

Epifauna

Marine animals that live on the surfaces of rocks or other substrates.

Epiphyte

A plant that grows upon another plant, but is not parasitic upon it.

Estuary

A semi-enclosed body of water that has a free connection with the open ocean and within which sea water is measurably diluted with fresh water derived from land drainage. Estuaries are typically found at the mouths of rivers and streams and are subject to tidal conditions. Estuarine areas characteristically provide five broad habitat categories: (1) Upland, (2) Freshwater, (3) Intertidal, (4) Subtidal, and (5) Marine.

Exotic Species

Species that occur in a given place, area, or region as the result of direct or indirect, deliberate or accidental introduction because of human activity, and for which introduction has permitted the species to cross a natural barrier to dispersal. Also called non-native, non-indigenous, or alien species.

Filter Feeders

Organisms that feed by filtering out small food items such as detritus and plankton that are suspended in the water column; distinguished from deposit feeders that glean such items by consuming bottom sediments.

Fine Sediments (Fines)

In aquatic ecology, small-sized bed materials, typically less than 2 millimeters (mm) in diameter, including sand, silt, clay, and fine organic materials.

Fish and Wildlife Management

A coordinated program of actions designed to preserve, enhance, and/or regulate indigenous fish and wildlife species and their habitats, including various elements such as conserving protected species and non-game species, managing the harvest of game species, and animal damage control.

Food Web

An ecological concept based on nutrient or energy flows among trophic elements in an ecosystem, including producers (plants), primary and secondary consumers (herbivores and carnivores), and decomposers. Energy flows in food webs are typically nonlinear, with multiple branches and pathways.

Fouling Organism

A plant or invertebrate, such as various red or brown algae, a barnacle, or shipworm, that bores into or encrusts submerged surfaces such as boat hulls and pilings.

Freshwater Marsh

Wetland in which emergent vegetation is dominated by persistent, emergent, non-woody plant species and the water is not saline.

Game Species

Fish and wildlife species that may be harvested legally pursuant to applicable state sport hunting and fishing codes.

Gastropods

Snails and other molluscs that typically possess a coiled dorsal shell and a ventral creeping foot.

Geographical Information System (GIS)

A computer system used to manage large volumes of spatial data of different kinds. The data are referenced to a set of geographical coordinates and encoded in digital format so that they can be sorted, selectively retrieved, statistically and spatially analyzed.

Goal

A broad statement of intent, direction, and purpose. An enduring, visionary description of where you want to go. A goal is not necessarily completely obtainable.

Grounds

All land areas not occupied by buildings, structures, pavements, and other facilities. Depending on the intensity of management, grounds may be classed as improved (such as those near buildings), semi-improved, or unimproved.

Habitat

An area where a plant or animal species lives, grows, and reproduces. Generally habitat is considered to be an area that provides all of the necessary elements for species persistence, including food, water, shelter, and opportunities for reproducing.

Habitat Conversion

A management approach to manipulating habitat conditions in which a habitat is converted from one type to another in order to mimic a desirable natural habitat present at another location; also called "Habitat Replacement." The conversion actions may not be beneficial for all species, and habitat value trade-offs may be necessary.

Habitat Creation

A management approach in which desired habitat conditions would be created anew from an area previously lacking habitat conditions suitable for the species of interest.

Habitat Enhancement

A management approach that involves the rejuvenation and improvement of existing habitat conditions in ways that favor the species of management interest. The enhancement actions may not be beneficial for all species, and habitat value trade-offs may be necessary.

Habitat Restoration

Habitat restoration is a management approach that involves returning one or more habitat elements to a former condition; restoration frequently is enacted to benefit species of management interest. The restoration actions may not be beneficial for all species, and habitat value trade-offs may be necessary.

Holoplankton

Zooplankton species that spend their entire lives in the open-water environment.

Hydrodynamic

The physical features of water motion, typically reacting to complex physical laws and forces.

Hypersaline

Saltier than sea water; generally having a salinity greater than 35 parts per thousand (>35 ^{0/00}).

Ichthyoplankton

Planktonic larvae of fishes.

Infauna

Marine animals that live within sediments (e.g., gravel, sand, mud) or other harder bottom materials or structures in order to avoid predation or disturbances by wave action and other physical stresses.

Injury

Any adverse change in a natural resource or impairment of a service provided by a resource relative to baseline, reference, or control conditions. Injury incorporates the concepts of "destruction," "loss," and "loss of use."

Interstitial Fauna

Tiny invertebrates that live and move around in spaces between sediment grains, or attach to the grains.

Inventory

A list of items compiled within a specific time frame for a particular place or region, such as an inventory of organisms, habitats, or boats within Humboldt Bay during a particular period of time.

Invertebrate

An animal lacking a backbone.

Isopods

Small, dorsoventrally flattened crustaceans, including aquatic sea lice and terrestrial pillbugs.

Landscape

A landscape, in biogeographic or conservation planning contexts, is a relatively large geographic region in which conservation and landscape-ecological processes occur that are relevant for conservation planning. Landscape planning focuses on the regional distributions of habitats (such as Humboldt Bay or coniferous forest), linkages (such as streams or riparian corridors), and processes that relate to the movements of individuals, energy, or nutrients within the landscape.

Larva

An immature life stage of many invertebrate species, which differs in form and ecological adaptations from those of adults. Larval stages frequently differ in substantial ways from adults.

Life History

The biological “phases” that an organism may pass through during its life, including egg, larva, and adult, in which the ecological forces in the environment act on the organism to shape its morphological and ecological characteristics.

Listed

A plant or animal species that has been placed by the state or federal government under the protection of an Endangered Species Act. Listed status may be “Endangered” or “Threatened,” or a species may also be listed as a “Candidate” species, or (under the federal Endangered Species Act only) as “Proposed.”

Littoral

In a literal sense, the shoreline area between the highest high mark and the lowest low tide mark; more generally, the area along the shoreline.

Macroalgae

Generally the brown and red (and a few green) algae; "seaweed." Algae lack roots, true leaves, and vascular systems, and reproduce in a manner that differs from most plant species.

Management

A discipline or set of practices applied to the manipulation, use, treatment, or control of things or persons, or in the conduct of an activity, project, program, etc. "Management" includes, but is not limited to, the application of actions, methods, or concepts such as assessment, education, enhancement, inventories, laws, mitigation, monitoring, objectives, policies, protection, regulations, research, restoration, and surveys. Management includes, as a subset, the set of actions known as "stewardship."

Management Strategy

The application of a combination of objectives, policies, and implementation programs in order to accomplish the intended purposes of the management activity.

Mariculture

Any of a set of cultural systems applied to the commercial production of marine organisms in captivity; also called "aquaculture."

Marine Protection Area

An area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical, and cultural features, that has been reserved by law or other effective means to protect part or all of the enclosed environment.

Marsh

A general term for wetlands that are dominated by herbaceous vegetation; marshes may occur in intertidal areas as well as in contexts where the marsh's hydrology is dominated by fresh or brackish water.

Meiofauna

Small animals that live within the interstices in the bottom of many marine environments; the term is often used as a categorical name for interstitial fauna.

Meroplankton

The larval forms of invertebrates that later settle to the bottom and become benthic juveniles and adults; also called "temporary plankton."

Mitigation

A legal term referring to the avoidance, minimization, rectification, reduction, or elimination of negative impacts that result from proposed management activities or development projects, or to compensation by replacement or substitution.

Monitoring

Monitoring may address a variety of activities that allow the application of adaptive management within a management program. Monitoring may include actions that range from assuring the implementation of management requirements to the implementation of a series of observations of a particular area or activity over time with the intent of assessing change. Often an assessment or inventory serves as the first step towards establishing a monitoring project. Monitoring may include:

- ✍ Trend monitoring: Measurements that are made at regular, well-spaced time intervals in order to determine the long-term trend in a particular parameter.
- ✍ Baseline monitoring: Measurements used to characterize existing conditions (e.g., water quality, wildlife population, habitat quality) and to establish a data base for planning or future comparisons. While the intent is to capture much of the temporal variability of the constituents of interest, there is no explicit end point at which continued baseline monitoring becomes trend monitoring. Often used synonymously with "inventory monitoring" and "assessment monitoring."
- ✍ Implementation monitoring: Administrative determination taken to assess whether activities were carried out as planned (e.g., Best Management Practices, mitigation measures, permit conditions).
- ✍ Effectiveness monitoring: Measurements taken to evaluate whether specified individual management practices had the desired effect.
- ✍ Project monitoring: Measurements taken to assess the impact of a particular activity or project, such as on a before or after basis or on a control site versus impact site basis. May be considered by some agencies to be a subset of effectiveness monitoring.
- ✍ Compliance monitoring: Measurements taken to determine whether specified measurable criteria are being met. Usually the regulations associated with individual criterion specify the location, frequency, and method of measurement.

Mudflat

Part of the continuum from open water to dry land, mudflats are rich in organic matter and microorganisms, and are generally exposed during parts of all tidal cycles in environments favorable for the formation of the flats.

Multiple Use

The sustainable use of environmental and natural resources for a combination of public purposes.

Natural Community

This term generally refers to a vegetation community that appears to be similar to relatively undisturbed plant associations in the region of interest, but it may also be used to encompass all of the habitats, ecosystems, and plant and animal species found within the community.

Natural Resources

Landforms, soils, waters, and their associated flora and fauna that may have a cultural or commercial value. Compare "Environmental Resources."

Nematode

Technically, an invertebrate group characterized by a cylindrical body, a conspicuous body cavity, and a complete digestive tract. Called "roundworms," nematodes constitute an important element of the invertebrate fauna of the marine environment.

Nongame Species

Fish and wildlife species that are not identified under state law as "game" species, which are therefore not harvested for sport or recreational purposes.

Nonpoint Source (NPS) Pollution

Water pollution that results from diffuse sources that are not identified as "point sources" such as sewer or factory discharge locations. NPS pollution is generally associated with runoff from construction activities, urban areas, agricultural and silvicultural operations, atmospheric deposition, and a variety of other sources and activities.

Noxious Weeds

Plant species identified by federal or state agencies as requiring control or eradication.

Objective

A statement that describes a desired planning condition or outcome; typically "objectives" in a planning context are the guidance for specific policies or sets of actions necessary to achieve the objectives.

Pelagic Fish

A term applied to fish that normally occupy the water column above the bottom of the ocean or coastal embayments. "Pelagic" is a general adjective that is

applied to a variety of life forms that typically spend their entire lives on, over, or within the waters of the open ocean. Compare with "Demersal Fish."

Phytoplankton

Minute, floating aquatic plants.

Plankton

Floating or drifting organisms, typically very small, that occur at various depths in the ocean or in fresh water; planktonic species include representatives of protozoa, diatoms and other algae, invertebrates, and larval forms of vertebrates.

Policy

In a planning context, a formally-adopted strategy or direction that indicated specific actions to be taken, or criteria to be met, to achieve the planning goals and objectives.

Polychaete

A species of segmented worm in the Annelid phylum that typically has flat lateral bristle extensions on each body segment.

Polychlorinated Biphenyls (PCBs)

A group of man-made organic chemicals, including about 70 different but closely related compounds made up of carbon, hydrogen, and chlorine. PCBs are carcinogenic (i.e., can cause cancer), persist in the environment for long periods, and can bioconcentrate in food webs.

Polycyclic (Polynuclear) Aromatic Hydrocarbons (PAHs)

A class of organic compounds that are among the heaviest molecular fraction of petroleum hydrocarbons, some of which are persistent and/or cancer causing. PAHs are released through fossil fuel combustion; spills of oil, gasoline, diesel, and other petroleum products; leaching from creosote oil; and asphalt production.

Projects

In a regulatory context, a "project" may include any of a variety of potential actions studies, plans, surveys, inventories, and land/water treatments, as well as activities or actions that result in physical changes in the environment.

Proposed Species

A species of plant or animal that has been formally proposed for listing under the federal Endangered Species Act by the U.S. fish and Wildlife Service or NOAA Fisheries.

Regulation

A rule prescribed for controlling (“regulating”) an issue, a practice, or some other subject that is legally under the jurisdiction of the agency issuing the regulation. Generally this term refers to statutory laws, administrative rules, and other restrictive conditions placed on activities attended to by regulatory agencies.

Regulatory Agency

A government agency that has a delegated legal authority to develop and implement regulations in carrying out its responsibilities pursuant to law. Regulatory agencies may exercise authority directly as permit-granting agencies (e.g., the Environmental Protection Agency, a Regional Water Quality Control Board, or the U.S. Army Corps of Engineers), or indirectly as an advisory or trustee agency for actions considered by permit-granting agencies (e.g., NOAA Fisheries and U.S. Fish and Wildlife Service with respect to permits pursuant to the federal Clean Water Act). Many agencies are both, in differing circumstances, permit-granting regulatory agencies and advisory agencies to other permit-granting agencies.

Renewable/Nonrenewable Natural Resources

“Natural resources” are products of the environment that have economic value to humans. Forests, fish, and wildlife that recover from population reductions in a relatively short time are examples of what are sometimes termed “renewable resources.” Minerals, petroleum, and other commodities that recover only on geologically long time-scales are sometimes termed “nonrenewable resources.”

Research

A search or investigation undertaken to discover facts and reach new conclusions by the critical study of a subject or by a course of scientific inquiry.

Riprap

Layer of large, durable fragments of broken rock, specially selected and graded. The purpose of riprap is to prevent erosion by waves or currents and thereby preserve the shape of a surface, slope, or underlying structure.

Riparian Areas

Areas closely related to or bordering rivers, streams, lakes, arroyos, playas, ravine bottoms, etc. Many floodplain riparian areas are wetlands, or function in ways similar to wetlands. Riparian areas may be dominated by tall, woody forest vegetation; by shorter shrubby thickets; by dense meadows of sedges and rushes; or by grasslands. Riparian areas are generally responsive to the hydrology in instream and overbank flows, or to groundwater movements, but near estuaries riparian areas may respond to tidally influenced water regimes in the streams that they border.

River Mouths

Locations at which rivers flow into the sea or into coastal estuaries.

Salinity

The total amount of salts in seawater. The nominal salinity of seawater is 3.5 percent by weight, or 35 parts per thousand (per mil; ^{0/00}).

Salt Marsh

A marsh area having high salinities in the ambient water and substrate, typical of estuarine areas, or other areas subject to flooding with ocean water, and characterized by salt-tolerant plant species.

Seagrass

Any of various grass-like plants growing in marine or estuarine areas; especially eelgrass (*Zostera* spp.) and surf-grass (*Phyllospadix* spp.).

Seaweed

A colloquial term referring to macroscopic marine algae, such as kelp; such plants en masse or collectively.

Sediment

Particles of organic or inorganic origin that accumulate in loose form as a consequence of water movement. Sediments may be coarse or fine, including boulders, cobbles, sand, silt, or clay. They may be moved as suspended or bedload material in streams and other waters, or may be carried as dissolved solids.

Sensitive Habitat

Land, water, and habitat conditions that are identified as environmentally significant pursuant to one or more federal or state laws or local ordinances, potentially including wetlands, dunelands, streamside and riparian areas, and habitats needed to maintain one or more sensitive species.

Sensitive Species

A general term for species that are listed under the federal or state Endangered Species Acts, or are proposed for listing or have candidate status; are considered "rare, threatened, or endangered" by the California Native Plant Society; have a "Species of Special Concern" status with the California Department of Fish and Game; or have special status under one or more local laws or ordinances.

Sessile

Firmly attached to one place in the environment, such as kelp attached to subsurface rocks.

Significant

Resources identified as having special importance, or as having or likely to have more influence on a particular aspect of the environment than other components.

Sludge

Semiliquid sewage, rich in biosolids, that has been treated and partially decomposed by bacteria.

Species

Biologically, a group of individuals having a common ancestor and a similar ecological role. The species concept in biology also includes an element of limited interbreeding with individuals that are not part of the same species.

Species Abundance

The number of individuals of a given species detected. Abundance is not the same as the localized density, which is the number of individuals per unit area. A related concept is "relative abundance," which generally addresses the numbers of individuals of several species in a community.

State-Listed Species

A species of fish, wildlife, or plant that is protected by an appropriate state agency under the state's endangered species law and other pertinent regulations.

Stewardship

The responsibility to inventory, manage, conserve, protect, and enhance the natural resources entrusted to one's care in a way that respects the intrinsic value of those resources, and the needs for present and future generations.

Stratification

Separation of a community or ecosystem (including aquatic communities) into distinguishable layers on the basis of temperature, light, vegetative structure, and other such factors, creating zones for different plant and animal types.

Strategy

Explicit description of ways and means chosen to achieve objectives.

Structural Surrogates

Habitats being added or modified in order to sustain endangered or other sensitive species.

Submergiment Vegetation

Plants that are rooted in and grow in the sediments at the bottom of a saltwater, brackish, or freshwater body, and which do not stand erect above the water surface. Compare "Emergent Vegetation."

Substrate

The material forming the bed of a body of water; the material upon which plants grow; or the nutrient medium or physical structure on which an organism feeds and develops.

Subtidal

The area below the low tide zone in oceans and bays, not exposed to air.

Survey

A comprehensive look or description; a written statement embodying the result of an inspection.

Suspension Feeders

Animals that capture particles suspended in the overlying water by filtering or other means.

Sustainability

Sustainability refers to the management concept that managed activities maintain the ecological processes and functions, biological diversity, and productivity of managed ecosystems over time. Sustainability refers to the potential management of any kind of resource extraction or use that is associated with a non-declining abundance of desirable ecosystem elements and ecological processes, including agriculture, mining, fishing, forestry, housing construction, or resource-based commerce and manufacturing.

Sustainable Management

Managing the use, development, and protection of natural and physical resources in a manner or at a rate that enables people and communities to provide for their social, economic, and cultural well-being, and for their health and safety while (1) sustaining the potential of natural and physical resources to meet reasonably foreseeable needs of future generations; (2) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (3) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Sustainable Use

Use of an organism, ecosystem, or other renewable natural resource at a rate that does not exceed its capacity for renewal; "sustainable use" theoretically results in a "non-declining annual flow" of the resource in perpetuity.

Take

"Take," as defined in the federal Endangered Species Act, is defined to include any activity that may "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct," with regards to listed or candidate species. A similar definition applies under the California Endangered Species Act.

Terrestrial Habitat

A general term that refers to non-aquatic habitats, such as grasslands, forests, non-wetland agricultural lands, dunelands, and similar upland areas.

Tidal cycle

A tidal cycle is the exchange of tidewaters in an ebb tide and a flood tide, including both a high tide and a low tide, with respect to a given tidal reference (such as "mean tide level"). The "cycle" begins and ends at the reference elevation, and includes the intervening high tide and the intervening low tide. In Humboldt Bay there are generally two complete tidal cycles in each 24-hour day.

Tide

The apparent periodic rise and fall of the waters of the ocean and its inlets, known as a "tide," is a very long wave-length wave that rotates around the Pacific Basin. The wave is produced by the gravitational interactions of the ocean's water with the moon and the sun, in combination with the Earth's rotation. The tide on the Pacific Coast of North America generally exhibits a "mixed semi-diurnal tidal cycle," with one high tide-low tide cycle occurring about every 12 hours, in which the two daily highs generally differ from each other and the two lows differ from each other.

Tintinnid

A ciliate protozoan that secretes vase-like cases.

Toxic

Relating to or caused by a substance that is poisonous substance to a living organism.

Trophic level

A functional classification of organisms in a food web according to feeding relationships. Autotrophs produce energy through photochemical synthesis. Other trophic levels consume the production by virtue of consuming the producers or other consumers (herbivores and carnivores), or through the breakdown of organic material by decomposers, or by consuming decomposing material (detritivores). Organisms that derive sustenance by feeding on similar materials are considered to be part of the same trophic level, although this is a simplification of the complexity of real ecosystems.

Trustee Agency

Trustee agencies have statutory responsibilities with regard to protection or management of natural resources, or stewardship responsibilities as a manager of federally or state-owned land.

Turbidity

A measure of the "opaqueness" of water; generally this is a measure of the concentration of sediment in the water. Increasing turbidity decreases the amount of light that penetrates the water column. Very high turbidity levels are often harmful to aquatic life, both directly and through behavioral changes caused by the limited visibility.

Upland/Wetland Transition or Boundary

From a regulatory perspective, the identified location or boundary at which wetland becomes upland. This boundary characteristically defines the regulatory jurisdiction of some agencies, although in nature the actual transition between wetlands and uplands may not be sharply demarcated.

Watchable Wildlife

A federal program promoting recreational wildlife viewing.

Water Column

Roughly, the total depth of water above any point; generally includes the concept that this water provides pelagic or open-water habitat and is occupied by fish, other wildlife, and/or plants.

Water Quality

A concept related to the chemical, physical, and biological purity and integrity of water. Water quality is regulated by a number of federal, state, and local laws (most importantly the federal Clean Water Act and the state Porter-Cologne Act).

Waterbirds

A general name for a variety of birds that are associated with aquatic habitats. Approximately 260 waterbird species inhabit North America, including loons; grebes; cormorants and pelicans; ibises; gulls and terns; herons, egrets, and bitterns; cranes and rails; sandpipers and phalaropes; waterfowl (ducks, geese, and swans); and kingfishers.

Watershed

A drainage basin contributing runoff to a particular point-of-concentration, such as the mouth of a river or the opening of a coastal embayment; thus, a watershed represents the collection basin for water, sediments, organic matter, nutrients, and pollutants for a stream, lake, or bay.

Wetlands

Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, marshes, bogs, or any of a variety of other categories. Wetland identification for regulatory purposes is a technical subject that may require professional assistance.

Wildlife Management

The practical application of scientific and technical principles to wildlife populations and habitats so as to manage such populations for ecological, recreational, and/or scientific purposes.

Zooplankton

Small, often microscopic, animals that drift or swim in the water column. Many zooplankton species are always small, but zooplanktonic species also include larval and immature stages of larger animals.

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