Appendix A
Glossary

Appendix A
Glossary

abiotic—nonliving physical and chemical elements of an environment. Examples include sunlight, temperature, wind, and soil.

activity—for the purposes of the Salinas River Long-Term Management Plan (LTMP), *activities* are management actions that have some direct effect on one or more natural resources but that do not rise to the level of being a project. Examples include field monitoring, moderate vegetation management, and implementation of best management practices.

adaptive capacity—the ability of species and biological communities to adapt to changing environmental conditions (Nicotra et al. 2015).

adaptive management—a method for examining alternative strategies for meeting measurable biological goals and objectives and then, if necessary, adjusting future conservation management actions according to what is learned (65 Federal Register 106 35242–35257).

anadromous—fish that migrate from salt water to fresh water to spawn.

anthropogenic—caused or produced through human agency.

areal cover—see *cover*.

backwater flooding—upstream flooding caused by downstream conditions such as channel restriction and/or high flow in a downstream confluence stream.

bankfull stage—see *bankfull.*

bankfull—the water level or stage at which a stream, river, or lake is at the top of its banks and any further rise would result in water moving into the floodplain. The *bankfull stage* is an established gage height at a given location along a river or stream, above which a rise in water surface will cause the river or stream to overflow the lowest natural stream bank. *Bankfull stage* is not necessarily the same as *flood stage*.

barriers—anything, either natural (i.e., physical, behavioral, chemical) or manmade (e.g., fence, road) that prevents passage or access.

Basin Study—*WaterSMART Basin Study for the Salinas River Basin*.

basin—a groundwater basin or subbasin identified and defined in California Department of Water Resources *Bulletin 118* or as modified pursuant to Chapter 3 of the Water Code (commencing with §10722) (Water Code, Division 6, part 2.74, §10721).

biodiversity—the variety of organisms considered at all levels, from genetic variants of a single species through arrays of species to arrays of genera, families, and higher taxonomic levels; includes the variety of natural communities and ecosystems.

biological opinion—a document that is the product of formal consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service, stating the opinion of the agency on whether

or not a federal action is likely to jeopardize the continued existence of a federally listed species (threatened or endangered) or result in the destruction or adverse modification of critical habitat.

biotic—the living parts of an environment, such as plants, animals, and micro-organisms.

bottomlands—sets of broad benches that bound a riverbed. Also referred to as *bottoms*. Bottomlands can be distinguished between *low bottoms*, which are benches immediately adjacent to the riverbed, and *high bottoms*, which are higher benches representing previous floodplain levels of the river (San Francisco Estuary Institute 2009).

canopy cover—see *cover*.

CEQA species—plant and animal species that are considered endangered, threatened, or rare under the California Environmental Quality Act (CEQA) and thus must be considered in CEQA documents (§670.2 or §670.5, Title 14, California Code of Regulations). See also *endangered species* and *threatened species*.

channel—an open conduit either naturally or artificially created which periodically or continuously contains moving water or forms a connecting link between two bodies of water. *River*, *creek*, *branch*, and *tributary* are some of the terms used to describe natural channels. Natural channels may be single or braided. *Canal* and *floodway* are some of the terms used to describe artificial channels. Also known as a *watercourse*.

compensatory mitigation—the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved (33 C.F.R. 332.2).

community—land cover types that are grouped together because of similarity in vegetation type, vegetation structure, ecological function, and current land use. The LTMP recognizes three types of communities: natural, semi-natural, and developed. Communities are composed of land cover types.

condition of long-term overdraft—condition of a groundwater basin where the average annual amount of water extracted for a long-term period, generally 10 years or more, exceeds the long-term average annual supply of water to the basin, plus any temporary surplus. Overdraft during a period of drought is not sufficient to establish a condition of long-term overdraft if extractions and recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods (Water Code, Division 6, part 2.74, §10735).

conserve, conserving, conservation—according to the federal Endangered Species Act, *conserve*, *conserving*, and *conservation* are the methods and procedures necessary to bring any endangered or threatened species to the point at which the measures provided under the federal Endangered Species Act are no longer necessary. Such methods and procedures include, but are not limited to, activities associated with resource management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transportation (16 U.S. Government Code 1532 [3]). According to the Natural Community Conservation Planning Act, *conserve*, *conserving*, and *conservation* are the use of methods and procedures within a plan area that are necessary "to bring any covered species to the point at which the measures provided pursuant to [the California Endangered Species Act] … are not necessary, and for covered species that are not listed pursuant to [the California Endangered Species Act] …, to maintain or enhance the condition

of a species so that listing pursuant to [the California Endangered Species Act] …will not become necessary." In other words, the Natural Community Conservation Planning Act defines *conservation* as the steps necessary to remove a species from the California threatened or endangered species list (California Fish and Game Code 2085[d]).

critical habitat—an area designated as critical habitat by the U.S. Fish and Wildlife Service or by the National Marine Fisheries Service pursuant to the federal Endangered Species Act. Critical habitat areas are specific geographic areas that may or may not be occupied by listed species, that are determined to be essential for the conservation and management of listed species, and that have been formally described and designated in the Federal Register (16 U.S. Government Code 1532 [5]).

ecosystem function—the sum total of processes operating at the ecosystem level, such as the cycling of matter, energy, and nutrients.

ecosystem restoration—the reestablishment of ecological functions within an area that historically supported those functions.

ecosystem services—the benefits that people derive from ecosystems, including both commodities and regulating, supporting, and cultural services.

ecosystem—a community of organisms and their physical environment interacting as an ecological unit.

effectiveness monitoring—the process of tracking the success or failure of a management action.

endangered species—a native species, subspecies, variety of organism, or distinct population segment that is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (16 U.S. Government Code 1532[6]; California Fish and Game Code Section 2062).

endemic—a species, subspecies, or variety found only in the region defined.

ephemeral stream—a stream that flows only briefly during and after rain events and is normally dry the rest of the year.

eutrophication—the process of excessive nutrient enrichment of a water body that causes excessive algal and plant growth.

extirpated—a species no longer surviving in a region that was once part of its range.

extant—a taxon or population that is still in existence; opposite of *extinct*.

flow prescription—the protocol describing how to release water (at specific flow rates and times) from storage (such as reservoirs) into rivers, generally to provide water for aquatic resources.

flow—in hydrology, the volumetric movement of water past a given point on a stream or river, usually in cubic feet per second.

fluvial geomorphology—study of the interactions between the water and sediment transport processes in rivers and creeks and the landforms and physical shapes created by those processes.

gaining (reach)—a section of stream or river where the local water table is at or above stream level and groundwater moves toward and into the reach.

geomorphology—the science of landforms with an emphasis on their origin, evolution, form, and distribution across the physical landscape.

groundwater recharge (also *recharge*)—the augmentation of groundwater by natural or artificial means (Water Code, Division 6, part 2.74, §10721).

groundwater sustainability agency—one or more local agencies that implement the provisions of part 2.74 of the Water Code. For purposes of imposing fees pursuant to Chapter 8 of the Water Code (commencing with §10730) or taking action to enforce a groundwater sustainability plan, *groundwater sustainability agency* also means each local agency comprising the groundwater sustainability agency if the plan authorizes separate agency action (Water Code, Division 6, part 2.74, §10721).

groundwater sustainability plan—plan of a groundwater sustainability agency proposed or adopted pursuant to part 2.74 of the Water Code (Water Code, Division 6, part 2.74, §10721).

groundwater—water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, not including water that flows in known and definite channels (Water Code, Division 6, part 2.74, §10721).

grower—a person who grows large quantities of a particular plant or crop in order to sell the crop.

habitat—the environmental conditions that support occupancy of a given organism in a specified area (Hall et al. 1997). In both scientific and lay publications, *habitat* is defined in many different ways and for many different purposes. For the purposes of the LTMP, *habitat* is defined as the specific places where the environmental conditions (i.e., physical and biological conditions) are present that are required to support occupancy by individuals or populations of a given species. Habitat may be occupied (i.e., individuals or a population of the species are or have recently been present) or unoccupied.

hydrograph—a graph showing the water level (stage), discharge, or other property of a river or watershed with respect to time.

hydrology—the scientific study of the waters of the earth, especially with relation to the effects of precipitation and evaporation upon the occurrence and character of water in streams, lakes, and below the land surface.

incidental take—any take otherwise prohibited, if such take is incidental to and not the purpose of the carrying out of an otherwise lawful activity (50 C.F.R. 17.3). See also *take*.

invasive species—a species that is nonnative to the ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).

land cover type—the dominant character of the land surface discernible from aerial photographs, as determined by the dominant vegetation type, water type, or human use.

land cover—the observed physical cover on the earth's surface. It is used to describe vegetation and human-made features but can also include water surfaces.

land-use designation—the designation, by parcel, in an adopted city or county general plan of the allowable uses.

listed species—a species that is listed as threatened or endangered pursuant to the Endangered Species Act or the California Endangered Species Act. See also *threatened species* and *endangered species*.

Local Area Formation Committee (LAFCO)—public agency with county-wide jurisdiction established by state law. It oversees changes to local government boundaries involving the formation and expansion of cities and special districts. The LAFCO of Monterey County encourages orderly growth of local government agencies, preserves agricultural lands and open space, and discourages urban sprawl.

losing (reach)—a section of river or stream channel where the local groundwater table is below that of the water level in the channel. This results in a net flow of surface water into the groundwater table (percolation).

low-flow channel—the part of a stream channel occupied during periods of low flow.

mainstem—the primary flow channel in a watershed. The mainstem collects flow from tributaries and conveys it to the mouth of the watershed.

management action—a task proposed to meet an associated objective. Actions describe how objectives can be achieved, and a single action can support multiple objectives. For the purposes of the LTMP, actions are divided into one of four categories: research and analysis, planning tasks, projects, and activities.

management area—a geographical area defined by where management activities will be implemented. For the purposes of the LTMP, this area is defined by the portion of the Salinas River watershed in which the Implementing Entity will conduct management actions adopted by this LTMP up to river mile 110 and along the Nacimiento and San Antonio Rivers, ending at their respective reservoirs.

management objective—a clearly defined target that builds toward achieving a goal. Objectives should be measurable and achievable.

mitigation—actions or project design features that reduce environmental impacts by avoiding, minimizing, or compensating for adverse effects (Fulton 1999).

natural community—a collection of species that co-occur in the same habitat or area and interact through trophic and spatial relationships.

nonnative species—a species that is not native to the ecosystem under consideration.

operation (also *reservoir operation* or *river operation*)—the approach by which reservoir releases are managed in order to achieve a desired result in the downstream river (e.g., flood reduction, conservation flows).

peak flow—maximum instantaneous streamflow values recorded at a particular site for a particular time interval.

perennial stream—a stream with year-round surface flow.

planning tasks—for the purposes of the LTMP, planning tasks are a type of management action that calls for additional planning efforts. Planning efforts generally result in development of a document

that may require environmental analysis (California Environmental Quality Act) or regulatory permits prior to implementation.

preservation—preventing changes in land use from a natural state by, for example, acquiring land or a conservation easement.

primary productivity—a term used to describe the rate at which plants and other photosynthetic organisms produce organic compounds in an ecosystem. There are two aspects of primary productivity: gross productivity and net productivity.

program goal—an outcome that indicates success of a project or program.

project—for the purposes of the LTMP, projects are a type of management action that require substantial capital or construction. Examples of projects include construction or replacement of water management infrastructure, implementation of large-scale restoration, and land acquisition.

range—the geographic area a species is known or believed to occupy.

reach—a section of a stream.

recharge area—area that supplies water to an aquifer in a groundwater basin (Water Code, Division 6, part 2.74, §10721).

recovery goal—an established goal, usually quantitative, in a U.S. Fish and Wildlife Service or National Marine Fisheries Service recovery plan that identifies when a listed species is restored to a point at which the protections of the federal Endangered Species Act are no longer required.

recovery plan—a document published by the U.S. Fish and Wildlife Service or by the National Marine Fisheries Service that provides the status of a listed species and the actions necessary to remove the species from the endangered species list.

recovery—the process by which the decline of an endangered or threatened species is arrested or reversed or threats to its survival are neutralized so that its long-term survival in nature can be ensured. Recovery entails actions to achieve the conservation and survival of a species (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1996), including actions to prevent any further erosion of a population's viability and genetic integrity, as well as actions to restore or establish environmental conditions that enable a species to persist (i.e., the long-term occurrence of a species through the full range of environmental variation).

reoperation—a change in approach to reservoir or river operation.

research and analyses—for the purposes of the LTMP, a type of management action that calls for new research or new analysis of existing data.

reservoir operation—see *operation*.

riparian habitat or vegetation—vegetation associated with river, stream, or lake banks and floodplains. Also defined by U.S. Fish and Wildlife Service (2018) as "Plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (i.e., rivers, streams, lakes, or drainage ways). Riparian areas have one or both of the following characteristics: 1) distinctively different vegetation than adjacent areas, 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms due to the greater availability of surface and subsurface water."

river operation—see *operation*.

Salinas River basin—the area drained aboveground and belowground by the Salinas River.

Salinas River watershed—for the purposes of the LTMP, the land surface that drains to the Salinas River channel (i.e., aboveground) as defined by the U.S. Geological Survey (USGS) Hydrologic Unit Code (HUC)-8 boundary. Includes the Salinas River and its tributaries, which together drain approximately 4,600 square miles of land in Monterey and San Luis Obispo Counties.

Salinas Valley Basin (also *Salinas Valley groundwater basin*)—for the purposes of the LTMP, the belowground aquifers as defined by the California Department of Water Resources *Bulletin 118*.

Salinas Valley groundwater basin—see *Salinas Valley Basin*.

Salinas Valley—one of the major valleys and most productive agricultural regions in California.

significant depletions of interconnected surface waters—reductions in flow or levels of surface water that is hydrologically connected to the basin such that the reduced surface water flow or levels have a significant and unreasonable adverse impact on beneficial uses of the surface water (Water Code, Division 6, part 2.74, §10735).

special-status species—plants and animals that are legally protected under the federal and/or state Endangered Species Acts, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing.

stage—the level of the water surface of a river or stream above an established datum at a given location.

stream—a watercourse that flows at least periodically or intermittently through a bed or channel having banks. This may include watercourses having a surface or subsurface flow that supports or has supported riparian vegetation, fish, or other aquatic life.

study area—a geographical area for which data are analyzed in a report or map. For the purposes of the LTMP, this area includes all HUC-10 watersheds where the HUC-10 watersheds have a confluence with the Salinas River at or downstream of the confluence of the Nacimiento River. The LTMP study area is defined as the management area, plus all associated watersheds.

subbasin—a structural geologic feature where a larger basin is divided into a series of small basins in reference to groundwater supply. For the purposes of the LTMP, *subbasin* is used within the context of California Department of Water Resource–defined basins.

substrate—the surface or material on or from which an organism lives, grows, or obtains its nourishment.

subwatersheds—a smaller area of tributaries that drain into a larger area. Typically corresponds to the USGS HUC-10 boundary.

sustainable groundwater management—the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results (Water Code, Division 6, part 2.74, §10721).

sustainable yield—the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn

annually from a groundwater supply without causing an undesirable result (Water Code, Division 6, part 2.74, §10721).

take—according to the federal Endangered Species Act (16 U.S. Government Code 1532 [19]), *take* means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. According to California Fish and Game Code (California Fish and Game Code Section 86), *take* means to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill. See also *incidental take*.

threatened species—a native species, subspecies, variety, or distinct population segment of an organism that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future throughout all of a significant portion of its range (16 U.S. Government Code 1532 [5], California Fish and Game Code Section 2067).

tributary—a river or stream flowing into a larger river or lake.

undesirable result—one or more of the following effects caused by groundwater conditions occurring throughout the basin.

1. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
2. Significant and unreasonable reduction of groundwater storage.
3. Significant and unreasonable seawater intrusion.
4. Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
5. Significant and unreasonable land subsidence that substantially interferes with surface land uses.
6. Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water (Water Code, Division 6, part 2.74, §10721).

watershed— land area or topographic region that drains into a particular stream, river or lake. Typically corresponds to the USGS HUC-8 boundary.

water budget—an accounting of the total groundwater and surface water entering and leaving a basin including the changes in the amount of water stored (Water Code, Division 6, part 2.74, §10721).

water year—the period from October 1 through the following September 30, inclusive (Water Code, Division 6, part 2.74, §10721). For example, water year 2018 started October 1, 2017, and continued to September 30, 2018.

Waters of the United States—generally defined as streams and wetlands that connect to navigable waterways. The Code of Federal Regulations Title 33 Part 328 (33 C.F.R 328) defines Waters of the United States as it applies to the jurisdictional limits of the authority of the U.S. Army Corps of

Engineers under the Clean Water Act. *Navigable waters* is a term used within the Waters of the United States definition. Navigable waters are defined in 33 C.F.R 329.

Waters of the state—Under California Water Code Section 13050 (e), any surface water or groundwater, including saline waters, within the boundaries of the state.

watercourse—a body of water that flows at least periodically or intermittently through a bed or channel having banks. This may include bodies of water having a surface or subsurface flow that supports or has supported riparian vegetation, fish, or other aquatic life.

watershed—an entire geographical area of land where precipitation collects and drains to a common outlet.

Literature Cited

Fulton, W. 1999. Guide to California Planning, Solano Press, Ventura, California.

Hall, L. S., P. R. Krausman, and M. L. Morrison. 1997. The habitat concept and a plea for standard terminology. Wildlife Society Bulletin 1997, 25(1):173-182.

Nicotra, A. B., D. L. Segal, G. L. Hoyle, A. W. Schrey, K. J. F. Verhoeven, and C. L. Richards. Adaptive plasticity and epigenetic variation in response to warming in an Alpine plant. Ecology and Evolution 2015; 5(3): 634-647. January.

San Francisco Estuary Institute. 2009. Historical Ecology Reconnaissance for the Lower Salinas River. Prepared for The Nature Conservancy. Monterey County Project. August 2009.

U.S. Fish and Wildlife Service. 2018. Riparian Product Summary. Available: https://www.fws.gov/wetlands/other/Riparian-Product-Summary.html. Accessed: February 13, 2019.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996. Final Handbook on Habitat Conservation Planning and Incidental Take Permitting Process. Appendix 5. December.