GLOSSARY

The following terms are used in describing the Delta Levee System Integrity Program:

Action. A physical, operational, legal, or institutional change intended to maintain or achieve a desirable condition (target) of the Delta levee system.

Boil. A seepage exit point on the landside of the levee that is characterized by the rapid movement (boiling) of sand particles.

Channel islands. Small, unleveed land masses in Delta channels that typically provide quality wildlife habitat. Some islands are remnants of original Delta marsh lands, and others are the result of channel widening, levee construction, and dredged material disposal.

CMARP. Comprehensive Monitoring, Assessment, and Research Program.

Cut-off wall. An impermeable barrier constructed through the levee to interrupt (cut off) seepage through the levee or foundation. A slurry cut-off wall is a combination of soil, cement, and bentonite (a clay material) constructed inside a trench down the center of the levee. This trench must be sufficiently deep to cut off or reduce seepage through or under the levee.

Delta. The Sacramento-San Joaquin Delta as described in the California Water Code Section 12220.

Delta islands. Islands in the Sacramento-San Joaquin Delta protected by levees. The surface of the majority of islands are below sea level and provide many benefits, including agriculture, recreation, water quality, and habitat for fish and wildlife.

Drainage blanket. A layer of crushed or rounded gravel and coarse sand, usually encapsulated in a geotextile filter fabric, that is placed on the slope and landside toe of a levee to control seepage and piping. Drainage blankets usually are placed prior to the addition of a stability berm.

Erosion. Loss of levee material due to the effects of channel flows, tidal action, boat wakes, and wind-generated waves.

Ecosystem Restoration Program Plan. A comprehensive plan for restoration and management of the Bay-Delta ecosystem, including upstream tributaries and watersheds.

Freeboard. The vertical distance between the levee crest and the design water surface elevation.

Hydrostatic pressure. The pressure of water at a given depth resulting from the weight of the water above it.

Implementation objective. A description of what the program will strive to maintain or achieve for the Delta levee system that is not intended to change over the life of the program.

Levee crown. The highest, near-horizontal part of the levee between the water and landside slopes. The levee crest.

Liquefaction. A condition in which saturated silty sands or sandy silts have no shear strength. Liquefaction occurs often when loose soils are subjected to ground shaking during an earthquake.

Local agency. Any city, county, local agency, or other political subdivision of the state that is authorized to maintain project or non-project levees.

Non-project levee. A local flood control levee in the Delta that is not a project facility under the State Water Resources Law of 1945, as shown on page 38 of DWR's "Sacramento-San Joaquin Delta Atlas," dated 1993. (See Figure 3.)

Oxidation. The conversion of organic matter (such as peat) by bacteria to carbon dioxide. The conversion is directly related to aerobic soil bacteria.

Piping. Erosion of levee or foundation material at seepage exit points. The process carries away levee material, resulting in shorter seepage paths and accelerated internal erosion of the levee.

Primary zone. The Delta land and water area of primary state concern and statewide significance that is situated within the boundaries of the Delta but not within the urban limit line or sphere of influence line of any government's general plan or currently existing studies, as of January 1, 1992 (Delta Protection Act of 1992).

Project levee. A federal flood control levee, as shown on page 40 of DWR's "Sacramento-San Joaquin Delta Atlas," dated 1993, that is a project facility under the State Water Resources Law of 1945—if not less than a majority of the acreage under the jurisdiction of the local agency that maintains the levee is within the Primary zone of the Delta, as defined in the Public Resources Code (and above). (See Figure 2.)

Seepage. The movement of water through a porous material in response to a hydraulic gradient.

Seismicity. The frequency, intensity, and distribution of earthquake activity in an area.

Setback levee. A constructed embankment that is positioned some distance from the edge of the river or channel to prevent flooding and is not in contact with the original levee. Setback levees provide area for wildlife habitat to develop and for floodflow capacity.

Settlement. A downward movement of a surface as a result of underlying soil compression or consolidation caused by an increased load or the loss of underlying soil (foundation) support.

Slope protection. Various types of materials used to protect the levee surface and stream bank adjacent to the levee from erosion.

Stability berm. Earth fill usually placed against the levee landside slopes to act as a counterweight to prevent rotational slides.

Structural section. The minimum levee cross section required for levee integrity.

GLOSSARY (CONTINUED)

Subsidence. A decrease in ground surface elevation. Subsidence in the Delta is the result of a complex interaction of deep or large-scale processes and numerous shallow, near-surface causes. Subsidence is discussed in terms of levee subsidence or settlement and interior island subsidence.

Suisun Marsh islands. Islands in the Suisun Marsh protected by levees. The surface of the majority of islands are below sea level and provide many benefits, including recreation uses and habitat for fish and wildlife.

Target. A qualitative or quantitative statement of an implementation objective. Targets may vary as new information becomes available and according to Delta conveyance alternatives. Targets are to be set based on realistic expectations; must be balanced against other resource needs; and must be reasonable, affordable, cost effective, and practicably achievable.

Toe ditch. The open trench along the landside toe of the levee typically used to collect seepage water and distribute the water for agricultural purposes.

Toe drain. A trench along the landside toe of the levee designed to reduce saturation of the levee, control seepage, and help prevent boils. A toe drain is constructed by placing crushed rock in a trench at the landside toe of the levee. The rock is encapsulated in filter fabric that prevents levee and foundation soils from migrating into the rock.