GLOSSARY

This glossary of useful terms was adapted from *Common Ground: From the Mountains to the Sea*, which was derived from the *Second Nature* report prepared by Tree People and from *Stormwater: Asset Not Liability* by Dallman and Piechota.

Base Flow of Streams

Water slowly percolates underground and then spreads laterally until it reaches the surface (not pumped up) becoming part of the natural flow in rivers and streams, its base flow. This seeping groundwater is what maintains the flow in a river due to the return flow of groundwater.

Bio-remediate

Bio-remediation uses biological processes to repair pollution damage. For example, a grass swale can bio-remediate much of the pollution caused by automobile use by holding heavy metals in the soil at harmless concentrations as well as by the action of soil bacteria, which gradually breaks down hydrocarbon waste such as crankcase oil.

Beneficial Uses

Historical, existing or potential uses of a body of water. The Regional Water Quality Control Boards designate uses for individual bodies of water, with the intent of preserving or restoring those uses. There are 24 beneficial uses designations in California, including wildlife habitat, industrial processes, agricultural supply, and groundwater recharge.

Class I Bikeway

Completely separated right-of-way designed to be shared with pedestrians. The standard pavement width of a Class I Bikeway is eight (8) feet. The typical right-of-way width is ten (10) feet. Class I Bikeways are considered ideal. They are usually located on publicly owned land such as parks, school sites, or road right-of-way.

Compost

Decayed vegetation from a variety of sources, such as green waste or biosolids. Can be used as ground cover or mulch, and as fertilizer.

Detention Basin

Temporary storage of stormwater or other flows to reduce the peak flow, but not the total volume of stormwater during a storm.

Debris Basin

Facility constructed to contain debris flows (water, rocks, mud, sediment vegetation and other debris) that occur during major storm events, particularly in areas that have been subject to wildfires.

Dry Weather Flow

The continuous flow in a storm drain system that occurs even during extended periods without rain.

Evapotranspiration

The loss of water from the soil both by evaporation and by transpiration from the plants growing thereon.

First-Flush Rain

In Southern California, many months can pass between one rainstorm and the next. During this time, pollution and grime build up on all of the city's outdoor surfaces, and in particular, on its streets. When the next rainstorm finally comes, it washes the accumulated grime and pollution off of the streets and into the storm drain system. This is the "first flush rain." As you might expect, it carries a very large amount of suspended and dissolved pollutants.

Flood Plain

The lands next to rivers and streams that flood naturally during large storm events. The flood plain's function is to store sediment and flood flows.

Grass Filter Strips

A grassy edge or swale that filters stormwater in the root layer before percolating the water into the soil below or discharging the water overland.

Graywater

Water drained from household sinks, washers, tubs, and showers—that is, all water not coming from toilets. This water carries relatively few suspended or dissolved solids. Consequently, it can often be used for such purposes as landscape irrigation.

Groundwater

The water that collects and is stored underground into basins defined by the underlying geology. The level of groundwater or "water table" varies according to the type of soil and underlying geologic formations, and from season to season. In rare instances, and on particular sites, the groundwater table comes up to the surface. This results in standing water on the surface of the ground. More often, the groundwater table is located many feet below the surface.

Groundwater Recharge

Surface water that filters into the ground and reaches underground reservoirs, providing replenishment and/or increased storage for groundwater basins. This occurs naturally during and after rainstorms, in creek beds with flowing water, or can be accomplished purposefully by directing stormwater into specially prepared recharge areas for infiltration.

Heat Island Effect

Many urban areas lack shade trees. In these areas the sun strikes pavement and rooftops, heating them to very high temperatures. These surfaces re-radiate heat into the air, raising air temperatures by five or more degrees. Urban areas that contain dense tree canopy avoid the heat island effect because trees absorb virtually all of the sun's energy without radiating heat back into the air.

Holding Pond

A depression where rainwater is directed and held temporarily. Holding ponds function to slow the rate at which water is discharged from a site to the rate more typical of undeveloped natural sites.

Humus Layer

The top layer of soil where there is the most organic activity, fibrous root material, and recycling detritus from the plants above.

Hundred-Year Storm

There is a 1 in 100 chance of a storm of this magnitude happening in any one year. Flood flow rates from hundred-year storms are recalculated over time due to changes in the landscape (e.g., increased urbanization).

Hydrology

The occurrence, distribution, movement, and properties of water above and below the earth's surface. The natural hydrology of an area may be significantly altered by catastrophic events (earthquakes, landslides) and by human development (agriculture, urbanization).

Impervious or Impermeable Surfaces

A surface that does not allow the passage of water and thus potentially facilitates the generation of runoff.

Infiltration

The process by which water moves downward through the earth's surface, replenishing soil moisture and groundwater basins. The ability of the soil to infiltrate water depends on many factors, including the nature of the surface cover, and soil characteristics such as texture and depth.

Infiltration Zone

An area particularly well suited and/or altered for directing stormwater back into the soil.

Mulch

Organic material placed on the ground, sometimes many inches thick, used as a ground cover to cool the soil, discourage weeks and erosion, aid in the infiltration of water, minimize the heat island effect of the city, and reduce the costs of green waste disposal.

Natural Flood Plain

Every river or stream naturally overflows its low flow or non-storm capacity channel during major storm event. Flood plains consist of those areas that would naturally flood during major storms. Their function is to disperse sediments and to infiltrate water underground.

Percolation

The act of water soaking into the ground. This term is used most frequently in conjunction with spreading grounds, where water is purposefully allowed to percolate through the soil to the groundwater.

Percolation Basin

An aboveground storage place, or retention basin, built so as to encourage the percolation of water contained therein underground.

Percolation Rate

The rate at which water filters into the soil. Some soil types, such as sand, have a very high percolation rate; other soils types, such as clay, have a very slow percolation rate.

Permeable Pavement

Permeable pavement is honeycombed with voids, or air pockets. These voids allow water to migrate down through the pavement into the soil below.

Pervious or Permeable Surfaces

Surfaces that allow water or other liquids to penetrate and potentially reach the ground (depending on the thickness of the surface, how porous it is, and the amount of water.

Porosity

A measure of the ability of water to pass through a material, which is dependent upon how much empty space occurs between the particles that make up the substance. For example, sand is much more porous than clay.

Potable Water

Water that is fit to drink.

Precipitation

Rain, hail, or snow that falls from the atmosphere.

Recharge Areas

Certain zones in the landscape can accept water back into the soil at higher than average rates. Such areas are often referred to as recharge areas.

Residential Density

The number of family units to be found on an average acre of land in a residential area is referred to as its density. These densities range from low (1–2 units per acre) to high (40 + units per acre).

Retention Basin or Infiltration Basin

Stores water with the purpose of reducing the volume of runoff by capturing precipitation and surface runoff for recharge to groundwater. These basins do not return captured runoff to stormwater channels.

Riparian Habitat

Habitat next to rivers or streams and dependent on the additional moisture in the river. Its function is to provide food and shelter for many creatures, to reduce the volume and velocity of runoff, and increase infiltration.

Riparian Retention and Treatment Area

A retention or recharge area where plants native to rivers or lakes are installed to consume and clean the water therein.

Rip-rap

A rock lining used to stabilize sloping stream banks.

River Corridor

Includes the river, the flood plain, and the riparian trees and plants that grow in the high groundwater and most soils along the way.

Runoff

Stormwater that flows off of one surface or site onto another.

Sheet Flow

Stormwater that flows in even sheets across a flat surface, such as a parking lot.

Spreading Grounds

A land area specifically designed to be flooded so that the water will percolate or soak into the ground, recharging the groundwater.

Stormwater

Refers to all rainwater that hits the surface of the ground. Stormwater either percolates back into the soil or flows on the surface to the nearest storm drain inlet, stream, or other wetland area.

Subsoil

The soil layer below the "topsoil" layer.

Subsurface

Below the surface of the ground.

Sustainability

The ability to meet current needs without compromising the ability of future generations to do the same.

Swale

A V-shaped depression in the land, usually lined with grass, designed as a channel for moving stormwater from one place to another.

Velocity of Flow

How quickly the stormwater flows over the surface or through the storm drain system to the ocean. Velocity is determined by the design of the conveyance system: how wide, how smooth or rough, and the slope of the conveyance.

Water Conservation

Means different things in different contexts. Usually, it means using less (consumer or farmer or landscape) due to hardware or management strategies. In the stormwater management context, it means storing water in retention basins or behind a dam for infiltration to the groundwater, making the water available as an addition to the drinking water supply.

Watershed

A region or area bound peripherally by a divide or ridge, all of which drains to a particular watercourse or body of water. Also defined as the drainage area of a river or stream system.

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Photo courtesy of SAWPA

APPENDICES

All appendices are available on CD-ROM (provided in the back pocket of this binder).

Appendix A: Scoping Meeting Notes, List of Participants

Prepared by SAWPA and EIP Associates

This appendix provides meeting notes and participant lists for each of the four scoping meetings held in July and August 2002 to gather input for the Plan.

Appendix B: Santa Ana River Trail Summary

Prepared for SAWPA by Dangermond and Associates

This document provides a summary of Santa Ana River Trail status and future completion needs.

Appendix C: *Arundo* Removal Protocol

Prepared for SAWPA by EIP Associates and Nelroy E. Jackson, Ph.D.

The *Arundo* Removal Protocol was prepared for the Southern California Integrated Watershed Program to provide groups removing *Arundo* within the watershed a comprehensive document including removal methods and permitting information.

Appendix D: *Arundo* Removal Program, Notice of Exemption

Prepared for SAWPA by EIP Associates

This Notice of Exemption for the *Arundo* Removal Program provides environmental documentation (CEQA) clearance for SCIWP-funded *Arundo* removal activities within the Santa Ana Watershed.

Appendix E: Wetlands Program, Notice of Exemption

Prepared for SAWPA by EIP Associates

This Notice of Exemption would provide environmental documentation clearance for a number of SCIWP-funded wetland and habitat projects.

Appendix F: Rare and Sensitive Species and Habitats Potentially Occurring within the Watershed

Prepared for SAWPA by EIP Associates

This list of rare and sensitive species and habitats potentially occurring within the Watershed was compiled by EIP Associates using the California Department of Fish and Game's California Natural Diversity Database.

Appendix G: Aquatic Resources Assessment

Prepared for SAWPA by EIP Associates

Please note that the tables in the document are to be printed on legal-sized paper.

This assessment of the Santa Ana River Watershed Plan has three purposes:

1. To provide background and perspective on the historical and current aquatic vertebrate resources of the watershed
2. To describe the primary factors affecting the viability of those resources
3. To describe the conservation strategy and actions proposed to ensure the continued viability of aquatic resources

The aquatic resources addressed in this assessment include fish, amphibians, and semi-aquatic reptiles that depend on the aquatic system and adjacent riparian and wetland habitats for all or part of their life history.

Appendix H: Sample Conservation Easement Deed

Source: Land Conservancy of San Luis Obispo County

This Sample Conservation Easement Deed is provided for informational use only, to illustrate some provisions commonly included in conservation easement deeds.

Appendix I: Education Curriculum Kit Used at Public Outreach Events

Prepared for SAWPA by EIP Associates

The Education and Curriculum Kit includes three items. Two items, the watershed maze and the game cards, are aimed at children. Please note that both of these items are to be printed on 11x17-inch paper. The *Arundo* educational brochure is aimed at homeowners and explains the need to prevent the spread of *Arundo*, providing alternative native planting ideas. This brochure is to be printed on legal-sized paper.

Appendix J: Funding Table

Prepared for SAWPA by EIP Associates

This appendix provides expanded information for the funding sources presented in Table 3-6, Section 3A-7, Funding. Expanded information includes contacts for various funding programs.

Appendix K: Comment Letters on Draft IWP, Environmental and Wetlands Component

Prepared for SAWPA by EIP Associates

This appendix provides a list of all commentors on the Draft IWP, Environmental and Wetlands Component, as well as copies of each written letter.

Appendix L: Public Outreach

Prepared for SAWPA by EIP Associates

This appendix provides information on SAWPA's public outreach events, including informal household survey results from the Environmental Expo.

Appendix M: California Environmental Dialogue, Economic and Environmental Benefits of Habitat Protection, Restoration, and Enhancement

Prepared for California Environmental Dialogue

This appendix provides information that explains how habitat protection, restoration, and enhancement lead to economic benefits relative to natural systems, recreational and leisure industry, and reduction of conflict caused by species extinction, among other concerns.