

GEOGRAPHIC SETTING

Misconceptions

Outside of the San Diego region and coastal southern California, there appear to be a number of misconceptions about the natural and anthropogenic characteristics of the San Diego region and coastal southern California as a whole. Unfortunately, these misconceptions seem to hinder efforts to obtain staff, grants, and other resources to address water quality and beneficial use problems and threats in the San Diego region and coastal southern California. SDRWQCB staff intends to work to dispel such misconceptions about the San Diego region, including but not limited to the following.

- Misconception 1: Virtually all of the San Diego region is urbanized and hardscaped.
- Misconception 2: There is no significant agriculture in the San Diego region.
- Misconception 4: There is very little water in the San Diego region.
- Misconception 3: There is virtually no significant natural habitat, habitat value, or native wildlife in the San Diego region.

Overview

The San Diego region, shown in **Figure 1**, occupies an area of approximately 3,900 square miles in the southwestern corner of California. The region encompasses most of San Diego County and parts of southwestern Riverside County and southern Orange County. The southern boundary of the region is the United States - Mexico international border. The eastern boundary of the region extends from a point on the international border approximately 50 miles from the coastline northerly along the hydrologic divide formed by the Laguna Mountains and other mountains located in the Cleveland National Forest. The northern boundary of the region is the hydrologic divide extending from the eastern boundary westerly along the ridge of the Elsinore Mountains through El Toro to the coast north of Laguna Beach and extending three miles offshore. The western boundary of the region parallels the coastline three miles offshore and extends from the northern boundary southerly approximately 85 miles to the international border, the southern boundary of the region.

The natural water resources in the San Diego region can be classified as inland surface waters, ground waters, and coastal waters. The SDRWQCB *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) identifies the beneficial uses of and water quality objectives for these waters in the region.

The San Diego region has thirteen principal stream systems that originate in the highlands and flow to the coast. From north to south these stream systems are:

- (1) Aliso Creek;

- (2) San Juan Creek;
- (3) San Mateo Creek;
- (4) San Onofre Creek;
- (5) Santa Margarita River;
- (6) San Luis Rey River
- (7) San Marcos Creek
- (8) Escondido Creek;
- (9) San Dieguito River;
- (10) San Diego River;
- (11) Sweetwater River;
- (12) Otay River; and
- (13) Tijuana River.

Most of the streams of the San Diego region are interrupted in character, with both perennial and ephemeral components due to precipitation patterns and the construction of surface water impoundments (reservoirs). Surface water impoundments capture flow from many of the region's major surface water streams. Although some of the fresh water supplied for domestic and municipal uses in the region is obtained from local surface and ground water, most is imported from northern California and the Colorado River. Many of the major surface water impoundments contain a blend of natural runoff and imported water. Natural fresh water supplies in the region are also supplemented by reclaimed (aka "recycled") water.

All major watersheds in the San Diego region contain ground water basins. Nearly all of the local ground waters of the region have been intensively developed for municipal and agricultural supply purposes. The basins are relatively small in area and generally shallow. Although these ground water basins are limited in size, their ground water yield has been historically important to economic activity in the region and continues to be an important local water supply source, particularly where imported water is not available. A number of the larger ground water basins in the region could be of future significance for storage of both imported waters and reclaimed water. Because of the movement of ground water to the surface and the movement of surface water into the ground, pollutants present in ground water may be transported into surface waters and vice versa.

Coastal waters in the region include the Pacific Ocean and various bays, harbors, coastal lagoons, estuaries, and river mouths. Important coastal lagoons, estuaries, and river mouths include Aliso Creek mouth, San Juan Creek mouth, San Mateo Creek mouth, San Onofre Creek mouth, Las Flores Lagoon, Santa Margarita Lagoon, San Luis Rey River mouth, Loma Alta Slough, Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, San Dieguito Lagoon, Los Penasquitos Lagoon, Famosa Slough, San Diego River mouth, and Tijuana River Estuary. San Diego Bay (which includes the mouth of the Otay River and Sweetwater Marsh at the mouth of Sweetwater River) is a natural bay, parts of which have been dredged to

accommodate deep draft vessels and small craft, and parts of which have been filled for various purposes. Dana Point Harbor, Del Mar Boat Basin, Oceanside Harbor, and Mission Bay (which includes the Kendall-Frost Marsh Preserve) are shallower bays and harbors, all of which have been modified or constructed to accommodate small craft.

Six of the hydrologic units in the region extend from the coast all the way to the eastern boundary of the region, about 50 miles inland. The other five hydrologic units extend some 10 to 25 miles inland from the coast. Land uses in the lower portions of watersheds sometimes differ significantly from those in the upper portions. The differences in land uses can translate to differences in water quality and beneficial use problems, the solutions to such problems, and the composition of the stakeholder groups. However, activities in one part of a watershed can affect other areas in the watershed that are miles away, as runoff, solids, and pollutants flow through the watershed toward its outlet. With the one exception mentioned below, all watersheds in the San Diego region are contained entirely within the boundaries of the San Diego region. This means that activities that could adversely affect the quality and beneficial uses of the waters of the region generally occur within the SDRWQCB's jurisdiction and are potentially subject to the SDRWQCB's authority and policies.

The Tijuana River watershed is partly, but not entirely, within the jurisdiction of the SDRWQCB. The Tijuana River watershed covers a total of 1720 square miles in California and Mexico. Approximately 467 square miles, or 27 percent, of this watershed lies in California, within the jurisdiction of the SDRWQCB; the remainder lies in Mexico. Water flows across the international border both from the United States to Mexico and from Mexico to the United States. Raw sewage discharges into the Tijuana River from Mexico have adversely affected water quality and posed a public health threat to residents on both sides of the international border. The resolution of water quality problems in the Tijuana River watershed poses unique challenges for the SDRWQCB to work in a cooperative, coordinated manner with governmental agencies at the federal, state, and local level in both Mexico and the United States. The new SDRWQCB international border coordinator staff position will help the SDRWQCB deal with the many trans-border issues the region faces.

Watershed Management Areas

As set forth in the Basin Plan, the San Diego region consists of 11 hydrologic units (HU), 54 hydrologic areas (HA), and 147 hydrologic subareas (HSA). The names and geographic boundaries of these hydrologic divisions are listed in **Table 1** and shown in **Figure 1** respectively. A hydrologic unit is defined as the entire watershed of one or more major streams. Hydrologic areas consist of watersheds of major tributaries and/or major ground water basins within a hydrologic unit. Hydrologic subareas are major subdivisions of hydrologic areas including both water-bearing and nonwater-bearing formations. The term "watershed" can be used interchangeably with any of the terms

“hydrologic unit,” “hydrologic area,” and “hydrologic subarea,” all of which are used in the Basin Plan. Watersheds may consist of several smaller tributary watersheds. For example, the Stonewall Creek watershed is one of several watersheds that are part of the Garnet Hydrologic Subarea (909.35), which is one of several watersheds that are part of the Upper Sweetwater Hydrologic Area (909.3), which is one of several watersheds that are part of Sweetwater Hydrologic Unit (909), which is one of several watersheds that are part of the San Diego Bay watershed.

For purposes of this document, the San Diego region has been divided into nine watershed management areas. These watershed management areas are briefly described in **Appendix A**. Features of these watershed management areas are summarized in **Table 2**. With one exception, these watershed management areas consist of the entirety of a single individual hydrologic unit and the adjoining coastal waters. The exception is the San Diego Bay Watershed Management Area, which consists of San Diego Bay and all three hydrologic units (908, 909, and 910) which, in whole or in part, drain to San Diego Bay. As noted above, the Tijuana River watershed lies partly in Mexico and partly in the United States. The Tijuana Hydrologic Unit (911) consists of the portions of the Tijuana River watershed located in the United States. The Tijuana River Watershed Management Area consists of the Tijuana Hydrologic Unit (911) and the adjoining coastal waters north of the United States - Mexico international border.

The California Unified Watershed Assessment (UWA) associated with the federal Clean Water Action Plan (and referred to in requests for proposals for various grant programs) defines five different watersheds in the San Diego region. The relationships between the hydrologic units, watershed management areas, and UWA watersheds in the San Diego region are shown in **Table 2A**. All of the San Diego region UWA watersheds are Category I priority watersheds.