

II. SANTA BARBARA COUNTY GAPS REPORT¹

1. EXECUTIVE SUMMARY

The Wetlands Recovery Project encompasses only a sixth of the total area of Santa Barbara County—a single hydrologic unit with 50 to 60 small watersheds. Only two of those watersheds—Carpinteria and San Jose Creeks—are subjects of comprehensive planning and management efforts, and in each of those cases the project has just started. Watershed planning in Santa Barbara County has been hampered by a number of political and organizational issues, including a lack of experience and commitment to the process by local government. But a series of regional assessments have been completed within the past two years. Those studies—almost all with extensive GIS data bases created from extensive field surveys—provide an excellent characterization of watershed conditions on which to base future planning efforts. In addition to building community and political support for a watershed planning function within County government, the County Task Force will likely focus on six watersheds which offer a strong potential for creating a management planning effort within the next 12 to 24 months.

2. COUNTY-WIDE OVERVIEW

2.1 Setting

The geographic area of the Southern California Wetlands Recovery Project in Santa Barbara County is limited to the Santa Barbara Coastal hydrologic unit. The area essentially corresponds to the south face of the traverse Santa Ynez Mountains. It is about 60 miles long across an east-to-west axis from Rincon Creek on the Ventura County line to Point Conception, but is only six to seven miles wide along its north to south axis from the crest of the Santa Ynez mountains to the Santa Barbara Channel.

The Santa Barbara Coastal hydrologic unit makes up less than a sixth of the County's 2740 square miles, yet within it reside more than one-half of the County's population of 400,000, including the cities of Carpinteria (15,000), Goleta (30,000) and Santa Barbara (95,000). The area includes Gaviota, El Captain Beach, Refugio Beach and Carpinteria Beach state parks, as well as numerous county and city parks. It borders the Channel Islands National Marine Sanctuary and includes avocado and citrus orchards, cattle ranches, and part of the Los Padres National Forest, as well as urban and residential development (primarily in low-lying areas adjacent to the Pacific).

The physical geography of the area ranges from coastal bluffs and lowlands to very steep

¹ Prepared by Bob Thiel, Watershed Coordinator, Community Environmental Council/Santa Barbara County WRP Task Force.

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canyons running to the ridgeline of the Santa Ynez Mountains. The crest of those mountains is fairly consistent in altitude, averaging about 3,000 feet above msl. Because of the climatic and oceanographic changes that occur there, Point Conception and the crest of the Santa Ynez are often characterized as the biological dividing line between northern and southern California. Point Conception represents the northern limit of the Southern California Bight, as well as the boundary between the Central Western and Southwestern Jepson Ecoregions. It is here that the climate, topography, geology, flora, fauna and marine environment of those two ecoregions converge and intermingle.

Although the Santa Barbara Coastal hydrologic unit is often classified as a single watershed, it is actually made up of 50 to 60 individual stream systems that flow south from headwaters in the Santa Ynez Mountains directly into the Pacific. Each watershed is relatively small, ranging from less than 2,000 acres to as many as 13,000 acres, with total stream lengths that rarely exceed 30 miles in an entire watershed. Each watershed begins in the Santa Ynez Mountains---at elevations as high as 4,700 feet---draining steep hillsides and canyons. The profile of most streams consists of (a) high gradient steep mountain slopes and foothills; (b) medium gradient alluvial fans, mesas and debris flows on the front and toe slope portions of the mountains, and (c) low gradient coastal plain marine terraces and alluvial plains that terminate at the Santa Barbara Channel.

In the mountains, the creeks flow through narrow canyons with steep slopes composed largely of exposed bedrock, large boulders, and thin topsoil. Scouring action there creates sequences of riffles, falls and pools of varying depths within the creek channel. As the gradient drops through the foothills and coastal plain areas, creek velocity and shear strength also drop. There the creeks deposit cobble, gravel and finer sediments that have created flat, wide floodplains that were once covered with dense riparian forests and oak woodlands. These high-energy stream systems have little to no water storage capacity. And low sinuosity and topographic relief of as much as 4,000 feet in less than seven miles contribute to episodic flows of water and debris that can carry large boulders and stones great distances.

Flow levels in the creeks are highly variable, largely because of the seasonal pattern of rainfall that occurs throughout Southern California and the large fluctuations in annual rainfall from one year to the next. Local rainfall averages between 16 and 18 inches per year on the coastal plain and between 28 and 30 inches per year in the highest elevations of the Santa Ynez Mountains.

Between Point Conception and the western edge of the Goleta area, land use is generally limited to park and open space, cattle ranching or orchard crops, with residential development limited to scattered large-lot ranchettes. Between Goleta and Carpinteria, the middle and lower reaches of most streams have a much more pronounced urban character. The upper watershed is usually part of the National Forest and contains a continuous overstory of riparian woodland and a dense understory of shrubs, herbs and grasses. In the foothills, however, large sections of canopy cover have often been removed to accommodate orchards or subdivisions; downstream, urban development has eliminated much of the natural vegetation and paved large areas of the lower watershed.

Urbanization has also increased runoff rates, inhibited groundwater recharge, increased the flashy nature of creek flows, and resulted in greater erosion of hillsides, floodplains and creek banks. While the upper reaches of these watersheds have excellent water quality, downstream the water quality worsens as a result of surface runoff from urban and agricultural areas. Primary pollutants are suspended sediments, nutrients and bacteria. The loss of riparian vegetation has increased water temperatures in some reaches, in turn reducing dissolved oxygen saturation levels in the water. Elevated water temperatures affect species, such as steelhead, that are sensitive to changes in dissolved oxygen levels.

The riparian areas of many of these watersheds provide significant wildlife corridors for other sensitive species besides steelhead. They include Cooper's hawks, white-tailed kites, and other

bird species; southwestern pond turtles; and tidewater gobies.

The National Marine Fisheries Service has designated all ephemeral, intermittent and perennial rivers and creeks in Santa Barbara County as critical habitat for Southern California ESU anadromous steelhead trout (*Oncorhynchus mykiss*), a federally-endangered species. In the past, many of the creeks in the Santa Barbara Coastal area had a large steelhead population, which spawned in the middle and upper reaches of the creek and its tributaries in the slopes and foothills of the Santa Ynez. But steelhead populations have declined as impacts from human activities have seriously altered many of these creeks and their drainage basins.

Those impacts include: loss of native vegetation and an influx of highly aggressive exotic species, increased scouring of creekbeds and streambanks, diversions of streamflow and groundwater, increases in impervious surfaces and associated runoff, modifications to the creek channel and banks for flood control, and degraded water quality because of thermal pollution and potential nutrient, sediment and other polluted runoff from agricultural and urban development. In almost every watershed, culverts, concrete channels, low-flow crossings, or other structures have created difficult or impassable barriers to migration by steelhead to valuable upstream habitat.

2.2 Watershed Organizations

Although there are a number of organizations with an interest in watershed issues, the principal nonprofit and government organizations involved in watershed planning are as follows:

2.2.1 Nonprofit Organizations

Community Environmental Council

Community Environmental Council is a local 501(c)(3) organization) which operates a number of programs and centers that focus on developing sustainable communities and positive, practical solutions to environmental issues. Founded in 1970, it offers programs devoted to creek protection and restoration, energy conservation, environmental education, pesticide reduction, community gardens, pollution prevention, waste management, and sustainable land use.

Its watershed restoration program provides staff support to the Santa Barbara County Task Force of the Wetlands Recovery Project; manages restoration work on San Jose Creek under a Wetlands Recovery Project grant from the State Coastal Conservancy; and provides staff support to two local stakeholder groups, the Carpinteria Creek Watershed Coalition and the Mission Creek Restoration Partnership. CEC has also written grant proposals to fund watershed planning in several Santa Barbara Coastal watersheds, and it acts as an information resource and clearinghouse for stream restoration projects and watershed planning strategies in the area. In addition to its watershed restoration program, CEC's Creeks Programs include Creek Watchers, a volunteer water-quality monitoring program, and the new South Coast Watershed Resource Center, a public education facility at Arroyo Burro County Beach Park.

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Role: Staff support for planning effort

Carpinteria Creek Watershed Coalition

The Carpinteria Creek Watershed Coalition is an unincorporated, community-based partnership

of local landowners and other residents, nonprofit organizations, and city, county, state and federal resource agencies. From the first roundtable discussions that created the group in February 2001, the Coalition has evolved into a broad-based partnership, whose main goals are to improve stream and watershed conditions for steelhead recovery; to assist landowners in protecting their property from bank erosion; to restore the habitat and water quality of the Creek; and to generate public and landowner support for creek protection and enhancement. The Coalition also acts as a roundtable to review and resolve issues affecting the Creek and its watershed.

Although it formed only a year ago, the Coalition has already attracted funding and strong landowner and agency support. Within the past year member organizations have obtained, on behalf of the Coalition, \$235,000 in grants and in-lieu mitigation funds to address keystone steelhead passage barrier on the creek; a \$15,000 grant from the County to help fund a \$25,000 public outreach and education project; and a \$109,000 grant from the Department of Fish and Game to fund a watershed assessment and management plan. In addition, a second proposed stream restoration and barrier removal project has been included on the 2002-2003 Wetlands Recovery Project work plan and approved for a \$300,000 grant.

Because of the size of the watershed, and to avoid the costs and legal complexities of incorporation, the Coalition has elected to function as an informal, unincorporated alliance. An employee of Community Environmental Council facilitates the group's monthly meetings and provides staff support for project development, grant writing, and outreach efforts. The Coalition can be contacted through

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Mission Creek Restoration Partnership

The Mission Creek Restoration Partnership is also an unincorporated, community-based collaborative, which includes residential and institutional landowners, nonprofit organizations, and agencies of the City and County of Santa Barbara. It was formed in the fall of 2001 to focus on restoration, planning and other watershed issues along the middle reach of Mission Creek in Santa Barbara. The group is sponsoring a proposed a restoration and stormwater management demonstration project on property owned by the Santa Barbara Museum of Natural History, St. Mary's Retreat House, and St. Anthony's Seminary, and it is currently seeking Proposition 13 funds from the SWRCB for that project.

In addition to the owners of the project site, the Partnership includes the Santa Barbara Botanic Garden, Santa Barbara Audubon Society, Urban Creeks Council, Community Environmental Council, County Parks, the County Water Agency, the City of Santa Barbara's Creeks Division, and the Mission Canyon Association, a neighborhood association that represents more than 1,000 households in the watershed. Because no watershed management plan has been prepared for Mission Creek, one of the goals of the Partnership is to initiate a watershed management plan for the entire reach. The Partnership has no offices, corporate status or officers. But it receives staff support from the Community Environmental Council and can be contacted through

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Conception Coast Project

Conception Coast Project is a local 501(c)(3) organization that is dedicated to protecting and restoring the natural heritage of this region through long-term planning and community involvement. In addition to a strong public outreach and education program, the organization offers GIS and other science tools to achieve its vision of a regionally sustainable future. Its objectives include providing maps and analysis of regional information to stakeholders and creating a centralized and accessible digital database of natural and cultural information about the area. The Conception Coast Project offers cutting-edge GIS technology and was the GIS consultant for the County's HGM Assessment of South Coast Streams, the Gaviota Coast Resources Study, and the South Coast Steelhead Assessment and Recovery Project (each of which is discussed below). It has also been a principal Southern California project manager for the California Wild Heritage campaign.

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The Land Trust for Santa Barbara County

The Land Trust (founded in 1982) is a 501(c)(3) organization, which is responsible for protecting over 11,000 acres of natural and agricultural lands in Santa Barbara County. It has negotiated and closed over 23 real estate transactions and currently owns and manages 10,096 acres in easements and close to 1,000 acres in fee in the County. In addition to land conservation, the Land Trust has managed the preparation of a number of resource management plans, including ones for the Coronado Butterfly preserve, Santa Rosa Creek restoration work, the Carpinteria Salt Marsh, and the Point Sal Preserve. It is currently under contract with the Army Corps of Engineers to complete an \$880,000 wetland/restoration mitigation program in the Goleta Slough Watershed. As discussed below in the Priorities section of this report, the Land Trust is also involved in projects along Refugio Creek and Arroyo Hondo that may lead to preparation of management plans for those watersheds.

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2.2.2 Government Organizations

Cachuma Resource Conservation District

The Cachuma Resource Conservation District is an independent special district whose directors are appointed by the County Board of Supervisors. The Cachuma RCD assists landowners and local government agencies in managing stormwater runoff, preventing and controlling soil erosion, conserving water, protecting water quality, and improving land productivity. Working in partnership with the Natural Resources Conservation Service (NRCS), it has developed conservation plans and provided the County's agricultural community with technical assistance and educational programs for many conservation projects and practices. It recently concluded a Watershed Non-Point Source Pollution Management Plan for the Santa Maria River, under a

grant from the Central Coast Regional Water Quality Control Board. And it is now seeking funding to produce evaluations and management plans for other watersheds in northern Santa Barbara County.

The Cachuma RCD was selected by the Carpinteria Creek Watershed Coalition to act as the lead agency in preparing a watershed assessment and management plan for Carpinteria Creek, primarily because of the RCD's experience in working with farmers and ranchers in the County and its success in planning and implementing resource conservation projects. The RCD is also acting as a consulting agency in the watershed planning effort for San Jose Creek.

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California State Parks.

State Parks has recently received a \$100,000 grant under the State's CIAP program to conduct a watershed assessment and management plan for Gaviota Creek. By virtue of its ownership of Gaviota State Park, State Parks is one of the major landowners in the watershed and is anxious to develop management measures to control sediment input into the creek. About two-thirds of the watershed consists of privately-owned rangeland, and the other large landowners in the watershed have so far been resistant to the notion of watershed planning, in part because of general concerns over conservation proposals for the Gaviota Coast. But State Parks has recently begun talking with CEC, the Cachuma RCD, the County Task Force of the Wetlands Recovery Project, and others about how to initiate the stakeholder outreach needed for such a project.

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City of Santa Barbara

In 2000, the Santa Barbara City Council created a Clean Water and Creek Restoration Program, which was to include an inventory and assessment of creek conditions, development of short and long-term restoration projects, and an update of City policies and ordinances related to creeks. It also mandated ongoing efforts to improve creek and ocean water quality through water quality monitoring, periodic creek and storm drain cleanups, enhanced street sweeping, enforcement actions against illicit dumping and discharges, public education, and development of a water quality program to meet NPDES municipal stormwater permit requirements by 2003.

The program uses money from a surcharge on the local hotel bed tax, which was approved by city voters as Measure B in November 2000. Although the City has not yet undertaken any watershed planning efforts, it has prepared and published an extensive inventory and assessment of creek conditions (discussed below); it has also initiated several restoration projects on City-owned riparian land.

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County of Santa Barbara

The Santa Barbara County Water Agency develops and manages several regional programs that include ones to identify and implement solutions to creek and ocean water pollution on the South Coast of Santa Barbara County. In particular, it manages and provides staff support for Project Clean Water, a coalition of government agencies, community groups, and individuals that have come together to investigate and implement solutions to contamination in local creeks. Water Agency staff conduct an active water quality monitoring program and direct the County's planning efforts for NPDES Phase II compliance. They have prepared and offer public education programs about watershed issues and published the South Coast HGM Guidebook (which is discussed below under Regional Watershed Assessments).

The Water Agency is an important member of the Carpinteria Creek Watershed Coalition and the Mission Creek Restoration Partnership and is managing and funding preparation of a watershed management plan for San Jose Creek. Its sister agency within the Public Works Department, the County Flood Control District, performs creek clearing and annual channel maintenance, designs and constructs capital improvements for flood control and collects data regarding stream flows, vegetative communities, and other creek characteristics. Finally, the County's Planning and Development department prepares community resource management plans and manages the County's environmental review of proposed development projects and regulatory policies regarding development and other activities affecting creeks and riparian areas.

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The City of Carpinteria recently published a baseline assessment of its creeks (as well as proposed new creeks protection policies). As a small city, it has no dedicated watershed planning function. But it is actively involved in the Carpinteria Creek Watershed Coalition, and it is responsible for land use and recreation planning for coastal sections of Carpinteria-area creeks.

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The City of Goleta did not incorporate until the spring of 2002 and is just now creating its own municipal departments. It has, however, joined the watershed planning effort for San Jose Creek.

2.3 Planning Activities

Of the 50 to 60 watersheds within the Santa Barbara Coastal hydrologic unit, only two have been

subjects of a watershed-planning project, and in both of those cases, the planning effort has just begun. Although there is a growing understanding now of the utility of watershed planning, until very recently efforts to initiate a major watershed planning effort in Santa Barbara County have been hampered by several factors:

- Intense conflicts between landowners and regulatory agencies (particularly County government) over resource protection.
- The number of individual watersheds in the region.
- A lack of governmental and community appreciation for the value of addressing water quality and habitat issues at a watershed scale.
- The absence of an organizational mandate within local government agencies to undertake watershed planning.
- A shortage of funds and personnel to devote to the effort.

2.3.1 Watershed Management Plans

As of now, watershed planning is limited to (1) a watershed plan for Carpinteria Creek being managed by the Cachuma Resource Conservation District on behalf of the Carpinteria Creek Watershed Coalition and (2) a watershed plan for San Jose Creek being managed and funded by the County Water Agency. Those efforts represent only a small fraction of the total area of the Santa Barbara Coastal area. Both projects have just started and are at an early stage of stakeholder outreach and issue identification, with completion dates scheduled for mid to late 2003. Details of both projects are contained in the two attachments to this report.

2.3.2 Regional Watershed Assessments

Although watershed planning is only in its infancy on the Santa Barbara Coastal area, a number of regional watershed assessments have been completed within the past two years. When combined, they provide an excellent source of baseline information about watershed conditions and could furnish a strong foundation for initiating many of the other potential planning projects that are outlined below in this report. Those assessments include the following:

City of Santa Barbara Creek Inventory and Assessment Study

The City of Santa Barbara has published a detailed inventory and assessment of creek conditions: City of Santa Barbara, Creek Inventory and Assessment Study (URS Corporation, September 2000). The objectives of the study were to document and evaluate the physical, biological, hydrological and water quality conditions of City Creeks; identify and map “problem” areas where there are impairments to creek functions; develop a comprehensive spatial data base of those conditions (using GIS); and offer an overall creek restoration strategy with specific recommendations on short- and long-term projects. In general, the study focused on reaches within the City limits, but several large areas outside City were also included. The creeks analyzed in the study were Arroyo Burro, Mission Creek, Old Mission Creek, Sycamore Creek, Arroyo Hondo, Lighthouse Creek, Laguna Channel, and portions of certain Goleta area creeks that are on or near the Santa Barbara Municipal Airport, which the City owns and operates. Generally, the study did not analyze land use conditions or issues in the watershed outside of the immediate riparian zone.

Using field investigations of the entire length of these reaches, the study documented and mapped various categories of information along the creek. That information was then converted to GIS layers that display point data for aquatic features such as pools, seeps and gravel beds; bridges and at-grade crossings; instream pollution (such as trash and landscape waste); pipelines; and stormwater drains into the creek. The inventory includes line data for bank erosion, bank modification or protection, channel bed conditions and material; and channel bed morphological features, as well as mapping of 25 separate classes of vegetation, based on structure, dominant species and native or non-native species.

City of Carpinteria Creeks Characterization Study

The City of Carpinteria has also published a baseline assessment of its creeks: City of Carpinteria, Carpinteria Creeks Preservation Program, (Padres Associates, 2002). The study covers four watersheds in the region--Carpinteria, Santa Monica, Franklin, and Lagunitas Creek--and is based upon extensive research of general environmental conditions in the entire watershed, not merely the area within the city limits of Carpinteria. The goals of the study were to analyze creek conditions; recommend detailed regulations to ensure their protection and restoration; revise the City's General Plan and Local Coastal Plan; and assist the City in complying with Phase II NPDES requirements.

The study includes an analysis of the basic geology, soils, hydrology and geomorphology of the watershed; water quality monitoring of groundwater and creek water; a general habitat assessment; and a discussion of watershed land uses. Also included is a general inventory of aquatic and riparian vegetation, terrestrial invertebrates, fish, amphibians, reptiles, birds and mammals. On each creek the study focused on a series of study reaches, where researchers conducted bioassessments of benthic macroinvertebrates, using the EPA's rapid assessment method. In addition to its textual discussion of creek conditions, the draft report includes as appendices the Field Stream Habitat Assessment Forms for each of those study reaches.

Draft HGM Guidebook for South Coast Santa Barbara Streams

Last winter, the County Water Agency published the draft of an excellent tool for use in assessing stream reaches and riverine wetlands in the South Coast: Santa Barbara County Water Agency, Draft Guidebook for Reference-Based Assessment of the Functions of Riverine Waters/Wetland Ecosystems in the South Coast Region of Santa Barbara County, California (LC Lee & Associates, November 2001), a manual that is generally referred to as the Draft HGM Guidebook for South Coast Streams. The assessment protocol presented in the manual is based on the hydrogeomorphic (HGM) assessment methodology, the most-widely accepted protocol for assessing wetland and riverine ecosystem functions.

The Guidebook contains an extensive characterization of the geology, hydrology, soils and biogeochemistry, vegetation, land use, and habitat characteristics of Santa Barbara Coastal watersheds, based on literature review, GIS data, and detailed field reconnaissance at 60 reference sites. The manual contains GIS mapping of such elements as stream gradients, vegetative communities, habitat contiguity, and land use by cover classification and parcel use designation. Moreover, the Guidebook provides a local reference-based protocol for evaluating areas for restoration potential, assessing impacts from existing or proposed projects, and monitoring restoration success.

Steelhead Assessment

Watershed planning in Santa Barbara Coastal watersheds will also benefit from a recently-published study of steelhead habitat and migration barriers on coastal streams: M.W. Stoecker and Conception Coast Project, Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California (June 2002). The objectives of this study were to identify site-specific restoration actions for wild, southern steelhead in watersheds from Jalama Beach (above and west of Point Conception) to Rincon Creek and to prepare a report prioritizing site-specific restoration actions, particularly for migration barriers.

Due to the large number of unique watersheds within the study area, the study first identified focal watersheds and then conducted extensive field surveys of each focal watershed. Researchers then developed a GIS database to map watersheds, compile collected data, assess salmonid habitat conditions, analyze migration barrier impacts, and prioritize watershed recovery opportunities. The GIS layers include stream profiles, topography, precipitation, wetlands, land

ownership, roads, and land cover. The field survey of salmonid habitat conditions (which was also converted to GIS layers) produced scores for such factors as spawning substrate, stream gradient, riparian canopy cover, stream flow, pool abundance, and instream cover. The study contains excellent documentation and sighting information on salmonid occurrence in regional watersheds. It also contains maps of natural and artificial barriers to fish passage, evaluations of salmonid habitat quality, watershed habitat scores, rankings of keystone migration barriers, and recommendations of prioritized watersheds for steelhead recovery.

Gaviota Coast Resource Study

The 30-mile section of the Santa Barbara Coastal unit from Point Conception to the western edge of Goleta represents one of the largest remaining stretches of unprotected and undeveloped coastline in southern California. The County planning department has recently published an inventory of the resources on the Gaviota Coast, including a GIS model to graphically display areas of high resource sensitivity: County of Santa Barbara, Gaviota Coast Resource Study (EDAW, June 2002).

The report provides analyses of agricultural, recreational, biological, cultural, and visual resources, including maps of watershed boundaries, marine wetlands, and vegetation communities. Among its useful components, the study contains a ranking by watershed of the ecological or habitat value of each watershed, based on both GIS and expert opinion. The study thus offers a comparison between the watershed habitat values predicted in GIS and those suggested with more-detailed expert information collected at the watershed or parcel-specific level. It includes a resource sensitivity model based on soils, biology, cultural resources and viewsheds—a model that maps the study area according to five categories from less to most sensitive. Finally, the report contains a discussion of the existing regulatory framework for the study area, an overview of regulatory agencies and their relevant land use policies, and important land use trends on the Gaviota Coast.

UCSB LTER Project

A team of researchers at the University of California, Santa Barbara, is conducting a five year Long Term Ecological Research study of the terrestrial and oceanic influences on the kelp ecosystem fringing the Santa Barbara Channel. Their work includes measuring the chemical composition and discharge of creeks and rivers in Ventura and Santa Barbara counties. Existing maps of catchment characteristics will be combined with analyses of satellite imagery and long-term rainfall records to model runoff in various watersheds that empty into the Santa Barbara Channel. The model will eventually incorporate calculations of the transport of solutes and particulates to the ocean.

2.4 Planning/Management Gaps

Because watershed planning is only beginning in the Santa Barbara Coastal area, it is not particularly useful to talk about “gaps” in such planning. Only two of its 50 to 60 small watersheds are subjects of active watershed planning projects at this time, and each of those has just begun. The planning effort for Carpinteria Creek is the result of efforts by a community-based stakeholder group, the Carpinteria Creek Watershed Coalition. The watershed management plan for San Jose Creek is essentially a demonstration project by the County Water Agency, which resulted from a suggestion by the Second District County Supervisor Susan Rose that the County initiate such an effort as a pilot project in watershed planning.

To cover the Santa Barbara Coastal area with watershed planning efforts may require a number of things:

- Building adequate community and political support for comprehensive watershed planning.

- Creating a regional assessment and management strategy than could serve as a foundation for more localized watershed plans.
- Grouping several watersheds together, or otherwise determining how a collection of small watersheds could be effectively analyzed, planned and organized for stakeholder involvement.
- Finding a home for watershed planning, particularly within County government, and locating the resources to staff and fund the effort.

2.5 Watershed Management Priorities

In the meantime, a number of existing ideas may materialize into individual watershed planning efforts within the next 12 to 24 months. Identification of actual priorities for watershed management plans should be determined by the common agreement of the County Task Force of the Wetlands Recovery Project. Two years ago, the County Task Force prepared an extensive analysis of restoration opportunities within the urban creeks of the Santa Barbara Coastal area. The matrix it produced of potential sites along Arroyo Burro, Carpinteria, Mission and San Jose Creeks was then used to prioritize restoration opportunities and submit grant proposals to the Wetlands Recovery Project for restoration work in the County.

The manager of the County Water Agency has suggested creating a regional watershed-planning framework for at least the urban-area streams in the Santa Barbara Coastal area (i.e., from Rincon to the western edge of Goleta). The goal for that framework would be to summarize watershed conditions in the region and suggest general opportunities for restoration and protection. The effort would involve compiling existing information, summarizing the existing function of those creeks by reach (using the regional HGM assessment), mapping conditions and jurisdictional responsibilities, and developing a menu of potential restoration and enhancement work. The project could also involve creating a template for preparing South Coast area watershed plans, to include such features as outlines of potential issue areas and planning processes, sources of jurisdictional and regulatory information, potential planning and restoration actions, and implementation strategies.

The western quarter the Santa Barbara Coastal area---the region between Gaviota State Park and Point Conception---is dominated by the large land holdings of Bixby Ranch, Hollister Ranch, and several oil companies. At this stage, it appears very unlikely that any of those landowners would be willing to engage in a public planning process, particularly one that might involve resource agencies, environmental groups, or community stakeholders. The focus of local efforts will likely be on that portion of the Santa Barbara Coastal area that runs east from Gaviota State Park to Rincon Creek.

Developments in at least six watersheds in that section suggest that management planning projects could begin reasonably soon if properly supported. Almost all of these creeks have been identified by the South Coast Steelhead Study as a priority creek for steelhead restoration.

2.5.1 Gaviota Creek

At 12,900 acres, Gaviota Creek is one of the largest watersheds in the Santa Barbara Coastal hydrologic unit and is the only one that extends beyond the ridgeline of the Santa Ynez Mountains. Land ownership is concentrated in several large cattle ranches, Gaviota State Park, and state-owned property managed by CalTrans. The South Coast Steelhead Study identified modifications to one of the culverts under Highway 101 along Gaviota Creek as a one of the top immediate priorities to improve steelhead passage along the entire coast. As noted earlier, State Parks was recently awarded a \$100,000 CIAP grant to prepare a watershed management plan for Gaviota Creek, but a lack of support from ranchers within the watershed has stalled initiation of the plan. Outreach by the Cachuma RCD on the value of preparing individual farm conservation plans may help provide the spark needed to begin that process.

2.5.2 Arroyo Hondo

Arroyo Hondo is a rural, fairly pristine and perennial stream located about 25 miles west of Santa Barbara. Its watershed includes about 2,700 acres, and the creek is one of only a handful of streams in southern California that are known to support a viable steelhead population. The Land Trust for Santa Barbara County--which recently bought the 782-acre Arroyo Hondo Ranch--is developing a comprehensive management plan for the site, including recommendations about public access and recreation, educational programs, resource management, and the appropriate long-term owner for the preserve. This May the Land Trust submitted a proposal to the State Department of Fish and Game for a \$74,712 fishery restoration grant to help fund a \$107,000 watershed assessment and restoration plan for the entire creek. The remainder of the watershed is part of the Los Padres National Forest. The Forest Service supports the proposed watershed planning effort and has agreed to cooperate in the project. The proposed management plan would characterize creek and watershed conditions, identify key areas of habitat degradation, develop overlying goals and objectives to protect or restore habitat and other watershed functions, and identify and prioritize specific restoration actions. If DFG awards the grant, the planning effort could begin by the summer of 2003.

2.5.3 Refugio Creek

The Land Trust for Santa Barbara County holds several large conservation easements in this rural, 5,200-acre watershed. Last year the Land Trust received a small grant from the Wetlands Recovery Project to develop a management plan for removal of *Arundo donax* in the watershed. The Land Trust's consultant, the Cachuma RCD, has begun working with three riparian landowners in the watershed who are interested in such an effort. Although it is doubtful that there could ever be a public role in developing a watershed management plan for Refugio Creek, it is possible that a series of individual farm conservation plans could ultimately stimulate interest among landowners in creating a comprehensive management plan for the entire watershed.

2.5.4 Arroyo Burro

This 6,542-acre urban watershed is located in western Santa Barbara and has been a priority watershed for the County Task Force of the Wetlands Recovery Project. The Santa Barbara County Weed Management Area of the Agricultural Commissioner's Office intends to fund and manage an *Arundo donax* eradication project along sections of the creek downstream of State Street. A number of people hope that project will help generate enough community interest in creek stewardship to stimulate development of a watershed management plan for the creek. There are several inactive watershed organizations in the neighborhood; jurisdiction over even the urban sections of the watershed is divided between the City and County; and community interest in the creek has been renewed with the opening of the South Coast Watershed Resource Center next to the Arroyo Burro estuary. The City and the County are cooperating on a wetland restoration project at the estuary, and the City owns eight acres of downstream riparian property that it would like to restore. We hope that the combination of these factors may coalesce to create an impetus for a community-based planning effort for the entire watershed.

2.5.5 Mission Creek

Mission Creek is perhaps the most important creek within the City of Santa Barbara. The US Army Corps of Engineers (Los Angeles District) is planning flood control improvements and other modifications to Lower Mission Creek, a reach that includes the last mile or so of the Creek between the Canon Perdido Street Bridge at the upstream end, and Cabrillo Boulevard Bridge, near the outlet to the ocean. Because that project is the result of a 10-year planning effort by the Corps and local agencies, it is unlikely that there is sufficient agency support for revisiting that reach of the creek anytime soon. But as noted above, the Mission Creek Restoration Partnership is interested in developing a watershed management plan for the middle reach of the creek--the area upstream from State Street to at least the Santa Barbara Botanic Garden. Such

an effort will likely become a Partnership initiative, after design and other work begins on the Museum restoration project and the Partnership conducts greater community outreach on the value of watershed planning for that reach.

2.5.6 Rincon Creek

The boundary between Santa Barbara and Ventura County occurs along the centerline of Rincon Creek, and the Ventura and Santa Barbara County Task Forces have each endorsed a joint planning effort for this watershed. A number of current activities in this 9,362-acre watershed suggest both the need, and a potential impetus, for such an effort. A group of homeowners at Rincon Point has secured State Coastal Conservancy assistance to replace their local septic systems with a sewer line to the Carpinteria Sanitary District's treatment facility. The Cachuma RCD has begun working with several landowners to address a severe sediment problem from eroding banks and hillsides above the creek. And the Corps of Engineers is already managing a feasibility study to examine options for re-establishing upstream steelhead passage through a culvert under the Highway 101 bridge near the mouth of Rincon Creek. That study---which the Corps calls the Rincon Creek Aquatic Ecosystem Restoration Project---has involved county agencies, NMFS, CDGF, and CalTrans. But it hasn't yet involved community stakeholders or been expanded to include a larger view of the watershed. The need by the Corps and the County of Santa Barbara to spend dedicated funds for this study by the end of the year may provide an opportunity to broaden the project to a larger watershed planning effort.

3. Carpinteria Creek Watershed

3.1 Setting

Carpinteria Creek is located in coastal Santa Barbara County, about 10 miles southeast of the City of Santa Barbara and 16 miles northwest of the City of Ventura. It drains a watershed of about 15 square miles, or about 9600 acres. The main channel has two major tributaries, upper Carpinteria Creek and Gobernador Creek, as well as several smaller ones: Sutton Canyon Creek, El Dorado Creek, and Steer Creek. The watershed begins in the Santa Ynez Mountains at an elevation of about 4,700 feet. It drains steep hillsides and canyons before flowing through orchards, agricultural fields, and urban areas and then emptying into the Pacific at Carpinteria State Beach. The total length of blue line streams in the watershed is about 35 miles.

The Carpinteria Creek watershed is composed of about 80 percent natural vegetation, 16 percent agricultural areas, and four percent urban areas. The upper watershed within the Santa Ynez Mountains occupies the greatest area and consists almost exclusively of natural areas, such as chaparral and riparian forests. Agricultural and urban uses are concentrated in the lower portion of the watershed. Orchards and row crops are predominant in the foothills and extend downstream onto the coastal plain, but the foothills also include some rural residential development as well as remnant natural habitat, primarily on steep hillsides. The predominant land use along the Creek changes from agriculture to residential and commercial development near the northern city limits. The City has zoned a narrow corridor extending along Carpinteria Creek as open space/recreation with an Environmentally Sensitive Habitat Overlay. But with the exception of the downstream reach of the Creek within Carpinteria State Beach, that corridor provides the only significant section of open space within the urban segment of the watershed.

Fifty years ago, Carpinteria Creek was home to plentiful runs of steelhead trout, which migrated each spring to spawning and feeding habitat in the upper watershed. Since that time, barriers to fish passage, degraded water quality, loss of stream habitat, and other problems have reduced steelhead to occasional visitors. The number of spawning fish in the Creek has declined to a small fraction of historic levels and continues to fall.

Despite its problems, Carpinteria Creek offers great potential for steelhead recovery. In the 1960s and 70s, the City of Carpinteria refused to allow the creek to be channelized with concrete

for flood control. As a result, the channel still runs freely under open spans (rather than through culverts) at both the Union Pacific tracks and the 101 freeway. The upper reaches of the creek contain very valuable fish habitat, and a tall tree canopy runs through much of the riparian corridor. Because of these features, biologists for the California Department of Fish & Game believe that Carpinteria Creek offers the best opportunity among all South Coast urban streams for restoring significant steelhead runs in the next few years

The Conception Coast Project's Steelhead Study has identified Carpinteria Creek as a priority watershed for steelhead restoration. The study found that of all the focal watersheds analyzed in report, Carpinteria Creek offered the highest potential for steelhead recovery, both because of its biological value and because of the relative impact of passage barriers on the creek. It awarded Carpinteria Creek the highest score among all watersheds for "total habitat value"--- a rating derived by combining evaluations of habitat quantity (stream miles up to the estimated natural limit of steelhead migration) and habitat quality (a multiple of scores for seven watershed attributes). The study also gave Carpinteria Creek its second highest score for "average habitat value" (a quality ranking derived by averaging scores for all the habitat reaches along the length of a creek).

3.2 Watershed Organizations

Lead planning organization

Cachuma Resource Conservation District
Thomas R. Lockhart, Watershed Coordinator
USDA Service Center
920 East Stowell Road
Santa Maria, CA 93454
(805) 928-9269 ext 110
cachumarcd@aol.com
Role: Contractor with State DFG for \$109,000 watershed planning grant

Other organizations:

Community Environmental Council
Bob Thiel, Manager – Watershed Restoration Program
930 Miramonte Drive
Santa Barbara, CA 93109
(805) 963-0583 ext 155
thiel@cecmail.org
Role: Local staff support for planning effort and Carpinteria Creek Watershed Coalition

Carpinteria Creek Watershed Coalition
Contact: through Bob Thiel at Community Environmental Council (see above)
Role: Community-based stakeholder group and sponsor of watershed planning effort

County of Santa Barbara Water Agency
Robert Almy, Water Resources Planning Manager
123 East Anapamu Street
Santa Barbara CA 93101
(805) 568-3542
ralmy @co.santa-barbara.ca.us
Role: HGM analysis and other project support

City of Carpinteria
Matthew Roberts, Director of Parks and Recreation
5775 Carpinteria Avenue
Carpinteria, CA 93013
(805) 684-5405 ext 449

mattr@silcom.com
Role: Local government support

3.3 Planning Activities

Although no comprehensive watershed plan now exists, the Cachuma Resource Conservation District has initiated one under a \$109,000 grant from the California Department of Fish & Game. Total project costs are estimated to be \$189,662, with the balance to be covered by in-kind contributions and other matches from Coalition members of the Carpinteria Creek Watershed Coalition. The Coalition selected the Cachuma RCD to act as the grant recipient and project manager for this effort because of the RCD's experience in working with farmers and ranchers in the County and its success in planning and implementing resource conservation projects. The Coalition kicked off the planning process by convening a meeting of all the landowners along the Creek on June 25.

The process, which the Coalition expects to complete within 18 to 24 months, will include the following principal components:

- Data collection, inventory and technical assessment
- Characterizing creek and watershed conditions
- Developing goals and objectives
- Analyzing restoration and land management alternatives
- Drafting and publishing the plan

Public participation will also be a significant component. The Coalition recognizes that the success of any watershed restoration effort depends on respect for the social ecology of a place: the goodwill, local knowledge, stewardship values, and participation of local residents and other stakeholders in the project. The Coalition is committed to an open process of joint fact-finding, not only with its own members and technical advisors, but also with other landowners and the entire community within the watershed. Its intent is to produce a clear and concise plan that is readily understandable to a lay audience; that will be well-publicized and accessible to everyone; and that has goals, objectives, strategies and projects that are developed by consensus.

The Coalition will strive to incorporate active public involvement and participation at each key stage. Opportunities for community involvement will be available from the initial scoping of the project through defining the way in which we will evaluate success. Activities to insure public education and participation will include public workshops, opportunities for written comment, creation of a public advisory committee, newsletters, surveys, presentations to meetings of local organizations, and perhaps even a web site.

4. San Jose Creek Watershed

4.1 Setting

San Jose Creek is a 10,000 acre sub-watershed of the Goleta Slough watershed in the Goleta Valley of Santa Barbara County. It originates at an elevation of 3,000 feet in the Santa Ynez Mountains, and flows through the Los Padres National Forest, agricultural areas, residential neighborhoods, and the commercial areas of Goleta Old Town before emptying into the Pacific through the Goleta Slough estuary. The total length of blue line streams in the watershed is about 43 miles, but two miles along the lower reach of the creek have been channelized for flood control.

Conditions in the San Jose Creek watershed are fairly typical of the South Coast's urban creeks. Some reaches of the creek host vigorous riparian plant communities and steelhead habitat, while other areas have been affected by flood control and development activities. Most of the watershed is under County jurisdiction, but part of the urban area is now within the new City of

Goleta.

For the past ten years, several community groups have sponsored restoration projects along a County-owned stretch of the Creek between Calle Real and Cathedral Oaks Road. A new senior housing project in that neighborhood is also restoring sections of the streambank as a component of its project. The County has proposed running a Class I bikepath along the riparian corridor, but accommodating that path with further riparian restoration work will pose a challenge.

4.2 Watershed Organizations

Lead planning organization

County of Santa Barbara Water Agency
Robert Almy, Water Resources Planning Manager
123 East Anapamu Street
Santa Barbara CA 93101
(805) 568-3542
ralmy@co.santa-barbara.ca.us

Other organizations:

Cachuma Resource Conservation District
Thomas R. Lockhart, Watershed Coordinator
USDA Service Center
920 East Stowell Road
Santa Maria, CA 93454
(805) 928-9269 ext 110
cachumarcd@aol.com

Role: Outreach to and stream assessment with agricultural landowners

Community Environmental Council
Bob Thiel, Manager – Watershed Restoration Program
930 Miramonte Drive
Santa Barbara, CA 93109
(805) 963-0583 ext 155
thiel@cecmail.org

Role: Staff support for planning effort

4.3 Planning Activities

San Jose Creek was selected by the County to serve as a pilot project in watershed planning. About \$100,000 in general funds have been committed to the project, which is expected to be completed by the end of 2003. The goal of the plan is to protect existing resources and identify opportunities to improve the functioning of the creek ecosystem, while protecting existing land uses and community values. The Water Agency hopes that the effort will offer an opportunity for the community to develop a blue print for improving water quality, providing flood control protection, improving plant and animal habitat, and coordinating local land use concerns.

A stakeholders group has met monthly since the beginning of the year to develop the watershed plan outline, refine a list of critical issues, and review studies and data for the plan. The initial list includes concerns about water quality, habitat and plant communities, flood control and public safety, recreation and public access, land use, public education, stormwater management, and hydrology.

This fall County staff, with support from the Cachuma RCD, CEC, and the stakeholders group, will begin collecting baseline data, developing a more specific outline for the plan, and formulating preliminary goals and objectives to serve as its framework. A consultant will likely be hired to draft the plan. Circulation of the draft to the community for input and other comments will likely

occur next spring or summer.

One of the issues for the community has been the concrete flood control channel in the lower section of the creek. It creates a major barrier for steelhead passage and was identified in the Conception Coast Project's steelhead study as a priority for modification. But options to return this reach to more natural conditions are severely constrained by the location of urban development on one side of the creek and a short freeway (Highway 217 to UCSB) on the other. Conflicts among CalTrans, the County and the University over potential reconfiguration of that highway also complicate the issue.

**APPENDIX: WATERSHED PLANNING ORGANIZATIONS
OF SANTA BARBARA COUNTY**

South Coast Hydrologic Unit

County of Santa Barbara Water Agency
Robert Almy, Water Resources Planning Manager
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Community Environmental Council
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Cachuma Resource Conservation District
Thomas R. Lockhart, Watershed Coordinator
USDA Service Center
920 East Stowell Road
Santa Maria, CA 93454
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Conception Coast Project
Ethan Inlander, Science Manager
3887 State Street, Suite 24
Santa Barbara CA 93105
(805) 687-2073
inlander @conceptioncoast.org

Land Trust for Santa Barbara County
Michael Feeney, Executive Director
PO Box 91830
Santa Barbara, CA 91830
(805) 966-4520
mfltsbc@silcom.com

Cachuma Resource Conservation District
Thomas R. Lockhart, Watershed Coordinator
USDA Service Center
920 East Stowell Road
Santa Maria, CA 93454
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City of Santa Barbara,
Parks and Recreation Department
Creeks Restoration and Clean Water Division
Jill Zachary, Manager
620 Laguna Street, PO Box 1990
Santa Barbara, CA 93102
(805) 897-2508

jzachary@ci.santa-barbara.ca.us

California Department of Parks and Recreation
Channel Coast District
Ronnie Glick, Staff Biologist
1933 Cliff Drive
Santa Barbara, CA 93100
(805) 968-3834
rglick@parks.ca.gov

Carpinteria Creek

Lead. Cachuma Resource Conservation District
Thomas R. Lockhart, Watershed Coordinator
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Community Environmental Council
Bob Thiel, Manager – Watershed Restoration Program
930 Miramonte Drive
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(805) 963-0583 ext 155
thiel@cecmail.org

Carpinteria Creek Watershed Coalition
Contact: through Bob Thiel at Community Environmental Council (see above)
Role: Community-based stakeholder group and sponsor of watershed planning effort

County of Santa Barbara Water Agency
Robert Almy, Water Resources Planning Manager
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City of Carpinteria
Matthew Roberts, Director of Parks and Recreation
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Role: Local government support

San Jose Creek

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