

TRINIDAD-WESTHAVEN INTEGRATED COASTAL WATERSHED MANAGEMENT PLAN



Prepared by:
Trinidad Regional Water Management Working Group

Submitted to:
State Water Resources Control Board

Submitted by:
City of Trinidad

Project funded by:
State Water Resources Control Board
Proposition 50, Chapter 8 Integrated Regional
Water Management Planning Grant

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EXECUTIVE SUMMARY

Purpose of the ICWMP

The Trinidad-Westhaven Integrated Coastal Watershed Management Plan (ICWMP) has been developed in order to improve surface water quality in Trinidad Bay and the watersheds that drain into it. The driving forces behind this effort include regulatory requirements, the need to protect local drinking water supplies, and a general concern for the ecological health of the region. Water quality issues are of special importance in this region due to the kelp beds located offshore of Trinidad Head. The kelp beds and their surrounding waters are a State-designated Area of Special Biological Significance (ASBS). The watersheds draining into the bay are also considered a Critical Coastal Area (CCA) by the State of California. While the CCA designation is a non-regulatory tool, regulations for the ASBS prohibit the discharge of wastewater and pollutants into these areas.

For these and other reasons described in the ICWMP, a number of local stakeholders, led by the City of Trinidad, have come together to analyze and address the issues affecting water quality in the region. The result of these cooperative efforts is a comprehensive planning document that identifies problems, solutions, and partnerships for achieving those solutions. The ICWMP is a working document that will be periodically changed in response to new information and shifting priorities.

Trinidad-Westhaven Planning Area

The area selected for assessment includes the nine watersheds that have the greatest influence on water quality in Trinidad Bay. The planning area covers approximately 6,358 acres (9.9 square miles) of land. The following watersheds are included in the planning area:

- Mill Creek
- City of Trinidad drainage area
- Parker Creek
- McConnahas Mill Creek
- Unnamed drainage
- Deadman's Creek
- Luffenholtz Creek
- Joland Creek
- Two Creeks

The region is mainly rural, with over half of the land used for timber production. Residential uses are predominant on lands near the coast. Population centers include the City of Trinidad, with approximately 311 residents, and the communities of Westhaven and Moonstone Heights, with a total of about 1,044 residents. Most of the land in the region is privately owned. Government and tribal entities with decision-making authority over lands in the planning area include the City of Trinidad, the County of Humboldt, and the Trinidad Rancheria. Trinidad is the only incorporated city in the planning area.

Key Management Issues

Management objectives for the Trinidad-Westhaven planning area were developed based on an analysis of existing environmental conditions, desired conditions, and regulatory requirements.

Detailed studies of wastewater, stormwater, and sediment were carried out as part of the planning process.

As a result of these analyses, a number of key management issues were identified under the general headings of water quality, water supply, stormwater management, watershed management, groundwater management, and ecosystems and habitat. The major findings related to each of these issues are summarized below.

Water quality:

- Degraded water quality conditions exist at Trinidad State Beach and Luffenholtz Beach due to a high presence of “indicator bacteria” that pose a threat to human health. Both of these locations are listed as “impaired” under Section 303(d) of the federal Clean Water Act.
- Stormwater monitoring results on local streams indicated that concentrations of total coliform bacteria exceeded water quality standards in most of the samples collected. Concentrations of fecal coliform were also found to exceed standards in some samples. Bacterial contamination poses a threat to the health of residents who obtain drinking water from local streams and springs, and to recreational users of local beaches and bays.
- Water quality monitoring for the California Ocean Plan constituents indicated that concentrations of copper exceeded water quality standards at two sampling locations. Elevated levels of copper are toxic to many types of organisms. Sources of copper include some types of wood preservative and marine paint, brake shoe linings, copper gutters downspouts and plumbing.
- Turbidity monitoring results on local streams indicated elevated levels of suspended sediment, particularly in those watersheds with higher densities of gravel and dirt roads. Roads produce fine sediment in the form of dust, which is stirred up by traffic and subsequently settles on the road surface before being washed into nearby streams during the beginning of rainy season. Excessive quantities of suspended sediment are detrimental to salmonid habitat, stream ecosystems, and the kelp beds of the Trinidad Head ASBS.
- On-site wastewater treatment systems (septic systems or OWTS) are used throughout the planning area, and may contribute to bacteria and nutrient pollution in local water bodies due to old age and lack of proper maintenance. Many OWTS in Trinidad and Westhaven were installed prior to permit requirements, or were installed recently but do not have permits on file. Beginning sometime in 2009, new and replaced OWTS will have to meet strict State requirements for operation and maintenance. The City of Trinidad will be enacting its own OWTS Management Program in 2008.
- There is insufficient data regarding the water quality impacts of current discharges into the Trinidad Head ASBS. Additional data are needed to identify appropriate measures for complying with the water quality objectives of the California Ocean Plan.

Water supply:

- Water diverted from Luffenholtz Creek by the City of Trinidad currently requires treatment for high levels of tannin and sediment during the rainy season. Maintaining a safe and reliable water supply will be necessary as the region's population grows. A number of vacant lots exist in Trinidad and outlying areas; as these lots are developed, they will either require new water service connections or draw from groundwater, springs or creeks. Water conservation and water quality improvement are essential to protecting supplies for new and existing water users.

Stormwater management:

- The City of Trinidad's storm drain system is incomplete, with some streets lacking proper drainage structures. There are a number of areas within the City where stormwater flows directly over the bluff, increasing the potential for bluff erosion. In addition, stormwater runoff entering the Trinidad Head ASBS has potential adverse effects on water quality and the kelp beds. Stormwater infrastructure outside of Trinidad generally consists of roadside ditches and culverts.

Watershed management:

- In the Trinidad-Westhaven planning area, water quality and aquatic habitats are influenced by a variety of factors that are not fully understood. A comprehensive long-term monitoring program is needed to document baseline conditions and identify trends for pollutants of concern.
- Land use practices such as road-building, residential development, and forestry activities have impacts on watershed health and may be managed to some extent. The Trinidad-Westhaven Regional Water Management Working Group supports the implementation of new City and County General Plan policies that will assist in reducing nonpoint source pollution and achieving other ICWMP objectives. The Group also recognizes that public outreach and voluntary landowner activities will be an effective way to meet the project objectives. Trinidad's General Plan has considered land use on a watershed basis since 1978, and will continue to do so with the current update. Coordination with the County and other local groups is essential as the City itself does not contain complete watersheds.

Groundwater management:

- Nonpoint source pollution affects groundwater as well as surface waters, which creates a problem as many residents pump drinking water from individual wells and the Westhaven Community Service District has a groundwater well which supplies approximately 30% of its demand. General groundwater conditions in the planning area are not well documented.

Ecosystems and habitat:

- Trinidad Bay and its associated habitats comprise an important natural resource shared by the Trinidad-Westhaven community. Improving the quality of waters entering the Trinidad Head ASBS is the driving force behind this integrated watershed planning process.
- The Trinidad-Westhaven planning area supports a number of special-status species, including salmonids and a variety of plants and birds. The ability of salmonid species to migrate upstream is currently restricted by man-made and natural barriers; however, the upper watersheds are being managed for the possibility of salmonid recovery. Salmon, steelhead and coho recovery is a long-term goal for ecosystem management throughout the Trinidad area as well as the greater North Coast region.

Implementation of the ICWMP

The ICWMP proposes to address these key water quality issues by implementing a variety of projects ranging from site-specific treatments to general watershed education. Implementation measures are focused on the areas of wastewater, stormwater, and sediment management. Most projects will be carried out on a voluntary basis, such as the recommendation of Best Management Practices for sediment reduction and erosion control. Project leaders will seek the involvement of as many landowners and other stakeholders as possible. Regulatory measures will be pursued only as they become necessary to comply with legal requirements, such as those of State Assembly Bill 885.

The primary benefit of ICWMP implementation will be an improvement of overall water quality and flora and fauna habitat in the planning area, including the Trinidad Head ASBS. Pollutants from wastewater effluent, stormwater discharge, and sediment are expected to be measurably reduced. Public awareness of water quality and water supply issues will be increased, as will community buy-in to improving water quality and protecting shared resources. Furthermore, environmental justice considerations will be addressed through the reduction of ecological impacts on the Tsurai village site, which contains sensitive cultural resources, and on the residents of Westhaven and Trinidad Rancheria, which are classified as an economically disadvantaged community. No adverse impacts are expected.

1. INTRODUCTION

The purpose of Chapter 1 is to provide an overview of the ICWMP and the planning process that led to its development.

1-1 Purpose and Objectives

This document has been developed as part of an integrated coastal watershed planning effort for the Trinidad Head Area of Special Biological Significance (ASBS) and the Trinidad-Westhaven coastal watersheds. The objective of this planning effort is to improve water quality in the multiple watersheds on the Trinidad Plateau that ultimately drain into the ocean near Trinidad Bay. The kelp beds offshore of Trinidad Head have been designated by the State as an ASBS, and the coastal watersheds draining into the ASBS have been designated by the state as a Critical Coastal Area (CCA). The City of Trinidad and its neighbors have come together as a group of stakeholders committed to taking stewardship of their watersheds and protecting the shared resource of the Trinidad Head ASBS.

The overall approach to achieving the project objective involves identification of the pollutants of concern through watershed assessments and water quality monitoring, and identification of specific management strategies to help reduce or eliminate those pollutants at their sources. The final Trinidad-Westhaven Integrated Coastal Watershed Management Plan (ICWMP) addresses wastewater, stormwater runoff, and sediment as high-priority issues for watershed management. These three components were assessed independently and a list of proposed action items, or management projects, was developed for each component. Integration of these action items forms the basis of the Trinidad-Westhaven ICWMP. The ICWMP is intended as a working document, i.e. one that will be modified on an ongoing basis to address evolving stakeholder interests and new environmental information. The overall planning effort also includes updating the City of Trinidad's General Plan as a watershed planning document, as described in Chapter 12.

During the planning process, a set of priorities and objectives were developed. From several meetings of the regional water management group, it became apparent that the issues of water supply, groundwater and wastewater management, stormwater runoff, and water quality needed to be integrated into a coastal watershed assessment and management plan. The following objectives were selected based on the greatest perceived needs for the Trinidad-Westhaven watersheds:

1. Identify the primary sources of pollution in the watershed planning area, including contributions from sediment pollution as a result of unpaved roads, stream crossing, and other sources, contributions of potential biological contaminants to surface and ground water from existing on-site wastewater treatment systems (OWTS), and contributions from stormwater-related constituents.
2. Quantify the relative contribution of sediment from each of the watersheds. Identify the watersheds contributing the greatest amount of sediment and focus the development of

management strategies to address those watersheds. Develop and prioritize management strategies for sediment reduction.

3. Continue implementation of the City of Trinidad's OWTS Management Program, and extend the evaluation area to watersheds outside the City boundary that drain to the Trinidad Head ASBS. Identify the areas where the potential for contamination and ultimate discharge to the ocean are the greatest. Develop and prioritize management strategies for the reduction of potential contamination from OWTS.
4. Create an inventory and map of existing stormwater facilities in Trinidad and adjacent areas draining into the ASBS, and develop a stormwater management plan. The management plan will include management strategies to reduce stormwater discharge, redirect stormwater flows away from sensitive areas and unstable bluffs, and reduce pollutants carried in stormwater runoff.
5. Develop a prioritized action plan, including preliminary cost estimates, to address sediment, wastewater pollution, and stormwater runoff.
6. Integrate the pollution reduction strategies into a comprehensive action plan, the ICWMP for the Trinidad Head ASBS, and prepare the necessary documents for the prioritized strategies to be incorporated as part of the Trinidad General Plan.
7. Establish a public education and outreach program to inform the public about the process and progress of the management plan, develop new draft regulations and requirements, and communicate with stakeholders to coordinate and facilitate the eventual implementation of the ICWMP.

Achievement of these objectives will improve local water quality and supply, reduce stormwater runoff pollution, improve ground water quality and reduce pollutant discharges into the Trinidad ASBS. These results are consistent with statewide priorities including those of the California Ocean Plan, the California Coastal Zone Management Program, and the California Critical Coastal Areas Program. (See Chapter 11.)

1-2 Regional Water Management Group

The ICWMP for the Trinidad Head ASBS was developed by the Trinidad Regional Water Management Working Group. This group is comprised of local public agencies, private organizations and community members. A list of the members of the Trinidad Regional Water Management Working Group involved with ICWMP development, the relationship of the member to water management, and their role in eventual plan adoption is presented below.

- **City of Trinidad** – The City is the largest water supplier in the ICWMP area. The City acts as the lead agency and has overall responsibility for the ICWMP. The City administered the grant funding and provided leadership on the schedule for the ICWMP. The ICWMP director is Mayor Chi-Wei Lin, PhD, a biochemist and cancer researcher.

The City will also coordinate with other members of the Trinidad Regional Water Management Working Group on public outreach and education.

- **Westhaven Community Services District (WCSD)** – WCSD is the second largest water supplier in the planning area. WCSD functions as a cooperator in plan development, participating in plan review and public outreach and education. The WCSD is represented by their general manager and water plant operator, Richard Swisher, who is a resident of Westhaven with extensive knowledge of local water problems and local needs. The WCSD only has authority as a water purveyor, and does not have jurisdiction to adopt the ICWMP. As an invested stakeholder, they have played an active role in plan development and public outreach and education.
- **Trinidad Rancheria** – The Rancheria is supplied with water from the City of Trinidad and coordinates with the City from time to time on water improvement projects. The Rancheria also operates a recycled wastewater facility for their gaming casino. The Rancheria contributes to the project by sharing staff time and equipment. The Rancheria has had a surface water monitoring program since 2002. Additionally, the Trinidad Rancheria has a Water Quality Education component in its Youth Program and may thus help with cooperative water quality education activities for area youth. Finally, the Rancheria has an active Geographic Information Systems program with recent aerial photos of Trinidad Harbor, which may be integrated into GIS activities related to watershed planning. The Rancheria functions as a cooperator in development of the ICWMP, potentially providing staff, equipment, and programming support.
- **County of Humboldt** – The unincorporated portions of the planning area are under the jurisdiction of Humboldt County for most government-related services (except water service, as was previously discussed). Both the Humboldt County Planning Department and Humboldt County Division of Environmental Health function as cooperators in development of the ICWMP. It is envisioned that the County will look to the ICWMP for area-specific input to their General Plan update, currently under development.
- **Humboldt State University Marine Biology Lab and CICORE (Center for Integrative Coastal Observation, Research and Education)** – The Marine Lab/CICORE is located in the City of Trinidad. They have provided support and expertise throughout the ICWMP development process. The University may also potentially provide water quality monitoring in Trinidad Bay in association with the CICORE monitoring station on Trinidad Pier. Furthermore, they have provided input on potential implementation measures for water quality improvement in the ASBS.
- **Additional local support** – The Yurok Tribe, the Tsurai Ancestral Society, and California State Parks have all expressed interest in the ICWMP, and have participated at varying levels in the initial planning process. These groups will provide support, expertise and advice during development of the ICWMP.
- **Winzler & Kelly Consulting Engineers/Trinidad City Engineer** – Winzler & Kelly is a multi-disciplinary engineering firm with extensive experience in water and wastewater systems, stormwater management, groundwater management, and environmental planning. Winzler & Kelly engineer, Steve Allen, PE, is a leader of the ICWMP process and reports directly to the City. Winzler & Kelly is responsible for overseeing the stormwater assessment and management component of the ICWMP.
- **STREAMLINE Planning Consultants/Trinidad City Planner** – STREAMLINE Planning has provided contract planning services to the City of Trinidad since 1988. They

have expertise in on-site wastewater treatment systems (OWTS), stream assessments, watershed assessments, and water quality analyses. Mr. Robert Brown and Ms. Trever Parker from STREAMLINE are their organizations' project managers. STREAMLINE is responsible for coordinating with the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Board (RWQCB), the Department of Water Resources (DWR) and the City of Trinidad. They are also responsible for overseeing the wastewater management and watershed and land use planning components of the ICWMP.

- **Redwood Community Action Agency (RCAA), Natural Resources Services (NRS)** – RCAA is a nonprofit organization with a Natural Resources Services (NRS) division specializing in watershed planning, watershed restoration, and community outreach and education. The NRS division has extensive experience in sediment source analysis, road assessment, stream and water quality monitoring, watershed plan preparation, community partnership building, and implementation of watershed-based approaches to community planning. RCAA is represented by NRS Co-Director Don Allan. Mr. Allan has been a resident of the Trinidad-Westhaven area since 1983, and currently serves on the board of the local Humboldt North Coast Land Trust (HNCLT) that manages conservation and coastal access easements in the project area. Mr. Allan is responsible for overseeing the sediment reduction component of the ICWMP.
- **Green Diamond Resource Company** – Green Diamond is the largest landowner in the region and manages the upper watersheds of the project area. Green Diamond is represented by Mr. Darold Perry and functions as a cooperating partner in this project, working with RCAA on a road and stream crossing inventory and assessment on their property. Green Diamond spent \$94,500 in 2003-04, and had a budget of \$150,000 for 2005-07 for road upgrades, watercourse crossing construction, and repairs within the planning area (Green Diamond Resource Co. 2005).

Representatives from these organizations have been meeting in a cooperative effort to identify regional watershed management priorities. During these meetings it became apparent that a coordinated approach to solving regional watershed issues related to water supply, groundwater and wastewater management, stormwater runoff, ecosystem restoration, and water quality needs to be pursued through a regional watershed management plan. Letters of support from regional groups are included in Appendix A.