



Salt and Nutrient Management Plan (SNMP) for the Malibu Valley Groundwater Basin

CEQA Scoping Meeting

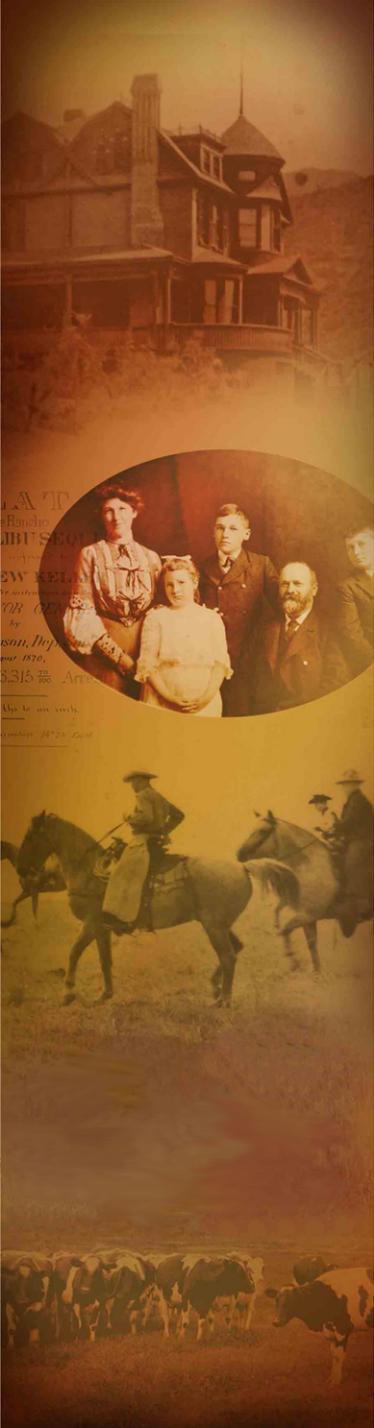


July 28, 2015



Presentation Outline

- I. Introductions
- II. Overview & Site Setting
- III. SNMP Technical Analyses
- IV. Basin Management Strategies & Monitoring Plan
- V. CEQA Analysis & Environmental Impacts



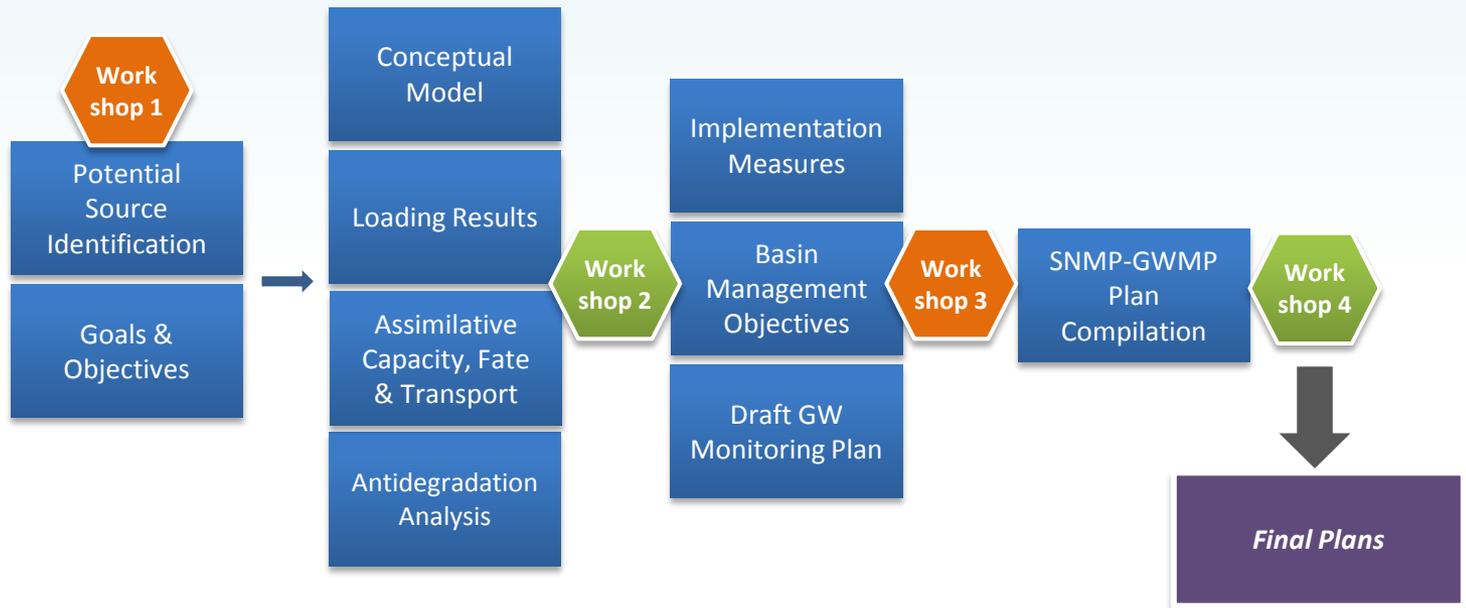


Study Area

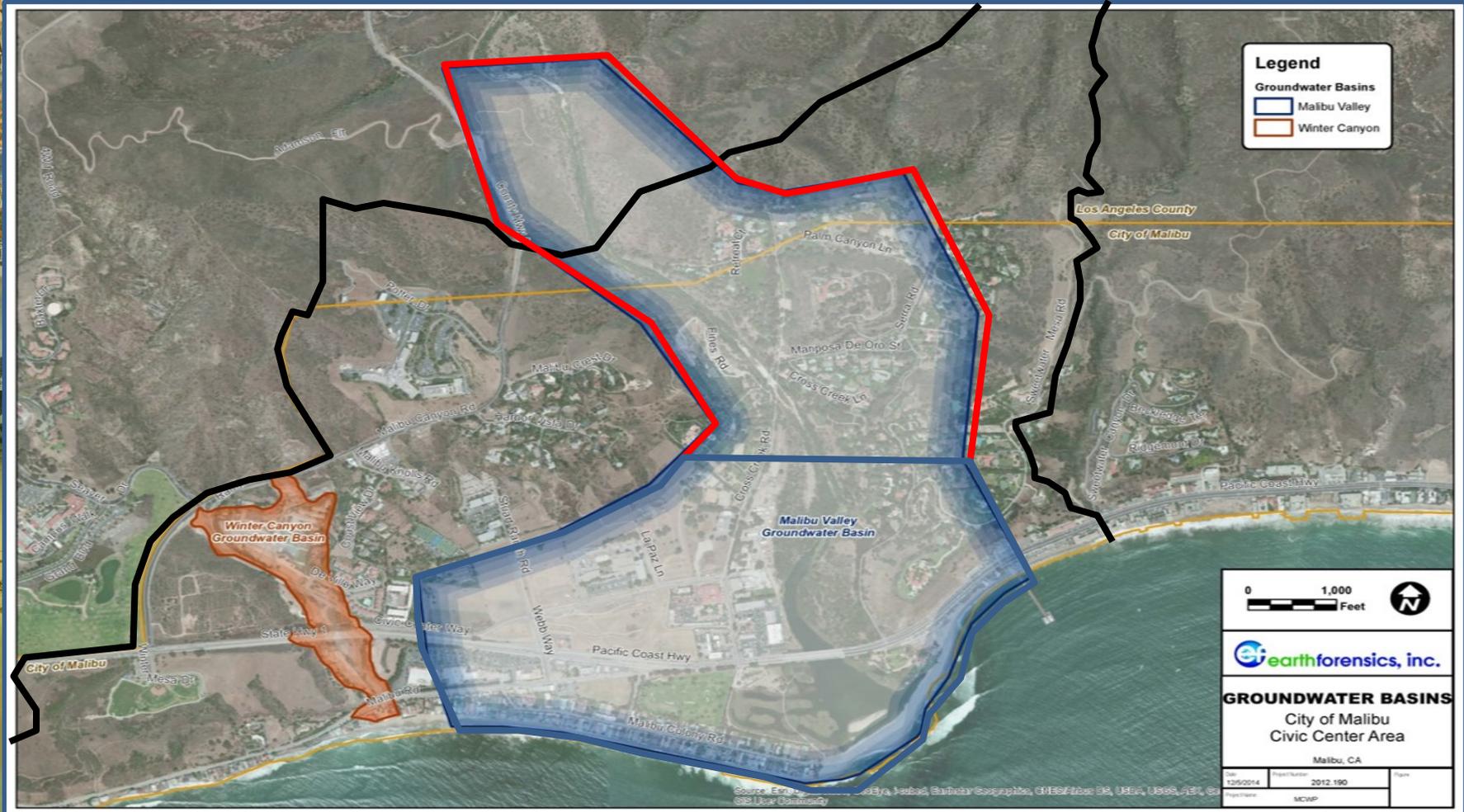
- Bulletin 118 Basin No. 4-22 (Malibu Valley Groundwater Basin)
- Small alluvial basin located along the Los Angeles County coastline
- Bounded by:
 - Pacific Ocean on the south
 - Non-water-bearing Tertiary age rocks on all remaining sides
- Drained by Malibu Creek to the Pacific Ocean
- Average annual precipitation ranges from 14 to 16 inches.



Approach to SNMP-GWMP Joint Plan Development

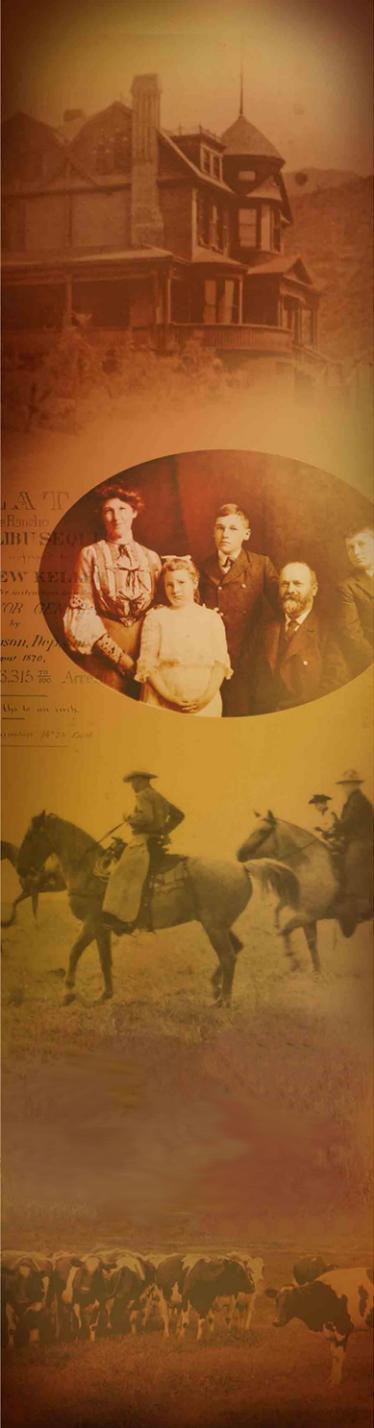


Resource Setting



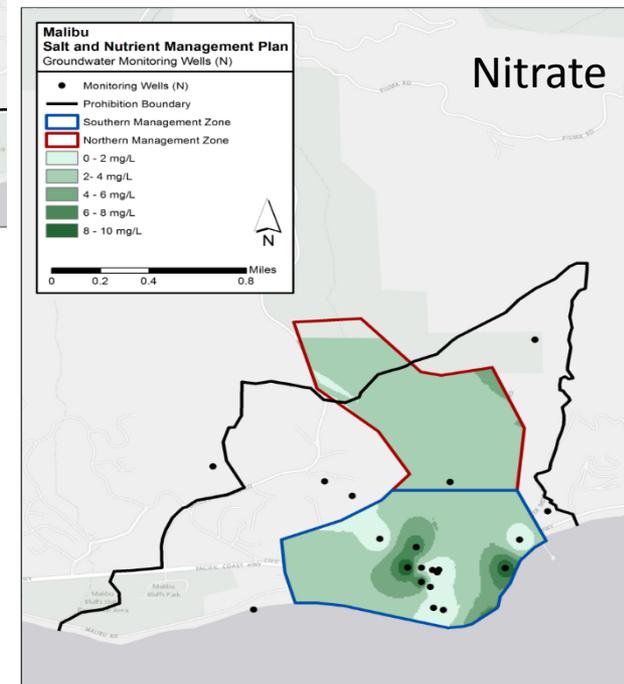
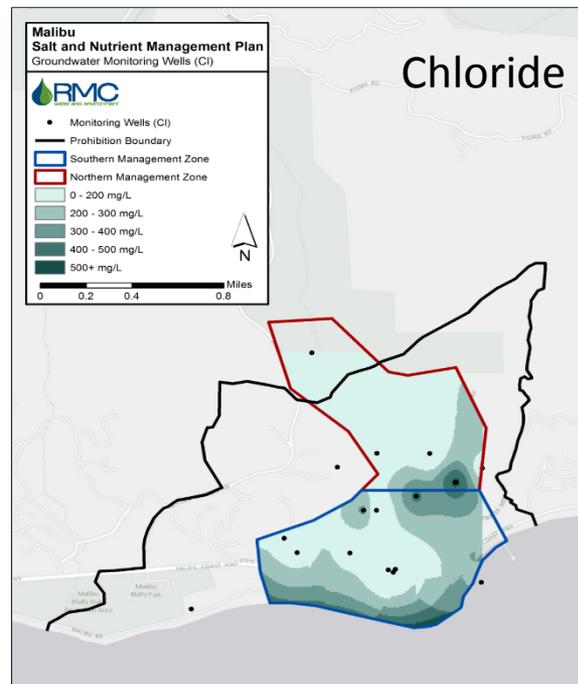
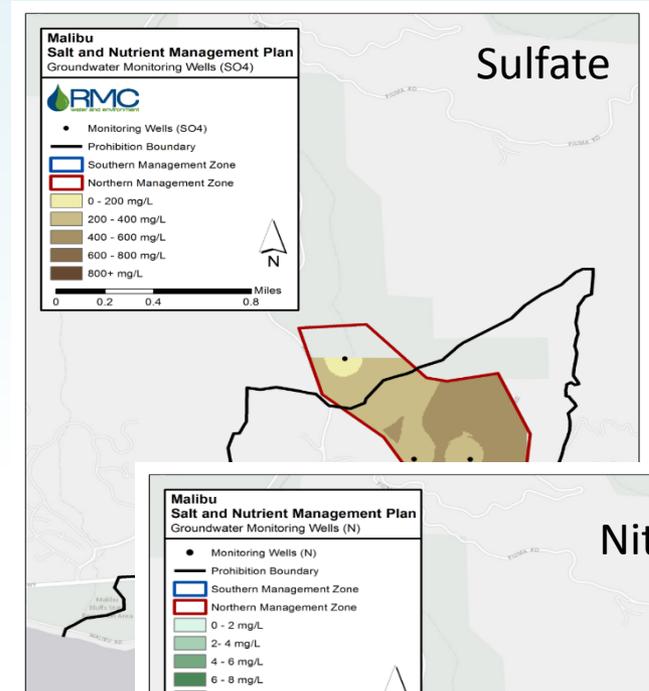
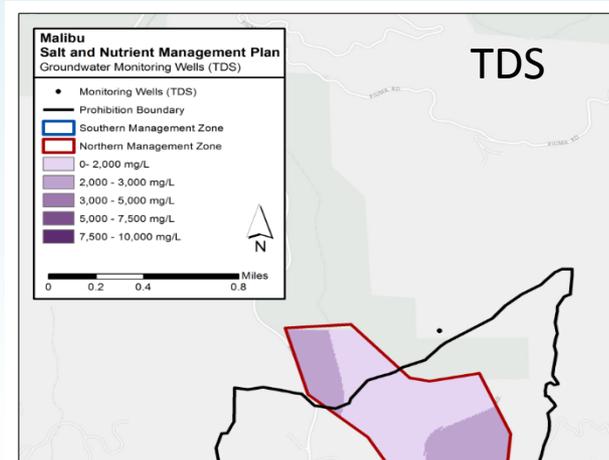
Current Groundwater Use

- No municipal production wells
- No individual production wells
- Los Angeles County Waterworks District No. 29 provides imported potable water
- Unknown if irrigation wells exist
- Many monitoring wells; mostly shallow
- Historical records show seawater intrusion



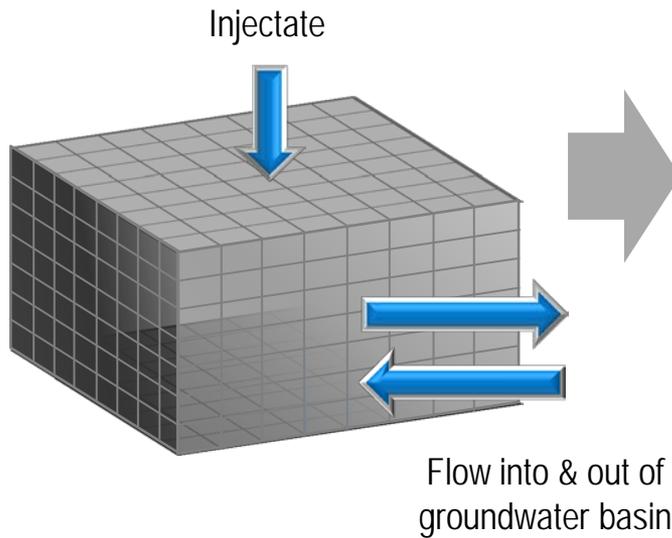


Current Groundwater Conditions

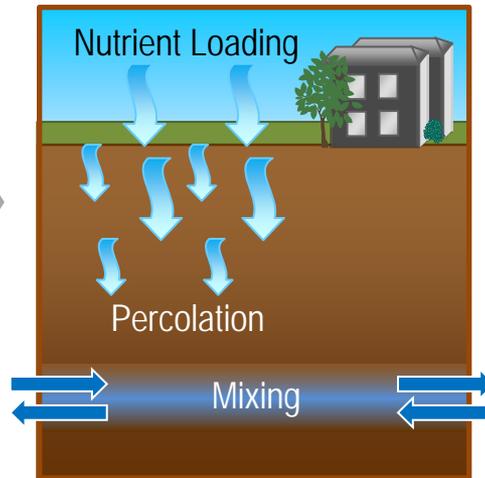


Modeling Strategy to Support SNMP Analysis

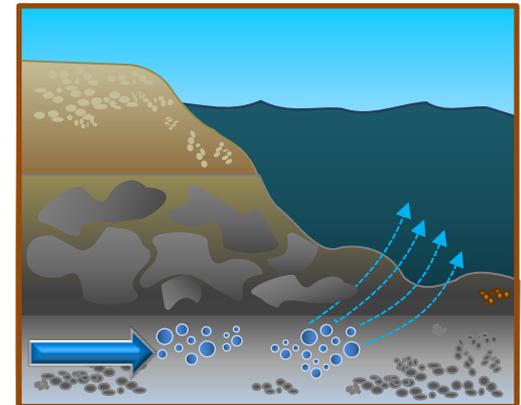
Groundwater Injection Analysis (MODFLOW)



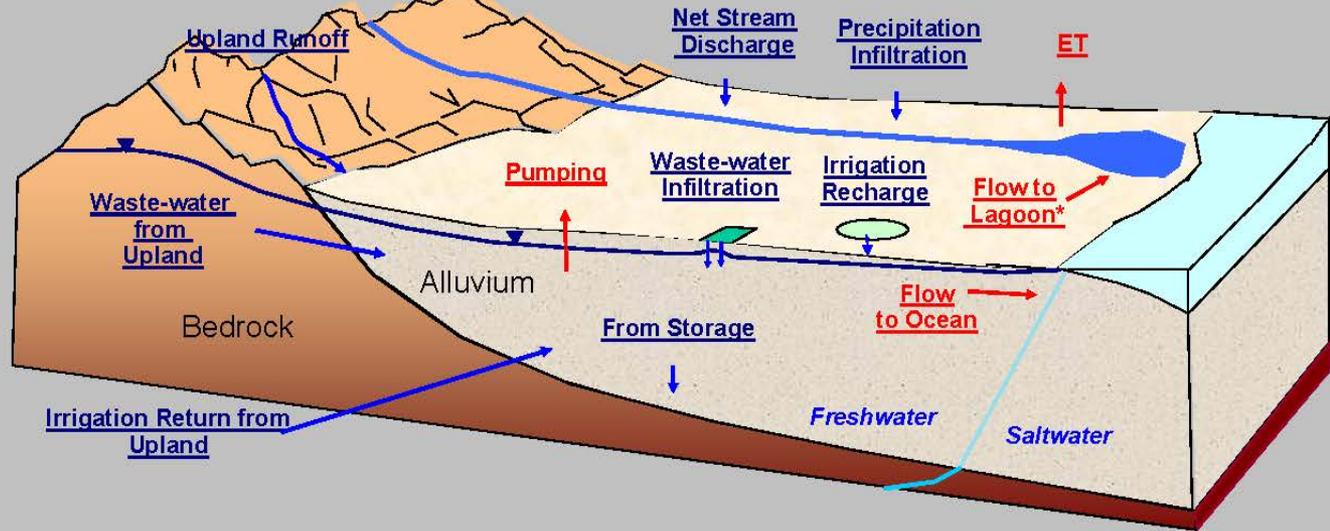
Salt-Nutrient Loading and Mixing Models



Analytical Ocean Diffusion Analysis



Source Characterization – Conceptual Model



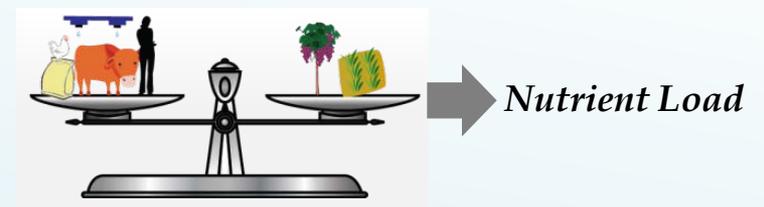
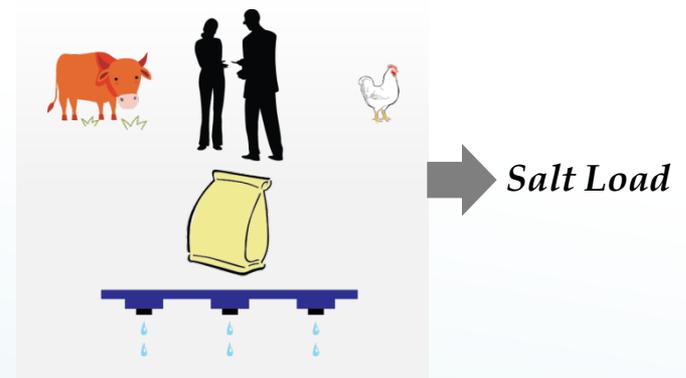
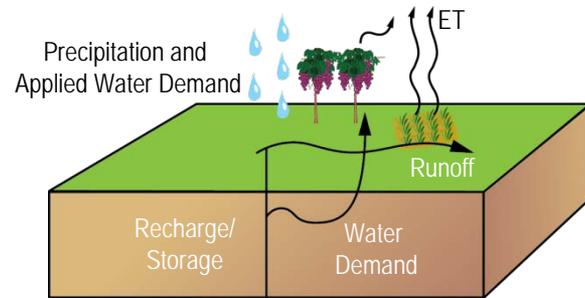
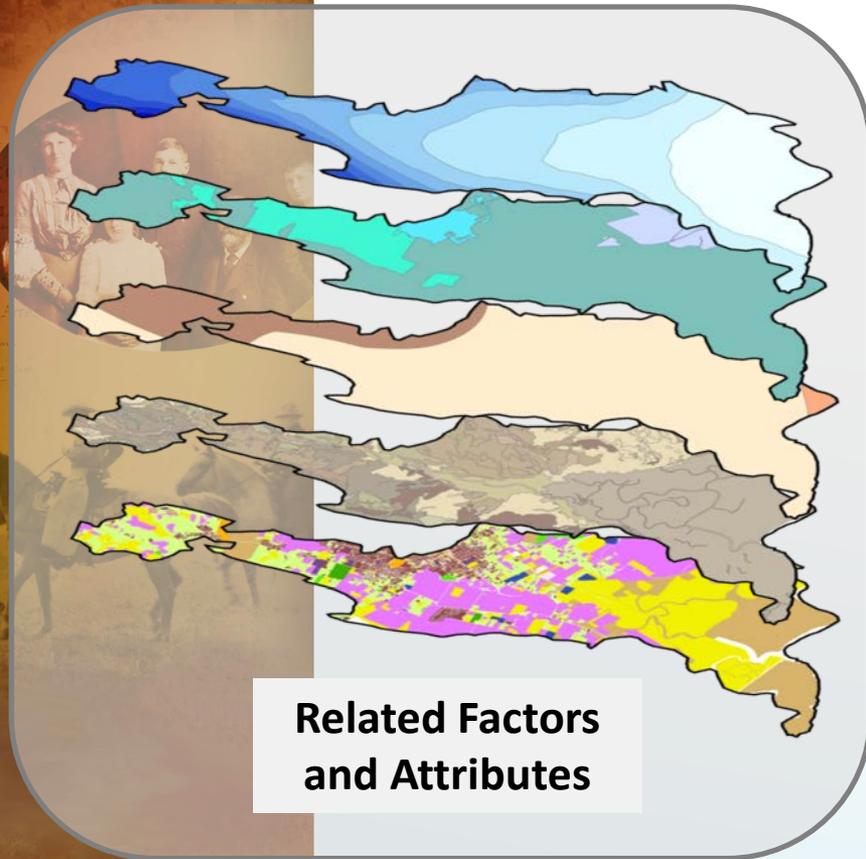
Groundwater Inflows
Groundwater Outflows

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*All outflow to the Lagoon is from the Civic Center Alluvial Plain

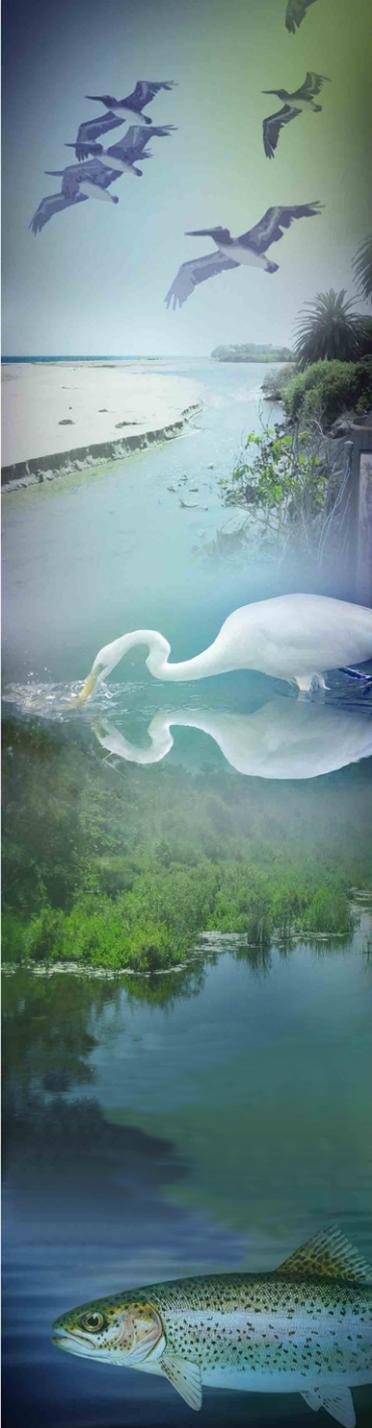
Basin Characteristics are Analyzed to Yield Load Estimates





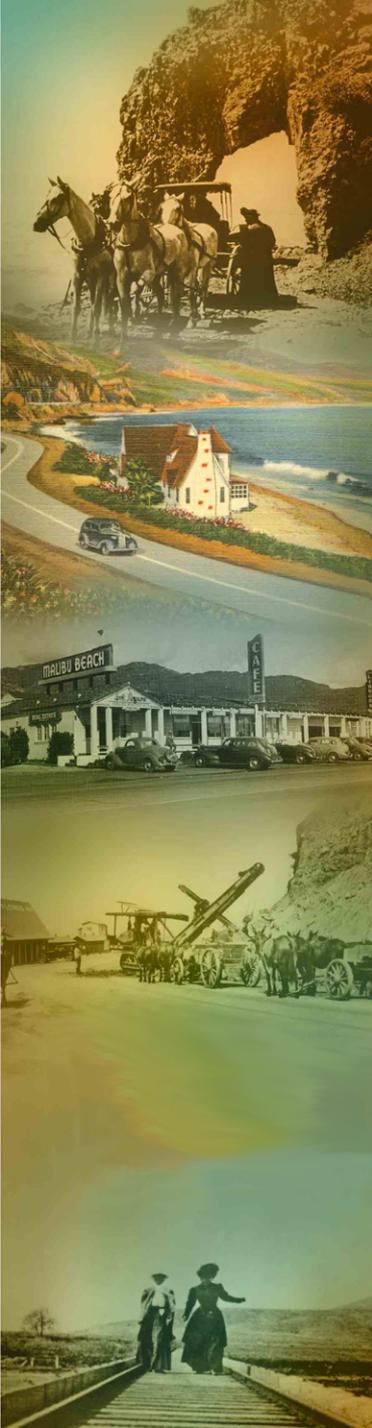
Loading Analysis Focused on TDS and Nitrate (as N)

- Properly represent salts and nutrients entering basin
- Commonly used as indicator constituents in other SNMPs
- CECs addressed qualitatively



Loading Analysis Evaluated Impacts of Factors

- Land Use
- Applied Water Source
- Ocean Water Quality
- OWDS
- New wastewater treatment and recycled water system
- Soil Texture

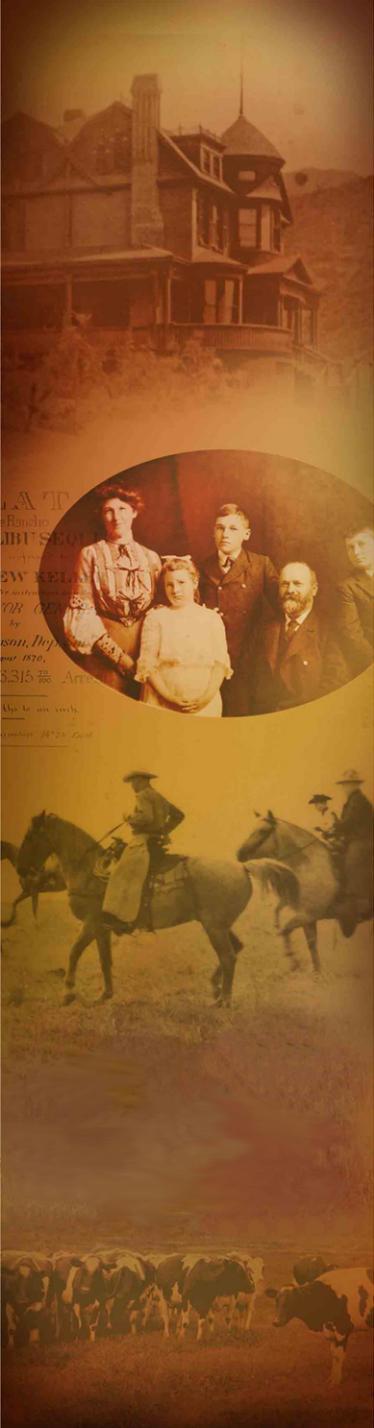


Basin Management Strategies

- 2 Types of Management Strategies:
 - Current
 - Planned
- Categories of Management Strategies:
 - Groundwater Basin Management
 - Recharge Area Protection
 - Contaminated Groundwater Migration Control
 - Well Construction Policies
 - Well Abandonment and Destruction Programs
 - Mitigation of Overdraft Conditions/Control of Saline Water Intrusion
 - Coordination and Cooperation with Stakeholders
 - Groundwater Monitoring (elevation and water quality)

Examples of SNMP Management Strategies

Category of Management Strategy	Example of Existing Management Strategy	Example of Planned Management Strategy
Groundwater Management and Adaptation	Water Quality Mitigation Plan (WQMP)	Mapping of basin recharge areas
Saline Water Intrusion Management	Well construction/ destruction permits	Recycled water injection as part of CCWTF
Land Use Regulation	Land development approvals	Groundwater use management in consultation zone
Wastewater Salinity/Nutrient Control	Public education as to impacts of water softeners on groundwater quality	Regenerative salt-based water softeners ordinance
Stormwater Capture/Runoff Management	Stormwater runoff retention ordinance	TBD





Baseline Scenario Assumptions

- Current Land Use
- Continued Use of OWDSs and Existing Treatment Plants



Future Scenario Assumptions

- No Project: Civic Center Build-out per General Plan with Continued Use of OWDSs
- CCTWF Project - Civic Center Build-out per General Plan with Construction and Operations of CCWTF per MOU Schedule

Proposed Recycled Water Project - CCWTF Project through Phase 3

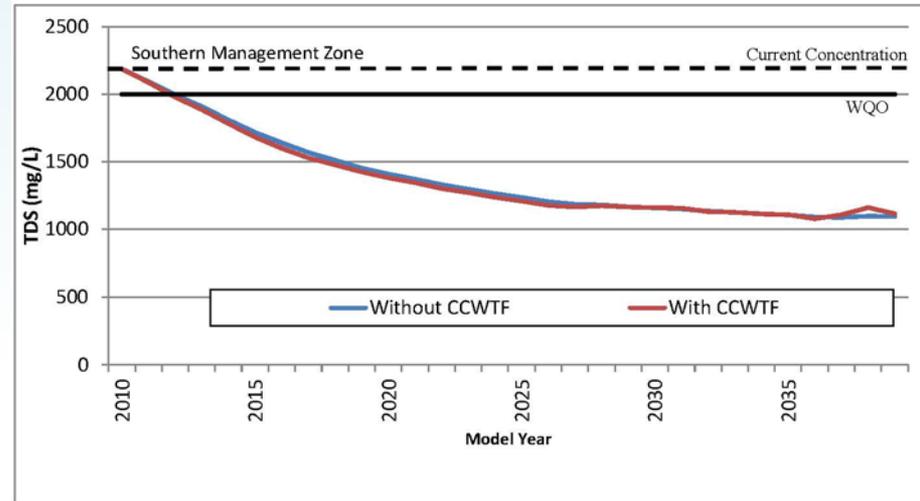
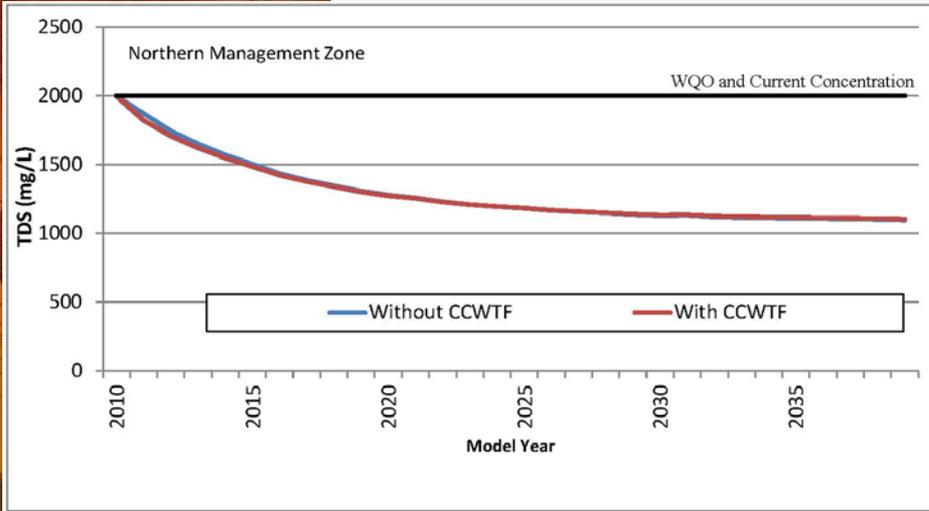


Legend

- Phase 1 Pipeline
- Phase 2 Pipeline
- Phase 3 Pipeline
- Force (Sewer) Main
- Wastewater Treatment Facility
- Pump Station
- Prohibition Boundary
- Approx. Location of Injection Wells

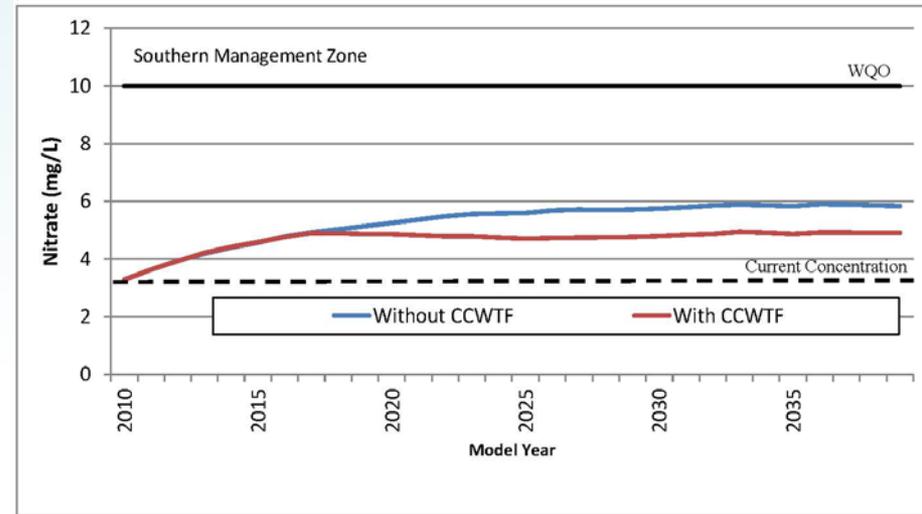
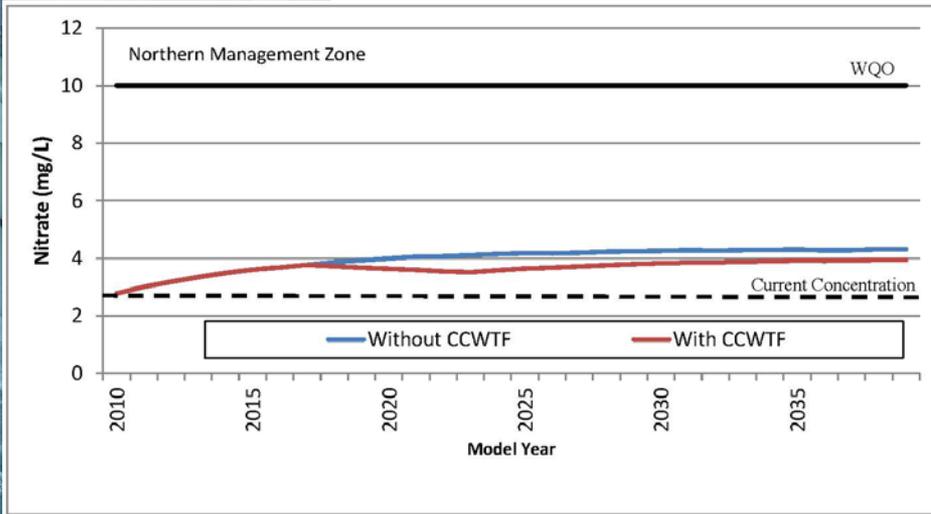
Note: Wastewater collection system pipeline are in same alignment as the recycled water distribution pipeline

Mixing Model Results - TDS

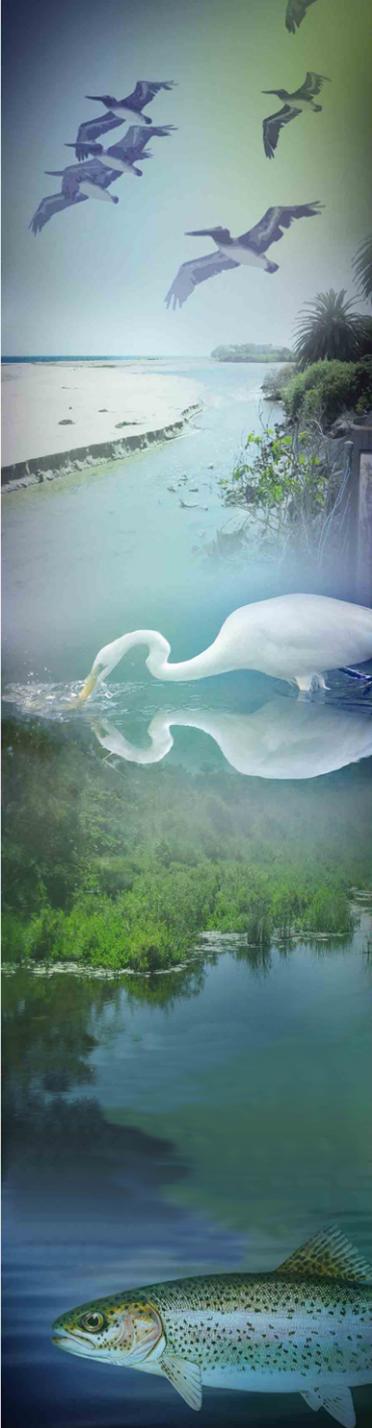


Scenario	Northern Zone TDS (mg/L)	Southern Zone TDS (mg/L)	Basin-wide TDS (mg/L)
Current Average Concentrations	2,000	2,200	2,100
Projected Conditions - No Project Scenario	1,097	1,095	936
Percent Assimilative Capacity Created	45%	55%	53%
Projected Conditions – CCWTF Project Scenario	1,105	1,115	934
Percent Assimilative Capacity Created	45%	54%	53%

Mixing Model Results - Nitrate



Scenario	Northern Zone Nitrate- N (mg/L)	Southern Zone Nitrate- N (mg/L)	Basin-wide Nitrate- N (mg/L)
Current Average Concentrations	2.78	3.29	3.23
Projected Conditions – No Project Scenario	4.31	5.85	4.91
Percent Assimilative Capacity Used	21%	38%	25%
Projected Conditions - CCWTF Project Scenario	3.95	4.91	4.10
Percent Assimilative Capacity Used	16%	24%	13%

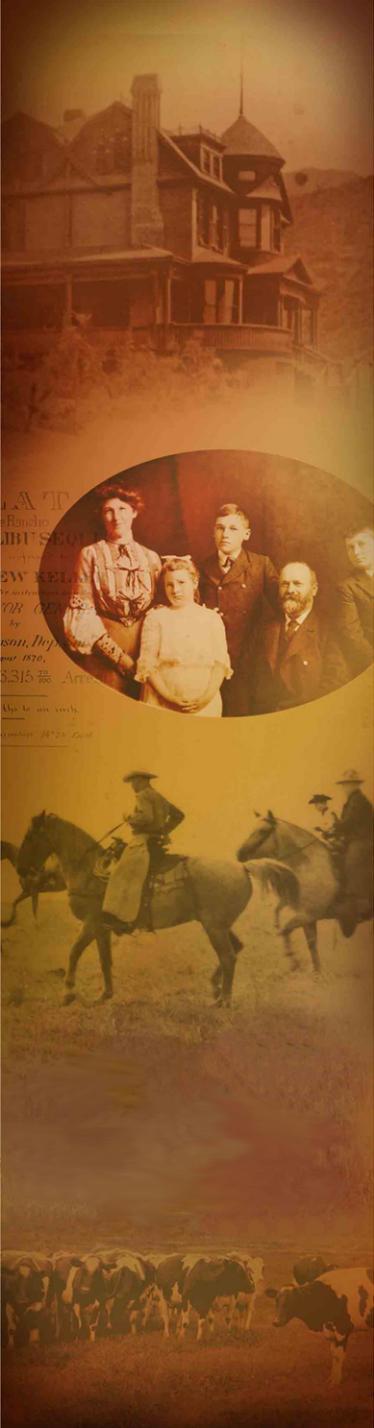


Anti-Degradation Analysis Findings

- CCWTF will not cause groundwater quality to exceed applicable WQOs
- Assimilative capacity (AC) gained for TDS (53%)
- Will likely result in similar AC gain for sulfate
- For nitrate, future land use and CCWTF will use:
 - ~16% of AC in northern area
 - ~24% of AC in southern area
- Results in ~1,227 lb/yr of nitrogen removal from basin (~60% reduction)
- Removes bacterial loading to the groundwater basin, Malibu Creek/Lagoon, and near-shore ocean environment
- Helps meet TMDL on Malibu Creek/Lagoon
- Eliminate public health concern from bacterial impacts of beaches
- Reduces need for imported water and/or groundwater pumping for landscape irrigation
- Removes *de facto* building moratorium

Environmental Checklist

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Soils & Geology
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Land Use & Planning
- Noise
- Air Quality
- Population & Housing
- Public Services & Fiscal Impact
- Transportation & Traffic
- Utilities & Service Systems

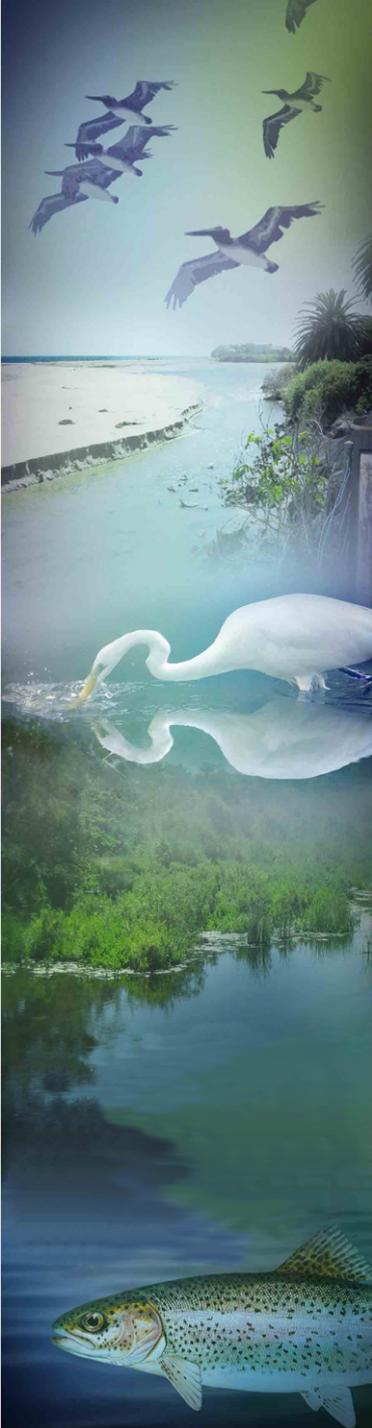




Potential Environmental Impacts - Water Quality

Will the proposed project result in:

- Changes in currents or direction of water
- Changes in adsorption rates, drainage or runoff
- Flow of flood waters
- Amount of surface water
- Alternation of surface water quality
- Alteration of direction or flow rate of groundwater
- Change in quantity or quality of groundwater
- Reduction in water for public supplies
- Water-related hazards such as flooding



Potential Environmental Impacts - Soils and Geology

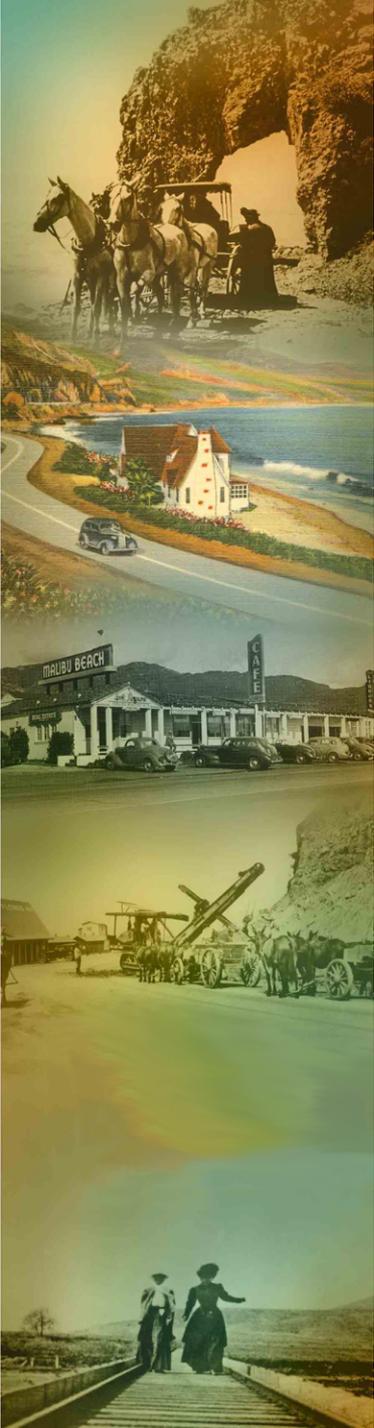
Will the proposed project result in:

- Unstable earth
- Soil disruptions or compaction
- Change in topography
- Modification of geologic features
- Wind and water erosion
- Modification of changes, bays, etc.
- Geologic hazards (e.g. landslides)

Potential Environmental Impacts - Noise

Will the proposed project result in:

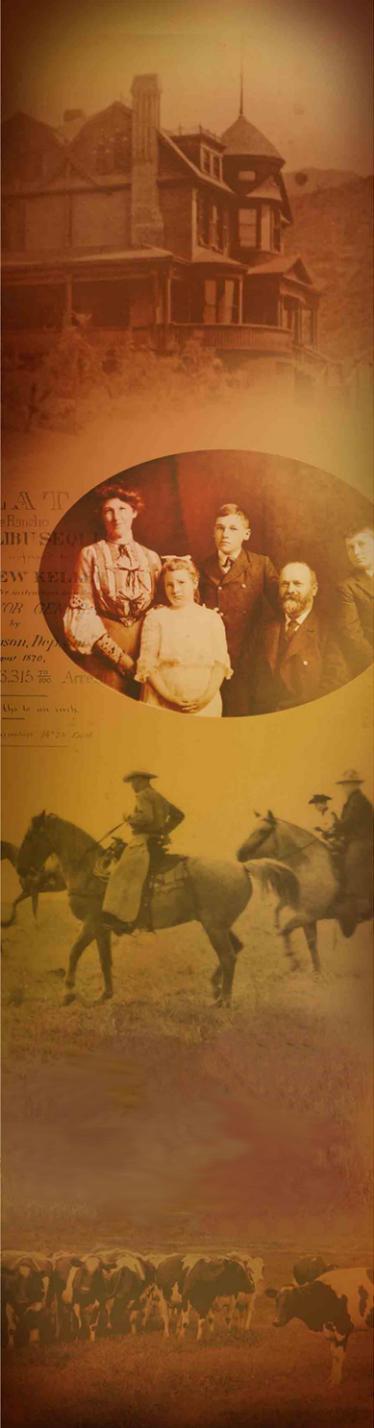
- Increases in existing noise levels
- Exposure of people to severe noise levels



Potential Environmental Impacts - Archaeological/Historical

Will the proposed project result in:

- Alteration of a significant archaeological or historical site, object or structure





Potential Environmental Impacts - Biological Resources

Will the proposed project result in:

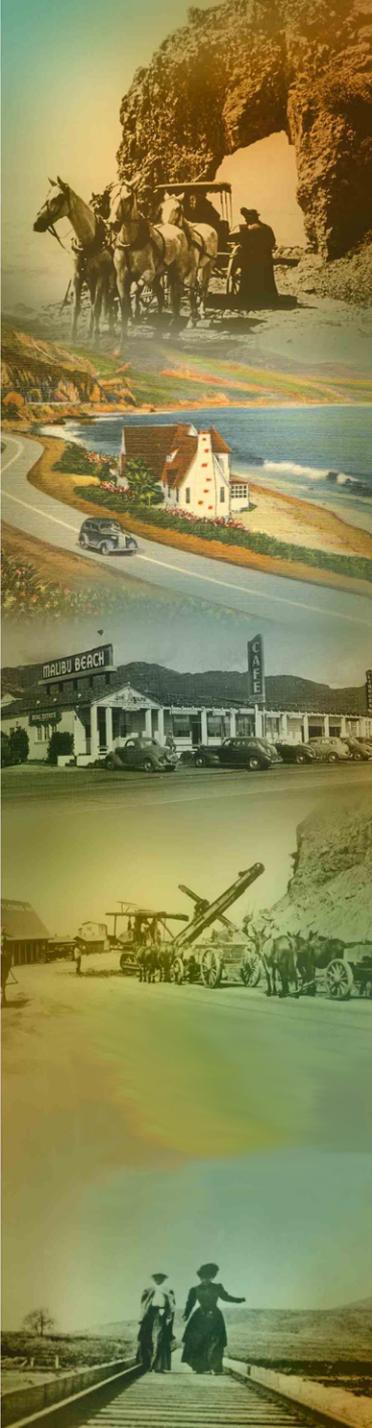
- Change in diversity or number of plant or animal species
- Reduction of unique, rare or endangered plant or animal species
- Introduction of new species
- Reduction in agricultural acreage
- Deterioration of existing habitat



Potential Environmental Impacts - Aesthetics

Will the proposed project result in:

- Product new light and glare
- Impact a scenic vista
- Substantially degrade existing visual character or scenic resources



Potential Environmental Impacts - Traffic

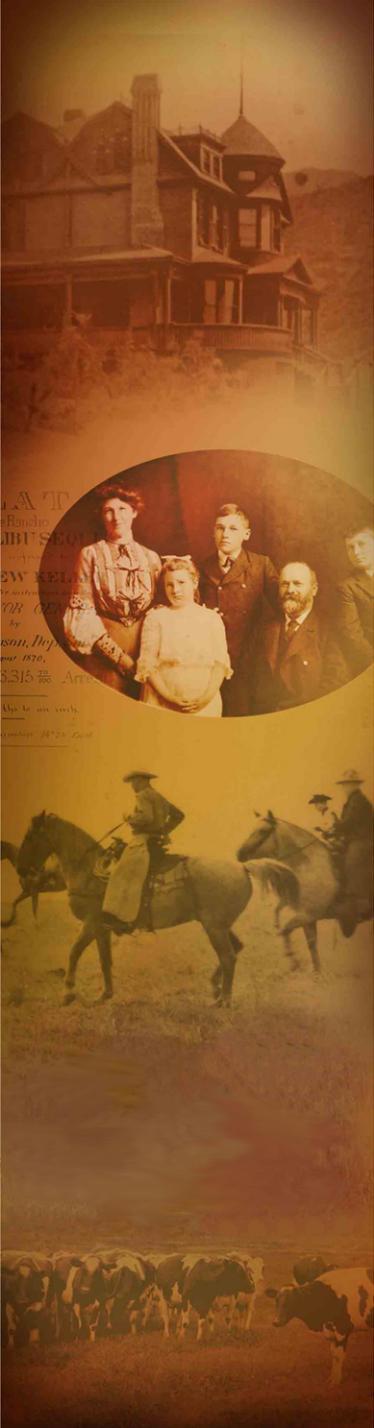
Will the proposed project result in:

- Generation of additional vehical movement
- Impact existing parking or require new parking
- Impact transportation systems
- Alteration to patterns of movement of people or goods
- Alterations to water, rail or air traffic
- Increase traffic hazards

Potential Environmental Impacts - Recreation

Will the proposed project result in:

- Impact to quality or quantity of recreational opportunities

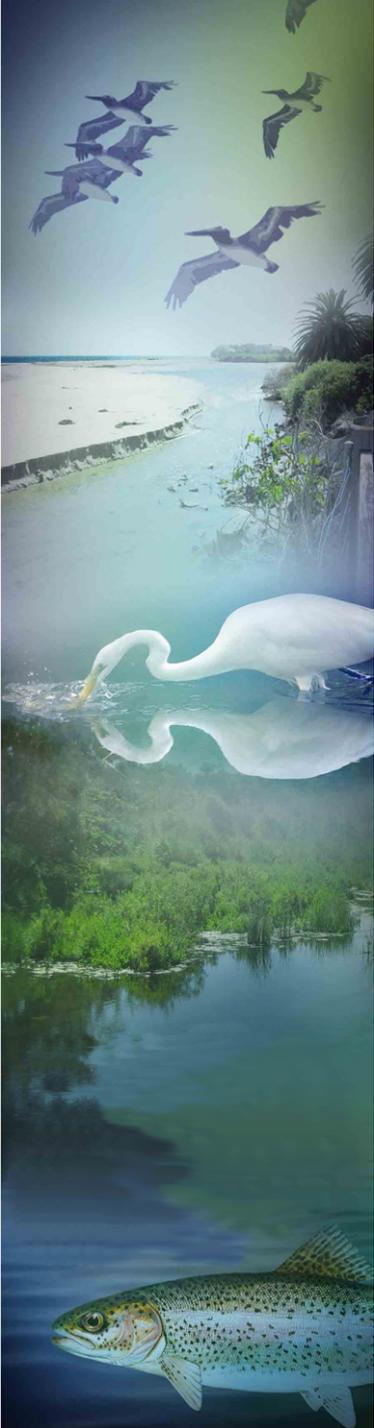




Potential Environmental Impacts - Land Use

Will the proposed project result in:

- Alteration of land use
- Conflict with any habitat conservation plan



Potential Environmental Impacts - Natural Resources

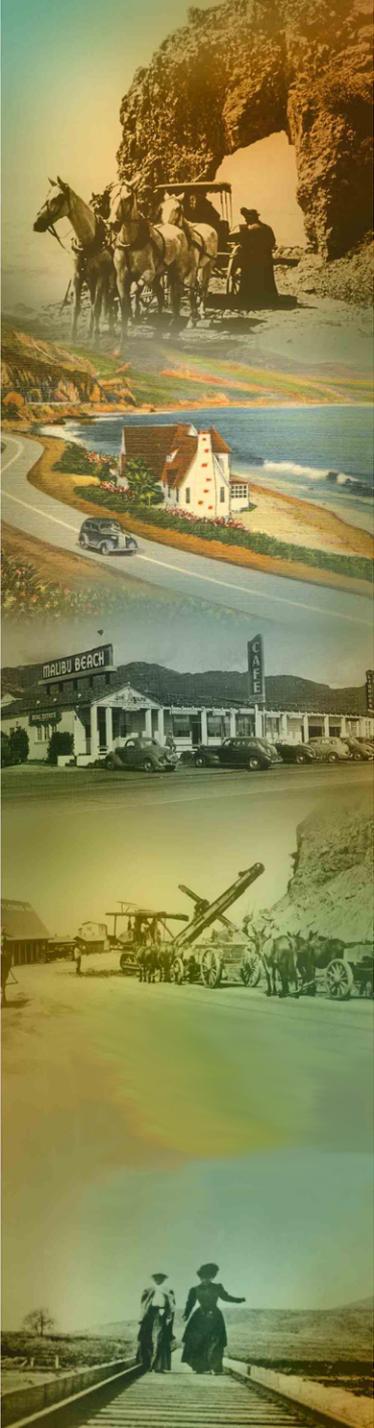
Will the proposed project result in:

- Increase the rate of use of natural resources
- Depletion of nonrenewable natural resource

Potential Environmental Impacts - Energy

Will the proposed project result in:

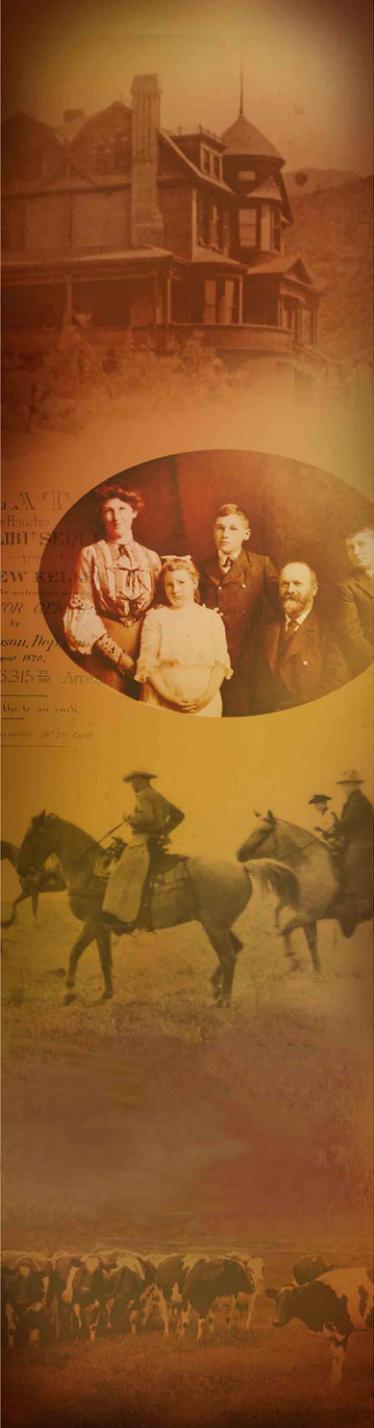
- Use of substantial fuel or energy
- Increase in demand or development of new sources of energy



Potential Environmental Impacts - Greenhouse Gas Emissions

Will the proposed project result in:

- Generate greenhouse gas emissions directly or indirectly and cause significant impact
- Conflict with adopted plan or policy for the purpose of reducing greenhouse gases

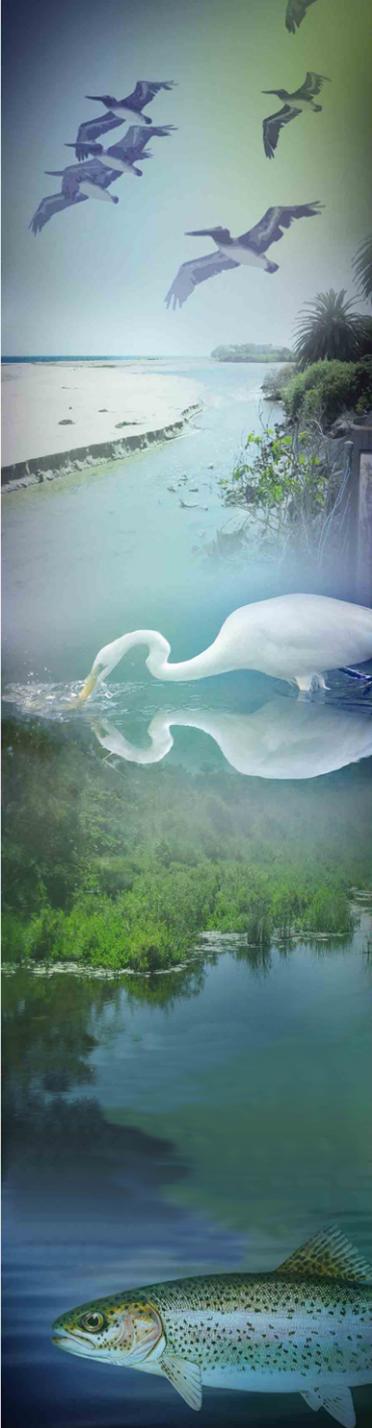




Potential Environmental Impacts - Air

Will the proposed project result in:

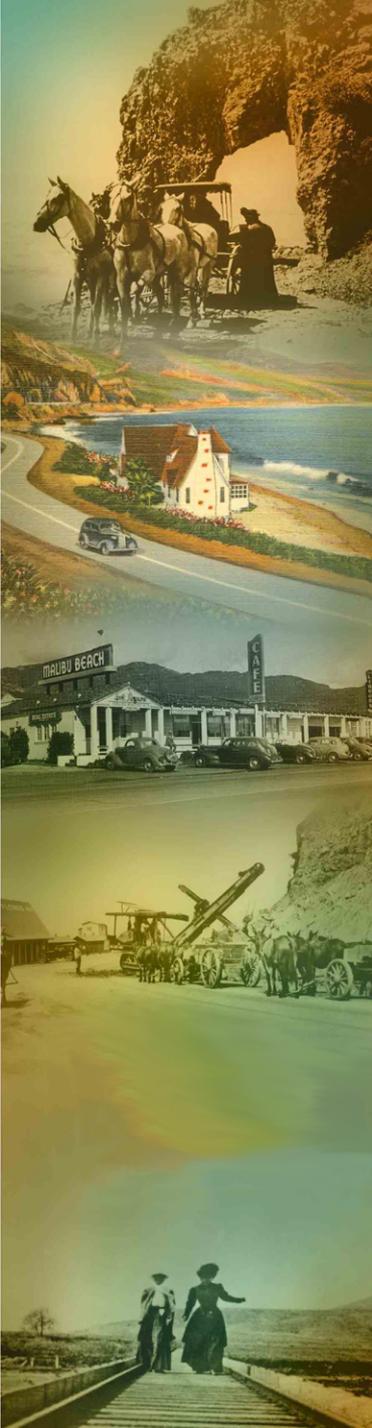
- Air emissions, deterioration of air quality
- Creation of objectionable odors
- Alternation of air movement



Potential Environmental Impacts - Hazards/Hazardous Materials

Will the proposed project result in:

- Create significant hazard through routine transport, use or disposal of hazardous materials
- Expose people to health hazards
- Emit hazardous emissions
- Expose people or structures to risks resulting involving wildland fires



Potential Environmental Impacts - Population and Housing

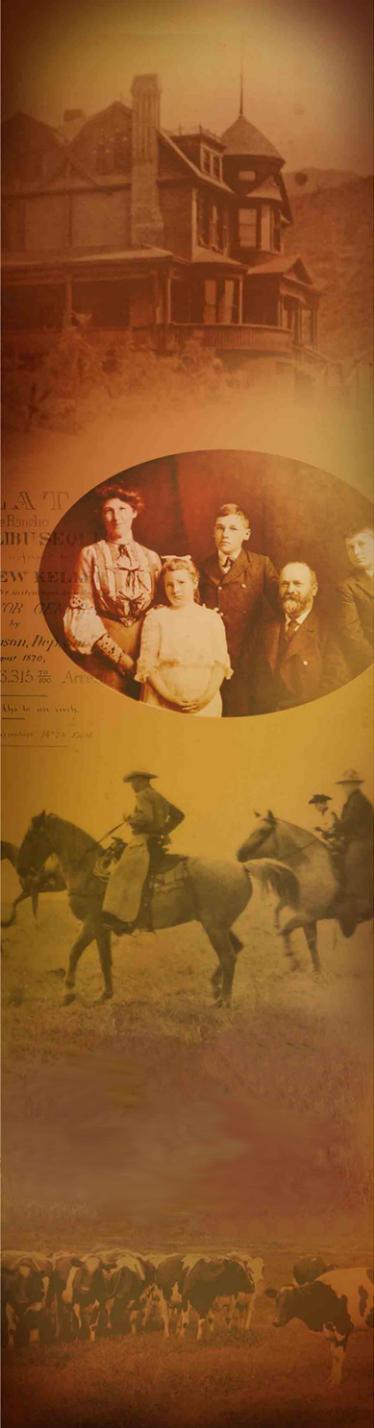
Will the proposed project:

- Alter location, distribution, density, or growth of human population
- Affect existing housing or create additional demand

Potential Environmental Impacts - Public Service

Will the proposed project have effect upon or result in the need for new or altered governmental services in any of the following areas:

- Fire protection
- Police protection
- Schools
- Parks or other recreation
- Maintenance of facilities, including roads
- Other governmental services

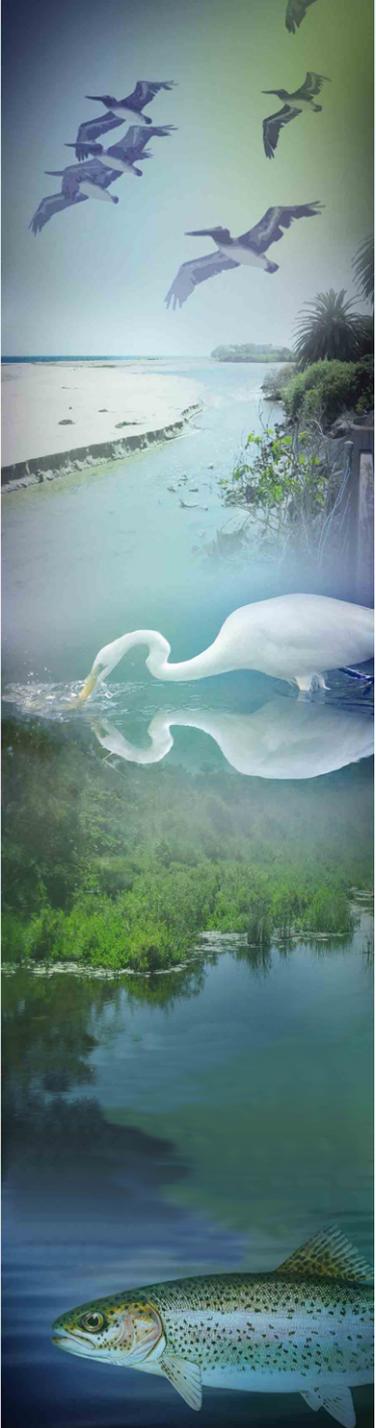




Potential Environmental Impacts - Utilities and Service Systems

Will the proposed project result in a need for new systems or substantial alterations to the following utilities:

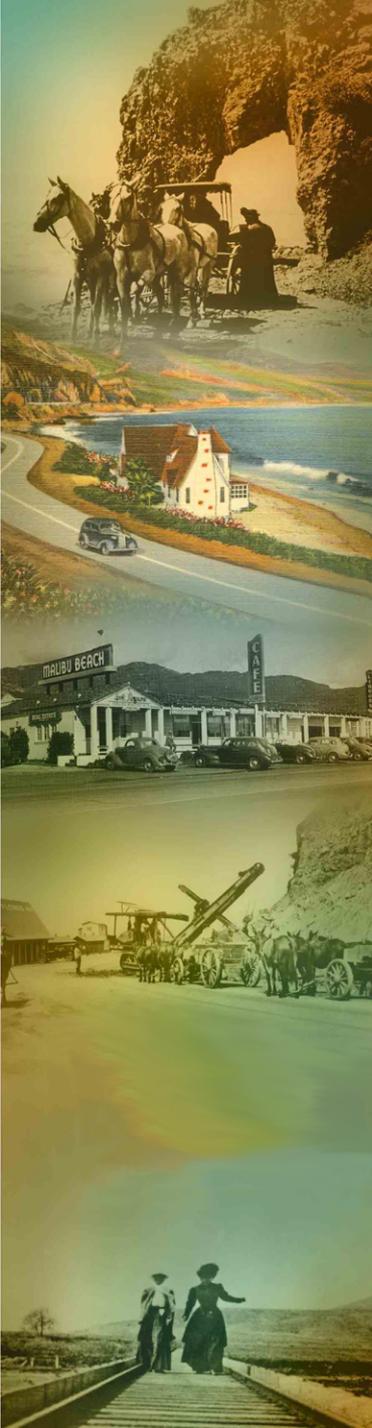
- Power or natural gas
- Communications systems
- Water
- Sewers or septic tanks
- Storm water drainage
- Solid waste disposal



Potential Environmental Impacts - Mandatory Findings of Significance

Does the proposed project have:

- Potential do degrade the environment
- Potential to achieve short-term (benefits) to the disadvantage of long-term environmental goals
- Cumulatively considerable impacts
- Substantial adverse effects on human beings



Analysis in CCWTF EIR

- Thresholds-based analysis
 - CEQA significance thresholds
- Short-term Impacts
 - Construction
- Long-term Impacts
 - Operational
- Cumulative Impacts
- Project Alternatives

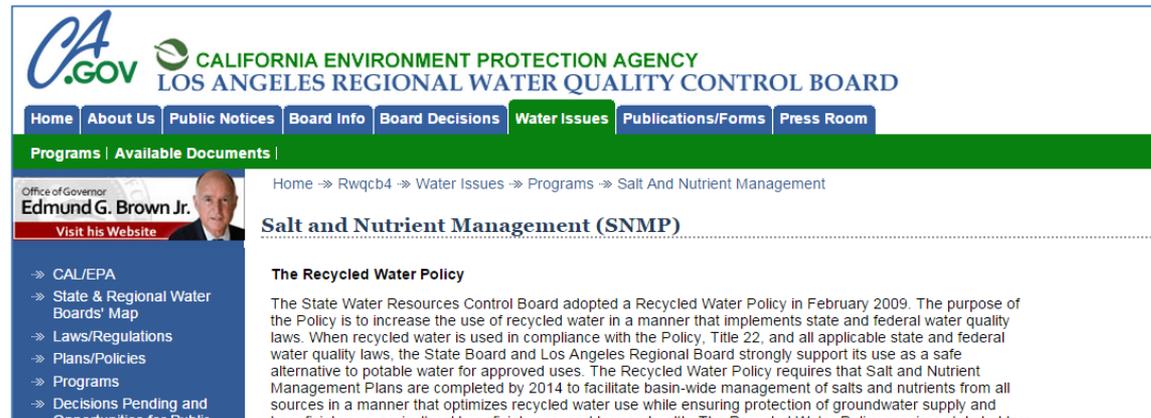
SNMP Websites

<https://www.malibucity.org/index.aspx?NID=642>



The screenshot shows the City of Malibu website. The header includes the city logo and navigation links: MY GOVERNMENT, OUR COMMUNITY, ABOUT MALIBU, and HOW DO I?. A search bar is located in the top right. The main content area features a sidebar with links to Documents & References, Participation, AGENDA CENTER, ALERT CENTER, and CONTACT US. The main content displays the title "Malibu Valley Groundwater Basin Salt & Nutrient Management Plan" and a brief description of the plan, mentioning its adoption in February 2009. A "CONTACT US" section on the right provides a link to the city's email and a form for requesting to be added to the distribution list. A "QUICK LINKS" section is also present.

https://www.swrcb.ca.gov/rwqcb4/water_issues/programs/salt_and_nutrient_management/index.shtml



The screenshot shows the California Environment Protection Agency website. The header includes the agency logo and the text "CALIFORNIA ENVIRONMENT PROTECTION AGENCY" and "LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD". A navigation menu includes links to Home, About Us, Public Notices, Board Info, Board Decisions, Water Issues, Publications/Foms, and Press Room. The main content area features a sidebar with a photo of Edmund G. Brown Jr. and a list of links: CAL/EPA, State & Regional Water Boards' Map, Laws/Regulations, Plans/Policies, Programs, and Decisions Pending and Opportunities for Public. The main content displays the title "Salt and Nutrient Management (SNMP)" and a section titled "The Recycled Water Policy" with a brief description of the policy's purpose and goals.



CEQA Comments

Additional Comments Due by: 5:00 PM, Thursday, September 10, 2015

1. State comments verbally during this meeting
2. Complete the provided Comment Card & hand to LARWQCB before the end of this meeting
3. E-mail comments to:
Ginachi.Amah@waterboards.ca.gov
* Please indicate “CEQA for Malibu Basin SNMP” as the Subject
4. Mail written comments to:
Dr. Ginachi Amah
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Questions?

LARWQCB

Contact:

Dr. Ginachi Amah

(213) 57606685

ginachi.amah@waterboards.ca.gov

City of Malibu

Contact:

Craig George

(213) 456-2489 ext. 229

cgeorge@malibucity.org





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CEQA Scoping Meeting

