

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
MEETING OF MAY 11-12, 2016
SOUTH LAKE TAHOE**

ITEM 9

LAKE TAHOE PROGRAM OVERVIEW

CHRONOLOGY

November 2010	The Water Board adopted Resolution R6T-2010-0054 incorporating the Lake Tahoe Total Maximum Daily Load (TMDL) and associated implementation plan into the Water Quality Control Plan for the Lahontan Region.
December 2011	The Water Board adopted Order R6T-2011-0101 to incorporate Lake Tahoe TMDL requirements into the National Pollutant Discharge Elimination System Permit (Municipal NPDES Permit) that regulates storm water discharges from local government jurisdictions on the California side of the Lake Tahoe Basin.
December 2011 – Present	Ongoing TMDL and Municipal NPDES Permit implementation.

BACKGROUND

The Water Board and the Nevada Division of Environmental Protection (NDEP) developed the Lake Tahoe TMDL as a comprehensive, science-based, 65-year plan to address declining transparency at Lake Tahoe. Consistent with Clean Water Act requirements, the Water Board updated the Municipal NPDES Permit to include pollutant load reduction requirements specified by the TMDL. The Municipal NPDES Permit has a five year term, and the permit adopted in 2011 is due for renewal.

Following TMDL adoption, Water Board and NDEP staff worked cooperatively to establish a formal adaptive management program called the Lake Tahoe TMDL Management System. The Management System provides for annual program performance tracking coupled with regular information synthesis and analysis to determine if program or policy change is needed in response to updated research, monitoring, and implementation findings. The Management System regularly engages stakeholders to inform both performance reporting and new information assessment efforts. Based on the annual review of 2015 activities and findings, Water Board and NDEP staff did not recommend any program or policy adjustment.

In addition to Lake Tahoe TMDL work, Water Board staff actively support targeted research and monitoring work to better understand nearshore condition drivers, measure sediment and nutrient load inputs, and track in-lake variables. Staff also coordinate with partner agencies on important land use and regional policy projects.

ISSUES

Is the Water Board’s Lake Tahoe policy and program approach appropriate? Are there other areas of policy and program focus that should be prioritized?

DISCUSSION

Water Board staff are committed to implementing Lake Tahoe TMDL Management System processes and in participating in various partner-led land use and resource management initiatives. One full-time Senior Environmental Specialist is currently allocated to managing the Lake Tahoe TMDL program and coordinating with partner agencies.

Staff are also dedicated to responding to new and emerging environmental concerns at Lake Tahoe, and are focused on ensuring research and monitoring investments provide the most relevant and useful information to guide future management decisions.

PUBLIC OUTREACH/INPUT

Water Board staff regularly engage with Lake Tahoe TMDL and Municipal NPDES Permit stakeholders during the Lake Tahoe TMDL Management System process. The Lake Tahoe TMDL Online Interface provides a ready mechanism for stakeholder feedback: <https://www.enviroaccounting.com/TahoeTMDL/Help/Display/AskAQuestion>

The Lake Tahoe Program Update presentation was noticed as part of the Water Board’s regular meeting announcements.

RECOMMENDATION

No action necessary. The Water Board may provide direction to staff on future Lake Tahoe program priority work.

ENCLOSURE	ITEM	BATES NUMBER
1	Staff Presentation	9-5

ENCLOSURE 1

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Item 9

Lake Tahoe Program Status Update

12 May 2016

**California Regional Water Quality Control Board
Lahontan Region**

Robert Larsen
Senior Environmental Scientist

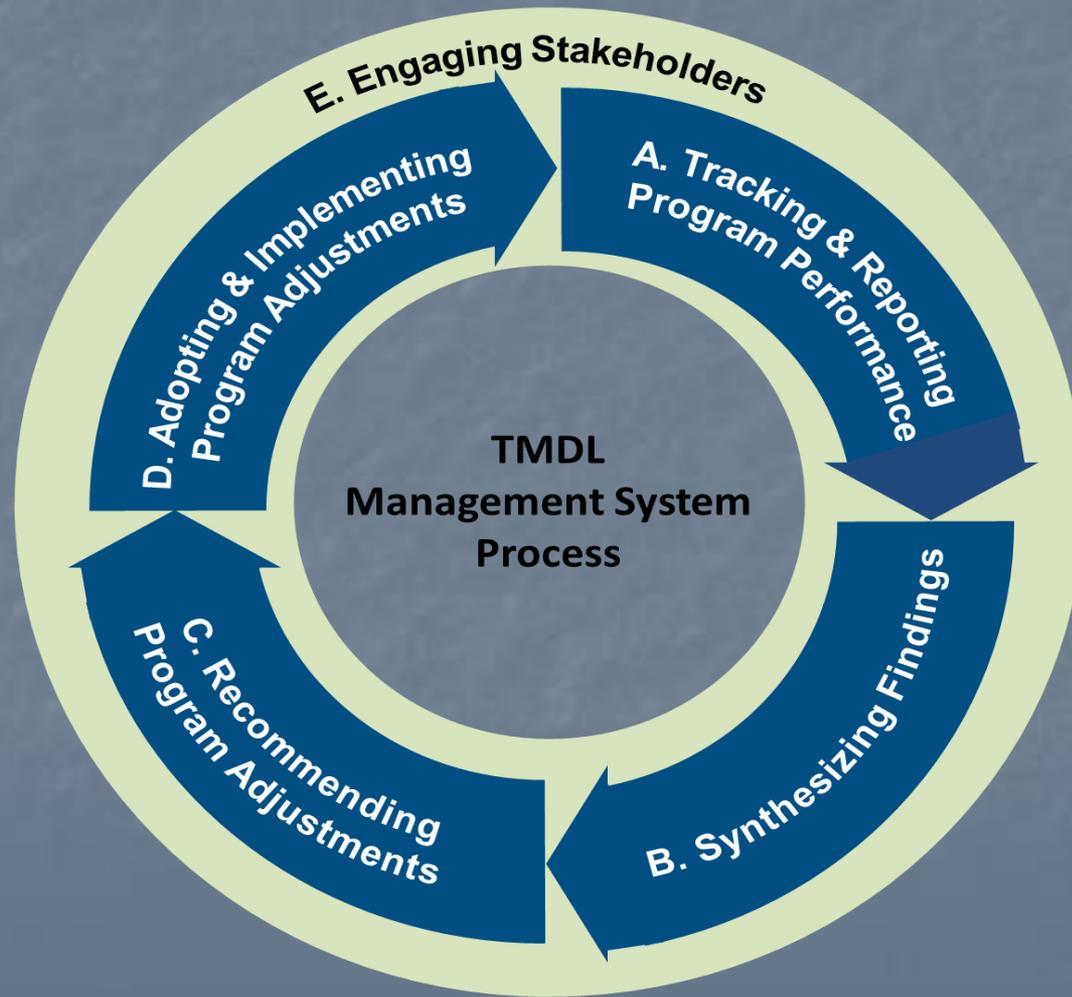
Presentation Outline

- 1. Lake Tahoe TMDL Program Progress**
- 2. Municipal NPDES Permit Update**
- 3. Research and Monitoring**
- 4. Agency Partnership**

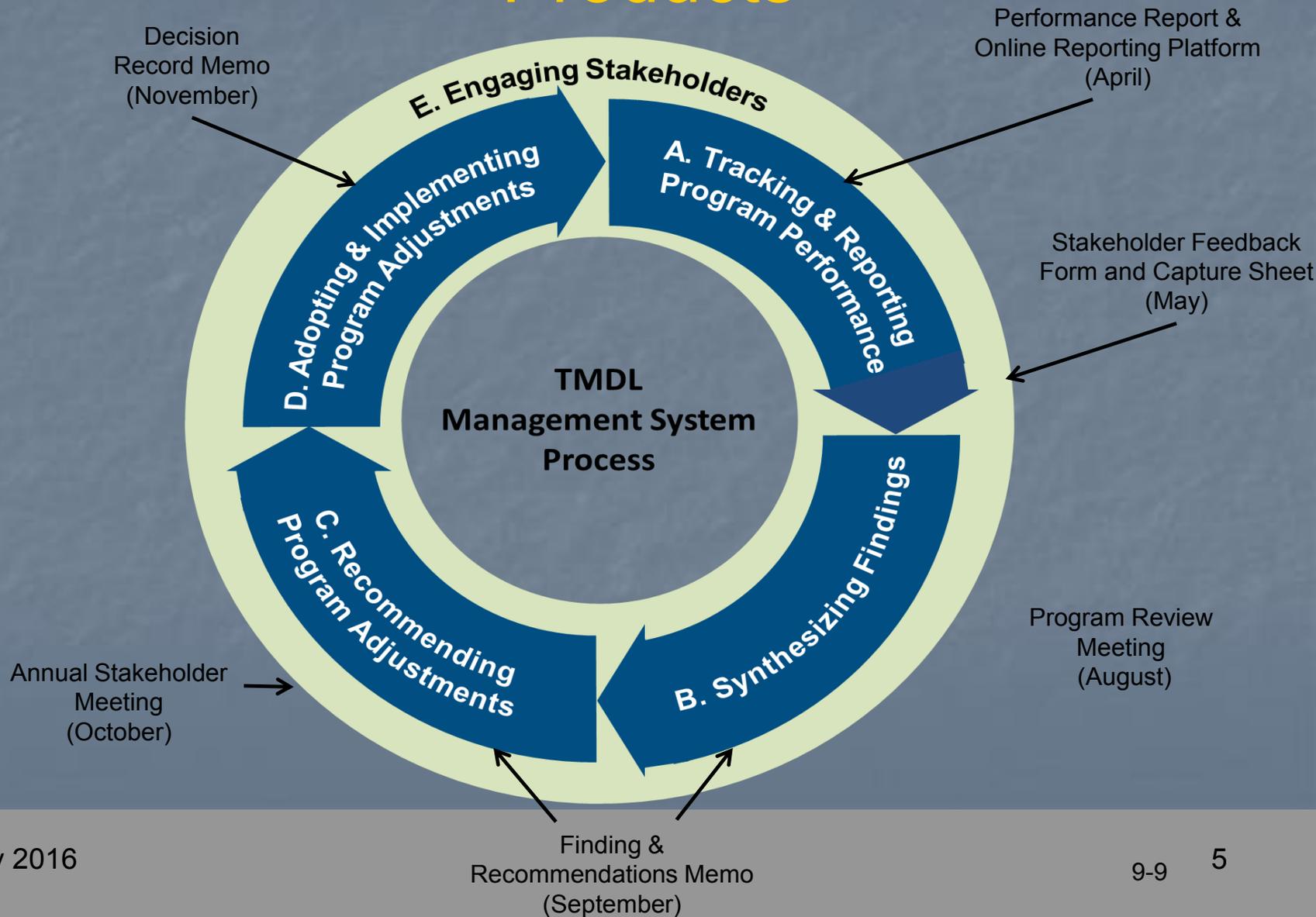
Lake Tahoe TMDL Background

- **Water Board approved in 2010**
- **U.S. EPA approved in 2011**
- **Implementation plan emphasizes urban runoff discharges**
- **20-year target to halt clarity decline**
- **65-year plan for full restoration**

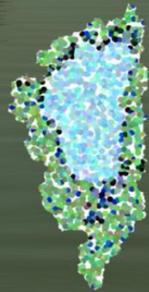
Lake Tahoe TMDL Management System



TMDL Management System Products



Performance Report



LAKE TAHOE TMDL PROGRAM
2015 PERFORMANCE REPORT

Guiding Efforts to Restore Lake Tahoe's Historic Clarity

Performance Report

- Released annually in April
- Summarizes annual implementation accomplishments using consistent metrics
- Documents overall program progress
- Recent versions emphasize non-urban load reduction activities

Findings and Recommendations Memo

- **Summarize relevant scientific and technical findings**
- **Recommend adjustments to improve the TMDL Program or Policy**

Lake Tahoe TMDL Program
2015 Findings & Program
Recommendations Memo

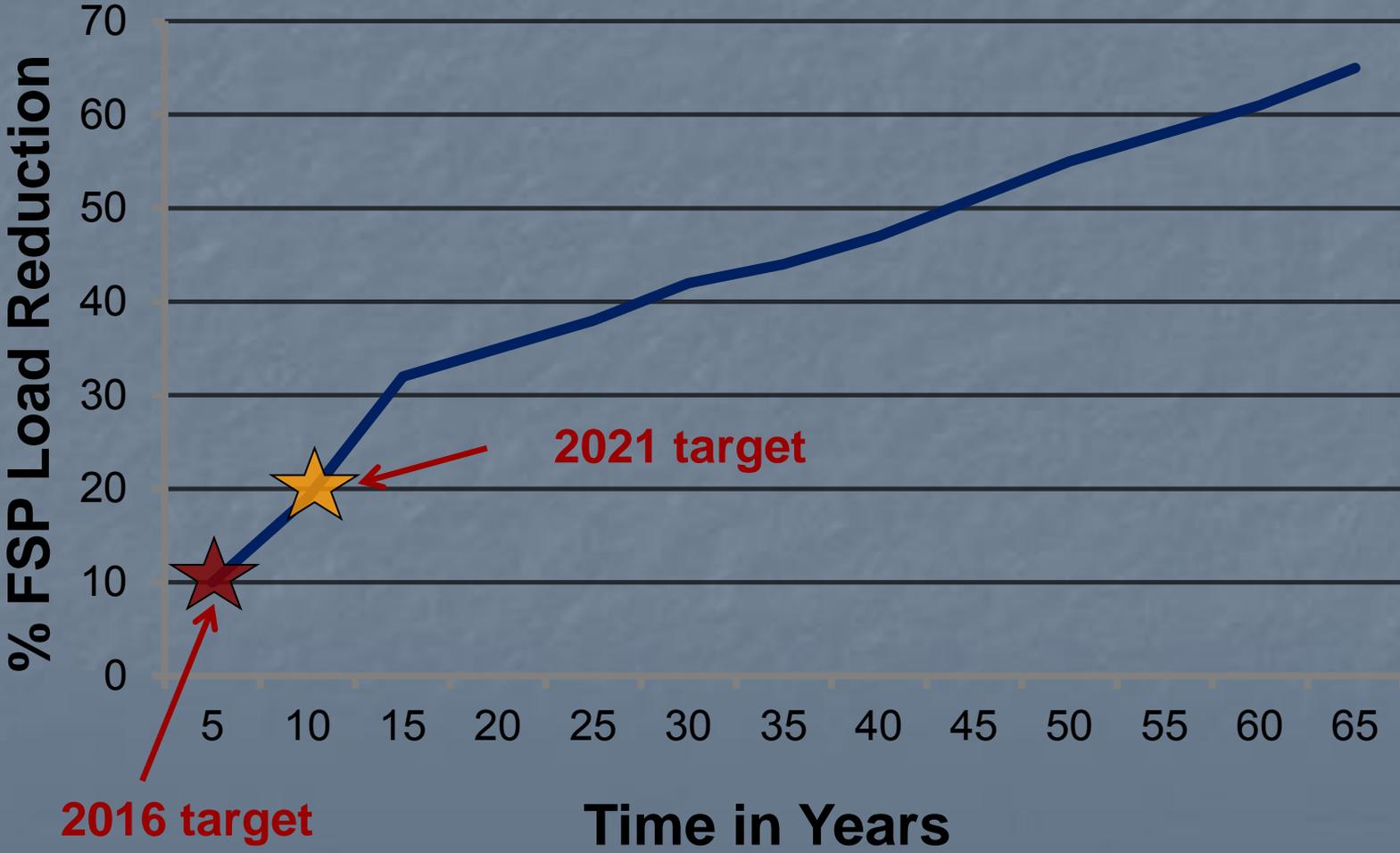
December 2015

Key Findings

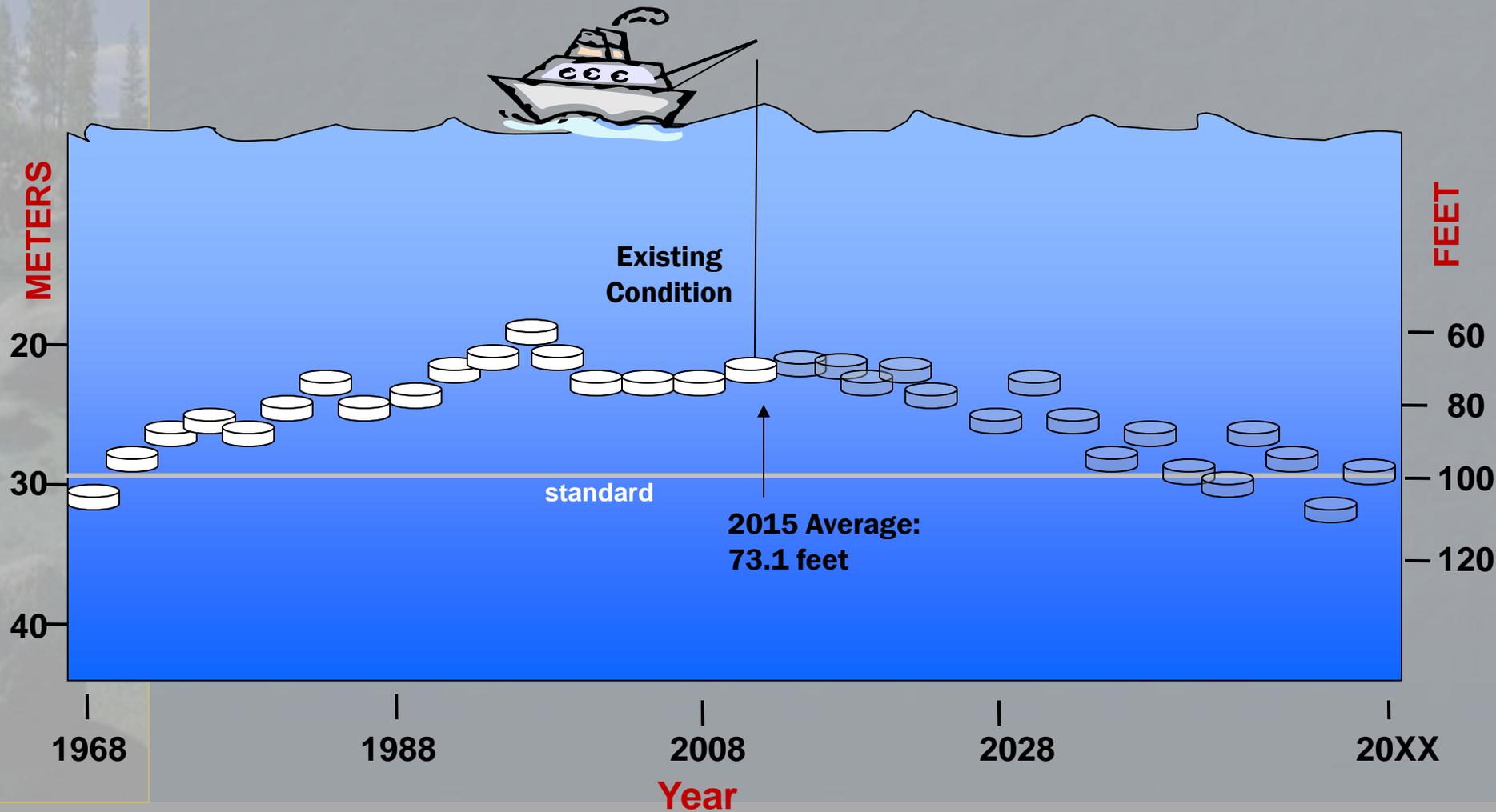
- Existing programs and policies are on track
- Average annual lake clarity levels improved
- No new program improvement recommendations



Load Reduction Schedule



Clarity Status



TMDL Online Interface

The screenshot shows a web browser window with the URL <https://www.enviroaccounting.com/TahoeTMDL/Program/Home>. The page features a navigation menu with links for Home, About, Results, and Resources. The main content area is dominated by a large banner image of Lake Tahoe with the text "LAKE TAHOE TMDL PROGRAM" and the subtitle "Guiding Efforts to Restore Lake Tahoe's Historic Clarity". A "VIEW MORE" button is positioned below the banner. Below the banner, there are two columns of content. The left column is titled "Lake Tahoe TMDL Program" and describes the program as a science-based plan to restore clarity. The right column is titled "News & Announcements" and lists two items: a 2015 Decision Record Memo and an updated Crediting Program Handbook.

Lake Tahoe TMDL Program The TMDL Online Interface

The Lake Tahoe Total Maximum Daily Load (TMDL) is a science-based plan to restore Lake Tahoe's famous clarity. One of the most robust efforts of its kind, the Lake Tahoe TMDL was initiated to better understand the causes of clarity loss, determine how much pollution needs to be reduced and develop a sensible implementation approach that is capable of reinstating historic clarity within the lake. The Lake Tahoe TMDL Program seeks to guide the effective implementation of the TMDL so that people may once again be able to see to depths of nearly 100 feet in Lake Tahoe.

News & Announcements

- DEC 30 2015** 2015 Decision Record Memo Now Available
Outcomes of the annual Program Review Meeting held on December 14, 2015 are... [More](#)
- DEC 30 2015** Crediting Program Handbook Ver 2.1
An updated version of the Crediting Program Handbook has been released... [More](#)

<https://www.enviroaccounting.com/TahoeTMDL/Program/Home>

2016 Program Plans

- **2016 Performance Report**
- **2016 Findings and Recommendations**
- **Data access and coordination improvement**
- **Ongoing stakeholder engagement**

Municipal Storm Water Permit Update



Municipal Storm Water Permit

- **Regulates storm water runoff discharges from the CSLT, El Dorado, and Placer Co.**
- **Established in 1992**
- **Includes CWA storm water program elements**
- **Implements Lake Tahoe TMDL**

Program Elements

- **Construction, Industrial, Municipal and Commercial**
 - Inventory, Prioritize, Inspect, Enforce
- **Education, Outreach, and Training**
- **Fiscal Analysis**
 - Partnership pursuing dedicated funding
 - Estimating overall program cost
 - Establishing message/branding
 - Preparing for public polling

Road To Blue

Lake Tahoe Stormwater Funding Partnership

TMDL Elements

- **Permit target: 10% Fine Sediment Particle Load Reduction by 2016**
- **Lake Clarity Crediting Program Tool Improvements = Complete**
- **Permittees using the established system to register load reduction activities**
- **Permittees to declare Credits in March 2017**

Urban Credit Accounting Platform

Credit Accounting Platform

Welcome: Robert Larsen
Group: Lahontan
User Type: Regulator
[My Settings](#)
[Logout](#)

DEFINE & ALLOCATE
Define credit calculation and update load allocations.

ACCEPT
Accept catchment registrations submitted by implementers.

INSPECT
Conduct annual maintenance and condition inspections of pollutant control strategies in registered catchments.

VALIDATE
Validate annual condition inspections.

AWARD
Accept annual credits for registered catchments based on inspection and validation results.

REPORT
Track annual credits.

www.tahoerodram.com/cap/tic_award_ann_cat_cre.php

Urban Credit Accounting Platform

The screenshot shows a web browser window with the URL www.tahoeroadram.com/cap/ti_catchment_reg.php?CatchID=250. The page title is "Credit Accounting Platform". The navigation menu includes "Home", "Learn More", and "Download". A user welcome message for Robert Larsen is displayed, along with "Group: Lahontan", "User Type: Regulator", "My Settings", and "Logout".

Kings Beach

Initiated: 2016-02-23
Last Updated: 2016-03-16 03:10:15
Submitted:
Rejected: 2016-03-07

Steps

1. Upload BMP Registration Boundary
2. Upload PLRM Input Summary
3. Upload PLRM Load Reduction
4. Complete Treatment BMP Inventory
5. Complete Parcel BMP Inventory
6. Complete Other Pollutant Control Strategies
7. Establish Credit Schedule
8. Upload PLRM Project ZIP File
9. Review BMP Registration
10. Upload Attachments (Optional)

Documents

Documents	Type
KingsBeachMemo_Feb2016.pdf	Adobe PDF
PLRM_KingsBeach2016.zip	Other

BMP Registration

Kings Beach (KB1)
BMP Registration Credit Schedule Summary

Annual Credits **252 Credits**

Establishment Date
Final Year:

Load Reduction Estimates

FSP particle(#)	5.56e+18
FSP mass (lb)	50,556
Total Nitrogen (lb)	439
Total Phosphorous (lb)	170

Contacts
Robert Larsen, 530-542-5439,
Robert.Larsen@waterboards.ca.gov

[Registration Home](#)

Monitoring

- **Emphasis on condition assessments**
 - Roadways
 - Treatment BMPs
- **Water quality sampling to inform model refinement**
 - Outfall status and trends
 - Treatment BMP effectiveness



Permit Update

- **Current permit expires December 2016**
- **Initial coordination already underway**
- **Update scheduled for January 2017**
- **Limited revision needed**
- **New TMDL target: 21% FSP reduction**
- **Updated Load Reduction Plans due this summer**

Research and Monitoring



Monitoring

- **Lake Monitoring**
 - Long term data collection by UCD
 - TRPA and Water Board coordinating on updated contracts
- **Tributary Monitoring**
 - Water Board now helping to fund Lake Tahoe Interagency Monitoring Program
- **Regional Storm Water Monitoring Program**
 - 8 catchment outfalls, 3 BMP effectiveness sites
 - TRCD funded to continue program development

Research: Nearshore Focus



Is there any evidence of change?

YES

NO

Do we understand what is driving the changes?

Are we monitoring the right things? Are we monitoring them the best way?

← - - - - - →

YES

NO

Can local agencies affect change of the primary drivers?

How can we gain insight into what is causing the decline?

NO

What should we be monitoring? And how should we be monitoring it?

YES

NO

YES

YES

NO

Continue to implement

Identify and implement alternative measures

Continued outreach

Research

more effectively communicate state of the nearshore

Modify monitoring program

Continue Monitoring and Evaluation

PERIPHYTON

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YES

Do we understand what is driving the changes?

NO

How can we gain insight into what is causing the decline?

Research

USGS Study

Trend

Rubicon Point	No Trend
Sugar Pine Point	No Trend
Pineland	Increasing
Tahoe City	Decreasing
Dollar Point	No Trend
Incline West	Increasing
Sand Point	No Trend
Deadman Point	No Trend
Zephyr Point	No Trend

Continue Monitoring and Evaluation

PERIPHYTON

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more effectively communicate state of the nearshore

Modify monitoring program

Trend

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Zephyr Point	No Trend

Nearshore Research

- Ongoing UCD periphyton monitoring
- Nearshore Community Structure Pilot
 - Macroinvertebrate survey
 - Fishes and crayfish survey
 - Macrophyte survey
- Clarity Metric Pilot
- USGS – Targeted periphyton “hotspot” study



Agency Partnership

- **TRPA Advisory Planning Commission**
- **TRPA Shoreline Ordinance Update**
- **TRPA Threshold Review**
- **Nearshore Agency Working Group**
- **Aquatic Invasive Species Working Group**
- **Lake Tahoe Science and Lake Improvement Account Stakeholder Group**



Questions?