

# Status and trend monitoring and evaluation in the Tahoe Basin

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TAHOE REGIONAL PLANNING AGENCY  
JUNE 29, 2018



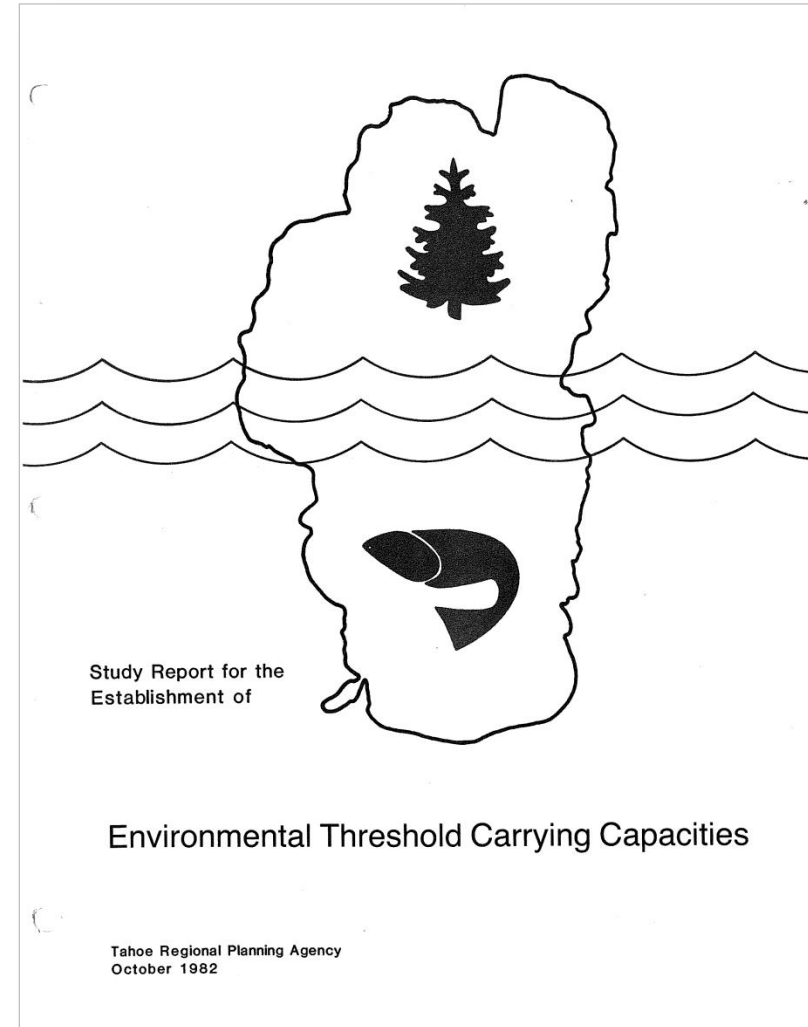
# Bi-State Compact

Article (II) (i) “***Environmental threshold carrying capacity***” means an environmental standard necessary to maintain a significant scenic, recreational, educational, scientific or natural value of the region or to maintain public health and safety within the region. Such standards shall include but not be limited to standards for ***air quality, water quality, soil conservation, vegetation preservation and noise.***

# Resolution 82-11

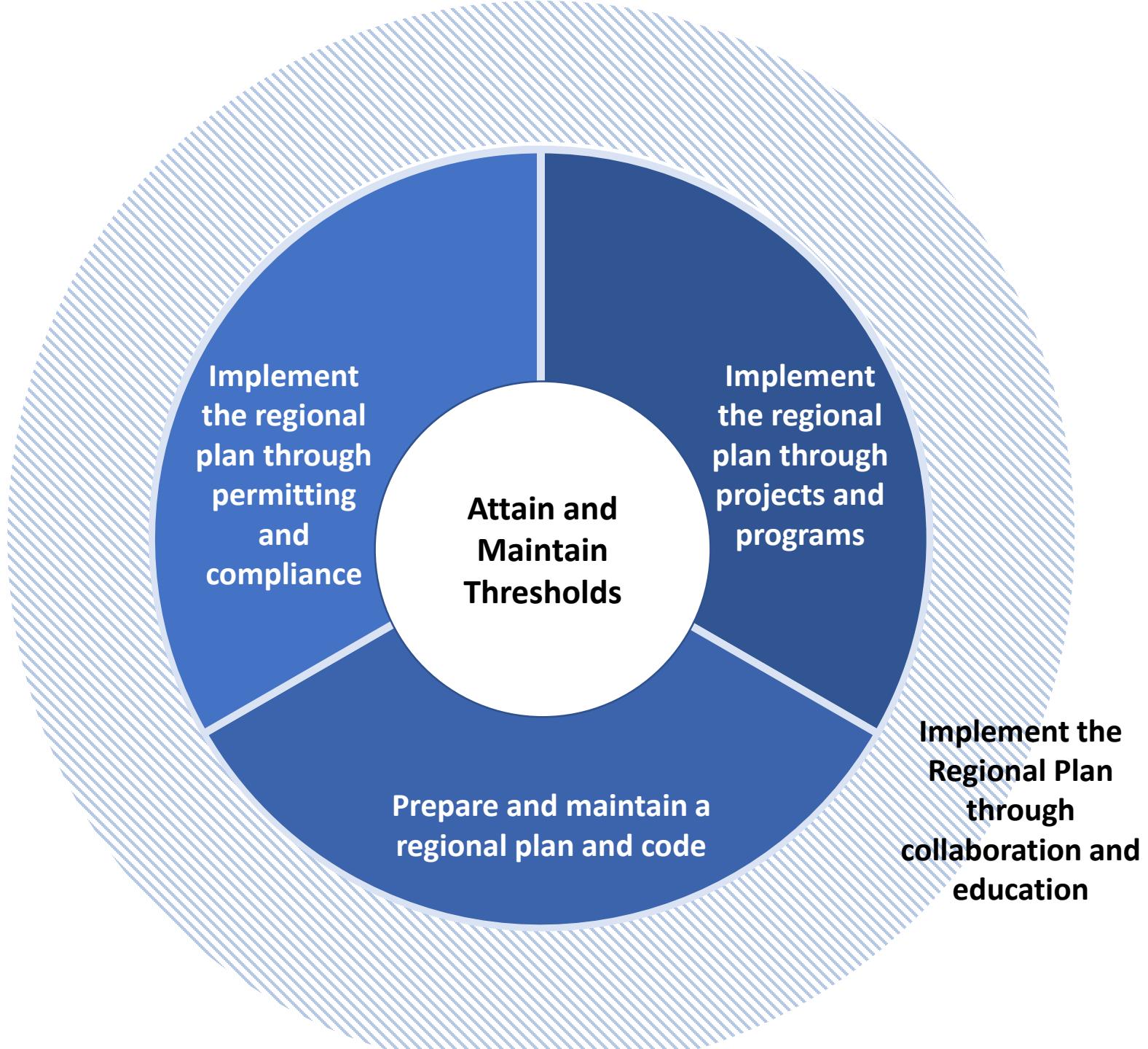
## Categories

- Air Quality
- Water Quality
- Fisheries
- Soil Conservation
- Wildlife
- Vegetation
- Scenic Resources
- Recreation
- Noise



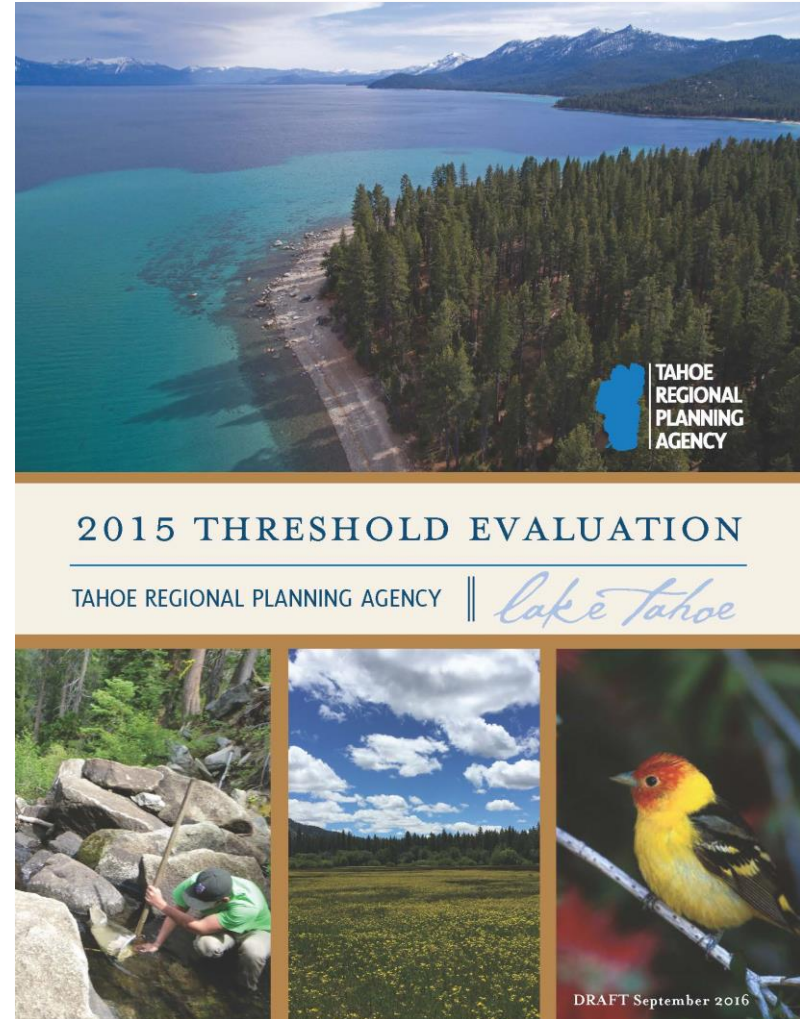
# Standards



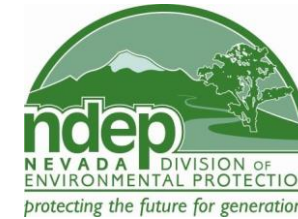


# Threshold Evaluation

- Status and trends of indicators relative to adopted standards
- Implementation and effectiveness of the Regional Plan and other Basin efforts
- Recommendations to inform future actions



# Contributors

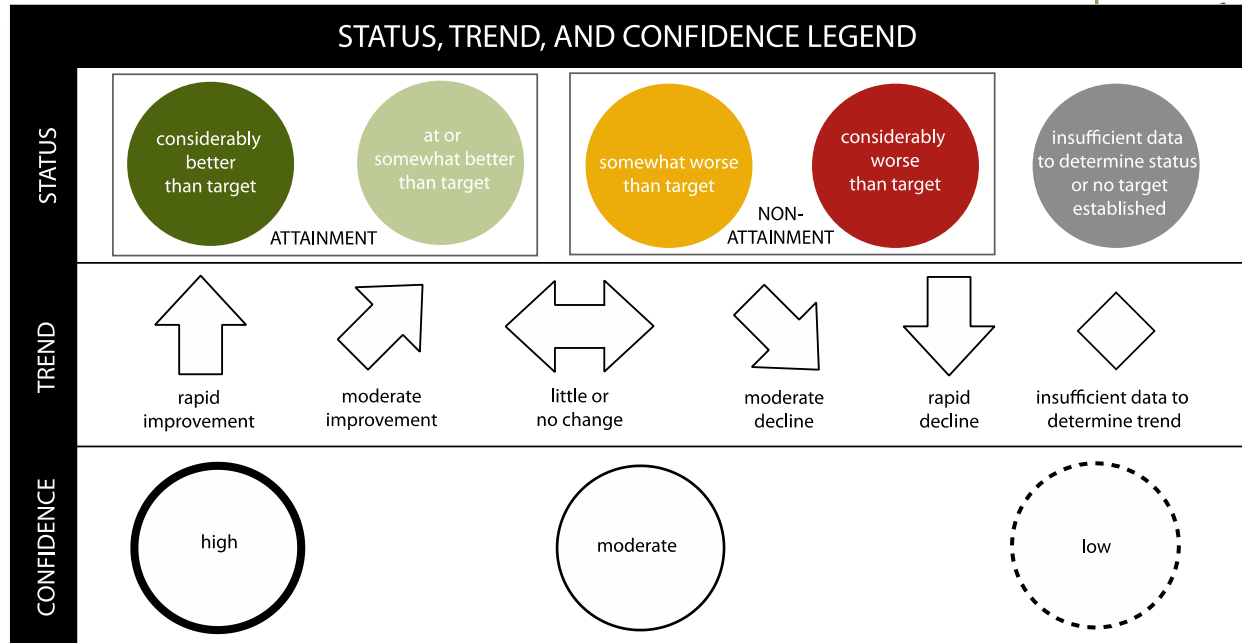
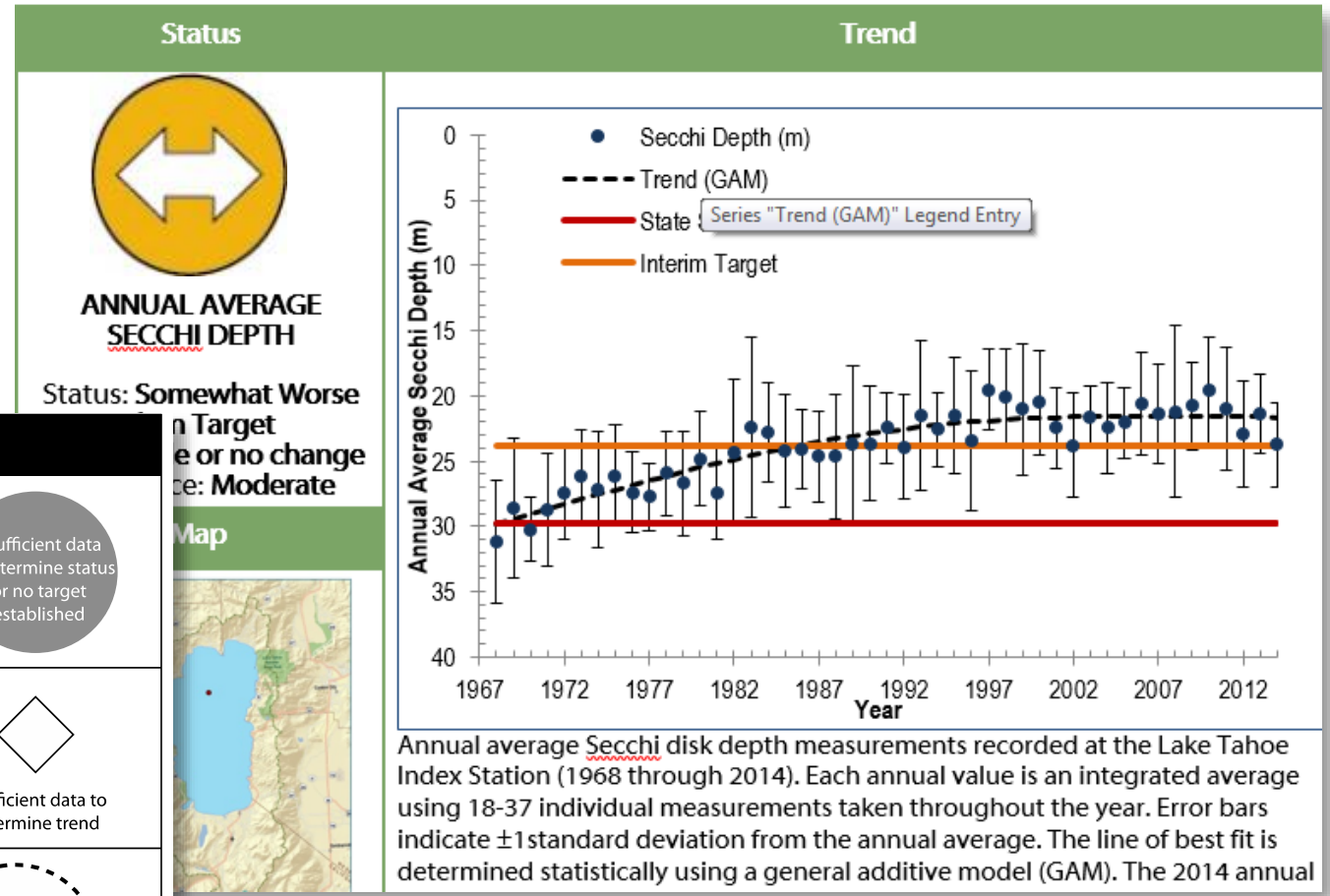


Hydroikos Ltd.



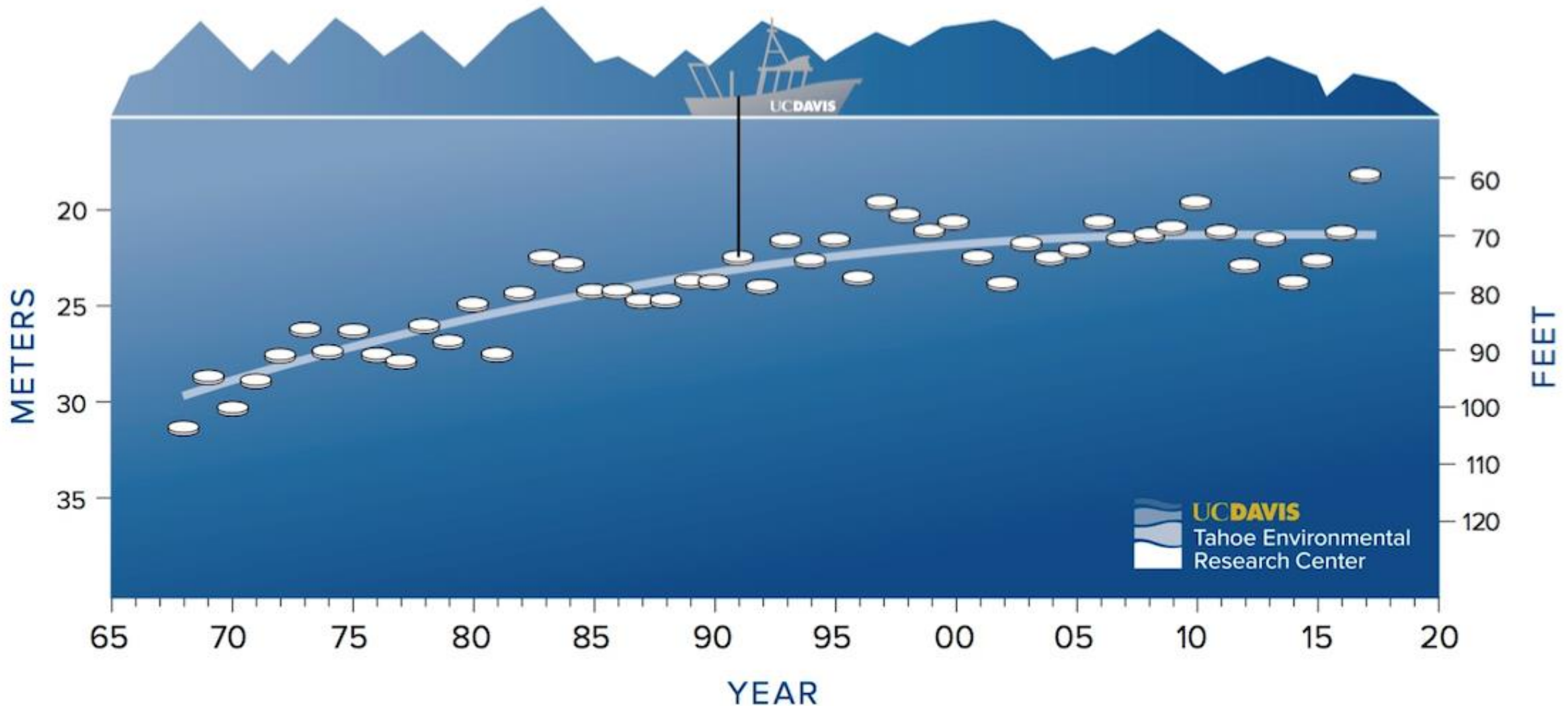
# Methods Overview

- Methodology and display modeled on 2011 Report
  - Icons
  - Individual Indicator Sheets





# ANNUAL AVERAGE SECCHI DEPTH



UCDAVIS  
Tahoe Environmental Research Center

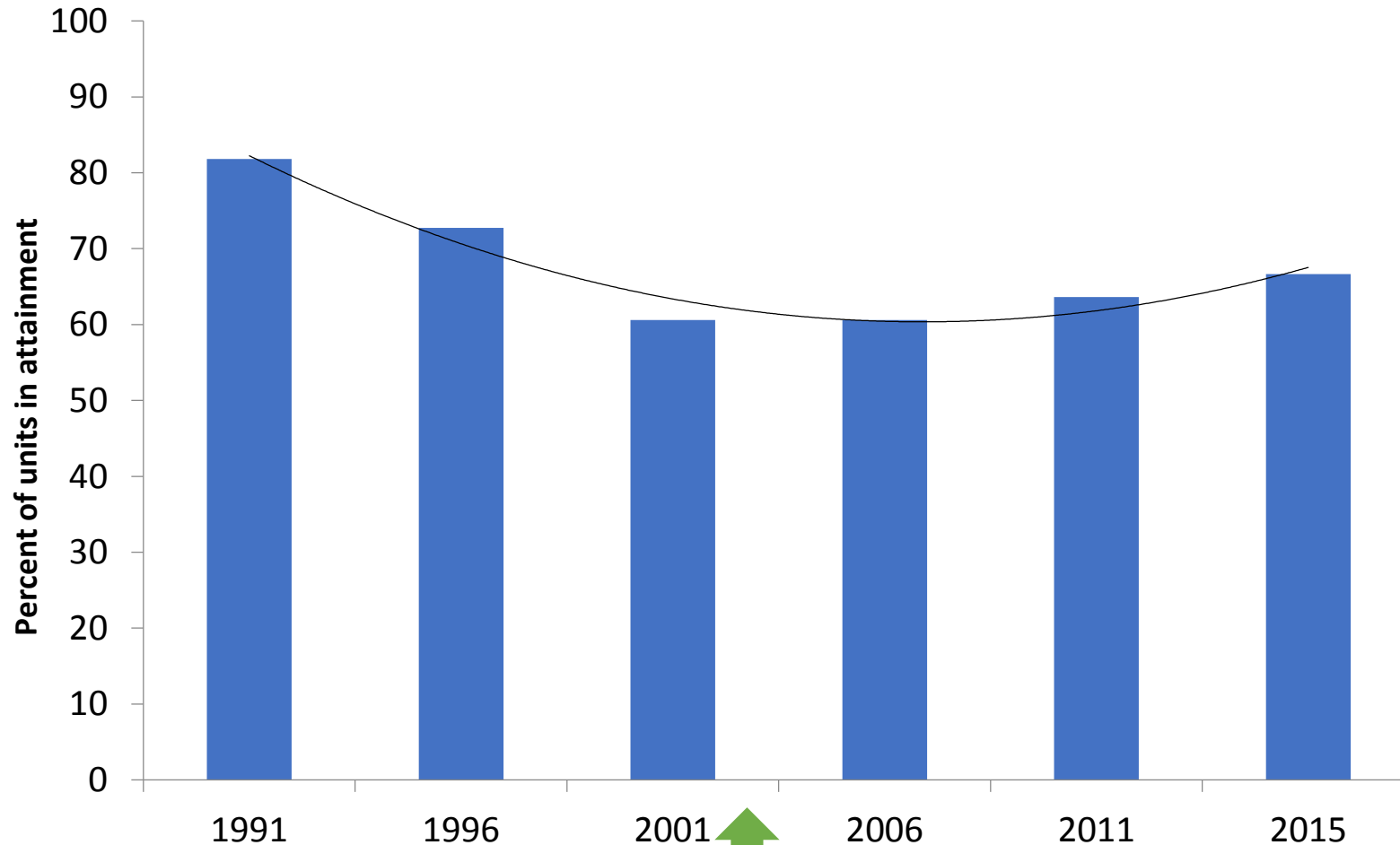
# Streams



## First flow-weighted load analysis

- 54.1% reduction in suspended sediment (~30 years)
- 38.6% reduction in phosphorus (~30 years)
- No change in total nitrogen
- 52.1% reduction in nitrate
- No change in FSP (~10 years)

# Scenic (Shoreline)



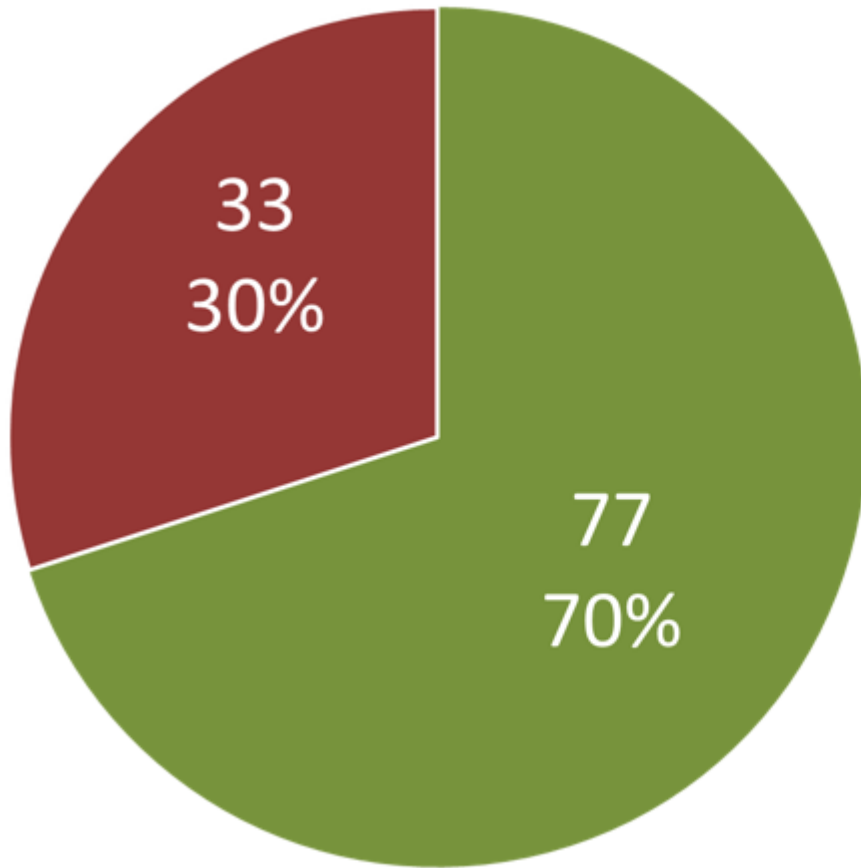
## Summary

- Scores for 3 units up from 2011 to 2015; none decreased
- One unit (Rubicon Point) moved into attainment

Shoreland Ordinances Adopted

# Status Summary

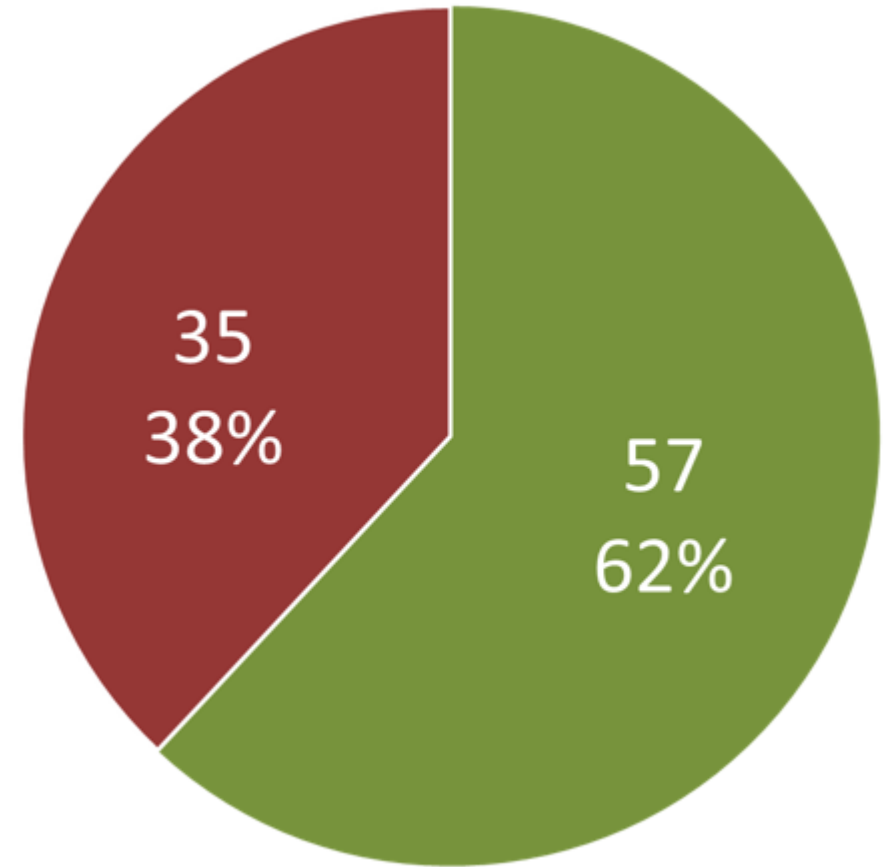
2015



■ Attainment

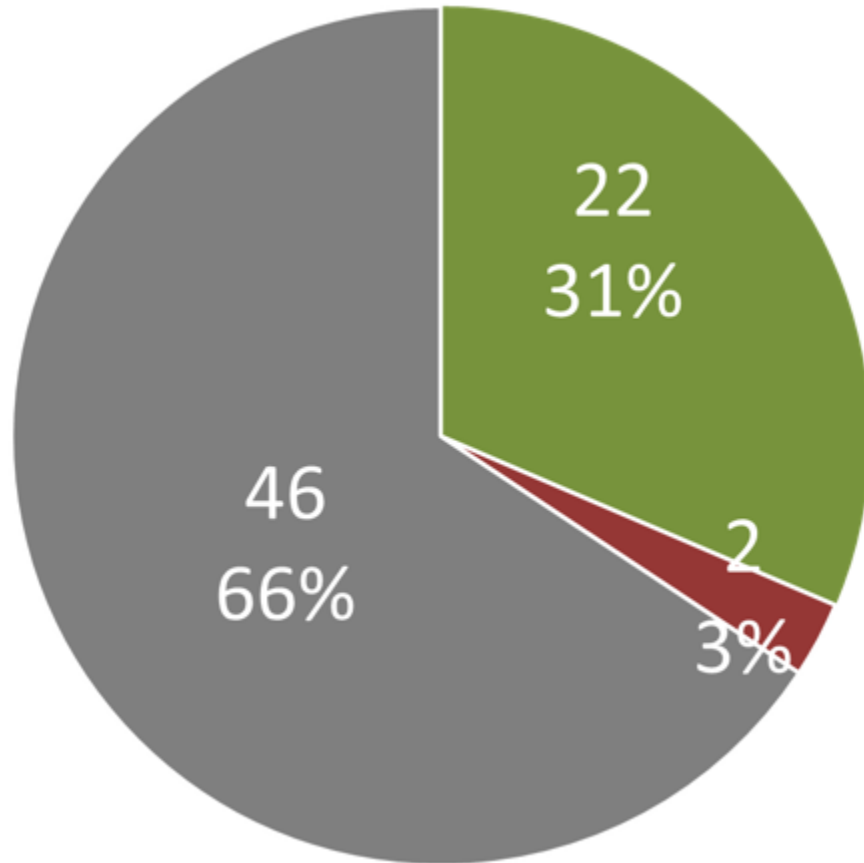
■ Non-attainment

2011



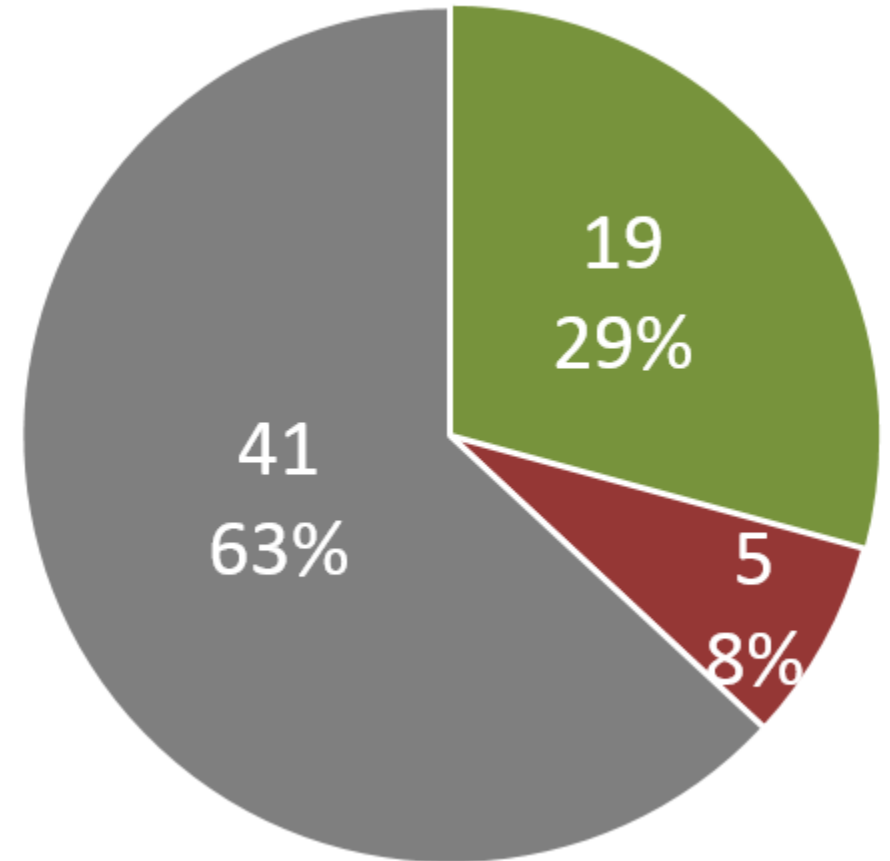
# Trend Summary

2015

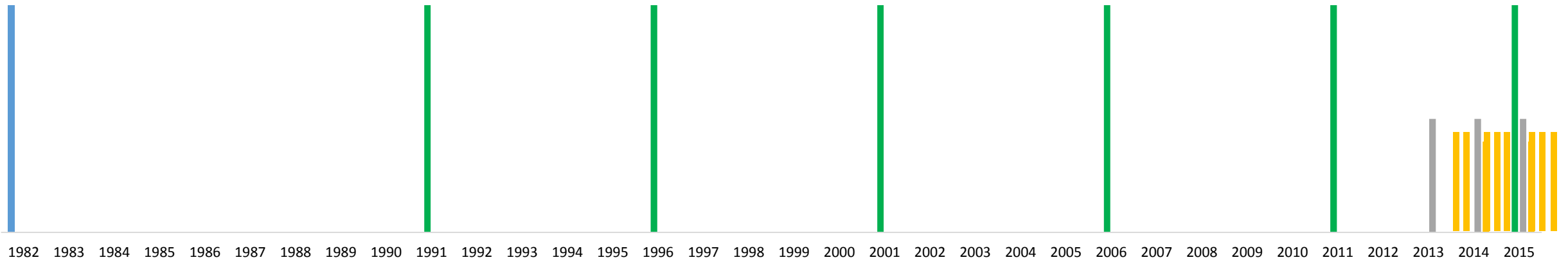


- Improving
- Declining
- Little or no change

2011



# Information Access



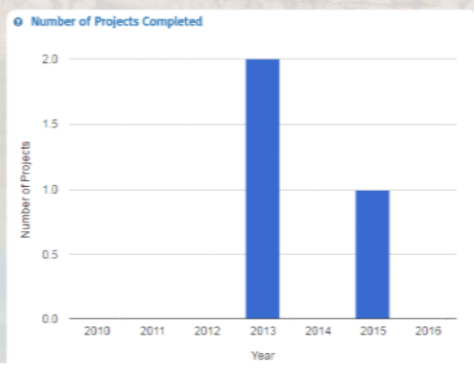
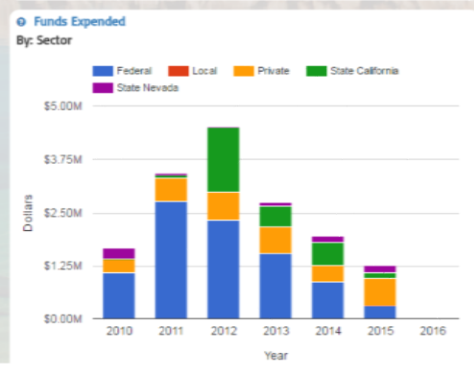
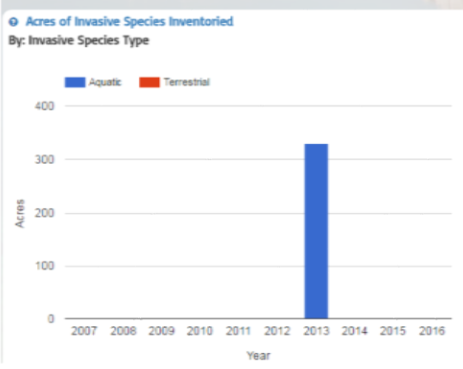
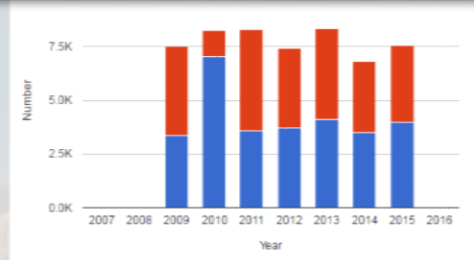
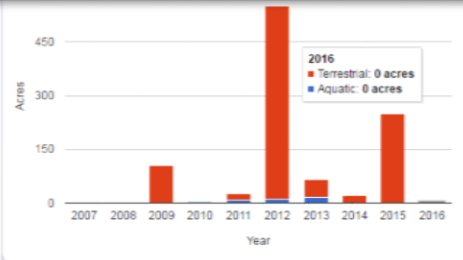
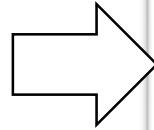
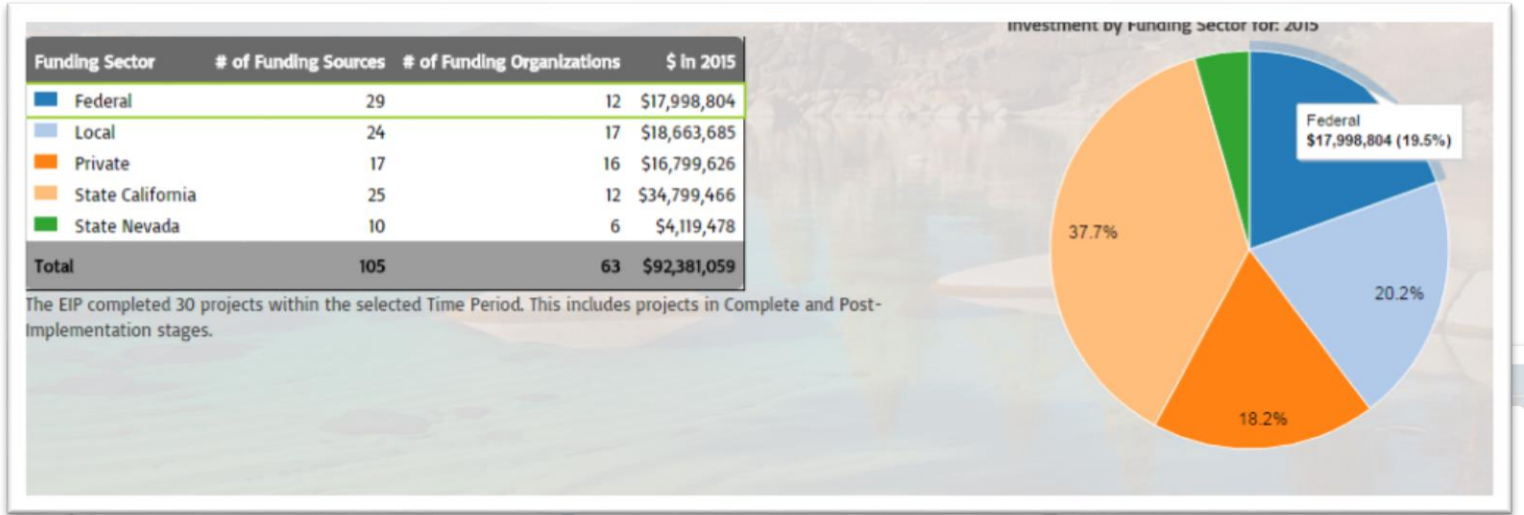
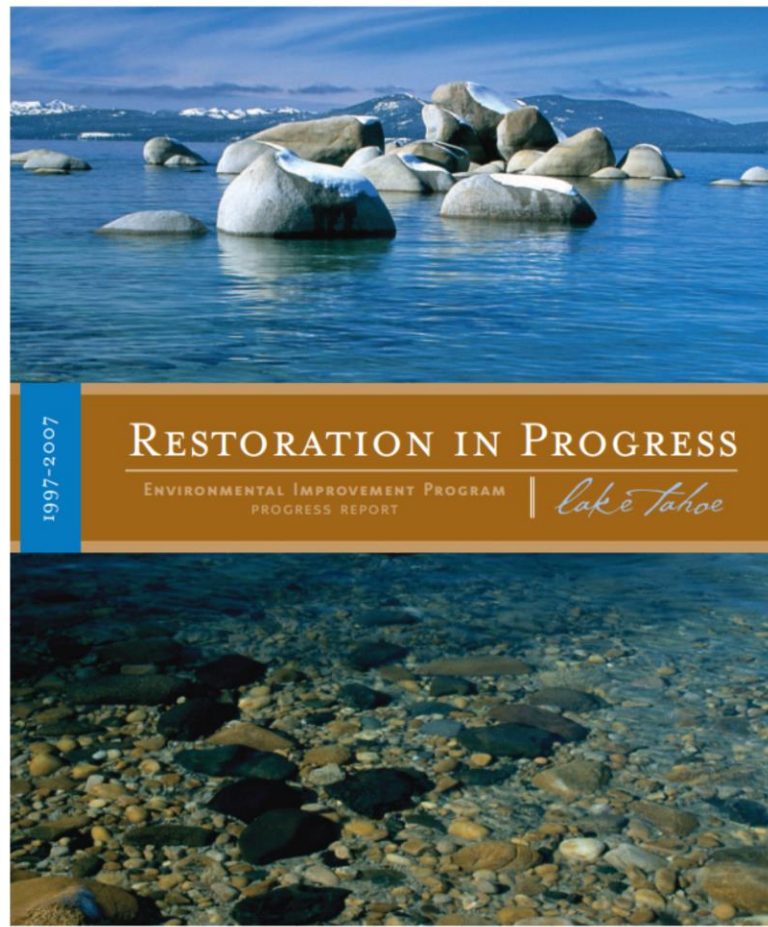
■ Thresholds Adopted ■ TVAL ■ Annual ■ Quarterly



Regional Plan for the Lake Tahoe Basin  
2001 Threshold Evaluation Draft



# EIP Reporting Tool



# Project Implement

Lake Tahoe INFO | EIP Project Tracker

HOME ABOUT PROJECTS PROGRAM INFO RESULTS

### LAKE TAHOE EIP PROJECT TRACKER

#### COMPLETED PROJECT LIST

Projects in this list have been completed, and thus are no longer on the 5-Year Project List. Please see the "About" page.

Currently viewing 254 of 254 Completed Projects

Project #	Project Name	Lead Implementer
01.01.01.0001	All Tahoe Erosion Control Project	City of South Lake Tahoe
01.01.01.0002	Bijou Area Erosion Control Project - Phase 1	City of South Lake Tahoe
01.01.01.0006	Rocky Point Erosion Control Project	City of South Lake Tahoe
01.01.01.0007	Sierra Tract Erosion Control Project Phase 1	City of South Lake Tahoe
01.01.01.0008	Sierra Tract Erosion Control Project Phase 3	City of South Lake Tahoe
01.01.01.0009	Sierra Tract Erosion Control Project Phase 4	City of South Lake Tahoe
01.01.01.0013	Lake Village Water Quality Improvement Project Phase II	Douglas County, NV
01.01.01.0023	Golden Bear Erosion Control Project	El Dorado County, CA
01.01.01.0024	Lake Tahoe Boulevard Erosion Control Project	El Dorado County, CA



**Project Fact Sheet**  
**Sawmill 2B Bike Path and Erosion Control Project**

**Project Number** 03.01.02.0036  
**Action Priority** Improving Transit and Trails Connections  
**Implementers** El Dorado County, CA  
**Stage** Post-Implementation  
**Duration** 2014 - 2015  
**Primary Contact** Donaldo Palaroan (donaldo.palaroan@edcgov.us)

### Air Quality & Transportation > Improving Transit and Trails Connections

The Project area covers Sawmill Road from U.S. Highway 50 to Lake Tahoe Boulevard. Due to funding constraints and seasonal construction constraints, the Project was split into two Phases (2A and 2B). The Sawmill 2B Bike Path and Erosion Control Project area covers from U.S. Highway 50 to the end of Phase 2A near Echo View Drive. The Project connected to the existing multi-use path facility at U.S. Highway 50, installed erosion control best management practices (BMPs) and revegetation.

#### Key accomplishments of project

- Miles of Pedestrian and Bicycle Routes Improved or Constructed: 1.2 miles
- Miles of Roads Decommissioned or Retrofitted: 1.1 miles
- Miles of Street Sweeping: 2.2 miles

#### Threshold categories

- Air Quality
- Recreation
- Water Quality

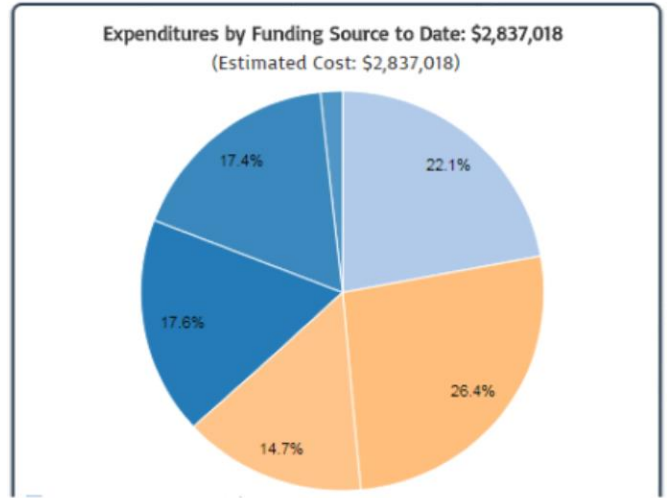


Sawmill 2B

#### Location



#### Expenditures



Rock slope stabilization and gutter pans added to sections of Highway 89 between Meeks Bay and Emerald Bay



# TMDL Management Tool

lake Tahoe INFO Stormwater Tools

Explore Program Info Manage

LAKE TAHOE INFO STORMWATER TOOLS

## TREATMENT BMP UCT\_DB01 (DRY BASIN)

### BASICS

Name: UCT\_DB01  
 Type: Dry Basin  
 Number of Inlets: 1  
 Number of Outlets: 1  
 Design Depth: 4.15 ft  
 Jurisdiction: Placer County, CA  
 Notes:   
 BMP Registration: King's Beach (Approved)

### LOCATION

### BENCHMARK & THRESHOLD VALUES

Benchmark and thresholds cannot be edited because this treatment BMP is included in an active Registration, and credits have been declared or awarded.

Observation Type	Benchmark	Threshold
Infiltration Rate	2 in/hr	75% decline (0.5 in/hr)
Vegetative Cover	0%	50%
Material Accumulation	0 ft	30% decline (1.245 ft)

### ASSESSMENTS

Assessments for treatment BMP that are included in an active Registration with a credit declaration cannot be deleted or edited.

Currently viewing 3 of 3 Reset Download Table

	Conducted By	Date	Score	For Internal Use Only	Type of Assessment
<input type="checkbox"/>	<input type="text"/>	From: <input type="text"/> To: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	View Eric Gasper	06/28/2017	5.00	No	Regular
<input type="checkbox"/>	View Eric Gasper	06/07/2017	4.40	No	Regular
<input type="checkbox"/>	View Eric Gasper	06/07/2016	4.60	No	Regular

### TABLE VIEW

Currently viewing 1034 of 1034 Treatment BMPs

	Name	Jurisdiction	BMP Registration
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/>	BWP_DB04	Placer County, CA	None
<input type="checkbox"/>	WCDB0031n30	Washoe County, NV	Fairview/Fair
<input type="checkbox"/>	KB1_DB01	Placer County, CA	King's Beach
<input type="checkbox"/>	KB1_DB02	Placer County, CA	King's Beach
<input type="checkbox"/>	KB1_DB03	Placer County, CA	King's Beach
<input type="checkbox"/>	UCT_DB01	Placer County, CA	King's Beach
<input type="checkbox"/>	LTP_DB01	Placer County, CA	Lake Tahoe P

MONITORING PROGRAM RSWMP SPEEDBOAT

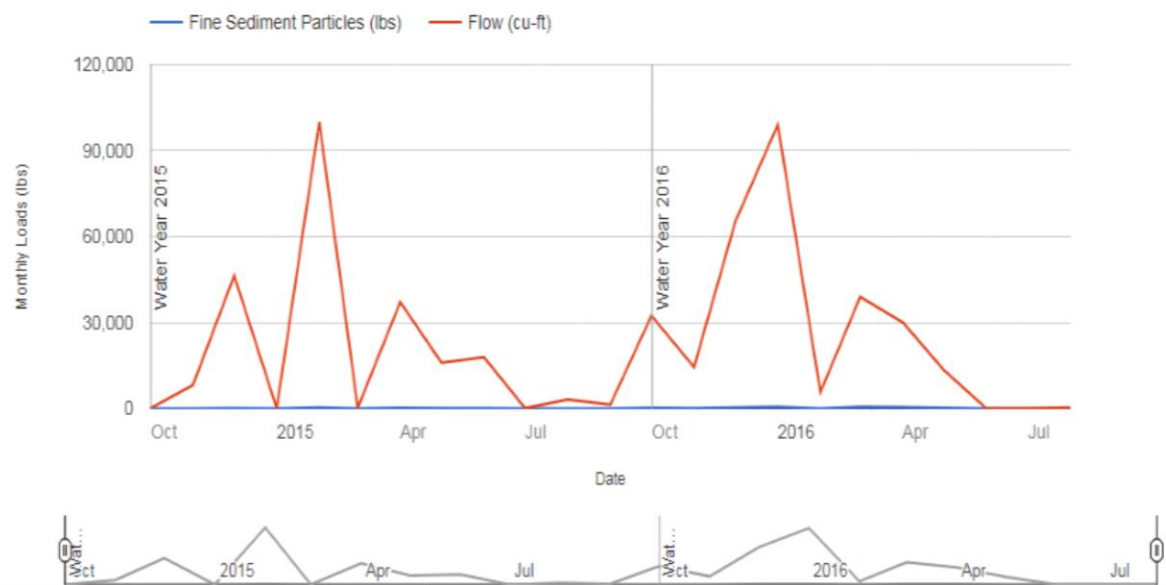
Details of the Monitoring Site are provided here. Monitoring data and summary statistics are pulled from the RSWMP DMS and displayed here. Data is refreshed on a nightly basis.

Site: Speedboat Station: SB

STATION INFORMATION

**Name** Speedboat Outfall  
**Abbreviation** SB  
**Description** Stormwater Outfall. Equipment includes a Palmer-Bowlus flume installed in a 24-inch culvert pipe with a 730 ISCO Bubbler to measure water level, an FTS DTS-12 turbidimeter to measure turbidity, an ISCO 6712 automated sampler to collect samples during storm events, and a Campbell Scientific CR1000 datalogger and Sierra Wireless RV50 modem for remote connectivity to equipment.

MONTHLY FLOW AND FINE SEDIMENT PARTICLE (FSP) LOAD SUMMARY



ants in urban runoff at Lake Tahoe to help evaluate the combined effectiveness of known as the Regional Storm Water Monitoring Program (RSWMP) is a nd scientists in the Lake Tahoe region.

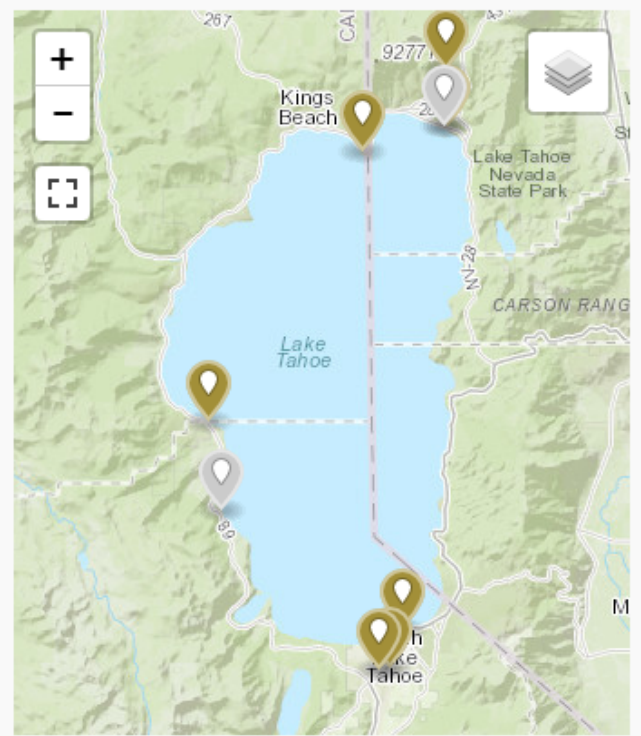
rch Institute (DRI) and Geosyntec. The DMS retrieves and analyzes stormwater at monitoring data is automatically retrieved from the DMS and displayed in LT select monitoring data.

by the California State Water Resources Control Board.

MONITORING SITES

Select a Monitoring Site from the list below or click a location marker on the map to explore.

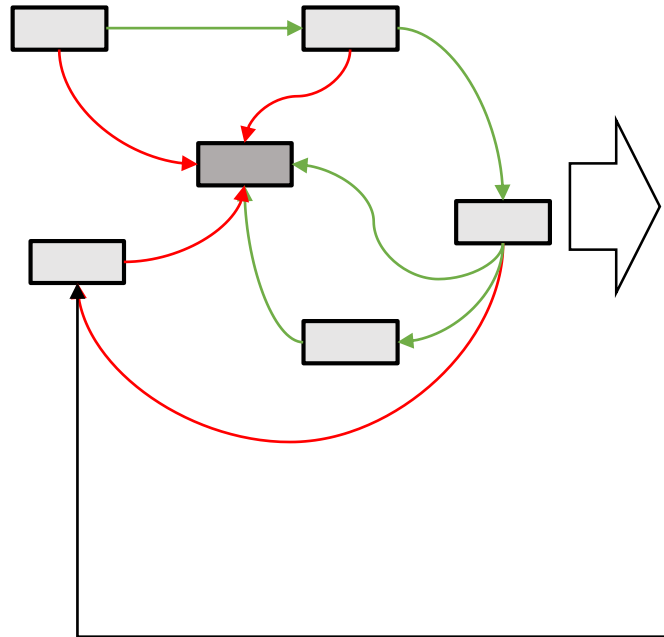
- Lakeshore
- Speedboat
- Tahoma
- Upper Truckee
- Tahoe Valley
- SR431
- Pasadena
- Incline Village (inactive)
- Rubicon (inactive)



# Science-Based Adaptive Management Structure

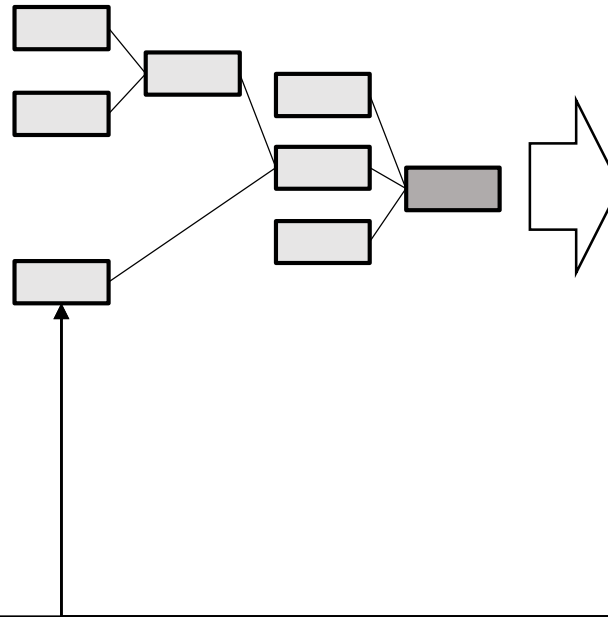
## Conceptual Model

Scientific understanding of the processes and drivers that influence the state of the system (Science Groups)



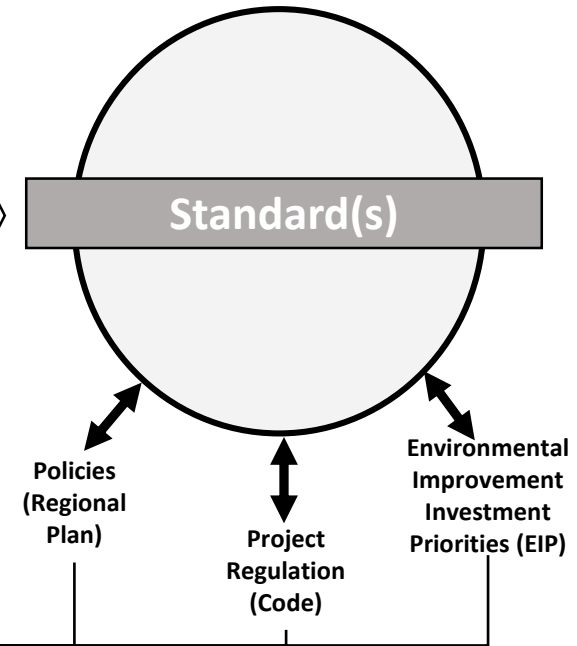
## Results Framework

Explanation of management actions and their expected influence on the processes and drivers of the system, and ultimately the desired outcome (Policy Groups)



## Standards System

Management of system to achieve desired outcomes through standards expressed in policy, regulations, and investment priorities (Public Input)



Monitoring and Feedback



### Threshold Standards

ID	Category	Sub	Standard
1	Water quality	Pelagic	Maintain annual mean phytoplankton primary productivity at or below 52gmC/m2/yr
2	Water quality	Nearshore	Support actions to reduce the extent and distribution of excessive periphyton (attached) algae in the nearshore (littoral zone) of Lake Tahoe.

### Code

ID	Chapter	Level1	Level2	Code
126	6	6.6	6.6.1	Total existing coverage in square feet, distinguished as hard, soft, or potential coverage, and estimated date of coverage placement, including coverage credited but not yet transferred
127	6	6.6	6.6.2	Allowable base coverage in square feet pursuant to the Bailey coefficients, or, if applicable, IPES.

### Permitting Conditions

ID	PC	Condition
10213	RA1B	Revegetation plans shall show areas to be revegetated, specifications for revegetation, and fencing for vegetation protection
10213	RA1B	Slope stabilization plans shall show all methods of stabilization to be used to stabilize all existing and proposed cut and fill slopes .....

### Compliance action

ID	Action
112	Stop work order
113	Pre-grade inspection

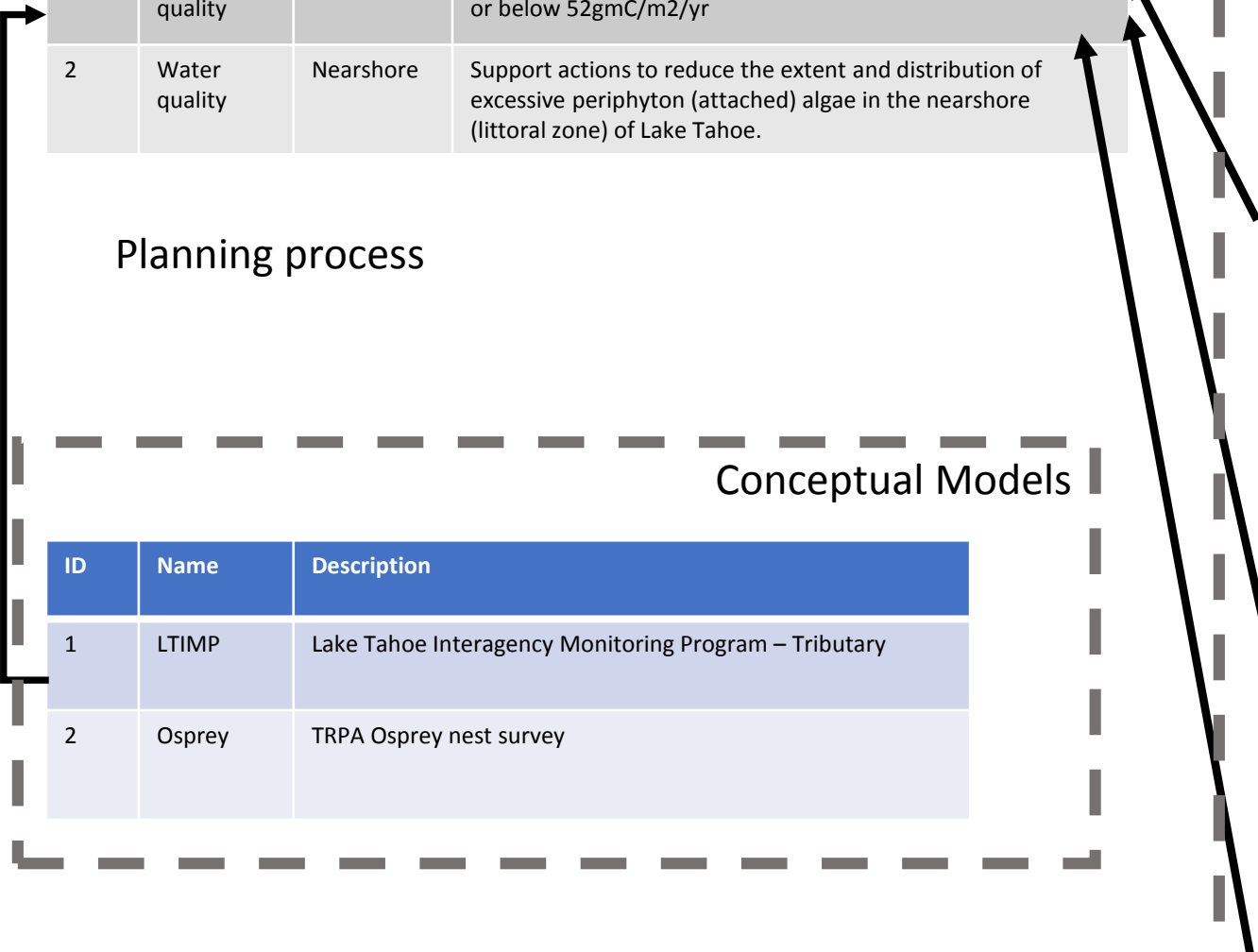
### EIP

ID	PMID	Performance Measure
3	3	Parcels with stormwater BMPs
4	4	Miles of Roads Decommissioned or Retrofitted

### Planning process

### Conceptual Models

ID	Name	Description
1	LTIMP	Lake Tahoe Interagency Monitoring Program – Tributary
2	Osprey	TRPA Osprey nest survey



# Dashboard

Threshold Standard - phytoplankton primary productivity



## Code

Code Section	2017
Total existing coverage in square feet, distinguished as hard, soft, or potential coverage, and estimated date of coverage placement, including coverage credited but not yet transferred	48

## Permitting Conditions

Condition	2017
Revegetation plans shall show areas to be revegetated, specifications for revegetation, and fencing for vegetation protection	29

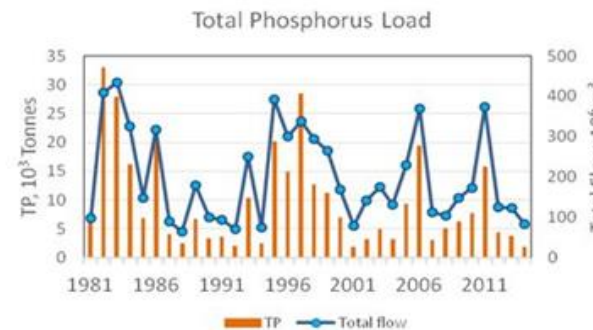
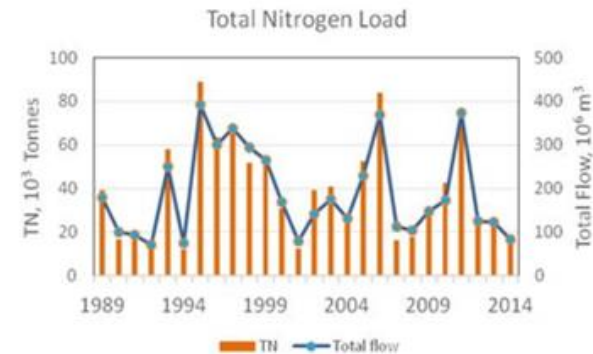
## Compliance action

Action	2017
Pre-grade inspection	170

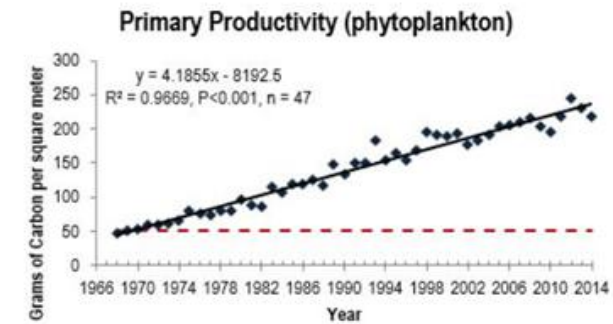
## EIP

Performance Measure	2017
Parcels with stormwater BMPs	2,517

## Monitoring



## Monitoring



Thank you