A Summary of Findings on Citizen Monitoring Contributions Towards the Monitoring of California Waters and Beneficial Uses

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Clean Water Team

Water Boards

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The Need for Citizen Monitoring in California

Citizen monitors and watershed stewardship organizations can have vital roles in helping the state improve and protect water quality, especially during times of budgetary declines, staff downsizing and an urgency to grow programs.

With a population of over 38 million people, the demand for California's most precious resource, water, is growing exponentially. The usability of our water depends on its quality. To assist the state in meeting its water quality objectives, the Clean Water Team (CWT) was formed.

What is The Clean Water Team

The Clean Water Team (CWT) is the citizen/volunteer monitoring program of the (California) State Water Resources Control Board.

The CWT is a part of the Surface Water Ambient Monitoring Program (SWAMP) within the Office of Information Management and Analysis.

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The Clean Water Team

Our Mission … "To build and support the State's Watersheds' Stewardship through citizen monitoring in order to reduce and prevent water pollution."

Our Vision… "Achieve effective, sustainable and integrated citizen monitoring programs throughout California."

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CWT Program

The Citizen Monitoring Coordinator works statewide (9 Regional Water Quality Control Boards).

The program assists groups through six core functions: outreach and communication, technical and quality assurance assistance, training, loans of equipment, event support, and information management.

Promoting citizen monitoring including collaborations and use of citizen monitoring data is also a program priority.

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What constitutes success of volunteer monitoring programs?

Everyone can answer this question differently.

Improved: Permitting, outreach, land use/zoning, BMPs, 303(d) list…

Number of: Volunteers, returning volunteers, monitoring days, outreach events, clean-ups, pounds of trash removed, trees-planted, storm drains stenciled, increased return of salmon…

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Why the variability in defining success?

Monitoring projects and their sponsoring organization have different goals and objectives.

- Some are focused on education and want to reach out to as many people as possible.

- Others may have a very specific objective such as to protect steelhead habitat

These are two very different goals and what defines success for these two programs will also be very different.

Common Theme:
Improved and/or protected water quality

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Survey Citizen Monitors That Obtain Water Quality Data

Citizen Monitoring programs in California have existed since the late 1990's. The CWT has been actively engaging with citizen monitoring programs, watershed stewardship groups and agencies since 2000.

To improve how the CWT can assist citizen monitors and communicate the value of citizen monitoring programs and their data, an information survey was conducted in 2011.

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Surveyed Population

Emailed invitations were sent via the CWT email list (self-subscription), just over 1,000 e-addresses, and to email addresses from the Jan. 2010 directory.

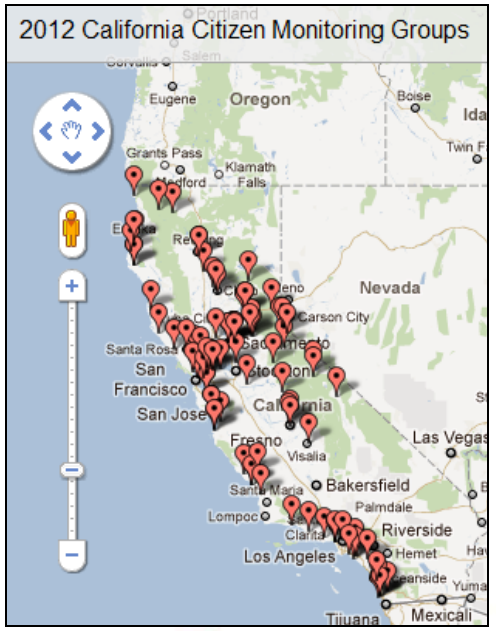
- 57 valid surveys from 73 submissions

2010 Directory – 250 Groups
Asked groups to contact us if they did not want to be in the directory.

2010 Map - 248 Groups

2012 Map – 100 Groups
Contacted via email and asked only for those currently involved with water quality monitoring projects that are producing useable data (excluded educational only projects).

2012 Marketing survey - 463 Watershed Stewardship Groups (includes Citizen Monitors



Citizen Monitoring Program Status

Of the groups contacted, 2 did not have a current coordinator to contact and 2 groups did not have a website.

(Only one group was in both categories)

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Monitoring Frequency

	%
Weekly	7
Monthly	33
Quarterly	9
Seasonally	19
Yearly	6
Other	26

Other:

- Bi-Monthly
- 2-4 Times/Year
- 6 times/year
- Twice Monthly (2 groups)
- Spring and Fall
- Storm Events
- Varies
- 3 Times/Year
- Intensively in Summer
- Varies and Depends on the Waterbody: Weekly, Monthly Yearly
- As Requested
- Every Other Week

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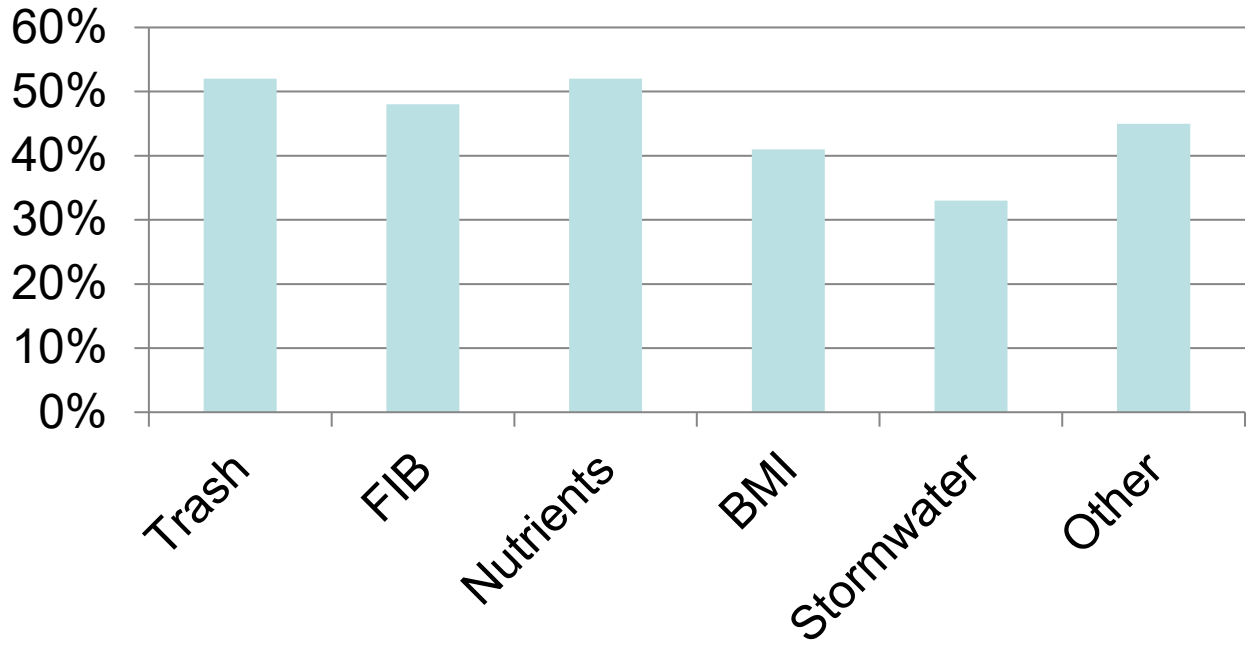
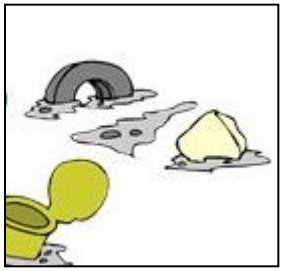
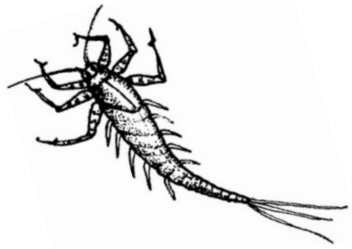
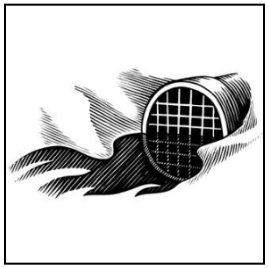
% of Groups Monitoring an "Other" Additional Parameter









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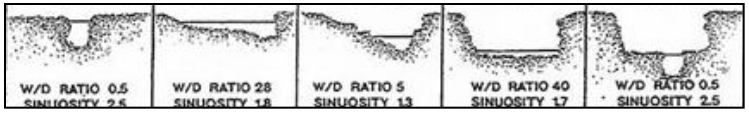
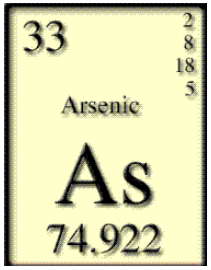
"Other" Additional Parameters Monitored

- Highest and Lowest Stream Flow
- Pre-restoration Photo Documentation
- Environmental Conditions
- Pesticides/Metals
- Aquatic Vertebrate Assemblages
- Channel Morphology, Riparian LWD Inventories, Spawning Surveys, Snorkel Surveys
- TSS
- CRAM, Algae
- Nekton
- Habitat-Vegetation, Presence of Birds
- Metals, Detergents, Urea, Ammonia, Chlorine, Human Bacteroides
- Metals
- Flow, Shade, Human Impact
- Industrial Stormwater Pollution
- TSS Mercury
- MWAT Thermal Profiles, Salmon and Sturgeon Fish Counts, Meadow Assessments
- Arsenic, General Habitat Conditions
- Streamwalk Assessments





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Quantity of Sites Monitored

Total number of sites reported as being monitored = 1,423 sites

Average number of sites monitored/Group = 28

Range: 0 – 252

Based on 53 Responses – 51 Usable Entries

Potentially 2,800 Sites currently being monitored

Assuming normal distribution of sample and population of groups monitoring by site and not assessing stream miles

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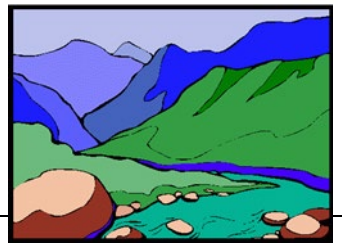
Number of Miles Assessed



Total number of stream/coastline miles reported as being assessed = 353 miles

Average number of miles assessed/Group = 14

Range: 1 – 58

Based on 18 Usable Responses

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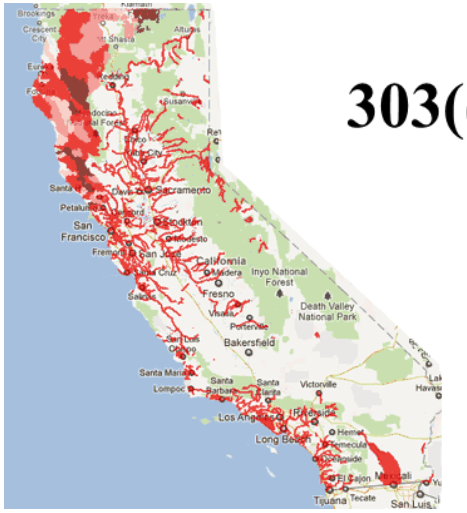

303(d) List

CWA section 303(d) requires states to identify waters that do not meet, or are not expected to meet by the next listing cycle, applicable water quality standards after the application of certain technology-based controls and schedule such waters for development of Total Maximum Daily Loads (TMDLs) [40 Code of Federal Regulations (CFR) 130.7(c) and (d)].

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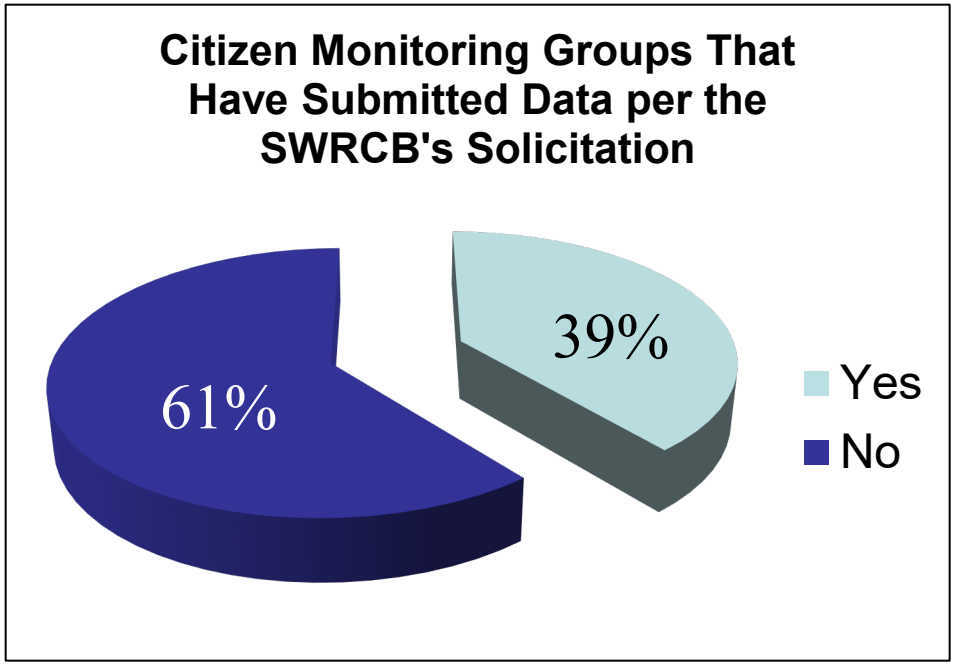
CA 303(d) Call For Data Submissions

6.1 Process for Evaluation of Readily Available Data and Information All readily available data and information shall be evaluated. To develop the section 303(d) list the RWQCBs and SWRCB shall use the following process.

6.1.1 Definition of Readily Available Data and Information RWQCBs and SWRCB shall actively solicit, assemble, and consider all readily available data and information. Data and information that shall be reviewed include, but are not limited to: submittals resulting from the solicitation, selected data possessed by the RWQCBs, and other sources.



Water Quality Control Policy For Developing California's Clean Water Act Section 303(d) List, Sept. 2004

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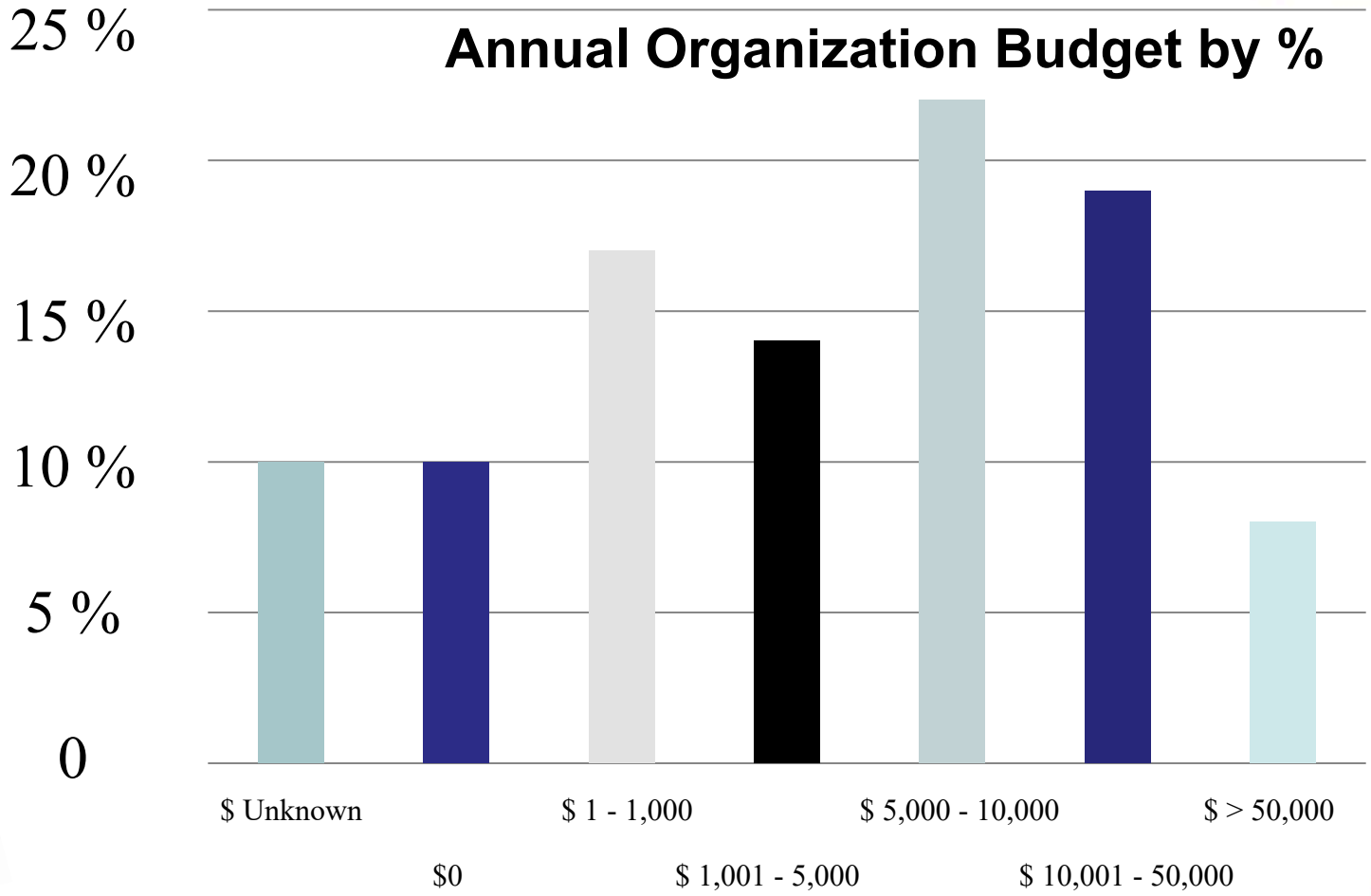

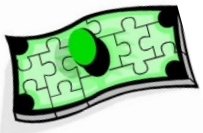

REPORTED ANNUAL BUDGETS

Total Reported Budgets: $ 1,068,859

Budget Range: Unknown – $600,000

Mean: $18,752

POTENTIAL ANNUAL BUDGETS

100 Groups $1,875,200

250 Groups $4,688,000

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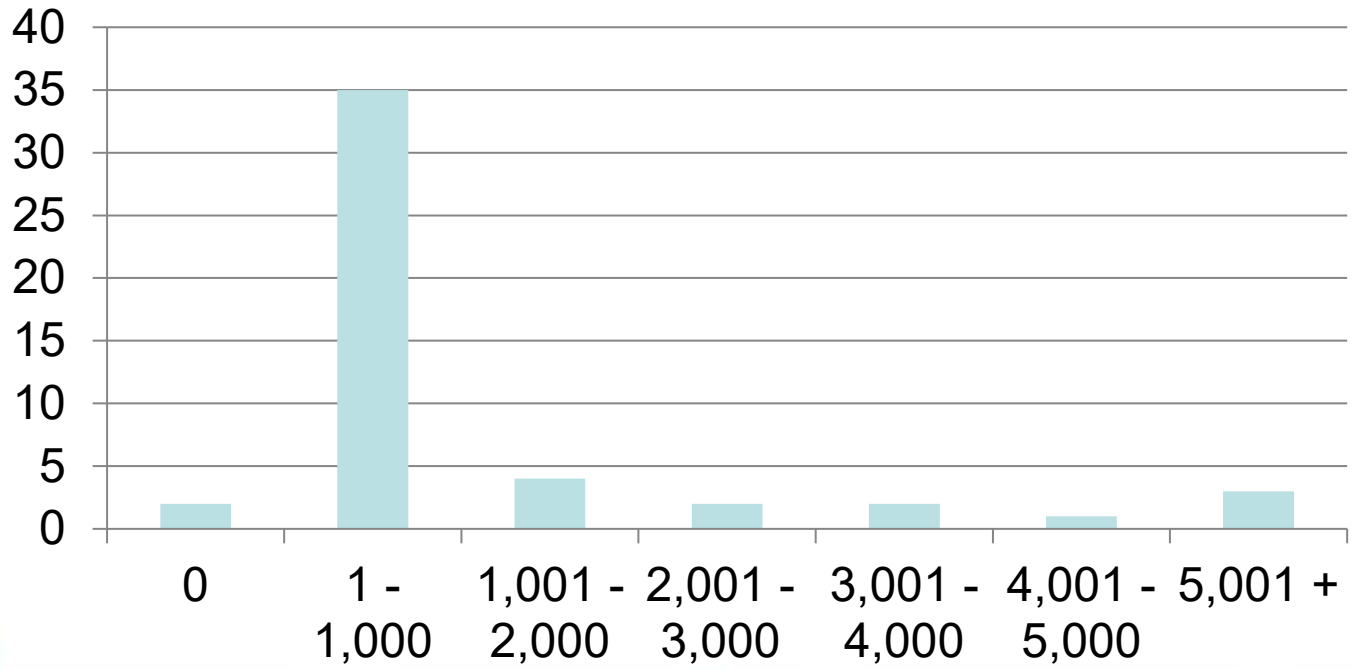
Annual Volunteer Hours

Total Annual Volunteer Hours Reported: 53,384 hours
Mean: 1,112 hours
Range: 0 – 12,500
5 Unknown, 1 Not Reported, 3 Not Applicable

Organizations by - Percent Annual Volunteer Hours Realized



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Valuation of Annual Volunteer Hours

Annual Value of CA Citizen Monitoring Volunteer Hours

As Reported: $ 1,140,282.24

Potential 100 Groups: $ 2,375,232.00

Potential 250 Groups: $ 5,938,080.00

History of the Dollar Value of a Volunteer Hour: *2010 – 2011**

2010: $21.36 2011: $21.79

Dollar Value of a Volunteer Hour, by State: California*

2009: $23.42 2010: $24.18

*http://www.independentsector.org/volunteer_time

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Citizen Monitoring Contributions

Total Reported Budgets and Volunteer Hours (53,384 hours @ $21.36)
$ 1,068,859 + 1,140,282.24 = **$2,209,141.24**

Potential Annual Value of CA Citizen Budget
and Valuated Volunteer Hours
Potential 100 Groups: **$ 4,240,432.00**
Potential 250 Groups: **$ 10,626,080.00**

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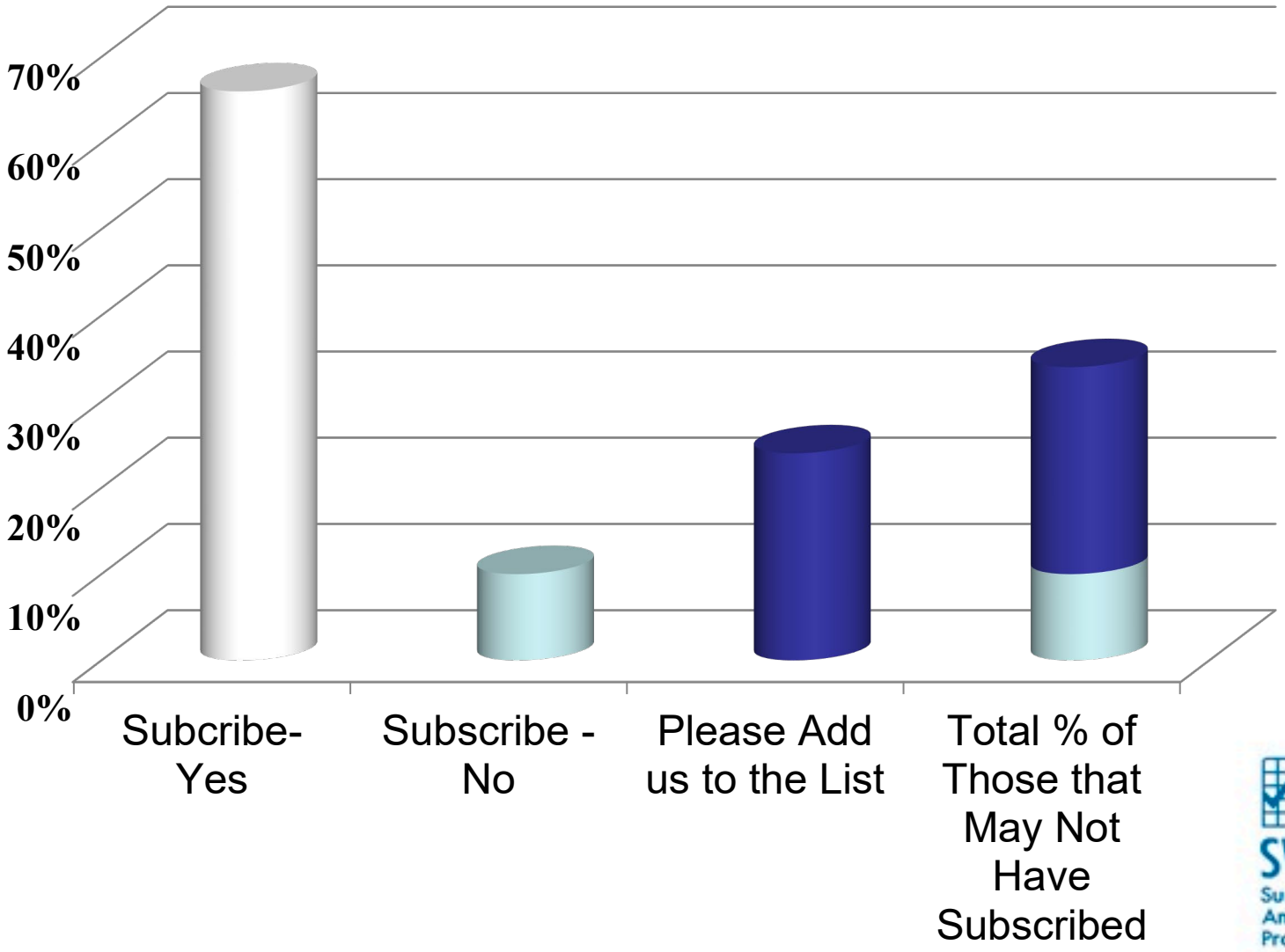
Clean Water Team Email Subscription Usage



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Conclusion

Citizen Monitoring Groups are making significant contributions to water quality monitoring in California.

These groups are not only important watershed management stakeholders but also valuable collaborators.

With today's economic climate and current demands for water, and the beneficial uses it provides we cannot afford to overlook supporting, implementing and/or partnering with Citizen Monitoring Projects.

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