# Use of a Wiki Portal for Watershed Management: An Integrated Approach

*Prepared by : Soumya Chennapragada*

*Presented by : Clay Clifton*

# San Diego Coastkeeper – Mission Statement

- San Diego Coastkeeper protects the region's bays, beaches, watersheds and ocean for the people and wildlife that depend on them.

- We balance community outreach, education, and advocacy to promote stewardship of clean water and a healthy coastal ecosystem.

# Purpose of Water Quality Monitoring

- Augment existing watershed data by engaging community to monitor water quality in their rivers and streams
- To answer: does water quality in county watersheds exceed water quality standards for particular constituents?
- Enhance decision-making at the regulatory level
- Get out in the field and enjoy the local environment!!

INPUTS /
DATA SOURCES ---------- AUDIENCES ----------OUTPUT NEEDS / CRITERIA

Watershed Data: Water Chemistry, Bacteria, Toxicity & Observational Data

Stormwater co-permittee monitoring data

County of SD Department of Public Health Beach Water Quality Data

Observational Data – stormwater illegal discharges.
Effectiveness of LID / BMPs in county

Watershed data: Interviews, videos, pictures, other reports

Volunteers / Watershed Captains / Members of the General Public
•Need interpretations

Water quality professionals / State Water Resources Control Board
•Need raw data!
•Stormwater enforcement agencies

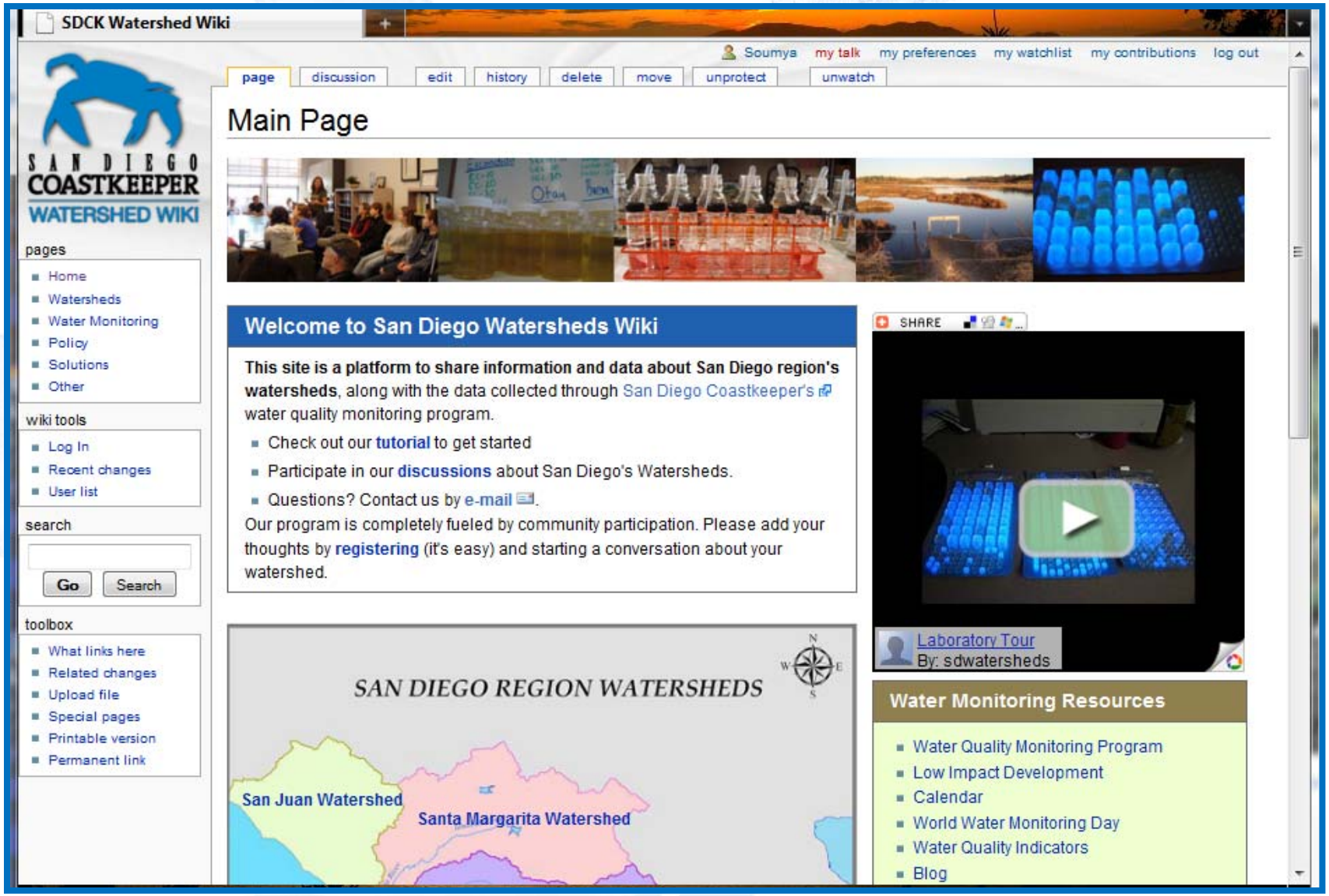
Engage community using existing technologies: GIS, Social Media, Google tools to understand w.q. issues and gather feedback

Regulatory & regulated community to make more informed decisions re. allocation of resources to address non-point source pollution.

Comparison of w.q. data with standards and Beneficial Uses in the Basin Plan

Provide easily accessible and informative data to the public .

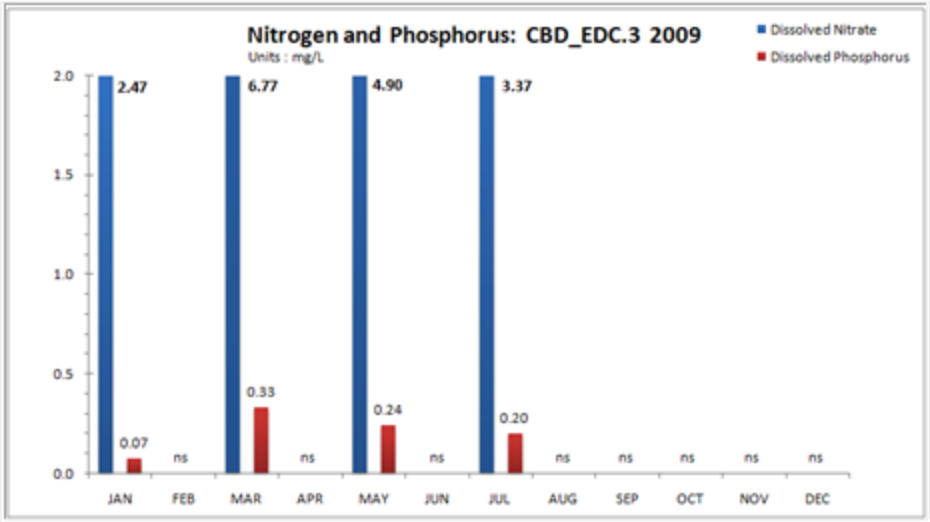
# www.sdwatersheds.org

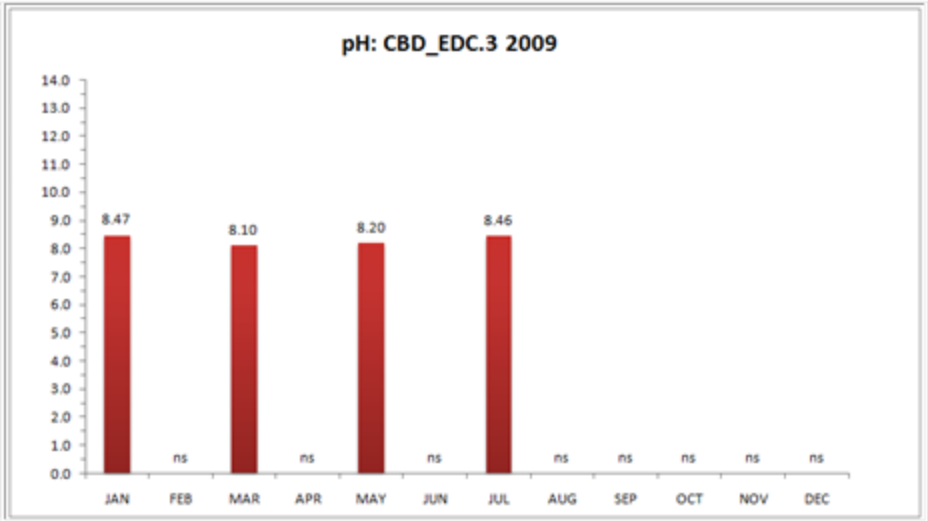


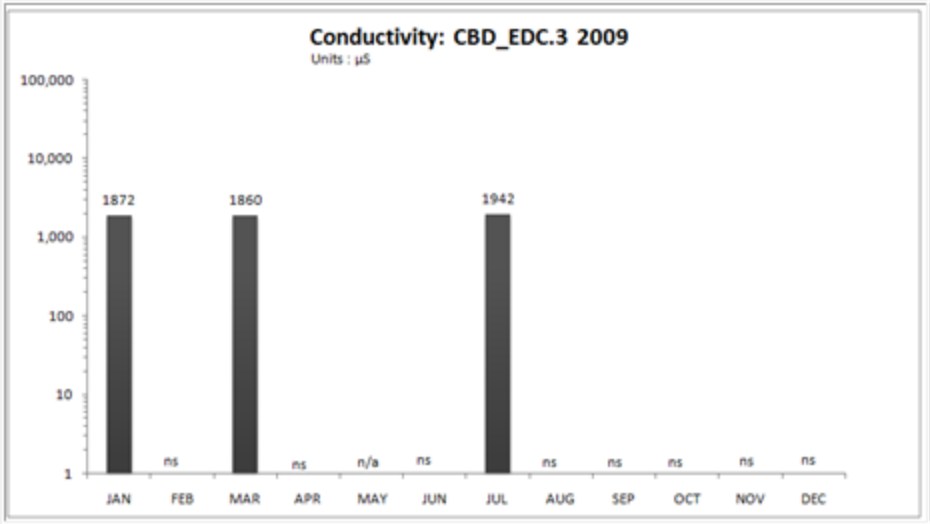
## Water Quality Parameters Monitored and Data Displayed on the wiki:

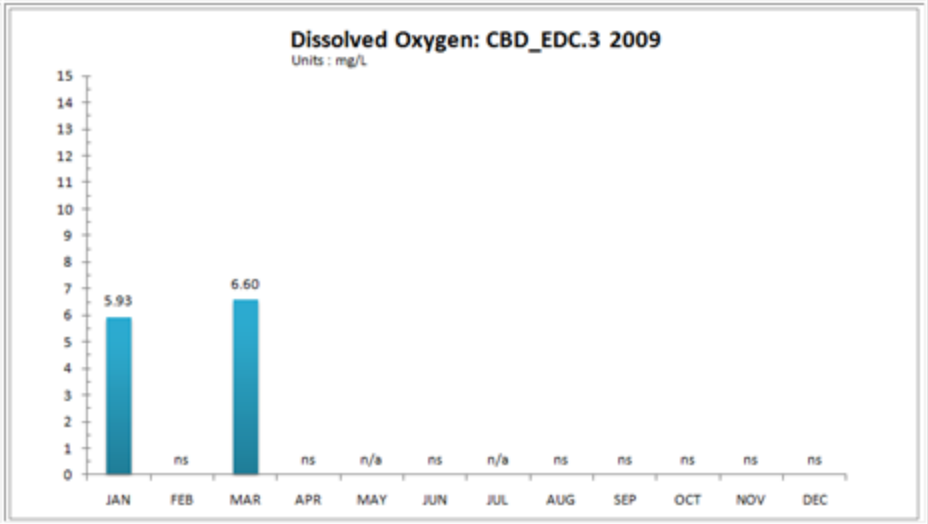
1. Temperature
2. Dissolved Oxygen
3. pH
4. Conductivity (fresh water) or Salinity (marine)
5. Nitrate
6. Total Orthophosphate
7. Dissolved Metals (Cadmium, Chromium, Nickel, Lead, Copper, and Zinc)
8. Total Coliform bacteria
9. E.Coli bacteria
10. Enterococci bacteria
11. Benthic macro-invertebrates
12. Toxicity

# Water Quality Data

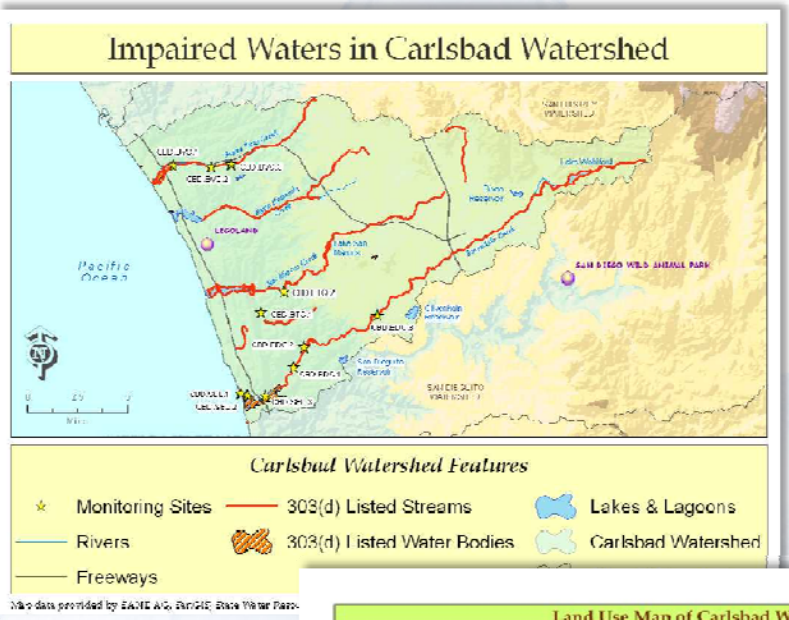


# Preview of Information on watershed pages

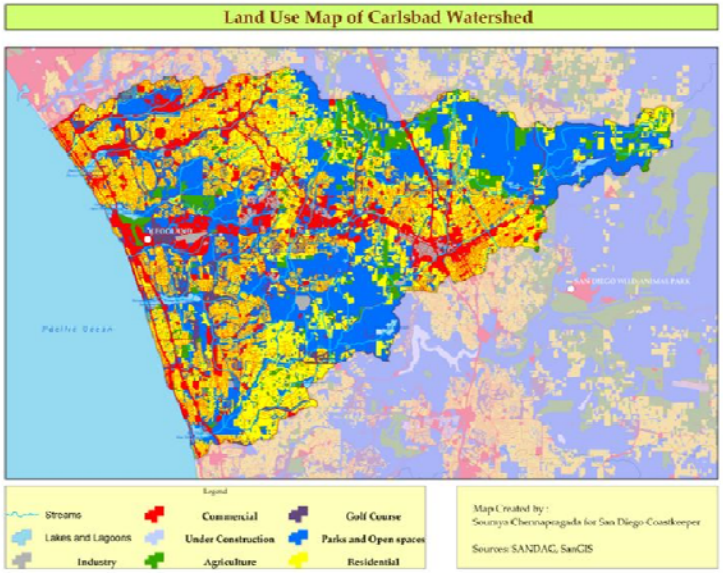



**Impaired Water Bodies in Carlsbad Watershed**

**CWA 303(d) List**

*Impaired Waterbodies in the Carlsbad Watershed according to the Clean Water Act Section 303(d) List*

| Waterbody | Pollutant/Stressor |
|---|---|
| Agua Hedionda Creek | Manganese, Selenium, Sulfates, Total Dissolved Solids |
| Agua Hedionda Lagoon | Indicator bacteria, Sedimentation/Siltation |
| Buena Creek | DDT, Nitrate and Nitrite, Phosphate |
| Buena Vista Creek | Sediment Toxicity |
| Buena Vista Lagoon | Indicator bacteria, Nutrients, Sedimentation/Siltation |
| Cottonwood Creek (San Marcos) | DDT, Phosphorus, Sediment Toxicity |
| Encinitas Creek | Phosphorus |
| Escondido Creek | DDT, Manganese, Phosphate, Selenium, Sulfates, Total Dissolved Solids |
| Loma Alta Slough | Eutrophic, Indicator bacteria |
| Pacific Ocean Shoreline, Buena Vista Creek | Indicator bacteria |
| Pacific Ocean Shoreline, Escondido Creek | Indicator bacteria |
| Pacific Ocean Shoreline, Loma Alta | Indicator bacteria |
| Pacific Ocean Shoreline, San Marcos | Indicator bacteria |
| Reidy Canyon Creek | Phosphorus |
| San Elijo Lagoon | Eutrophic, Indicator bacteria, Sedimentation/Siltation |
| San Marcos Creek | DDE, Phosphorus, Sediment Toxicity |
| San Marcos Lake | Ammonia as Nitrogen, Nutrients, Phosphorus |




## Watershed Land Use

### Land Use by type

| Type | Share of Watershed |
|---|---|
| Residential | 37.0% |
| Commercial | 20.0% |
| Parks & Open Spaces | 31.0% |
| Golf Course | 2.1% |
| Agriculture | 6.3% |
| Under Construction | 0.2% |
| Industry | 1.6% |

# Preview of Information on watershed pages

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CBD.BVC.1 2009

Buena Vista Lagoon near intersection of Jefferson and Marron Rd, off parking lot

Interactive Map

Data

**Monitoring Sites**

San Diego Coastkeeper currently conducts monthly water quality monitoring at 13 sites in the Carlsbad watershed.

The site codes and their locations are as follows:

CBD.BVC.1 : Buena Vista Lagoon near intersection of Jefferson St and Marron Rd, off parking lot
CBD.BVC.2 : Buena Vista Lagoon at Jefferson St Bridge (near Vista Way)
CBD.BVC.3 : Buena Vista Creek near Lake Blvd and College Blvd
CBD.BTQ.1 : Encinitas Creek near the Levante St Bridge (south side)
CBD.BTQ.2 : San Marcos Creek at Box Canyon Dam (downstream at bank)
CBD.EDC.1 : Escondido Creek at Santa Fe Road Bridge
CBD.EDC.2 : Escondido Creek at Camino Del Norte Bridge
CBD.EDC.3 : Escondido Creek near Harmony Grove Road, off dirt trail
CBD.EDC.4 : Escondido Creek at Elfin Forest Reserve, downstream of main Bridge
CBD.EDC.5 : Escondido Creek near intersection of Country Club Drive/Harmony Grove Road, near Bridge
CBD.SEL.1 : San Elijo Lagoon at Cardiff Reef/Coast Hwy Bridge (close to Chesterfield Dr), south of inlet channel
CBD.SEL.2 : San Elijo Lagoon at Visitor Center, near first observation platform
CBD.SEL.3 : San Elijo Lagoon near Mira Costa College Rd

**Watershed Captains in Carlsbad Watershed**

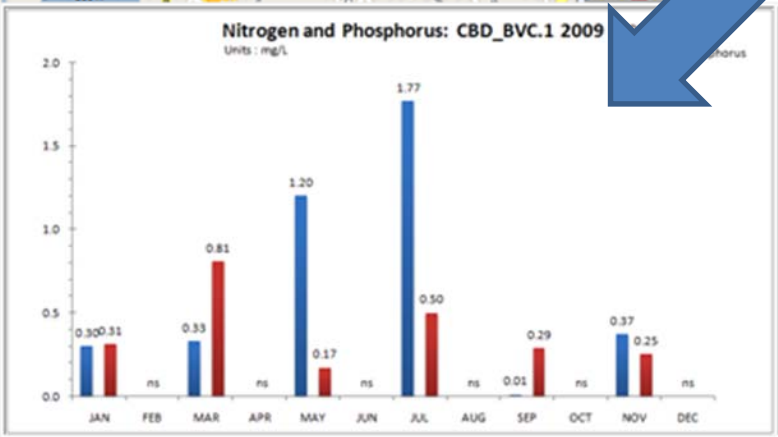
Sue Varty & Jeff Anderson ; Keri Conte & Dan

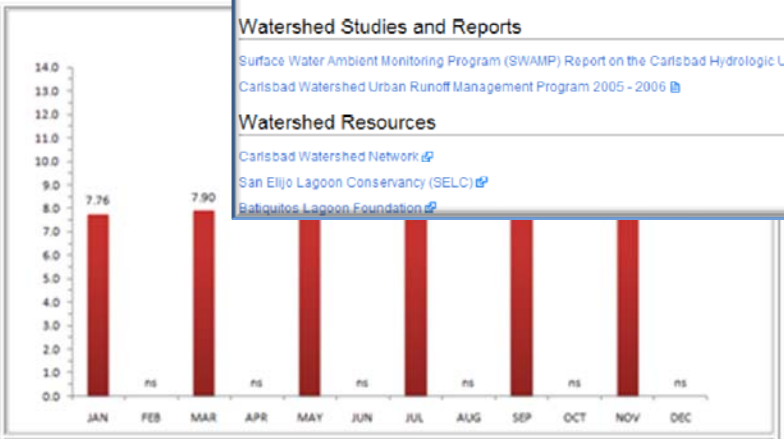
**Watershed Studies and Reports**

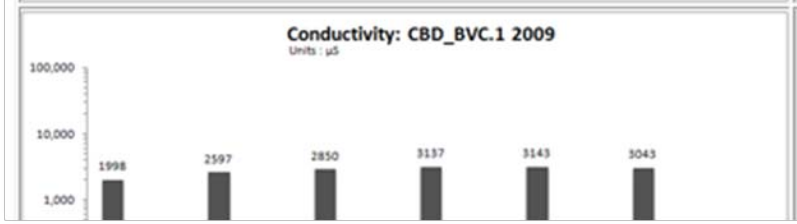
Surface Water Ambient Monitoring Program (SWAMP) Report on the Carlsbad Hydrologic Unit - 2007
Carlsbad Watershed Urban Runoff Management Program 2005 - 2006

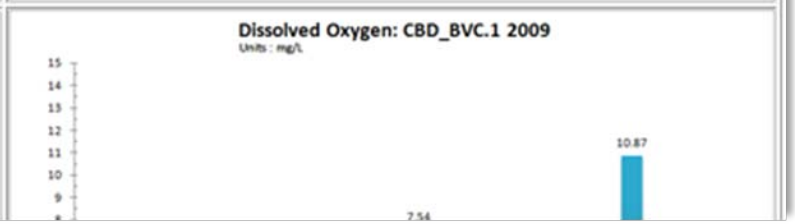
**Watershed Resources**

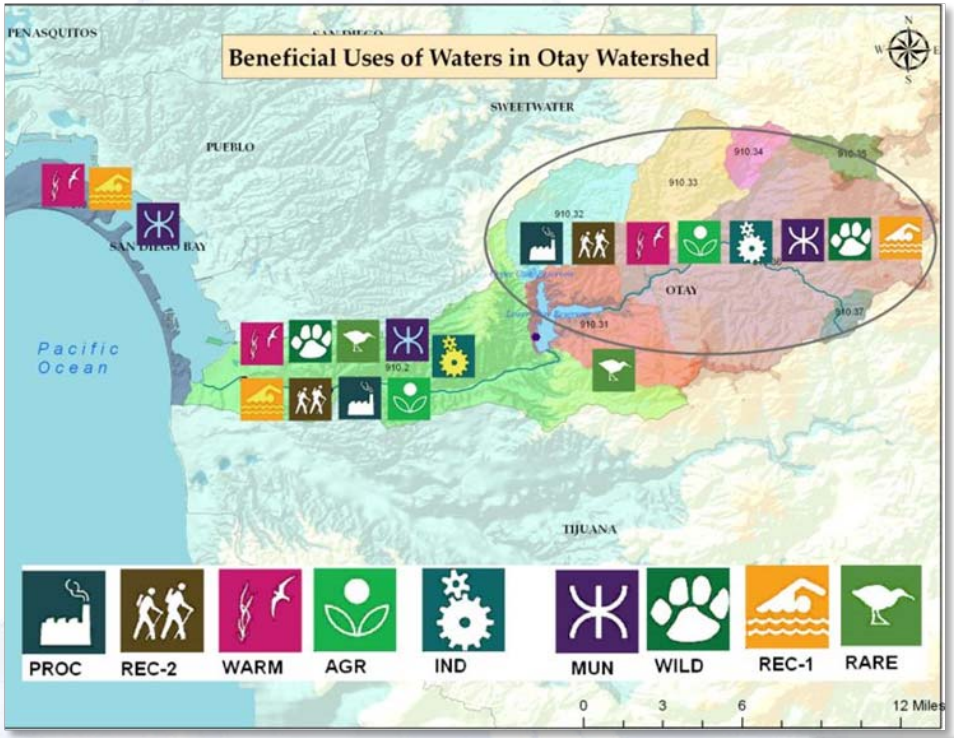
Carlsbad Watershed Network
San Elijo Lagoon Conservancy (SELC)
Batiquitos Lagoon Foundation



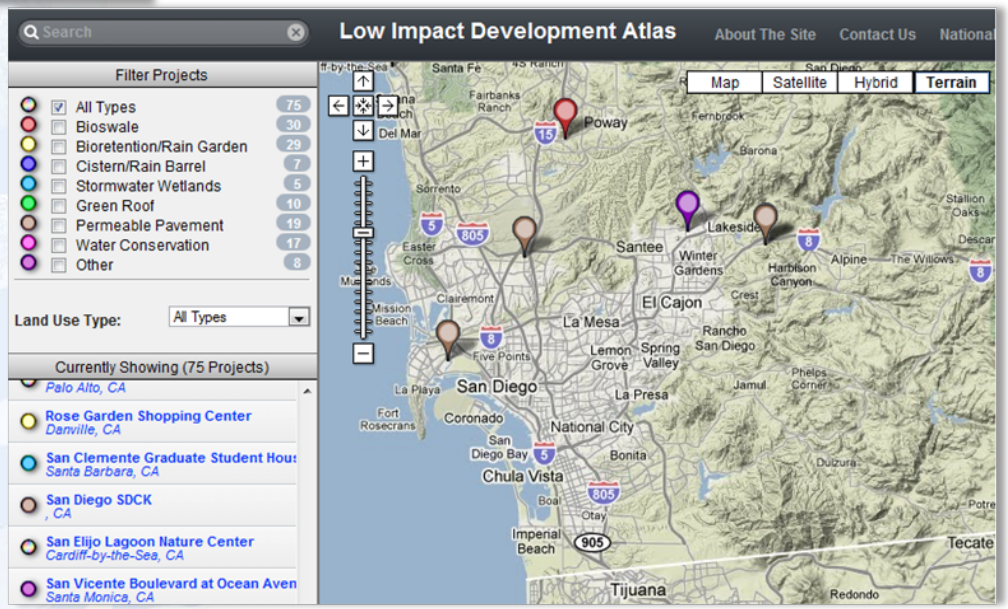






Interactive LID Inventory Map



# Marine Debris Information/Data

Favorites | Beach Cleanup Data - SDCK Watershed Wiki

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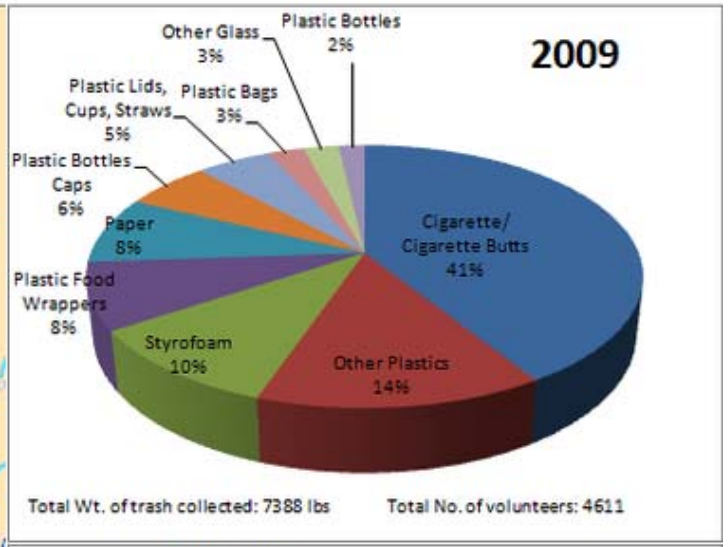
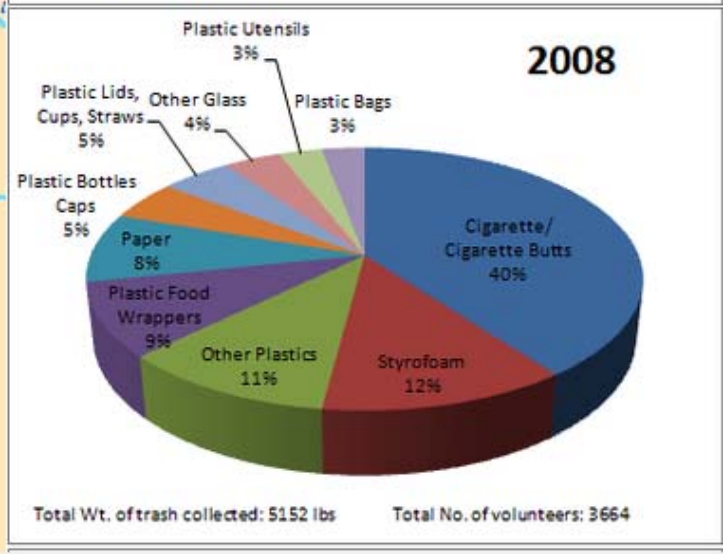
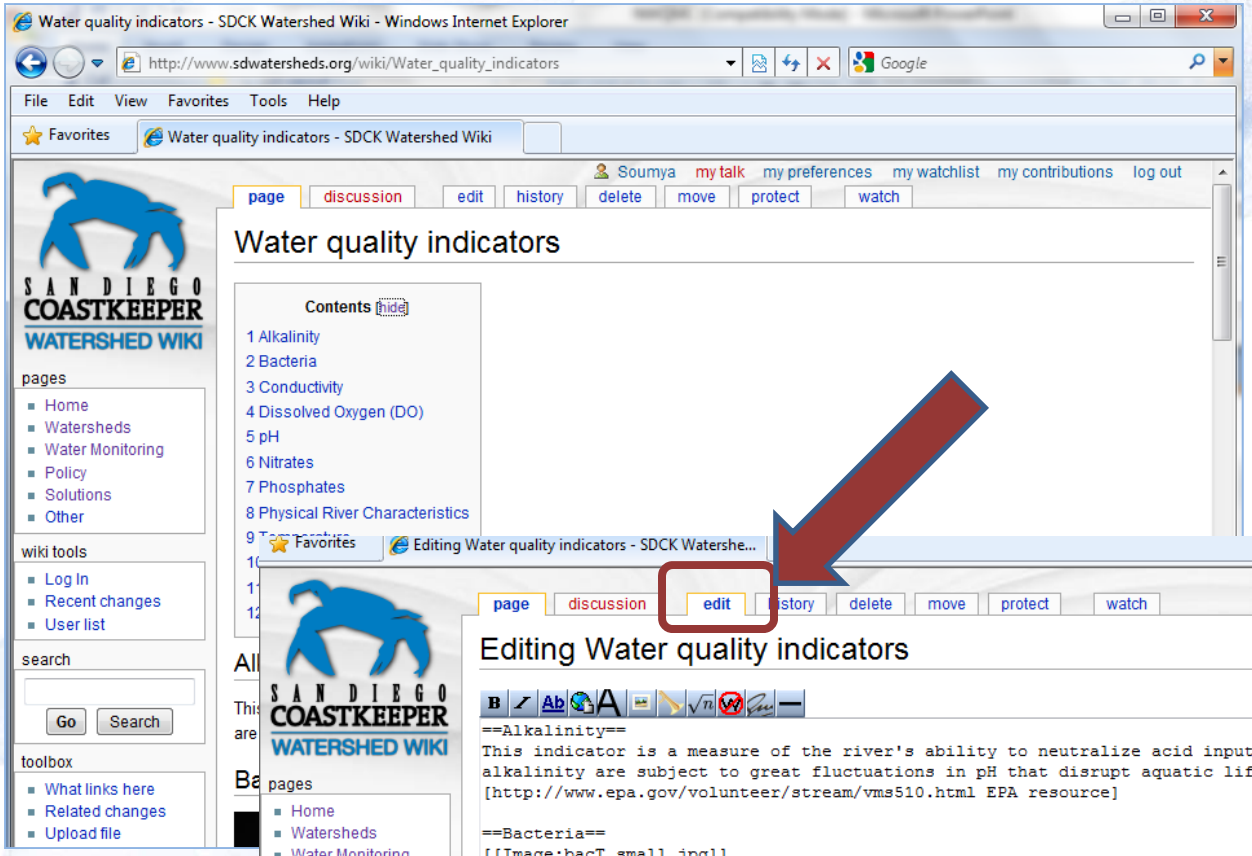
## Top 10 items collected at San Diego Beach Cleanups




Water quality indicators - SDCK Watershed Wiki - Windows Internet Explorer
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User list
search
Go Search
toolbox
What links here
Related changes
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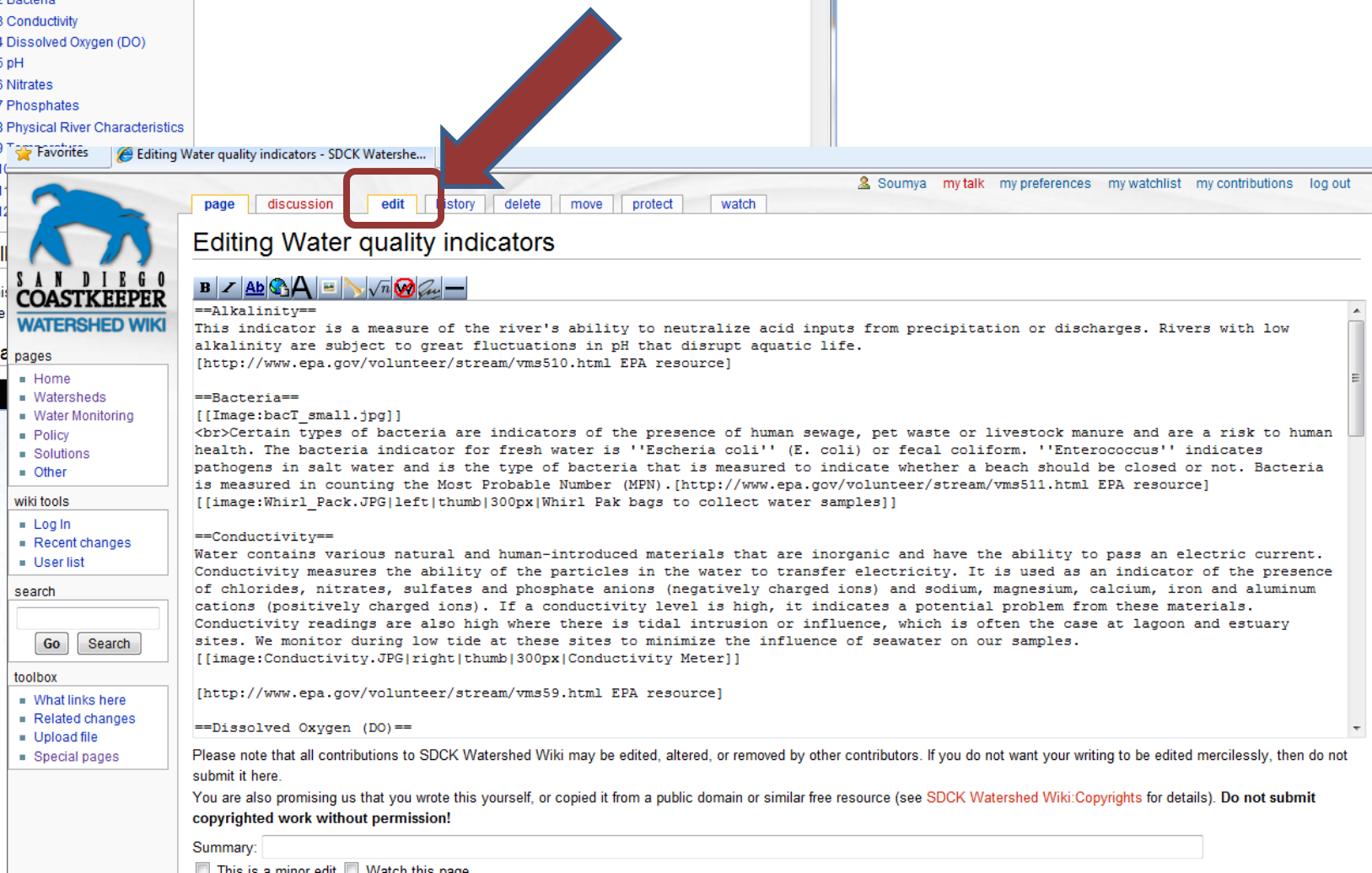
Water quality indicators
Contents hide
1 Alkalinity
2 Bacteria
3 Conductivity
4 Dissolved Oxygen (DO)
5 pH
6 Nitrates
7 Phosphates
8 Physical River Characteristics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User list
search
Go Search
toolbox
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Related changes
Upload file
Special pages
Editing Water quality indicators
==Alkalinity==
This indicator is a measure of the river's ability to neutralize acid inputs from precipitation or discharges. Rivers with low alkalinity are subject to great fluctuations in pH that disrupt aquatic life.
[http://www.epa.gov/volunteer/stream/vms510.html EPA resource]
==Bacteria==
[[Image:bacT_small.jpg]]
<br>Certain types of bacteria are indicators of the presence of human sewage, pet waste or livestock manure and are a risk to human health. The bacteria indicator for fresh water is ''Escheria coli'' (E. coli) or fecal coliform. ''Enterococcus'' indicates pathogens in salt water and is the type of bacteria that is measured to indicate whether a beach should be closed or not. Bacteria is measured in counting the Most Probable Number (MPN).[http://www.epa.gov/volunteer/stream/vms511.html EPA resource]
[[image:Whirl_Pack.JPG|left|thumb|300px|Whirl Pak bags to collect water samples]]
==Conductivity==
Water contains various natural and human-introduced materials that are inorganic and have the ability to pass an electric current. Conductivity measures the ability of the particles in the water to transfer electricity. It is used as an indicator of the presence of chlorides, nitrates, sulfates and phosphate anions (negatively charged ions) and sodium, magnesium, calcium, iron and aluminum cations (positively charged ions). If a conductivity level is high, it indicates a potential problem from these materials. Conductivity readings are also high where there is tidal intrusion or influence, which is often the case at lagoon and estuary sites. We monitor during low tide at these sites to minimize the influence of seawater on our samples.
[[image:Conductivity.JPG|right|thumb|300px|Conductivity Meter]]
[http://www.epa.gov/volunteer/stream/vms59.html EPA resource]
==Dissolved Oxygen (DO)==
Please note that all contributions to SDCK Watershed Wiki may be edited, altered, or removed by other contributors. If you do not want your writing to be edited mercilessly, then do not submit it here.
You are also promising us that you wrote this yourself, or copied it from a public domain or similar free resource (see SDCK Watershed Wiki:Copyrights for details). Do not submit copyrighted work without permission!
Summary:
This is a minor edit Watch this page

special page

# User list

User list

Display users starting at: Group: (all)

Show only users with edits Sort by creation date

Go

(first | last) View (previous 50) (next 50) (20 | 50 | 100 | 250 | 500)

- AJK Media09 (Created on 3 June 2009 at 21:22)
- AJK Media2010 (Created on 3 June 2009 at 21:17)
- AdrianSD (Created on 9 September 2009 at 08:38)
- Akinnane (Created on 2 September 2008 at 14:23)
- Alexis Barbieri (Created on 3 June 2009 at 21:20)
- Amandasousa (Created on 8 September 2009 at 22:43)
- Anthony groundworksandiego (Created on 9 February 2009 at 15:43)
- Ashleybrock (Created on 3 September 2009 at 20:03)
- Avanderheijden (Created on 20 July 2009 at 11:41)
- Bdavidson (Created on 3 June 2009 at 21:18)
- Bethfee (Created on 8 September 2009 at 21:04)
- Bill Meyers (Created on 6 November 2009 at 20:48)
- Bryce (Bot, Bureaucrat, Administrator, widgeteditor) (Created on 9 September 2009 at 21:04)
- Carterthedog (Bureaucrat, Administrator) (Created on 13 November 2008 at 14:43)
- Clay Clifton (Created on 14 April 2010 at 17:24)
- Climbergrl (Created on 18 February 2009 at 16:43)
- Currie dugas (Created on 6 May 2009 at 12:30)
- Dantesdck (Created on 20 February 2009 at 19:37)
- Denise Garcia (Created on 23 October 2009 at 14:07)

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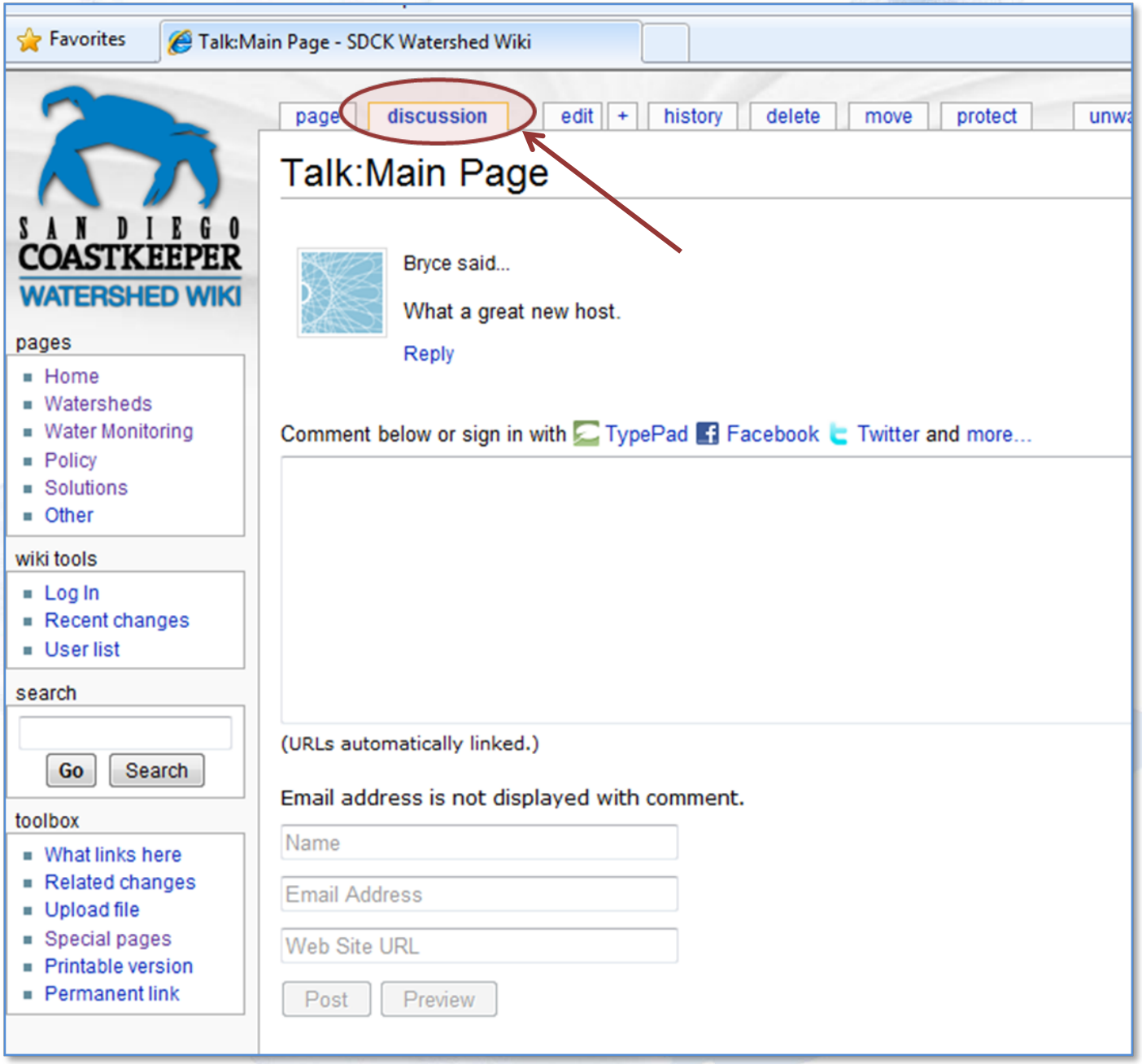
# User:Clay Clifton

I joined San Diego Coastkeeper as a the Watershed Program Manager in March 2010. Previsouly I worked as the Ocean Recreational Environmental Health (1999 - 2008). I look forward to working with community members and concerned citizens who want to take an a San Diego. My work phone number is 619-758-7743 x 120.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User list
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Go
Search
toolbox
What links here
Related changes
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Special pages
Printable version
Permanent link
Talk:Main Page
Bryce said...
What a great new host.
Reply
Comment below or sign in with TypePad Facebook Twitter and more...
(URLs automatically linked.)
Email address is not displayed with comment.
Name
Email Address
Web Site URL
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Preview

# Thank You

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