

Beyond Graphs and Tables: Effective Communication of Water Quality Data



SURFRIDER
FOUNDATION

Surfrider Foundation

- Mission: non-profit grassroots organization dedicated to the protection and enjoyment of our world's oceans, waves and beaches through a powerful activist network.
- Founded in 1984 by a handful of visionary surfers in Malibu, California
- Over 250,000 supporters, activists and members worldwide.

Surfrider Foundation Chapter Network

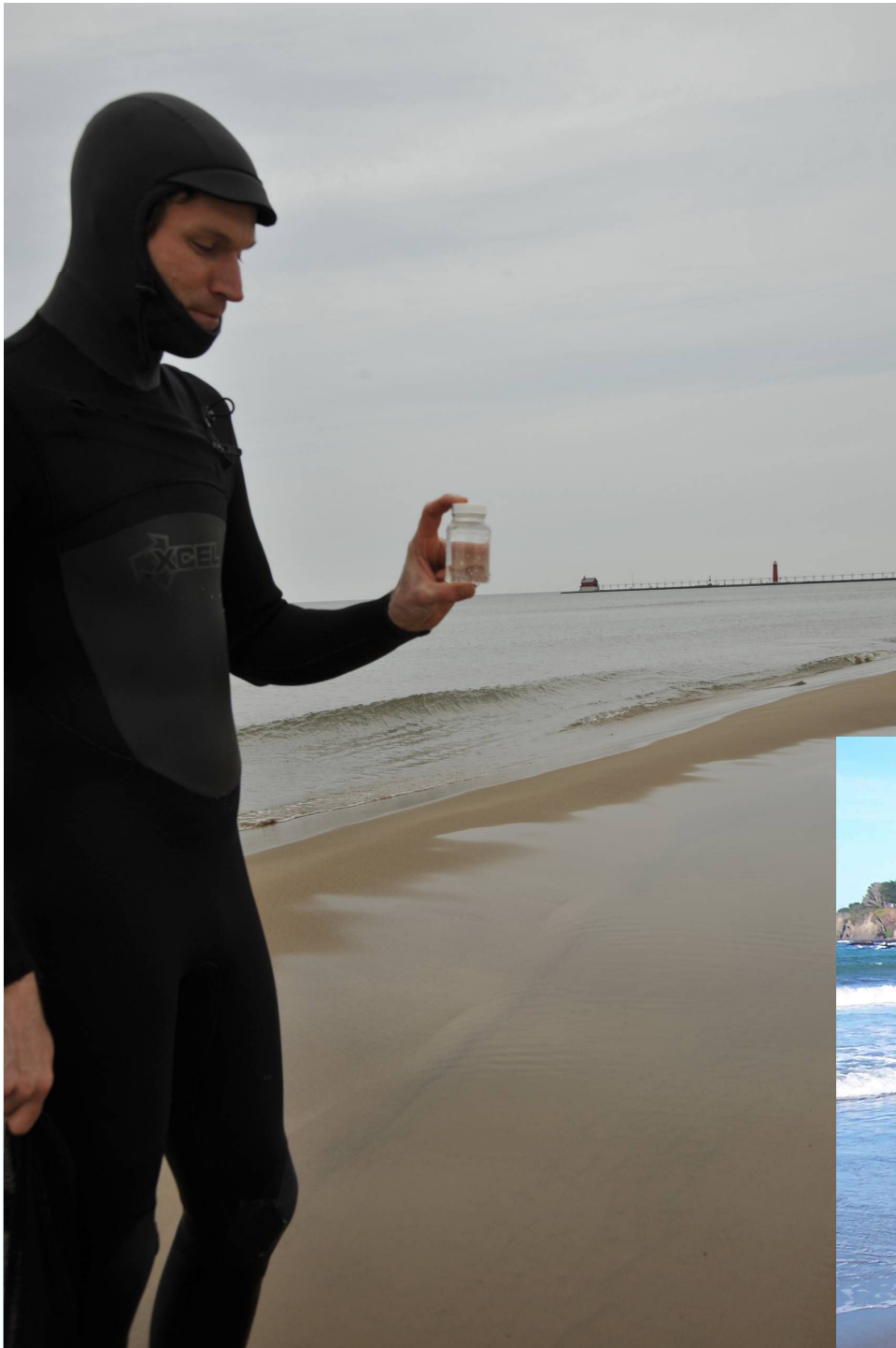




Blue Water Task Force

- Volunteer water quality monitoring, education and advocacy program
- Test marine beaches and freshwater sources for Enterococcus bacteria
- IDEXX Quantitray Sealers
- Run by Chapters!!!





Models of Operation

- Collect samples for partner organizations & help communicate data
 - University, State & local beach programs, & other watershed groups
- School & youth programs
- Chapter maintained labs often using borrowed space





Uses of Chapter BWTF Programs

- Provide beach WQ information
- Education & water quality awareness
- Volunteer Activity & Recruitment
- Fill in data gaps (spatial & temporal)
- Management, participate directly in agency testing program
- Identify water quality problems
- Advocate for pollution solutions

<http://www.surfrider.org/blue-water-task-force>



BLUE WATER TASK FORCE

Surfrider Foundation's volunteer water quality monitoring program

presented by



Intro

Resources

Blog

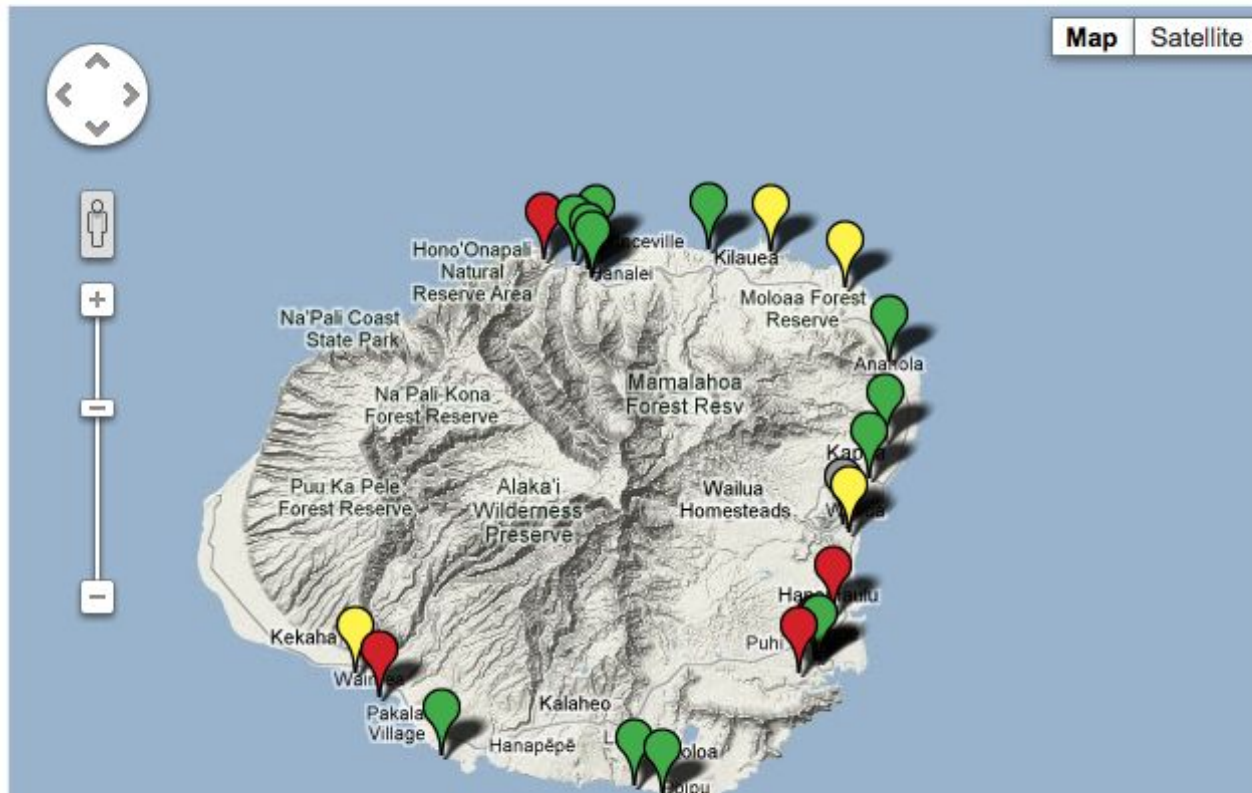
Contact



WATER TESTING LABS

- | | |
|--|-----------------------|
| Newport Harbor HS/ Newport Beach Chapter, CA | Vancouver, BC |
| Northwood HS/ Newport Beach Chapter, CA | Kaua'i, HI |
| Valencia HS/ Newport Beach Chapter, CA | Jersey Shore, NJ |
| San Mateo County, CA | Charleston, OR |
| Marin County, CA | Port Orford, OR |
| San Clemente HS / South OC Chapter, CA | North Coast, OR |
| West LA/Malibu, CA | Depoe Bay, OR |
| Mater Dei HS/ Newport Beach Chapter, CA | Newport, OR |
| South Bay, CA | Florence, OR |
| Orange HS/ Newport Beach Chapter, CA | Rincon, PR |
| Long Beach, CA | Rhode Island, RI |
| Sonoma Coast, CA | South Sound, WA |
| Corona Del Mar HS/ Newport Beach Chapter, CA | Northwest Straits, WA |
| | Seattle, WA |

KAUA'I



KAUA'I BEACHES

Hanamaulu Stream	Pine Trees
Tested on: 04/14/2012	Tested on: 04/14/2012
Kalapaki Bay	PK's
Tested on: 04/14/2012	Tested on: 04/14/2012
Kalihiwai	Rock Quarry
Tested on: 04/14/2012	Tested on: 04/14/2012
Kapa'a Beach Park	The Bowl
Tested on: 04/14/2012	Tested on: 04/14/2012
Kealia	Waikokos
Tested on: 04/14/2012	Tested on: 04/14/2012
Lucy Wright Park, Waimea	Wainiha Stream
Tested on: 04/14/2012	Tested on: 04/14/2012
Lydgate	Waiohai
Tested on: 04/14/2012	Tested on: 04/14/2012
Middles	Anahola Bay
Tested on: 04/14/2012	Tested on: 03/17/2012
Nawiliwili Stream	Moloa'a
Tested on: 04/14/2012	Tested on: 03/17/2012
Niumalu Beach Park	Salt Pond
Tested on: 04/14/2012	Tested on: 02/11/2012

Sample Site	Test Date	Enterococcus (MPN/100 ml)	Indication of
Hanamaulu Stream	04/14/12	830	High Bacteria
Kalapaki Bay	04/14/12	10	Low Bacteria
Kalihiwai	04/14/12	0	Low Bacteria
Kapa'a Beach Park	04/14/12	0	Low Bacteria
Kealia	04/14/12	10	Low Bacteria
Lucy Wright Park, Waimea	04/14/12	52	Medium Bacteria
Lydgate	04/14/12	85	Medium Bacteria
Middles	04/14/12	10	Low Bacteria
Nawiliwili Stream	04/14/12	743	High Bacteria
Niumalu Beach Park	04/14/12	1081	High Bacteria

Key

Enterococcus (MPN/100 ml):

- (0-35) Low Bacteria
- (36-104) Medium Bacteria
- (> 104) High Bacteria

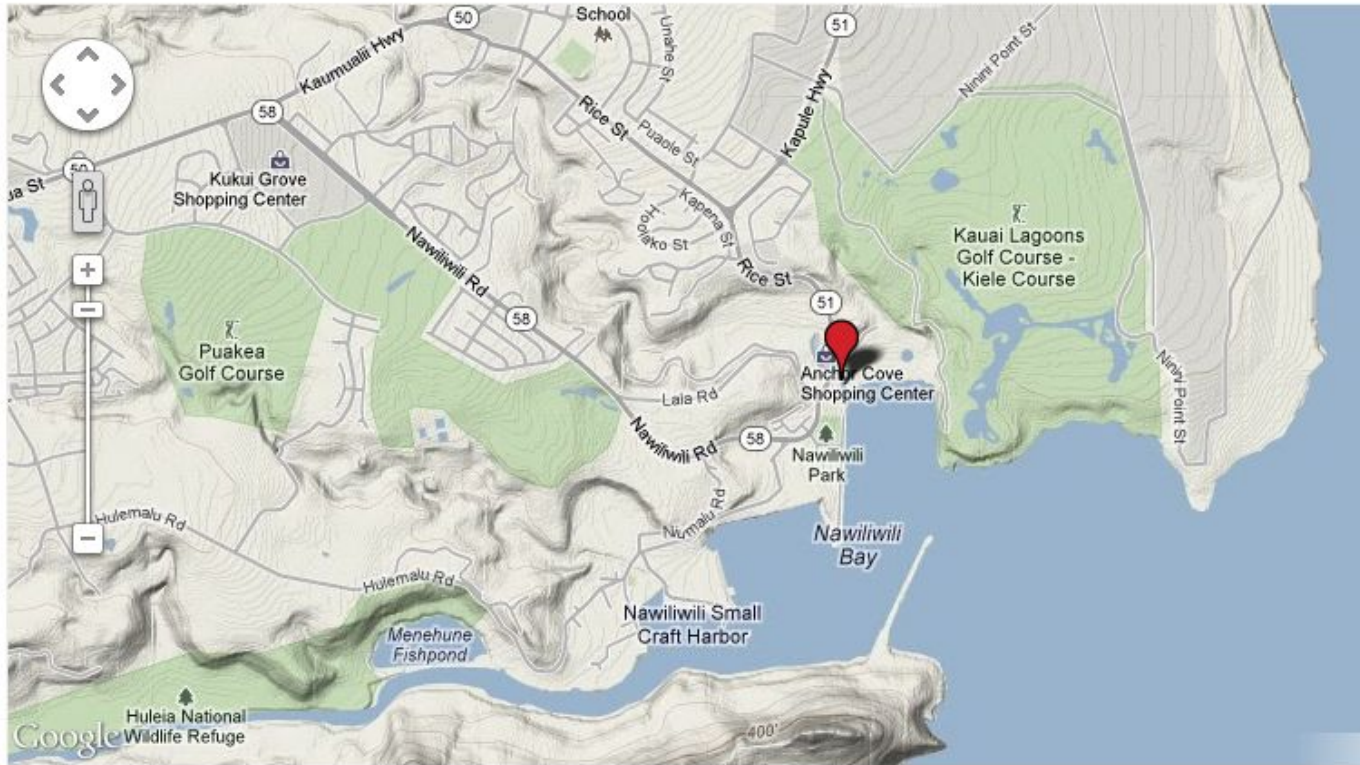
LOCAL INFORMATION

LOAD HISTORICAL DATA

Download

CSV DATA

NAWILIWILI STREAM



Test Date	Testing Individual	Enterococcus	Indication of
04/14/12	Dr Carl Berg	743	High Bacteria
03/17/12	Dr Carl Berg	767	High Bacteria
02/11/12	Dr Carl Berg	959	High Bacteria
01/14/12	Dr Carl Berg	504	High Bacteria
12/17/11	Dr Carl Berg	537	High Bacteria

Key

Enterococcus (MPN/100 ml):

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Social Media



@emergenc Blue Water Task Force Alert! Check out the water quality results from Rincon, 04-18-2012,...

<http://www.surfrider.org/blue-water-task...>

Surfrider Foundation's volunteer water quality monitoring program



Mara Dias @MaraDawnDias

1m

@emergenc Blue Water Task Force Alert! Check out the water quality results from Rincon, 04-18-2012, bit.ly/JuZSCb #Surfrider

Social Media



Surfrider Kauai
April 15

THIS MONTHS BLUE WATER TASK FORCE RESULTS
STREAMS BAD

Enterococcus bacterial concentration per 100 ml
Site Single day 6-month
results geomean
Ke'e <10 2.3
Wainiha Stream 457 411.7
Wainiha surf 41
Waikoko 10 6.3
Middles 10 3.8
Pinetrees 20 6.3
Bowl <10 19.6
Kalihiwai <10 5.4



Sonoma Coast Surfrider
April 7

Clean water at Salmon-Blue water Task Force testing shows
low and safe numbers for bacteria count at Salmon-have at
it!



Surfrider Foundation @SurfriderSMC

14 Apr

H2OQ 4/13: SAFE > Rockaway Beach, Kelly Avenue; UNSAFE >
Linda Mar N & S, San Vicente Creek, Surfer's Beach, Capistrano
bit.ly/HGtADK

Chapter Website



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LOCAL WATER QUALITY

Home :: [Local Water Quality](#)

Overview

- [Capistrano](#)
- [Kelly Avenue](#)
- [Linda Mar North](#)
- [Linda Mar South](#)
- [Montara](#)
- [Rockaway Beach](#)
- [San Vicente Creek](#)
- [Surfer's Beach](#)

LOCAL WATER QUALITY

TESTING DATE
2012-04-20*

LOCATION	SAMPLE TIME	RESULT	MPN	STATUS
Capistrano	9:20 AM	0/3	31	SAFE
Linda Mar South	7:55 AM	0/0	<10	SAFE
San Vicente Creek	8:15 AM	0/0	<10	SAFE
Surfer's Beach	8:40 AM	0/0	<10	SAFE
Kelly Avenue	9:00 AM	0/0	<10	SAFE
Rockaway Beach	7:30 AM	0/0	<10	SAFE
Linda Mar North	7:45 AM	0/0	<10	SAFE

VOLUNTEER SPOTLIGHT



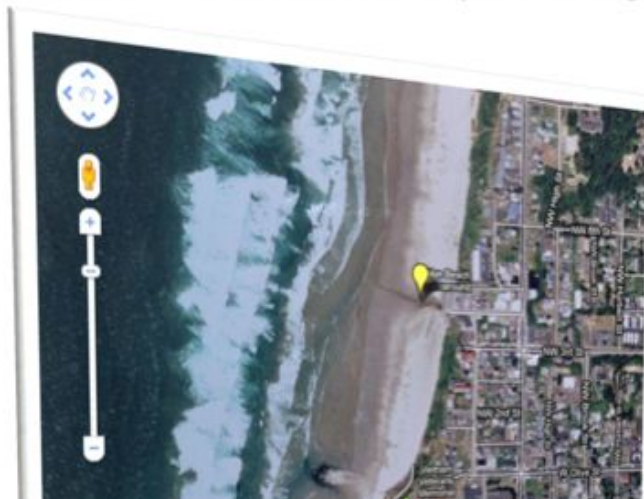
Kazu Ishidera
Water Sample Collector

[+ More Volunteers](#)

Kiosk : Oregon Coast Aquarium



This is a sample of the data processed from water samples taken at the Nye Beach Stormwater Outfall in Newport, Oregon.



Test Date	Total Coliform	E-coli	Entero	Indication of
04/30/11	-	-	84	Medium Bacteria
04/30/11	-	-	-	Low Bacteria
04/23/11	-	-	332	High Bacteria
04/02/11	-	-	20	Low Bacteria
03/19/11	-	-	20	Low Bacteria
03/19/11	-	-	31	Low Bacteria
03/12/11	-	-	650	High Bacteria
03/12/11	-	-	583	High Bacteria
03/03/11	-	-	24196	High Bacteria
02/19/11	-	-	107	High Bacteria
02/12/11	-	-	109	High Bacteria
02/05/11	-	-	10	Low Bacteria
01/29/11	-	-	31	Low Bacteria
01/22/11	-	-	20	Low Bacteria
01/15/11	-	-	144	High Bacteria

Key
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Download

[CVS DATA](#)

[JSON DATA](#)

[SHARE](#)



Traditional methods of data sharing

- Email & Listservs
- Flyers & bulletin boards
- Presentations at local gov. meetings & community forums
- Press releases





Nye Beach Blue Water

Building Partners out of Problems



WQ Problems at Nye Beach



Pulp Mill
Mixing Zone

CAUTION
WATER FROM THIS SOURCE
(NYE CREEK WATERSHED)
IS NOT TREATED

- Do not drink
- Do not allow children to play in this stream
- Wash hands after contact

CITY OF NEWPORT



Initial Challenges

- Multiple “Problems”
- Lack of organized effort
- Unsympathetic Council
- BWTF Undercover
- Small Constituency
- Small town dynamics



Collaborative
Advocacy

Direct Action
Advocacy

Turning Problems into Issues

- Newport Chapter Founded – 2005
- BWTF Platform
 - Target Nye Watershed
 - Target Wastewater Treatment
 - Target Pulp Mill
- Outreach and Community Engagement
 - Council changes
 - Formation of Mayor's Group on Water Quality



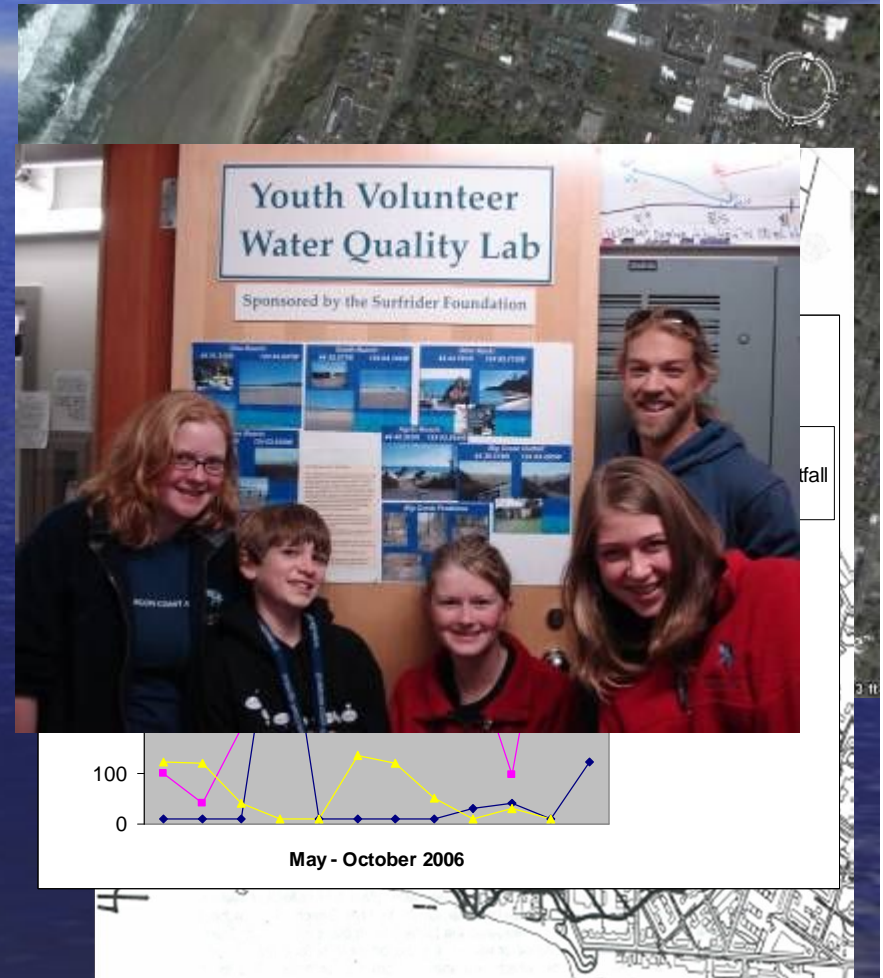
Mayor's Group on Water Quality

- 2006-2007 – “Band-Aids”
 - State Monitoring
 - Nye Creek Watershed
 - Additional Signage
 - BMP recommendations
- MGWQ disbanded 2007
 - Deemed “successful” by Mayor
 - BMPs in 2008



2007 – A BWTF Plan For Pressure

- Assessment of historical state and BWTF data
- Sourcing Plan
- Infrastructure mapping
- Creation of Nye ARMS



Validating Volunteer Data

Surfrider partners with local agencies to promote clean water

- DEQ and LSWCD Partnerships
- Creation of Nye ARMS
- Mid-coast TMDL Technical Committee
- City Testing Partnership



2008 “Partnered” Solutions

- Code Updates
 - Stormwater Protection
 - Pet Waste Ordinance
 - Stormwater Utility
 - Stormwater Disconnection
 - Sewer Connection
- DEQ Supplemental Environmental Project
- Smoke and Dye Testing



Outcomes for Collaborative Advocacy

- Surfrider Local Credibility
- Partnerships
 - City of Newport
 - Oregon Coast Aquarium
 - Department of Environmental Quality
 - Creation of “Mid-Coast Partners”
 - Led to TMDL and WQMP Technical
- Stewardship Programs
 - South Beach Stewards
 - Nye ARMS
- Platform for Engagement in Pulp Mill



Questions?

<http://www.surfrider.org/blue-water-task-force>



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Emergen-C

