Blue Water Task Force: A citizen science program inspiring actions and engaging communities
Overview

- Who is Surfrider and what is BWTF?
- Building the program and the story of NWS’s BWTF
- Building partnerships intentionally and accidentally
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
U.S. Chapter Network
Blue Water Task Force

- Volunteer water quality monitoring, education and advocacy program
- Test marine beaches and freshwater sources for Enterococcus bacteria
- EPA approved method
  - IDEXX Quantitray Sealers
- Run by Chapters
Blue Water Task Force

- Providing WQ info/ filling in gaps
- Activating volunteers
- Educating students
- Grooming future leaders
- Building community awareness of water quality issues
- Building chapter credibility & legitimacy
- Identifying sources of pollution
- Advocating for solutions
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
Enterococcus Bacteria

- EPA health standard for recreational exposure in marine or fresh waters: 104 cfu/100ml
Partnership Building Part 1 & 2

- Start up local BWTF Program
  - Partnered with local waste water treatment facility
  - Asked for guidance from Whatcom County MRC

then

- Built up WWU Students/Associated Students Club partnership and recruitment

- Incidentals: Whatcom County Public Works; other environmental nonprofits working on WQ issues; private donors
Bellingham Bay
Where do we test?

- Nooksack River Delta
- Locust Beach
- Little Squalicum Beach
- Mouth of Padden Creek
- Mud Bay
- Larrabee State Park
Recruitment & Retention

- Email sign-ups, website, social media
- Target WWU students
- Give responsibility and accountability
- Appoint a “Blue Water Task Force Coordinator”

- Divide and conquer – 6 sites, 6 BWTF Coordinators
Training & Protocol

- Everyone gets trained
- Lab safety
- Sample collection and lab analysis procedures
Collecting Samples
Data Management And Making the Data Meaningful

- Online database: surfrider.org/blue-water-task-force
- Share data with the public
Partnership Building Part 3 & 4

- Ecology’s BEACH Program

- Lead to partnerships with Whatcom County Health Department, Whatcom County Marine Resources Committee, and Larrabee State Park
**Box Plot of Entero for Larrabee 2007-2013**

Single sample: $\geq 104$; Geomean: $<34$
Close-up: Larrabean State Park

Key
1) Vacation homes
2) Private tideland
3) Stream
4) Parking area
5) Campground
6) Lift station
7) Restroom
8) Stream drainage
Potential Sources Investigated

- Vacation Homes
- WWTP – outfall 700 ft offshore
- Park usage on weekends
- Dog use
- Bird waste and feeding
- WWTP lift station near Station H
- Stream draining campground area
- Crab shells and crab harvesting
- Beach Wrack
- **RACCOONS** and other wildlife

- Effluent sampled daily
- Current results are non-detect
- Ran split samples for FC and Entero- all non-detect
- Investigated after 2009 season
- One house hotlined to bay
- New system installed
- Tom K. verified all homes recently inspected – no known failures
- Station is 19 feet deep
- Recently resealed
- Pet station installed
Park Education and Outreach
Campfire Talks, Watershed and Beach Walks
Direct Observations and Surveys
Actions Taken

• Circulation studies
• Developed educational brochures and other materials
• Translated existing “bear safety” to raccoon safety education for park users
• Education / outreach during summer (BEACH, Surfrider, Health Dept., MRC, State Park)
• Park user surveys
• Stream segment samples
• Beach wrack samples
• Clean & guard “raccoon latrines”
Plan of Future Action

• Monitor crabbing practices
• Further develop educational brochures and other materials
• Evaluate if “secure your food” messaging is working
• Continue education / outreach during summer with partners
• Clean “raccoon latrines” and cover with chicken wire
• Potential short-term solution: mycoremediation?
Implications to Other Areas?
Building Partnerships Parts 5 and Beyond

- BB WARM: similar issues with similar solutions
- MRC: apply stewardship messages to other beaches, conversations started, grants applied to, grants awarded, further partnerships built, further grants applied to building on our initial grants foster even further partnerships
What next?
Questions?

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