Agenda

• Program Drivers
• Programs to Identify and Remove
  – Outfall Screening
  – Spill Reporting
  – Commercial Facility Inspections
• The Evolution of the Integration
• Lessons Learned
Program Drivers

- 1990’s Watershed Plans
- Protect/Restore Shellfish
- Protect small streams
- Maintenance on both sides of the property line
- Fecal Coliform TMDLs

*Identify Your Local WQ Needs
“On average, ... six inappropriate discharges per year as a result of regular screening. By contrast, over 185 inappropriate discharges are corrected each year as a direct result of citizen complaints and calls to the hotline.”

*Zielinski and Brown, 2002 water.EPA.gov*
• What have we done and where did it get us?

• Compare various methods and results
Outfall Screening

A Comprehensive Inventory: (down to 6”), swales, ditches, seeps and streams

- 1,509 outfalls
- 68% (1,039) County System
Outfall Screening: Limited Success

- 23% flowing
- FC only contaminant detected of chem suite
- 3 are county MS4; 26 private issues
- 2 confirmed illicit discharges removed through visual observation
- $125,000 cost annually
- Now we know where outfalls are located and their condition
Which Method Worked Best 2000 – 2010?

- **Visual outfall screening:**
  2 in 8 years

- **Chemical analysis:**
  3 in 8 years

- **PIC:**
  277 total in 3 years, 6 into/from MS4

- **Reporting Hotline:**
  93 in 3 years (both citizens and staff)
Where can we get the most bang for the buck?

- Eyes in the field
- Reporting Hotline

Photo: courtesy City of Redmond
The Regional Hotline

- One call number for Kitsap County and Cities: Bremerton, Poulsbo, Port Orchard, Bainbridge Island
- Use Kitsap 1 live business hours call center
- ERTS
- Encourage field staff to report to the number

THE DRAIN IS JUST FOR RAIN

No Suds • No Paint • No Oil
Report Water Pollution
(360) 337-5777
www.kitsapgov.com/sswm

*2008 Water Pollution Hotline Report – KC Storm Resources
Guide for Kitsap 1 Call Center

Table 1. Kitsap 1 Spill Call Out Reference Guide Revised 03/17/2011

<table>
<thead>
<tr>
<th>Spill Type</th>
<th>Examples</th>
<th>Call/Notify All Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMERGENCY SITUATION</strong></td>
<td>An immediate and severe threat to human health or the environment</td>
<td>Direct the caller to 911. If the caller refuses to call 911-911 for them. 911 (KCDEM) performs the notification:</td>
</tr>
<tr>
<td></td>
<td>• Oil and Hazardous Substances, Any Amount</td>
<td>• National Response Center (NRC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wash Emergency Management Division (EMD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ecology Spill Tracker (ERTS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• KCHD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The Public Works where the spill occurs</td>
</tr>
<tr>
<td><strong>NON EMERGENCY SITUATION</strong></td>
<td>Leaking septic system</td>
<td>Public Works where the spill occurs</td>
</tr>
<tr>
<td>Small/Medium amount of</td>
<td>Broken side sewer</td>
<td>For raw or partially treated sewage and hazardous substances only-KCHD</td>
</tr>
<tr>
<td>known substance (generally, 1</td>
<td>Oil or vehicle fluids on pavement or gravel</td>
<td></td>
</tr>
<tr>
<td>drop to 5 gallons and the</td>
<td>Concrete washout</td>
<td></td>
</tr>
<tr>
<td>responder is able to handle the</td>
<td>Muddy construction site runoff</td>
<td></td>
</tr>
<tr>
<td>situation)</td>
<td>Suds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paint</td>
<td></td>
</tr>
</tbody>
</table>

Agency contacts are found in Table 2.

2Public Works is the jurisdiction where the spill has occurred: Cities of Bainbridge Island, Poulsbo, Port Orchard, Bremerton or Unincorporated Kitsap County

3911/Department of Emergency Management SOP 2.0 indicates 911/DEM will notify the Public Works and Ecology. However, this duplication of reporting assures NPDES permit compliance.

*Copies Available*
Sustaining the Hotline

• Reminder trainings every two years with partner Cities/staff
• Train summer field crews
• Citizen surveys in 2011/2012 demonstrate 40% know who to call
• A tool to enhance?
Enhance the Public Reporting Component

52% Public
38% Internal staff
10% External agency

Vehicle Fluids: 27%
Erosion/Site Runoff: 21%
Sewage: 20%
Dumping: 15%
Washwater: 14%
Grease/Food: 3%

*Water Pollution Hotline Background Research Report
Spills Happens Campaign

Credit – Ecology funding, partners – Kitsap County, Cities of Port Orchard, Poulsbo, Bainbridge Island, Gig Harbor, Port Angeles, Bremerton
Pilot Campaign Increases Calls from Citizens

*Water Pollution Hotline Campaign Final Report*
We’ve come a long way, baby...

**What Should I Do if I See a Hazardous Materials Spill?**

If you witness or identify a spill of hazardous or dangerous material, call 911.

Without putting your safety at risk, provide the 911 operator with as much information as possible. The 911 operator will want to know:

- **Location of the spill**
- **Type of material spilled**
- **Quantity of material spilled**

**What is Public Works role in the event of a spill?**

Kitsap County Department of Public Works personnel are trained and equipped to provide the initial emergency response to spills of hazardous or dangerous materials. State and local police or fire district personnel provide initial emergency response, and incident command structures related to these events.

During normal working hours Kitsap County Public Works personnel will assist in providing assistance to emergency response organizations in unincorporated Kitsap County. Kitsap County Public Works can be reached by phone weekdays at 360-337-5777 between 8 a.m. and 4:30 p.m. Outside of normal working hours, Public Works emergency related assistance are coordinated through OnScene (911). Public Works personnel can typically provide the following assistance when requested:

- Examination or damage system maps and their interpretation
- Identification of drainage system components
- Assistance with determination of flow direction and destination
- Tools for accessing County maintained stormwater facilities
- Sand for absorption and containment of larger spills
- Absorbent pads and booms for containment of small spills

After the incident Commander (Washington State Patrol, Fire, Police, etc.) has determined that the spill area is safe to enter, Public Works staff may provide assistance as directed by the incident Commander or designee.

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**Photo Ad**

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**Brochure**

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**Infographic**

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How to Start Your Commercial Facility Inspection Program:

- Identify commercial properties with storm facilities
- Gather contact info: recorded property owner and property manager
- Map the systems – need as-builts or drawings before site visits
- Access database
- Query monthly for list of initial and follow-up inspections

*Access Database Available*
The Site Visit / Inspection

• A spot check of the system and housekeeping
• Identify deficiencies
• Speak to owner/manager only if a deficiency is identified
• Provide tech assistance
• Show them their system
• Encourage a maintenance contract

*Fault Code Cheat Sheet
Letters to Property Owners and Property Managers

- Pass?...Thank you letter...mention water quality, storm utility, etc.
- Fail? Duty to Maintain Letter
  - Re-inspect after 30 days – Fail?
- 2nd Notice of Duty to Maintain
  - Re-inspect after 30 days – pass?...Thank you...Fail?

*Inspection Flow Chart Available
Letters: Continued...Fail Again?

- Notice of Violation Letter
- Re-inspect in 20 days
- Fail? .... Bingo – a trip to Code Enforcement

*Sample Letters Available*
Tips and Tricks

• Have as-buils and/or drawings for sites
• Clear communication – property owner, property manager, business, maintenance provider
• Establish a working relationship with the “authorizing agent” for each property – set appointments, speak to owners in another state, lots of hand holding
“Heading out to clean up the County one site at a time”
Metrics:

% Properties Requiring Corrective Action – Duty to Maintain Letter

% Properties Failing Re-inspection - 2nd Duty to Maintain Letter

Total Number of Fines = 0
The Benefit of Good Housekeeping

Before

After
Water Quality Improvement at the Site Scale

![Bar chart showing water quality before and after intervention at Site #1 and Site #2.](chart.png)

- **Site #1**: Before (n=6) shows a FC/100ml value significantly higher compared to After (n=6), indicating an improvement.
- **Site #2**: Before (n=6) shows a relatively lower FC/100ml value compared to After (n=6), also indicating an improvement.

The chart highlights a substantial reduction in FC/100ml at both sites post intervention.
After 100% Compliance

Before (10/02 - 9/05) - After (10/05 - 9/08)
Comparison of Log Transformed Fecal Coliform Bacteria
Station CC04

25%-75%
Non-Outlier Range
Outliers
Extremes

Before-Dry
After-Dry

Time - Season
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8

Log10(Fecal Coliform Bacteria (MPN per 100 ml)

Before (6/04 - 9/05) - After (10/05 - 9/08)
Comparison of Log Transformed Fecal Coliform Bacteria
Station CC01A

25%-75%
Non-Outlier Range
Outliers
Extremes

Before-Dry
After-Dry

Time - Season
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4

Log10(Fecal Coliform Bacteria (MPN per 100 ml)
Enforcement: Takes Practice

• Education First
• Property owner responsibility
• Clear/consistent messaging and timelines
• Involve KPHD with food, solid waste, animal waste and septic issues – swift/effective
• Final non-compliance to County Code Enforcement

*City of Tacoma enforcement plan*
Effective Educational Materials

- Inspector Guidance
- Use Social Marketing tools when available
- Steal, Test, test, test, refine
- New webpages for specific business sectors
**Maintenance**

**Manage Your Site for Clean Runoff**

1. Clean your stormwater system
   - Collect or screen wastewater when washing your building, sidewalk, or parking lot
   - Never use soaps or chemicals for outdoor washing

2. Maintain clean outdoor areas
   - Keep your property free of weeds, leaves, and debris

**Maintain Your Stormwater System**

- Regularly maintained stormwater systems reduce flooding and water pollution. Inspect and maintain facilities at least yearly and clean debris, sediment, and vegetation as needed, especially after major storms:
  - Remove debris and trash from gutters, swales, and tanks
  - Look into all storm drains, vaults, and tanks. If water is covering the outlet pipe and it is not raining, call to schedule maintenance.
  - NEVER enter a catch basin, tank, or vault.
  - Replace absorption pads in oil water separators yearly and after each spill.
  - Keep vegetation in swales 3”-6” tall
  - For detailed steps on checking sediment depth in catch basins, tanks, and vaults, go to www.KitsapGov.com/StormWtr/erase_sediment_depth.pdf
  - Dispose of storm drain sediments properly. NEVER spread them on the ground.

**Only Rain Down the Drain**

Runoff from rain and the pollutants it picks up flows in here...

...and ends up here.

**Storm System Maintenance**
- Soak Up Runoff
- Mobile Businesses
- Maintenance Shops
- Food Services
- Dumpsters and Compactors

**At Your Business**


**Stomwater System Guide for Businesses**

Report water pollution. If you see something, say something.

Kitsap County Public Works
Stormwater Division
614 Quince St, Bldg 1, Puyallup, WA 98371
360-882-3500

*Graphics/layout available*
Handling Common Discharges and Business Sectors
Fundraiser Car Washing

- All Soap is Toxic to Fish
- An event generates 1,000 gallons of soapy, dirty, polluted water
- You, the commercial property owner, are responsible for the runoff

Results

- 2010 - 14 sites holding improper events
- 2014 – 0 sites

*Situational Analysis and Student Study of Pollutants in Car Wash Runoff
http://www.kitsapgov.com/sswm/carwash.htm
Fleet Vehicle Washing

Vehicle Washing

Commercial Property Owners and Businesses

As a property owner or manager, you are responsible for preventing wash water from leaving your site and entering storm drains. To wash vehicles, choose the following alternatives:

- Use a commercial car wash
- Create a designated covered wash area and install the proper treatment facilities
  - Connect the drain to the sanitary sewer and oil-water separator.
  - Obtain the proper permits.
  - Do not connect the drain to a septic system.
- Collect the wash water and dispose it into the sanitary sewer.
- Wash on grass or landscaped area with cold water only if washing no more than 10 vehicles per week.

Funding for Fundraisers

Fundraisers
groups can sell coupons to participants in participating commercial car washes. In Kitsap County, contact 360-697-1144 or visit KitsapGov.com/swm/carwash.htm.

Fleet Wash Water Pollutes

Wash water runoff carries pollutants into Puget Sound. Kitsap County and other Western Washington counties are addressing potential pollutants entering the storm drainage system and the Puget Sound estuary. Preventing storm vehicle washing is a part of the effort to restore Puget Sound’s health.

Questions or need assistance:

Kitsap County Public Works

360-773-5777

*Graphics/layout available
Dumpsters/Compactors

• Health District Solid Waste regulations
• Recent survey shows uptick in leaking (2% in 2011 and 7% in 2014)
• Dirty sites are repeat offenders
Failing Septic Systems

- Health District Sewage Regulations/Enforcement
Maintenance Shops

**We Keep it Clean Using the 4Cs**

- **Cover**: outdoor work and storage areas
- **Capture**: fluids before they run to the drain
- **Clean**: spills before they reach the drain
- **Contain**: stored fluids to capture leaks

**Only Rain Down the Drain**

No Oil • No Suds • No Paint • No Chemicals - Even small amounts can pollute our waterways

*Poster Credit – Ecology funding, partners – Asotin County, Ecology, City of Everett, City of Vancouver, Kitsap County (lead)*
Mobile Businesses

Materials Credit – Ecology funding, partners – Snohomish County (lead), City of Moses Lake, City of Seattle, City of Wenatchee, Kitsap County
Restaurants

WE DO IT RIGHT

MATS
Wash in a utility sink or near a floor drain.

Yes

HOOD FILTERS
Wash in a utility sink or near a floor drain.

Yes

GREASE
Pour grease into covered containers.

Yes

TRASH BINS
Soak up spills and sweep around trash bins daily.

Yes

We Keep Pollution out of Puget Sound

Only rain down the storm drain!

No Soap - No Grease - No Chemicals or Disinfectants - No Garbage

Adapted from material provided by the Cities of Lacey, Olympia, and Tumwater, Thurston County and the WA Department of Ecology

Clean Water Kitsap
Partners in Stormwater Solutions

For more information, call Kitsap 1 360.337.5777

All storm drains flow to waterways

Poster Credit – Ecology funding, partners City of Lacey (lead), Cities of Olympia and Tumwater, Kitsap County
Small Farms

- Health District
- Kitsap Conservation District
Floor Drains

- Found 2 in last year
Staffing and Inspector Duties

- 630 commercial properties – annual
- 600 storm ponds and other facilities – twice yearly
- Major Culverts – every two years
- 550 customer requests for information – Community Development, private systems
- Storm Response/Inspections
- 130 Customer Site Visits
- Other - locates until recently, plan review
- **3,000 to 5,000 actions annually**

2008 to 2011  4.0 FTE
2012 to present 3.0 FTE
Evolution of Integration
Program Pre-2006

Mapping Outfall Screening

Facility Inspections

PIC

AG

KITSAP PUBLIC HEALTH DISTRICT

Kitsap Conservation District
Program 2007-2012

- Mapping Outfall Screening
- Spill Reporting
- Facility Inspections
- PIC
- AG

(Kitsap County, Washington)

(Kitsap Public Health District)

(Kitsap Conservation District)
Program 2013-2018

Illicit Discharge Elimination
Spill Reporting
Facility Inspection

Citizens
Other Field Staff

PIC
KITSAP PUBLIC HEALTH DISTRICT
AG
Kitsap Conservation District

Clean Water Kitsap
Partners in Stormwater Solutions
Lessons Learned:

- Strong water quality message
- Education first, enforcement takes practice
- Tracking metrics demonstrates progress
- Time commitment reduced as maintenance is adopted
- Relationships with commercial property managers and owners may open doors in the future
- Increase publicizing the Hotline

• *Utilize partnerships with shared vision*
System Improvements

• Inspector feedback to make improvements
  – recommend inspection schedule by area
  – more education of owners about IDDE procedures
  – risk assessment
• Transition to Field Tablets/Paperless
• Parcel search on-line/easy field access
Permit Compliance

- Supportive of new language
- Meet with O&M and Facility Inspection Programs
- IDDE Manual, Herrera - 2013
Collective Impact

- Kitsap County Inspectors – Chuck Smiley (lead), Rocky Huff, Eric Worden, Jerry Anderson (retired)

- Kitsap County Outreach – current staff - Pat Kirschbaum, Michelle Perdue, Cammy Mills, Erina Kong, Kisha Baggs; Past staff - Jayna Ericson, Liz Satterthwaite, Callene Abernathy,

- Kitsap County Monitoring – Mauro Heine, Renee Scherdnik, Stan Olsen (retired)

- Kitsap Public Health District PIC – Stuart Whitford, Program Manager

- Kitsap Conservation District – Joy Garitone, Program Manager

- Kitsap 1 – Doug Bear, Communications Manager