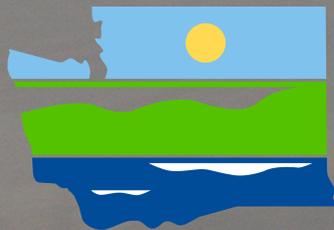


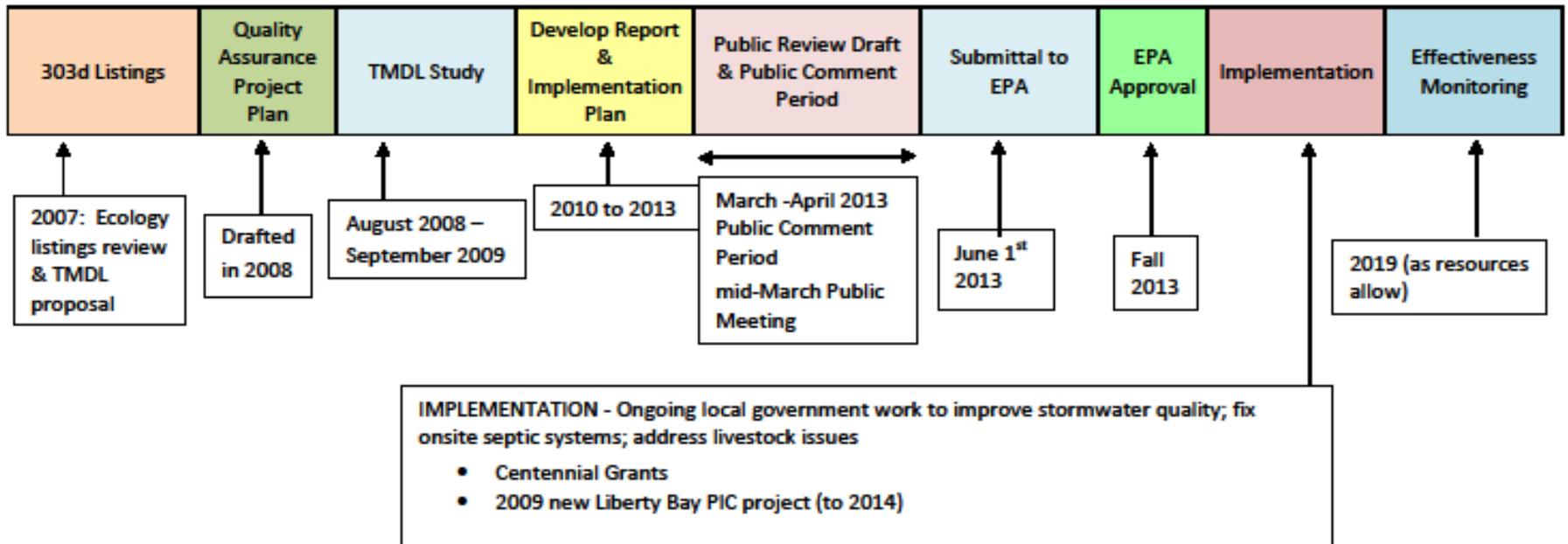
Liberty Bay Watershed Fecal Coliform Bacteria TMDL

**Monday February 11, 2013
at City of Poulsbo**

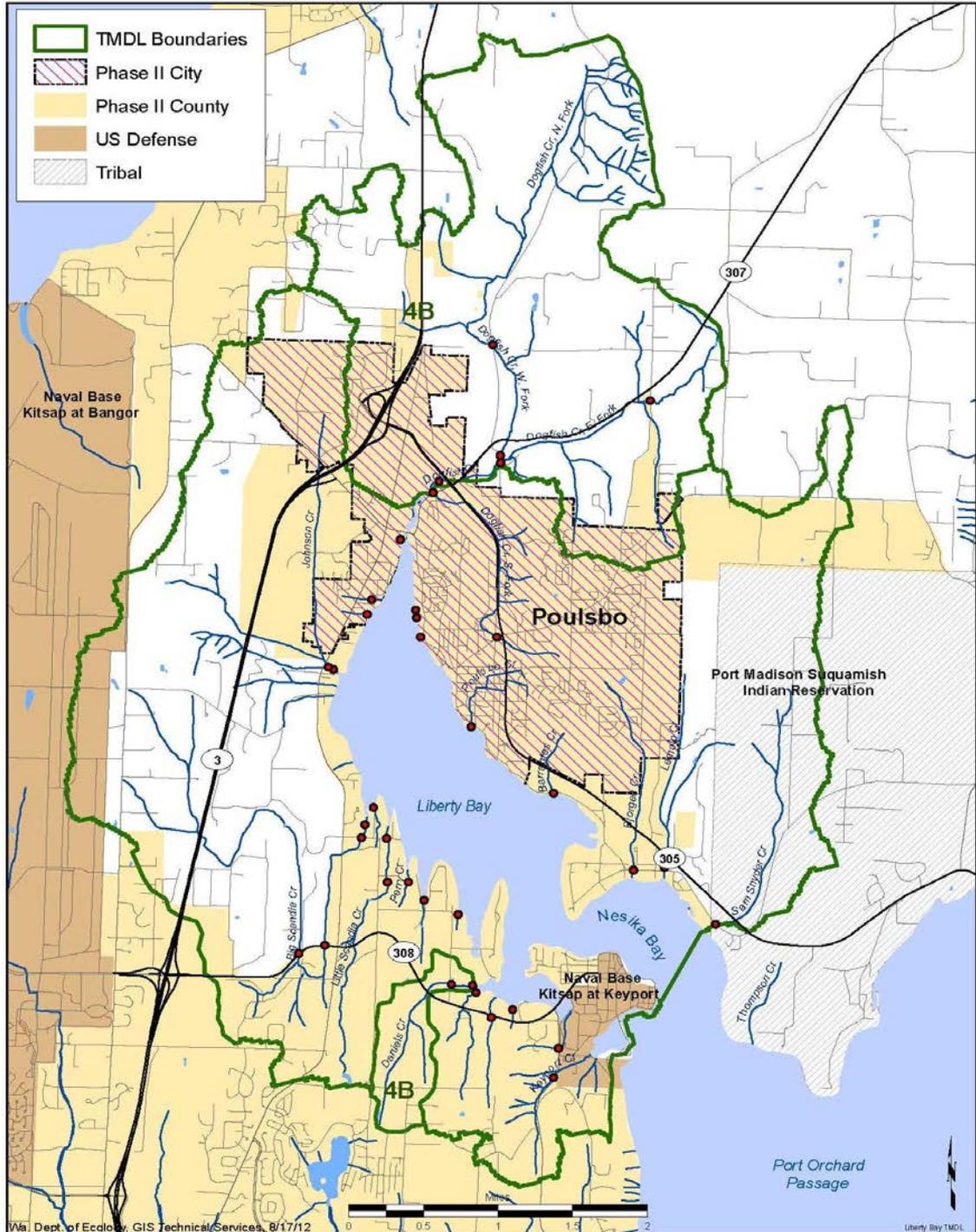


DEPARTMENT OF
ECOLOGY
State of Washington

Liberty Bay TMDL Timeline



-  TMDL Boundaries
-  Phase II City
-  Phase II County
-  US Defense
-  Tribal



TMDL FINDINGS

22 regular plus 10 investigatory sites

Year round sampling – 26 events

Seasonality – effects on concentrations and loads

Measured flow every time we sampled

Top 10 concentrations

Nelson Park bioswale: Retirement Home; small stream off Virginia Loop Rd; Little Scandia; stream betw Bovela & Bay Sts.; Keyport-1; stream E of Big Scandia; Perry; Daniels; stream PSW#31

Top 10 loads

Dogfish; Poulsbo Ck; Big Scandia; Bjorgen; Johnson; Little Scandia; stream E of Big Scandia; stream PSW#31; Lemolo; Keyport 1

KPHD follow up – Poulsbo Creek; Retirement facility; shoreline surveys, many septic fixes and KCD livestock BMPs

Water Quality Standards and Beneficial Uses

Beneficial Uses of Liberty Bay and Streams

Shellfish harvest

Safe and healthy recreation

Aquatic life

State standards for marine & freshwater established in WAC 173-201A

- Liberty Bay streams – bacteria geometric mean 50 cfu/100 mL and 90th percentile 100 cfu/100 mL
- Liberty Bay marine waters – 14/43

State Standards and TMDL Targets

State standards for marine & freshwater
established in WAC 173-201A

- Streams –50/100
- Liberty Bay marine waters – 14/43

Statistical rollback – an interim target concentration
based on TMDL sampling

(e.g. Table 18 - S Fork Dogfish– 31/100)

TMDL target – using modeling, some larger streams
assigned lower target to protect marine waters

(e.g. Blackjack Creek 62/125 (Sinclair Dyes FC TMDL)

NOT DONE in LIBERTY BAY TMDL – TMDL targets 50/100

Implementation Plan – Actions for Nonpoint Sources

- Pollution Identification and Correction
- Kitsap CD – livestock BMPs
- Education and outreach
- Planning depts – strategies to retain water on site for smaller parcels
- Planning depts – ID high risk vs. low risk areas of watershed for development
- KPHD & marinas – continue, increase boater use of pumpout stations
- Monitoring – use PIC for investigative sites; trend monitoring for larger streams

Implementation Plan – NPDES permittees

- Industrial stormwater
- Construction stormwater
- WSDOT municipal stormwater
- City of Poulsbo & Kitsap County Phase II municipal stormwater
- Naval Base Kitsap at Keyport – multisector industrial stormwater (federal; EPA)

(Sewer collection systems – not under Ecology permit)

Phase II stormwater permittees

- Implement a geographic focus to stormwater program
 - IDDE
 - Operations and Maintenance
 - Liberty Bay focus of Education/Stewardship programs
- WLAs assigned at monitoring sites where improvement needed

TMDL benefits

- One year thorough monitoring study
- \$\$\$
- Grants/loans for stormwater projects not required by permit
- Collaborative efforts – DOH, DNR, Navy, other

Dry Season comparison: TMDL vs WY2011

Stream	TMDL		WY2011 KPHD	
	GM	90th	GM	90th
Dogfish (4b)	93	214	83	153
South Fork Dogfish	62	200	123	650
Poulsbo	302	1114	71	194
Big Scandia	111	366	61	119
Little Scandia	523	2232	335	1718
Bjorgen	276	2098	289	445
Unnamed/E Big Scandia (BST)	No flow dry season			
Poulsbo Outfall #31 (JEA)	125	422		

Wet Season comparison: TMDL vs WY2011

Stream	TMDL		WY2011 KPHD	
	GM	90th	GM	90th
Dogfish (4b)	36	161	14	130
South Fork Dogfish	106	798	21	127
Poulsbo	34	644	13	57
Big Scandia	30	221	24	121
Little Scandia	109	680	38	197
Bjorgen	26	255	14	79
Unnamed/E Big Scandia (BST)	134	1109		
Poulsbo Outfall #31 (JEA)	71	1512		

Recap

- TMDL timeline
- Clean Water Act
- TMDL study findings
- Implementation Plan elements
- Roundtable – Implementation Plan

Comments, recommendations for
Implementation Plan to Sally Lawrence by
COB Wednesday Feb. 19th

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