

# DMMP Project Evaluation Activities

## DREDGING YEAR 2016

Heather Whitney Fourie  
US Army Corps of Engineers  
Seattle District



**US Army Corps  
of Engineers®**



**EPA** United States  
Environmental Protection  
Agency



DEPARTMENT OF  
**ECOLOGY**  
State of Washington



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**

# DMMP: What's the Point?

Provide **affordable** and **environmentally protective** options for **open-water disposal** of dredged material

Identify dredged material that is **unsafe** for biota, fish or humans

Keep **clean** sediments in the water instead of in landfills

Provide information for **potential beneficial uses** of clean material

Allow **marine commerce** to maintain navigable depths and plan for the future

# Puget Sound Disposal Sites

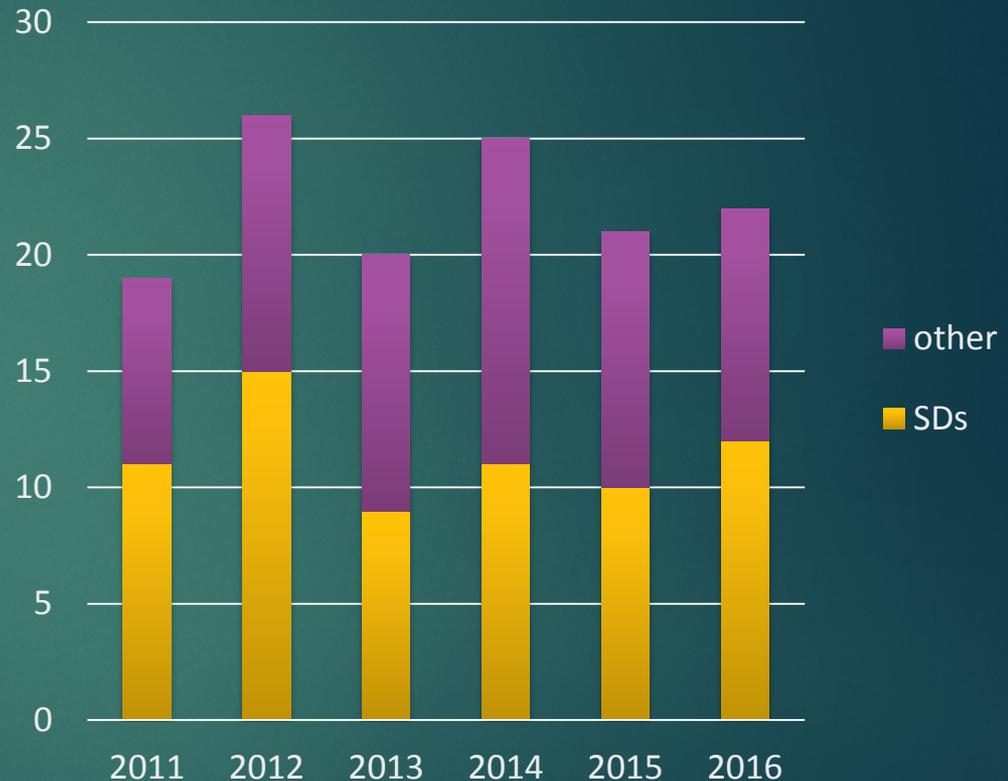


# Dredging Year 2016

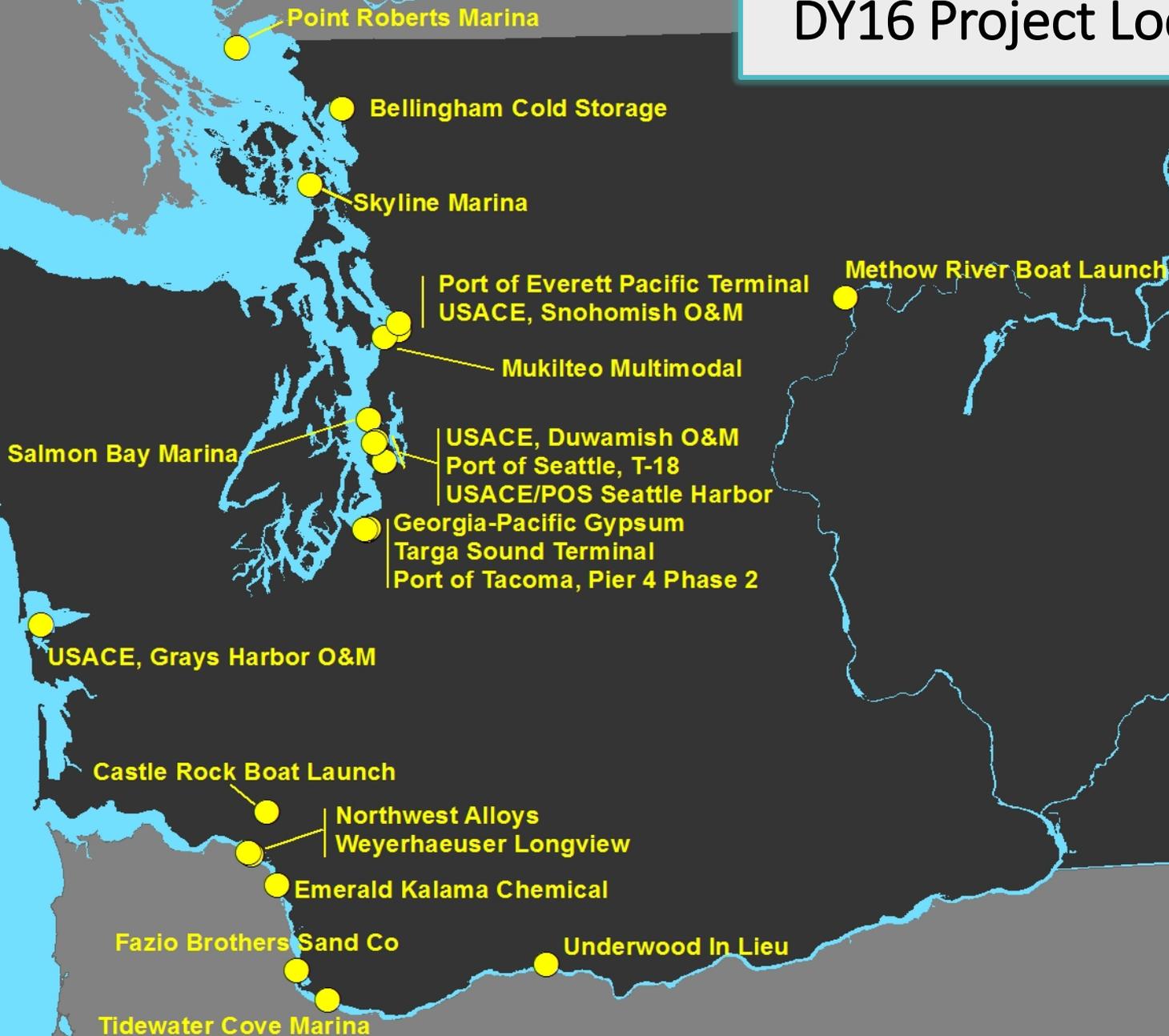
- ▶ DY 2016: 16 June 2015 to 15 June 2016
  - ▶ One month remaining in DY2016; 9 ongoing projects
- ▶ Decision Documents in DY2016:
  - ▶ Suitability Determinations
  - ▶ Others:
    - ▶ Recency Extensions/Evaluations
    - ▶ Tier 1 Evaluations
    - ▶ Antidegradation Determinations
    - ▶ Special Studies

# DY16 Completed Actions

- ▶ Suitability Determinations (12)
- ▶ Others (10):
  - ▶ Recency Extensions/Evaluations (4)
  - ▶ Antidegradation (1)
  - ▶ Tier 1/No Test (4)
  - ▶ Special Studies (1)
- ▶ Ongoing (9)



# DY16 Project Locations





# DY16 Testing



- ▶ Out of 22 completed actions:
  - ▶ 10 projects - chemical testing
  - ▶ 9 projects - dioxin testing
  - ▶ 3 projects - bioassays
  - ▶ 5 projects – antidegradation testing
  - ▶ *No* bioaccumulation testing

# Projects with chemical guideline exceedances

PROJECT	CHEMICALS	COMMENTS
Port of Everett Pacific Terminal	Napthalene, diethyl phthalate, 2-methylphenol, 3-methylphenol, 2,4-dimethylphenol, benzoic acid, benzyl alcohol, dioxin	MTCA cleanup site; high wood content encountered; bioassays conducted
Georgia-Pacific Gypsum	Hexachlorobutadiene, dioxin	No bioassays conducted; upland disposal selected (clean native material was disposed at Commencement Bay site)
Targa Sound Terminal (Hylebos Waterway)	Butylbenzyl phthalate, total PCBs, hexachlorobenzene, total chlordane, dioxin	No bioassays conducted; upland disposal selected
Bellingham Cold Storage	Benzyl alcohol	Only exceedance, no bioassays
Mukilteo Multimodal (WSDOT-WSF)	Fluoranthene, pyrene, chrysene, total HPAH	Bioassays conducted (passed)
Seattle Harbor USACE/Port of Seattle	TBT, Total PAHs, PCBs, arsenic, mercury, zinc, benzoic acid, benzyl alcohol, pyrene, butyl benzyl phthalate, 1,4-dichlorobenzene, dioxin	Special study; MTCA cleanup site; bioassays conducted

# Benzyl Alcohol & Benzoic Acid

- ▶ Many projects in DY15 with exceedances of ONLY these constituents
  - ▶ Can be due to decay of plant material and woody debris; anthropogenic sources include pharmaceuticals, soap, perfume and flavorings
- ▶ One project in DY16 with benzyl alcohol (only) exceedance
  - ▶ Bellingham Cold Storage
- ▶ DMMP has not required bioassay testing on case-by-case basis
- ▶ DMMP has reviewed benzyl alcohol decision-making
  - ▶ Stay tuned for later presentation

# Dioxin Testing DY16

*All TEQs reported are calculated with  $U = \frac{1}{2}$  EDL*

9 projects tested for dioxin.

3 projects had failures due to dioxin:

- ▶ Port of Everett, Pacific Terminal (5/11 DMMUs failed due to dioxin)
- ▶ Georgia-Pacific Gypsum (1/2 DMMUs failed due to dioxin)
- ▶ Targa Sound Terminal (all material failed due to dioxin)

# Dioxin Testing DY16, cont.

5 projects passed dioxin chemical guidelines for ALL material tested:

- ▶ Puget Sound:

- ▶ Bellingham Cold Storage

- ▶ Mukilteo Multimodal, WSDOT-WSF

- ▶ Port of Tacoma Pier 4 Phase 2

- ▶ Port of Seattle, Terminal 18 (anti-degradation evaluation)

- ▶ Columbia River:

- ▶ Weyerhaeuser Longview (1/9 DMMUs tested)

1 project was tested for dioxin in support of a special study:

- ▶ USACE/Port of Seattle, Seattle Harbor

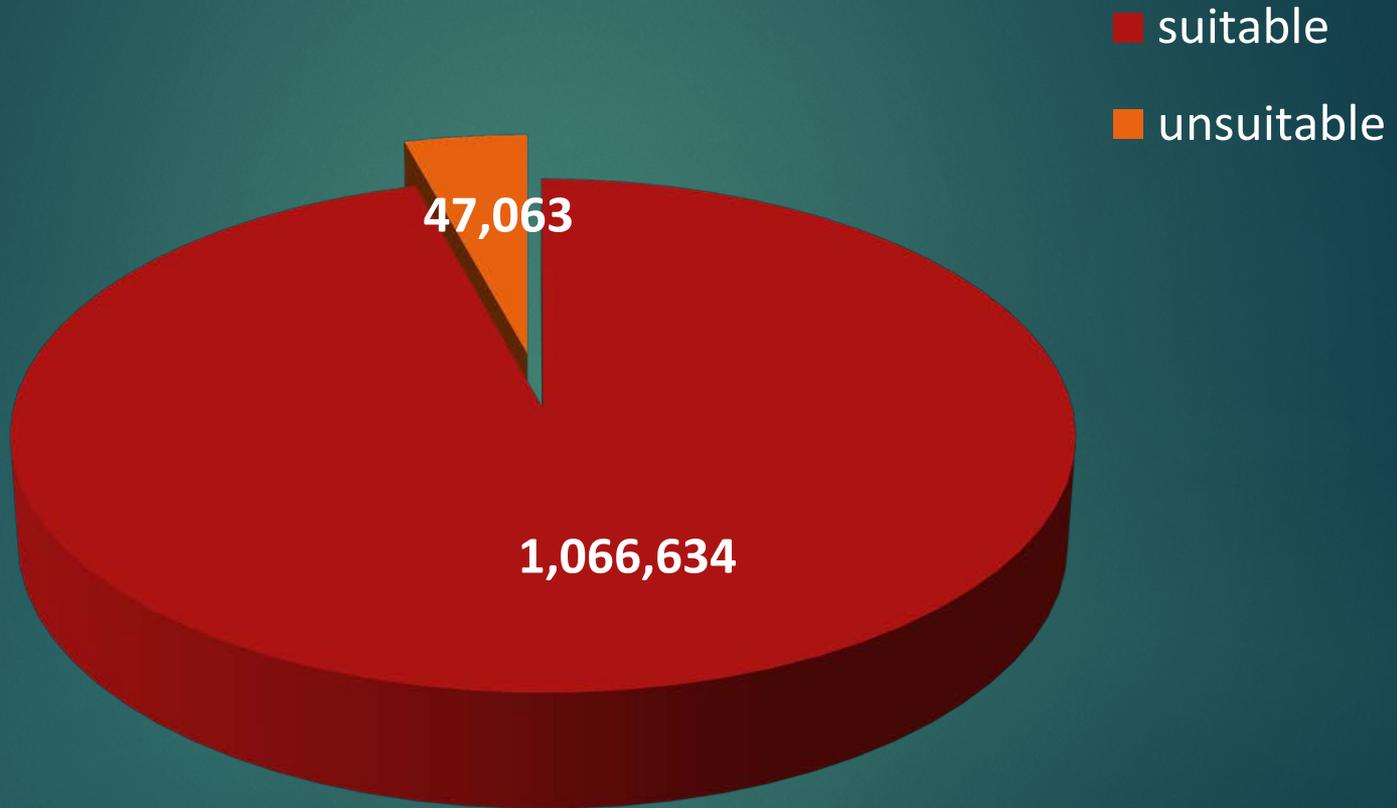
# Biological Testing DY16

Three projects had bioassay testing:

- ▶ Port of Everett Pacific Terminal (former Mill A)
  - Bioassays for 6 DMMUs with highest wood content
  - 1/11 DMMUs failed (larval test hit; 1-hit failure)
- ▶ Mukilteo Multimodal, WSDOT-WSF
  - Passed bioassay testing
- ▶ Seattle Harbor, USACE/Port of Seattle
  - Special Study

# DY 16 Suitability of Volume Tested

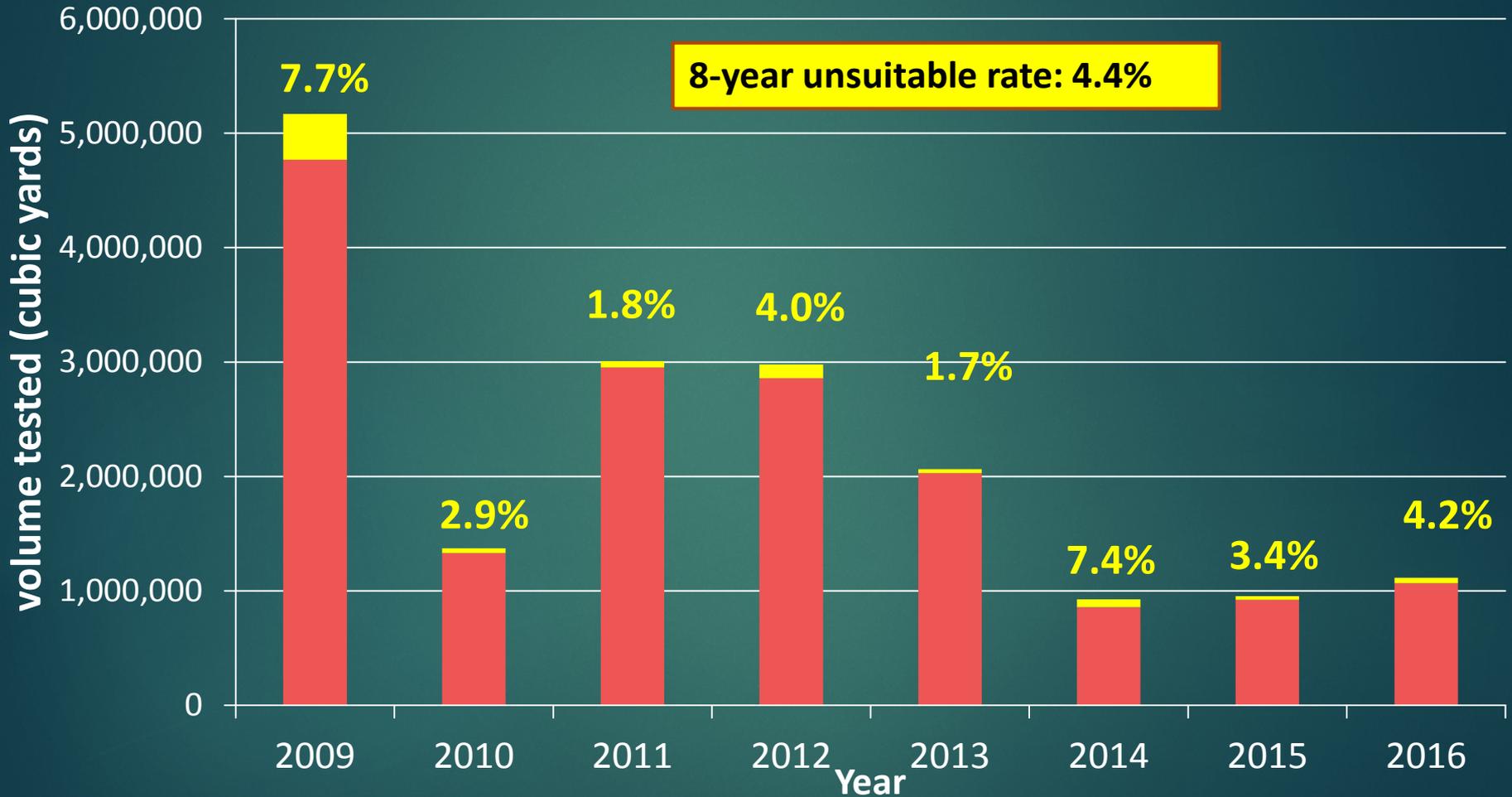
4.2% unsuitable



# Projects with Unsuitable Dredged Material

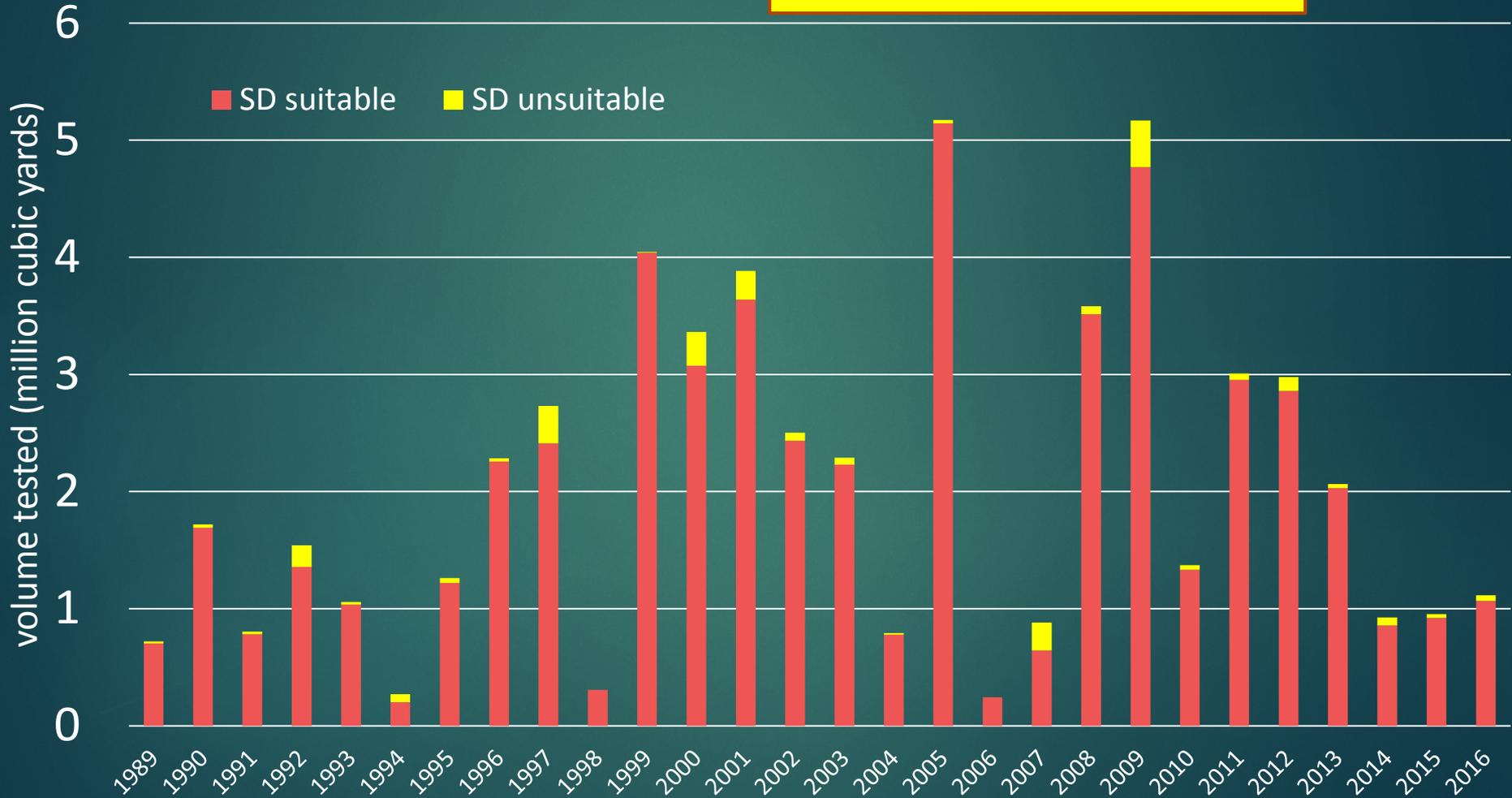
PROJECT	SUITABLE (CY)	UNSUITABLE (CY)	REASON
Port of Everett Pacific Terminal	17,210	20,110	Dioxin; MTCA cPAHs and total PCBs
Georgia-Pacific Gypsum	8,550	16,900	Dioxin, hexachlorobutadiene
Targa Sound Terminal	0	7,500	Dioxin, phthalates, PCBs, hexachlorobenzene, total chlordane

# Suitable/Unsuitable: 8 year Comparison



# DMMP Testing History

28-year unsuitable rate: 4.4%



# Antidegradation Testing

PROJECT	OUTCOME
Port of Everett Pacific Terminal	Pass (with DMMU volume revisions)
Targa Sound Terminal	Pass
Weyerhaeuser Longview	Pass
Northwest Alloys	Pass
Bellingham Cold Storage	Pass
Port of Seattle Terminal 18	Pass

# Projects ongoing in DY16

## PROJECT

Dunlap Towing

Entiat Marina, Columbia River

Port of Everett Marina

Sandy Point Harbor

Sandy Hook Yacht Club Marina

Point Hudson Marina

Cozy Cove

Squalicum Creek Waterway

Westport Marina



# 2015 USER Manual

- Corrections
- SMARM updates
- living document – updated annually
- e-mail to [DMMOteam@usace.army.mil](mailto:DMMOteam@usace.army.mil) with questions, clarifications, comments



## Dredged Material Evaluation and Disposal Procedures USER MANUAL

November 2015



### **Dredged Material Management Program**

U.S. Army Corps of Engineers, Seattle District  
Environmental Protection Agency, Region 10  
Washington State Department of Natural Resources  
Washington State Department of Ecology

Prepared by:

Dredged Material Management Office  
U.S. Army Corps of Engineers  
Seattle District

# DMMO website

- ▶ All DMMP evaluation documents
- ▶ Guidelines, User Manual, Dioxin info...
- ▶ Website URL:
- ▶ <http://www.nws.usace.army.mil>  
Search for: Dredged Material Management



**Questions ?**