



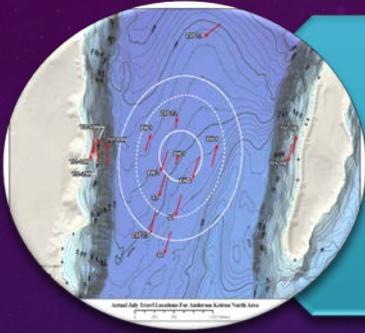
DMMP PROJECT EVALUATION ACTIVITIES

DREDGING YEAR 2015

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US Army Corps of Engineers
Seattle District



DMMP: What's the Point?



Keep disposal sites open: make sure safe, environmentally responsible placement available. Keeps costs down, and clean sediments in the water instead of landfills.



Allow marine commerce to maintain and plan for future. Dredged material that is unsafe for biota, fish or humans is identified



Provide information for beneficial uses of clean material.

Puget Sound Disposal Sites



Dredging Year 2015

DY 2015: 16 June 2014 to 15 June 2015

- still not finished with DY – most dredging done, but decision documents are not
- Decision Documents:
 - Suitability Determinations
 - Others:
 - Recency Extensions
 - Tier 1 Evaluations
 - Volume Revisions/Design Modifications
 - Antidegradation Determinations

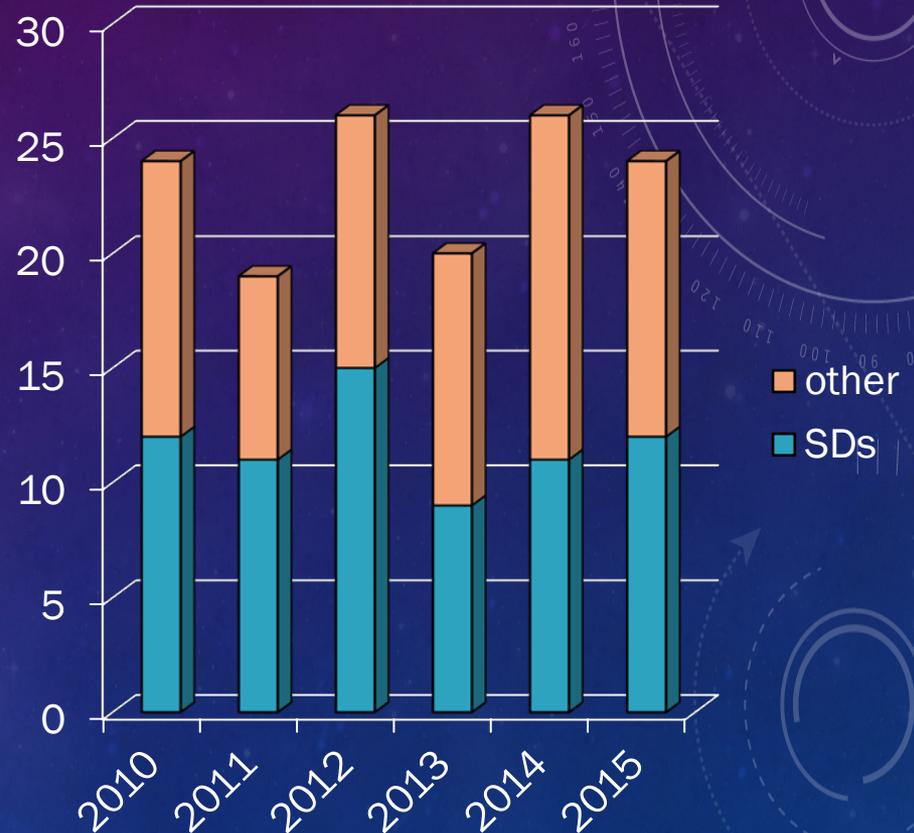


DY15 Completed Actions

Suitability Determinations (12)

Others (12):

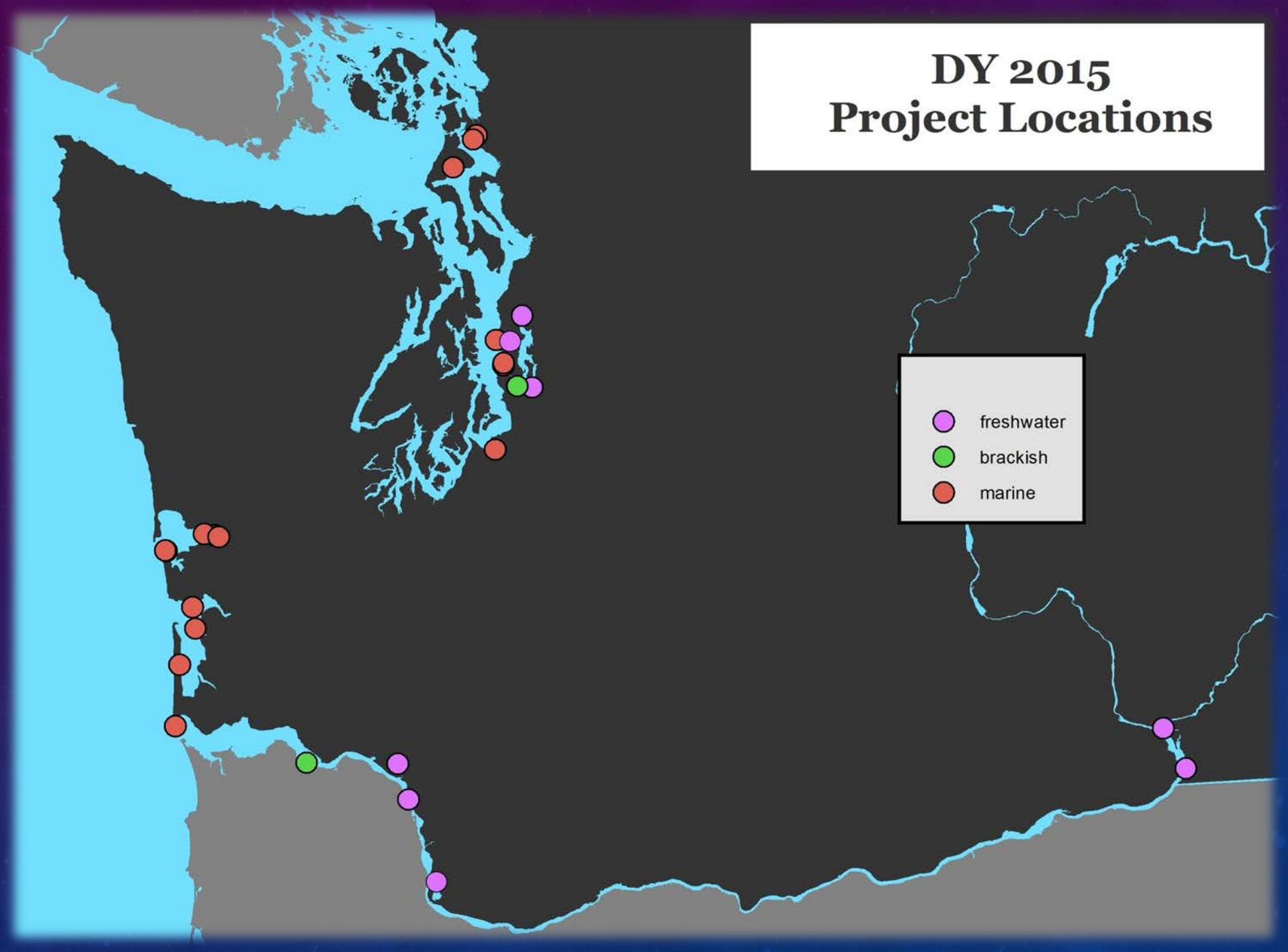
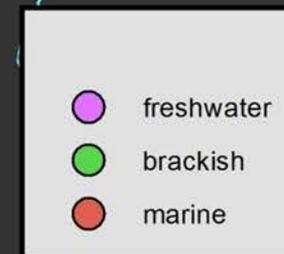
- Volume Revision/Design Modification (2)
- Recency Extensions (3)
- Antidegradation (2)
- Tier 1/No Test (4)
- Design advisory (1)



DY 2015 Project Locations



DY 2015 Project Locations



DY15 Testing

- Out of 24 completed actions:
 - 14 projects - chemical testing
 - 10 projects - dioxin testing
 - 2 projects - bioassays
 - 5 projects – antidegradation testing
 - *No bioaccumulation testing*



Projects with guideline exceedances (excluding dioxin)

PROJECT	CHEMICALS	COMMENTS
POT Pier 4	TBT (up to 50,000 µg/kg)	most tested material to CERCLA
Kenmore Nav. Channel	benzyl alcohol, benzoic acid	failed due to dioxins, so no bioassays
POGH Westport Marina	pyrene, benzo(a)anthracene, chrysene, benzofluoranthenes	bioassays conducted
Shelter Bay Marina	benzyl alcohol	only exceedance, no bioassays
LaConner Marina	benzyl alcohol	only exceedance, no bioassays



Benzyl Alcohol & Benzoic Acid

- Many projects 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
- Have not required bioassay testing on case-by-case basis
- Need more info before programmatic change
 - Will require bioassays in future projects



Dioxin Testing DY15

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

Only 2 projects had failures due to dioxin:

- **Westport Marina** (1/17 DMMUs failed due to dioxin)
- **Kenmore Federal Navigation Channel** (all 30,000 cy of material failed due to dioxin)



Dioxin Testing DY15, cont.

7 projects passed dioxin guidelines for ALL material:

- Puget Sound: Port of Seattle T5, Port of Tacoma Pier 4, Shelter Bay (Swinomish Channel)
- Columbia River: NWGG Wallula (antidegradation)
- Washington Coast: Port of GH Piers 1-4, Willapa Bay federal navigation projects, Westhaven Cove entrance channels



Biological Testing DY15

Two projects had bioassay testing:

- Westport Marina
 - 2/5 DMMUs failed (amphipod and larval test hits)
- Kenmore Federal Navigation Channel
 - Bioassays only for antidegradation
 - Used new FW guidelines
 - All Z-samples passed; no anti-degradation



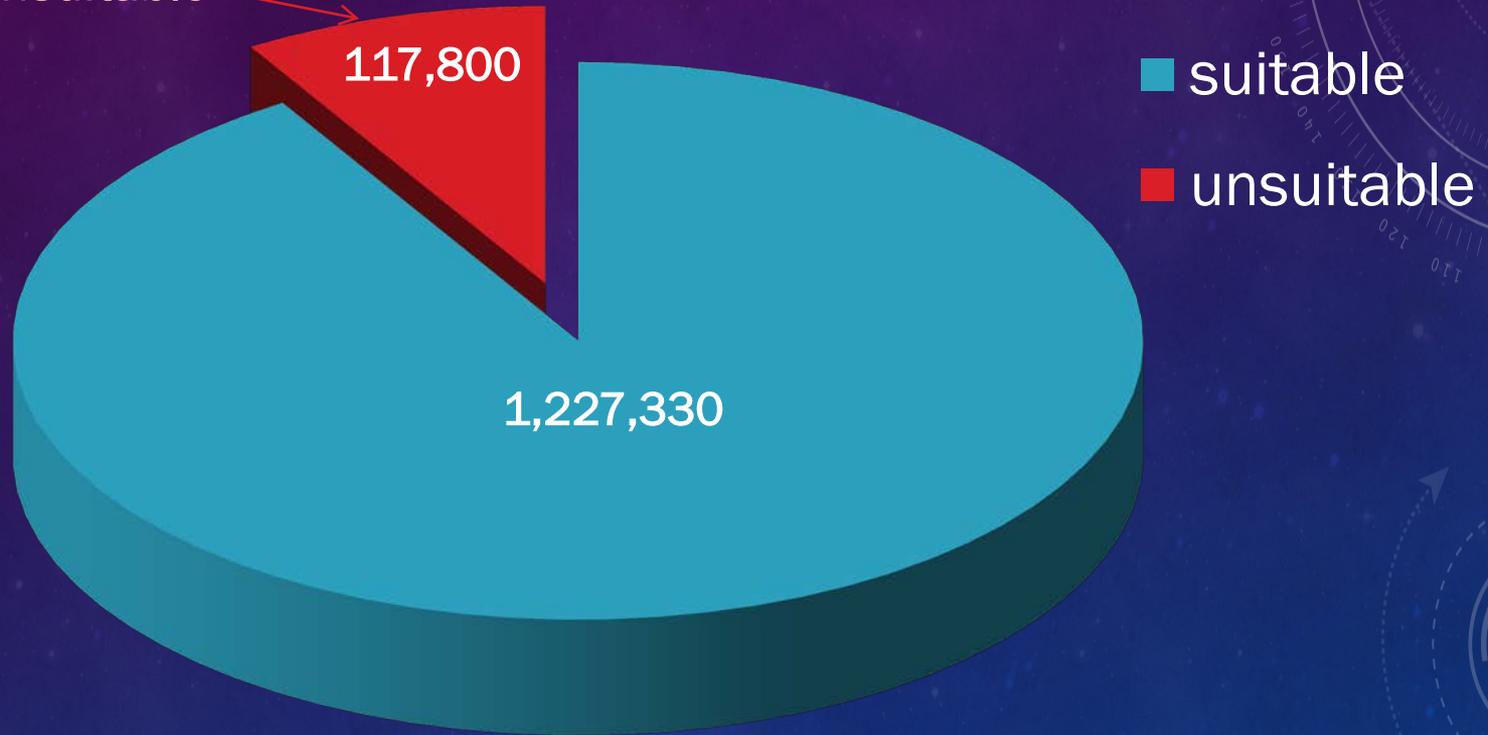
Projects with Unsuitable Dredged Material

PROJECT	SUITABLE (CY)	UNSUITABLE (CY)	REASON
POT Pier 4 Phase 1	11,000	47,000	riprap and TBT
Kenmore Nav. Channel	0	30,000	dioxins
POGH Westport Marina	204,200	40,800	PAHs, dioxins, bioassays



DY 15 Suitability of Volume Tested

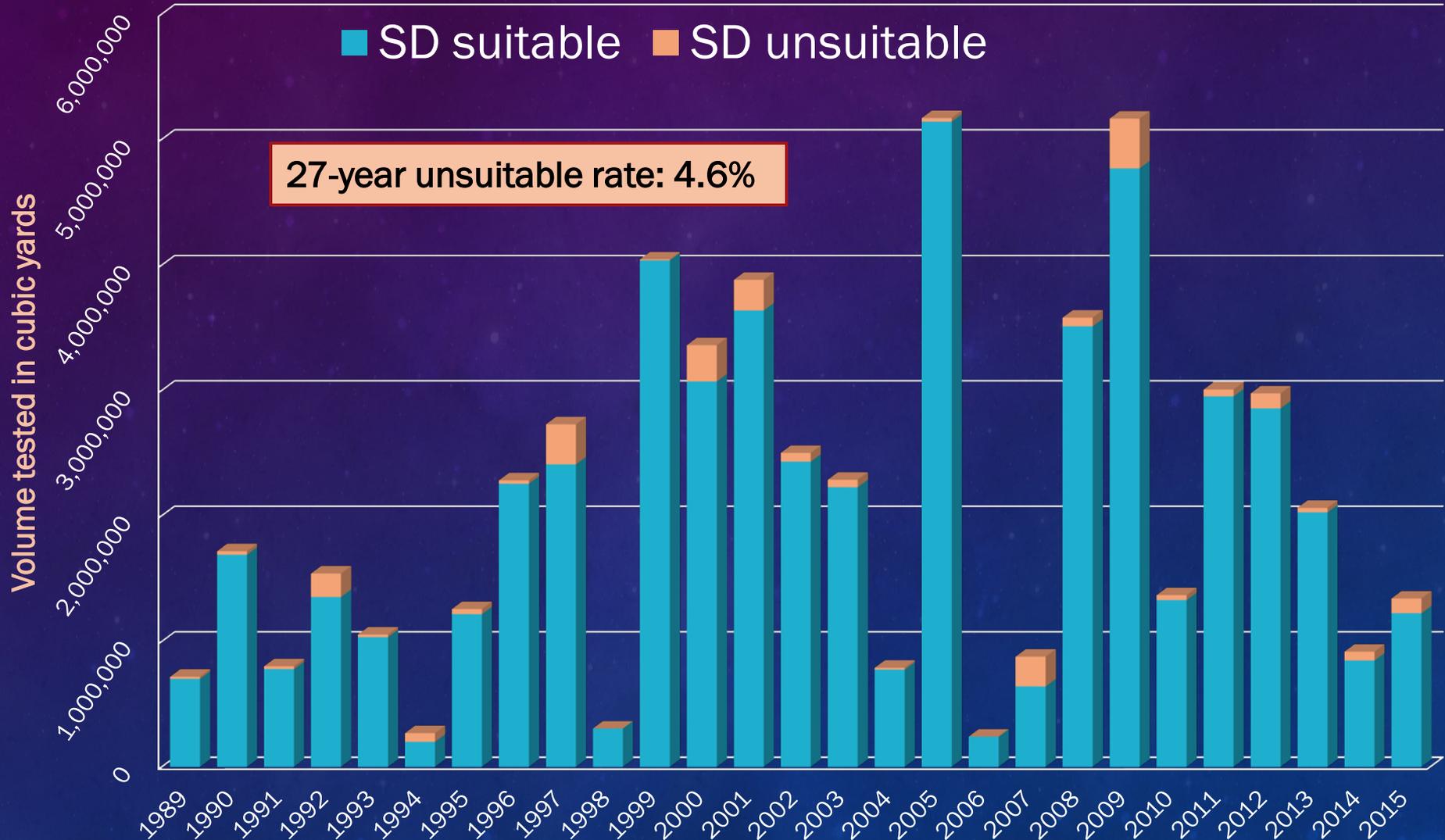
8.8% unsuitable



Suitable/Unsuitable: 8 year Comparison



DMMP Testing History



Antidegradation Testing

PROJECT	OUTCOME
Northwest Grain Growers, Walulla	pass
Port of Grays Harbor, Westport Marina	pass
Port of Seattle, T5	pass
Scoular Co., Burbank Grain Facility	pass
Kenmore Federal Navigation Channel	pass



Projects ongoing into DY16

PROJECT

Port of Tacoma Pier 4, Phase 2

Targa Sound Terminal

Entiat Marina, Columbia River

Port of Everett, Mill A

GP Gypsum

Port of Seattle, T91

Navy EMMR, Naval Base Bangor

Dunlap Towing

USCG Cape Disappointment

Longview - Water Treatment Plant

Emerald Kalama Chemical



2014 USER MANUAL

- Corrections
- SMARM updates
- living document – updated annually
- e-mail to DMMOteam@usace.army.mil with questions, clarifications, comments



Dredged Material Evaluation and Disposal Procedures

USER MANUAL

December 2014

Dredged Material Management Program

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
US 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 ?