

A map of a waterfront area with various land parcels outlined in different colors (red, green, purple, orange) and labeled with alphanumeric codes (S1 through S12). The map is overlaid with a semi-transparent white box containing text.

# **Waterfront Land Studies and Shoreline Master Programs**

**Shoreline Planners Coordination Meeting  
April 23, 2009**

*Presented by*

Molly Harris & Stephen Atkinson -City of Tacoma  
Paul Sorensen & Brian Winningham -BST Associates  
Nicole Faghin & Mark Daniel - Reid Middleton

# Agenda

- Requirements to prepare Land Use Analysis - *RMI*
- Methodology for Preparing Land Use Analysis – *BST Associates*
  - Examples from Bellingham, Everett, Tacoma
- Potential Applications for Tacoma – *City of Tacoma*



# SMP Guidelines

- WAC 173-26-201 Comprehensive process to prepare or amend shoreline master programs
  - (3)(d) Analyze shoreline issues of concern
    - *“Before establishing master program provisions, local governments shall...as necessary to ensure effective shoreline management provisions, address the topics below, where applicable.”*
  - (3)(d)(ii) Shoreline use analysis and priorities
    - *“Conduct an analysis to estimate the future demand for shoreline space and potential use conflicts. Characterize current shoreline use patterns and projected trends to ensure appropriate uses consistent with chapter 90.58 RCW and WAC 173-26-201(2)(d) and 173-26-211(5).”*

# SMP Guidelines (continued)

- WAC 173-26-201 Comprehensive process to prepare or amend shoreline master programs
  - (2)(d) Preferred uses
    - *“... when determining allowable uses and resolving use conflicts on shorelines within their jurisdiction, apply the following preferences and priorities in the order listed below...”*
  - (2)(d)(ii)
    - *“Reserve shoreline areas for water-dependent and associated water related uses. Harbor areas...and other areas that have reasonable commercial navigational accessibility and necessary support facilities...should be reserved for water-dependent and water-related uses that are associated with commercial navigation unless the local governments can demonstrate that adequate shoreline is reserved for future water-dependent and water-related uses...”*

# Land Supply Scope of Work

- Tacoma Land Supply Study Scope of Work
  - Research Background plans, policies and regulations, reports and data
  - Map information in GIS
  - Develop estimate of future demand for waterfront property
  - Existing and future demand for waterfront uses
  - Maps showing areas for water dependent type uses
- Relationship to Public Access Report

# BST Associates - Qualifications

- Waterfront Industrial Land Studies
  - Everett (2000 and 2007)
  - Bellingham (2007)
  - Tacoma (2008/9)
- Marine Terminals
  - Marine cargo forecasts (every five years from 1985 to 2009 for WPPA & WSDOT)
  - Forecasts, revenue bond studies and master plans for Long Beach, Oakland, Portland, Vancouver, Kalama, Olympia, Seattle, Tacoma, Port Angeles, Carrix ...
- Marina Master Plans
  - Washington State Recreational Boating Plan (IAC, DOL, Parks in 2001)
  - Bellingham, Anacortes, La Conner, Everett, Edmonds, Des Moines, Bremerton, Port Angeles, Neah Bay, Westport ...
- Other
  - Anacortes Dakota Creek Shipyard (2003)
  - Port Angeles Topside Repair Study (2002)
  - NOAA Homeport Study (2008)

# Tacoma Waterfront Lands Analysis

- Is sufficient land available to meet the most critical needs of water-dependent uses?
  - Recreational boating
    - Power, sail, and hand launched boats
    - Support services such as fuel, repair, etc
  - Government operations
    - Ferry terminals
    - Fireboats
    - Military
  - Commercial/Industrial uses
    - Marine terminals
    - Boat building, ship repair, moorage of company owned vessels, manufacturers or distributors that ship and/or receive products by water)
- The Waterfront Lands Study evaluates existing uses and provides an estimate of the future demand by waterfront uses. It also includes an assessment of whether there is sufficient vacant or under-utilized land to meet these needs.



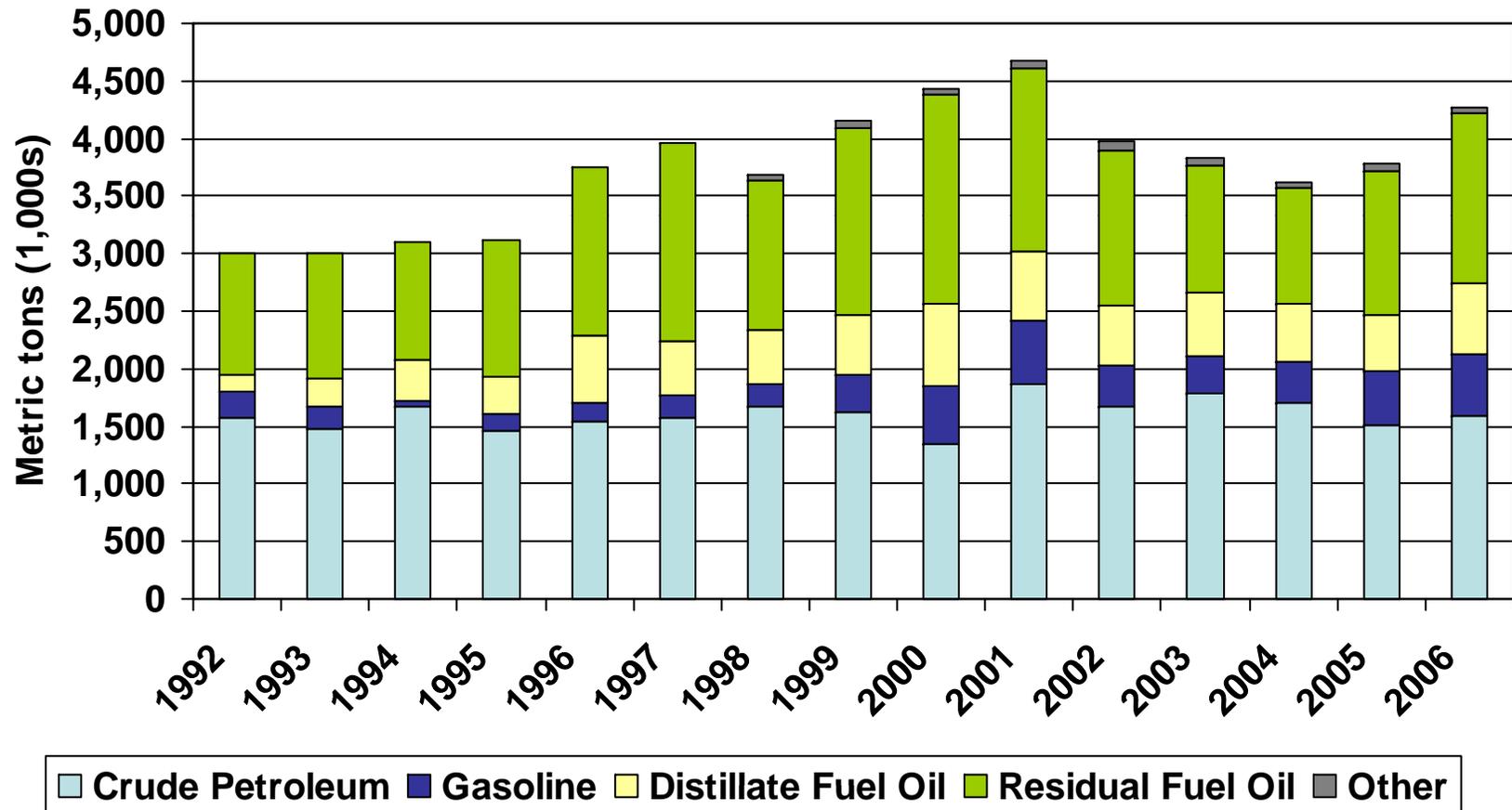
# Water Depth

- Water depth is key, with different requirements for each type of use:
  - Recreational boats typically require depths of 6 to 12 feet
  - Tugs, barges, larger commercial fishing boats, small freighters, and ferries need 10 to 30 feet of water depth
  - Larger commercial vessels (e.g. tankers and breakbulk vessels) usually need more than 30 feet of water depth
  - Larger container vessels (8,000 TEU+) have drafts of more than 45 feet and require a depth of 50+ feet.
  - The Ready Reserve fleet has a draft of 32 to 34 feet when loaded, needs channel and berth depth of 35 feet or more.

# Marine Terminals

- Container, breakbulk, auto and grain terminals
  - Currently comprise 854 acres
  - Approximately 341 acres are in the 200 foot Shoreline District
  - Terminal space is expected to reach approximately 1,477 acres by 2028
  - This increase of 623 acres will require a dislocation of other uses.
- Petroleum Products
  - Four oil refineries and/or distribution facilities in Tacoma (approx 36.1 shoreline acres)
    - Sound Refining Inc (Hylebos Waterway)
    - US Oil & Refining Company (Blair Waterway)
    - ConocoPhillips Tacoma Terminal (Thea Foss Waterway)
    - Valero Logistics (Thea Foss Waterway)
  - Expected to remain in operation unless dislocated by other uses.

# Petroleum Product Flows



# Marine Terminals (continued)

- Crude Minerals
  - Four terminals receive and/or ship crude minerals (approx. 12.2 shoreline acres)
  - These firms will remain in their present locations through the end of the study period or be moved to an alternative site if dislocated by terminal development or another water-dependent use.
- Scrap & Ores (21.7 shoreline acres)
  - Expected to remain in their present locations
- Forest Products (approximately 144.8 shoreline acres)
  - There has already been a significant shrinkage in the acreage, but BST Associates projects that the remaining firms will likely stay at their present locations.

# Moorage & Related Sectors

- Commercial Vessel Moorage
  - US Ready Reserve Fleet along Ruston Way at Sperry Dock
  - American Construction moors company owned construction equipment on the Hylebos
  - Foss and Crowley have moorage for company owned tugs and barges
  - Trident Seafood moors fishing vessels and the US Army moors vessels at the end of the Blair Hylebos peninsula
  - Additional moorage could be provided in the Hylebos from the Weyerhaeuser log dock past the Arkema property. However, water depth is limited in this area to 25 to 30 feet

# Moorage & Related Sectors

## (continued)

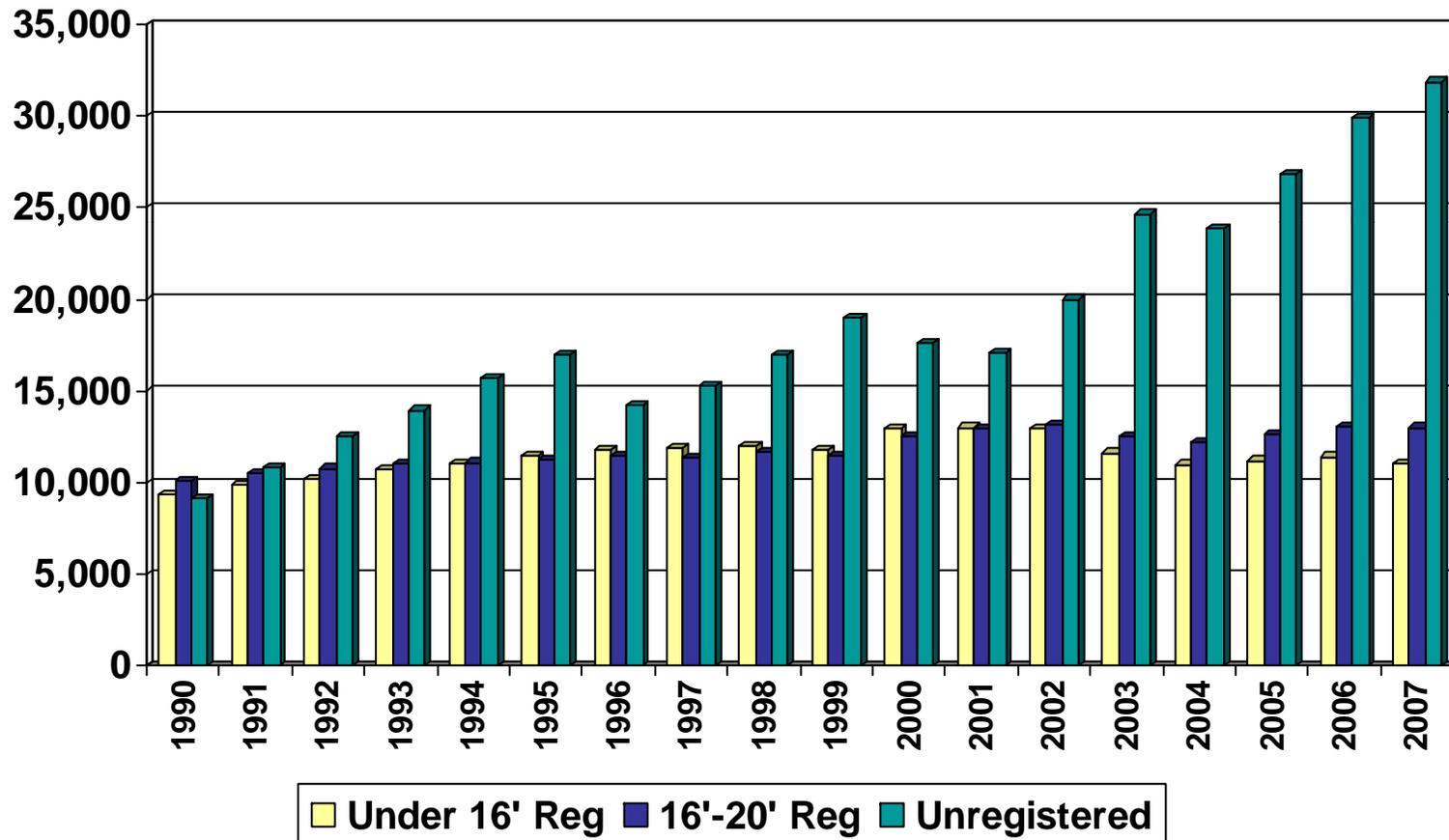
- Boat Builders and Shipyards (approximately 14.6 shoreline acres)
  - Current economic conditions are hurting vessels sales, driving some firms out of business
  - Metalcraft Marine, Aleutian Yachts and Northcoast Yachts will be dislocated by the Port of Tacoma YTTI Terminal
  - BST Associates projects that 10 to 20 acres may be required to meet the needs of this sector by the year 2028. A portion of this demand can be accommodated at the Wattles property on the East Thea Foss.

# Moorage & Related Sectors

## (continued)

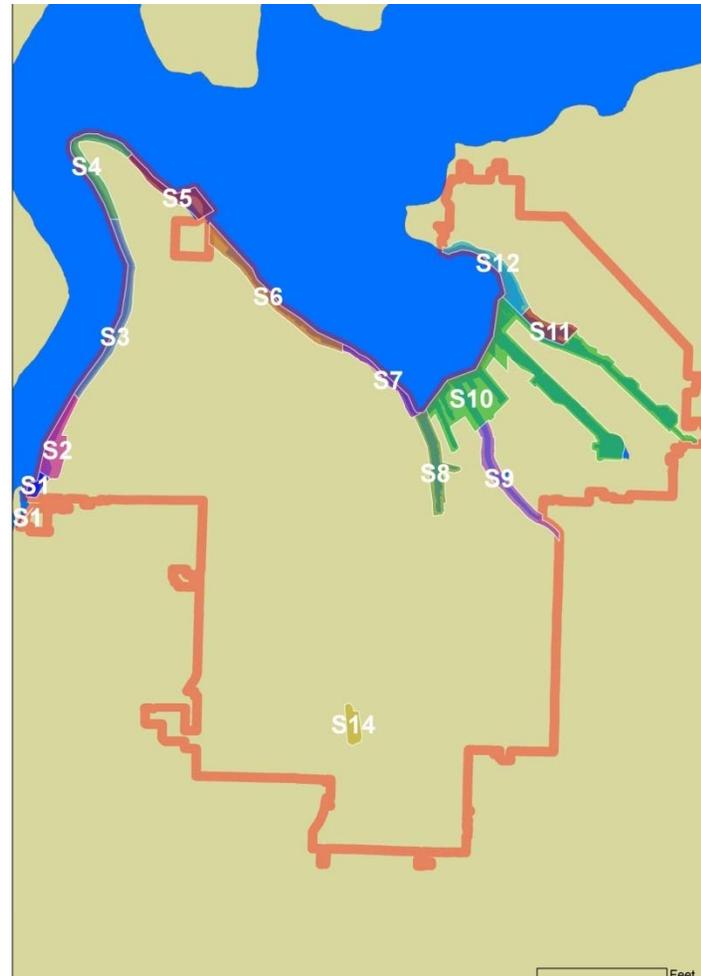
- Marinas
  - Tacoma has recently undergone resurgence in redevelopment of its marinas with some new marinas developed and others rebuilt
    - Tacoma has approximately sixteen moorage facilities (for permanent and transient moorage)
    - These marinas are well utilized, with a 96% occupancy rate
    - There is a need for additional transient and permanent wet moorage facilities
      - Replacement of mooring buoys along Ruston Way
      - Improved facilities for hand launched and trailerable boats (up to 26 feet long)
    - Preserve and enhance upland support activities such as repair, retail and other services
      - Repair and retail services are provided by Commencement Bay Marine Services, Modutech, J&G Marine, Day Island Boatworks and Hyland Marine among others.

# Pierce County Small Boat Trends



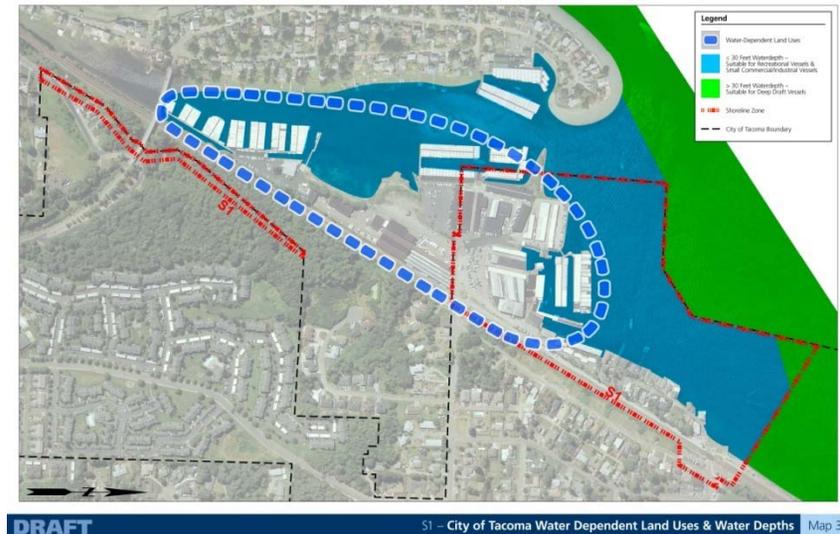
Unregistered boats includes kayaks, canoes and other hand launched human powered boats.

# Tacoma Shoreline Zones



# Methodology for Mapping

- Steps to Preparing Maps for Land Use Analysis
  - GIS Data Mapping
  - Parcel Based Analysis
  - Categorization of Land
  - Water depths
  - Generalization of “areas”



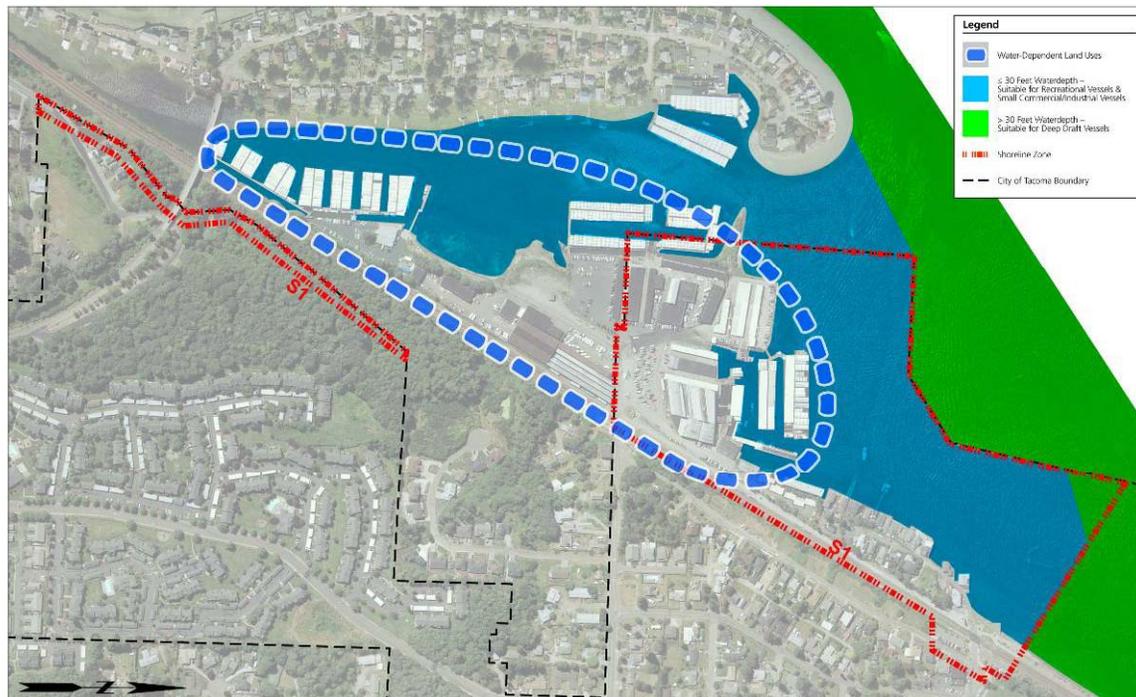
# GIS Data Needs

- For each waterfront parcel:
  - Acres
  - Shoreline Environment Designation
  - Acreage above or below ordinary high water mark
  - Zoning
  - Owner
  - Occupancy status (occupied or unoccupied)
  - Current use
  - Aerial photo with parcel lines and land use

# Initial Use Maps – S1



# Shoreline Zone - S1

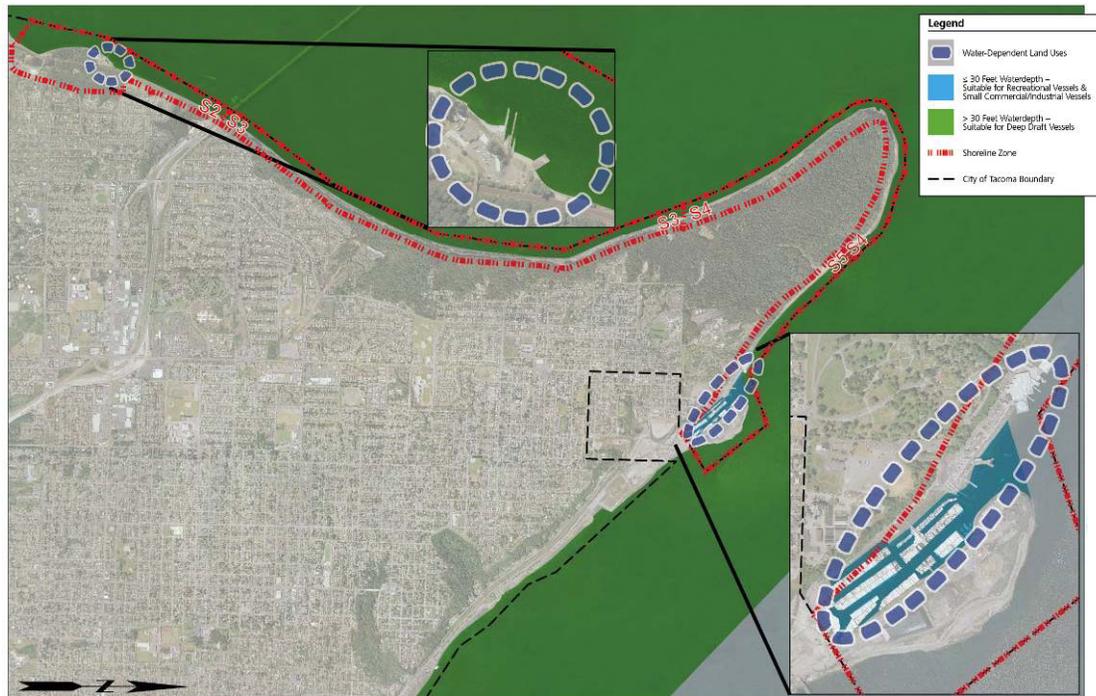


- Narrows Marina provides recreational moorage
- Redevelopment opportunities in the uplands of the Narrows Marina (mixed-use development)

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S1 – City of Tacoma Water Dependent Land Uses & Water Depths Map 3

# Shoreline Zone – S2 through S5

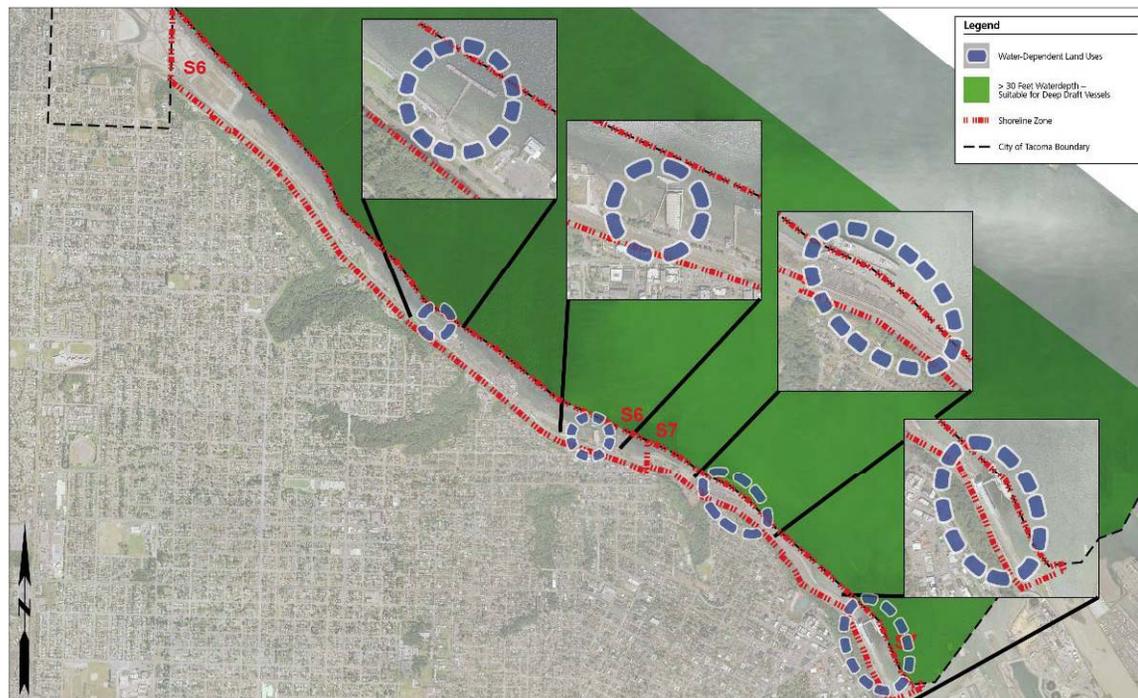


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S2 - S5 – City of Tacoma Water Dependent Land Uses & Water Depths Map 4

- S-2 contains the Tacoma Outboard Association facility in Titlow Beach Park. This is not expected to change significantly in the future.
- S-3 has no waterfront uses in this area, which is not expected to change.
- S-4 is in Point Defiance Park and has no waterfront facilities.
- S-5 contains the western part of Point Defiance park, and includes:
  - Owens Beach
  - Point Defiance Boathouse Marina
  - Breakwater Marina
  - Tacoma Yacht Club
  - Point Defiance boat ramp
  - Point Defiance-Tahlequah Ferry terminal.
- The current SMP encourages the development of more access in this district
- Tacoma Metro Parks is completing a plan for redevelopment that would enhance boating facilities in this area

# Shoreline Zone – S6 & S7



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S6 - S7 – City of Tacoma Water Dependent Land Uses & Water Depths Map 5

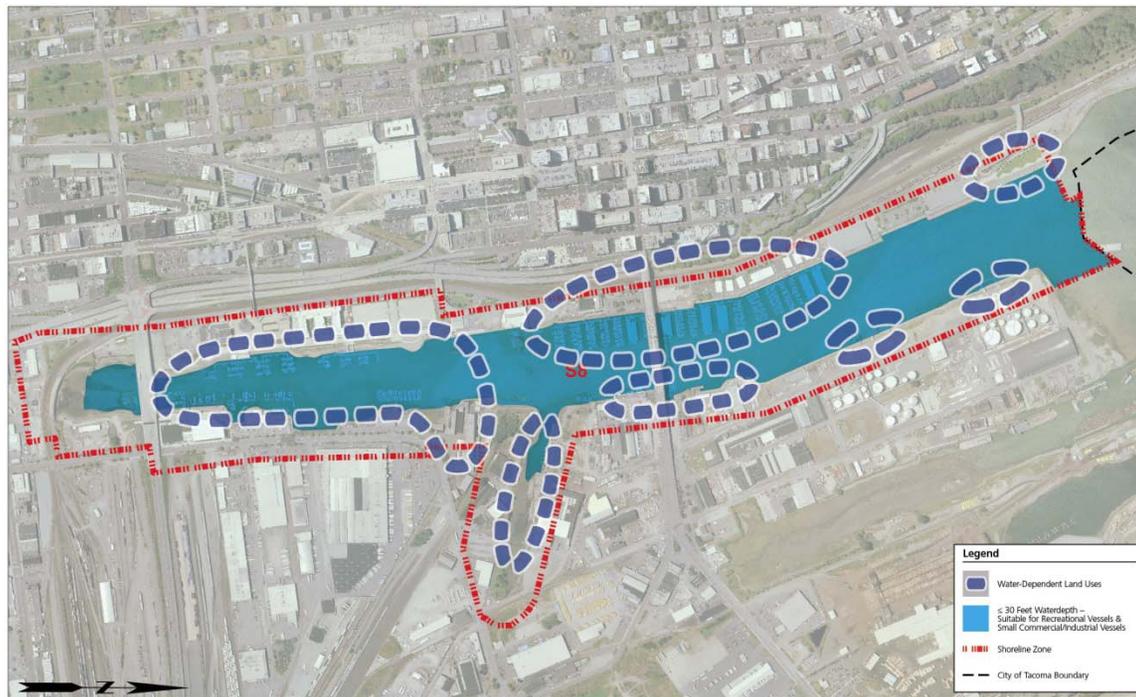
SMP encourages the development of more public waterfront access in this district.

Boating access includes facilities adjacent to commercial businesses (dock at Silver Cloud Hotel et al) and at public facilities (Old Town Dock)

Two marine terminals (Sperry Dock and grain elevator)

- Sperry Dock upgrade plans concern neighbors
- No anticipated changes to the grain elevator

# Shoreline Zone – S8

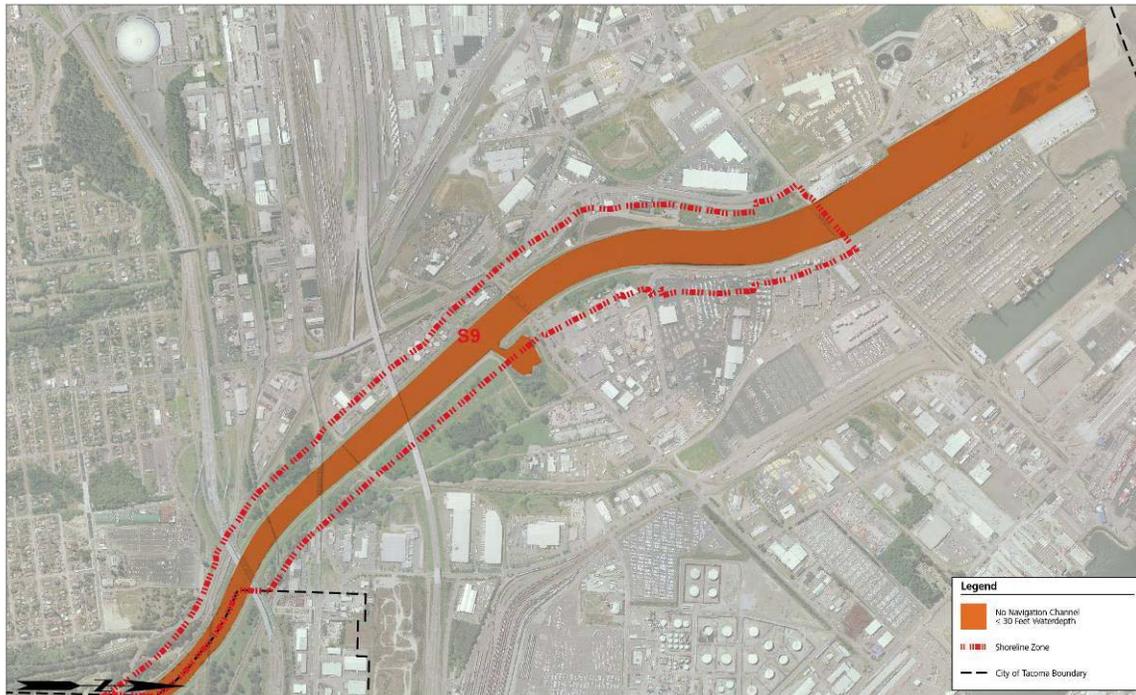


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S8 – City of Tacoma Water Dependent Land Uses & Water Depths Map 6

- Thea Foss Waterway depths:
  - 19 to 22 feet inside the East 11th Street bridge
  - 29 feet outside the East 11th Street bridge
  - Wheeler Osgood waterway approx. 2 ft.
- Several marinas and support services, with an increase in this type of activity expected
- Industrial operations include petroleum products, marine floats and a shipyard
- This area is expected to accommodate waterfront uses, and possibly office buildings transitioning to light/heavy industry
- Conflicting visions of industrial and mixed-use operations for the east Thea Foss Waterway

# Shoreline Zone – S9



- The Puyallup River is not navigable by the general public
- There are no waterfront facilities in the City.
- Used by the Puyallup Tribe for subsistence and other fisheries.

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S9 – City of Tacoma Water Dependent Land Uses & Water Depths Map 7

# Shoreline Zone – S10



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S10 – City of Tacoma Water Dependent Land Uses & Water Depths Map 8

The Port Industrial area is well utilized, primarily by water-dependent uses.

Water depths:

- Middle Waterway - 12 to 15 feet
- St. Paul Waterway - between 2 feet and 23 feet
- Sitcum Waterway - 51 feet
- Blair Waterway - 51 feet
- Hylebos Waterway 30 feet

The Middle Waterway is used for tug moorage, and by a log lift dock and a ship yard.

St. Paul Waterway has Simpson's barge dock.

Sitcum Waterway is fully utilized by Port of Tacoma container and breakbulk terminals.

Blair Waterway has by Port of Tacoma container terminals as well as several private terminals (Concrete Tech, GP Gypsum, Graymont Lime et al).

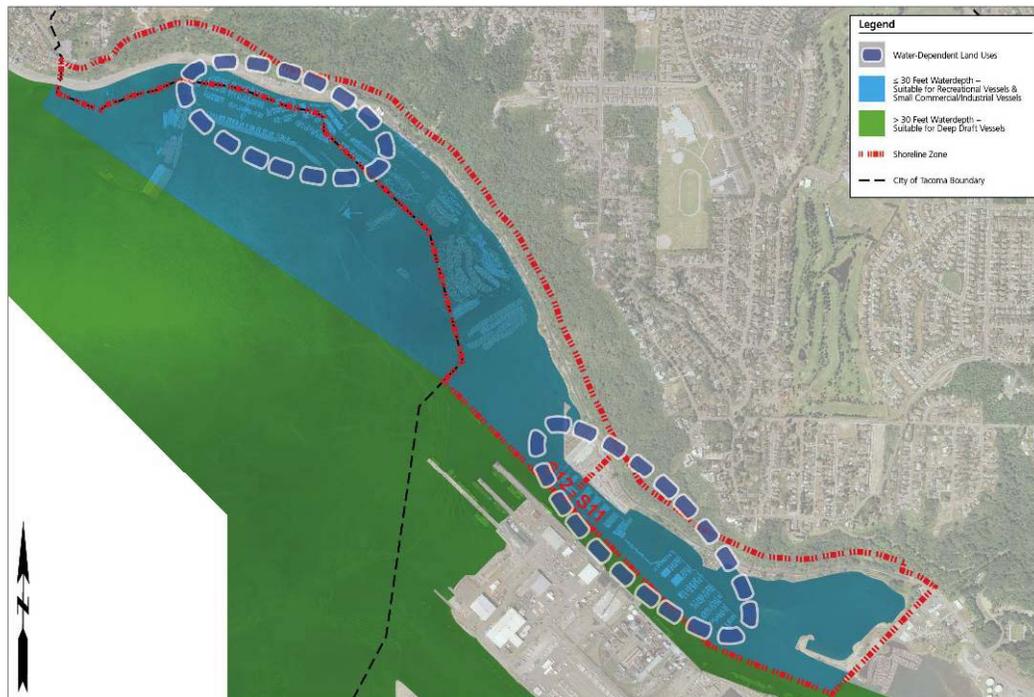
The Blair Waterway is fully utilized. Plans to build two new container terminals could dislocate other water-dependent uses.

The Hylebos Waterway is mainly used by private water-dependent firms.

There are also several non-water-dependent uses. If existing non-water dependent firms cease their use of a site, it be considered for water-dependent use.

- A few vacant properties in this waterway could support water-dependent uses.

# Shoreline Zone – S11 & S12



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S11 - S12 – City of Tacoma Water Dependent Land Uses & Water Depths Map 9

Recreational boating facilities include:

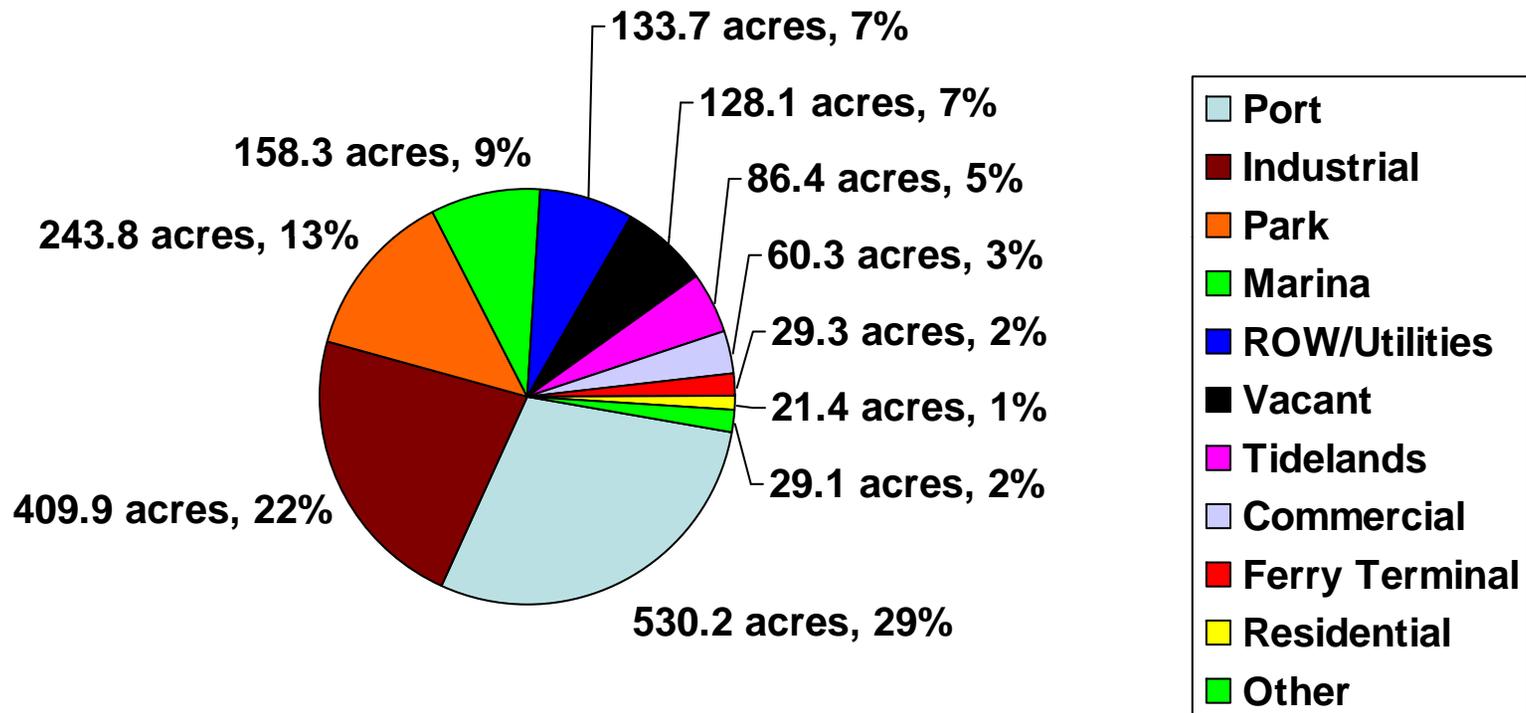
- Chinook Landing Marina (S11)
- Ole & Charlie's (S11)
- Tye Marina (S12)

Log storage also occurs in S12

These uses are expected to continue throughout the study period

- A few vacant properties in this waterway could support water-dependent uses.

# City of Tacoma, all zones



# Conclusions

- The City of Tacoma's shoreline area is well utilized:
  - 1,830.5 acres within the City's shoreline but only 128.1 acres are designated as vacant in the Pierce County Assessor's database.
  - 12.8 acres have steep slopes or other conditions affecting development.
  - 44.4 acres are located in areas that only allow residential or commercial but not industrial uses.
  - This leaves approximately 70.9 acres for industrial development, most of which is located in:
    - Thea Foss Waterway (9.5 acres),
    - Middle Waterway to the Puyallup River (14.7 acres) and
    - Hylebos Waterway (46.6 acres of industrial land).

# Conclusions

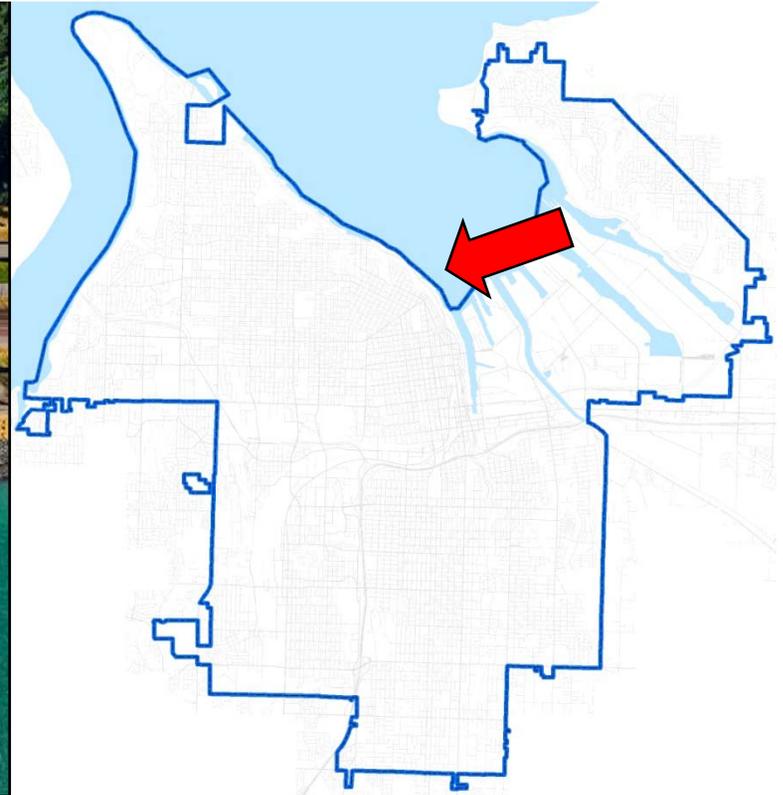
- New waterfront uses are limited from the Narrows Marina at the south to the Sperry Dock at the north (i.e. District S1 through District S7).
- Similarly, steep slopes and lack of upland in Districts S11 and S12 are likely to prevent new water dependent uses.
- Finally, District S9 (Puyallup River) is not navigable.
- As a result, any future water dependent uses will most likely occur in District S8 or S10 (Thea Foss thru the Port).

# Conclusions

- Several parcels with non-water-dependent uses could be utilized by water-dependent uses (primarily in the Hylebos Waterway - District S10).
- A transition to water-dependent use should be evaluated if there is a change of use at these properties.

# Two Case Studies Raise Further Questions

- Waterfront Lands Analysis was used to prepare and integrated with a Shoreline Use Analysis (prepared by ESA Adolfson)
- Shoreline Use Analysis (WAC 173-26-201(3)(d)(ii)) estimates the future demand for shoreline space, identifies potential use conflicts, and characterizes current shoreline use patterns and projected trends to ensure appropriate uses can be accommodated
- Two areas in Tacoma may need additional analysis



Potential Restoration Site

Schuster Parkway  
Ready Reserve Fleet  
and  
Grain Terminal



Potential Restoration Site

# Schuster Parkway Issues

- Intent
  - Existing Intent: To allow development of deep water terminal and light industrial facilities, but to preserve the character and quality of life in adjoining residential areas, school and park properties
  - Potential Intent: To provide for perpetual utilization for park and recreational uses and permit the creation and enhancement of view areas and trail systems and allow development of marinas, boat launch facilities, and other water-oriented commercial uses, but to preserve the character and quality of life in adjoining residential areas, schools, and park properties
- Environmental Designation
  - Existing Designation: Urban
  - Potential Designation: High intensity or Conservancy
- Permitted Uses
  - Existing: Mixed uses and water-dependent and water-related port, terminal, and industrial
  - Potential: Continue to allow mixed uses and water-dependent and water-related port, terminal, and industrial OR allow mixed uses and only normal maintenance of existing industrial structures

# Schuster Parkway Issues Cont.

- Issues/Request for More Data (from Walk the Waterfront)
  - Requested rezone of the area
  - Disputes some of the information in the Analysis:
    - Do the ships berthed at Sperry really need the depth stated in the report?
    - Can't the ships be located in the Port of Tacoma area?
- Bottom line:
  - Should this existing deep-water terminal area be rezoned to disallow new industrial uses and be used instead for public access and recreation?



Middle Waterway  
Restoration Area

Future Urban  
Waters  
Location

Valero  
Logistics

Restoration Site  
And documented forage fish spawning site

Thea Foss Waterway  
East Side Industrial and  
Mixed Use Area



# East side of Thea Foss Waterway, North of 15<sup>th</sup> Street Issues

- Intent
  - Existing Intent: Improve the environmental quality of Thea Foss Waterway and encourage the reuse and redevelopment of the area for mixed use development, cultural facilities, marinas and related facilities, water-oriented commercial uses, water-oriented public park and public facilities development, and waterborne transportation and to encourage existing industrial and terminal uses to continue their current operations and leases to industrial tenants
  - Potential Intent: Same as above...and to encourage existing and new water-dependent industrial and terminal uses
- Environmental Designation
  - Existing Designation: Urban
  - Potential Designation: High intensity
- Permitted Uses
  - Existing: Mixed uses and water-dependent and water-related port, terminal, and industrial
  - Potential: Mixed uses and continue to encourage water-dependent and water-related port, terminal, and industrial and to allow only existing non-water dependent uses to continue current operations

# East side of Thea Foss Waterway, North of 15<sup>th</sup> Street Issues cont.

- Bottom line:
  - How do you accommodate all users--existing industrial uses, water-dependent uses, commercial uses, and public access?
  - Should we encourage all existing industrial users to continue existing operations and leases to industrial tenants?

# Use of Waterfront Lands Analyses

- Further integrate the Waterfront Lands Analysis and the Shoreline Use Analysis, to provide facts for discussion forums and policy choices
- Conduct further analysis, including economic impact of Sperry Dock and the existing Thea Foss industrial uses, to provide additional information for the community and policy makers
- Discuss how to keep land preserved for water-dependent uses during an economic recession

A map of a waterfront area with various colored zones and labels. The zones are labeled S1 through S12. S1 is in the bottom left, S2 is above it, S3 is to the right of S2, S4 is at the top left, S5 is to the right of S4, S6 is in the middle left, S7 is in the middle, S8 is at the bottom center, S9 is to the right of S8, S10 is a large green area on the right, S11 is to the right of S10, and S12 is at the top right. The map shows a blue body of water on the left and a light green area on the right, with various colored lines and shapes representing different land parcels or study areas.

# Waterfront Land Studies and Shoreline Master Programs

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