



**IRVINE RANCH
WATER DISTRICT**

Newport Bay Watershed Executive Committee

San Diego Creek Trash Boom

November 19, 2008



San Diego Creek Trash Boom

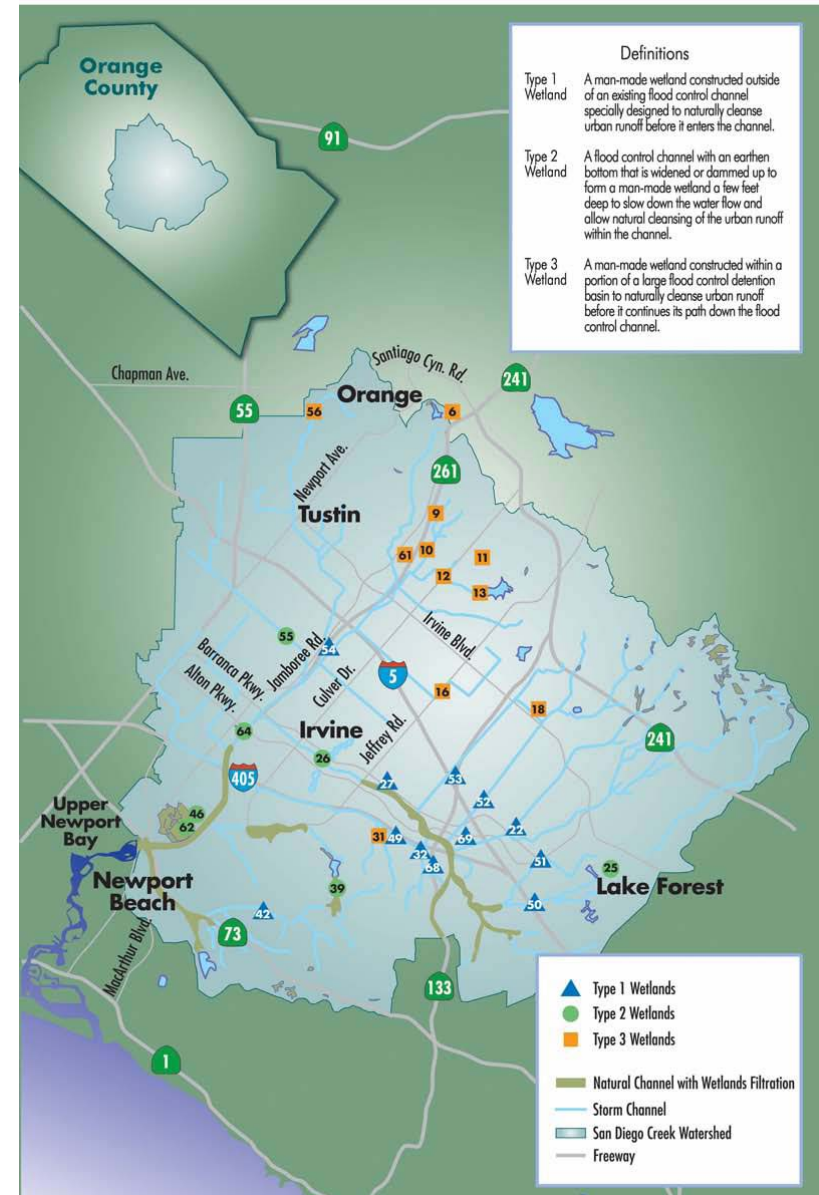
Presentation Summary:

- Background and key objectives for trash boom pilot project
- Summarize findings and operational observations
- Recommend next steps for installing a permanent trash boom across San Diego Creek



San Diego Creek Watershed Area

- IRWD service area is nearly 179 square miles, serving all or portions of:
 - City of Irvine
 - City of Lake Forest
 - City of Tustin
 - City of Newport Beach
 - City of Costa Mesa
 - City of Orange
 - City of Santa Ana
 - Unincorporated Areas of Orange County
- IRWD service area boundaries similar to San Diego Creek watershed boundaries





San Diego Creek Trash Boom Pilot Project

Project Background:

- Installed in November 2003 as a pilot project
- Key objectives of the Trash Boom Pilot Study:
 - Measure the trash yield and characterize the captured debris;
 - Develop operational costs;
 - Assess the feasibility of long term operation;
 - Determine the effectiveness of the removal method;
 - Forward the findings to County and City officials for future consideration should a trash TMDL be developed.



San Diego Creek Trash Boom Pilot Project

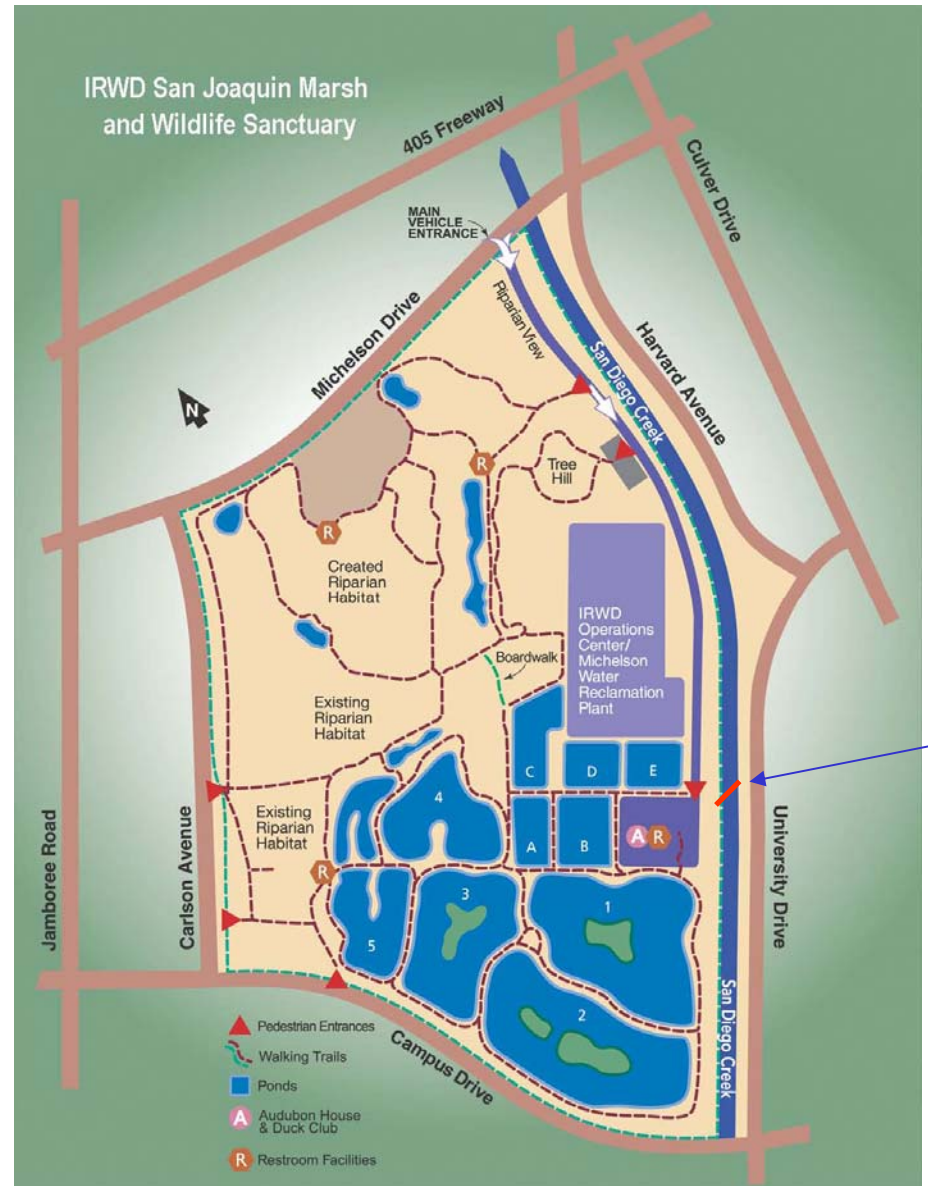
Project Design Features:

- Spanned the San Diego Creek near IRWD's Michelson Water Reclamation Plant (MWRP)
- Floating boom with 2" x 2" mesh netting anchored to creek banks
- Installed with staggered anchor posts to attempt to divert trash to the MWRP (west) side of creek
- Designed to break-away in high flow conditions
- Cost to design, permit, furnish and install: \$89,000



San Diego Creek Trash Boom Location

Trash Boom
Location Map
relative to IRWD's
Michelson Water
Reclamation Plant:



Trash
Boom



San Diego Creek Trash Boom Operation

Debris Characterization and Expense:

- Amount of Debris Collected from 2004 to 2008 (by weight):

– Plastics	23%
– Paper	4%
– Metal	3%
– Glass	3%
– Styrofoam	41%
– Rubber	26%



- **12,100 pounds of trash removed:** 2004 through 2008
- Labor and maintenance expense total: \$54,112



San Diego Creek Trash Removal





San Diego Creek Trash Boom Observations

Design:

- Short, intense storms and storms of long duration caused the boom to break away
- The irregular creek bottom allowed trash to pass under the boom

Vegetation and Habitat:

- Vegetation growth along the trash boom substantially hampered operability
- Upstream vegetation tended to accumulate in the boom, causing it to break away



San Diego Creek Trash Boom Observations

Accessibility:

- Access to boom from both sides of the creek preferred
- Trash Boom “sagged” making access to remove trash difficult
- Boom design refinements and improvements in the trash accumulation area would simplify removal efforts (lower costs)

Permits:

- For long term operation and maintenance of the trash boom:
 - Regulatory permits needed to allow on-going sediment and vegetation removal
 - Permit limits should be along length boom, 50 yards upstream of boom



San Diego Creek Trash Boom

Recommended Next Steps:

- Develop a cost estimate for design, permitting, construction and maintenance of a permanent trash boom across San Diego Creek; and
- Bring this information with a cost sharing proposal to the Newport Bay Watershed Executive Committee for consideration at its next meeting.



San Diego Creek Trash Boom

Questions?