OCSD Urban Runoff Program

SCAP – Collection Systems in Motion

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Orange County Sanitation District, CA
OCSD Service Area

Orange County, California

Los Angeles
Santa Ana
San Diego
July 1 - September 3, 1999 up to 4 1/2 miles (23,000 feet) of Huntington Beach was closed due to elevated bacteria level.
Causes of Beach Closures

Urban Sources
(nuisance & stormwater runoff)

Leaking Sewer Lines
(groundwater flow)

Environmental Sources
(direct & tidal inputs)
Low Flow Diversion Systems
Low Flow Diversion Systems

Berms in stormwater channels

Pumpstation in stormwater well

OCSD wastewater treatment plant
Temporary – Santa Ana River Channel Diversion

Concrete berm

Diversion pipe connected to sewer line
Permanent – Santa Ana River Channel Diversion

Concrete Dam to Wet Well
Temporary – Channel Diversion

Concrete berm

Diversion pipe connected to sewer line
Permanent – Channel Diversion

Inflatable Rubber Dam
Stormwater / Urban Runoff Pump Station

Wet well

Diversion pipe connected to sewer line
Urban Runoff – Why Care?

- Public health
- Recreational water bodies
- Economy
- Quality of life
Important Regulations

- Orange County stormwater NPDES permit
- Assembly Bill 411 (ocean water – contact sports standards)
- Total Maximum Daily Load (TMDL)
Orange County
13 Watersheds
40–70 MGD dry weather urban runoff
OCSD’s Urban Runoff Solutions

- Aug 1999 – Stormwater pump station diversions
- Jun 2000 – Channel and river diversions
- Sep 2000 – Dry Weather Urban Runoff Policy
- Jan 2002 – Proposal to amend OCSD’s Charter – AB 1892
- Jun 2002 – Legislation AB 1892 approved by Governor
 Agencies in Orange County
Treating Urban Runoff

- Irvine Ranch Water District
- Santa Margarita Water District
- Moulton Niguel Water District
- City of San Clemente
- City of Laguna Beach
- Emerald Bay Services District
- OCSD
- South Coast Water District
Diversions

- 16 Current
- 28 Proposed
10 MGD

4 MGD

3 MGD

MAXIMUM Capacity

Fee Threshold

Flow Volume
<table>
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<tr>
<th>Month</th>
<th>Gallons per Day</th>
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<tbody>
<tr>
<td>Jan'04</td>
<td>1,326,932</td>
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<tr>
<td>Feb</td>
<td>728,897</td>
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<tr>
<td>Mar</td>
<td>1,616,122</td>
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<tr>
<td>Apr</td>
<td>1,900,012</td>
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<tr>
<td>May</td>
<td>2,407,785</td>
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<tr>
<td>Jun</td>
<td>2,366,041</td>
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<tr>
<td>Jul</td>
<td>2,432,316</td>
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<td>Aug</td>
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<td>Sep</td>
<td>2,061,429</td>
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<tr>
<td>Oct</td>
<td>919,337</td>
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<td>Nov</td>
<td>769,259</td>
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<tr>
<td>Dec</td>
<td>871,170</td>
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<td>Jan'05</td>
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<td>Feb</td>
<td>530,311</td>
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<td>Mar</td>
<td>787,374</td>
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<td>Apr</td>
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<td>May</td>
<td>1,243,397</td>
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<tr>
<td>Jun</td>
<td>2,832,740</td>
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<tr>
<td>Jul</td>
<td>2,847,238</td>
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<tr>
<td>Aug</td>
<td>3,058,586</td>
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</table>
Decrease in Overall 30-Day Geometric Mean Post Diversions

- **Enterococci**
- **Fecal Coliform**
- **Total Coliform**
Decrease in Overall 30-Day Geometric Mean Post Diversions
OCSD Urban Runoff Program

- 6 years experience
- Treating as high as 3 MGD of dry weather urban runoff from coastal cities during the summer
- No fees if under 4 MGD & 10 MGD maximum flow
- Permit and enforcement
- Treatment Costs approx. $529,000 annual @ ave. 1.5MGD
Benefits OCSD Urban Runoff Program

- One tool for addressing NDPES permit, AB411, and TDML regulations
- Containment for SSOs
- Public health and environmental protection
- Economic benefits
- Foster regional partnerships and new technologies
Issues Related to Urban Runoff Diversion

- One tool of many
- Emerging pollutants
- Limited collection and treatment capacity
  - Storm flows impossible to divert
  - What about “first flush”?  
  - Who builds and operates the infrastructure?
- Who takes responsibility – who pays?
Regional Cooperative Projects in Orange County

Dry Weather Diversion System

Wetland Treatment System
Questions?

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