

Update on  
TMDL / Drain Water Quality Compliance  
and  
Vegetation Control Activities

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# Total Maximum Daily Loads (TMDL)

- The TMDL program is a requirement under Section 303(d) of the Clean Water Act.
- TMDLs are numerical load reduction goals for certain water quality constituents and target contributing sources by identifying control actions intended to restore and protect watersheds or bodies of water.
- TMDLs are adopted through Basin Plan amendments by the RWQCB (and/or EPA if necessary) and may include implementation or monitoring requirements.

# TMDLs **Implemented** and *Forthcoming* within IID Service Area

- Alamo River – **Sedimentation/Siltation**, *Pesticides*, *Selenium*
- New River – **Sedimentation/Siltation**, **Pathogen**, **Dissolved Oxygen**, **Trash**, *VOCs*
- Agricultural Drains – **Sedimentation/Siltation**, *Pesticides*, *Selenium*
- Salton Sea – *Nutrient*, *Salt*, *Selenium*

# Silt TMDL Compliance

	<b>Final TSS Target (mg/L)</b>	<b>Final Target Compliance Year</b>	<b>Pre-TMDL Average Annual TSS (mg/L)</b>	<b>Current Average Annual TSS (mg/L)</b>	
Alamo River Outlet	<b>200</b>	<b>2014</b>	<b>377</b>	<b>252</b> <sup>2</sup>	33%
New River Outlet	<b>200</b>	<b>2014</b>	<b>241</b>	<b>189</b> <sup>2</sup>	22%
I.V. Drains	<b>200</b>	<b>2015</b>	<b>418</b> <sup>1</sup>	<b>210</b> <sup>3</sup>	50%

<sup>1</sup> RWQCB-Region 7 water quality monitoring data (pre-TMDL) – NI2, P, & PU drains

<sup>2</sup> RWQCB-Region 7 water quality monitoring data (2003-2006) – New & Alamo River outlets

<sup>3</sup> IID DWQIP water quality monitoring data (2004-2007) – “main drains”; VE,SC,CE,HM,RO,GR,RI3

# IID's Current TMDL Efforts

- Regulation No. 39 enforcement (TW box compliance)
- Tailwater Education Program (TEP)
- Farm Bureau TMDL Program financial support
- Grant applications (approx. \$2 million pending)
- Vegetation Control Manager
- Drain Cleaning Checklist
- Excavator-mounted rakes
- Drain Improvement Program
- Drain Water Quality Improvement Plan sampling
- Excavator-mounted laser/GPS units

# Excavator-mounted Laser/GPS Units



## ■ Traditional Cleaning Operation

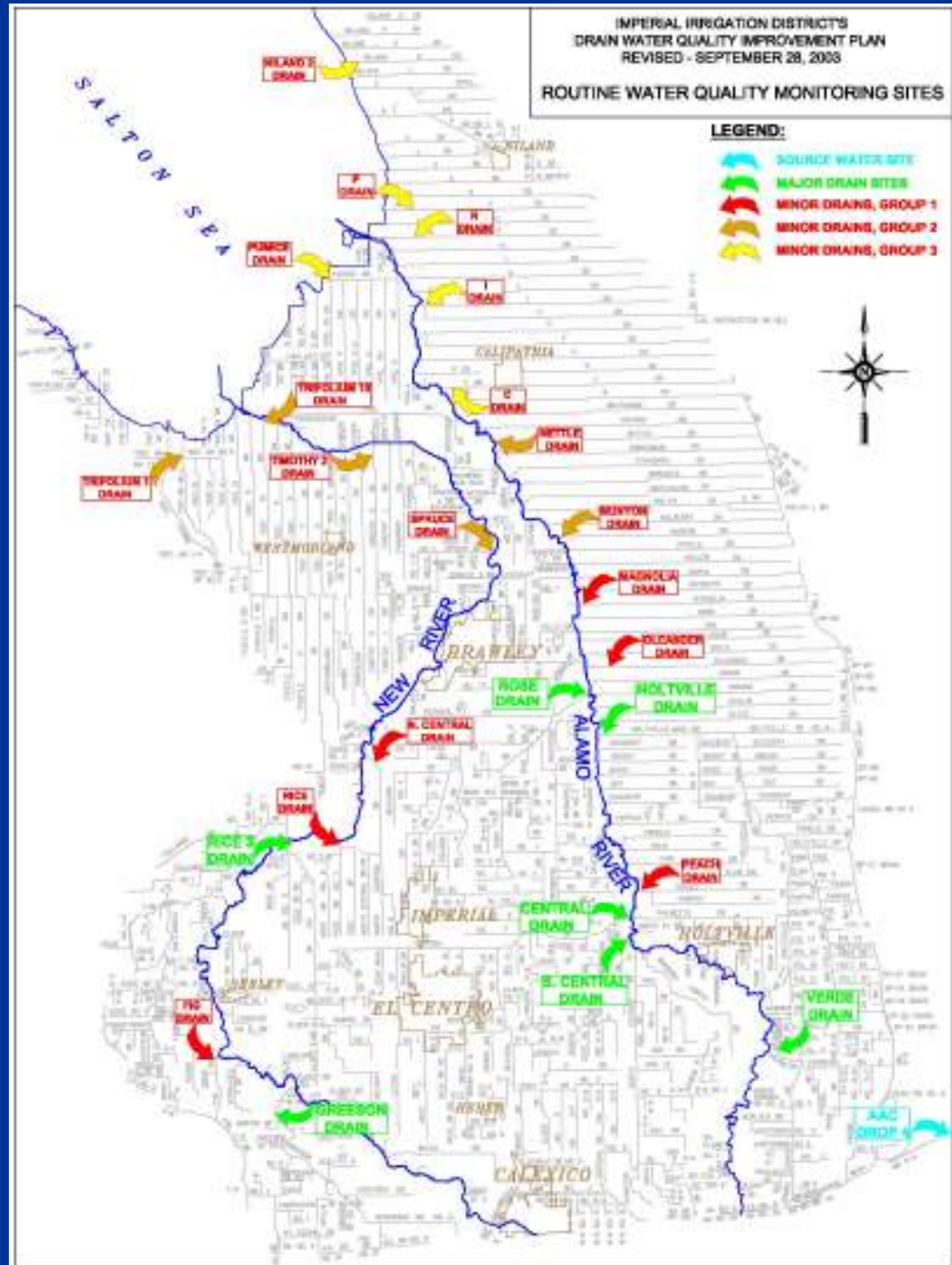
- Work from downstream to upstream (opposite direction of water flow)
- Water flows toward soil that was just disturbed by drain cleaning (typically results in very muddy water)

## ■ Laser/GPS-Assisted Operation

- Work from upstream to downstream (same direction as water flow)
- Water is filtered by nuisance vegetation before the vegetation is removed
- High level of accuracy helps to eliminate over-excavation

# Drain Water Quality Improvement Plan

## Sample Site Locations



# Silt TMDL Compliance Status



\* RWQCB-Region 7 water quality monitoring data (2003-2006) – New & Alamo River outlets

\*\* IID DWQIP water quality monitoring data (2004-2007) – “main drains”; VE, SC, CE, HM, RO, GR, RI3



# **VEGETATION MANAGEMENT UNIT**

**David Watson**

# Vegetation Management Background and Goals

- Vegetation Management Unit initiated in September 2007
- Unit currently consists of a Project Manager
- Primary goals
  - Educate operators on the importance of proper maintenance procedures (i.e. maintain vegetation growth along drain embankment to reduce erosion and sloughing)
  - Enforce proper implementation of maintenance procedures
  - Reduce suspended sediment caused by drain maintenance activities

# Vegetation Management Structure

- Development of Unit structure
  - Organization and management
  - Goals and objectives
  - Roles and responsibilities
  - Establish Unit's relationship to other public and private organizations
  - Incorporation of Vegetation Management Plan

# Vegetation Management Structure

- Internal Administration
  - Determine how unit will implement system maintenance activities in cooperation with division staff and management to achieve maximum effectiveness
  
- External Communication
  - Establish methods of communication that are responsive to water user needs
    - Web site
    - Letters
    - Phone calls
    - Response cards

# Vegetation Management Activities

- Develop system maintenance work plan
  - Work schedule
  - Two-year Maintenance cycle
- Determine budget necessary for effective implementation of unit goals
- Prepare standard procedures to be used for routine maintenance activities

# Monitoring and Evaluation

- Implement use of pilot projects
  - Effective chemical application rate
  - Beneficial versus invasive vegetation
- Utilize water quality sampling data to evaluate effectiveness of procedures

# Maintenance Manual Development

- Establish protocols and procedures for all drain cleaning activities
  - Sediment Removal
    - Conventional operations
    - GPS-assisted operations
  - Brush Removal

# Brush Removal

- Fern 1 Drain



- **Fern 1 Drain**



- **Excavator with rake attachment**



# Vegetation Management Goals

- Update processes for mechanical, chemical, and biological vegetation control
- Draft Maintenance Manual ready by June 2008
- Draft Vegetation Plan ready by July 2008

**Questions?**