California Integrated Water Quality System (CIWQS)

Location of this Presentation:
http://www.waterboards.ca.gov/ciwqs/sessions.html
What is CIWQS?

The California Integrated Water Quality System (CIWQS) is a new computer system for the State and Regional Water Boards to:

• Track information about places of environmental interest,
• Manage permits and other orders,
• Track compliance inspections, and
• Manage violations and enforcement activities.
The CIWQS promotes integration of protecting, enhancing and restoring water resources by the Water Boards’ regulatory programs through compliance with policies, plans and permits. CIWQS promotes these actions by automating the following processes:

- Issuing permits;
- Assisting permittees with compliance;
- Scheduling inspections of facilities;
- Reviewing discharger self-monitoring reports;
- Investigating complaints;
- Taking enforcement action against violators; and
- Tracking results of compliance and enforcement.
CIWQS Objectives

1. Ability to meet core water quality mission
2. Better manage workload
3. Automate Discharger Self-monitoring Report review process
4. Improve the impact on public health and safety and the State’s economy
5. Improve the effectiveness of enforcement and compliance processes to meet statutory mandates
6. Improve the potential for future federal funding
CIWQS Regulatory Management
CIWQS Tracks Parties, Places, and Regulatory Measures

This is an example of the type of information that is tracked in CIWQS.

Mercury Water Quality Objective to support Beneficial Uses: 0.05 µg/L
Tracking Regulatory Measures

Regulatory Measures include permits, waivers, and notices of violations.

Requirements, Inspections, and related Regulatory Measures, Parties, Places, and Violations are recorded in a Regulatory Measure record within CIWQS.
Tracking Self Monitoring Reports (SMRs)

- The Water Boards rely on discharger SMRs to check permit compliance.
- CIWQS accepts submittal of SMRs via the Internet.
- Individual NPDES permit holders are the first dischargers required to use this system.
- Dischargers may submit data using a raw data entry screen or by uploading electronic files to the system.
Compliance Checking of Self Monitoring Report Data

Once data is submitted to CIWQS:

• CIWQS checks the data for compliance against permit requirements, runs the necessary calculations, and a determination is made as to the status of compliance.

• Water Board staff time spent conducting manual review of paper-based information is reduced significantly with the automated compliance checking feature of CIWQS.

• Reporting tools can be utilized to further analyze data to identify and track trends over time.
Spatial Representation of Water Quality Data

An Integrated Approach
CIWQS GeoWBS Module

The geospatial waterbody (GeoWBS) module of CIWQS supports:

• Maintenance of the list of monitored and assessed waters,
• Their spatial representations as GIS features,
• Long-term management of water quality information about those waters, and
• Provides the tools needed for efficient, multi-program access to these data.
Why a New GeoWBS?

• House in CIWQS-OIT
• Upgrade GIS software
• Provide linear referencing
• Provide online and web-based systems
• Upgrade 303d/305b reporting to USEPA requirements
• Integrate 303d supporting and 305b assessment info.
Components of GeoWBS

GeoWBS (ArcGIS) Desktop Editor

GeoWBS Online Editor

GeoWBS Web-Based Navigator
GeoWBS Workflow

- Desktop Editor - - - - - - GIS Mapping
- Online Editor - - - - Assessment Data Entry 303d/305b
- GeoWBS Navigator - - View Data on Browser
Functions of GeoWBS ArcGIS Desktop Editor

- Maps assessed waters
- Collects location information
- Assigns beneficial uses
Functions of GeoWBS Online Editor

- Rate beneficial uses
- Records Impairments
- Records Sources
- Records Listing Decisions
Functions of GeoWBS
ArcGIS Navigator

• Browser with GIS functions
• Display water quality GIS layers
• Query GIS data and create reports
  a. Show grant projects in watershed.
  b. View supporting info factsheets for 303d listed waters
Historical Method of Mapping

Salinas River — (lower, estuary to near Gonzales Rd crossing, watersheds 30918 and 30920) Impairment:
- Diazinon
- Chlorpyrifos
- Mercury

Salinas River — (middle, near Gonzales Rd crossing to confluence with Nacimiento River)
Impairment:
- Diazinon
- Chlorpyrifos
- Fecal Coliform

Salinas River — (upper, confluence of Nacimiento River to Santa Margarita Reservoir)
Impairment: None

SALINAS RIVER
(Current Georeference)
New Mapping in CIWQS GeoWBS
### 305b/303d Primary Data Collected in CIWQS GeoWBS

<table>
<thead>
<tr>
<th><strong>Primary Data</strong></th>
<th><strong>Examples</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed water name</td>
<td><em>Salinas River</em></td>
</tr>
<tr>
<td>Assessed water size, type</td>
<td><em>bay, river, wetland</em></td>
</tr>
<tr>
<td>Location information</td>
<td><em>region, county, watershed</em></td>
</tr>
<tr>
<td>Beneficial uses</td>
<td><em>recreation, aq life, drinking</em></td>
</tr>
<tr>
<td>Data used for Assessment</td>
<td><em>chemical, pathogen data</em></td>
</tr>
<tr>
<td>Beneficial use support rating</td>
<td><em>not supporting, supporting</em></td>
</tr>
<tr>
<td>Impairment</td>
<td><em>mercury, fecal coliform</em></td>
</tr>
<tr>
<td>Sources of impairment</td>
<td><em>mining, urban runoff</em></td>
</tr>
<tr>
<td>303(d) list the impairment?</td>
<td><em>do not list, delist</em></td>
</tr>
<tr>
<td>TMDL expected completion</td>
<td><em>2019</em></td>
</tr>
</tbody>
</table>
GeoWBS Phase II - Next Steps

- Migrate existing GIS and tabular 305(b) and 303(d) assessment data
- Complete or add more functionality to enable integration with other CIWQS modules data
- Improve:
  - User interface design and tools.
  - Stability and performance of all GeoWBS applications.
  - Number, content, and functionality of reports as per State and Regional Water Board staff needs.
- Make navigator internet accessible
CIWQS Outreach and Support
CIWQS Customers
Discharger Roll-out Plan

**Optimize**
- Refine permit writing process
- Define business rules in design document

**Announce**
- CIWQS News
- Outreach sessions
- E-mail list server
- E-mail support
- Website
- Help Center
- 866-79-CIWQS

**Adopt**
- Over 700 members on CIWQS list server
- 75% attendance at outreach sessions
## NPDES Dischargers
### Electronic Submission

<table>
<thead>
<tr>
<th>Region 7</th>
<th>Permits</th>
<th>Trained</th>
<th>Submitted Report</th>
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<tbody>
<tr>
<td></td>
<td>26</td>
<td>12</td>
<td>1st 2nd 3rd 4th</td>
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<tr>
<td></td>
<td>7</td>
<td>5</td>
<td>4    2</td>
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<tr>
<td></td>
<td>46%</td>
<td>27%</td>
<td>19%  15% 8%</td>
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</table>

<table>
<thead>
<tr>
<th>Region 8</th>
<th>Permits</th>
<th>Trained</th>
<th>Submitted Report</th>
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<tbody>
<tr>
<td></td>
<td>39</td>
<td>14</td>
<td>1st 2nd 3rd 4th</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>0    0</td>
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<tr>
<td></td>
<td>36%</td>
<td>10%</td>
<td>3%   0% 0%</td>
</tr>
</tbody>
</table>

Statewide Grand totals: ~600 26 11 6 4 2

|          | 4%       | 2%       | 1%    1% 0%     |
Regional Boards Data Entry
Phased Approach

**Phase 1** - Start with centralized data entry

**Phase 2** - Train RB staff on use of each CIWQS module

**Phase 3** - Release module by module to RB staff for direct data entry in CIWQS

**Phase 4** - Outreach/training to each RB to ensure high quality data entry in CIWQS
### NPDES Data Submission to PCS

<table>
<thead>
<tr>
<th>Phase</th>
<th>Data Submission Types</th>
<th>Testing Start Date</th>
<th>Production Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Permit Facility, Permit Tracking, and Single Event Violation data flows</td>
<td>March 1, 2005</td>
<td>Dec. 21, 2005 (completed)</td>
</tr>
<tr>
<td>3</td>
<td>Pipe Schedule, Parameter Limits, Measurement Violation, Reissuance, Enforcement Actions and Enforcement Action Violations for Measurement Violations</td>
<td>March 31, 2006</td>
<td>December 31, 2006</td>
</tr>
</tbody>
</table>
CIWQS New Modules

- Geotracker Data Flow to CIWQS – Jan. 1, 2006
- Storm Water Notice of Intent – Jan. 20, 2006
- Sanitary Sewer Overflow - April 10, 2006
- Storm Water Annual Report – June 1, 2006
- Ambient Surface and Ground Water (SWAMP/GAMA) – Sept. 1, 2006
- NPDES Permit Standardization Tool – Dec. 31, 2006
- NPDES Automated Inspection Tool – Dec. 31, 2006
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