Protecting Water Quality Compliance Through Irrigation Management Practices:

John Kabashima, Ph.D. University of California Cooperative Extension

State Water Resources Control Board and Regional Water Quality Control Board

 State agencies with the responsibility to protect quality of waters of the state for all beneficial uses.

California Water Code

Relationship Between Irrigation and Surface Water Quality

Changes in Water Quality

- Reduced salinity in marine waters
- Nutrient enrichment
- Increased sediment loadings
- Pesticides and pesticide residues
- Increased pathogen loadings

Landscape/Horticultural Irrigation vs. Agricultural Irrigation



Urban vs Suburban landscape irrigation



URBAN DROOL



PROPERTY GRADED DIRECTLY TO STREET OR STORM CHANNEL



Water Quality Impairments: Pollutants Linked to Urban Irrigation and Ag. Irrigation Runoff



SWRCB's Aquatic Pesticide General NPDES Permits

- Headwaters vs Talent Irrigation district
- Vector Control ("Mosquito") permit
 - www.swrcb.ca.gov/docs/ vectorpermit.pdf
- Aquatic Weed Control ("Weed") permit

 www.swrcb.ca.gov/docs/ weedpermit.pdf

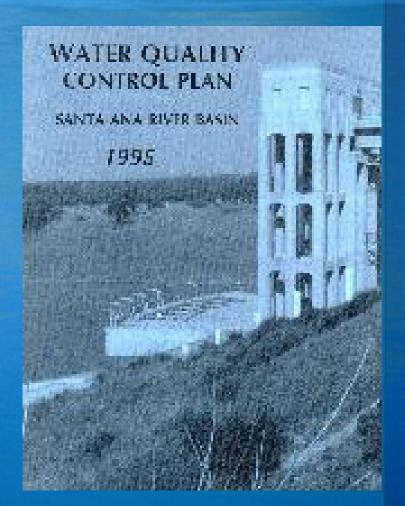


SWRCB's Aquatic Pesticide General NPDES Permits

 Requires that pesticide residues not cause or contribute to exceedance water quality standards outside the Treatment Area any time after pesticide application has started and inside the Treatment Area after completion of the project.

Regulatory Strategies to Respond to Water Quality Impairments

- California Water Code gives Regional Boards wide latitude
 - Permitting
 - Prohibitions in Water Quality Control Plans
 - Management measures listed in Water Quality control Plans
 - http://www.swrcb.ca.gov/rwqcb7/ documents/RB7Plan.pdf
 - Waste Discharge Requirements permits



Regulatory Responses to Water Quality Impairments

- Enforcement actions under California Water Code
 - Regional boards:
 - Administrative Orders
 - Civil Penalties
 - \$10,000 per day of violation
 - \$10 per gallon (over 1,000 gallons)
 - Superior Court
 - Civil Penalties
 - \$25,000 per day of violation
 - \$25 per gallon (over 1,000 gallons)



Criminal Penalties for Violations of the Clean Water Act



Regulatory Responses to Water Quality Impairments

- Total maximum daily loads – TMDLs
- Reductions, often substantial, in pollutants are required.
- Irrigation runoff control important to achieve reductions.
- Established and innovative methods needed / required.



"Remember, you have nothing to fear but fear itself - and me of course!"

www.cartoonstock.com

Agricultural Water Quality Program Grants Funds Available

Section 319(h)

- Targets water quality impairments caused by agricultural discharges.
- Targets TMDL implementation
- www.swrcb.ca.gov and click on the large yellow \$

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Edmund G. Brown Jr. Visit his Website

··» Cal/EPA

Office of Governor

- State and Regional Water Boards' Map
- Laws/Regulations
- Plans/Policies
- ··» Programs
- Decisions Pending and Opportunities for Public Participation



Performance Report



RESOURCES

- ->> Email Subscriptions
- Data & Databases
- Business Help
- Public Records Center
- ··» Grants & Loans
- ·>> Fees

Sile an Environmental http://gov.ca.gov/

Water Boards

Protecting California's Water

Ornia/

- Sampling My Private Well -->>>
- Enforcement
 Enforc
- Whom We Regulate ->>>
- Storm Water -->>>
 - Agriculture -->>>

- ->> Bay-Delta / Delta Watermaster
- Clean Beaches/Ocean -->>>
- \$ Financial Assistance \$ -->>>
- Permit / Licensing ->>>
- Petitions -->>>
- Septic Systems (OWTS)

- Storage Tanks ->>>
- Strategic Plan ->>>
- Water Quality Assessment
- Water Rights -->>>
- More...

1)-10-

ANNOUNCEMENTS

- Statewide Septic Systems Policy (OWTS) Public Comment Draft Now Available (posted 10/4/11) ->>>
- FY 2010-2011 Annual Performance Report Published July 2011 (posted 9/23/11) ->>>
- Statewide Order for Composting Facilities Stakeholder Workgroup Meetings (posted 9/16/11) ->>>
- Agricultural Water Use Efficiency Workshop Available Presentations and Documents (posted 8/17/11) -->>>
- Office of Enforcement ACL Complaints 8 Facilities in So.California Comments Due (posted 8/11/11) ->>>
- Opening of the Clean Water Act (CWA) § 319(h) Nonpoint Source Grant Program Solicitation (posted 8/9/11) -->>>
- More Announcements ...

Water

IMPORTANT INFORMATION ...

Water Boards'

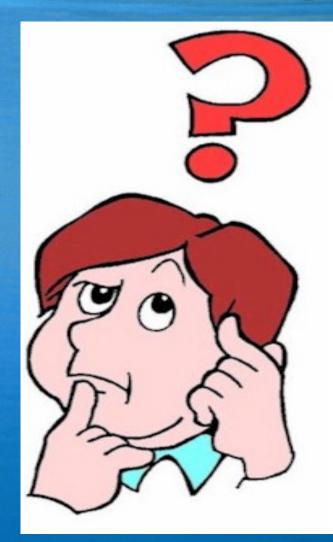


GO

California

The Regulator's Challenge

- Set water quality standards that make sense, and enforce them.
- Tools
 - California Water Code
 - Basin Plans
 - TMDLs



Your Challenge

Manage irrigation to not cause or contribute to water pollution.

Your Tools

 Improve efficiencies through existing:

-BMPs

Management Measures
Innovative Solutions

MITIGATION OF POTENTIAL POLLUTANTS

DEALING WITH UNIQUE ISSUES FACED BY NURSERIES ON OWNED OR LEASED PROPERTIES

INNOVATIVE IDEAS

UC ANR/UCCE

- Full partnerships between federal, state, county and private sectors in research and educational outreach
- Programs tailored to address local issues
 - Meetings, conferences, workshops, demonstrations, field days, video programs, newsletters, manuals, one-on-one consultations and Web sites
 - Problem—solving research



Implementation of Water Quality Management Practices at Nurseries



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