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Farm Water Quality Planning

A Water Quality and Technical Assistance Program for California Agriculture
<http://waterquality.ucanr.org>

This REFERENCE SHEET is part of the **Farm Water Quality Planning (FWQP)** series, developed for a short course that provides training for growers of irrigated crops who are interested in implementing water quality protection practices. The short course teaches the basic concepts of watersheds, nonpoint source pollution (NPS), self-assessment techniques, and evaluation techniques. Management goals and practices are presented for a variety of cropping systems.



Reference:

Water Pollution Control Legislation

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A number of federal and California state laws have been enacted to protect water quality. Pollution from “point sources” such as industry and wastewater treatment plants has received the most attention during the past 20 years and now these facilities operate under permit systems. Nonpoint source pollution from agriculture, urban stormwater runoff, septic systems, marinas, forestry, and other sources is now receiving increased attention. The following federal and state laws provide the State of California with authority to regulate both point and nonpoint sources of pollution, including pollution from irrigated agriculture.

FEDERAL LAWS

Clean Water Act — 1972 and 1987

The Federal Water Pollution Control Act Amendments of 1972 and 1987, known as the Clean Water Act, are the principal federal statutes for water quality protection. In California, the State Water Resources Control Board (State Board) and the nine semi-autonomous Regional Water Quality Control Boards (Regional Boards) administer many of the Clean Water Act’s provisions. This law addresses water pollution and water quality of surface waters (lakes, rivers, streams, estuaries, and wetlands) and includes sections addressing both point and nonpoint sources of pollution, as well as the establishment of beneficial uses of waters and water quality criteria to protect those uses.

Section 303(d)

Requires states to make a list of impaired water bodies and develop Total Maximum Daily Loads (TMDLs) for them.

Section 319

Requires that states assess nonpoint source pollution problems, establish programs to address them, and provide funding to support the programs. The State Water Resources Control Board adopted a Nonpoint Source Plan in 1988, and that was revised and upgraded in 2000 to include requirements of amendments to the Coastal Zone Management Act requiring nonpoint source pollution control (see description of that law, below). The Nonpoint Source Plan is administered jointly by the California Coastal Commission, the State Board, and the Regional Boards. The U.S. Environmental Protection Agency (EPA) allocates grant funding under Section 319(h) to address nonpoint sources of pollution, including urban runoff, agriculture, and forestry.

Actions taken by the U.S. Army Corps of Engineers must be certified by the State of California under Section 401. Anyone applying for a US ACOE permit under Section 404 (see next paragraph) will also need to obtain Section 401 water quality certification from the Regional Board.

Section 404

Includes wetlands of any size and location as “waters of the U.S.,” and authorizes the EPA and the U.S. Army Corps of Engineers to regulate activities that affect wetlands. Activities such as culvert placement and stream bank stabilization require permits from the Corps of Engineers under Section 404.

Coastal Zone Management Act (CZMA) — 1972

The Coastal Zone Management Act established a national framework for effective management, protection, development, and beneficial use of the coastal zone. This Act was re-authorized with the passage of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990, which added Section 6217 to focus on nonpoint source pollution problems and the protection of coastal waters.

Section 306

Requires that states develop coastal management plans. The California Coastal Commission and State Coastal Conservancy implement the California Coastal Management Plan (CCMP).

Section 6217

Entitled “Protecting Coastal Waters,” requires that states such as California with approved coastal zone management programs develop and implement Coastal Nonpoint Pollution Control Programs. Rather than developing a separate nonpoint source program for the coastal zone, California has chosen to implement CZARA Section 6217 through the existing Nonpoint Source Program, which was upgraded in 2000 to meet requirements of greater accountability, identify backup authorities, and incorporate management measures required by CZARA (see Clean Water Act Section 319, above).

Endangered Species Act (ESA) — 1973

The Endangered Species Act is administered by the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS). Native plants, animals, and their habitat are protected by the ESA. Species listed as *endangered* are in danger of extinction. Species listed as *threatened* have the potential to become endangered. While FWS is responsible for terrestrial and freshwater organisms, NMFS is responsible for species that occupy marine waters, such as salmon.

Section 10

Private landowners who want to develop land or change management practices on land that is inhabited by endangered species are subject to permitting and must implement approved “habitat conservation plans.”

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) — 1947

Originally enacted to protect farmers from mislabeled pesticides, the Federal Insecticide, Fungicide, and Rodenticide Act was amended in 1972 to give the EPA authority to require registration for the sale and use of pesticides. In California, the Department of Pesticide Regulation (DPR) and the County Agricultural Commissioners are in charge of enforcement. DPR’s Ground Water Protection Areas (GWPA) are a result of FIFRA (see Groundwater Protection Areas and Wellhead Protection [UC ANR Publication 8063]). FIFRA also gives EPA the authority to study the environmental impacts of pesticide use.

Safe Drinking Water Act (SDWA) — 1974

Under the Safe Drinking Water Act, the EPA identifies contaminants that may adversely affect public health and sets national drinking water standards. SDWA was amended in 1996 to require that each state assess drinking water sources such as rivers, lakes, and groundwater wells. California is implementing these requirements as part of the Drinking Water Source Assessment and Protection Program (DWSAP). DWSAP requires that each public drinking water system undergo an assessment. There are 8,000 public water systems in California, with 1,000 surface water intakes and 15,000 drinking water wells. As part of the program, the source area of the water in the well or surface intake (the area from which that drinking water originally came) must be delineated and all possibly contaminating activities within the source area identified. Agricultural activities, in particular the use of fertilizers and pesticides, are listed along with septic tanks as possibly contaminating activities. A short summary of the DWSAP is sent each year to all public water system customers.

STATE LAWS

California Porter-Cologne Act — 1969

The Porter-Cologne Act is the principal law governing water quality in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. Unlike the Clean Water Act, Porter-Cologne applies to both surface water and ground water. Porter-Cologne designated the State Water Resources Control Board as the statewide water quality planning agency, and also gave authority to the nine semi-autonomous Regional Water Quality Control Boards that were established 20 years earlier. Beyond establishment of the state framework, this act has been revised to comply with the federal Clean Water Act.

The State Board is responsible for developing statewide water quality plans (e.g., Ocean Plan, Inland Surface Waters Plan), while the Regional Boards are responsible for developing Regional Water Quality Plans (basin plans). The basin plans in turn are approved by the State Board and EPA. Amendments to basin plans, such as TMDLs, must also be approved by the Office of Administrative Law. These plans, both statewide and basin, include the identification of beneficial uses, water quality objectives, and implementation plans. Regional Boards have the primary responsibility for implementing the provisions in both statewide and basin plans.

California Coastal Act — 1976

The California Coast Act formally authorized the California Coastal Commission, which was established by a voter initiative in 1972. The Coastal Commission has joint responsibility with the State Board and Regional Boards for implementation of the state's Nonpoint Source Program (see Section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Management Act, above).

California Environmental Quality Act (CEQA) — 1970

The California Environmental Quality Act requires that state and local agencies review public projects or projects requiring an agency permit for potential environmental impacts. If environmental impacts are anticipated, plans must provide alternatives to avoid or mitigate negative environmental impacts. If deemed necessary, Environmental Impact Reports (EIRs) are required for proposed projects. The approval process can be rigorous, lengthy, and costly for the entity seeking approval.

Public Trust Doctrine — 1928

The United States Supreme Court ruled in 1892 that the “Sovereign Lands” of a state are held in trust by that state for present and future generations. The Public Trust Doctrine was incorporated into the California Constitution in 1928. It mandates that the government be a steward of common property resources such as water, wildlife, and land. The state cannot make decisions or take actions to endanger the beneficial purposes of these resources.

REFERENCES

- Harper, J., M. George, K. Tate. 1998. Rangeland watershed program fact sheet No. 8: Water pollution control legislation and rangelands
<http://agronomy.ucdavis.edu/calrng/h08.htm>
- Plan for California’s Nonpoint Source Pollution Control Program, State Water Resources Control Board and California Coastal Commission, January 2000.
<http://www.swrcb.ca.gov/nps/protecting.html>

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You'll find detailed information on many aspects of field crop production and resource conservation in these titles and in other publications, slide sets, CD-ROMs, and videos from UC ANR:

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