

# **ENVIRONMENTAL LAWS AFFECTING CALIFORNIA AGRICULTURE**

**A Project of the**

**National Association of State Departments  
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**through the**

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## **Project Participants**

### **National Association of State Departments of Agriculture Research Foundation**

The National Association of State Departments of Agriculture (NASDA) is a nonprofit association of public officials representing the Commissioners, Secretaries, and Directors of Agriculture in the fifty states and four territories. The NASDA Research Foundation is a 501(c)(3) nonprofit, tax-exempt corporation for education and scientific purposes.

### **National Center for Agricultural Law Research and Information**

The National Center for Agricultural Law Research and Information (the Center) was created in 1987 under Public Law 100-202, 101 Stat. 1329-30 to address the complex legal issues that affect American agriculture. The Center focuses its efforts on research, writing, publishing, the development of its library services, and the dissemination of information to the public. The Center is located at the University of Arkansas School of Law in Fayetteville, Arkansas.

### **Natural Resources Conservation Service**

The Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS), is a federal agency within the U.S. Department of Agriculture (USDA). NRCS conservationists work with private landowners and operators to help them protect their natural resources.

### **U.S. Environmental Protection Agency**

The Environmental Protection Agency (EPA) is a federal agency with primary responsibility for implementation of most federal laws designed to protect, enhance, and conserve the nation's natural resources.

## **Disclaimer**

This guide is designed for use by farmers, ranchers, landowners, and their consultants in understanding the effect environmental laws have on agricultural operations. It is not a substitute for individual legal advice. Producers should always consult with their own attorneys, as well as federal, state, and local authorities responsible for the applicable environmental laws.

This guide has been prepared in part with funding from the Natural Resources Conservation Service cooperative agreement number NRCS 68-75-5-174 and the United States Environmental Protection Agency Grant number CX-825088-01-0.

The contents and views expressed in this guide are those of the authors and do not necessarily reflect the policies or positions of the United States Department of Agriculture Natural Resources Conservation Service or the United States Environmental Protection Agency.

Although every effort has been made to ensure the accuracy of the information contained in this book, environmental statutes, regulations, and ordinances are constantly changing. In addition, the overwhelming complexity and extent of environmental law makes it impossible for a single book to describe in complete detail and depth all of the environmental laws and regulations impacting agricultural operations. The following material is simply a basic primer on environmental law for agricultural producers. For these reasons, the utilization of these materials by any person constitutes an agreement to hold harmless the authors, the National Center for Agricultural Law Research and Information, the University of Arkansas, the United States Department of Agriculture, the National Association of State Departments of Agriculture Research Foundation, the Natural Resources Conservation Service, and the United States Environmental Protection Agency for any liability, claims, damages, or expenses that may be incurred by any person or organization as a result of reference to, or reliance on, the information contained in this book.

The background research and final documents were completed in 1999. Updates of the information contained in the guide will occur on an annual basis and be made available on the Internet.

Anyone with comments concerning the guide should contact the NASDA Research Foundation at 1156 15th Street, N.W., Suite 1020, Washington, D.C. 20005.

## Quick Reference Guide

**Producer Note:** The following chart is intended as a quick reference guide to permits which may be necessary for a particular operation. If a permit is necessary, refer to the page numbers listed referencing this document for further information and contact the agencies listed in the final column for information on applications and procedures for securing a permit for an operation. A list of agencies and contact information is also provided in Appendix A.

<b>Regulatory Area</b>	<b>Type of Activity</b>	<b>Permit Required</b>	<b>Agency</b>
<i>Water Quality</i> <i>pp. 1-13</i>	Livestock and aquaculture operations, depending on size	NPDES and state permit	EPA Regional Office and California SWRCB & RWQCBs
	Wetlands dredge and fill activity or dam, dike, or bridge building activities	Section 404 permit	US Army Corps of Engineers with EPA and California SWRCB & RWQCBs
<i>Groundwater</i> <i>pp. 13-16</i>	Groundwater protection	No permit, but BMPs must be followed	California HWA
	Water well construction and use	No permit, but construction report must be submitted	California Department of Water Resources
<i>Air Quality</i> <i>pp. 17-19</i>	General agricultural operations including odor, dust, or flies	No permit, but may be subject to nuisance suits	EPA Regional Office or California Air Resources Board
	Burning	Burning guidelines must be followed and permits required in certain areas	California Air Resources Board and local Air Pollution District
<i>Solid Waste and Hazardous Waste</i> <i>pp. 19-26</i>	Storage, treatment, or disposal of hazardous or solid waste	Standards must be followed but no permit required	California Department of Toxic Substances Control
	Storage Tanks	Plans must be prepared	California Water Resources Control Board

<i>Pesticides and Chemigation</i> <i>pp. 26-31</i>	Application and use of pesticides	Pesticide registration required and applicator must be licensed	California RWQCBs and California WRCB, DPR and County Agriculture Commissioners
<i>Wildlife Protection</i> <i>pp. 31-34</i>	Taking of wildlife	Voluntary programs to encourage habitat; permit may be required	California Department of Fish And Game and U.S. Fish & Wildlife
<i>Waste Lagoons</i> <i>pp. 11-12</i>	Storage of animal waste	No permit, state lagoon requirements must be met	California RWQCBs and SWRCB
<i>Land Application of Waste</i> <i>pp. 11-12</i>	Land application of animal waste to cropland	No permit, but state management requirements must be followed	California RWQCBs and SWRCB
<i>Dead Animal Disposal</i> <i>pp. 45</i>	Disposal of animal carcasses	No permit, but regulations must be followed	California Department of Food and Agriculture

# ENVIRONMENTAL LAWS AFFECTING CALIFORNIA AGRICULTURE

**Producer Note:** Agricultural producers are faced with many challenges in today's rapidly changing world. Changes in industrialization, use of computer-based technology, governmental involvement in market dynamics, and environmental regulation are affecting producers in a number of ways. Environmental regulation is a complex area with both federal and state government involvement. Keeping informed is the producer's most useful instrument for meeting the challenges of today's agriculture. This information on environmental regulation is provided to inform producers of the breadth and scope of environmental laws which may impact daily production activities.

## I. WATER QUALITY

### A. Federal Clean Water Act

#### 1. Overview

The Clean Water Act<sup>1</sup> (CWA) is an important federal environmental statute affecting agriculture. The law was originally enacted by Congress in 1972 and has been amended several times since. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. A variety of mechanisms are employed by the CWA to control domestic, industrial, and agricultural pollution. Several types of agricultural activities and practices are regulated under the statute. Direct discharges from feedlots are an example. The U.S. Environmental Protection Agency (EPA) is charged with enforcing the CWA.

To mark the 25<sup>th</sup> anniversary of the CWA; EPA, the U.S. Department of Agriculture (USDA), and several other federal agencies released the *Clean Water Action Plan: Restoring and Protecting America's Waters* (Action Plan). The Action Plan builds on the successes of 25 years of progress and provides more than 100 recommendations for continued improvement using four tools. The four key tools to achieve clean water goals are:

- ! A Watershed Approach - A new, collaborative effort by federal, state, tribal, and local governments; the public; and the private sector to restore and sustain the health of watersheds in the nation. The watershed approach is the key to setting priorities and taking action to clean up rivers, lakes, and coastal waters.
- ! Strong Federal and State Standards - This calls for federal, state, and tribal agencies to revise standards where needed and make existing programs more effective. Effective standards are key to protecting public health, preventing polluted runoff, and ensuring accountability.

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<sup>1</sup> 33 U.S.C. § 1251 *et seq.* (1994).

- ! Natural Resource Stewardship - Most of the land in the nation's watersheds is cropland, pasture, rangeland, or forests, and most of the water that ends up in rivers, lakes, and coastal waters falls on these lands first. Clean water depends on the conservation and stewardship of these natural resources. The Action Plan calls on federal natural resource and conservation agencies to apply their collective resources and technical expertise to state and local watershed restoration and protection.
- ! Informed Citizens and Officials - Clear, accurate, and timely information is the foundation of a sound and accountable water quality program. Informed citizens and officials make better decisions about their watersheds. The Action Plan calls on federal agencies to improve the information available to the public, governments, and others about the health of their watersheds and the safety of their beaches, drinking water, and fish.

**Producer Note:** Many of the recommendations in the Clean Water Action Plan will have an impact on agriculture and agricultural production, particularly nonpoint sources of pollution. Your participation in watershed-level stakeholder meetings is important and you should take the opportunity to present your views. Producers must keep informed about these recommendations and their impact by contacting your local Natural Resources Conservation Service (NRCS), USDA or state department of agriculture representative.

Some states, such as California, have EPA-approved State Lead Agencies for environmental law enforcement. The California Environmental Protection Agency (Cal/EPA) has a tradition of vigorous activities that address environmental and public health protection. Constituent organizations of Cal/EPA involved with regulation of water quality include the State Water Resources Control Board, the Integrated Waste Management Board, the Department of Toxic Substances Control, the Department of Pesticide Regulation, and the Office of Environmental Health Hazard Assessment.

## 2. *Water Quality Standards*

The CWA requires each state to adopt water quality standards for most water bodies located within the state's borders. Rivers and streams are often divided into segments for this purpose. The water quality standards specify appropriate uses to be achieved and protected for each segment of water, such as public water supplies; protection and propagation of fish, shellfish, and wildlife; recreation in and on the water; agriculture uses such as irrigation or livestock watering; and navigation. Each state's water quality standards also include numerical or narrative criteria that are designed to protect these uses. The standards are then used to establish water quality based treatment controls and strategies to protect the water quality, including requirements for point sources that are placed in permits issued to those point sources. However, there are no federal laws or regulations that require the control of nonpoint sources to achieve

water quality standards. In addition, as an anti-degradation policy, water quality standards may also prohibit new waste discharges into waters of exceptionally high quality.

### 3. *NPDES Permits*

Discharges of waste from point sources into navigable waters are regulated through a permit system known as the National Pollutant Discharge Elimination System (NPDES). Permits are issued either by EPA or by the state under a program approved by EPA. It is illegal to discharge waste from point sources into navigable waters without a permit or in violation of the terms of the permit. The CWA defines a point source as the following:

The term “point source” means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigation.

Navigable waters are defined by the CWA as “waters of the United States.” This phrase has been interpreted broadly by EPA regulations and the courts to include most rivers, streams, lakes, and wetlands. Navigable waters do not have to be accessible by boats to meet the definition.

NPDES permits contain effluent limitations specifying the amounts of pollutants which may also be discharged. The permits contain other terms and conditions as well. Operational practices may also be specified. Monitoring, record keeping, and reporting requirements are usually included. If EPA is issuing the permit, a state certification that the permit complies with the CWA and state laws is required. In some cases, a permit may prohibit all discharges into water.

The permit issuance process normally involves the submission of an application, agency review of the application for completeness, a tentative permit decision by the agency, time for public comment or a hearing, and the final permit decision.

**Producer Note:** Many animal feeding operations and aquatic feeding operations are considered point sources and therefore require permits. If a pollutant discharge into waters of the U.S. occurs and the operation does not have a required permit, an owner or operator may be exposed to serious penalties. Producers may contact state and federal authorities to determine if a permit is required for a particular operation. Generally, an NPDES permit application will request information concerning activities occurring at the facility, including a description of the nature of the business. In addition, the name, address, telephone number, and ownership status of the operation will be required, along with a list of all other environmental permits or construction approvals which have been received or for which application has been made, a topographical map, and whether the facility is located on tribal land.

Concentrated animal feeding operations (CAFOs) are required to obtain an NPDES permit. A facility is a CAFO if it has more than 300 animal units and discharges directly into navigable waters, or if the operation has more than 1,000 animal units. A feeding operation does not need a permit if it only discharges as a result of a 25-year, 24-hour storm event. An animal unit is defined as 1.0 unit per animal for slaughter and feeder cattle, 1.4 units per animal for mature dairy cattle, 0.4 unit per animal for swine, 0.1 unit per animal for sheep, and 2.0 units per animal for horses.<sup>2</sup>

Generally, 1,000 animal units is the equivalent of 1,000 slaughter and feeder cattle, 700 mature dairy cattle, 2,500 swine which are over 55 pounds, 500 horses, 10,000 sheep or lambs, 55,000 turkeys, 100,000 laying hens or broilers with continuous overflow watering, 30,000 laying hens or broilers with a liquid manure system, or 5,000 ducks. In addition, 300 animal units is the equivalent of 300 slaughter or feeder cattle, 200 mature dairy cattle, 750 swine over 55 pounds, 150 horses, 3,000 sheep or lambs, 16,500 turkeys, 30,000 laying hens or broilers with overflow watering, 9,000 laying hens or broilers with a liquid manure system, or 1,500 ducks.

Concentrated aquatic feeding operations require an NPDES permit if they produce more than 9,090 harvest weight kilograms per year of cold water fish or 45,454 harvest weight kilograms per year of warm water fish. Discharges into aquaculture projects also require a permit. An aquaculture project is a “defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine, or marine plants or animals.”

To help implement the Clean Water Action Plan, on March 9, 1999, EPA and USDA jointly issued the final Unified National Animal Feeding (AFO) Strategy. The AFO strategy sets forth a national program for addressing water pollution caused by livestock operations. The strategy contains the following basic components:

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<sup>2</sup> 40 C.F.R. § 122.23, app. B to Part 122 (1992).

- ! Approximately 450,000 animal feeding operations are expected to develop and implement Comprehensive Nutrient Management Plans (CNMPs) by 2009.
- ! CNMPs will be voluntary for most AFOs, but will be encouraged through environmental education and financial and technical assistance programs.
- ! CNMPs will be mandatory for concentrated animal feeding operations (CAFOs) that require NPDES permits under the Clean Water Act or equivalent state laws.
- ! Approximately 20,000 CAFOs will require either a general or individual permit by the year 2002. This is a much greater number than in the past. CAFOs requiring permits will be larger facilities with significant manure production, facilities with unacceptable conditions, and facilities that are significant contributors to water quality impairment.
- ! CNMPs will be required to address feed management, manure handling and storage, on-farm and off-site land application of manure, land management, record keeping, and alternative uses of manure.
- ! EPA may amend its regulations to include poultry operations using dry waste systems within the definition of a CAFO thus requiring such operations to obtain NPDES permits.
- ! EPA may also require that corporate integrators in the poultry and hog industries be co-permittees with their contract producers.

#### **4. Wetlands**

**Producer Note:** When agricultural operators conduct dredging and filling activities affecting water sources, these activities may require a permit. Careful attention in these activities is required as the lack of a required permit may expose the operator to serious penalties.

A separate permit, known as the section 404 permit,<sup>3</sup> is required by the CWA for discharges of dredge and fill materials into navigable waters. These permits are issued by the U.S. Army Corps of Engineers (Corps) and are subject to review and approval by EPA and the state. The filling of wetlands and the construction of structures in streams, such as irrigation gates or docks, will often require a section 404 permit.

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<sup>3</sup> 33 U.S.C. § 1344 (1994).

Although minor wetlands filling activities may be covered by a section 404 EPA General or Nationwide Permit, substantial dredging or filling will usually require an individual permit. Permits may be denied if the activity causes significant adverse effects on the water body or the surrounding environment and there are practical alternatives available.

There are 40 section 404 General or Nationwide Permits.<sup>4</sup> The following agricultural activities are allowed under the permits:

- ! Fish and wildlife harvesting, enhancement, and attraction devices and activities (permit #4);
- ! Wetland and riparian area restoration and creation (permit #27);
- ! Cranberry production activities (permit #34);
- ! Emergency watershed protection and rehabilitation (permit #37); and
- ! Farm buildings (permit #40).

In addition, a number of permitted activities may relate to a farming operation, including maintenance, utility line backfill and bedding, bank stabilization, road crossing, return water from upland contained disposal areas, minor discharges, minor dredging, oil spill cleanup, headwaters and isolated waters discharges, temporary construction and access, and cleanup of hazardous and toxic waste. On December 13, 1996, the Corps reissued the existing Nationwide Permits with some modifications and issued two new Nationwide Permits. The two new permits were for moist soil management for wildlife (permit #30), and maintenance of existing flood control facilities (permit #31). In addition, changes to headwaters and isolated waters discharges (permit #26) will cause an increase in review time for some activities and more clearly define the activities allowed under the permit.<sup>5</sup>

In the December 13th notice, the Corps proposed to change the date that permit #26 expires from December 13, 1998 to December 28, 1999. When permit #26 expires, the Corps is proposing to issue six new nationwide permits and modify six existing nationwide permits. These new nationwide permits will be activity-specific, and most will be restricted to discharges of dredged or fill material into non-tidal waters of the United States.

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<sup>4</sup> 61 Fed. Reg. 65, 874 (1996).

<sup>5</sup> 61 Fed. Reg. 65,874 (1996).

**Producer Note:** All producers are encouraged to check with state and federal environmental officials to determine if a specific farming activity will be covered by a section 404 General or Nationwide Permit, or if the activity needs an individual permit. Should the activity be covered by such a permit, a producer should obtain a copy of the permit for reference and guidance. Copies can be requested from the Corps.

A permit may include either onsite or offsite mitigation requirements. Mitigation requirements include restoring altered wetlands and permanently protecting other wetlands from alteration.

Many normal farming, ranching, and logging operations, such as plowing, seeding, cultivating, minor drainage, and harvesting, are exempt from permit requirements under section 404(f) of the CWA if the activities are already occurring and will be ongoing and continuous.<sup>6</sup> However, a permit may still be required if major changes to the operation occur.

## 5. *Nonpoint Source Pollution*

**Producer Note:** Section 319 of the CWA was enacted in 1987 and guides the states in conducting nonpoint source assessments, developing nonpoint source management programs, and, as of 1990, beginning implementation of those programs. There are no federal regulatory requirements in Section 319.

Nonpoint source pollution is generally caused by runoff or snowmelt from cropland, pastures, barnyards, and impervious surfaces such as roads, parking lots, and roofs. The runoff may carry sediment, pesticides, herbicides, fertilizers, and other chemicals into adjacent waters, causing pollution. The CWA recognizes that cleaning up the nation's waters requires control of nonpoint as well as point source pollution, and regulation of nonpoint source pollution involves cooperative programs with the states.

A state Section 319 plan will generally provide for the development of best management practices (BMPs) as a means of controlling nonpoint sources of pollution. Cost sharing programs to help farmers and ranchers implement BMPs on their operations are also authorized. To assist states implementing their approved programs, states have received a total of about \$470 million in the years 1990-1996 to implement programs, including cost share for demonstration projects, technical assistance, education, training, and enforcement.

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<sup>6</sup> 33 C.F.R. § 323.4 (1995).

## 6. *Oil Spill Liability*

The CWA imposes strict liability on the operators of facilities that spill oil or other hazardous wastes into navigable waters. This would include spills from petroleum storage tanks located on farms. The CWA requires that the operator promptly notify EPA of any spill. A failure to give EPA notice of the spill is also a violation of the statute.

## 7. *Special Programs*

The CWA establishes special pollution control programs for certain waters, including the Chesapeake Bay, the Great Lakes, and the Gulf of Mexico. Producers in Alabama, Florida, Illinois, Indiana, Louisiana, Maryland, Michigan, Minnesota, Mississippi, New York, Ohio, Pennsylvania, Texas, Virginia, Washington, D.C., and Wisconsin may be affected by these programs. In addition, the National Estuary Program protects estuaries of national significance like the Puget Sound area in Washington, Buzzards Bay in Massachusetts, and Albemarle-Pamlico Sound in North Carolina.

**Producer Note:** There are currently 28 estuaries in the National Estuary Program, including those located in California, Delaware, Florida, Louisiana, Maine, Massachusetts, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Texas, and Washington. Additional areas may be named in the future. Producers should regularly check information sources, such as NRCS or EPA, for affected waters in their areas.

## 8. *Enforcement and Judicial Review*

Persons who violate the regulatory requirements of the CWA face substantial penalties. These include both civil and criminal fines. Incarceration is possible for severe violations. EPA or the state can enjoin or stop producers' activities in order to force compliance with the statute. The CWA allows citizens to file suits to enforce CWA requirements in certain circumstances. However, if a producer disagrees with the way CWA requirements are applied to an operation, opportunities for both administrative and judicial review of EPA and state decisions are available.

**Producer Note:** In order for producers to maintain compliance with water quality legislation, they must be aware of state water quality standards, NPDES permit requirements, state and local nonpoint source pollution programs, wetlands permits, oil spill liability, and whether there are waters requiring special protection in the area. The states take active roles in ensuring that producers comply with these requirements.

## **B. Federal Coastal Zone Management Act**

The Coastal Zone Management Act<sup>7</sup> of 1972 (CZMA) was enacted to protect the natural, commercial, recreational, ecological, industrial, and aesthetic resources of the coastal areas of the United States. Coastal areas are the coastal waters and adjacent areas, including islands, transitional and intertidal areas, salt marshes, wetlands, beaches, and inland areas affecting coastal water quality. Coastal areas include the Great Lakes waters.

The CZMA authorizes each state containing coastal zone areas to adopt a management program for those areas. Federal grants are available to develop and implement these programs. In addition, under the Coastal Management Act Reauthorization Amendments of 1990, states with coastal zone management programs are required to develop coastal nonpoint pollution control programs to protect coastal waters by controlling nonpoint source pollution. A state CZMA management program must include:

- ! Identification of zone boundaries;
- ! Permissible land uses and water uses within the zones;
- ! Inventory of areas within the zone;
- ! Priorities of uses within the zone;
- ! Means of controlling uses;
- ! Planning mechanisms for energy, shoreline erosion, and beach protection; and
- ! Identification of the management structure which will implement the program.

**Producer Note:** Coastal zone management programs only apply in those states with coastal areas. There are 35 states or territories, of which California is one, in which the CZMA has some application. At this time, 29 states have federally approved programs. CZMA is important because it is the first law which required states to implement programs designed to address nonpoint source pollution.

A coastal nonpoint pollution control program must also include specific measures to address nonpoint pollution and to include enforceable policies and mechanisms that are necessary to assure implementation.

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<sup>7</sup> 16 U.S.C. § 1451 *et seq.* (1994).

Management measures within state plans must reflect the best available nonpoint source pollution control practices, technologies, processes, siting standards, operating methods, and other criteria.

Section 6217 of CZARA requires each state to develop a coastal nonpoint pollution program and implement management measures and state plans coordinated with state and local water quality plans and programs. The state plans must provide for identification of land uses, identification of critical coastal areas, management measures to be used in those areas, technical assistance measures, public participation opportunities, and administrative considerations. If these plans are not approved, coastal management and water pollution control assistance funds can be withheld.

**Producer Note:** EPA has issued a guidance manual<sup>8</sup> on nonpoint pollution in coastal waters, which applies in all coastal states and identifies measures concerning agriculture which are designed to reduce pollutants. As potential causes and solutions of nonpoint pollution, the manual addresses sediment and erosion control through conservation tillage, strip cropping, contour farming, terracing, or practices to remove settleable solids; confined animal facilities through limiting discharges of animal waste and designing and implementing waste management systems which will reduce runoff; nutrient management through budgeting of nutrients provided to crops; pesticide management through reducing pesticide use and improving the timing and efficiency of application; livestock grazing through protection of “sensitive areas” such as streambeds and wetlands from improved grazing management; and, irrigation through more effective irrigation systems and special precautions in chemigation.

### **C. State Water Quality Laws and Regulations**

Most states have enacted clean water legislation. Many of these state statutes contain similar requirements to the CWA, but some impose more restrictive requirements than the federal law. The CWA authorizes EPA to delegate the NPDES permit program to individual states. However, where states have this responsibility, EPA requires enactment of statutes closely tracking the CWA. In these states, CWA enforcement requirements often come through state statutes and procedures, and states can also pass their own special state water quality legislation. State administrative agencies promulgate regulations to implement the state laws. These regulations usually contain provisions similar to those found in the parallel federal regulations, but there may be significant differences.

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<sup>8</sup> OFFICE OF WATER, U.S. ENVTL. PROTECTION AGENCY, GUIDANCE SPECIFYING MANAGEMENT MEASURES FOR SOURCES OF NONPOINT POLLUTION IN COASTAL WATERS (1993).

**Caution:** Because environmental laws and regulations change frequently, all producers must stay in contact with both state and federal officials in order to remain aware of and in compliance with changes in the law.

**Producer Note:** Often the specifics of environmental laws are found in agency regulations. In addition, regulations are likely to be amended frequently. As a result, a producer must keep in contact with offices administering specific programs in order to keep up with all of the changes which may occur in a particular program.

In California, the Porter-Cologne Water Quality Control Act (PCWQCA) put primary responsibility for water quality protection in the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The Act applies to surface and ground waters, point and nonpoint sources, and discharges of waste on land. The SWRCB coordinates state policy development with the California Department of Health Services, Office of Drinking Water, and the Department of Pesticide Regulation.

It is unlawful to discharge any pollutants or dredged or fill material into state waters unless specifically authorized.<sup>9</sup> Pollutants are defined in part as dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and agricultural waste discharged into water. Any person who violates the Act may incur civil liability from \$100 when there has been no discharge but an order from the regional board is violated, to \$15,000 for each day in which a discharge has occurred and any cleanup and abatement order is violated.<sup>10</sup>

California has an approved “Rangeland Water Quality Management Plan” that addresses voluntary compliance with the Clean Water Act, the Coastal Zone Management Act, and California’s Porter-Cologne Water Quality Control Act for the livestock industry and rangeland owners and managers.

### ***1. NPDES Permit Programs***

No person can discharge any pollutants from a point source into state waters without first obtaining a NPDES permit. However, no permit is required where discharges are composed entirely of return flows from irrigated agriculture.<sup>11</sup> Such return flows include surface water containing pollutants discharged in waters from a discernible, confined, and discrete conveyance.

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<sup>9</sup> CAL. WATER CODE § 13376 (WEST 1998).

<sup>10</sup> CAL. WATER CODE § 13350 (WEST 1998).

<sup>11</sup> CAL. WATER CODE § 13376 (WEST 1998).

**Producer Note:** California has a special set of regulations relating to the discharge of animal manure. Generally, manure management practices being performed by agricultural operations must be conducted so as to prevent the creation of excessive vectors or other adverse public health/well-being conditions. Otherwise, manure must be removed at intervals frequent enough to prevent the occurrence of such conditions. Manure removed from confined animal operations must be managed so as to prevent the creation of adverse public health/well-being conditions.<sup>12</sup>

## 2. *Concentrated Animal Feeding Operations*

California regulations prescribe statewide minimum standards for discharges of animal waste at concentrated animal facilities.<sup>13</sup> These standards will be used in any Waste Discharge Requirements (WDRs) issued for a particular animal waste facility or will be made a condition to the waiver of such requirements. A discharger required to submit a report of waste discharge must provide the following general information and must report any material changes:

- ! Average daily volume of facility wastewater and volume or weight of manure;
- ! Total animal population at the facility, and types of animals;
- ! Location and size of use or disposal fields and retention ponds, including animal capacity; and
- ! Animal capacity of the facility.

Dischargers must prevent animals at a confined animal facility from entering any surface water within the confined area.

Wastewater at confined animal facilities must be effectively managed. The facilities must be designed and constructed to retain all facility wastewater generated, together with all precipitation on, and drainage through, manured areas during a 25-year, 24-hour storm. All precipitation and surface drainage outside of manured areas, including that collected from roofed areas, and runoff from tributary areas during such storms must be diverted away from manured areas, unless the drainage is fully retained. RWQCBs can waive application of such requirements only in specific instances where upstream land use changes have altered surface drainage patterns such that retention of flood flows is not feasible.

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<sup>12</sup> CAL. CODE REGS. TIT. 14, § 17823.1 (1998).

<sup>13</sup> CAL. CODE REGS. TIT. 27 § 22560 *et seq.* (1998).

For flood protection, retention ponds and manured areas at confined animal facilities in operation on or after November 27, 1984 must be protected from inundation or washout by overflow from any stream channel during 20-year peak stream flows. Existing facilities that were in operation on or before November 27, 1984 and that are protected against 100-year peak stream flows must continue to provide such protection. Facilities, or parts of facilities, which began operating after November 27, 1984 must be protected against 100-year peak stream flows. Peak stream flows are determined by data provided by recognized federal, state, local, or other agencies.

Retention ponds must be lined with, or underlain by, soils which contain at least 10 percent clay and not more than 10 percent gravel or artificial materials of equivalent impermeability.

Discharge of facility wastewater and of collected precipitation and drainage waters to use or disposal fields is allowed by the RWQCBs only if the discharge is in accordance with the SWRCB's guidelines for use and disposal field management:

- ! Application of manure and wastewater to disposal fields or crop lands must be at rates which are reasonable for the crop, soil, climate, special local situations, management system, and type of manure.
- ! Discharges of facility wastewater to disposal fields must not result in surface runoff and must be managed to minimize percolation to ground water.

Manured areas must be managed to minimize infiltration of water into underlying soils. The RWQCB can require confined animal facility operations to undertake a monitoring program as a condition to the issuance or waiver of WDRs.

## II. GROUNDWATER

**Producer Note:** Producers should be aware of the possibility of polluting groundwater because many producers have wells and petroleum storage tanks on their property. Wells and petroleum storage tanks can be a source of groundwater pollution.

## **A. Federal Groundwater Laws and Regulations**

### ***1. Safe Drinking Water Act***

The Safe Drinking Water Act<sup>14</sup> (SDWA) is the principal federal statute addressing groundwater quality. Under the act, EPA establishes tolerance levels for a host of pollutants potentially present in public drinking water.

The SDWA does have indirect effects on farmers and ranchers, however, and these effects may become more direct in the future. The SDWA was amended in 1996 to require public reporting of detections of chemical contaminants in drinking water. Since many of these contaminants could be agriculture chemicals, it is likely that public concerns about pesticides and herbicides will be heightened.

#### ***a. Source Water Quality Partnership Petition Program***

The SDWA authorizes federal assistance for local programs that identify, assess, and deal with groundwater quality problems. One approach is to promote the creation of local, voluntary incentives programs to protect source water quality. Farmers and ranchers may find it in their interest to participate in such, especially where local concerns about public water contaminants are heightened by the release of information about contamination.

The Source Water Quality Partnership Petition Program is initiated by a local government or community water system by petitioning the state for assistance in establishing an incentive-based partnership between the petitioner and persons likely to be affected by water quality problems. A variety of funding sources support the installation of a pollution prevention infrastructure, including the Drinking Water State Revolving Fund, established by the SDWA. Using these funds, several municipalities and public water systems have provided 100 percent cost-sharing to farmers and ranchers who install best management practices designed to reduce sediment, nutrient, and chemical loading. For public water systems, investment in pollution prevention is considerably less expensive than the cost of treating contaminated water.

#### ***b. Underground Injection Control Program***

Underground injection means the subsurface emplacement of fluids by well injection. The SDWA provides an underground injection control (UIC) program which is intended to protect groundwaters that may reasonably be expected to supply any public water system from contaminants which may result in noncompliance with drinking water regulations or otherwise adversely affect public health. Farmers and ranchers with agricultural drainage wells are required to furnish inventory information to appropriate state agencies. In addition, states can require individual well permits. Agricultural drainage wells include:

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<sup>14</sup> 42 U.S.C. § 300g-1 *et seq.* (1996).

- ! Air conditioning return flow wells;
- ! Cesspools receiving wastes with open bottoms and perforated sides;
- ! Cooling water return flow wells used to inject water used for cooling;
- ! Drainage wells primarily used to drain storm runoff;
- ! Dry wells used for waste injection;
- ! Recharge wells used to replenish aquifers;
- ! Salt water intrusion barrier wells;
- ! Sand backfill, other backfill wells, and injection wells used primarily in mining areas;
- ! Septic system wells used to inject waste or effluent from multiple dwelling or business septic tanks; and
- ! Subsidence control wells.<sup>15</sup>

Producers are not allowed to inject contaminants into an underground source of drinking water which uses a well if the contaminant could cause a violation of any primary drinking water regulation or if the activity would adversely affect the public health.

## ***2. Groundwater Pesticide Management Plans***

EPA has adopted a regulation that would allow the continued use of the agricultural chemicals alachlor, atrazine, cyanazine, simazine, and metolachlor only in states that have adopted groundwater management plans that provide specific safeguards for the use of those chemicals. EPA would have to approve the details of such plans before they become effective. EPA is expected to issue the final regulation during the summer of 1999. The states would have two years from the date of final regulation in which to develop their plans. EPA would have one year from the receipt of the plan to review and either approve or reject the plan.

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<sup>15</sup> 40 C.F.R. § 146.5 (1995).

**Producer Note:** Producers should contact the state agriculture department or USDA to determine the current status of the regulation and the groundwater pesticide management plan for their state.

## **B. State Groundwater Laws and Regulations**

### **1. *The Safe Drinking Water and Toxic Enforcement Act of 1986 (SDWTEA)***

The California Health and Welfare Agency (CHWA) is the lead state agency for implementing the act SDWTEA.<sup>16</sup> It was meant to protect California's citizens and drinking water sources from chemicals known to cause cancer, birth defects and reproductive harm. The SDWTEA requires the Governor to publish annually the list of chemicals known to the state to cause cancer or reproductive toxicity.

All persons doing business in California are subject to the requirements of the SDWTEA, with respect to all chemicals appearing on the list.

- ! Any person violating or threatening to violate the SDWTEA may be enjoined in court.
- ! Any person who has violated the SDWTEA may be liable for a civil penalty of up to \$2,500 per day for each violation, in addition to other possible penalties.
- ! Actions may be brought by the state Attorney General or by district attorneys or city attorneys of those cities having populations in excess of 750,000 and if certain requirements are met, by full-time city prosecutors or by any person in the public interest.

### **2. *California Water Wells***

**Producer Note:** Anyone who is responsible for digging, boring, drilling or altering a water well, cathodic protection well, or groundwater monitoring well, or abandoning or destroying such a well, must have a C-57 Water Well Contractor's License.

Every person who digs, bores, or drills a water well, cathodic protection well, or groundwater monitoring well, abandons or destroys such a well, or deepens or re-perforates such a well, must file with the Department of Water Resources a report of completion of that well within 60 days.

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<sup>16</sup> CAL. HEALTH AND SAFETY CODE § 25249 *et seq.* (West 1998).

Failure to comply with requirements for well construction, or willful and deliberate falsification of any associated report, is a misdemeanor.<sup>17</sup>

### **III. AIR QUALITY**

#### **A. Federal Clean Air Act**

The Clean Air Act (CAA)<sup>18</sup> is a comprehensive and complex piece of environmental legislation. The 1990 amendments to the CAA require sources which may cause pollution to obtain operating permits. These permits include a comprehensive statement of the pollution source's CAA obligations regarding emission limits, fee requirements, inspection, monitoring, and reporting duties. Violators are exposed to administrative compliance orders and federal court injunctions.

Under the 1990 CAA amendments, all criminal penalties are felonies. Fines of up to \$250,000 per day may be imposed on individuals and up to \$500,000 per day for corporations. Prison terms of up to five years may be imposed. Subsequent violations may result in the doubling of sanctions. Knowing endangerment offenses for the release of hazardous air pollutants may subject individuals to fines of up to \$250,000 with jail sentences of up to 15 years, and corporations may be fined up to \$1,000,000.

Negligently releasing hazardous air pollutants can subject the polluter to fines of up to \$250,000 and one year in jail if the polluter knows that the actions will place another person in imminent danger of death or serious bodily injury. Making false statements on reports or tampering with monitoring devices may result in fines up to \$250,000 per day and jail terms of up to two years.

In April of 1994, EPA announced a reward program for citizens who report companies that violate the CAA. Rewards of up to \$10,000 may be awarded to citizens whose information results in a criminal conviction or fine under the CAA.

The overall objective of the CAA is to protect human health, welfare, and the environment by maintaining and improving the quality of the air through the development of standards. Standards controlling ambient air emissions from farming practices like prescribed burning are geographically specific within each State Implementation Plan (SIP). The SIP may also provide visibility standards. Locations which the National Ambient Air Quality Standards designate as air non-attainment areas are subject to more restrictions.

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<sup>17</sup> CAL. WATER CODE § 13754. (West 1998).

<sup>18</sup> 42 U.S.C. § 7401 *et seq.* (1994).

Finally, grain terminal elevators having a permanent storage capacity of more than 2.5 million bushels and grain storage elevators with a permanent storage capacity of more than one million bushels, including their loading and unloading facilities, are governed by regulations controlling discharge of gases and grain loading and unloading emissions.

Currently, the CAA has no application to the problem of odor, which is a common complaint regarding agricultural facilities. Odor problems are handled under state nuisance laws. However, livestock producers must stay informed of changes in the CAA which might affect them in the future. For example, regulations have been proposed which would prohibit dust from remaining in the air beyond the property on which it originates. A strict interpretation of this regulation could subject combining, disking, or other farm and ranch operations to the provisions of the CAA.

**Producer Note:** While most agricultural operations are not air pollution sources under the CAA, complaints concerning odor and dust resulting from agricultural operations may be made. These complaints normally come in the form of actions filed under state law against an agricultural producer for nuisance.

## **B. State Air Quality Laws and Regulations**

Air Pollution Control Districts submit local Air Pollution Attainment Plans to the Air Resources Board, as required by the California Clean Air Act. Air emissions, including dust and toxic air contaminants (TACs), from farming operations are subject to the regulations. Many pesticides are classified as TACs by the California Department of Pesticide Regulation which also determines the appropriate degree of control measures. Air Pollution Control Officers issue permits as required by local regulations.

The Air Resources Board implements the Agricultural Burn Program.<sup>19</sup> Many agricultural operations are exempt from the Agricultural Burning Guidelines. Open burning in agricultural operations in the growing of crops or raising of fowl or animals (or for disease or pest prevention at altitudes above 3,000 feet, or for any purpose at altitudes above 6,000 feet) is exempt from the Agricultural Burning Guidelines, where:

- ! The burning in the open of materials produced wholly from operations in the growing and harvesting of crops or raising of fowl or animals is for the primary purpose of making a profit, of providing a livelihood, or of conducting agricultural research; and
- ! The burning is of grass and weeds in or adjacent to fields in cultivation or being prepared for cultivation, or the burning of materials not produced wholly from

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<sup>19</sup> CAL. CODE REGS. TIT. 17, § 80100 *et seq.* (1998).

such operations, but which are intimately related to the growing or harvesting of crops and which are used in the field, except as prohibited by district regulations. Examples are trays for drying raisins, date palm protection paper, and fertilizer and pesticide sacks or containers, where the sacks or containers are emptied in the field.

In the Tahoe Basin no agricultural operations are exempt from the Agricultural Burning Guidelines. Like other non-exempt agricultural operations, those in the Tahoe Basin must apply for burning permits, which are valid only on those days during which agricultural burning is not prohibited (“no-burn” days) by the State Air Resources Board or by the local Air Pollution Control District. A district may, by special permit, authorize agricultural burning on days designated by the Board as no-burn days because the denial of such permit would threaten imminent and substantial economic loss.

Rice straw burning in the Sacramento Valley Air Basin and the San Joaquin Valley Air Basin is subject to special rules which ensure that the straw is sufficiently dry prior to the burn.<sup>20</sup> Generally, rice straw may be burned when a handful of straw crackles when it is bent sharply.

Rice, barley, oat and wheat straw may be ignited only by stripfiring into-the-wind or by backfiring, except under a special permit of the district issued when and where extreme fire hazards are declared by a public fire protection agency to exist, or where crops are determined not to lend themselves to these techniques.

Air Pollution Control Districts set local burning hours. Generally, no field crop burning may commence before 10:00 a.m. or after 5:00 p.m. of any day.

The creation of excessive dust must be prevented. The California Integrated Waste Management Board, within the Minimum Standards for Solid Waste Handling and Disposal, determines dust to be excessive when it results in any of the following: safety hazards due to obscured visibility, irritation of the eyes, or hampered breathing.<sup>21</sup>

#### IV. SOLID WASTE AND HAZARDOUS WASTE

**Producer Note:** There are several laws which control the use and disposal, as well as the cleanup, of hazardous wastes. Producers who use hazardous chemicals or use petroleum or other products stored in storage tanks must be aware of the requirements governing their actions.

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<sup>20</sup> CAL. CODE REGS. TIT. 17, § 80150 (1998).

<sup>21</sup> CAL. CODE REGS. TIT. 14, § 17407.4 (1998).

**Producer Note:** Application of biosolids is an issue which is the subject of varying ordinances in California. Some counties ban the application, others allow application to occur, still others regulate it very specifically. Producers must consult their local Agriculture Commissioner for guidance.

#### **A. Federal Resource Conservation and Recovery Act**

The Resource Conservation and Recovery Act<sup>22</sup> (RCRA) controls the treatment, storage, and disposal of hazardous waste as well as the disposal of municipal solid waste. RCRA also regulates the storage of petroleum and other products in underground storage tanks.

RCRA could have the following impacts on farmers:

- ! Disposal of hazardous waste on a farm could subject farmers to significant responsibility including closure and post-closure care;
- ! Recalled pesticides intended for disposal may be subject to manifest and transportation requirements; and
- ! Offsite disposal of hazardous waste could subject farmers to hazardous waste generator requirements.

**Producer Note:** Producers in California must always follow the label instruction on pesticide containers when applying and disposing the pesticide. If they do not follow the label instructions, they can be guilty of violating the state's hazardous waste laws.

#### **1. Disposal**

Farmers disposing of their own used waste pesticides which are hazardous wastes are exempted from hazardous waste requirements, so long as the emptied containers are triple-rinsed in accordance with the labeling and the pesticide residue is disposed of on the farm in a manner consistent with the disposal instructions on the pesticide label. However, if the chemical is defined as a RCRA waste, the triple-rinsate must be disposed of at an approved hazardous waste site.

Farmers can dispose of non-hazardous agricultural wastes on their own property, unless the disposal is prohibited by other state or local laws. This includes manure and crop residues returned to the soil as fertilizers or soil conditioners and solid or dissolved materials in irrigation return flows.

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<sup>22</sup> 42 U.S.C. § 6901 *et seq.* (1994).

## **2. *Underground Storage Tanks***

Underground storage tanks<sup>23</sup> (USTs) and their associated piping holding less than 1,100 gallons of motor fuel for non-commercial purposes, tanks holding heating oil used on the premises, and septic tanks are excluded from RCRA regulations. All new regulated USTs are required to meet standards related to construction, monitoring, operating, reporting to state or federal regulatory agencies, owner record keeping, and financial responsibility. (See discussion of state storage laws on page CA-26).

## **3. *Used Oil***

Farmers who generate an average of 25 gallons or less per month of used oil from vehicles or machinery per calendar year are exempt from regulations. Farmers exceeding 25 gallons are required to store the used oil in tanks meeting underground or aboveground technical requirements and use waste transporters with EPA authorization numbers for removal of the waste from the farm. Storage in unlined surface impoundments which are wider than they are deep is banned.

## **4. *Farming***

For food chain crops, farming can occur on land where hazardous chemicals are applied so long as the farmer receives a permit from EPA. The farmer must demonstrate that no substantial risk to human health is caused by the growth of crops in that manner.

## **5. *Penalties***

RCRA criminalizes a variety of knowing violations in the transportation of waste to unpermitted facilities, or transporting, treating, storing, or disposing of waste without a permit. In addition, making false statements or knowingly omitting material information in applications, manifests, or reports constitutes criminal conduct. Fines can be as high as \$50,000 per day of violation and imprisonment may be from two to five years, depending on the violation. Subsequent convictions result in a doubling of penalties. Any person who knowingly violates the law and subjects another person to imminent danger of death or serious injury may be fined up to \$250,000 and imprisoned up to 15 years. A corporation found guilty of knowing endangerment is subject to a fine of up to \$1,000,000.

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<sup>23</sup> 42 U.S.C. § 6991 *et seq.* (1994).

## **B. Federal Comprehensive Environmental Response, Compensation and Liability Act**

The Comprehensive Environmental Response, Compensation and Liability Act<sup>24</sup> (CERCLA) was passed to rectify perceived inadequacies of earlier environmental legislation, especially RCRA. RCRA was deemed inadequate to address past hazardous waste disposal sites.

The federal government is authorized under CERCLA to conduct cleanup operations with funds from the “Superfund.” The government may then seek to recover the costs of cleanup from “potentially responsible parties” (PRPs). The government is also authorized to issue cleanup directives or seek injunctive relief ordering PRPs to conduct responsive actions to abate an “immediate and substantial endangerment to public health or the environment.” In addition, private parties are authorized to seek reimbursement from the “Superfund” or they may file cost recovery actions against PRPs.

CERCLA and the courts have broadly defined the term persons to include individuals, corporations, and other corporate actors, such as corporate officers, as well as other types of business entities.

Under CERCLA, criminal penalties may be levied for failing to report releases, knowingly reporting false or misleading information, or knowingly destroying or falsifying records. Fines may be as high as \$250,000 for individuals and \$500,000 for corporations. Incarceration for up to three years for a first conviction and up to five years for subsequent convictions is also available. An individual who provides information leading to the arrest and conviction of a person failing to report a release can receive up to \$10,000 as a reward.

## **C. Federal Toxic Substances Control Act**

The Toxic Substances Control Act<sup>25</sup> (TSCA) allows EPA to regulate new commercial chemicals prior to sale on the market and to regulate the distribution and use of existing chemicals when they pose an unreasonable risk to human health or to the environment. TSCA also prohibits the use of polychlorinated biphenyl (PCB) transformers in areas that could affect food or feed. An exposure risk to food or feed is caused if PCBs are released in any way from the item and the releases have a potential pathway to human food or animal feed. EPA considers human food or animal feed to include items regulated by USDA or the Food and Drug Administration (FDA) as human food or animal feed, including direct additives. Food or feed stored in private homes is excluded.

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<sup>24</sup> 42 U.S.C. § 9601 *et seq.* (1994).

<sup>25</sup> 15 U.S.C. § 2601 *et seq.* (1994).

#### **D. Federal Emergency Planning & Community Right to Know Act**

The objective of the Emergency Planning & Community Right to Know Act<sup>26</sup> (EPCRA) is to: (1) allow state and local planning for chemical emergencies; (2) allow for emergency release notification; and (3) allow for toxic and hazardous chemical right to know.

The EPCRA requires businesses which store chemicals subject to the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard to submit information or a list of those chemicals to state and local authorities. Submittal of this information will facilitate emergency planning and response. Annual reporting to state and local authorities is required for businesses which have those chemicals present at the facility in amounts above a certain threshold. However, hazardous chemicals used in routine agricultural operations or fertilizers held for resale by a retailer are excluded from EPCRA.

Farms storing and using hazardous chemicals for routine agricultural operations do not have to meet the requirements for reporting under EPCRA. However, farms storing any amount of an "extremely hazardous substance" above specified thresholds must notify state and local emergency planning committees.

Businesses which produce, store, or use "extremely hazardous substances" or CERCLA hazardous chemicals must report any non-permitted releases of a listed chemical above threshold amounts to federal, state, and local authorities. Releases could occur into the atmosphere, surface water, or groundwater.

**Producer Note:** Farmers and ranchers should work with their Local Emergency Planning Committee (LEPC) to ensure that the LEPC has sufficient information to respond should a local emergency occur. Excluded from the emergency planning requirements are activities involving the proper application of Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) regulated pesticide products as well as the handling and storage of these pesticide products by an agricultural producer.

#### **E. Occupational Safety and Health Administration**

**Producer Note:** Cal/OSHA or the state Commission on Health and Safety and Workers' Compensation, within the California Department of Industrial Relations, can assist the operator in fully understanding worker training and safety requirements, particularly in the area of exposure to hazardous chemicals other than pesticides (for those, contact Cal/EPA).

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<sup>26</sup> 42 U.S.C. § 11001 *et seq.* (1994).

The Occupational Safety and Health Administration (OSHA) has regulations which include training requirements to protect workers from hazardous chemicals. Employers must comply with the regulations. The regulations cover workers involved in cleanup responses under CERCLA and RCRA.

OSHA has over 100 standards which include some training requirements. OSHA has also promulgated a right-to-know law for employees exposed to hazardous chemicals, and many states, including California, have similar laws. RCRA regulations require treatment, storage, and disposal facility personnel to have expertise in their areas of assignment.

California operates its own OSHA-approved job safety and health program, Cal/OSHA. All states with such approved programs must have standards that are identical to, or at least effective, as the federal standards.

## **F. State Solid Waste and Hazardous Waste Laws and Regulations**

**Producer Note:** In California, “agricultural solid wastes” include wastes resulting from the production and processing of farm or agricultural products, including manure, prunings and crop residues wherever produced.

### ***1. State Solid Waste and Animal Waste Laws***

California’s regulations for the management of agricultural solid waste are generally intended to describe levels of performance expected rather than stating detailed requirements. Persons responsible for management of manures and agricultural wastes are permitted flexibility of approach in meeting the objectives set by the standards which are intended mainly to eliminate excessive vectors or other adverse public health/well-being effects associated with any agricultural operation.<sup>27</sup>

Excessive vectors refer to the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with agricultural wastes which:

- ! Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment;
- ! Are associated with design, layout and management of agricultural operations;
- ! Disseminate widely from the property; and

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<sup>27</sup> CAL. CODE REGS. TIT. 14, § 17801 (1998).

- ! Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

Anyone who sustains, stores, manages or receives agricultural by-products or other waste materials generated as a result of the operation of any agricultural property or produce processing plant must do so in such a manner as to prevent the spread of disease, the occurrence of excessive vectors, odor, dust, or feathers or other such adverse conditions related to the public health and well-being. In addition:

- ! The presence of excessive vectors on the property is evidence that an adverse public health/well-being hazard exists.
- ! The determination of the presence of excessive vectors will be made by state regulatory agents.
- ! The determination of the presence of excessive vectors will take into account the proximity of the agricultural operation to neighboring human habitation and use areas, the population density of the entire area and the severity of the public health/well-being hazard posed.

## 2. *Treatment, Storage and Disposal of Hazardous Wastes*

**Producers Note:** In California, the Department of Toxic Substances Control regulates handling, storage, transport and disposal of hazardous substances.

Used oil generally must not be discharged to sewers, drainage systems, surface water or groundwater, watercourses, or marine waters; or incinerated or burned as fuel; or deposited on land. The use of used oil or recycled oil as a dust suppressant or insect or weed control agent is prohibited unless allowed under another applicable law, but only to the extent that use as a dust suppressant or insect or weed control agent is consistent with federal law.<sup>28</sup>

The state Toxic Pits Cleanup Act requires that surface waste impoundments must meet specific requirements for facility design and construction, facility monitoring, and corrective action for detected releases. Facility owners/operators must submit hydroecological assessment reports to the Department of Toxic Substances Control as determined by the Department.<sup>29</sup>

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<sup>28</sup> CA. HEALTH AND SAFETY CODE § 25250.5 (WEST 1998).

<sup>29</sup> CA. HEALTH AND SAFETY CODE § 25208 (WEST 1998).

### 3. *State Storage Tank Laws*

The California Water Resources Control Board (CWRCB) requires a storage statement and fee for single aboveground storage tanks (ASTs) with capacity greater than 660 gallons or cumulative tank capacity greater than 1,320 gallons. Additionally, most owner/operators must prepare a Spill Prevention Control and Containment Plan in accordance with federal oil pollution prevention regulations.

In California, the Underground Storage Tank (UST) program oversees leak prevention and cleanup, and develops UST regulations.

**Important:** There is a December 22, 1998 UST upgrade deadline. Generally speaking, tanks installed prior to January 1, 1984 need to be upgraded or replaced. The deadline, for finishing the work not beginning it, will not be extended. City or county UST agencies can answer questions, issue upgrading or removal permits. There are 3 options for upgrading:

- ! Close the tank system (Be sure to get a licensed contractor and follow closure requirements in Article 7 of California's UST Regulations);
- ! Replace the existing system with a new double containment system (in accordance with Article 3 of California's UST Regulations); or
- ! Upgrade the system (in accordance with Article 6 of California's UST Regulations).

**Producer Note:** The California Trade and Commerce Agency, Office of Small Business, offers low interest loans to small businesses with USTs. The Office of Small Business in Sacramento at (916) 323-9879 can be contacted for more information on the "Repair/Replace Underground Storage Tank Loan Program" (RUST). In addition, the Underground Storage Tank Program can be contacted at P.O. Box 944212 Sacramento, CA 94244-2120 for more information concerning UST regulations.

## V. PESTICIDES AND CHEMIGATION

**Producer Note:** Use of pesticides and other farm chemicals is regulated by federal and state statutes. Most states have some form of licensing or certification requirements controlling those who use pesticides. In addition, if a producer employs agricultural workers there are regulations which address safety concerns about pesticide use by or around those workers.

## **A. Federal Insecticide, Fungicide, and Rodenticide Act**

The EPA also administers the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),<sup>30</sup> the major federal statute governing pesticide use. FIFRA establishes minimum national standards for the use of pesticides, and regulates the registration, production, and sale of pesticides.

FIFRA grants primary, but not exclusive, enforcement responsibility for pesticide use to the states. States retain the authority to regulate the sale or use of any federally registered pesticide or device in the state, but only if state regulations do not permit sale or use of pesticides prohibited under FIFRA. States may not impose any requirements for pesticide labeling or packaging in addition to or different from those required under FIFRA.

### ***1. Use of Pesticides***

FIFRA provides that it is unlawful for any person to use a registered pesticide in a manner inconsistent with its labeling. Based on the pesticide's toxicity or the degree of adverse effects on humans and the environment, EPA divides pesticides into two broad groups, either unclassified (general use) or restricted use pesticides.<sup>31</sup>

Pesticides for unclassified or general use may be purchased and used by any person in a manner consistent with the pesticide's label. Restricted use pesticides may be applied only by or under the direct supervision of a certified applicator. Note that "under the direct supervision of a certified applicator" means that the pesticide is applied by a competent person acting under the instructions and control of a certified applicator who is available if and when needed. This means that the certified applicator need not be physically present at the time and place the pesticide is applied, unless the pesticide label prescribes a greater degree of supervision.

FIFRA requires the certification of applicators of restricted use pesticides and provides for EPA-approved state certification programs.

### ***2. Reporting Requirements***

Under FIFRA regulations, commercial applicators must keep and maintain routine operational records containing information on kinds, amounts, uses, dates, and places of application of restricted use pesticides. Records must be maintained and kept for a period of two years.

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<sup>30</sup> 7 U.S.C. § 136 *et seq.* (1994).

<sup>31</sup> Pesticides classified under FIFRA for restricted use are listed at 40 C.F.R. § 152.175 (1995).

The 1990 Farm Bill added the following record keeping and disclosure requirements for pesticide use:

- ! All pesticide applicators, including certified and non-certified, must maintain restricted use pesticide application records; time frames governing when records must be maintained are included and spot application records are required;
- ! Within thirty days of restricted use pesticide application, all applicators must give a copy of records of the pesticide application to the person for whom the application was provided;
- ! Records must be made available to any federal or state agency that deals with pesticide use or any health or environmental issue related to the use of pesticides at the request of the agency; however, a government agency may not release data from the records that directly or indirectly reveals the identity of individual producers and USDA is charged with administering access to the records by federal agencies, while states designate a lead agency to administer access by state agencies;
- ! When a health professional determines that pesticide information maintained in the records is necessary to provide medical treatment or first aid to an individual who may have been exposed to pesticides, persons required to maintain the records must promptly provide the record and available label information to the health professional upon request, and, in the case of an emergency, the information must be provided immediately;
- ! Penalties in the form of fines may be imposed by USDA for failure to comply with pesticide use and reporting requirements; and
- ! USDA and EPA are required to use the records to develop and maintain a database sufficient to enable USDA and EPA to publish annual comprehensive reports concerning agricultural and nonagricultural pesticide use.

**Producer Note:** Certified private pesticide applicators must record information no later than 14 days following the pesticide application. The information must include the brand or product name of the federal restricted use pesticide and the product's EPA registration number; the total amount applied; the size of the area treated; the crop, commodity, stored product, or site to which the pesticide was applied; the location of the application; the month, day, and year of the application; and the certified applicator's name and certified number.

**Producer Note:** For spot applications, a certified private pesticide applicator must record information regarding spot treatments if they apply restricted use pesticides on the same day in a total area of less than 1/10th of an acre. The information must include the brand or product name of the federal restricted use pesticide and the product's EPA registration number; the total amount applied; the location of treatment designated as "spot application," followed by a description (e.g. the location could be recorded as "spot application" followed by "treatment for noxious weeds on Field A, C, and all pastures"); and the month, day, and year of the application. This provision does not pertain to greenhouse and nursery applicators, who are required to keep all data elements as listed.

### 3. *Disposal of Pesticides and Pesticide Containers*

**Producer Note:** Producers must take special care in disposing of pesticide containers. Although permits for disposal are not required, the pesticide labeling will reflect requirements for disposal which must be met in order to prevent violations of the law.

A pesticide's labeling may contain specific procedures for disposal of the pesticide and its container. Disposal of the pesticide in a manner inconsistent with the labeling violates FIFRA. EPA regulates the disposal of pesticides which can no longer be legally used due to cancellation of their registration. The agency also recommends special procedures for the disposal of unwanted pesticides.<sup>32</sup>

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<sup>32</sup> 40 C.F.R. pt. 165 (1995).

#### 4. *Worker Protection Standard*

**Producer Note:** Producers are also required to take precautions to protect farm workers from pesticides. Producers must properly train and notify workers of pesticide dangers. Producers should refer to the EPA publication entitled *The Worker Protection Standard for Agricultural Producers--How to Comply; What Employers Need to Know* for specific explanations of the requirements. Contact the EPA or your state department of agriculture for the most current requirements.

Agricultural employers must also comply with the Worker Protection Standard (WPS) for Agricultural Pesticides. The WPS covers all agricultural employers and their employees. The WPS contains requirements for training employees who handle pesticides, provisions for protecting employees from pesticide exposure, and how to provide emergency assistance to exposed employees.

#### **B. State Pesticide and Chemigation Laws and Regulations**

**Producer Note:** California, like most states, has laws designed to control the use of pesticides. The law is designed to closely monitor the distribution and ultimate use of these substances within the state.

Agricultural water quality issues involving pesticides are generally handled by the Regional Water Quality Control Boards (RWQCBs) in cooperation with the California Water Resources Control Board (CWRCB), the Department of Pesticide Regulation (DPR), and County Agricultural Commissioners, as directed by the Porter-Cologne Water Quality Control Act.

The California Department of Health Services (CDHS) may delegate responsibility for detecting/monitoring contaminants to county health officers when there is organic chemical contamination of public water systems. The CDHS and the DPR share information on all monitoring results which are positive for pesticide residues, in order to identify the source of contamination.

#### **1. Registration**

The DPR requires pesticides to be evaluated and registered before they may be sold or used in the state. The DPR issues licenses to pesticide dealers, pest control operators, pest control advisors, agricultural aircraft pilots, and certifies restricted use pesticide applicators.<sup>33</sup> A signed statement is necessary in lieu of presenting a qualified applicator license or certificate.

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<sup>33</sup> CAL. CODE REGS. TIT. 3, §§ 6500-6636 (1998).

It is illegal to distribute, sell, transport or deliver pesticides unless the particular pesticide has been registered with the DPR or if the pesticide has been misbranded or adulterated. It is also illegal to detach or destroy any pesticide label as well as handle any pesticide in such a manner as to endanger the environment.

Local enforcement of California's statewide pesticide program is by the County Agricultural Commissioner (CAC), under the direction and supervision of the Director of DPR. The CAC registers pest control businesses, pilots, and pesticide advisors who are licensed by DPR and provides them with information and training in the safe use of pesticides. CAC conducts routine monitoring of pesticide application activities, application equipment, and storage facilities. The CAC should be notified as soon as possible of accidents, forced landings, and accidental or emergency release of pesticides during application.

## 2. *Applicator Licenses*

Applicants who satisfy the requirements for a license may perform the type or types of pest control activities specified in the license during the calendar year for which the license is issued, unless the license is sooner revoked or suspended.

A person not regularly engaged in the business of pest control who operates only in the vicinity of his or her own property and for the accommodation of his or her neighbors is not required to pay a fee, but is required to procure a license. A determination by the DPR that a person is engaged in the business of pest control beyond the vicinity of his or her own property or for the accommodation of others than his or her neighbors is final.

Any certificate of qualification may be revoked or suspended, or its issuance or renewal refused, if the CAC finds that the applicant or holder of the certificate is incompetent or has violated any provision of this division, or any regulation which is issued pursuant to it, or has not complied with any lawful order of the commissioner.<sup>34</sup>

## VI. PROTECTION OF WILDLIFE

**Producer Note:** Agricultural producers also have responsibilities concerning wildlife and migratory birds which may have habitat on the producer's property. Federal and state laws contain measures designed to protect or enhance wildlife or wildlife habitat.

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<sup>34</sup> CA. FOOD AND AGRICULTURAL CODE § 11705 *et seq.* (WEST 1998).

## A. Federal Endangered Species Act

The Endangered Species Act<sup>35</sup> (ESA) is designed to protect endangered and threatened species from federally funded or directed activities, including pesticide use and wetlands manipulation.

The ESA also prohibits private persons from taking any listed endangered or threatened species of animal without a permit or exemption which allows the taking. Taking is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting the animal. An intent to take the animal is a required element for a violation of the ESA. No reported cases involve the taking of animals by pesticide poisoning, but the U.S. Fish and Wildlife Service has taken administrative action against farmers and ranchers who kill protected animals with meat illegally laced with pesticides. For example, in *Christy v. Hodel*,<sup>36</sup> a court upheld the authority of the U.S. Fish and Wildlife Service to assess penalties against livestock owners who deliberately killed grizzly bears, an endangered species, in order to protect their livestock.

**Producer Note:** An unlawful taking can result in serious criminal and civil penalties. Producers can apply for incidental taking permits if a contemplated activity might result in an inadvertent taking of a protected species. Permits are granted by the U.S. Fish and Wildlife Service.

The ESA makes it unlawful for anyone to import, take, possess, sell, deliver, or transport an endangered species of fish or wildlife or an endangered species of plant. Any person who knowingly violates the ESA is liable for a criminal fine of up to \$50,000 and up to one year of imprisonment. All other ESA violations, such as reporting violations, are subject to a criminal fine of up to \$25,000 and up to six months imprisonment.

Through FIFRA, mandatory limitations on pesticide use are included on pesticide labels and in county specific use bulletins. If a producer uses pesticides in an area where mandatory limitations exist, they need to follow the directions and limitations contained in the bulletins. Voluntary limitations on pesticide usage may also be employed to protect endangered and threatened species and are contained in interim pamphlets available through EPA or your state department of agriculture.

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<sup>35</sup> 16 U.S.C. § 1531 *et seq.* (1994).

<sup>36</sup> 857 F.2d 1324 (9th Cir. 1988), *cert. denied* 490 U.S. 1114 (1989).

**Producer Note:** The Endangered Species Act can be a powerful tool in the protection of wildlife and its habitat through the imposition of serious criminal and civil penalties for the destruction or harming of protected species. Producers must be aware of any endangered or threatened species existing on their property and take steps to ensure that activities do not harm those species.

## B. Federal Migratory Bird Treaty Act

**Producer Note:** Treaty provisions like those which protect migratory birds will be taken into account by regulatory officials when making certain determinations. For example, these provisions will be considered by an agency when determining whether to grant or deny permits for concentrated animal feeding operations.

The Migratory Bird Treaty Act<sup>37</sup> implements conventions between the United States and Canada, Japan, Mexico, and the former USSR for the protection of migratory birds. Birds protected under the Act are not necessarily endangered. The Act provides that, except as permitted by regulation, it is unlawful to pursue, hunt, take, capture, or kill any migratory bird. Violation of the Act is a misdemeanor with penalties including fines up to \$500 and imprisonment up to six months. Federal courts have split on the question of whether intent must be present in order to impose liability under the Act in cases where birds have been poisoned by pesticides.<sup>38</sup>

## C. State Wildlife Protection Laws and Regulations

**Producer Note:** Many states have additional measures which either enhance protections under federal laws or address issues peculiar to wildlife found within the state. These states also may address common problems caused by wildlife. California has laws protecting wildlife.

The 1997 overhaul of the California Endangered Species Act (CESA) contains changes affecting farmers and developers. The Governor will establish a commission to study the economic impact of protecting candidate, threatened, and endangered species under this chapter. The study will include, but not be limited to, an examination of the cost of regulatory activities, the cost of providing just compensation for any actual or potential taking of private property, as well as the cost of species and habitat decline or loss. The cost will include both public and private costs.

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<sup>37</sup> 16 U.S.C. § 703 *et seq.* (1994).

<sup>38</sup> *See* United States v. Van Fossan, 899 F.2d 636 (7th Cir. 1990) *and* United States v. Rollins, 706 F. Supp. 742 (D.C. Idaho 1989).

For each species identified pursuant to the CESA, the Department of Fish and Game (DFG) will assemble a recovery strategy team consisting of, but not limited to, DFG personnel, other state agency personnel if found by the DFG to be appropriate, federal agency personnel to the extent permitted by federal law if found by the department to be appropriate, representatives of affected local governments, representatives of affected landowners, and representatives of environmental groups, as well as persons who possess scientific expertise. The DFG shall consider information from all persons likely to be affected by the implementation of a recovery strategy.<sup>39</sup>

Protecting fish and wildlife habitats in waters of the state from pollution is a function of the DFG. DFG reports chronic pollution conditions to the appropriate Regional Water Quality Control Board and cooperates in obtaining corrections or abatements to the condition. Any violators are subject to a civil penalty of up to twenty-five thousand dollars (\$25,000) for each violation.<sup>40</sup>

Grazing of livestock is prohibited on any ecological reserve.<sup>41</sup> An ecological reserve is defined as land or land and water areas designated by the Fish & Game Commission to be preserved in a natural condition or provided some level of protection for the benefit of the general public and the scientific or research community.<sup>42</sup>

Local voluntary programs are in place in California under the state laws protecting endangered species to encourage habitat for wildlife through routine ongoing agricultural activities on farms and ranches. Participants in local voluntary programs would be authorized to take species incidental to routine ongoing activities. Accidental taking of species is not prohibited if it resulted from inadvertent or ordinary negligence during routine ongoing activities.

## VII. 1996 FARM BILL

**Producer Note:** This section only discusses the environmental or conservation related provisions of the 1996 Farm Bill.<sup>43</sup> For a more thorough examination of flexibility programs, export programs, dairy marketing, risk management, and other provisions of the 1996 Farm Bill, resources such as the local Farm Service Agency office, a producers' association, or appropriate governmental offices should be consulted.

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<sup>39</sup> See CA. FISH AND GAME CODE § 2099 *et seq.* (WEST 1998).

<sup>40</sup> See CA. FISH AND GAME CODE §§ 5650, 5650.1, 5651 (WEST 1998).

<sup>41</sup> CAL. CODE REGS. TIT. 14, § 630(A)(15) (1998).

<sup>42</sup> CAL. FISH AND GAME CODE § 1584 (West 1998).

<sup>43</sup> Federal Agricultural Improvement and Reform (FAIR) Act of 1996, P.L. 104-127.

## A. Environmental Conservation Acreage Reserve Program

The Environmental Conservation Acreage Reserve Program (ECARP) includes the Conservation Reserve Program (CRP), the Wetlands Reserve Program (WRP), and the Environmental Quality Incentives Program (EQIP). Under ECARP, USDA may designate watersheds, multi-state areas, and regions of special environmental sensitivity as priority areas eligible for enhanced federal assistance. USDA may also designate areas in which it will assist producers in meeting federal, state, and local environmental laws and regulations.

### 1. Conservation Reserve Program

**Producer Note:** The Conservation Reserve Program<sup>44</sup> (CRP) has been reauthorized and extended by the 1996 Farm Bill. Producers who wish to participate in this program may submit an offer to enroll land during specified signup periods. A continuous signup is provided for certain special practices, including filter strips, riparian buffers, shelter belts, grassed waterways, field wind breaks, living snow fences, salt tolerant vegetation and shallow areas for wildlife. The Commodity Credit Corporation (CCC) administers the program through Farm Service Agency (FSA) state and county offices. The owner or operator submits a per acre rental bid. If accepted, the CCC enters into a contract with the owner or operator to convert the land into a conserving use for a minimum of 10 years in return for financial and technical assistance. Conservation plans approved by the local conservation district are required on eligible acreage.

The CRP has been extended through the year 2002 at the current level of enrolled acreage of 36.4 million acres. Under the 1996 Farm Bill, land ownership requirements prior to enrollment have been reduced from three years to one year.

Enrollment in CRP has been actively targeted to the most environmentally cost-effective acres. All offers are ranked competitively, based on an environmental benefits index which takes into account the government cost of the contract, soil erosion, water quality, wildlife habitat, and other costs.

USDA is authorized to allow current participants in the CRP to terminate any CRP contract which was entered into prior to January 1, 1995 with written notice, so long as the contract has been in effect at least five years. This early termination provision does not, however, apply to those enrolled lands which are determined to be of high environmental value.

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<sup>44</sup> Conservation Reserve Program-Long Term Policy, 61 Fed. Reg. 49697-01 (1996) (to be codified at 7 C.F.R. pt. 704 and pt. 1410)(proposed Sep. 23, 1996).

CRP contracts which are not eligible for early termination include:

- ! Contracts entered into after January 1, 1995;
- ! Contracts entered into before January 1, 1995 which are less than five years old;
- ! Land with an erodibility index greater than 15;
- ! Land devoted to useful life easements, field windbreaks, grass waterways, shallow water areas, filter strips, shelter belts, and bottom land timber on wetlands;
- ! Land enrolled under the wetland eligibility criteria; and
- ! Land located within an average of 100 feet of a stream or other permanent water body.

Total acreage placed in the CRP, combined with that placed in the Wetlands Reserve Program (WRP), may not exceed 25 percent of the total cropland of the county. In addition, no more than 10 percent of the cropland in the county can be subject to a CRP or WRP easement. CRP participants must comply with the CRP contract, implement approved conservation plans, establish required vegetative cover or water cover, not produce agricultural commodities or allow grazing or harvesting unless provided by the Secretary under certain conditions on land subject to the contract, comply with state noxious weed laws, and control all weeds, insects, and pests on the land. Additionally, conservation compliance and Swampbuster requirements must be met as a condition of CRP eligibility.

The Conservation Reserve Enhancement Program (CREP) is a part of the CRP which provides financial incentives to farmers and ranchers to take land out of agricultural production. As these agricultural lands have been planted in trees, grass and other types of vegetation, the result has been reduced soil erosion, improved air and water quality and establishment of millions of acres of wildlife habitat. CREP builds upon CRP in several important ways. First, it is designed to address specific state and local concerns since proposals are developed by governors in consultation with local citizens, including farmers and ranchers. Second, CREP is targeted to specific geographic areas of state and national significance, such as restoration of important habitat for endangered plant or animal species. Third, the program's flexibility permits the design of conservation strategies to address specific issues and concerns. Fourth, CREP is results-oriented, requiring both measurable goals and monitoring of annual progress towards those goals.

Under CREP, federal CRP and state resources are combined to provide special financial incentives to farmers and ranchers to help solve agriculture-related environmental problems. In exchange for payments, farmers and ranchers agree to take their most environmentally sensitive

lands out of production for periods of at least 10 years and plant native grasses, trees, or other vegetation, to reduce soil erosion, improve water quality, and provide wildlife habitat. CREP projects have already begun in several states; Illinois, Maryland, Minnesota, New York, North Carolina, Oregon, and Washington. USDA has committed \$170 million to reduce nutrient inflow to the Chesapeake Bay, \$200 million to reduce sedimentation in the Illinois River, and \$163 million to improve the water quality of the Minnesota River, New York to protect drinking water quality for New York City, \$275 million to improve water quality through nutrient management and sediment reduction, and with Oregon and Washington for the protection of dwindling salmon stocks. Arkansas, California, Florida, Georgia, Utah, Wisconsin, and Wyoming are currently developing CREP proposals.

## 2. *Wetlands Reserve Program*

The Wetlands Reserve Program<sup>45</sup> (WRP) has been reauthorized through the year 2002 with a maximum enrollment of 975,000 acres.

**Producer Note:** To participate in the WRP program, a producer may enroll acreage at any time by applying for program participation with the local NRCS office.

Emphasis will be given to enrollment of lands that:

- ! Maximize wildlife benefits;
- ! Maximize the amount of wetlands;
- ! Achieve cost-efficient wetlands restoration; and
- ! Have the least likelihood of being reconverted.

Conservation plans are required for WRP program participation. Eligibility determinations for participation in the program is made by NRCS. In addition, landowners may be provided with 75 percent to 100 percent cost sharing for restoring wetlands under permanent easements, 50 percent to 75 percent for 30-year easements, and 50 percent to 75 percent for restoration cost share agreements.

## 3. *Environmental Quality Incentives Program*

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<sup>45</sup> Wetlands Reserve Program, 61 Fed. Reg. 42137-01 (1996) (to be codified at 7 C.F.R. pt. 620 and pt. 1467).

The Environmental Quality Incentives Program<sup>46</sup> (EQIP) was established by the 1996 Farm Bill to provide a voluntary conservation program for farmers and ranchers who face serious threats to soil, water, and other natural resources. It provides technical, financial, and educational assistance primarily to designated priority areas) half of it targeted to livestock-related natural resource concerns and the remainder to other significant conservation priorities. NRCS has leadership for EQIP and consults with FSA to set the program's policies, priorities, and guidelines.

EQIP works primarily in priority areas where significant natural resource problems exist. In general, priority areas are defined as watersheds, regions, or areas of special environmental sensitivity or having significant soil, water, or related natural resource concerns. These concerns could include soil erosion, water quality and quantity, wildlife habitat, wetlands, and forest and grazing lands. Priority areas are identified through a locally-led conservation process. A local work group comprised of members of the conservation district and FSA county committees, and staff of NRCS, Cooperative State Research, Education, and Extension Service, and other federal, state, and local agencies interested in natural resources conservation identifies program priorities by completing a natural resource needs assessment and, based on that assessment, develops proposals for priority areas. The inclusion of conservation districts helps ensure that the work groups develop and implement conservation programs that fully reflect local needs and priorities. Priority area proposals are submitted to the NRCS State Conservationist, who selects those areas within the state based on the recommendations from the state Technical Committee.

EQIP can also address additional significant statewide concerns that may occur outside designated priority areas. In the first year of the program, at least 65 percent of the funds will be used in designated priority areas and up to 35 percent can be used for other significant statewide natural resource concerns. Additional emphasis is given to areas where state or local governments offer financial or technical assistance and where agricultural improvements will help meet water quality and other environmental objectives.

All EQIP activities must be carried out according to a conservation plan. Conservation plans are site specific for each farm or ranch, and can be developed by producers with help from NRCS or other service providers. Producers' conservation plans should address the primary natural resource concerns. All plans are subject to NRCS technical standards adapted for local conditions and are approved by the conservation district. Producers are not obligated, but are encouraged, to develop comprehensive or total resource management plans.

**Producer Note:** A producer wanting to participate in EQIP may apply at NRCS for an EQIP contract at any time. The contract includes a plan, approved by the local conservation district, that indicates the practices to be applied and the amount of cost share to be received.

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<sup>46</sup> 62 Fed. Reg. 28258 (1997) (to be codified at 7 C.F.R. pt. 1466).

EQIP offers 5- to 10-year contracts that provide incentive payments and cost sharing for conservation practices called for in the site-specific plan. Contract applications will be accepted throughout the year. NRCS conducts an evaluation of the environmental benefits the producer offers. Offers are then ranked and the FSA County Committee approves for funding the highest priority applications. Applications are ranked according to environmental benefits achieved weighed against the costs of applying the practices. Higher rankings are given to plans developed to treat priority resource concerns to a sustainable level.

Cost sharing may pay up to 75 percent of the costs of certain conservation practices, such as grassed waterways, filter strips, manure management facilities, capping abandoned wells, wildlife habitat enhancement, and other practices important to improving and maintaining the health of natural resources in the area. Incentive payments may be made to encourage a producer to perform land management practices such as nutrient management and wildlife habitat management. These payments may be provided for up to three years to encourage producers to carry out management practices they may not otherwise use without the program incentive.

Eligibility is limited to persons who are engaged in livestock or agricultural production. Eligible land includes cropland, rangeland, pasture, forest, and other farm or ranch lands where the program is delivered. Owners of large confined livestock operations are not eligible for cost share assistance for animal waste storage or treatment facilities. However, technical, educational, and financial assistance may be provided for other conservation practices on these large operations.

**Producer Note:** In general, USDA has defined a large confined livestock operation as an operation with more than 1,000 animal units. But, because of differences in operations and environmental circumstances across the country, the definition of a large confined livestock operation may be modified in each state by the NRCS State Conservationist, after consultation with the state Technical Committee and approval of the NRCS Chief.

Conservation practices for natural resource concerns related to livestock will receive 50 percent of the total EQIP funding. Total cost share and incentive payments are limited to \$10,000 per person per year and \$50,000 for the length of the contract.

Four of USDA's conservation programs were combined in EQIP, including the Agricultural Conservation Program, the Water Quality Incentives Program, the Great Plains Conservation Program, and the Colorado River Basin Salinity Control Program.

## **B. Swampbuster, Sodbuster, and Conservation Compliance Programs**

### ***1. Swampbuster***

**Producer Note:** The Swampbuster program has been in place since 1985 and was passed to discourage producers from converting wetlands to croplands and generally encourage landowners to preserve wetland areas. The 1985 law made producers ineligible for farm program participation if wetlands were converted to produce an agricultural commodity after 1985. A 1990 amendment strengthened the program by making conversion alone even without cropping a swampbuster violation. USDA implements Swampbuster regulations and the NRCS is the primary agency involved in ensuring compliance with Swampbuster provisions.

Wetland conservation provisions, known as Swampbuster, are continued under the 1996 Farm Bill. Wetland mitigation is allowed through restoration, enhancement, or creation so long as wetland functions are maintained. When a violation of the Swampbuster program occurs, USDA has the discretion to waive the penalty of ineligibility for USDA program benefits if USDA determines the person acted in good faith and without intent to violate the Swampbuster provisions.

Abandoned prior converted wetlands and farmed wetlands are not subject to Swampbuster so long as the use of those lands is limited to agricultural purposes. USDA is authorized to identify categories of actions that constitute minimal effects. Finally, prior wetland determinations will be reviewed for accuracy.

The 1996 Farm Bill made other changes in the Swampbuster program which include:

- ! Expansion of areas in which mitigation can be used, allowing individuals to work with producers, conservation districts, and other relevant entities;
- ! More options for mitigation, including restoration, enhancement, or creation;
- ! Natural Resources Conservation Service (NRCS), based upon recommendations of the state technical committee, may identify practices that have a minimal effect on the environment and may put them on fast track determination; and
- ! Wetland conversion activities authorized by a section 404 permit which make agricultural production possible will be accepted for Swampbuster program purposes if the permitted activities were adequately mitigated.

**Producer Note:** Prior converted cropland is a converted wetland where the conversion occurred prior to December 23, 1985, and an agricultural commodity had been produced at least once before December 23, 1985.

In addition, the 1996 Farm Bill expands the definition of agricultural land contained in the Interagency Wetlands Memorandum of Agreement<sup>47</sup> to include cropland, pasture land, tree farms, rangeland, native pasture land, and other land used for livestock production, placing NRCS in charge of making delineation decisions.

**Producer Note:** Interim regulations implementing Swampbuster changes found in the 1996 Farm Bill are already in effect. Producers must make themselves aware of the new Swampbuster regulations by obtaining copies from NRCS or USDA offices and should keep themselves informed of regional wetlands issues.

## 2. *Sodbuster*

**Producer Note:** The Sodbuster program also began with the 1985 Farm Bill. These programs were designed to conserve highly erodible land brought into crop production. Under Sodbuster, producers are ineligible for farm program payments unless conservation systems are applied on the land that achieve tolerable levels of soil erosion. Highly erodible land determinations are made by NRCS.

The highly erodible lands conservation program, known as Sodbuster, is retained under the Farm Bill. A new provision states that if CRP lands are returned to production, those lands cannot be required to meet a higher conservation standard than that applied to other highly erodible cropland located within the same area.

In addition, a wind erosion pilot project is established under the 1996 Farm Bill. The pilot project is for producers in selected counties which have nearly 100 percent of their cropland designated as highly erodible and where wind erosion factors are likely to have caused inequitable application of highly erodible land factors to that cropland. In this circumstance, the cropland must be redelineated.

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<sup>47</sup> NATURAL RESOURCE CONSERVATION SERVICE, INTERAGENCY WETLANDS MEMORANDUM OF AGREEMENT (1994). NRCS has the primary responsibility for interagency coordination and NRCS can distribute copies of the Memorandum of Agreement.

### 3. *Conservation Compliance*

**Producer Note:** Conservation compliance provisions of the 1985 and 1990 Farm Bills were continued under the 1996 Farm Bill. These provisions required the producer to have a plan approved by NRCS and implemented by the producer to address highly erodible cropland to remain eligible for certain USDA program benefits. These plans are continued by the 1996 Farm Bill, with some changes. The term conservation plan describes the conservation systems or practices relative to the location, use, tillage system, and treatment measures used to improve soil condition.

Under the 1996 Farm Bill, after consultation with local conservation districts, USDA is required to establish expedited procedures to grant temporary variances in conservation plans, formerly referred to as conservation compliance plans. Decisions on variances must be made within 30 days or the request will be considered granted.

County committees may provide for appropriate relief where application of a conservation system would impose an undue economic hardship on the producer. This discretion is allowed upon consideration of the use of variances and exemptions.

Public notice of future changes in the technical standards affecting conservation compliance, Swampbuster, and CRP programs are also required. If a person has acted in good faith and without any intent to violate the law, up to one year can be provided for that person to actively apply conservation plans for the farm. This action will help ensure that penalties are in proportion to violations.

USDA employees are directed under the 1996 Farm Bill to work with landowners to whom they are providing onsite technical assistance to correct an observed potential compliance problem. Landowners have up to one year to take corrective action before the violation will be reported. Farmers are encouraged to maintain records of residue measurement, including those provided by third parties. These measurements can be used to determine erosion levels on annual review.

#### C. **Other Conservation Programs**

**Producer Note:** Many additional conservation programs were created under the 1996 Farm Bill. Producers must contact the local NRCS or USDA field office in order to obtain specific program regulations, applications for participation, technical assistance, and plan requirements. Some programs provide cost share payments.

### ***1. Conservation Farm Option***

The 1996 Farm Bill established a pilot program for producers of wheat, feed grains, upland cotton, and rice with market transition contract acreage. Under the Conservation Farm Option (CFO), the producer must develop and implement a conservation farm plan. Conservation farm contracts are for 10 years and can be extended for an additional five years. In exchange for payments under the CFO, the producer must forego payments in the CRP, WRP, and EQIP programs. The total payment for participation in CFO is the same as if the producer had received separate payments under each program, in addition to production flexibility contract payments.

### ***2. Flood Risk Reduction***

Contracts may be entered into with producers who have contract acreage that is frequently flooded. Participants will receive 95 percent of their market transition contract payments. The Secretary may also provide 95 percent of projected crop insurance payments. Participants agree not to receive any contract payments, commodity loans, crop insurance, conservation program payments, or any disaster program payments on the flood risk reduction acreage.

### ***3. Farmland Protection Program***

USDA is authorized to purchase easements or other interests in land with prime, unique, or other productive soils if those lands are subject to a pending offer by state or local governments to acquire the land for farmland protection purposes. Easements or other interests on 170,000 to 340,000 acres are allowed. To date, USDA has provided \$35 million to California, Colorado, Connecticut, Delaware, Florida, Kentucky, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Virginia, Vermont, Washington, and Wisconsin to help purchase development rights from farmers to keep productive farmland in production.

### ***4. Wildlife Habitat Incentives Program***

The Wildlife Habitat Incentives Program (WHIP) authorizes \$50 million in funding through the year 2002 to establish a program to make cost share payments to landowners in order to implement wildlife habitat improvement activities. In order to receive cost share payments, the landowner must submit a wildlife habitat development plan. The WHIP program, in addition to providing payments, is designed to provide technical assistance to landowners, provide education regarding wildlife needs, and foster a positive public attitude regarding wildlife, wildlife habitat, and land stewardship.

### ***5. Conservation of Private Grazing Land***

Federal personnel are to be made available for technical assistance through the Conservation of Private Grazing Land program. The purpose of the program is to promote

conservation and enhancement of natural resources on private lands. NRCS offices will administer the program and development of a conservation plan is required for participation.

## 6. *Commodity Credit Corporation Uses*

Under the 1996 Farm Bill, the Commodity Credit Corporation (CCC) Charter Act is revised to allow the use of CCC funds for authorized conservation programs. This action is intended to reduce the necessity for annual appropriations to carry out conservation programs.

## 7. *Air Quality*

The 1996 Farm Bill authorizes a task force on agricultural air quality with NRCS as the chair of the task force. This task force has been established and members appointed. The task force charter establishes the duties of the task force as advising the Secretary of Agriculture “on research efforts related to agricultural air quality, the extent to which agricultural activities contribute to air pollution, and cost-effective means in which the agricultural industry can improve air quality.

## VIII. OTHER STATE STATUTES AFFECTING AGRICULTURE

**Producer Note:** Many other state statutes have the potential of impacting agricultural operations and their relationship to the environment. The following is a brief discussion of state laws in California.

### A. **Plant Pest Quarantine Program**

The California Department of Food and Agriculture (CDFA), Division of Plant Industry, Pest Exclusion Branch, administers a quarantine program meant to keep dangerous plant pests out of California. Prevention and limitation of intrastate movement of newly discovered plant pests is also a purpose of the program. USDA and state permits are required for the importation of certain restricted plant material. The CDFA only restricts the importation or planting of agricultural products when they fail to meet quarantine requirements, or they are infested with quarantine pests.<sup>48</sup>

**Producer Note:** Contact the office for Permits and Regulations, Pest Exclusion Branch of the CDFA Division of Plant Industry, or the County Agricultural Commissioner with questions regarding the Plant Pest Quarantine Program.

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<sup>48</sup> CAL. CODE REGS. TIT. 3, § 3250 *et seq.*(1998).

## B. Dead Animal Disposal

The carcasses of animals with any contagious disease must be properly disposed of, to prevent the spread of disease:<sup>49</sup>

- ! Any person that has the care or control of any animal that dies from any contagious disease shall immediately cremate or bury the animal.
- ! An animal which has died from any contagious disease shall not be transported, except to the nearest crematory. The transportation of the animal to the crematory shall be pursuant to such regulations as the CDFA may adopt.
- ! An animal which has died from any contagious disease shall not be used for the food of any human being, domestic animal, or fowl.

Animal carcasses from confined animal operations must be collected, stored, and removed from the property to an approved processing facility or disposal site prior to the creation of adverse public health/well-being conditions, or processed or disposed of on the property in an approved manner. Animal carcasses from animals on pasture or rangeland shall be managed so as to prevent the creation of excessive vectors or other adverse public health/well-being conditions.<sup>50</sup>

## C. Reclaimed Water Use

Waste water is increasingly reclaimed and reused due to requirements of water conservation. Regional Water Quality Control Boards (RWQCBs) set reclamation requirements for individual water reclamation projects. There are general guidelines, such as those for surface irrigation of food crops which require an adequately disinfected, oxidized wastewater. Orchards and vineyards may be surface irrigated with reclaimed water that has the quality at least equivalent to that of primary effluent provided that no fruit is harvested that has come in contact with the irrigating water or the ground. Exceptions to the quality requirements for reclaimed water used for irrigation of food crops may be considered by the State Department of Health on an individual case basis where the reclaimed water is to be used to irrigate a food crop which must undergo extensive commercial, physical or chemical processing sufficient to destroy pathogenic agents before it is suitable for human consumption.<sup>51</sup>

<p><b>Producer Note:</b> Producers should contact the local RWQCB with questions regarding reuse of wastewater.</p>
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<sup>49</sup> CA. FOOD AND AGRICULTURAL CODE § 9141 *et seq.* (WEST 1998).

<sup>50</sup> CAL. CODE REGS. TIT. 14, § 17823.5 (1998).

<sup>51</sup> CAL. CODE REGS. TIT. 22, § 60301 *et seq.* (1998).

## D. Composting

“Composting” as the law permits involves the microbial degradation of organic wastes yielding a safe and nuisance free product. Biological decomposition of organic material can be both a naturally occurring or artificially controlled process. California has standards and regulatory requirements for intentional and inadvertent composting resulting from the storage or handling of feedstock, compost, or chipped and ground materials. The Integrated Waste Management Board (IWMB) administers the Integrated Solid Waste Management Act of 1989, and sets minimum standards for composting operations.<sup>52</sup> Generally, the regulations for smaller, lower risk facilities are less burdensome and strict than those for larger agricultural operations.

**Producer Note:** No owner, operator, or designee is exempt from the obligation of obtaining all required permits, licenses, or other clearances and complying with all orders, laws, regulations, or reports, or other requirements of other regulatory or enforcement agencies, including local health entities, regional water quality control boards, air quality management districts or air pollution control districts, local land use authorities, and fire authorities.

## E. Agricultural Land Conservation

The Department of Conservation (Department) is responsible for farmland mapping and monitoring of the amount and type of land converted to and from agricultural use on a county and statewide basis.<sup>53</sup> Resource Conservation Districts (RCDs) throughout California are involved in erosion control and watershed enhancement projects. Development restrictions are authorized through the Williamson Act<sup>54</sup>

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<sup>52</sup> CAL. CODE REGS. TIT. 14, § 17850 *et seq.* (1998).

<sup>53</sup> CAL. GOV. CODE § 65570(b) *et. seq.* (1998).

<sup>54</sup> CAL. GOV. CODE § 51230 *et. seq.*; CAL. REV. AND TAX CODE § 420 *et seq.* (1998).

## Appendix A - Agencies

**Producer Note:** State and federal agencies are available to answer questions regarding environmental matters and a producer's compliance with environmental laws and regulations. The following is a list of organizations which should be able to answer questions or provide materials for a producer.

### State of California

Sacramento, CA 95814  
(916) 654-0433, fax (916) 654-0403  
<http://www.cdffa.ca.gov>

**California's state agency index on the Internet:**  
<http://www.ca.gov/s/search/hello.html>

**Department of Health Services**  
General Information (916) 445-4171

**Air Pollution Control Districts:** (Contact California Air Resources Board)

**Office of Public Affairs**  
714/744 P Street  
P.O. Box 942732  
Sacramento, CA 94234-7320  
(916) 657-3064, fax (916) 657-0240

**Air Resources Board,** Office of Communications  
2020 L Street  
Sacramento, CA 95814  
(916) 322-2990, fax (916) 445-5025  
e-mail [helpline@arb.ca.gov](mailto:helpline@arb.ca.gov)

**Department of Pesticide Regulation**  
1020 N Street  
Sacramento, CA 95814-5624  
(916) 445-4300

**CalFed Bay-Delta Program**  
1416 Ninth Street, room 1155  
Sacramento, CA 95814  
(916) 657-2666

**Department of Toxic Substances Control**  
400 P Street  
Sacramento, CA 95814  
(916) 324-1826

**Cal/OSHA**  
45 Fremont Street, room 1110  
San Francisco, CA 94105  
(415) 972-8565  
<http://www.dir.ca.gov/DIR/OS&H/DOSH/dosh1.html>

**Department of Water Resources**  
P.O. Box 21900  
Sacramento, CA 95821-9000  
(916) 574-2672, fax (916) 574-2791

**County agricultural commissioners:** (contact Department of Pesticide Regulation)

**Environmental Protection Agency**  
Cal/EPA Communications Office  
555 Capitol Mall, suite 525  
Sacramento, CA 95814  
(916) 445-3846  
general environmental information:  
(800) 808-8058 (California only), or (916) 327-1848

**Department of Conservation**  
801 K Street, MS 24-07  
Sacramento, CA 95814  
(916) 323-1886

**Department of Fish and Game**  
1416 9th Street  
Sacramento, CA 95814  
24 hour emergency communications (916) 445-0045  
general information (916) 653-7664  
CalTIP (888) DFG-CALTIP

**Integrated Waste Management Board**  
8800 Cal Center Drive  
Sacramento, CA 95826  
(916) 255-2480

**Department of Food and Agriculture**  
1220 N Street, Room 409

**Legislative Counsel**

e-mail [comments@leginfo.public.ca.gov](mailto:comments@leginfo.public.ca.gov)

**Public Utilities Commission**

505 Van Ness Avenue  
San Francisco, CA 94102  
(415) 703-2782

**Southern California office**

107 S. Broadway  
Los Angeles, CA 90012  
(213) 897-2973

**Regional Water Quality Control Boards:**

**North Coast (Region 1)**

555 Skylane Blvd., suite A  
Santa Rosa, CA 95403  
(707) 576-2220, fax (707) 523-0135

**San Francisco Bay (Region 2)**

2101 Webster Street, suite 500  
Oakland, CA 94612  
(510) 286-1255, fax (510) 286-1380

**Central Coast (Region 3)**

81 Higuera Street, suite 200  
San Luis Obispo, CA 93401-5427  
(805) 549-3147, fax (805) 543-0397

**Los Angeles (Region 4)**

101 Centre Plaza Drive  
Monterey Park, CA 91754-2156  
(213) 266-7500, fax (213) 266-7600

**Central Valley (Region 5)**

**Fresno office**

3614 East Ashlan Avenue  
Fresno, CA 93726  
(209) 445-5116, fax (209) 445-5910

**Redding office**

415 Knollcrest Drive  
Redding, CA 96002  
(916) 224-4845, fax (916) 224-4857

**Sacramento office**

3443 Routier Road, suite A  
Sacramento, CA 95827-3098  
(916) 255-3000, fax (916) 255-3015

**Lahontan (Region 6)**

**South Lake Tahoe office**

2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA 96150  
(916) 542-5400, fax (916) 544-2271

**Victorville office**

15428 Civic Drive, suite 100  
Victorville, CA 92392  
(760) 241-6583, fax (760) 241-6583

**Colorado River Basin (Region 7)**

73-720 Fred Waring Drive, suite 100  
Palm Desert, CA 92260  
(619) 346-7491, fax (619) 341-6820

**Santa Ana (Region 8)**

3737 Main Street, suite 500  
Riverside, CA 92501-3339  
(909) 782-4130, fax (909) 781-6288

**San Diego (Region 9)**

9771 Clairemont Mesa Blvd., suite B  
San Diego, CA 92124  
(619) 467-2952, fax (619) 571-6972

**Water Resources Control Board**

901 P Street  
Sacramento, CA 95814, or  
P.O. Box 100  
Sacramento, CA 95812-0100  
(916) 657-1247, fax (916) 657-1258

**Natural Resources Conservation Service**

2121-C 2<sup>nd</sup> St., Suite 102  
Davis, CA 95616-5475  
(530) 757-8215, fax (530) 757-8379

**National Association of State Departments of Agriculture**

1156 15th Street, N.W.  
Suite 1020  
Washington, D.C. 20005  
(202) 296-9680  
<http://www.nasda-hq.org/>

**Natural Resource Conservation Service**

United States Department of Agriculture  
14th Street and Independence Avenue, S.W.  
Washington, D.C. 20250  
(202) 720-4525  
<http://www.ncg.nrcs.usda.gov/>

**U.S. Army Corps of Engineers, Headquarters**

Casimir Pulaski Building  
20 Massachusetts Avenue, N.W.  
Washington, D.C. 20314-1000  
(202) 761-0660

**U. S. Department of Agriculture**

14th Street and Independence Avenue, S.W.  
Washington, D.C. 20250  
(202) 720-2791  
<http://www.usda.gov/>

**U.S. Environmental Protection Agency,  
for Region IX**

71 Stevenson Street, room 420  
San Francisco, CA 94105  
(415) 744-6670

**U.S. Environmental Protection Agency**

401 M Street, S.W.  
Washington, D.C. 20460  
(202) 260-2080  
<http://www.epa.gov/>

## Appendix B - Glossary

**Producer Note:** The following definitions are included to further define information discussed in this document. The glossary includes only terms which were not previously defined in the text.

**10-year, 24-hour storm:** A rainfall event of 24-hour duration and 10 year frequency that is used to calculate the runoff volume and peak discharge rate to a BMP.

**25 year, 24-hour storm:** A rainfall event of 24-hour duration and 25-year frequency that is used to calculate the runoff volume and peak discharge rate to a BMP.

**Animal unit:** A standard measure based on feed requirements, used to combine various classes of livestock according to size, weight, age, and use.

**Aquaculture:** The production of aquatic plants or animals in a controlled environment, such as ponds, raceways, tanks, or cages, for all or part of their life cycle. In the United States, baitfish, catfish, clams, crawfish, freshwater prawns, mussels, oysters, salmon, shrimp, tropical (or ornamental) fish, and trout account for most of the aquacultural production. Less widely established but growing species include alligator, hybrid striped bass, carp, eel, red fish, northern pike, sturgeon, and tilapia.

**Aquifer:** A geologic formation or structure that transmits water in sufficient quantity to supply the needs for a water development; usually saturated sands, gravel, fractures, and cavernous and vesicular rock.

**Best management practice (BMP):** A practice or combination of practices that are determined to be the most effective and practicable (including technological, economic, and institutional considerations) means of controlling point and nonpoint pollutants at levels compatible with environmental quality goals.

**Chemigation:** The addition of one or more chemicals to the irrigation water.

**Composting:** A controlled process of degrading organic matter by microorganisms.

**Conservation:** The continuing protection and management of natural renewable resources, like soil, water, wildlife, and forests, in accordance with principles that assure their optimum economic and social enjoyment.

**Conservation compliance:** A provision authorized by the Food Security Act of 1985 that required farmers with highly erodible cropland to implement an approved conservation plan by 1990. Implementation of the plan was tied to eligibility for federal USDA program benefits.

**Conservation easement:** A legal interest granted for the purpose of restricting how property is used in order to protect various environmental or natural resource values.

**Conservation practices:** Methods which protect or improve the soil, water, or related natural resources. Major conservation practices include conservation tillage, crop rotation, contour farming, stripcropping, terraces, diversions, and grassed waterways.

**Constructed wetland:** Engineered systems designed to simulate natural wetlands to exploit the water purification value for human use and benefits. Constructed wetlands consist of former upland environments that have been

modified to create poorly drained soils and wetlands flora and fauna for the primary purpose of contaminant or pollutant removal from wastewaters or runoff.

**Cooperative Extension Service:** In general terms, a system of state, local, and federal organizations working together to provide a practical educational network linking research, science, and technology to the needs of people where they live and work. The Cooperative Extension Service provides educational services outside the classroom on agriculture, household management, nutrition, and other topics. States participate mostly through their land grant universities, while the federal partner is the USDA's Cooperative State Research, Education, and Extensions Service. Other partners are the Extension professionals in nearly all of the nation's 3,150 counties and thousands of paraprofessionals and nearly 3 million volunteers.

**Diversion:** A channel, embankment, or other man-made structure constructed to divert water from one area to another.

**Ecosystem:** The complex of a community and its environment functioning as an ecological unit in nature; a basic functional unit of nature comprising both organisms and their nonliving environment, intimately linked by a variety of biological, chemical, and physical processes.

**Effluent:** Solid, liquid, or gaseous wastes that enter the environment as a by-product of man-oriented processes.

**Environmental audit:** The process of investigating the environmental status and history of a property to determine if it complies with applicable environmental laws and whether it contains any sources of potential environmental liability.

**Erosion:** Wearing away of the land surface by running water, glaciers, winds, and waves. The term erosion is usually preceded by a definitive term denoting the type of erosion such as gully erosion, sheet erosion, wind erosion, or bank erosion.

**Farm Bill:** Major omnibus agricultural legislation, usually enacted every four or five years. The bill usually includes provisions on commodity programs, trade, conservation, credit, agricultural research, food stamps, and marketing.

**Fertilizer:** Any organic or inorganic material of natural or synthetic origin that is added to a soil to supply elements essential to plant growth.

**Generally Accepted Agricultural Management Practices (GAAMPs):** A form of right-to-farm law which gives nuisance protection to farms using GAAMPs as established by the state or common agricultural practices in the area.

**Groundwater:** Water beneath the earth's surface between saturated soil and rock that supplies wells and springs.

**Habitat:** The place where an organism naturally lives or grows.

**Hazardous waste:** Any waste or combination of wastes which pose a substantial present and potential hazard to human health or living organisms.

**Herbicide:** A chemical substance designed to kill or inhibit the growth of plants, especially weeds.

**Highly erodible land:** Land that has an erodibility index of greater than eight. This index is based on a soil's inherent tendency to erode from rain or wind in the absence of cover crop or other conservation practices. The erodibility index is based on factors from the Universal Soil Loss Equation (USLE) and the Wind Erosion Equation

(WEE), along with a soil's T-value, which is a measure of the amount of erosion in tons per year that a soil can tolerate without losing productivity. For most cropland soils, T values fall in the range of three to five tons per acre.

**Holding pond:** A reservoir, pit, or pond, usually made of earth, used to retain polluted runoff water for disposal on land.

**Insecticide:** A pesticide compound specifically used to kill or control the growth of insects.

**Irrigation:** Application of water to lands for agricultural purposes.

**Lagoon:** A reservoir or pond built to contain water and animal wastes until they can be decomposed either by aerobic or anaerobic action.

**Leachate:** Liquids that have percolated through a soil and that contain substances in solution or suspension.

**Manure:** The fecal and urinary defecations of livestock and poultry; may include spilled feed, bedding, or soil.

**Nonpoint source pollution:** Pollution that enters the environment from nonspecific areas via water runoff from a field or feedlot, such as areas in which fertilizers or other chemicals have been applied or animal manure is deposited, rather than from concentrated discharge points.

**Noxious weeds:** Undesirable plant species, excepting those protected by the Endangered Species Act of 1973, that are considered harmful, exotic, injurious, or poisonous and are targeted for control management under state and federal law. The Secretary of Agriculture may provide cost-sharing assistance to state and local agencies to manage noxious weeds in an area if a majority of the landowners in that area agree to participate in a noxious weed management program.

**Nuisance:** An offensive, annoying, unpleasant, or obnoxious thing or practice; a cause or source of annoyance, especially a continuing or repeated invasion or disturbance of another's right, or anything that works a hurt, inconvenience, or damage. Nuisances are commonly classified as public, private, or mixed.

**Nutrients:** Elements or compounds essential as raw materials for organism growth and development, such as carbon, nitrogen, and phosphorus.

**Pesticides:** Chemicals used by farmers to control plant and animal pests, including herbicides, insecticides, fungicides, nematicides, and rodenticides; to regulate plant growth; or to simplify harvest.

**Point source pollution:** From the Clean Water Act, meaning a source of pollution from "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."

**Pollutant:** Dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.

**Prescribed burning:** Controlled application of fire to wild-land fuels in either their natural or modified state, under such conditions of weather, fuel moisture, and soil moisture as allow the fire to be confined to a predetermined area and at the same time to produce the intensity of heat and rate of spread required to further planned objectives of silviculture, wildlife management, grazing, and fire-hazard reduction.

**Return flow:** That portion of the water diverted from a stream that finds its way back to the stream channel either as surface or underground flow.

**Right-to-Farm:** Protection from nuisance suits for existing agricultural operations, so long as the agricultural operations meet specific requirements. Generally, an operation is required to have been in existence before the change in the area which resulted in the nuisance suit (the farmer/rancher was there first), and the nuisance must not have been created by the farmer's actions.

**Rill erosion:** Erosion which leads to the land becoming scoured and soil removed so that small channels, or rills, remain.

**Riparian rights:** Legal water rights of a person owning land containing or bordering on a water course or other body of water in or to its banks, bed, or waters.

**Runoff:** That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface water. It can carry pollutants from the air and land into the receiving waters.

**Sediment:** The product of erosion processes; the solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice.

**Seepage:** Water escaping through or emerging from the ground along an extensive line or surface as contrasted with a spring, where the water emerges from a localized spot.

**Sheet erosion:** Erosion which leads to a generally uniform removal of topsoil over all of a field as a result of strong rains.

**Soil:** A dynamic natural body composed of mineral and organic materials and living forms in which plants grow on the surface of the earth. In the U.S. there are about 70,000 kinds of soil recognized in a nationwide system of soil classification.

**Soil Conservation District:** A legal subdivision of state government, with a locally-elected governing body, responsible for developing and carrying out a program of soil and water conservation within a geographic boundary usually coinciding with county lines. The nearly 3,000 districts (also called soil and water conservation districts, natural resources districts, resource conservation districts, resources districts, and conservation districts) provide assistance to producers and landowners.

**Solid waste:** Generally, any garbage, refuse, sludge from a waste supply treatment plant or air pollution control facility, and other discarded material.

**Surface water:** All water whose surface is exposed to the atmosphere.

**Underground storage tank:** Any one of a combination of tanks, including connected underground pipes, which is used to contain an accumulation of regulated substances, and the underground volume is 10 percent or more.

**Vegetated buffer:** Strips of vegetation separating a waterbody from a land use that could act as a nonpoint pollution source. Vegetated buffers are variable in width and can range in function from vegetated filter strip to wetlands or riparian areas.

**Vegetated filter strip:** Created areas of vegetation designed to remove sediment and other pollutants from surface water runoff by filtration, deposition, infiltration, adsorption, decomposition, and volatilization. A vegetated filter

strip is an area that maintains soil aeration as opposed to a wetland, which at times exhibits anaerobic soil conditions.

**Vegetative cover:** Trees or perennial grasses, legumes, or shrubs with an expected lifespan of five years or more.

**Waste:** Material that has no original value or no value for the ordinary or main purpose of manufacture or use; damaged or defective articles of manufacture; a superfluous or rejected matter or refuse.

**Watershed:** A drainage area or basin in which all land and water areas drain or flow toward a central collector such as a stream, river, or lake at a lower elevation. The United States is generally divided into 18 major drainage areas and 160 principal river drainage basins containing some 12,700 smaller watersheds.

**Waterway:** A natural or artificially constructed course for the concentrated flow of water.

**Wetlands:** Land that is characterized by an abundance of moisture and that is inundated by surface or groundwater often enough to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

**Zoning:** The division of an area by legislative regulation into districts and the prescription and application in each district of regulations having to do with structural and architectural designs of buildings and of regulations prescribing uses to which buildings within designated districts may be put.

## Appendix C - Authors

**John D. Copeland** was the Director of the National Center for Agricultural Law Research and Information and Research Professor at the University of Arkansas School of Law, Fayetteville. His teaching duties concentrated on insurance law, workers' compensation, agricultural law, and the regulation of agricultural lands. He received his Juris Doctor degree (J.D.) from Southern Methodist University and his Master of Laws degree (LL.M.) in Agricultural Law from the University of Arkansas, Fayetteville. He also has a Doctorate in the Administration of Higher Education (Ed. D.) from the University of Arkansas. Professor Copeland has extensive agricultural law and insurance defense litigation experience. He has authored numerous books and law review and journal articles on such topics as agricultural cooperatives, bankruptcy, employer-employee relations, environmental law, liability insurance coverage, products liability, sex discrimination, workers' compensation, and zoning. A frequent seminar speaker, Dr. Copeland is currently Director of Corporate Ethics and Compliance for Tyson Foods, Inc.

**Janie Simms Hipp** is Interim Director of the National Center for Agricultural Law Research and Information and Assistant Research Professor of Law at the University of Arkansas School of Law, Fayetteville. Ms. Hipp received her Juris Doctor degree (J.D.) from Oklahoma City University and her Master of Laws degree (LL.M.) in Agricultural Law from the University of Arkansas, Fayetteville. Her teaching duties concentrate on agricultural law and administrative law. Ms. Hipp has authored several agricultural law publications on a variety of issues and is a frequent speaker on agriculture and environmental law topics.

**Teena G. Gunter** received a Bachelor of Arts (B.A.) degree in English from Abilene Christian University, Abilene, Texas, and received her Juris Doctor (J.D.) degree from the University of Arkansas School of Law, Fayetteville. She is licensed in the State of Arkansas and worked as a sole practitioner in Fayetteville, Arkansas. She is a staff attorney at the National Center for Agricultural Law Research and Information and teaches paralegal courses at Remington College in Fayetteville. A member of the Arkansas Bar Association, the American Bar Association and the American Agricultural Law Association, Ms. Gunter is presently with the office of the Oklahoma State Attorney General.

**William Loomis** was a student in the Graduate Agricultural Law Program at the University of Arkansas School of Law. He received an LL.M. in Agricultural Law in May of 1997. He was formerly in private practice in Washington and Idaho where he was involved in primarily commercial law, real estate and civil litigation. He graduated from the University of Idaho School of Law and served as Notes and Comments Editor on Law Review. Prior to attending law school, he received a Masters Degree in Business Administration from the University of Washington.

**Henry H. Wood** received his Juris Doctor (J.D.) and his Master of Business Administration (M.B.A.) degrees from the University of Arkansas, Fayetteville. He is licensed in the State of Arkansas and worked as a sole practitioner in Fayetteville. He was a staff attorney at the National Center for Agricultural Law Research and Information, a student in the Graduate Agricultural Law Program at the University of Arkansas School of Law, and received his Master of Laws (LL.M.) degree in Agricultural Law in 1998. Mr. Wood is now practicing law in Tucson, Arizona.