Poor Agricultural Practices and Runoff

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Poor agricultural practices can result in significant impacts to lakes, streams and groundwater. Water flowing over agricultural land, whether from rain, irrigation or flooding, carries pollutants to the nearest water body. This water can also seep into the ground, leaching pollutants into ground water. Sometimes the ground acts as a filter, taking pollutants out of the water as it travels through. Eventually, though, many of the pollutants can reach a surface water body. Agricultural pollutants that are carried to the water via runoff can include sediment, pesticides, fertilizers, bacteria, oils, grease and solvents. The result can be that elevated levels of suspended solids (that carry pollutants or clog valuable gravel habitat), nitrogen and phosphorus, synthetic organic chemicals (often toxic and bioaccumulative) and heavy metals are found in the receiving waters.

Poor agricultural practices that can contribute to impairment of water bodies include removal of protective vegetative riparian buffers, excessive or detrimental pesticide and fertilizer application, lack of soil conservation, wetland destruction, excessive or wasteful irrigation and poor maintenance of farm equipment.

In 2001, the Ninth U.S. Court of Appeals ruled that the Clean Water Act requires a NPDES permit when an herbicide is applied directly to a drainage ditch (Headwaters, Inc. v. Talent Irrigation Dist., 243 F.3d 526 (9th Cir.-Or.2001)). In another case, the Ninth Circuit again required a NPDES permit for pesticide application, this time for U.S. Forest Service aerial spraying of trees and waterways (League of Wilderness Defenders v. Forsgren, 309 F.3d 1181 (9th Cir.-Or.2002)).

U.S. EPA (http://www.epa.gov/owow/nps/agriculture.html)
Prairie Rivers Network (http://www.prairierivers.org/Projects/Runoff/index.html)

Using the Clean Water Act

- **Water quality standards** — Identify the existing and designated uses downstream of agricultural land. Which uses are the most sensitive to polluted runoff from agricultural practices? To protect those uses, identify water quality criteria for temperature, bacteria, sediment (total suspended solids), nitrogen and phosphorus, dissolved oxygen, pesticides and fertilizers used in the basin, habitat, streamflow and biology. Evaluate whether the criteria are stringent enough to protect existing and designated uses. (Chapter 1)
- **303(d) list** — Do the water bodies draining agricultural areas in your watershed support uses and meet water quality criteria? If not, or if they are threatened, make sure they are on the 303(d) list for the appropriate pollutants, problems and threats. (Chapter 3)
- **TMDL process** — Is there a TMDL scheduled or in progress in your watershed? Are poor agricultural practices included as sources of the impairments? Are there reasonable assurances that agricultural practices will be improved to help meet water quality standards? If not, encourage your agency to establish them. (Chapter 3)
- **NPDES** — Due to recent court decisions, NPDES permits are required for pesticide application to irrigation ditches and aerial pesticide spraying. Find out whether your state has or is developing a pesticide NPDES permit. If it is, get involved in the permitting process. If not, find out how it plans to address the court decisions. (Chapter 2)
- **Section 319** — This section of the Clean Water Act authorizes money to the states for projects that address nonpoint source pollution. Ask your state water quality agency about how to apply for a 319 grant to address agricultural runoff in your watershed. (Chapter 6)

Using other laws (Chapter 10)

- **CZMA/CZARA** (p. 187) — Amendments to the Coastal Zone Management Act require control of nonpoint source pollution in the "coastal zone," including agricultural runoff. If you are in a coastal state, find out whether your state applies the provisions of this law to agricultural practices in coastal watersheds. Many states are applying this law broadly beyond immediate coastal areas.
- **SDWA** (p. 183) — Is the surface water or groundwater downstream of agricultural lands used or designated for drinking? If so, it is likely that human health concerns will provide leverage to ensure that poor agricultural practices are addressed. The nitrogen, pathogens and sediment flowing from agricultural lands can cause serious problems to your drinking water. Identify the risks and talk to the agency in charge of developing the Source Water Assessment for your watershed. Be sure that the agricultural risks to drinking water sources are included in the assessment and considered by your drinking water provider.
- **CREP/Farm Bill** (p. 188) — The Conservation Reserve Enhancement Program provides federal money to farmers willing to set aside farmland for conservation and protection. These resources can be instrumental in addressing agricultural runoff. Find out whether any money has been directed toward your watershed, and encourage use of the program, especially to implement TMDLs.
- **Local land use laws** — Are the agricultural activities occurring in an area that is zoned accordingly? Study local ordinances to learn what activities are and are not allowed.
- **ESA** (p. 186) — Are there threatened or endangered species in your watershed? If so, you have another tool for protecting against the damaging effects of poor agricultural practices and runoff. The Endangered Species Act prohibits any activity that would result in harmful impacts to the species or its habitat.