

Impact of Water Quality Regulations on Horticultural Production

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Water quality laws and regulations began specifically with California's Porter-Cologne Act of 1969. As with many environmental laws, this California act set the stage for federal water quality regulation. In 1972, the federal government passed the Clean Water Act, which provided the basis for regulation of point sources of pollution, or water pollution originating from an easily identified source, such as the end of a pipe. Some success was achieved, but water quality problems still persisted. In the late 1980's, the federal government amended the Clean Water Act, to include nonpoint source pollution, or water pollution that has no easily identified source.

It is the responsibility of state and local governments to uphold the federal Clean Water Act, and in doing so, they must provide regulatory actions against those contributing to water pollution. There have been several instances where a local government has been sued by an environmental group for failure to uphold the Clean Water Act. An example of this is *Baykeepers vs. the City of Encinitas* in San Diego County. The lawsuit was filed because the city had failed to enforce laws that would minimize water pollution in the streams leading to recreational areas of the beach, and there were high levels of various pollutants in the coastal waters. As occurs in many of these suits, the City of Encinitas and the Baykeepers entered into a consent decree with the courts, and as part of this agreement, the City of Encinitas had three years to rectify the water pollution problems.

Numerous greenhouse and container nurseries located near the coastal areas of Encinitas were under close scrutiny, and many of them had to change growing practices to minimize or eliminate runoff. The greenhouse and nursery industry was treated in the same manner as other businesses that were contributing to the runoff problems—supermarkets, fast food restaurants and any other business that had created impermeable surfaces that exacerbated the likelihood of polluted runoff leaving their property. After the three-year time period, several of the nurseries have shut down or relocated; however this is due to a greater extent to development pressure and value of their property, and only in part to the water quality regulations.

Another part of the federal Clean Water Act is the Total Maximum Daily Load or TMDL program. Total Maximum Daily Load refers to the amount of a specific pollutant that a water body can assimilate on a daily basis, depending on the beneficial uses of the water. The Clean Water Act establishes a "List of Impaired Water Bodies" for each state, called the 303(d) list. Water bodies can be added to, or removed from this list as their pollutant status changes. A priority list for improvement and development of a TMDL program is selected from the 303(d) list, and specific pollutants are addressed for the impaired water body. The TMDL process sets target maximum daily pollutant levels for individual

pollutants, and activities that contribute to the pollutant loads are scrutinized and altered. Horticultural practices are included, and nurseries have had to modify growing practices drastically in some cases, to minimize their contribution to the pollutant levels. As was the case with ligitigation, growing practices that have been altered include fertilization application methods, irrigation scheduling, types of irrigation systems, leaching alterations, capture of runoff, and pesticide applications. Many other non-production practices, such as cleaning walkways in greenhouses, washing equipment and capture of roof runoff are being changed in various growing operations.

Stormwater regulations relate primarily to non-stormwater runoff from all types of commercial activities. The state holds a “Stormwater Permit”, and again, each local government is responsible for upholding the terms and conditions of this permit. In San Diego County, each municipality, the County of San Diego, the Port District and the US Navy are co-permittees on a “Stormwater Ordinance”, specifying rules and regulations for meeting the state’s permit requirements. Again, horticultural and other agricultural operations have been included as high priority contributors to the local water quality problems. Alterations in practices include many of the same things that a horticultural operation must change when included in a TMDL process. The main emphasis is on source reduction of runoff, and elimination of any runoff leaving the growers’ properties. In addition, records of activities related to reduction of runoff are encouraged.

The Water Quality Program of the UC Cooperative Extension in San Diego County has worked with growers for many years on water quality issues and regulatory requirements. Best Management Options have been developed for the greenhouse and container crop industries and tree crops. A record keeping system for water quality has also been developed. This and other information is available on the UC Cooperative Extension website at <http://cesandiego.ucdavis.edu>.