California Water Boards

Edmund G. Brown Jr. Governor

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Central Coast Regional Water Quality Control Board

FACT SHEET # 2

APPROVED TOTAL MAXIMUM DAILY LOAD FOR BORON IN STREAMS OF THE ESTRELLA RIVER BASIN

APPROVED BY THE CENTRAL COAST WATER BOARD ON DECEMBER 5, 2013

What is a Total Maximum Daily Load (TMDL)?

Simply put, TMDLs are strategies or plans to address impaired waters identified on the federal Clean Water Act section 303(d) list. The Clean Water Act requires every state to evaluate its waterbodies and maintain a list of waters that are considered "impaired" either because the water exceeds water quality standards or does not achieve its designated use. For each water on the Central Coast's "303(d) Impaired Waters List," the California Central Coast Water Board must develop and implement a plan to reduce pollutants so that the waterbody is no longer impaired and can be de-listed.

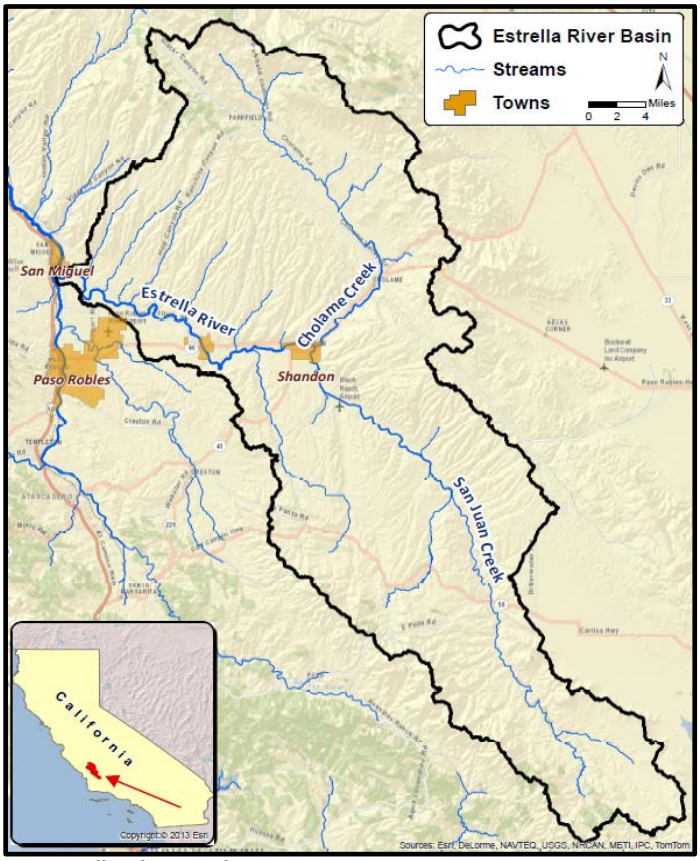
"Total Maximum Daily Load" (TMDL) is a term used to describe the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL project identifies the probable sources of pollution, establishes the maximum amount of pollution a waterbody can receive and still meet water quality standards, and establishes a plan to rectify the water quality impairments.

Estrella Boron TMDL – Approved Dec. 5, 2013

The California Central Coast Water Board (Water Board) approved the *Total Maximum Daily Load for Boron in Streams of the Estrella River Basin* at the regularly scheduled Water Board meeting of December 5, 2013. This TMDL identifies the sources of boron in stream of the Estrella River Basin and identifies the actions necessary to provide for the attainment of water quality standards.

What are the Sources of Boron?

Multiple lines of evidence are developed in this TMDL project that demonstrate non-controllable natural sources contribute to or cause elevated levels of boron in streams of the Estrella River Basin. The only controllable source that could plausibly contribute to elevated boron in waterbodies is irrigated agricultural operations. Based on the weight of evidence, natural non-controllable sources are the major source of boron to surface receiving waterbodies, and are likely causing the water quality impairment. Application of irrigation water and fertilizers could plausibly be a minor contributor of boron to surface waterbodies. Boron toxicity in water resources can have detrimental impacts to drinking water quality, irrigation supply and livestock watering, and to aquatic habitat and wildlife.



Estrella River Basin

What Does the TMDL Expect of the Grower?

Some TMDLs *can* result in additional or new regulatory measures; however this TMDL does *not* result in any additional regulatory requirements above and beyond what growers of the Estrella River Basin are currently obligated to comply with. Current regulation (Agricultural Order R3-2012-0011) of irrigated agriculture operations and ongoing implementation practices required by existing regulation are anticipated to minimize the risk

of controllable boron loading and mitigate anthropogenic boron loading to streams to the extent feasible. In short, at this time compliance with Order R3-2012-0011 (the "Ag Order") is deemed to be a sufficient demonstration that owners/operators of irrigated lands in the Estrella River Basin are implementing the Estrella River Basin Boron TMDL.

Application of irrigation water or fertilizers which contain elevated levels of boron could potentially contribute increased levels of boron locally to soils, surficial sediments, and stream waters within the Estrella River Basin. The current water quality objective for boron in streams of the Estrella River Basin is 0.75 milligrams per liter. The Ag Order requires growers to develop and implement a farm water quality management plan. Where appropriate, growers that use irrigation water high in boron, or fertilizers containing boron, should update their farm water quality management plan to manage the risk of boron discharges to water resources. It should be noted that the Central Coast Water Board recognizes that many growers in the Estrella River Basin are presumably aware of the high levels of boron in groundwaters and surface waters of the river basin and endeavor to successfully manage their irrigation practices to minimize the potential adverse impacts that could be caused by high levels of boron. Many growers in the river basin currently use micro-irrigation, and many growers apparently do not have tailwater – these water management practices should presumably limit the amount of boron added or discharged to streams, surficial sediments, and soils.

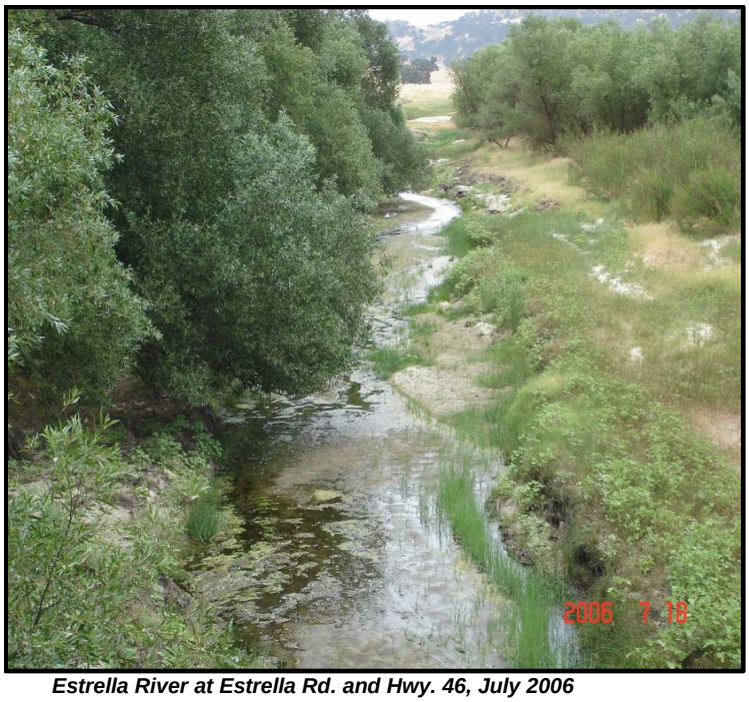
Other TMDL Implementation Actions

This TMDL also identifies actions Central Coast Water Board staff must take to ensure achievement of the TMDL and attainment of water quality standards. Central Coast Water Board staff estimates that natural, non-controllable source contributions of boron to surface waters may render current boron water quality objectives locally unattainable even with agricultural source controls in place. In other words, natural conditions can cause high levels of boron in water resources in parts of the Estrella River Basin, potentially making the TMDL water quality objectives unachievable. It should be recognized that In California it is not uncommon for naturally-elevated levels of boron concentrations exceeding water quality objectives to occur in some water resources of the state, depending on local geologic, climatic, and hydrologic conditions. Pending the acquisition of additional data, it may be necessary for Central Coast Water Board staff to develop site-specific boron water quality objectives that account for natural background and provide for the attainment of water quality standards, thereby rectifying the 303(d)-listed impairment and achieving the TMDL. While natural conditions in the Estrella River Basin may locally cause higher levels of boron in water resources, it is still prudent to ensure that controllable sources of boron are managed to ensure that further degradation of water quality does not occur.

Financial & Technical Assistance

An approved TMDL can expand opportunities for available grant funding to implementing parties – such as growers – to improve nonpoint source water quality pollution control. State and federal water quality grant programs often direct financial assistance to watersheds that have approved TMDLs. Central Coast Water Board grant staff is available to answer questions about the grant application and approval process, please contact Katie McNeill Central Coast Water Board environmental scientist at (805) 549-3336, or katie.mcneill@waterboards.ca.gov.

Further, resource professionals at the Upper Salinas-Las Tablas Resource Conservation District or at the local U.S. Department of Agriculture Natural Resources Conservation Service center are also available to partner with growers in providing technical assistance, or with applying for grant funding.



Estrella River at Estrella Rd. and Hwy. 46, July 2006

For More Information

The Central Coast Water Board encourages interest and involvement in TMDL projects from stakeholders, interested parties, and the general public. Please click on the link below to be directed to the Estrella River Basin Boron TMDL webpage:

Estrella River Basin Boron TMDL

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If you are reading this fact sheet in hard copy, the URL to the Estrella River Basin Boron TMDL webpage is:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/estrella_riv_boron/index.shtml