

## CHAPTER 13 ANTIDEGRADATION ANALYSIS

### 13.1 INTRODUCTION

This Chapter briefly describes the state and federal antidegradation policies and how they apply to the Russian River Watershed Pathogen Indicator Bacteria TMDL Action Plan (TMDL Action Plan). Both U.S. EPA and the State Water Board have adopted antidegradation policies as part of an approach to develop water quality standards and regulate the discharge of waste. This chapter analyzes whether approval of the draft amendment would be consistent with the federal and state antidegradation policies.

### 13.2 STATE AND FEDERAL ANTIDEGRADATION POLICIES

The federal antidegradation policy, described in 40 CFR 131.12(a), requires that existing instream designated uses and the level of water quality necessary to protect the existing uses be maintained and protected. Where, however, the quality of the water exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and out of the water, that quality must be maintained and protected unless the state finds that:

1. Such activity is necessary to accommodate important economic or social development in the area in which the waters are located;
2. Water quality is adequate to protect existing beneficial uses fully; and
3. The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for nonpoint source control are achieved.

In addition, where high quality waters constitute an outstanding National resource that water quality shall be maintained and protected.

The state antidegradation policy incorporates the federal Antidegradation Policy (see State Water Board Order No. WQ 2001-16, p. 19, fn 83). The state policy establishes several conditions that must be met before the quality of high quality waters may be lowered by waste discharges. ("Statement of Policy With Respect to Maintaining High Quality Waters in California", State Water Board Resolution No. 68-16; See also Basin Plan pages 3-2.00 to 3-3.00). The state must determine that lowering the quality of high quality waters:

1. Will be consistent with the maximum benefit to the people of the state,
2. Will not unreasonably affect present and anticipated beneficial uses of such water, and
3. Will not result in water quality less than that prescribed (e.g., by water quality objectives).

**Draft Staff Report  
for the Action Plan for the Russian River Pathogen TMDL**

---

In addition, before any degradation of water quality is permitted, it must be shown that the discharge will be required to meet waste discharge requirements that result in best practicable treatment or control of the discharge necessary to assure that:

1. Pollution or nuisance will not occur;
2. The highest water quality consistent with maximum benefit to the people of the State is maintained.

### **13.3 APPLICABILITY TO THE RUSSIAN RIVER WATERSHED PATHOGEN INDICATOR TMDL ACTION PLAN AND WASTE DISCHARGE PROHIBITION**

The draft TMDL Action Plan is based in part on the principles contained in the state and federal antidegradation policies. The recommended alternative – adoption of the draft TMDL Action Plan – will not delete or limit beneficial use designations and will not relax any water quality standard. The draft TMDL Action Plan is designed to result in water quality improvements and is consistent with both the state and federal antidegradation policies.

The draft TMDL Action Plan identifies a wide range of factors affecting the fate and transport of pathogens and the appropriate choice of compliance measures that will help attain water quality objectives and ensure the protection of beneficial uses of the state's waters. The draft TMDL Action Plan directs the Regional Water Board staff to incorporate pathogen protection measures into its point source and nonpoint source permitting actions, which relies on implementation of best management practices and other measure that can be considered best practicable treatment or control methods. It is important to note that the draft TMDL Action Plan includes a prohibition of the discharge of fecal waste materials that cause or contribute to an exceedance of bacteria water quality objectives.

Management measures are generally defined in individual water quality control plans such as Erosion Control Plans, Sanitary Sewer Management Plans, Advanced Protection Management plans for OWTS, or Bacteria Load Reduction Plans. These plans must tailor measures to a particular site and include an iterative planning approach based on monitoring feedback. The draft TMDL Action Plan does not itself authorize or permit any activity that will discharge waste into high quality waters.

In its environmental analyses (see Chapter 11), the Regional Water Board found that potentially significant impacts to hydrology/water quality are less than significant with the proposed implementation of mitigation measures. As such, degradation of water quality is not anticipated if mitigation measures are properly implemented.

For example, when replacing or repairing private sewer laterals and OWTS, and operating a centralized or decentralized wastewater treatment plant, it is possible that sewage could

**Draft Staff Report  
for the Action Plan for the Russian River Pathogen TMDL**

---

be released to surface waters and violate water quality standards and degrade water quality. Mitigation measures such as containment structures and absorption materials are available to reduce transfer of these substances to surface waters. Fuels, lubricating oils, and other petroleum products will be used during construction activities and could be accidentally discharged to surface waters. Well established techniques for controlling spills, leaks, and drips should be incorporated in work plans, remedial action plans, treatment plans and site health and safety plans to assure the control of petroleum products and any other chemicals used during the activity.

In order to mitigate the potential adverse effects, pollution prevention plans and waste management BMPs should be used in conjunction with the implementation of permit compliance measures. Mitigation measures such as containment structures, absorption materials, and drip pans are available to reduce the transfer of these substances to surface waters. The possibility that composted biosolids could reach surface waters can be mitigated by siting compost piles away from water courses, covering the piles during storm events, using straw waddles around the piles to filter runoff, build storm water containment, and placing the piles indoors. Pet waste collection systems which provide plastic bags for pet waste cleanup may cause violations of water quality standards if they are improperly discarded and enter waterbodies. This can be mitigated by providing waste receptacles near the pet waste collection systems to provide a location for people to place the used and unused bags.

Compliance measures related to construction activities could potentially cause an alteration of the existing drainage pattern of a site. In most cases however, these compliance measures would be installed with appropriately designed mitigation measures so as to limit any alteration of the existing drainage pattern, unless beneficial to the environment. In general, compliance measures could be constructed or installed without resulting in substantial erosion of siltation on- or offsite. For example, implementing BMPs such as using straw mulch and hydroseed on exposed areas, placing silt fencing and straw waddle to filter runoff, drip protection and vehicle cleaning for construction equipment, maintenance and site inspections are all methods that can be employed. Entities are commonly required to install and maintain erosion control measures (e.g. mulch, straw waddles, silt fencing) to prevent discharge of excess sediment from soil disturbing activities.

Construction of a new centralized or decentralized wastewater treatment plant, restroom facility, or significant expansion of a wastewater treatment plant, may increase the amount of impervious surface and therefore could result in flooding or polluted runoff. Additionally, these structures may be placed within the 100-year flood hazard area. The possibility of flooding and polluted runoff can be mitigated through the use of Low Impact Development (LID). LID is utilized to infiltrate storm water and reduce changes in drainage patterns due to impervious surfaces and to filter storm water runoff. LID strategies integrate green space, native landscaping, natural hydrologic functions, and various other

**Draft Staff Report  
for the Action Plan for the Russian River Pathogen TMDL**

---

techniques to generate less runoff from developed land. Examples of LID that could be used are bio swales, green roofs, rain gardens, and sand filters.

With respect to exceedances of water quality objectives, short term impacts may be acceptable in cases where long term benefits to beneficial uses outweigh short term impacts, based on detailed, site-specific information and findings. A full antidegradation analysis is appropriate at the time of permit development, with the proper findings made by the Regional Water Board prior to adoption.

The existing water quality objective for bacteria in surface water is based on different fecal indicator bacteria and cannot be compared side-by-side numerically to the waste load allocations and load allocations to evaluate a potential degradation and backsliding of standards.<sup>1</sup> However, the values can be evaluated when comparing the potential risk to recreation. The draft allocations are based on the National Epidemiological and Environmental Assessment of Recreational Water Gastro Intestinal Illness risk of 32 cases per 1,000 recreators as compared to the existing water quality objective that used older criteria and is based on 36 cases per 1,000 recreators. Therefore, adopting the draft waste load allocations would result in greater protection of the contact recreation beneficial use and would not result in any degradation to waters of the state.

This draft TMDL action plan complies with antidegradation policies by ensuring the protection of contact recreation use, and by implementing a program to achieve bacteria source reduction and to reach attainment if discharges are to occur. The waste load allocations and load allocations are set at a level that would improve conditions in the Russian River Watershed. Additionally, the prohibition of the discharge of fecal waste materials that cause or contribute to an exceedance of bacteria water quality objectives will help to ensure the attainment of standards.

---

<sup>1</sup> As discussed in more detail in Chapter 2, staff recommends the TMDL not be presented to the State Board until the state water quality bacteria objective is adopted by the State Board, and as a result the existing bacteria objective is updated.