

7.0 DESCRIPTION OF SURVEILLANCE ACTIVITIES

Regional Water Board staff will develop and implement a region-wide temperature monitoring plan to assist the Regional Water Board in determining whether this policy is effectively reducing and preventing elevated temperatures over the long-term. The monitoring plan will have the following elements:

- Long-term trend monitoring at established sites monitored by the Surface Water Ambient Monitoring Program (SWAMP).
- A regional cooperative monitoring, coordination, and data sharing program drawing on the voluntary efforts of landowners and organizations collecting water temperature data.
- A cooperative monitoring equipment loan and data sharing program.
- Special studies to support investigations of discrete temperature issues.
- Participation in the Board of Forestry's Effectiveness Monitoring Committee.
- Guidance and criteria for staff to consider regarding temperature monitoring requirements.

A description of each of the proposed monitoring plan elements is presented below.

Long-term trend monitoring at SWAMP monitoring sites

This element involves the addition of continuous temperature monitoring in the warmer months (May to September) at a subset of sites routinely monitored as part of the SWAMP Status and Trend Monitoring Program. The Regional SWAMP Program rotates through watersheds on a planned basis as resources allow. The Regional Board believes this approach allows for the best use of resources given available resources. The approach focuses on a few watersheds at a time, cycling back through them every four years as funding allows. The Regional SWAMP Program began the Status and Trend Monitoring Program in Fiscal Year (FY) 2000-01. The original monitoring design utilized a two-component approach to address regional monitoring: 1) long-term "permanent" monitoring sites for trend analysis, and 2) rotating "temporary" sites for basin surveys. The original rotation schedule was closely coordinated with the TMDL development schedule to provide additional current information on water quality parameters to the TMDL development process. The current SWAMP workplan for Calendar ((CY) 2012 through CY 2015 identifies 28 of the original long-term sites and 38 of the rotating basin sites for monitoring, while also adding 12 new sites. The Regional Temperature Monitoring Program will monitor temperature at a subset of these sites to monitor temperature status and trends at key locations.

Regional cooperative monitoring, coordination, and data sharing program

Many organizations collect water temperature data in the North Coast Region. These include timber companies, government agencies, resource conservation districts, watershed groups, and research organizations. This effort will rely on the voluntary participation of these organizations. This element of the Regional Temperature Monitoring Plan will focus on data sharing, data collection protocols,

and coordination of efforts to prevent unnecessary duplication. Staff will draw on the experiences gained through participation in the Klamath Basin Monitoring Program's efforts to develop a similar cooperative temperature data sharing and analysis process for the region. This effort will both aid and benefit from the Watershed Stewardship Approach initiative identified in the region's Nonpoint Source Five-Year Plan. The Watershed Stewardship Approach aims in part to promote collaboration, and provide feedback on progress in improving water quality in an adaptive management framework.

Cooperative monitoring equipment loan and data sharing program

One of the most cost effective ways the Regional Water Board attains temperature data is through cooperative agreements with conservation organizations. The Regional Water Board loans approximately 150 temperature data loggers each year to organizations seeking to understand the temperature dynamics in their watersheds. In return, the Regional Water Board receives the temperature data collected using the instruments. This element of the Regional Temperature Monitoring Plan will continue this cooperative program and bolster its effectiveness through the development of a more standardized approach to quality assurance and data submittal, as well as a standardized application process for organizations requesting equipment.

Special studies to support investigations of discrete temperature issues

The Regional Water Board often engages in efforts to determine the temperature dynamics at play in specific instances. These include monitoring in support of TMDL development, focused water quality investigations, such as the study of algae dynamics in the South Fork Eel River or groundwater dynamics in Scott Valley, and other investigations of discrete temperature issues. These studies typically involve the deployment of simple continuous data loggers, but could also involve more sophisticated monitoring techniques involving thermal infrared data collection, deployment of fiber optic cables, or use of other special data collection technologies.

Participation in the Board of Forestry's Effectiveness Monitoring Committee

The Board of Forestry is currently in the process of establishing an Effectiveness Monitoring Committee (EMC) to provide an active feedback loop to policymakers, agencies, managers, and the public in support of adaptive management principles. One of the specific purposes of the EMC identified in its charter is the evaluation of the effectiveness of the Forest Practice Rules watercourse and lake protection zone requirements in achieving the water quality objectives for temperature. Through this effort, staff hope to further the collective understanding of such topics as post-harvest canopy retention levels relative to targeted canopy levels, the relationship of overhead canopy to effective shade, and changes in temperature relative to changes in effective shade.

Guidance and criteria for staff to consider regarding temperature monitoring requirements

This element of the Regional Temperature Monitoring Program will be primarily intended as guidance to staff developing permits and contemplating temperature monitoring requirements. Most Regional Water Board permits do not contain temperature monitoring requirements. However, some permits, particularly those associated with point sources, contain monitoring and reporting programs which require the monitoring of temperature. This element will discuss the circumstances in which temperature monitoring is appropriate, the required frequency of measurement to achieve the monitoring goals, the proximity of monitoring to discharges, and other considerations important for a successful temperature monitoring and reporting program.