

Implement best management practices for urban runoff and investigate relocating wastewater treatment plants so as not to affect the Delta

Category: (To be developed)

Resources Area: Water Quality, WQ-O-6

Related Options: WQ-F-4

Resources Issue: Agricultural waste discharges from Delta islands and municipal and industrial discharges contain dissolved organic carbon that contributes to the creation of unwanted byproducts during the process of treating Delta source waters for industrial and municipal uses. Of particular importance is the formulation of trihalomethanes (suspected carcinogens) as a result of drinking water disinfection. The implementation of more stringent regulations on these byproducts requires advanced treatment processes at significant costs to local water agencies. Some recent studies identify Delta island drainage discharges as a source for more than 50% of the dissolved organic carbon measured at the project pumps. The more than 200 discharge locations within the Delta make it difficult to control dissolved organic carbon at its source. There are several related issues that may be partially addressed or impacted to some degree by this option. These issues include introduction of other compounds such as salts into the Delta waters through agricultural discharges which also contributes to the creation of unwanted byproducts during the process of treating Delta source waters for industrial and municipal uses, municipal and industrial discharges into the Delta, degradation of rearing and migration habitat for the fishery, fish entrainment and mortality in the interior Delta as a result of export pumping within the Delta, and a reduction of nutrient loading to the estuary which could potentially lead to reduced biological productivity.

Discussion: Implementing best management practices (BMPs) for urban runoff could result in lower levels of organics and better water quality in the estuary. Examples include facilities to isolate urban runoff from wastewater and individual non-point source controls for commercial properties. In addition, the quality of export water could be improved. A sub-alternative to this action option is an investigation into whether it is possible to relocate wastewater treatment plant discharges so as not to affect the Delta. Comprehensive source control programs, which for Delta source waters could include elements such as this option, are often more cost effective and more efficient from a total resource consumption viewpoint.

Objectives addressed: Water Quality General and Specific 2.

Since wastewater treatment plants must discharge their effluent somewhere, replacing a Delta discharge with an alternate discharge site would require close review by experts in water quality, aquatic resources, and plant and wildlife resources.

Assumptions:

- Assume it is possible to relocate some wastewater treatment plant effluent discharges.

Key Feasibility Factors:

- Confirm implementing BMPs for urban drainage will result in a measurable reduction of dissolved organics in the estuary.
- Confirm environmentally and socially acceptable alternate sites for wastewater treatment plant discharges could be identified further into the western part of the estuary while avoiding the central part of the Delta.

Implementation Effects:

- The Water Quality TAC (WQTAC) estimated medium benefits for all uses that were considered (matrix WQ-O-6) such as agriculture, municipal, industrial, fisheries, recreation, and environment in the WQTAC report.

Most Likely Benefits:

- The quality of the water in the estuary would be improved through a reduction in organics and other unwanted compounds.

Other Possible Benefits:

- Improved water quality within the interior Delta could result in improved aquatic resources as well.

Most Likely Negative Impacts:

- Relocating wastewater treatment plant discharge sites could result in lower channel flow depending on the location to which discharges are diverted.

Other Possible Negative Impacts:

- Though much of the organic carbon discharged from Delta islands is refractory and is not involved in biological productivity of the estuary, some portion of this organic load may enhance productivity in Delta waters. To the extent such effects are beneficial to the biota, a reduction in organic carbon input could be disadvantageous to the ecosystem.

Possible Regulatory and Institutional Constraints:

- CEQA
- NEPA
- DFG Sec 1600 Permit
- Waste Discharge Permit

Other:

References and Published Materials: Use Combined TAC Reference List.