

Duxbury Reef ASBS & Point Reyes Headlands ASBS Source Control Project

The proposed project will implement source control projects to address identified discharges within two Areas of Special Biological Significance (ASBS) watersheds: the high priority Duxbury Reef Reserve and Extension and Point Reyes Headlands. Both State Water Quality Protected Area watersheds are designated as Critical Coastal Areas (CCA) in California (Dux Reef: CCA 28; PR Headlands: CCA 26). In addition, on April 23, 2008, the Marine Life Protection Act Initiative Blue Ribbon Task Force Integrated Preferred Alternative recommended an intertidal State Marine Park at Duxbury Reef. At the Point Reyes Headlands, the Task Force recommended a 9 square mile State Marine Reserve encompassing the ASBS, as well as a State Marine Conservation Area extending beyond the Reserve, to the 3 mile state jurisdiction line.

The goals of the proposed project are to: 1) improve water quality in the two ASBS watersheds by reducing and preventing the potential for stormwater discharges to enter each ASBS, and 2) monitor the success of implementing Best Management Practices through water quality monitoring, and through operations and maintenance activities. The proposed project will accomplish these goals by implementing Best Management Practices (BMPs) that will prevent and/or treat stormwater pollution within the Duxbury Reef and the Point Reyes Headlands watersheds and by conducting pre- and post-project, SWAMP compatible, water quality monitoring. The proposed project is consistent with the adopted Tomales Bay ICWMP (2007) and it will implement high priority projects recommended in Appendix K of the ICWMP - "ASBS Watershed Assessments" (Fall Creek Engineering and Strelow 2007). The proposed project will be accomplished through a multi-agency collaboration between County of Marin, the Bolinas Community Public Utilities District (BCPUD) and Point Reyes National Seashore (PRNS), and will entail implementation of projects to address the majority of the water quality concerns identified in the ASBS Status Report prepared by the State Water Resources Control Board (SWRCB) and by the SWRCB ASBS Discharge report (2003). The project addresses 5 higher threat discharges in the Dux Reef ASBS (DUX008, DUX009, DUX017, DUX024, DUX032) and three moderate threat discharge points in the Point Reyes Headlands ASBS (REY008, REY009, REY010).

County of Marin - Department of Public Works, Parks and Open Space and the Marin County Stormwater Pollution Prevention Program will re-grade and replace the Agate Beach parking lot with pervious concrete to treat and redirect stormwater runoff away from the Duxbury Reef ASBS and into an existing vegetated swale located adjacent to the lot on the northeast side (see Attachment 2 Map 7). Runoff from the lot currently flows down a trail that has been identified as an ASBS discharge point by SWRCB (DUX008) and into an unnamed tributary that carries runoff directly to the ASBS at discharge DUX009. In addition, two portable bathrooms from the creek bank of the unnamed tributary (DUX009) will be removed and the riparian area will be restored with native plants. The portable bathrooms will be relocated 80 feet from the tributary on a covered pad, with a berm and overflow tank will be installed around the portable bathrooms for spill containment. The paved trailhead will be replaced with pervious decomposed granite with a pine resin binder. Implementing these Low Impact Development (LID) designs will increase infiltration, reduce downstream erosion from hydromodification, and provide essential stormwater treatment. These facility improvements are necessary to protect and enhance ASBS water quality by reducing sediment, oil, grease and polynuclear aromatic hydrocarbons loads from the Agate Beach parking lot and by preventing potential discharges of nutrients and bacteria in the event of a spill from the existing portable bathrooms.

Point Reyes National Seashore (PRNS) – PRNS will implement rangeland improvement best management practices (BMPs) to reduce nonpoint pollution source discharges from Commonweal and Niman ranches that drain to the Duxbury Reef ASBS. The proposed BMPs include a cattle crossing, fencing and headcut repairs. The project will remove cattle grazing from the major tributaries that cross the ranches and drain to the Duxbury Reef ASBS, will seasonally remove cattle from the coastal bluffs and cliffs along the southern portion of the eastern pasture at Commonweal Ranch, and will stabilize migrating headcuts within currently active pastures. These projects will serve to eliminate or reduce sediment, nutrient and bacterial loading into the Duxbury Reef ASBS from DUX016, DUX017, DUX024 and DUX032.

PRNS will also implement grazing management treatments, including fencing and a cattle guard to prevent cattle accessing the ASBS watershed at REY008 and REY 009, and will replace the stairs (pressure treated wood will be replaced with untreated wood) at the Sea Lion overlook at discharge REY010. These projects will serve to eliminate or reduce arsenic, sediment, nutrient and bacterial loading into the Point Reyes Headlands ASBS.

Bolinas Community Public Utility District (BCPUD) - BCPUD proposes to conduct a two-phase project to assess and design engineered projects for the existing stormwater network on the Bolinas Mesa, and to then select and implement approximately three priority stormwater network improvement projects using Low Impact Development techniques. The implementation projects will be prioritized and selected according to their potential to improve Duxbury Reef ASBS water quality by reducing sediment, heavy metal and hydrocarbon loading. Phase I of the project will include the following tasks: evaluate existing topographic and other data from the Bolinas Mesa and its stormwater network; fill data gaps to support surface water flow model development (*e.g.*: collect data and create a Bolinas Mesa topographic stormwater network map); create a hydrologic surface water flow model of the Bolinas Mesa in order to establish baseline flow conditions and to identify areas that are suitable for stormwater treatment; and, recommend, prioritize and select stormwater network improvement projects.

Phase II of the BCPUD proposed project will design and implement at least three prioritized stormwater treatment projects, such as the construction of bio-retention areas on BCPUD-owned lands to reduce the sediment, heavy metal and hydro-carbon loads in stormwater runoff to the Duxbury Reef ASBS from the residential community located on top of the Bolinas Mesa. The specific implementation projects will be designed to manage stormwater flow, attenuate flooding and maximize treatment opportunities to improve quality of water discharging from Alder Creek into the ASBS (DUX009). Projects recommended for the Bolinas Mesa in Appendix K of the 2007 Tomales Bay ICWMP (ASBS Watershed Assessments) will be evaluated as will additional identified projects that are developed based on Phase I assessment and analysis.

Performance Monitoring – PRNS will coordinate performance water quality monitoring for the project area. PRNS will conduct rangeland and stormwater water quality monitoring at 16 locations for a suite of parameters including sediment, nutrients, pathogens, with MBAS, metals, oil and grease, and hydrocarbons included at stormwater sites. A water quality/ photo monitoring, and condition assessment plan will be developed as part of the project for treatment sites and associated discharges in both the Duxbury Reef ASBS and the Point Reyes Headlands ASBS project areas. Monitoring will be conducted using an existing approved QAPP for rangeland monitoring (SWRCB Agreement #05-129-552-0), stormwater monitoring (SWRCB Agreement #05-227-550-0) and photo monitoring protocol SOP 4.2.1.4. Condition Assessment monitoring will use the site condition assessment form approved under SWRCB Agreement #05-129-552-0.