

UC Berkeley Richmond Field Station
Marsh Cleanup and Restoration Project
Fact Sheet

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In September 2002, the University of California, Berkeley, began remediation work at the Richmond Field Station (RFS) to clean up pollution from industrial activities that occurred prior to UC ownership of the land. The University will spend an estimated \$25-30 million for the entire cleanup and restoration project. UC Berkeley plans to enhance and restore the shoreline and habitat property, known as Western Stege marsh.

Below are some details about the project now underway.

Site History

- In 1950, the University of California purchased 150 acres of land along the Richmond shoreline which is now known as the UC Berkeley Richmond Field Station (RFS). The property includes uplands — facilities and open prairie grasslands — tidal mudflats and marsh. The marsh area, approximately nine acres, is now known as Western Stege Marsh.
- Much of the property, located at 1301 South 46th Street in Richmond, belonged to the California Cap Co. from 1870 to 1950. Up until 1948, the California Cap Co. manufactured explosives on the site. Mercury fulminate was manufactured on-site for blasting cap production.
- From 1897 to 1960, the Stauffer Chemical Company (later Zeneca Inc.), who's property neighbors the RFS to the east, manufactured sulfuric acid and other industrial chemicals. These production activities created pyrite cinder waste. Large quantities of cinders were deposited on the current RFS site prior to 1950, as well as on the Zeneca property. Pesticides were also manufactured at the Zeneca site until 1997.
- The RFS is now being used by UC Berkeley as an academic research and teaching facility and by the UC Office of the President as the site for the Northern Regional Library Facility. Approximately 400 UC researchers and employees work at the site. The federal Environmental Protection Agency's regional laboratory is also located at the RFS.

Cleaning up the Past

- In 1999, by request from the San Francisco Bay Regional Water Quality Control Board (hereafter referred to as “the Board”), UC Berkeley hired environmental consultants to investigate the extent of the pollution in Western Stege Marsh and the RFS uplands. The investigation began after the water quality board identified the marsh as an environmentally contaminated area.
- After extensive sampling of soil, groundwater and sediment on the UC Berkeley property, the consultants found areas contaminated with mercury, as well as other heavy metals – including arsenic, lead, zinc, selenium, cadmium and copper – that are associated with pyrite cinder waste. Elevated levels of mercury have been discovered in Western Stege Marsh and portions of the adjacent RFS uplands. The consultants confirmed that most of the contamination is the result of industrial manufacturing operations dating back to the late 1800s. Polychlorinated biphenyls (PCBs) of unknown origin were also found in the marsh.
- Working under an order from the Board, UC Berkeley established an aggressive plan for cleaning up historical pollution at the RFS. All of UC’s remediation plans require the Board’s approval as well as permits and access agreements from numerous other agencies including the Army Corps of Engineers, the Bay Conservation and Development Commission (BCDC), the East Bay Regional Parks District, the US Fish and Wildlife Service and the City of Richmond. The project’s environmental impacts were assessed through a University-led CEQA (California Environmental Quality Act) review process.
- Cleanup at the RFS has entailed excavation and removal of all contaminated material from the RFS. All cleanup activities are being performed under stringent health and safety protocols to ensure the protection of remediation workers, RFS employees, visitors and the surrounding community. Monitoring during cleanup work is done by UC Berkeley Environment Health & Safety staff, project consultants, the contractor, and the Board.
- The cleanup work is prohibited during the months of February through August due to the presence of the endangered California Clapper Rail in the marsh.
- UC Berkeley is restoring the native marsh and upland environment in the newly cleaned areas of the RFS through active vegetation management including invasive weed removal and the reintroduction of native plants. Future plans include the creation of additional marsh habitat along with the creation of more open space between the RFS facilities and the marsh. The restoration work is being assisted by The Watershed Project, a nonprofit organization that provides educational programs and volunteer opportunities as part of projects designed to protect local wetlands. TWP staff and volunteers collect seeds, grow plants, transplant seedlings and remove weeds in the clean areas of the marsh as part of the RFS restoration work.
- Cleanup activities at the RFS are expected to be completed in 2008, with follow-up monitoring of the marsh restoration at least through 2013.

Work Completed

The remediation and restoration project at the RFS is being done in phases, due to the limited season during which work can take place and campus budget constraints. The following provides a brief description of project progress made since 2001. Please refer to attached graphic for the exact locations of each phase of work.

- Phase 1: August 2002 to January 2003. The first phase of the project entailed the cleanup of an area at the RFS that was contaminated with pyrite cinder waste and mercury, bordered by Zeneca on the east and the East Bay Regional Parks Bay Trail to the south. The remediation during Phase 1 involved digging up and removing from the site approximately 28,000 cubic yards of contaminated soil and marsh sediment.
- Phase 2: August 2003 to March 2004. The cleanup in Phase 2 involved removing approximately 31,000 cubic yards of contaminated material. Phase 2 also included removal of the PCB hot spot at the outfall of a storm drain in Meeker Slough, which is located on the western edge of Stege Marsh. Restoration of the marsh in areas renewed with clean bay mud also began in fall 2003 as part of Phase 2.
- Phase 3: August 2004 to November 2004. Phase 3 activities included excavating approximately 3,300 cubic yards of soil from upland areas contaminated with metals and PCBs for transport to State approved off-site landfills. Restoration of areas cleaned in the first two phases of work also continued.

Contact Information

Clean up and restoration work is being managed by UC Berkeley's Capital Projects, working in partnership with the University's Office of Environment, Health & Safety (EH&S). EH&S staff maintain an office at the RFS and can provide access to project records upon request.

Information about the cleanup and restoration activities at UC Berkeley's Richmond Field Station is available online at http://www.cp.berkeley.edu/RFS_MarshRR.html or by contacting Christine Shaff, UC Berkeley Capital Projects, at 510 643-4793 or cshaff@berkeley.edu.