



CREEKSIDE SCIENCE

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Christal Niederer

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Experience

Creekside Center for Earth Observation, Menlo Park, CA
Staff Scientist (December 2005 to present)

Selected Projects

Bay Checkerspot Translocations, Vegetation Monitoring, and Management, 2006 to present
Biologist involved in monitoring federally threatened Bay checkerspot butterfly (*Euphydryas editha bayensis*) populations and habitat. Tasks include monitoring adult and larval butterflies, monitoring vegetation, working with ranchers to optimize grazing management, and implementing weed management. Projects have included managing reintroduction efforts to Edgewood County Park and Natural Preserve in Redwood City and Tulare Hill in San Jose. Tasks include capturing, handling, transporting, and releasing larvae and adults, and analyzing and reporting data. Numbers are increasing at introduction sites.

San Bruno Mountain HCP Assessment, 2015

Coauthor of *Assessment of the Past 30 Years of Habitat Management and Covered Species Monitoring Efforts Associated with the San Bruno Mountain Habitat Conservation Plan*. This document provided a critique of HCP management efforts and provided guidance in developing more effective grassland maintenance techniques. The client, San Mateo County Parks, immediately began using our provided tools (such as management decision charts and quantitative project assessment checklists). Creating this document required an intimate knowledge of both the habitat, the documents created to manage it, and the site history.

Mission Blue Butterfly Recovery at Twin Peaks, 2008 to present

Contributed extensively to writing and implementation of Recovery Action Plan for the Mission Blue Butterfly (*Icaricia icarioides missionensis*) at Twin Peaks Natural Area, a federally endangered species. Project includes translocation of adult butterflies, demographic monitoring, and habitat monitoring and enhancement. Butterflies have successfully reproduced and are expanding into areas outside immediate release sites.

Research facilitating recovery of the endangered serpentine endemic Tiburon paintbrush (*Castilleja affinis* ssp. *neglecta*) at Coyote Ridge in southern Santa Clara County, 2012 to present

Project lead on CVPCP project establishing propagation protocols, outplanting protocols, determining habitat parameters, and examining genetic distinctness of this rare hemiparasite. Project success includes high seed production at Creekside Science Grow Facility and establishment of experimental plots expanding the population at Coyote Ridge.

Metcalf jewelflower (*Streptanthus albidus* ssp. *albidus*) Reintroduction to Tulare Hill, 2012-present

Collaborator with Santa Clara University on efforts to experimentally seed Tulare Hill, San Jose, with this federally endangered taxon. Assisting in experimental design, data collection, analysis, and reporting. This is a CVPCP project.

Rare Plant Survey, San Bruno Mountain, 2015-2016

Coauthor of *2015 Rare, Threatened, and Endangered Plant Survey, San Bruno Mountain*. This document required extensive field surveys, GPS/GIS, and management recommendations for 20 RTE taxa found on San Bruno Mountain.

San Mateo Thornmint Habitat Enhancement and Introduction, 2008-present

Lead biologist on project to restore single extant site of federal- and state-endangered San Mateo thornmint (*Acanthomintha duttonii*) and to create additional colonies of this serpentine endemic. Created experimental design, directed experimental treatments, and collected and analyzed soil moisture and composition data at potential introduction sites in Redwood City and adjacent cities. Wrote USFWS-approved adaptive management plan. This is a collaborative effort with UC Berkeley Botanical Garden, which is conducting a successful seed increase program. Creekside has also been awarded a contract to conduct introductions on San Francisco Public Utilities Commission properties.

Grassland Management at Edgewood Natural Preserve, Redwood City, 2008-present

Lead biologist on project to control weeds and enhance native cover in Edgewood's grasslands. Targeted weeds include medusahead (*Taeniatherum caput-medusae*), Harding grass (*Phalaris aquatica*), yellow starthistle (*Centaurea solstitialis*), annual falsebrome (*Brachypodium distachyon*), and others. Created experimental design to test treatments of medusahead and annual falsebrome. Initiated revegetation program with site-collected stock.

Fountain Thistle Seeding and Transplant Trials, San Mateo County, 2011-2014

Lead biologist on experiment to test seeding and transplanting as potential enhancement and introduction techniques for this federal- and state-endangered *Cirsium fontinale* var. *fontinale*. Developed experimental design, implemented treatments, collected data, and reported results. Seeding was largely ineffective, but transplants, especially larger individuals, fared well in appropriately wet habitat.

Rare plant surveys and monitoring protocols at Coyote Ridge, 2011

Assisted in development of mapping and monitoring protocols for Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*), Mt. Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*), and most beautiful jewelflower (*Streptanthus albidus* ssp. *peramoenus*) on VTA mitigation property in San Jose. Some mapping and monitoring continues on a project basis.

Adaptive Management Plan for Inspiration Point

Created adaptive management plan for serpentine grassland site in the Presidio of San Francisco, based on notes from summit meeting and results of prior projects to restore federal- and state-endangered Presidio clarkia (*Clarkia franciscana*) and federal- and state- threatened Marin dwarf flax (*Hesperolinon congestum*).

Marin dwarf flax (*Hesperolinon congestum*) Restoration Project at Inspiration Point, 2010-2011

Project lead on experiment comparing post-germination restoration techniques as seeding preparation for Marin dwarf flax in San Francisco. The techniques used were those identified in a previous Creekside experiment to successfully prepare the site for the federally endangered Presidio clarkia (*Clarkia franciscana*). Site selection appeared to be most critical aspect for successful reintroduction.

Education

San Francisco State University, San Francisco, California, 94132

Botany B.S., Graduated with Honors, 2006