

# Native Ecosystem Restoration

Vision, 8 August 2008

**Goal:** Restore native plant and animal habitat based on sound science and adaptive management.



*Controlled burn to restore serpentine grassland habitat at Coyote Ridge, California. (photo by S. Weiss)*

**Background:** Fundamental understanding of the ecology and population biology of native plant and animal species is key to determining best management strategies for ecological restoration. We conduct comprehensive assessments of habitat requirements and identify measures required for maintenance or restoration of habitat. We employ a variety of conservation management techniques (mowing, burning, grazing, etc.) to control invasive non-native plant species and to encourage healthy native populations. For example, at Edgewood County Park and Natural Preserve (San Mateo County, CA), we initiated a collaborative effort to control invasive Italian ryegrass (*Lolium multiflorum*) using mowing before seed heads have ripened, but after native plants have had a chance to go to seed. In another collaborative effort at Coyote Ridge (Santa Clara County, CA), we are controlling barb goat grass (*Aegilops triuncialis*) by burning, also before seed heads ripen.

## Elements of Restoration:

- **Restoration need assessment:** determine causes of degradation, current habitat condition, and requirements for habitat restoration.

- **Restoration planning:** plan for practical, cost-effective restoration
- **Site protection:** limit human disturbance and moderate/eliminate processes causing degradation
- **Habitat enhancement:** improve/rehabilitate habitat quality through strategic management activities
- **Invasive species control:** reduce or eliminate undesirable organisms by hand removal, burning, mowing, grazing, biological controls, etc.
- **Native population enhancement/reintroduction:** transport, plant, or cultivate native populations
- **Adaptive management:** implement site-specific management plans, with periodic review of success
- **Education and outreach:** develop general and site-specific resources (curriculum, web, brochures, presentations, and signage) for education and interpretation



*Serpentine grassland habitat of Bay Checkerspot Butterfly and other protected species. (photo by S. Weiss)*

## Benefits

- Conservation of native biodiversity
- Conservation of native biodiversity
- Compliance with government regulations
- Mitigation of human impacts

## Native Ecosystem Restoration



*Fire management in action. (photo by S. Weiss)*



*After burning, barb goat grass populations are reduced, enabling native populations to grow. (photo by S. Weiss)*

### Key Literature

- Weiss, S.B., and P.M. Rich. 2008. *Recommendations for Restoration of Monarch Butterfly Winter Habitat at Norma B. Gibbs Park, Huntington Beach, CA.* Creekside Center for Earth Observation Report.
- Weiss, S.B., D.H. Wright, and C. Niederer. 2007. *Serpentine Vegetation Management Project Final Report.* Creekside Center for Earth Observation Report.
- Weiss, S.B. 2006. *Barb goat grass control on Coyote Ridge, Santa Clara County, California.* Creekside Center for Earth Observation Report.
- Weiss, S.B. 2002. *Final report on NFWF grant for habitat restoration at Edgewood Natural Preserve, San Mateo County, CA.* Creekside Center for Earth Observation Report, Menlo Park, CA.

### Contacts

**Stuart B. Weiss**, Ph.D., CEO and Chief Scientist, [stu@creeksidescience.com](mailto:stu@creeksidescience.com)  
**Christal Niederer**, Staff Scientist, [christal@creeksidescience.com](mailto:christal@creeksidescience.com)

<http://www.creeksidescience.com>