



## **Whittier College** **Whittier, California** **Native Habitat Restoration**

### **SCHOOL**

Whittier College is a small, approximately 1,600 students, four year private liberal arts college located in southern California. The campus was founded in 1887 by the members of the Religious Society of Friends. Although the college has been a secular institution since the 1940s, Whittier continues to honor its Quaker heritage.

### **ABSTRACT**

Approximately 85% of Whittier College's landscape is turf. So as a means to reverse the trend of turf landscapes we have identified two areas on the campus that will be converted into native Coastal Sage Scrub plant communities. These two habitats will serve as models to the surrounding community and other campuses to demonstrate the importance of native vegetation. Transforming turf into native plant communities will reduce carbon emissions, increase carbon storage, save water, provide habitat and increase awareness of the importance of native plant species in ecosystems. Whittier is located adjacent to a



wildlife preserve therefore the conversion from turf to Coastal Sage scrub will establish habitat for native species which are already present in the community.

### **GOALS AND OUTCOMES**

#### **Goals**

The short-term goals of the project are to eliminate two areas of lawn on the campus and to replace the identified areas with the native California Coastal Sage Scrub plant species. In response to the elimination of the turf we should expect to witness a reduction in the amount of water consumption required for irrigation, an increase in the awareness of native species, the creation of a habitat for birds found in the Coastal Sage Scrub ecosystem, the establishment of a demonstration garden of native species and community outreach with the local elementary school through community participation events and education.

The long-term goals of the project are to increase the biodiversity of the campus, increase the amount of Carbon storage and decrease the amount of Carbon emissions. We also anticipate that when the substitution of turf for native plant species is seen as beneficial in comparison to the traditional turf we will gain support from the faculty and students to replace more turf on the campus with native plants. In addition the successful conversion will serve as a model to educate the residents of Whittier and encourage them to replace turf grass with California native plants.

## **Accomplishments and Outcomes**

We are currently in the midst of pursuing the native habitat restoration project and we plan on completing the two restoration sites in spring 2012. We have created a plant palette that involved selecting the species and amounts by using a reference site in the adjacent reserve. However, the project will resume in fall 2011 at the beginning of the new academic year.

## **Challenges and Responses**

Overall the major challenges of the project have been receiving financial support to purchase the native plants for the 22,000 square foot area. Traditional commercial landscaping is predominantly comprised of turf which initially is cheaper and more widely accepted in the community. However in the long term native plants require less maintenance and therefore have financial incentives over time. However the initial cost of the project can be expensive. Therefore the most challenging part of the project has been gaining support from the College and the community to transition away from the widely held belief that turf can be the only aesthetically pleasing and financially rewarding landscape. To meet this challenge we will assess the community's attitudes towards using native species after we have completed our project and through this we will educate about the low maintenance required and the ecological importance that native plants serve in promoting sustainable communities. Although it is our hope that our project will change a culture that values turf landscapes over native ecosystems, it will require time and more projects like ours to change America's perception of aesthetically pleasing and sustainable landscapes.

## **Campus Climate Action**

Whittier College has participated in the climate commitment initiative involving presidents of colleges committing to reductions of carbon footprints. To this end, the college has instituted recycling, a green residence hall, reduction of food waste, and reusable takeout containers. The native habitat restoration project will serve as another means that Whittier College is reducing their ecological footprint. The reduction in the emissions of carbon dioxide will be determined through comparison of the saving in carbon emissions and increase in carbon storage using instrumentations and estimations from the literature.

## **Commentary and Reflection**

The transformation of turf to native plants means more than increasing biodiversity; it is about changing a culture to value native landscaping over the traditional turf landscape. Native plant communities promote sustainability and reverse the trend of commercial landscapes that interfere with biodiversity and disrupt the natural spaces that animals require to live and thrive. To successfully convert other landscape areas to native plant communities it is essential to use reference sites to be certain that the right species and amounts are selected.

## **ENGAGEMENT AND SUPPORT**

### **Leaders and Supporters**

Dr. Cheryl Swift, a professor in Environmental Science and Biology at Whittier College, who has been involved with native plant installations, and who has mentored students in measuring recycling climate change task force, designed the Southern California Coastal Sage Scrub restoration project. Three students on the campus have become project leads to ensure that the project is a success. The project leads are Melanie Peel, Duncan Ketel and Alyssa Fluss. Yas Osako, the head groundskeeper, currently serves on the Board of the South Coast chapter of the California native plant society and serves as an important member of the project for advice and ensuring that this will become a lasting part of the

campus. The Ecology and Taxonomy of Southern California class and Evolutionary Biology course, which was taught Spring 2011 by Dr. Cheryl Swift created and designed a plant palette for the project.

### **Funding and Resources**

The NWF Campus Ecology Fellowship provided the initial funding for the project and to meet the gap the Environmental Science department at Whittier provided the additional funding.

### **Education and Community Outreach**

As a means to strengthen campus and community awareness of the project we will prepare press releases for the campus newspaper as well as local Whittier paper. Campus planting days will be designated to encourage support from the campus. In addition we will connect with the local elementary school, Lydia Jackson, to promote education about native species. We already have a relationship with Lydia Jackson through our efforts to create a butterfly garden on their campus and through a tree planting. In addition, community involvement will be encouraged by providing guides about native plantings to members in the Whittier community. As a result members will have the knowledge to carry out their own native plant project. Once the restoration project is complete we will assess the community's attitudes towards using native species in the surveys that we create.

### **National Wildlife Federation's Campus Ecology Program**

The Campus Ecology program provided the initial funding and support for the project. The online case study data base was especially useful to determine which the best strategies to pursue the project were. In addition the conference calls were an important tool to keep me motivated and informed about the other projects that are taking part in other campuses across the nation.

### **CONTACT INFORMATION**

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**Campus Sustainability History**

Whittier College has participated in the climate commitment initiative involving presidents of colleges committing to reductions of carbon footprints. To this end, the college has instituted recycling, a green residence hall, the creation of a community garden, reduction of food waste, and reusable takeout containers. In the past year Whittier College was selected by The Princeton Review for being one of the country's most environmentally responsible colleges. More information about sustainability projects that are taking place at Whittier College can be found at [poetssustainability.wordpress.com](http://poetssustainability.wordpress.com).

**Image credit:** Alyssa Fluss