SECTION 3: PRE-APPLICATION FORM

Organization, program and contact information (one page maximum)

Please complete the organization, program and contact information below using no more than one page.

Date of application	January 9th, 2014
Organization name	Northwest Zen Sangha Inc. dba "Dharma Rain Zen Center"
Organization address and website	[redacted] www.dharma-rain.org [redacted]
Program contact Name, title, phone, email	Kakumyo Lowe-Charde; Project Coordinator; [redacted] [redacted]
Program title	Siskiyou Field Laboratory
Program summary Provide a 20-45-word summary that describes your program.	Five educational institutions will incorporate field studies at a local brownfield into their curriculum. Younger students will restore habitat and perform simple monitoring activities. Older students will develop and apply research questions relating to environmental remediation and ecological restoration. Substantial mentoring across institutions is emphasized.
Category Under which program category does your program best fit? (Select all that apply).	Community Partnerships x Environmental Literacy x Develop Conservation Leaders
Estimated funding	Estimated amount requested: $ 25,000 Estimated match funds: $ 9,500 Estimated in-kind match: $ 47,446 Estimated total program budget: $ 81,946

Organizational Preparedness

Dharma Rain Zen Center is transforming a brownfield site into a space for spiritual practice, community connection, and native habitat. As the landowner, and a 501(c)-3 non-profit organization, Dharma Rain Zen Center (DRZC) will be the applicant for the grant. Although the land is owned by a private entity, the site will be open to the public and over a third of the land will become dedicated natural habitat, so enacting the Siskiyou Field Laboratory will have substantial public benefit.

This 14-acre site, at the base of Rocky Butte, on Siskiyou St. one block east of NE 82nd Ave, is part of a larger brownfield that was a former gravel quarry and construction landfill. It was closed over 30 years ago and Environmental Site Assessments have found it safe for the kinds of work envisioned in this project. In working to transform this area, Dharma Rain is partnering with many local organizations and schools. Siskiyou Field Laboratory is a cooperative project with Ecology in Classrooms and Outdoors, Portland Community College, Portland State University, and Madison High School.

DRZC's Board of Directors has endorsed both Siskiyou Field Laboratory, and the application to the Metro Council for funding assistance. After purchasing the land a year ago, DRZC has developed partnerships with a number of conservation organizations, as well as engaging the broader community in restoration work on site. DRZC has already organized over 40 volunteer work parties on-site, and has received funding for restoration or remediation work from East Multnomah Soil and Water Conservation District, the Environmental Protection Agency, Business Oregon, Tributary Fund and Portland Brownfield Program.

Siskiyou Field Laboratory is a natural outgrowth of DRZC's vision statement that references environmental sustainability. In DRZC classes and workshops, we cultivate awareness and a sense responsibility for our impact on others and the environment. Harmonious collaboration, conservation of resources, sense of local community, and attunement to sense of place all figure highly as values in Zen Buddhism. In addition, stewardship is a core value for DRZC's youth programs: the "Two Promises" participants make are to try to 1) understand, and 2) be kind to people, animals and plants.

An ecological steering committee has been formed to be responsible for shaping priorities and advising best practices for site design and habitat restoration. This steering committee has twelve members, and draws on over 260 years of combined professional experience in restoration or ecology. Ten members have been drawn from the broader scientific and habitat management community and two members with similar professional experience are also members of Dharma Rain.

In addition, for the next several years the duties of the project coordinator, Kakumyo Lowe-Charde, will consist entirely of managing the development and restoration of the site, so Kakumyo will be available to coordinate the project and help address any needs the Siskiyou Field Laboratory may encounter. He has worked full-time at DRZC for 16 years, is a certified arborist, and has a background in science and environmental advocacy. DRZC staff will be a 24/7 presence on the site, and will play a large role in restoration activities.

Program description

Siskiyou Field Laboratory is a program that gives students the ability to take part in lessons and experiments in a natural outdoor setting, and see how the results of their investigations impact the ecology of the area. The site is uniquely suited for this program because of its proximity to educational partners (Jason Lee Elementary and Madison High are less than a half-mile away), the extent of dedicated habitat space, the unique natural history and the impact of the site on the surrounding community. A total of 1,035 students will be participating over two years.

Six third and fourth grade classes from nearby Jason Lee Elementary School will receive 24 classroom ecology lessons and make 12 field trips to the site over two years. These experiences will be facilitated by Ecology in Classrooms and Outdoors (ECO), in conjunction with parent volunteers. During the 2-hr field trips, students will walk 5 blocks to the site and explore the ecology and plant native species. These field trips will empower young students to bring about positive change in their communities, and build pride and ownership amongst the students through their work reclaiming this natural space for their neighborhood. Walking field trips will dovetail with topics covered in class, allowing students to apply knowledge learned in ECO lessons.

Ninth through twelfth graders in Madison High's Advanced Placement Environmental Studies program (APES) will use the site as a case study in class, and visit the site approximately once a month for the duration of the program. Field activities will include photopoint monitoring, species counts in stable transects, stormwater flow and turbidity measurements, and other data collection activities. These data will be shared in end of year presentations. These activities have already started, and we envision them taking place over a 5-10 year window so that changes over time can be clearly demonstrated. In addition, Madison has a solid record of encouraging community involvement, so students will continue to participate in habitat restoration work outside of class time.

Students in undergraduate science education programs will be engaged as part of Portland Community College's Science, Technology, Engineering and Mathematics program at both Cascade and Division campuses and Portland State Universities' hydrology, geology and biology classes. Some classes will develop research hypotheses that are relevant to the development and restoration of the site and conduct fieldwork to refine or answer these questions. For example, students will model stormwater behavior and measure effectiveness of myco- and phyto-filtration strategies. These studies will directly inform efforts to remediate contamination and protect the aquifer from contaminants leaching from the landfill contents into groundwater. Other students will characterize soil in different areas and describe plant distribution to guide native planting activities. Students will also assist in the development of a field guide to educate volunteers engaged in restoration efforts that provides clues to recognizing invasive species and newly planted native species that will be found on site. The program provides an excellent opportunity for students to engage in scientific fieldwork in the local community, thus helping them see the connections between science, their own lives, and the communities they live in.

Supplemental activities that will be undertaken as part of Siskiyou Field Laboratory include establishing an outdoor classroom for twenty students, on-site storage for monitoring equipment so that numerous institutions can share resources, and two acres of habitat restoration work. The classroom will be used for discussions, writing exercises, planning or debriefing fieldwork or experiments, and as a base of operations during on-site activities. It will make it possible for differently-abled students who can't access the entire site to participate. Restoration activities included as part of this program will be restricted to the nascent oak savanna that surrounds the field classroom, and restoration work that is largely planned or carried out by students. In addition, children from a preschool run by DRZC and located on site will be involved in a less formal, age-appropriate manner, and may shadow the activities of other classes, both to expose young children to the values of stewardship and to enable the preschool faculty to present subject matter relating to ecology and conservation.

The Siskiyou Field Laboratory will address the Community Partnership goals by providing a way for classroom learning to be supplemented with experiential exercises and activities that increase students' understanding of conservation and ecology. The strong local character of the program will make it possible to emphasize community-based learning, engaging the larger community with a site that has been controversial and derelict, and creating a sense of stewardship and motivation to care for it, in accord with our vision and values (see previous section). The results of student experiments will be guiding the habitat conservation and environmental remediation activities taking place at the site.

The Siskiyou Field Laboratory will address the Environmental Literacy goals by supporting teachers with 'live' content to help infuse sustainability concepts into existing curricula. Specific structure and content of lessons will align with Next Generation Science Standards and the Oregon Environmental Literacy Plan. An essential component of this endeavor is involving underserved youth in this ethnically diversity community with a high poverty rate.

Siskiyou Field Laboratory also helps address goals found within both Metro 2040 and the Portland Comprehensive plan to develop brownfield properties within the Urban Growth Boundary. Additionally, the site is on the intercept of the Outer East Willamette subwatershed, and the Middle Columbia Slough subwatershed. Annual reports on both watersheds call for raising awareness of and involvement in stewardship issues, and planting of native species and habitat conservation.

Success will be evaluated by measuring 1) Number of youth participants, and hours spent at Siskiyou Field Laboratory. 2) Amount and quality of habitat restored. 3) Additional institutions involved in monitoring or restoration activities. 4) Ecological concept knowledge and feelings toward nature.

Our long-term plan is to build on this conservation education pilot program by cementing and expanding collaborative relationships with partnering institutions while continuing to provide opportunities for on-site, hands-on learning opportunities to students and the larger community.

Committed partners include Portland Community College (PCC), Portland State University (PSU), Madison High School, and Ecology in Classrooms and Outdoors (ECO).

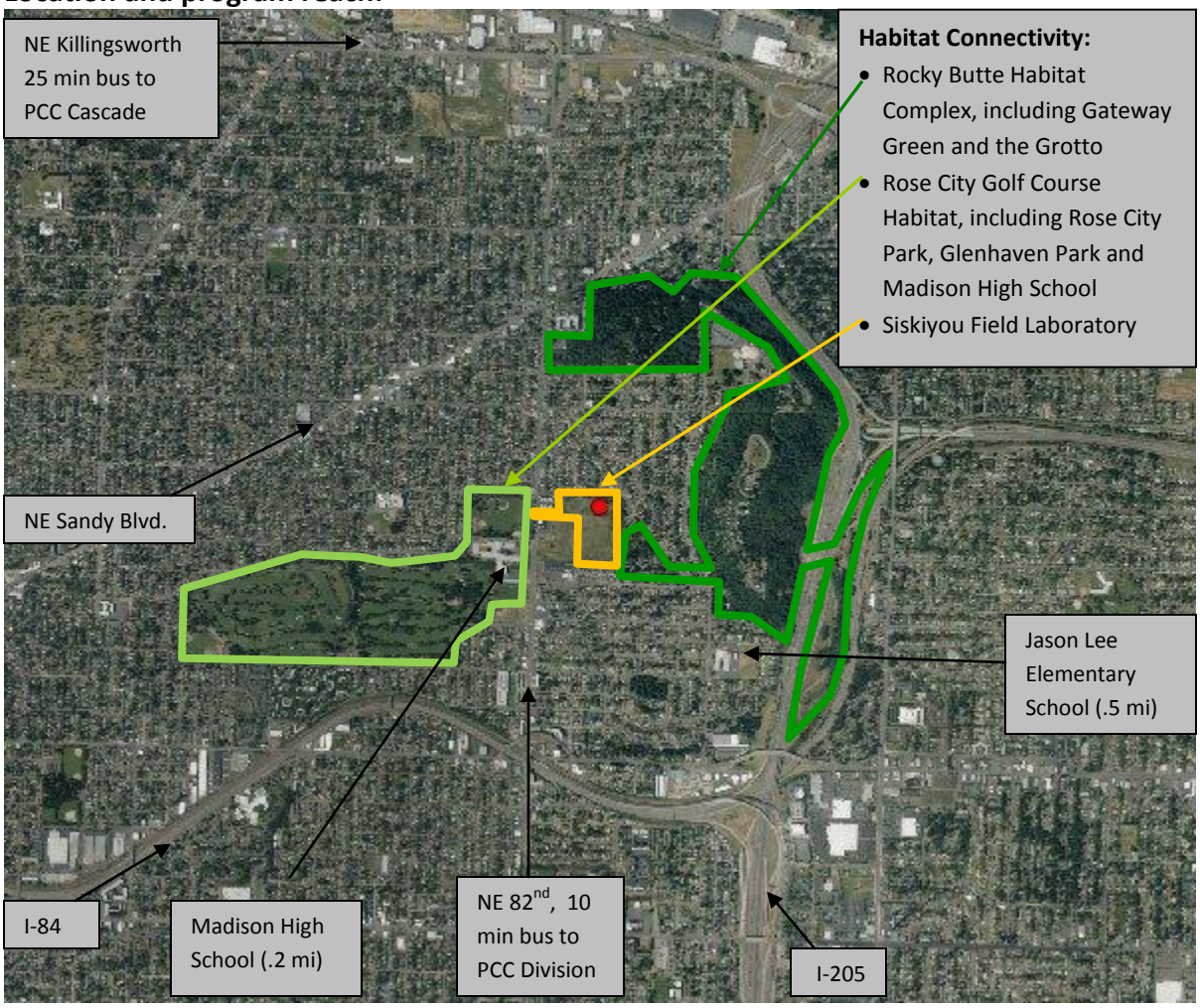
PCC is the fifth largest community college in the United States, and has two campuses within a 30-minute bus ride of the site. Both have earth, environmental, and life science programs that would benefit from having easily accessible field sites to use as outdoor laboratories. Furthermore, the district strongly encourages faculty to incorporate sustainability education and service learning into their curricula. PCC will provide students, staff, and administrative resources.

PSU is also an urban campus, with limited opportunities for field-based learning. Consequently, an ongoing relationship with a field site would be an asset for earth, environmental, and life science programs at the university. PSU is both a teaching and research institution and a nationally acclaimed leader in sustainability and community-based learning. These strong emphases allow PSU to bring valuable expertise in addressing site issues to the project.

Madison High School is directly across the street from the site, and the presence of 26 acres of unsupervised land has been a challenge for administrators and teachers trying to keep youth safe and engaged for years. Administration and faculty at Madison have been very involved in planning efforts with Dharma Rain's development on the site, and have already incorporated the site into numerous lessons, over 10 field trips, several days of volunteer restoration work, and engaged several collaborators in support of environmental learning on site.

ECO is a Portland-based non-profit organization that provides aims to connect students to nature through hands-on exploration of local ecology for elementary students. Programs include multiple classroom lessons, field trips and service-learning opportunities. ECO has received previous funding from Nature in Neighborhoods to support programs at Lent Grade School in SE Portland.

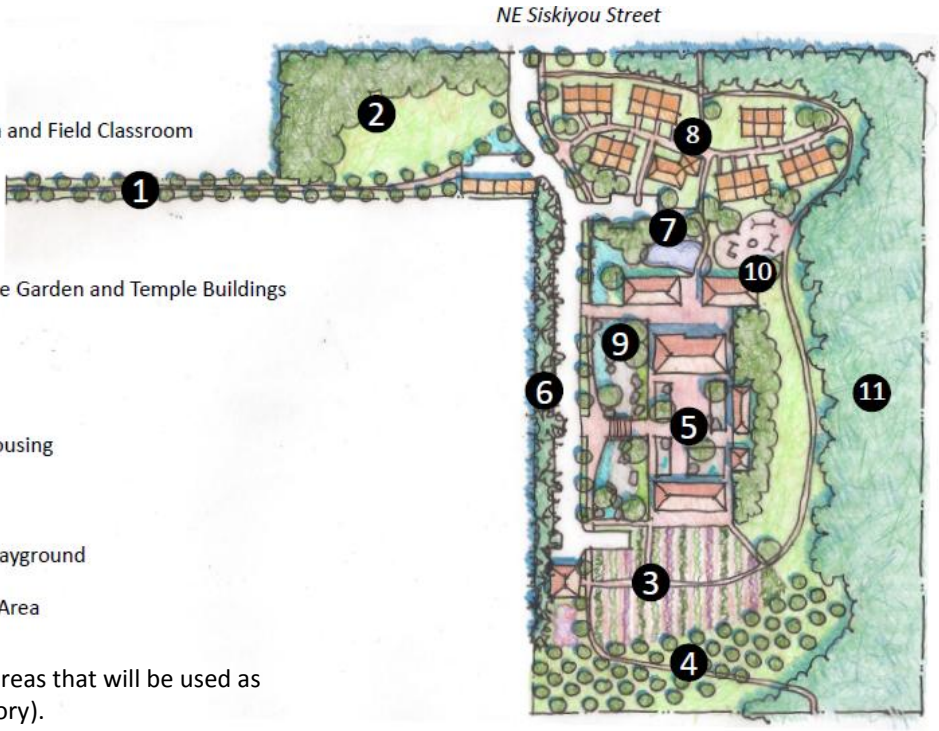
Location and program reach:



Demographic Data

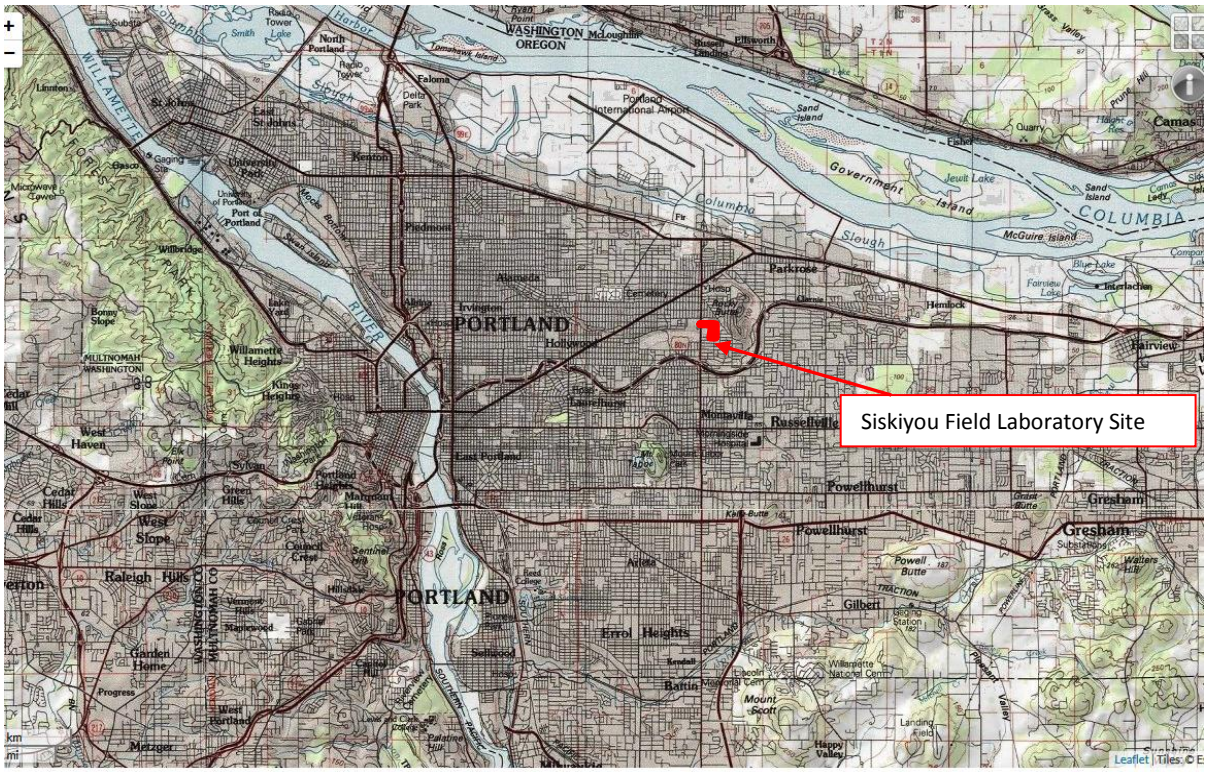
- The project area is economically distressed: The 2010 US Census tract has a poverty rate of 23.5%, and a family income of only 59.5% of the benchmarked median. In addition, Portland Public School data show that 77.5% of Jason Lee, and 66.0% of Madison students qualify for free or reduced school lunches, compared to 53.7% of Portland overall.
- The project area is ethnically diverse, with a Diversity Index of 63.8, much higher than the state of Oregon at 38.1, or Multnomah County at 46.9.

Site Map



Legend

1. Path to 82nd Ave.
2. Oak Savannah Habitat Area and Field Classroom
3. Community Garden
4. Orchard
5. Formal Courtyard, Japanese Garden and Temple Buildings
6. Buffer Plantings
7. Pond
8. Householder Refuge Co-Housing
9. Bioswales and Trees
10. Children's Programs and Playground
11. Ravine & Riparian Habitat Area

(Areas 2 and 11 are the primary areas that will be used as part of the Siskiyou Field Laboratory).

Area Map