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Metro
Parks and Nature
2016 Nature in Neighborhoods Conservation Education Grants
1/26/2016 deadline

Ecology in Classrooms and Outdoors Ecology Education in North Clackamas

\$ 30,000 Requested
\$ 59,000 Estimated Match

Submitted: 1/26/2016 10:47:31 AM (Pacific)

Project Contact

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none entered

Ecology in Classrooms and Outdoors

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Application Questions

1. Program summary (one paragraph, 255 characters)

Provide a brief summary that describes your program.

Ecology Education in North Clackamas engages 600 4th and 5th grade students and 20 teachers at four Title I elementary schools in the North Clackamas School District; each classroom will receive four ecology lessons and a service-learning field trip.

2. Fiscal agent

If different than the lead organization. If no fiscal agent, please write "not applicable".

Not applicable

3. Program partners

Committed partner organizations.

North Clackamas School District, Oak Lodge Sanitary District, Clackamas Water Environment Services, N. Clackamas Urban Watershed Council, Schoolyard Farms, N Clackamas Parks & Recreation, Institute of Permaculture Education, Portland State University

4. Potential partners

Potential partner organizations.

Clackamas County Hispanic Interagency Networking Team, Todos Juntos, Johnson Creek Watershed Council

5. Program length

(Select only one)

- One year
 Two years

6. Organizational preparedness (one page, 4000 characters)

Explain why your organization and partners have the experience and capacity to conduct the program, including identification of key personnel, their roles in the program and their qualifications.

Founded in 2005, Ecology in Classrooms & Outdoors (ECO) is a nonprofit organization providing enrichment programs to elementary school students in the Metro area. We meet our mission to connect students to our natural world through experiential ecology programs engaging students in conservation education and creating deeper connections to nature through repeat, multiple engagements.

Our programs are designed to connect students to nature, to spark an affinity for science, and to increase students' critical thinking skills. Programs include outdoor exploration and service-learning giving students the opportunity to apply concepts learned in ECO lessons to the real-world, and deepen ties to their community.

For 10 years we have provided over 2,400 natural science lessons to 15,000 students and 500 teachers. We serve K-5th grade students in Multnomah and Clackamas counties. Our program model engages pairs of ECO educators who deliver four to eight hands-on ecology lessons per

classroom per year. These cumulative visits build students' conceptual knowledge of ecology, develop environmental literacy and increase their critical thinking skills. Our qualified ecology educators hold advanced degrees in natural sciences and have over 35 years of combined experience in conservation education.

ECO's key staff are Sarah Bercume, Program Director; Bethany Thomas, Development Director, and Betsy Boudreau, Lead Educator. Ms. Bercume received a master's degree from Oregon Health Science University in Ecosystem Restoration and has over 13 years experience in developing and delivering environmental education. Ms. Thomas holds degrees in environmental science and geography from the University of Oregon and has been creating and teaching environmental education activities for 12 years. Ms. Boudreau holds a BA in Fine Arts from Lewis and Clark College and has 10 years of experience in environmental education.

Within the conservation education community, the ECO model is unique and comprehensive. ECO fills a niche by targeting elementary school students in underserved schools, by providing a series of cumulative hands-on ecology lessons presented throughout a child's elementary career and by aligning our lessons with the Next Generation Science Standards (NGSS). We provide expertise in integrating science, technology, engineering and math (STEM) into our curriculum, leadership in outdoor exploration and knowledge of educational standards. We assist teachers in meeting required teaching objectives and advancing STEM education in local underserved elementary classrooms. The project supports region-wide initiatives; ECO is a member of both the Intertwine Alliance and the Portland Metro STEM Partnership. ECO is a strong proponent of the Oregon Environmental Literacy Plan.

ECO is experienced in facilitating habitat restoration and enhancement projects, including work at community restoration sites and creation of rain gardens and outdoor classrooms on school grounds. During service-learning projects, students apply concepts learned in ECO lessons to authentic habitat restoration work. To enhance our programs, we actively seek complementary partnerships including work with Portland Parks & Recreation, Lents Springwater Habitat Restoration Project, Forest Park Conservancy and the Johnson Creek Watershed Council.

Ecology Education in North Clackamas is a Metro-funded project started in the 2015-2016 school year. There is a strong primary partner - North Clackamas School District (NCSD) - and seven program partners that include Clackamas Water Environment Services (CWES), North Clackamas Parks and Recreation (NCPRD), Oak Lodge Sanitary District (OLSD), Institute of Permaculture Education for Children (IPEC), Schoolyard Farms (SF), North Clackamas Urban Watershed Council (NCUWC) and Portland State University (PSU). The partnership engages students in nearby field experiences including ecology exploration, service-learning and habitat restoration.

7. Partnerships (one page, 4000 characters)

Show how partnerships and collaboration with other individuals, organizations and groups in your community will be formed, strengthened and extended through this program.

ECO has a committed partnership with the North Clackamas School District (NCSD) and its Executive Director of Elementary Programs. NCSD affirms ECO's valuable educational resources and its ability to provide students with unique learning opportunities. ECO works closely with curriculum leaders to ensure lessons are meeting School District goals. NCSD and ECO continue to explore ways the District can provide financial support to our programs when NGSS is adopted in the upcoming years. The four participating schools are partners that provide support and time commitment for students as well as access to materials, copiers, document cameras and other resources.

Current partnerships with NCPRD, OLSD, IPEC, SF and NCUWC will be strengthened as we facilitate student field trips at these agencies' project sites and support their on-going community restoration efforts. Each group offers in-kind match of staff time, tools and equipment, and site access to assist ECO in offering hands-on service-learning opportunities for each of 20 field trips. During these real-world, on-going restoration efforts students work on invasive plant removal and native plantings based on site specific needs.

The roles of each partner are as follows:

- * North Clackamas School District (NCSD) will provide coordination between ECO, participating teachers and school administrators.
- * Oak Lodge Sanitary District (OLSD) will provide site access to the Elks Lodge wetland, may be able to provide community volunteers and native plants. Oak Grove students will visit a wetland restoration site adjacent to the Milwaukie Elks Lodge.
- * Institute of Permaculture Education for Children (IPEC) will provide site access to Jean's Farm, along with staff support and coordination of restoration activities. Students from Ardenwald will visit nearby Jean's Farm - only a quarter mile away - to explore this natural area's ecology and work on invasive plant removal. Students' efforts will enhance fish and wildlife habitat in a region immediately adjacent to Johnson Creek
- * Clackamas Water Environment Services (WES) will assist connection to community partners with on-going restoration sites, and may be able to provide community volunteers.
- * North Clackamas Parks and Recreation District (NCPRD) will provide site access to Risley Park, able to provide tools and equipment and may be able to provide staff support and/or community volunteers. Students from Riverside will visit Risley Park to work on restoration activities in the riparian zone at River Forest Creek.
- * Schoolyard Farms (SF) will provide site access to their Candy Lane site, along with tools, community volunteers and will be able to provide staff support. Milwaukie students will participate in service-learning opportunities at Schoolyard Farms.
- * North Clackamas Urban Watershed Council (NCUWC) will be a key connection to community partners, is able to coordinate community volunteers, offer staff support and provide native plants for the restoration projects.
- * Portland State University (PSU) will create volunteer mentorship opportunities for PSU Sustainability Students. This group of 8-16 student volunteers will assist with field trips.

During the project year ECO will explore potential future partnerships with culturally-specific organizations serving children of color, especially Latino - given a range of 17% - 38% Latino youth at project schools. A future partnership could lead to increased engagement of Latino youth and their families in conservation education.

8. Program narrative (one page, 4000 characters)

Provide a narrative that describes the program. Explain why the program is important for your organization and community, such as how it fits your organization's strategic plan or mission.

The Ecology Education in North Clackamas project will reach 600 4th and 5th grade students (ages 10-11 years old) and 20 teachers at four elementary schools (Ardenwald, Milwaukie, Oak Grove and Riverside) in the North Clackamas School District. All four schools are designated Title 1, with an average of fifty-eight percent (58%) of students eligible for free or reduced price lunch. The racial/ethnic composition of these four schools are Caucasian (62%), Hispanic (26%), African American (2%), Asian (2%), Native American (1%) and Multi-Ethnic (7%).

Each of the 20 participating classrooms will receive four 45-minute ECO lessons at their school, as well as one field trip to a nearby location. Students from Ardenwald will visit nearby Jean's Farm to explore this natural area's ecology and work on invasive plant removal. Milwaukie students will participate in service-learning opportunities at Schoolyard Farms. Oak Grove students will visit a wetland restoration site adjacent to the Milwaukie Elks Lodge. Students from Riverside will visit Risley Park to work on restoration activities in the riparian zone at River Forest Creek. From January to May 2017 the project will provide North Clackamas students with 2,700 hours (4.5 hours per student x 600 students) of Northwest nature study in their classrooms, schoolyards and neighborhoods.

To support teachers in meeting teaching objectives, all lessons are aligned with Next Generation Science Standards (NGSS) as time is a limited resource within the school day. Outdoor experiences are a vital component to engage students of all learning styles. These experiences include a combination of service-learning and experiential opportunities based on the needs and resources available at each individual school. The project responds to NCS D community needs to build science literacy, engage students in activities tied to NGSS, develop students' critical thinking skills and apply the science inquiry process to hands-on ecology lessons.

To illustrate the success of our program we will measure students through pre and post surveys, teacher post surveys, testimonials and anecdotal stories from both students and teachers. Through the program we will deliver 80 ecology lessons and facilitate 20 service-learning field trips. The program delivery will begin in January 2017 and run through May 2017. We will use the teacher surveys, testimonials and feedback from our project partners to improve our work.

Our 2016-2017 project is an enhancement of our current Metro-funded effort. As described in the Goal section we are adding two new objectives: (1) A family engagement component that serves as an end-of-year celebration for youth and promotes stewardship of nature among the entire family; and (2) Exploration of potential future partnerships with Clackamas County's culturally-specific organizations (priority are those serving Latinos, the largest percentage of students of color in the project's four schools).

This project is in direct alignment with ECO's mission to "connect students to the natural world" and our commitment to underserved schools. Our programs are presented by pairs of ECO ecology educators, and include four to eight visits in a classroom during the school year. Service-learning and other experiential opportunities often occur during the program and vary according to the needs and resources available at each individual school. All ECO lessons are aligned with NGSS in order to best support teachers in meeting required teaching concepts. This is an essential element to our programs, as teachers do not have time within the school day to support programs that are not meeting educational standards.

ECO's project builds momentum for core equity goals, positive support for conservation education and a good program delivery reputation to achieve future funding for programs at these schools into the future.

9. Goals (one page, 4000 characters)

Describe how the program addresses the Nature in Neighborhood conservation education grant's purpose, category and goals, including how the program supports regional and local initiatives.

Ecology Education in North Clackamas has a simple goal: To connect North Clackamas elementary school students to the natural world. The project's 2016-2017 school year adds two objectives (#2 and #3) to enhance engagement and potential for future community impact. The project's three Year 2 objectives are:

Objective 1: To provide classroom conservation education lessons and hands-on field trips connecting 600 4th and 5th grade students to the natural world. The project will conduct classroom lessons and field trips for 600 4th and 5th grade students from four Title 1 schools within the North Clackamas School District (NCS D). Target schools are Ardenwald, Oak Grove, Riverside and Milwaukie elementary schools. Each of the 20 participating classrooms will receive four 45-minute ECO lessons at their school, as well as one field trip to a nearby natural area

Objective 2: To engage underserved families in support and celebration of their child's conservation education. ECO will explore the potential of utilizing one school's existing Spring 2017 school event to engage program youth and family members with fun, hands-on conservation activities that support the child's ongoing connection to local ecology and conservation education. The dialogue with schools will take place in Fall 2016.

Objective 3: To explore potential future partnerships with Clackamas County culturally-specific organizations and groups serving at-risk youth. Outreach and dialogue will begin with culturally-specific groups that directly engage growing cultural communities (especially Latino) and low-income families.

The project strongly aligns with 10 of the 14 grant program goals and meets all of the goals in the connecting people with nature and environmental literacy categories. The project aims to connect people with nature, which is also synonymous with our organization's mission. This project will integrate conservation education programs into underserved elementary schools and help ECO build new partnerships within Clackamas County. We will collaborate with our partners to lead field experiences in local parks and natural areas to engage students in service-learning projects in their communities, and support the application of concepts learned in ECO lessons to real-world habitat restoration.

The project will advance environmental literacy in underserved schools. We will increase access to place-based nature education through our series of hands-on ecology lessons for elementary students in 4th and 5th grade. We align our lessons with the NGSS to assist teachers in meeting required teaching objectives and integrating environmental education into formal, school-based learning while implementing components of the Oregon Environmental Literacy Plan.

The project will benefit the broader community as well. Studies show that in the last two decades, childhood has moved indoors. Each day the average nine year old child spends six hours in front of a screen and less than ten minutes in unstructured outdoor play. Despite the decreased time spent outdoors, ECO recognizes an innate interest in children to explore and learn about the world around them. Simultaneously, we acknowledge a school's inability to meet this curiosity due to time, funding, and logistical constraints. ECO programs provide students with the opportunity to connect to nature by exploring the world around them, to increase their conceptual knowledge of Northwest ecology and to better understand concepts required by educational standards.

Documents Requested *

Location and program reach (two pages): Provide a location/vicinity map that shows where the program and/or participating communities are located within the region. Describe the demographics and any unique characteristics of the community.

Please download and fill out the 2015 NIN Conservation Education demographic form. The demographic information you provide on this form will not be used for the review of your grant application.

[download template](#)

Required? Attached Documents *

[Location and Program Reach](#)



[Demographic Data](#)

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Location and Program Reach: Ecology Education in North Clackamas

The *Ecology Education in North Clackamas* project will reach 600 4th and 5th grade students (ages 10-11 years old) and 20 teachers at four elementary schools (Ardenwald, Milwaukie, Oak Grove and Riverside) in the North Clackamas School District. All four schools are designated Title 1, with an average of fifty-eight percent (58%) of students eligible for free or reduced price lunch. The racial/ethnic composition of these four schools are Caucasian (62%), Hispanic (26%), African American (2%), Asian (2%), Native American (1%) and Multi-Ethnic (7%). (Data compiled from the Oregon Department of Education). Currently we are in the first year of delivering Metro-funded conservation education programs at the four schools listed above; our efforts are building momentum, positive support and a good reputation.

In the 2016-2017 school year we will extend our current program reach to include the following: (1) Objective 2: we will explore the potential of family engagement that utilizes one school's existing Spring 2017 school event to engage program youth and family members in hands-on conservation activities that support the child's ongoing connection to local ecology and conservation education and (2) Objective 3: we will explore future partnerships by beginning outreach and dialogue with culturally-specific groups that directly engage Clackamas County's growing cultural communities (especially Latino) and low-income families. Latinos comprise 33% of Riverside Elementary school's student body.

ECO has been delivering programs in the North Clackamas School District (NCSD) since 2007 and we have a committed partnership with the District's administrators. Our strong relationships with the NCSD's Executive Director of Elementary Programs, Coordinator of Math and Science and the District's Science Instructional Coach enables us to develop and implement programs that meet the needs of the District, teachers, students and community. We are in the process of exploring how ECO programs are able to meet the District's STEM initiative. This initiative requires that each K-12 classroom engages in an authentic community-based STEM experience every year. ECO is well-positioned to facilitate these experiences within the District's elementary schools as we are working directly with a number of community and nonprofit organizations and government agencies within the region.

Below is a map of schools and field trip sites included in the *Ecology Education in North Clackamas* project. Schools markers and their corresponding field trip site markers are depicted in the same color.

Ecology Education in North Clackamas

School 1 & Field Trip Site

- Ardenwald Elementary
- Jean's Farm

School 2 & Field Trip Site

- Milwaukie Elementary
- Schoolyard Farms

School 3 & Field Trip Site

- Riverside Elementary
- Risley Park

School 4 & Field Trip site

- Oak Grove Elementary
- Elks Lodge Wetland

