2025 EWEB Greenpower Grant Application

Piloting Sustainable Restoration: Electric Work Vehicle to support the University of Oregon Natural Areas Program and Landscape and Grounds team.

Amount Requested: $49,893

Background:

Mission

The University of Oregon's (UO) Natural Areas Program has a three-pronged mission to create restoration, engagement, and research opportunities for students, faculty and the surrounding community. Initiated in June 2024, the UO Natural Areas Program works to enhance the quality of habitat and recreation opportunities on the UO Willamette River Natural Area (WRNA) and Millrace Natural Area.

Needs Addressed

We are tasked with restoring 24 acres of highly degraded habitat on the UO Willamette River Natural Area into healthy riparian and woodland forests including an oak savannah as recommended by the 20-year WRNA Landscape Management plan. Besides restoring the habitat, the Willamette River Natural Area provides an open space for the Eugene and Springfield community to recreate as the Ruth Bascom Riverbank path system runs through the center of the property and its north edge includes the Frohnmayer footbridge with access to Alton Baker Park, Autzen Stadium, and PK Park. While fulfilling a need for the community to recreate in and learn about the natural environment, we are also conducting restoration research and professional development opportunities for students. In addition, the WRNA falls within the EPA Disadvantaged Community Environmental and Climate Justice Program boundaries and is a priority for restoration and tree planting efforts.

Since the program's inception 9 months ago we have addressed the following restoration and engagement needs:

- planted 159 pollinator and wildlife friendly plants
- created educational opportunities for 291 participants including class tours, tabling, nature walks, seed ball activities, and bird walks
- removed 52 cubic yards of invasive species
- posted outreach materials for Instagram (17,400+ views) and google maps (3,900+ views)
- initiated 4 student-led research and/or restoration projects

In addition, our 49 planted trees will produce approximately 288 lbs. of oxygen/year and store 108 lbs. of carbon (omnicalculator; 1" diameter at breast height).

Population Served by Organization

The Willamette River Natural Area is used by the surrounding Eugene/Springfield community by visitors who use the Ruth Bascom Riverbank path system and the Frohnmayer footbridge. Annually, thousands of UO students, faculty and staff frequent the WRNA both recreationally and as commuters. At our education and restoration events, we have served over 290 students and community members. In some cases, we have observed participants bringing their parents and children. We also engage the local community during football games when many of the 54,000 participants walk through the Willamette River Natural Area and read the Natural Areas Program educational signage on their way to Autzen stadium.

Current Programs and Operating Budget

The UO Natural Areas Program was established in June 2024 and has grown substantially to engage students, faculty, and the surrounding community. In addition to one full-time staff member, our operating budget of $58,000 covers all restoration, engagement, and research projects that we conduct to enhance the Willamette River and Millrace Natural Areas. We are approved for a one-time start-up fund through UO Campus Planning and Facilities Management that will be exhausted at the end of this fiscal year (June 2025). Our projects are supported by enthusiastic student employees, interns, volunteers and classes who carry out restoration projects on the natural areas with the guidance of the Natural Areas Steward.

Project Description:

Project Purpose and EWEB's mission

In an effort to transition the care of UO's landscape to a more sustainable set of practices, we seek to establish a network of electric work vehicles. The funds from this grant will be used to purchase the first pilot vehicle of the program. Although electric vehicles are common on the UO and surrounding community, it is unusual for a small electric work vehicle to be used off-road for towing pull-behind mowers, watering trees, and delivering soil and native plants to restoration sites. This pilot electric work vehicles will be used by both the UO Campus Natural Areas Program and Landscaping and Grounds team to complete restoration work in the natural areas, as well as maintain vegetation across the UO campus.

This electric work vehicle proposal fulfills all EWEB program goals including:

- promoting a commitment to the environment and community through use of the electric vehicle for habitat restoration on publicly accessible natural areas;
- increasing awareness by using the electric vehicle on the highly trafficked Ruth Bascom Riverbank path system;
- adopting emerging technologies by piloting an electric work vehicle;
- and reducing our community's carbon footprint by planting native trees, shrubs, and forbs.

Besides being a sustainable vehicle, we will be accelerating our habitat restoration projects by using the vehicle to:

- move invasive species to the compost pile,

- haul tools and native plants to the WRNA for planting,
- establish native habitat and food sources for wildlife,
- and water native trees and shrubs.

Currently, the UO Landscape and Grounds team operates a fleet of ~15 Kubota biodiesel vehicles which they use to maintain the campus landscaping. These vehicles are noisy, produce exhaust, and, in some cases, are nearing the end of their life. As a young program, the Campus Natural Areas does not currently own any maintenance vehicles for use in restoration activities and uses bicycles and borrowed trucks to conduct restoration activities. This grant would support this program in being able to purchase a more sustainable electric work vehicle.

The Campus Natural Areas Program is housed within the Office of Sustainability and has a high regard for applying sustainability across all levels of operation. As such, we believe the work vehicles we use should further sustainability goals and take strides toward lowering the UO's overall greenhouse gas emissions. We seek to better the current practices used to maintain landscapes at the UO campus and in the natural areas by exploring the feasibility of a program to replace the existing Kubota biodiesel vehicles with electric work vehicles. This pilot is a necessary step before any larger plans for electrification of the maintenance vehicle fleet would be considered.

Of the 13 electric vehicles reviewed for this project, the 2025 Polaris Ranger XP Kinetic ultimate was selected due to its superiority in all categories. The Polaris XP is capable of hauling 1,000+ lb. loads of water and soil; towing pull-behind mowers and trailers; high clearance for traveling off-road over uneven terrain, durable offroad tires and extended range battery. We are exploring one other vehicle option for its feasibility, but the pricing, use, and emissions impacts are similar to the Polaris.

This project fulfills all aspects of the EWEB Greenpower Grant program goals. We will demonstrate commitment to the environment by using the vehicle on natural areas habitat restoration, engagement and recreation projects. This vehicle will be highly visible and increase awareness of sustainable vehicle options, as the community uses the Ruth Bascom Riverbank path system and participates in WRNA events and activities. This project also pilots the emerging technology of electric UTV usage for landscape maintenance and serves as a first step to explore the feasibility of a larger project with a broader impact in terms of emissions reductions. This transition will reduce both emissions and vehicle noise pollution in both UO natural areas.

Population Served by Grant

The electric vehicle purchased with this grant will be used to fulfill our three-pronged mission of creating restoration, engagement, and research opportunities for students, faculty and the surrounding community and as such serves the same population as our organization (listed under Section 1). We look forward to serving the Eugene/Springfield community through our restoration and engagement events. With each successful event, we increase the native habitat, canopy cover and educational opportunities available to visitors of the WRNA.

Strategies

To ensure we chose the optimal pilot vehicle, we have completed 7 months of research on electric UTVs that are suitable for field work and feel confident that this vehicle best fits our needs. We have formed a team including the UO lead mechanic, purchasing department representative and sustainability personnel to ensure that the vehicle will be purchased and utilized immediately. The vehicle will arrive at the beginning of summer, just in time for the summer watering and invasive species removal before they go to seed. In fall 2025, the vehicle will continue to be used to implement our invasive species removal and native tree and shrub plantings.

As an electric vehicle, maintenance is predicted to be much lower than traditional vehicles. In the case that maintenance is necessary, however, we will coordinate with the UO mechanic and vendor who also offer vehicle servicing.

This vehicle is equipped with a combined Level 1/Level 2 mobile EV charge cord that can be plugged into either a 120v or 240v outlet for charging. As such, we already have the ability to charge this vehicle. We are initiating a project to increase speed of charging by creating a new Level 2 station; however, we will not have a timeline in place until after the submission of this grant.

Project Evaluation

Definition of Project Success

- Purchase of the first UO electric work UTV vehicle for the Natural Areas Program
- Successful 2025 summer watering season of 2+ events per month to maintain recently planted native trees and shrubs
- Use of vehicle in at least 9 highly publicized community restoration and/or education events during the 2025/2026 school year
- Weekly use of the vehicle to conduct day-to-day operations of the Natural Areas Program

Results to Achieve

- Publicity of the electric vehicle pilot project and UO Natural Areas Program
- Planting of an additional 100+ new native trees and shrubs with an emphasis on pollinator and wildlife friendly plants during fall term 2025
- Bimonthly watering of 159 native plants during the summer of 2025/2026

Measuring Effectiveness

We will measure:

- quantities of:
    - trips taken and miles driven
    - classes and community members engaged
    - plants watered
    - cubic yards of invasive species removed
    - species planted
- emissions reductions relative to the Kubotas to better understand the long term GHGs impacts if we were able to move to broader electrification

Budget and Timeline

Project Budget

An initial summary of the proposed project budget is outlined in Table 1, below. The University of Oregon Campus Planning and Facilities Management has agreed to cover the costs necessary to outfit the electric UTV with supplies to ensure it is capable of the same tasks at the current Kubota fleet. The amount requested from the Greenpower grant is the initial purchase of $49,893 for the electric pilot vehicle.

If the cost of the electric pilot vehicle is covered by the EWEB grant, the Associate Vice President of UO's Campus Planning and Facilities Management has agreed to fund the retrofitting of the vehicle for natural areas restoration use (electric bed lift, 60-gallon water tank, brush guards and trash can hauler ($3,100) as well as the installation of a Level 2 charging station.

Table 1 – Project Budget Summary

Grant Funding	
Pilot Vehicle (2025 Polaris) [a]	$49,893
Additional Funding Sources	
Outfitting Pilot Vehicle[b]	$3,100
Project Total	**$52,993**

Notes:
a. Price of the 2025 Polaris pilot vehicle is based on Mid Valley Tractor estimate from September 20th, 2024.
b. Outfitting of the pilot vehicle includes all options necessary to ensure the Polaris is capable of the same tasks as the Kubota.

Project Timeline

The estimated timeline of the purchasing and use of vehicle is located below.

April 2025	Purchase electric work vehicle
June 2025	Electric vehicle delivered. Outfitting requires 2-4 weeks.
July-September 2025	Vehicle will be used to water already planted native trees and shrubs and remove invasive species
October 2025 – May 2026	Vehicle will be used for restoration (carry native plants, mulch, water and invasive species) and engagement (carry tables, educational supplies) events to and from the Willamette River Natural Area
June 2026	Restoration Event Cycle starts again. Final report submitted to EWEB on activities the electric vehicle is used for.

Attachments

Key Staff Resumes

Emily Hamblen is the University of Oregon's first Natural Areas Steward. As such, Emily creates restoration, engagement and research opportunities for students, faculty, and the surrounding community. Before joining the UO, Emily spent 20+ years as a wildlife biologist focused on reducing human-wildlife conflict. As a Eugene native, she studied at Lane Community College, followed by a dual Major in Wildlife and Conservation and Zoology (Oregon State University) and M.Sc. in Wildlife and Conservation Biology (Colorado State University). In previous positions, Emily raised over $440,000 in private and government grants and donations and managed 7+ wildlife projects simultaneously.

Steve Mital is the founding director of the University of Oregon's Sustainability Office and also directs the Utilities and Energy office. He was part of the three-person team that developed the Oregon Model for Sustainable Development, a landmark campus energy policy that required all new buildings to harvest 100% of their energy needs from existing building stock. He also led the initiative to create the Oregon Leadership in Sustainability graduate certificate program that launched in 2011. Prior to this position, Steve was an instructor in the Environmental Studies Program at the University of Oregon, where he also studied. While there, he founded and directed the Environmental Leadership Program for graduate and undergraduate students. Steve spent eight years as one of five Commissioners elected to govern the Eugene Water and Electric Board. He is currently on the Lane Community College's Board of Trustees.

Sarah Stoeckl, Associate Director of the Office of Sustainability manages the office's academic, co-curricular, and community outreach and engagement programming, and leads the outreach, engagement, and education team. Before joining the Office of Sustainability, she was a Senior Project Manager at the International Society for Technology in Education, focused on projects and programs that support the meaningful use of technology for learning. She earned her PhD in Literature from UO.

Previous funding support from EWEB

As a new program, the University of Oregon Natural Areas Program has not received funding from EWEB previously. The Office of Sustainability does work in collaboration with EWEB to implement the Home Energy SCORE Program.

Proof of ownership and project support

Please see the attached letter of support from Associate Vice President of Campus Planning and Facilities Management for information on matching funds and University support of the grant application.