Open Meadow Corps Restoring the Urban Environment program (CRUE) Final Report for the Greenspaces Environmental Education Program

June 3, 2003

1. Written summary of grant activities that include progressive steps on how actual activity/project was completed.

Major activities for the completion of the project include:

- **Completion of the plant reintroduction matrix** (see attached)**:** Students completed the plant reintroduction matrix for the Knez wetland. This process included studying plant communities in two comparable Willamette Valley wet prairie sites, studying the hydrology using a peziometer, and studying riparian plant values using field guides.

  The matrix recommends specific plant species for planting and reintroduction at the Knez wetland. Students first presented their progress on the matrix in November at a public presentation held at the school. Students presented the final matrix to The Wetlands Conservancy board of directors (property owners of Knez) on Wednesday evening, March 12th, to the Senior Management of Thomason Toyota on May 28th, and to community supporters on June 4th.

- **Completion of the writing anthology** (see attached)**:** Students worked extensively with two local writers on their writing skills, including: use of detail detail, examining their own lives and surroundings through poetry, and on rhythm, rhyme and repetition. Working with a graphic artist, students also completed a cover for their collection of writings, which they compiled into an anthology entitles *Poems From the Dome*. The anthology was also presented at the public presentations.

- **Composing letters to public officials on land-use laws:** Students have also completed research on Oregon's land use laws that control urban sprawl, protect farmland, and protect wildlife habitat. Students drafted letters to public officials on issues surrounding these land-use laws.

- **Completed reading the novel, *Ishi*:** *Ishi* is about pre-European settlement of the Willamette Valley. Students also read *The Lone Ranger and Tanto Fist Fight in Heaven*, to learn more about the culture of the Willamette Valley's native inhabitants.

- **Expanded the study of wetlands to include water quality issues and the role of beavers:** Using hobo gauges in conjunction with a *hydrolab*, a computerized water quality probe, students will continue study of the water quality at Knez and neighboring Wetlands Conservancy properties. The beaver study is in response to the fact that beavers the threatened locally, due to their impact on neighboring business properties.

- **Included wildlife monitoring as an additional aspect of the beaver study:** Working with staff from the Wetlands Conservancy, students identified the importance of

monitoring all wildlife at the wetland site to measure the importance of urban wildlife habitat.

2. ***Written evaluation and comments by grantee and/or others involved in the activity/project. This should include: what worked/what did not work, helpful hints for future project managers.***

What Worked

- **Students are being thoughtful about land-use:** Debates in the class have been intelligent as students weigh societal benefits of land-use laws versus the rights of private property owners.
- **Increasing student attendance:** Student attendance exceeded 90% for the duration of the project.
- **Encouraging students to take ownership of their writing:** Students took pride in their writing. They learned many new writing styles, including creative writing, expository, and formal letter writing.
- **Increased work sample scores:** About eight years ago, Oregon instituted formal statewide education reform that included performance assessment tests and the inclusion of student "work samples" in student portfolios. Total student average work sample scores increased dramatically over the duration of this project.
- **Increased program visibility:** An "Advertorial" on this project is scheduled to be published in TIME Magazine in the August 4, 2003 issue. OPB did a story on its *Golden Hours* show that included a review of the project. *The Skanner* has approached Open Meadow to do a story on the project.

What did not Work

- **Studying a site 2 hours away:** one of the plant community comparison sites was too far away to visit regularly and collect any useful information. Travel logistics were too challenging.
- **Rare plan research:** While there is significant research available on endangered plants, there is a dearth of information of rare plants. The research skill-level of many CRUE program participants is too limited to have been an effective teaching opportunity. The result is that too much staff time was required to properly prepare the curriculum.

3. ***Photo documentation showing how the activity/project was accomplished.***

Please see attached photos of student work and student presentations.

4. ***If the grant included a restoration/enhancement portion, please include before/during/after photos of the site. Set, permanent photo points for monitoring purposes are strongly recommended. Include map and photo points with slides of photo points.***

N/A

5. If the grant included a restoration/enhancement portion please outline the maintenance plan or follow up activities that will ensure success of the project.

N/A

6. If the grant included a restoration/enhancement portion please note the number and species of trees, seedling and shrubs planted. Accurate numbers and species are necessary.

N/A

7. Actual product of the grant such as curriculum, video, guide, brochure, etc. that the grant monies funded.

Please see attached **plant re-introduction matrix** funded by this grant.

While this grant did not explicitly fund the anthology published in conjunction with this project, a copy of these writings is also included.

Plant Name	Range	Plant Association	Soil	Shade/Sun	Hydrology
Columbia Cress ***Rorippa Columbiae***			Gravel mixed with	In open areas in the sun light	Likes wet seasonally flooded areas
Peackock Larkspur ***Delphnnium Pavonacium***	Only in the Willamette Valley,	Native grasses and small shrubs along fencelines		Open areas without canopy cover, no shrubs or trees	Well drained areas on higher ground
Willamette Daisey ***Erigeron Decumbens***	Wide spread throughout the Willamette Valley	Mixture of native bunch grasses and scattered oak trees.		Open areas with little or no canopy cover	Is both bottom lands and high lands. Wet soil that dries out in the summer.
Nelsons checkermallow ***Sidalcea Nelsoniana***	Western Willamette Valley, Washington through the Puget trough and Benton county.	Oregon ash and native grasses. Invasive plants are Canary grass, blackbarry and Queen Annes Lace	Clay and sandy soil. Both poorly and well drained soil	Likes lots of sun, does not grow in shaded areas.	Likes wet lowlands, along streams.
Bradshaws Lomatium ***Lomatium Bradshawii***		Erigeron Decumbens, Aster Curtus, Tufted Hairgrass, Sedges, Rushes and Red Fescue.	Deep aluvial clays, usually in a matrix with alluvial silts. Well drained very dence clay.	likes open prairies no shade	Saturated soils. Wet during winter, drying out in the summer.

White-Topped Aster ***Aster Curtus***	Willamette Valley low lands to the southern part of Vancouver Island. Below 550 feet elevation.	Tufted hairgrass, Oregon ash, camas lily, snowberry, meadow checkermallow, Idaho fescue.	Hydric soil, poorly drained.	No shade, open prairie.	Wet prairies that become dry in late summer.
	Location	**Plant communities**	**Soil**	**Shade/Sun**	**Hydrology**
Knez wetland	Located in Tigard Oregon, Washington County in the Northern Willamette Valley	Tufted hairgrass, Reed canary grass, Shrubs, Oregon ash, Willows, Slough sedge, Rush	Verboort silty clay loam, poorly drained.	Open wetland with very little shade	Soil is saturated for most of the year, otherwise water is within several inches of surface.

Aster curtus

Description:
General: perennial herb, 5-10 inches tall. Flowers grouped at the top of the stem.

Leafs: Longest leaves are about 1 inch long.

Flower: off white cluster of flowers siting on a single stem.

Habitat:
Hydrology: Lives in seasonally-wet soils that are create moisture stressing conditions in the dry season.

Soils: Poorly drained, clayey, hydric soils.

Plant associations: Herbaceous plants include tufted hairgrass, camas, and Idaho fescue. Common shrubs include snowberry (*Symphoricarpos albus*) and serviceberry (*Amelanchier alnifolia*).

Light/Shade: Lives in open prairie habitats with plenty of sunshine.

Range: It lives from the southern Willamette Valley to the southern end of Vancouver Island, British Columbia.

Sources:
Field Guide to Selected Rare Vascular Plants of Washington
Washington Natural Heritage Program and U.S.D.I. Bureau of Land Management

Bradshaws Lomatium

Lomatium Bradshawii

Description:
General: Bradshaws Lomatium is a perennial herb, eight/ twenty inches in height.

Leaves: Leaves are chiefly basal, occurring at the bottom of the plant. Ranging from 1 to 3 dm long.

Flowers: Their yellow flowers are .5 mm and are grouped in bunches of five to fourteen flowers.

Habitat:
Hydrology: Bradshaws Lomatium likes seasonally saturated or flooded prairies.

Soils: Dense heavy clays with a slowly permeable clay layer.

Plant associations: Commonly found with Willamette Daisy and Aster Curtus. Lives at edges of tufted hairgrass prairies alongside sedges and rushes. In drier areas lives by *Danthonia californica, Festuca rubra, Lazula campestris*.

Light/ Shade: likes open prairies and low shaded areas.

Range: Lives mostly in flooded prairies, along creeks and small rivers. Throughout the southwestern portion of the Willamette Valley.

Sources: U.S Fish and wildlife service, Oregon Fish and Wildlife office.
http://ecos.fus.gov/recovery. plan/pdf.files/1993/930813b.pdf

Willamette Daisy

Erigeron Decumbens var. Decumbens.

Description:

General: The Willamette Daisy is a perennial herb in the composite family. Ranging 15 to 135 cm tall.

Leaves: The daisy leaves are like Basal leaves are 5-18cm long and less then 1.2 cm wide, becoming gradually shorter along the stem.

Flowers: Are daisy-like with yellow centers and 25-50 pinkish to blue rays, often fading to white with age. It usually blooms during June and July.

Habitat:

Hydrology: The daisy grows in the bottom wetlands but often found in the highlands.

Soil: The soil is wet throughout the fall, winter and late spring. Then it dries out during the summer months. Soils become anaerobic and strongly reducing during periods of flooding.

Plant associations: Well-drained soils characterized by a mix of native bunchgrasses, scattered Oak trees are often present.

Light/shade: open areas with little or no canopy cover.

Range: widespread throughout the Willamette Valley. Distributed over 1.7 million acres.

Sources: Oregon Fish and Wildlife Office
Status report by Debora L. Clark
Karen K. Finely
Dr. Cheryl A. Ingersoll

Peacock larkspur
Delphinium pavonaceum

Description:

General:

Leafs:

Flowers:

Habitat:

Hydrology: Likes well-drained areas of native prairies, on high mounds of the Willamette valley.

Soil: Well drained consisting of a more sandy/rocky loose soil.

Plant communities: Lives along with native grasses and small shrubs. Can be found along fence lines and rode sides.

Light/shade: Open areas with out covering plants, shrubs or trees.

Range: Only occurs in the Willamette Valley

Threats: Reed Canary grass, urban expansion, herbicides and woody plant encroachment.

Source: Peacock Larkspur Buttercup Family (Ranunculaceae)

Nelson's checkermallow
Sidalceas nelsoniana
By: Sonja Payne & Joe Oldani

Description:

General: Nelson's checkermallow is a perennial herb in the mallow family (Malvaceae) that produces tall spikes of pink flowers.

Leafs: Basal leaves are palmately lobed. The upper stem leaves are deeply divides. Stems may be covered with simple hairs.

Flowers: are borne in clusters 50-150 cm (1.6-5 ft) tall at the end of short stalks. These clusters are usually spike-like, elongate, and somewhat open. The flowers are lavender to a deep pink color. They are either perfect flowers (m/fm) or pistillate flowers (female only).

Habitat:

Hydrology: Nelson's checkermallow grows in meadows with wet depression or along streams. It also grows in grasslands within the wetlands.

Soils: Nelson's checkermallow grows in poorly and well-drained soils. Soils like Bashaws, Wapto, Mcalpin, Malabon, Coburg, and Salem.

Plant Associations: Nelson's checkermallow occurs around Oregon ash and Swales. The invasive plants it grows around are reed canarygrass, blackberries, and Queen Anne's lace.

Light/Shade: Nelson's checkermallow grows in area with little to no shade. So it is obvious that it does not grow around wooded areas.

Ranges: on the Nelson's checkermallow are mostly on the western part of the Willamette Valley. They ranger from Southwestern Washington specifically in sites in the Puget Trough. And they extend to Southern Benton County, Oregon.

Sources: Recovery Plan for the Threatened
Nelson's Checker-mallow, U.S. Fish &
Wildlife Service.

U.S. Fish & Wildlife Service
U.S. Fish & Wildlife Office Nelson's checkermallow

Rorippa columbiae

Columbia cress

Description:

General:

Leafs:

Flowers:

Habitat:

Hydrology: *Columbia cress* likes to live in water and stays in it for part of it live and like flood areas.

Soil: *Columbia cress* likes areas that are clay to sandy, gravelly, soil, and some areas of cobbly rock in the sandy matrix.

Plant associations: in the lower Columbia lives with *Salix fluviatilis* and *Artemisia lindleyana*, the *Salix fluviatilis* are willows.

Light/shade: *Columbia cress* likes to live out in the open areas with a lot of sunlight.

Range: *Columbia cress likes* to live on the Columbia River banks and shorelines.

Sources: Conservation Strategy for Corippa colunbiae
U.S. Department of interior bureau of land management
U.S. department of agriculture
U.S. fish & wildlife service Klamath basin national wildlife refude