



**Mill Creek Correctional Facility Proposed Development Site  
Rare Plant Survey Summary  
and Mitigation Plan**

Kelly Amsberry and R.J. Meinke  
Native Plant Conservation Program

June-July 2003

## Survey Summary

**Basis for survey:** ORS 564.105 and OAR 603-073-0090  
([http://arcweb.sos.state.or.us/rules/OARS\\_600/OAR\\_603/603\\_073.html](http://arcweb.sos.state.or.us/rules/OARS_600/OAR_603/603_073.html))

**Survey species:** (Based on Oregon Natural Heritage Program records (Oregon Natural Heritage Program, 1322 SE Morrison St., Portland, OR 97214) and personal observations of nearby occurrences (Figure 1).

*Castilleja levisecta* (Threatened USFWS; Endangered ODA)  
*Erigeron decumbens* var. *decumbens* (Endangered USFWS; Endangered ODA)  
*Howellia aquatilis* (Threatened USFWS)  
*Lupinus sulphureus* var. *kincaidii* (Threatened USFWS; Threatened ODA)  
*Sidalcea campestris* (Candidate ODA)  
*Sidalcea nelsoniana* (Threatened USFWS; Threatened ODA)

### Survey dates:

June 3<sup>rd</sup> - Kelly Amsberry, Melissa Carr, and Jeanne Fromm (City of Salem),  
June 9<sup>th</sup> - Kelly Amsberry, Melissa Carr  
June 20<sup>th</sup> - Kelly Amsberry, Robert J. Meinke  
July 3<sup>rd</sup> - Kelly Amsberry, Melissa Carr

### Plants observed:

*Sidalcea campestris*. More than 100 flowering plants along an ancillary irrigation ditch in the southern half of survey area, with many more vegetative *Sidalcea* plants (unidentified species) scattered throughout the area (Figures 2, 3).

*Sidalcea nelsoniana*. Two flowering plants on main east-west irrigation ditch in southern half of survey area, with several dozen more vegetative *Sidalcea* plants (unidentified species) scattered throughout the area (Figures 2, 4). Plants of both *Sidalcea* species in this area were impacted by herbicide prior to completion of survey work.

### General vegetation summary:

Most of the Mill Creek Correctional Facility (MCCF) parcel is planted with irrigated crops; potatoes, green beans, and hay. These areas are actively farmed and support little native vegetation. The north-east corner is planted with turf grass and shade trees, also with little vegetation other than the farmed crop. Fallow fields are largely populated with exotic grasses and forbs (*Rumex crispus*, *Bromus* sp., *Polygonum aviculare*, *Stellaria media*, *Spergularia rubra*, *Parentucellia viscosa*, *Brassica nigra*, *Raphanus sativus*, *Hypochaeris radicata*, *Lactuca serriola*, *Convolvulus arvensis*, *Lapsana communis*, *Anthemis cotula*, etc.), although a few patches of native annuals (*Plagiobothrys figuratus*, *P. scouleri*, *Juncus bufonius*, *Downingia yina*, etc.) were also observed.

Fence rows and irrigation ditches were also largely weedy, with *Bromus* sp., *Avena fatua*, *Rubus procerus*, *Rubus laciniatus*, *Festuca arundinacea*, *Vicia sativa*, *Vicia villosa*, *Hypericum perforatum*, and other field weeds predominating. The vegetation in several wetter areas, including the Little Pudding River area in the northern part of the parcel, consists almost entirely of *Phalaris arundinacea*.

The main network of irrigation ditches in the southern part of the parcel has more of a native component (*Salix* sp, *Equisetum* sp., *Juncus effusus*, *Eleocharis palustris*, *Myosotis laxa*, *Epilobium ciliatum* ssp. *watsonii*, *Carex* sp.), although both of the larger 'wetland' areas are heavily infested with exotic grasses. It is in the eastern end of the main irrigation ditch and the northeastern ancillary ditch (connecting to a small natural stream that runs in from the east) that the two *Sidalcea* species occur.

The upland area in the southern most corner supports a grove of beautiful old valley oaks (*Quercus garryana*), with an understory of weedy exotic grasses and a few forbs. No native herbaceous plants were observed in this area, although there were a few patches of *Symphoricarpos albus*.

## Mitigation Plan

### Introduction:

- Both of the *Sidalcea* species that occur at the Mill Creek Correctional Facility (MCCF) site are Willamette Valley endemics that are good indicators of native wetland prairie habitat (Guard 1995). Therefore, any work that must be completed to mitigate for wetland loss at the site should concurrently incorporate rehabilitation for these species.
- The populations of the two *Sidalcea* species are in constant jeopardy at the MCCF site, primarily due to competition with exotic weeds and ongoing herbicide applications. Plants currently exist along an irrigation ditch in this actively farmed site, and are probably experiencing continuing decline due to agricultural practices. In fact, spraying this May has damaged individuals of both species, and has negatively impacted the patch of the federally-listed *S. nelsoniana* to the point that it will not set seed, or even flower normally, this year.
- Due to the currently compromised habitat in which the *Sidalcea* plants occur, we believe that reintroduction of these two species into re-created higher quality habitat as a component of a wetland mitigation project to be included in the development plan at the MCCF site would most likely improve the prospects for these populations. Establishment of plants in a more native vegetation community, and protection from spraying and disturbance, would result in increased viability for the MCCF populations of these two unique Willamette Valley species. A federal Recovery Plan is in place for *Sidalcea nelsoniana* (USFWS 1997), and the creation of a population within a protected mitigation site could be incorporated into the overall recovery goals for this species, and would be viewed as a contributing step towards the eventual de-listing of the species.

### Mitigation requirements:

***To comply with the requirements of ORS 564.105(3) and OAR 603-073-0090 (5), we recommend:***

- Coordination among the City of Salem, the Native Plant Conservation Program (Oregon Department of Agriculture), and other partners involved in wetland mitigation planning, to develop an integrated mitigation plan to promote conservation of wetland habitat, and the two *Sidalcea* species.
- Planting of 200 to 250 plants of each species spread among several microsites within the mitigation area. A plan specifying location of microsites should be developed by the mitigation partners to maximize transplant success and promote wetland viability.

- Propagation of plants in cooperation with the Native Plant Conservation Program from genetically appropriate seed. "Genetically appropriate" means from plants at the site itself, or from the nearby vicinity - maintaining the genetic integrity of reintroduced populations of rare plants is critical to their success (Guerrant 1996). Seed collection should be accomplished this summer for future use at the mitigation site.
- Greenhouse cultivation of plants under low light through the winter and outplanting occurring the following spring. This method has proved successful in previous *Sidalcea* outplanting projects by the Native Plant Conservation Program, although plants can be held in pots almost indefinitely in the nursery until needed.
- Development of a monitoring schedule and protocol to document the success of the reintroduced populations. Adequate monitoring is critical to the evaluation of rare plant reintroduction (Pavlik 1996).

## References

Guard, B.J. 1995. Wetland plants of Oregon and Washington. Lone Pine Publishing, Renton, Washington.

Guerrant, E.O. 1996. Designing populations: demographic, genetic, and horticultural dimensions. Pages 171-207 in D.A. Falk, C.I. Millar, and M. Olwell, editors. Restoring diversity. Island Press, Washington, D.C.

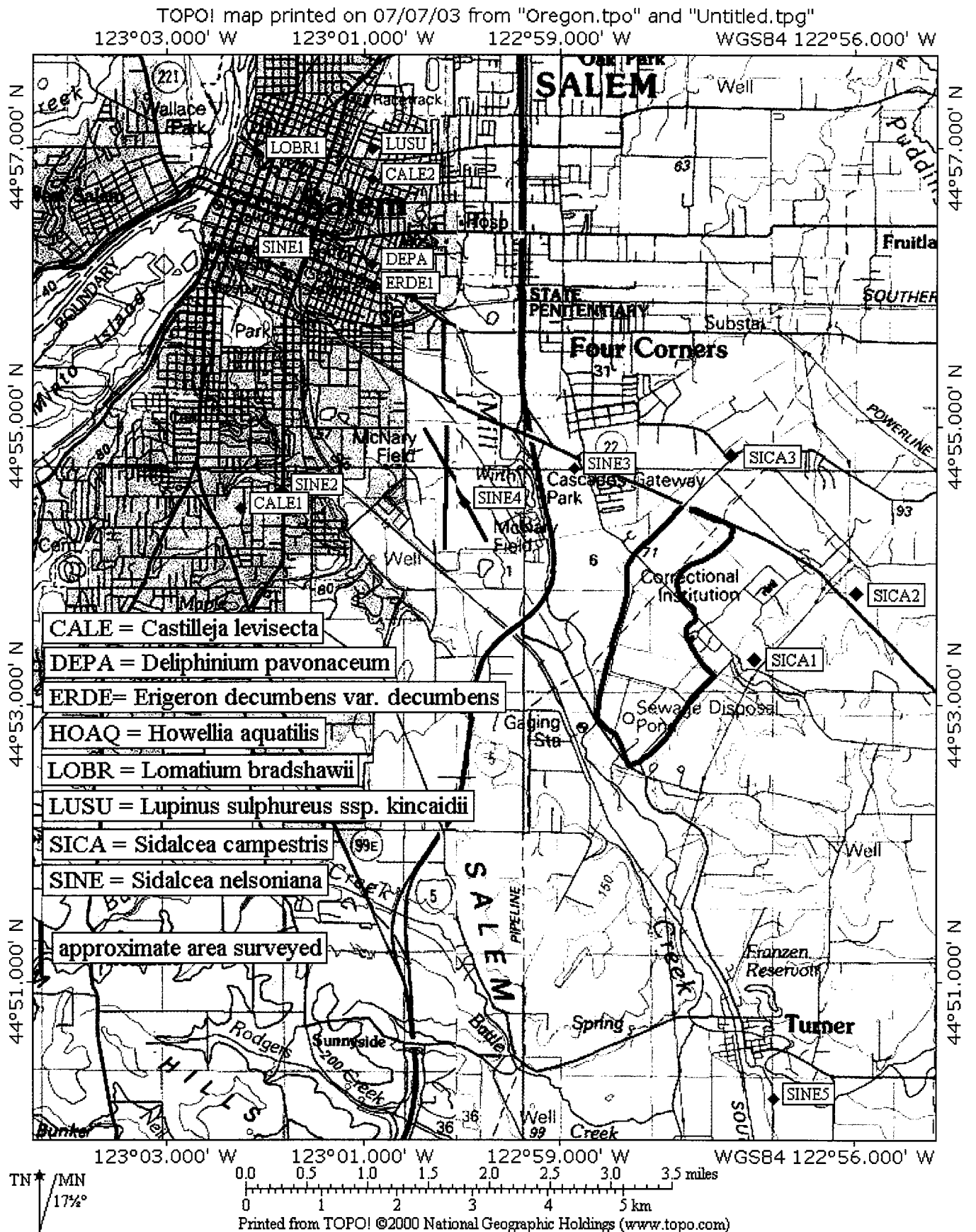
Pavlik B.M. 1996. Defining and measuring success. Pages 127-155 in D.A. Falk, C.I. Millar, and M. Olwell, editors. Restoring diversity. Island Press, Washington, D.C.

U.S. Fish and Wildlife Service, 1997. Nelson's checkermallow (*Sidalcea nelsoniana*) recovery plan. U.S. Fish and Wildlife Service, Denver, Colorado.

## **Contact Information**

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**Figure 1.** Known locations of survey species in the vicinity of Mill Creek Correctional Facility.





**Figure 3.** *Sidalcea campestris* growing along an irrigation ditch at the MCCF site. Plants along the eastern portion of the ditch were especially vigorous, with several hundred plants flowering and producing seed. Photo by M. Carr (ODA).



**Figure 4.** Example of *Sidalcea nelsoniana* from a site outside the MCCF. Plants at this site were sprayed with herbicide and began wilting shortly after identification by R. Meinke on June 20, 2003. Photo by M. Carr (ODA).

## Appendix

### Partial list of plant species found at Mill Creek Correctional Facility Site

#### Exotic

*Anagallis arvensis*  
*Anthemis cotula*  
*Avena fatua*  
*Brassica campestris*  
*Brassica nigra*  
*Bromus tectorum*  
*Capsella bursa-pastoris*  
*Cerastium vulgatum*  
*Chrysanthemum leucanthemum*  
*Cirsium vulgare*  
*Cirsium vulgare*  
*Convolvulus arvensis*  
*Conza canadensis*  
*Cytisus scoparius*  
*Dactylis glomerata*  
*Daucus carota*  
*Dipsacus sylvestris*  
*Erodium cicutarium*  
*Festuca arundinacea*  
*Galium aparine*  
*Geranium*  
*Holcus lanatus*  
*Hordeum*  
*Hypericum perforatum*  
*Hypochaeris radicata*  
*Lactuca serriola*  
*Lapsana communis*  
*Lolium multiflorum*  
*Matricaria matricarioides*  
*Mentha pulegium*  
*Medicago lupulina*  
*Parentucellia viscosa*  
*Phalaris arundinacea*  
*Polygonum aviculare*  
*Plantago lanceolata*  
*Plantago major*  
*Poa bulbosa*  
*Ranunculus acris*

#### Native

*Alnus rhombifolia*  
*Amelanchier alnifolia*  
*Eleocharis acicularis*  
*Epilobium angustifolium*  
*Epilobium watsonii*  
*Equisetum arvense*  
*Carex stipata*  
*Cornus stolonifera*  
*Crataegus douglasii*  
*Downingia yina*  
*Eleocharis palustris*  
*Epilobium ciliatum* var. *watsonii*  
*Gnaphalium* sp.  
*Heracleum lanatum*  
*Juncus effusus*  
*Juncus bufonius*  
*Lupinus bicolor*  
*Myosotis laxa*  
*Myosotis discolor*  
*Plagiobothrys figuratus*  
*Plagiobothrys scouleri*  
*Rosa* sp.  
*Rorippa curvisiliqua*  
*Salix* sp.  
*Sidalcea campestris*  
*Sidalcea nelsoniana*  
*Symphoricarpos albus*  
*Typha latifolia*  
*Veronica peregrina*  
*Veronica americana*

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#### **Exotic**

*Ranunculus repens*  
*Raphanus sativus*  
*Rorippa nasturtium-aquaticum*  
*Rubus procerus*  
*Rubus laciniatus*  
*Rumex crispus*  
*Rumex acetosella*  
*Senecio jacobaea*  
*Senecio vulgaris*  
*Silybum marianum*  
*Sisymbrium officinale*  
*Solanum dulcamara*  
*Sonchus oleraceus*  
*Sonchus asper*  
*Spergularia rubra*  
*Stellaria media*  
*Tanacetum vulgare*  
*Taraxacum officinale*  
*Tragopogon dubius*  
*Verbascum blattaria*  
*Vicia sativa*  
*Vicia villosa*