POPULATION SURVEYS AND AUGMENTATION OF THIN-LEAVED PEAVINE (LATHYRUS HOLOCHLORUS): 2012 ANNUAL REPORT OF PHASE 1 ACTIVITIES

2013

Report to the Bureau of Land Management
Agreement # L09AC16049-0031

Report prepared by Ian Silvernail

Institute for Applied Ecology

Institute for Applied Ecology

PREFACE

This report is the result of agreement number L09AC16049-0031 between the Institute for Applied Ecology (IAE) and the Bureau of Land Management. IAE is a non-profit organization whose mission is the conservation of native ecosystems through restoration, research and education. Our aim is to provide a service to public and private agencies and individuals by developing and communicating information on ecosystems, species, and effective management strategies and by conducting research, monitoring, and experiments. IAE offers educational opportunities through 3-4 month internships.

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Cover photograph: *Lathyrus holochlorus* flowers. *Photo by Ian Silvernail.*

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INTRODUCTION

The thin-leaved peavine (*Lathyrus holochlorus)* is a rare member of the Fabaceae, listed by the USFWS as a Species of Concern, by the BLM as a Bureau Sensitive Species, and by the Oregon Biodiversity Information Center (ORBIC) as a List 1 species. The plant is found throughout the Willamette Valley and south toward Roseburg. A few small populations are also found in Lewis County, Washington. The thin-leaved peavine is most commonly found along roadsides, fencerows, or scattered in deciduous woodlands. Most of the remaining populations are along roadsides and unmowed fencerows, where it is commonly associated with Oregon white oak (*Quercus garryana*), common snowberry (*Symphoricarpos albus*), various species of rose (*Rosa* sp.), and poison oak (*Toxicodendron diversilobum*). Many populations are threatened by roadside maintenance activities, including mowing and herbicides. Most populations have not been visited in several years, and it is likely that the species is in rapid decline.

Lathyrus holochlorus is a rhizomatous perennial, and many populations are likely composed of a single genetic clone. It is quite likely that the species is also self-incompatible; therefore, most small populations do not produce any viable seed. Very few large populations remain.

The intention of this project is to assess historic populations, collect seed, reintroduce nursery-grown plugs, and assess the success of population augmentation efforts. Phase 1 of the project includes field surveys of historic populations, germination testing, and some plug production.

2012 ACTIONS

In 2012, IAE initiated work on Phase 1 by soliciting historic location records from ORBIC and the US Fish and Wildlife Service (USFWS). Both maintain location records for the species, but neither of them is complete. The ORBIC database contains 95 historic location records; 43 of these are not found in the USFWS database. The USFWS database contains 72 historic location records; 20 of these are not found in the ORBIC database. Combining the databases yields 115 total historic location records.

Contact was also initiated with several botanists in the Willamette Valley with special knowledge of the species. These people include Bruce Newhouse (Salix Associates), Kathy Pendergrass (NRCS), Steven Broich (*Lathyrus* expert), and Julie Gibson (Native Plant Society of Oregon). Recommendations of important populations to visit were requested. Julie Gibson was engaged in surveys of small historic populations and was enlisted as a collaborator. With the combined effort with the Native Plant Society, our objective is to visit as many noteworthy populations as possible throughout the Willamette Valley to identify healthy seed collection sites and to update historic records.

A few small populations local to Corvallis were visited to increase our familiarity with the species' appearance, habit, and phenology. Populations at Three Lakes Road (Figure 1) in Linn County and Finley Wildlife Refuge in Benton County were visited; official population assessment will be done in 2013.

Figure 1. Developing *Lathyrus holochlorus* pods found at Three Lakes Road on June 14, 2012.

In fall 2012, further planning was done to prepare for field surveys in 2013. This included site prioritization and map making. Additionally, at the end of the year, Julie Gibson provided the results of all of her field surveys in 2012. In all, she assessed 26 historic locations and found *Lathyrus holochlorus* persisting at 9 of them. Her information will be considered in the prioritization of seed collection sites in 2013 and will be submitted to ORBIC along with the results of our field surveys.

FUTURE ACTIONS

Many activities are planned for 2013. Further contact will be made with botanists in the Willamette Valley who have special knowledge of *Lathyrus holochlorus*. Additional field planning and site prioritization will occur. A significant field effort will occur to assess historic populations utilizing a protocol we design to meet BLM requests and to adequately update ORBIC records. After field assessments, seed collection sites will be chosen and seed will be collected. In the fall of 2013, germination trials will be performed and some plug production will be initiated. These plugs will eventually be used to augment existing populations and to create new populations.