

Habitat Restoration of Garoutte Prairie: 2016 Annual Report



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Report prepared by Anna Ramthun and Andy Neill
Institute for Applied Ecology



PREFACE

This report is the result of agreements L13AC00098-0035 and L13AC00098-0042 between USDI Bureau of Land Management, Northwest Oregon District and Institute for Applied Ecology (IAE), Corvallis, Oregon. IAE is a non-profit organization whose mission is conservation of native ecosystems through restoration, research and education. IAE provides services to public and private agencies and individuals through development and communication of information on ecosystems, species, and effective management strategies. Restoration of habitats, with a concentration on rare and invasive species, is a primary focus. IAE conducts its work through partnerships with a diverse group of agencies, organizations and the private sector. IAE aims to link its community with native habitats through education and outreach.



Questions regarding this report or IAE should be directed to:

Thomas Kaye (Executive Director)

Institute for Applied Ecology

563 SW Jefferson Avenue

Corvallis, Oregon 97333

phone: 541-753-3099

fax: 541-753-3098

email: tom@appliedeco.org

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Cover photographs: Garoutte Prairie. *Photo by Andy Neill, August 6, 2014.*

SUGGESTED CITATION

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REPORT SUBMITTED TO THE BUREAU OF LAND MANAGEMENT

1. EXECUTIVE SUMMARY

This report summarizes the habitat restoration work conducted by the Institute for Applied Ecology (IAE) at Garoutte Prairie in 2016. Restoration efforts focused on conservation of high quality wet prairie habitat and associated native plant species by the manual removal of encroaching woody species such as Oregon Ash (*Fraxinus latifolia*), introduced apple (*Malus* sp.), and hawthorn (*Crataegus* sp.), and Scotch broom (*Cytisus scoparius*), as well as treatment of non-native weeds, such as teasel (*Dipsacus fullonum*) at the site.

2. INTRODUCTION

Garoutte Prairie (cover photo) is located in Lane County, Oregon, just west of Dorena Lake along Garoutte Road (Figure 1). The site is managed by the Bureau of Land Management's Northwest Oregon District office. IAE began habitat restoration work at Garoutte Prairie as part of another BLM-funded project at the nearby Dorena Prairie in 2013 (Figure 1, Banner and Axt 2013). The site became an independent restoration project in 2016.



Figure 1: Location of Dorena and Garoutte Prairies

In addition to many wet prairie plant species present on the site, Garoutte Prairie also hosts a population of a rare lichen, sulcaria (*Sulcaria badia*). Garoutte Prairie is the northernmost location for this species, and maintaining this population is important for the preservation of the genetic diversity of this species. Potential changes in climate suggest that this population of sulcaria at Garoutte Prairie may also be important as warmer conditions may push the distribution of this species to the north. Throughout the course of restoration work at Garoutte Prairie, effort will be made to avoid disturbing trees, primarily Oregon ash, where this species is observed.

3. GOALS AND OBJECTIVES

The goal of this project is to actively restore regionally rare upland prairie habitat at Garoutte Prairie Northwest Oregon District. The three primary objectives of this project are to restore and maintain quality prairie habitat by:

1. Reducing non-native invasive species,
2. Controlling woody species encroachment, and
3. Augmenting the native plant community to increase both native species abundance and diversity.

4. 2016 RESTORATION ACTIVITIES

Garoutte Prairie 2016 restoration activities focused on manually pulling Scotch broom and removal of encroaching woody species such as Oregon ash, apple, and hawthorn trees in the upland prairie habitat at the site (Table 1, Figures 2 and 3). Trees were cut using chainsaws and brush cutters, and were bucked and piled either in the conifer forest along the southern edge of the prairie or on top of patches of Himalayan blackberry (*Rubus armeniacus*) for burning in fall 2017. See Table 1 for a summary of all restoration activities implemented in 2016. See Table 2 for a breakdown of costs for incurred in 2016. See Appendix B for a summary of all restoration activities to date at this site.

Table 1. Restoration activities conducted by the Institute for Applied Ecology at Garoutte Prairie during 2016.

Date	Task	Labor (Hrs)
03/24/2016	Site visit and weed assessment of Dorena and Garoutte Prairies	2
12/7/2016	Felled and piled Oregon ash, hawthorn, and apple with AmeriCorps crew	8
12/13/2016	Felled and piled Oregon ash, hawthorn, and apple with 1 volunteer and AmeriCorps Gold 5 crew.	9



Figure 3. Encroaching woody species in Garoutte Prairie (left) and the same view after most of the trees and shrubs have been removed (right). (Photos: G. Banner, Sept. 12, 2014 and A. Neill, Dec. 13 2016).



Figure 2. Before (left) and after Scotch broom and Oregon ash removal. (Photos: A. Neill, Dec. 13 2016)

Table 2. Budget breakdown of restoration activities at Garoutte Prairie during 2016.

Budget Item	Cost
Contracted Services	\$0.00
Supplies	\$0.00
Travel	\$0.00
Labor	\$1,817.23
Admin	\$381.63
Total	\$2,198.86

5. DISCUSSION

In 2016, the primary focus of restoration was the removal of encroaching trees from Priority Areas 1 and 2 (Appendix A). Oregon ash, apple, and hawthorn trees have proliferated throughout the prairie. The secondary succession species block sunlight restricting growth of native prairie species. Tree removal efforts effectively expanded prairie habitat at Garoutte Prairie (Figures 2 and 3).

IAE also targeted Scotch broom and Himalayan blackberry for manual removal in 2016. While these efforts did prevent expansion of these invasive species, substantial reduction and eradication will require the use of more intensive manual and/or chemical treatments.

Currently, work at Garoutte Prairie has focused on maintaining prairie structure and preventing the expansion of populations of targeted non-native invasive species. Expansion of native populations and diversity will only be possible with further reduction and control of invasive species. Continued removal of invasive species will release native vegetation and may continue to allow re-emergence or re-colonization by native species.

6. RECOMMENDATIONS

The overarching goal for Garoutte Prairie continues to be the active restoration of regionally rare upland prairie habitat by removing trees, controlling priority invasive species, and augmenting native plant populations. In order to achieve this goal, the following actions are recommended:

- Continue manual removal of encroaching woody species into prairie habitat. To date, tree removal has been primarily focused on priority areas 1 and 2 (see Appendix A). As woody encroachment control in these areas is completed, future efforts can shift to other priority areas, such as focusing on the removal of the conifer forest plantation that occupies the southern portion of the project site to create upland prairie habitat. Without the use of herbicide to prevent resprouting from stumps, repeated efforts will be needed to cut the resprouts. Preventing growth of photosynthetic material will eventually kill the tree.
- Pending approval of herbicide use at Garoutte Prairie, treat cut tree stumps with herbicide to prevent resprouting.
- Continue to annually track and manually remove high priority invasive species such as Scotch broom, teasel, and Himalayan blackberry within the open prairie habitat. Himalayan blackberry will require continuing efforts with mechanical removal as the existing individuals have extensive underground root systems. Similarly, Scotch broom seeds remain viable in the seedbank for many years which will require pulling for years to come as the seeds germinate and plants grow.
- As effective control of the targeted weeds is achieved in the main prairie, shift the focus of weed removal efforts to the edges of the prairie where it transitions to Douglas fir forest.
- Continue prevention of the expansion of weed species with relatively low abundance, such as Canada thistle, by removing seed heads and reducing seed set. Reduction and eradication of these species at the site will most likely require the use of herbicide.
- Pending approval of herbicide use at the site, treat high priority weeds by surveying for and spot spraying individuals and patches of these species.

- Pending approval of herbicide use at the site, treat non-native rhizomatous grasses with a grass-specific herbicide, followed by direct seeding of native grasses and forbs.
- If possible, implement a prescribed burning regimen at Garoutte Prairie, with a frequency of every 3-4 years, in order to control encroaching woody and invasive species.
- In the absence of prescribed fire, begin an annual regime of mowing the site in the late summer in order to control encroachment of woody species and invasive weeds.
- As prairie habitat expands and the quality of the habitat improves through the removal of undesired species, augment populations of wet and upland prairie species to increase the abundance and diversity of the native plant community.

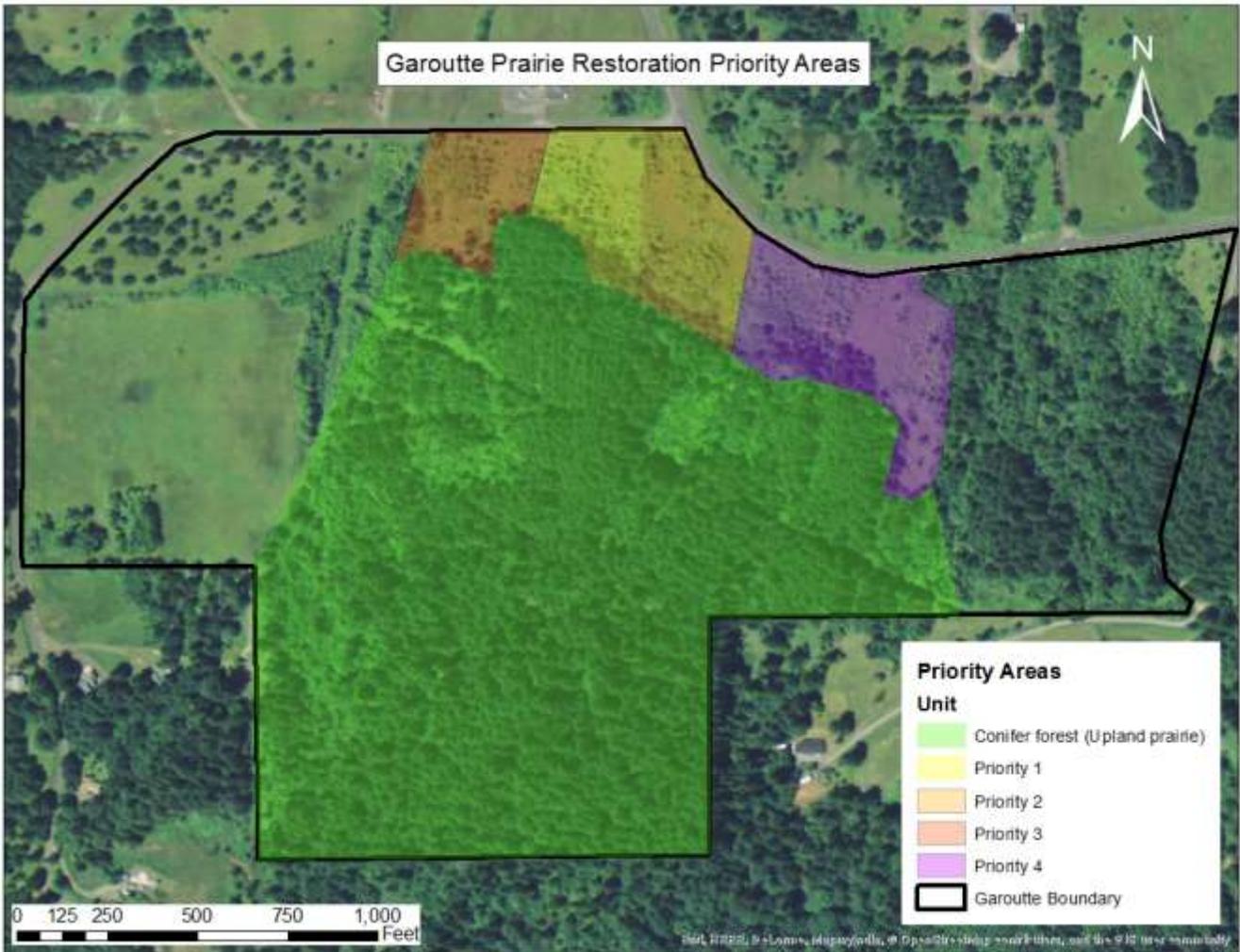
7. REFERENCES

Banner, G and B. Axt. 2013. Restoration of Dorena Prairie ACEC. Institute for Applied Ecology, Corvallis, Oregon and USDI Bureau of Land Management, Northwest Oregon District.

8. APPENDICES

Appendix A: Restoration subunits at Garoutte Prairie

The aerial photo below shows the prioritized restoration subunits at Garoutte Prairie. Work to date has primarily focused on Priority Areas 1 and 2.



Appendix B: Restoration Activities at Garoutte Prairie (2013-2017)

2013

- Brush cutting to remove Himalayan blackberry and Scotch broom.

2014

- Site inspection and partner coordination.
- Scotch broom, Himalayan blackberry, and fruit tree removal.

2016

- Site inspection and partner coordination.
- Scotch broom, Oregon ash, hawthorn, and fruit tree removal with AmeriCorps Gold 5.

2017 (pending)

- Site inspection and partner coordination.
- Vegetation surveys.
- Periodic brush cutting of stump resprouts.
- Cover burn piles with plastic for fall burning.
- Scotch broom, Oregon ash, hawthorn and fruit tree removal with AmeriCorps.
- Burn slash piles in fall.