

Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*) Habitat Restoration at Lost Creek Meadow: 2016 Annual Report



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41

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PREFACE

This report is the result of agreement L13AC00098-0041 between United States Department of Interior Bureau of Land Management, Northwest Oregon District (BLM) 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.



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Cover photographs: Lost Creek Meadow and *Sisyrinchium hitchcockii* (inset). Photos by Matt Blakeley-Smith, April 20, 2011.

SUGGESTED CITATION

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REPORT SUBMITTED TO BUREAU OF LAND MANAGEMENT

1. EXECUTIVE SUMMARY

Restoration activities at Lost Creek Meadow focus on improving and expanding habitat for a population of Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*), a federal species of concern. The most recent funding for restoration activities at this site was obligated late in the summer of 2016. As such, apart from a site assessment visit in late March of 2016, no restoration activities occurred in 2016. See Appendix B for a list of restoration activities previously conducted at this site.

2. INTRODUCTION

Lost Creek Meadow is located east of Eugene in the southern part of the Willamette Valley in northwestern Oregon (Figure 1). This site is managed by the Northwest District of the Bureau of Land Management (BLM). In addition to being one of the few meadows of its kind in the area, Lost Creek Meadow hosts a population of BLM Species of Concern Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*, Figure 2). The Institute for Applied Ecology has been involved with monitoring this species and restoration of the site since 2005. (Former reports documenting this work refer to the site as "Eagle's



Figure 1. Location of Lost Creek Meadow.

Rest.” In order to reduce confusion between this site and another location with the same name, BLM staff requested that this site now be referred to as “Lost Creek Meadow”).



Figure 2. Hitchcock's blue-eyed grass flower front (left) and back (right) at Lost Creek Meadow. (Photos B. Axt)

Restoration efforts continue to focus on weed removal and prevention of woody plant encroachment and expansion of the existing meadow by mechanical removal trees and shrubs. In 2016, late acquisition of funding inhibited restoration activities. A site visit and informal assessment of weeds were conducted on March 24th; however, intended efforts to remove Himalayan blackberry (*Rubus bifrons*), resprouting Oregon ash (*Fraxinus latifolia*) and false brome (*Brachypodium sylvaticum*) from the open areas of Lost Creek Meadow had to be postponed until 2017.

3. DISCUSSION

Ongoing restoration efforts to maintain and expand Lost Creek Meadow appear to have a positive effect on the Hitchcock's blue-eyed grass population at the site. Annual brush cutting has reduced the abundance of Himalayan blackberry but has not eliminated the potential for this species to completely overrun this small meadow. Previous overstory and brush removal has expanded the meadow and led to the discovery of new Hitchcock's blue-eyed grass individuals, as well as creating new areas for potential occupation. Efforts to hand-pull false brome at Lost Creek Meadow have successfully reduced the abundance of this species. Although false brome in the meadow has been greatly reduced, encroachment of false brome from the surrounding forest continues to be a threat to the health of this meadow. Without treatment in 2016, efforts in 2017 may need to focus on reclaiming ground from regrown Himalayan blackberry and false brome.

There has been a significant reduction of overstory trees at Lost Creek Meadow, however, there is potential for further expansion of the meadow. Additional cutting or girdling of Douglas-fir (*Pseudotsuga menziesii*) and Oregon ash within and surrounding the meadow will expand the perimeter and potential habitat for Hitchcock's blue-eyed grass. Without the use of herbicides to control Himalayan blackberry, false brome, and resprouting trees, manual removal by hand and with motorized tools should continue annually. Flame weeding in winter or early spring could reduce the abundance of non-desirable plants.

However, the elevated fire risk associated with the surrounding forest and private lands could prevent flame weeding from being a viable management option at Lost Creek Meadow.

A census of Hitchcock's blue-eyed grass has not been performed since 2013. See Appendix A for an aerial photo and previously identified locations of Hitchcock's blue-eyed grass. Because of the ongoing restoration work taking place within and around this population, it is imperative that regular monitoring is conducted in order to assess treatment impacts and adaptively manage the site.

4. RECOMMENDATIONS

The ongoing goal for Lost Creek Meadow is to actively restore regionally-rare upland prairie habitat that will continue support a population of Hitchcock's blue-eyed grass. In order to achieve this goal, the following actions are recommended:

- Annually control priority invasive species such as Himalayan blackberry and false brome by mechanical or manual means.
- Consider winter or early spring flame weeding of target species such as false brome.
- Pending the approval of herbicide use at this site, treat resprouting woody species and priority weeds with the appropriate herbicide.
- Remove or girdle additional overstory trees and shrubs to expand the meadow and create additional Hitchcock's blue-eyed grass habitat.
- Annually monitor the population of Hitchcock's blue-eyed grass to assess population status and habitat restoration activity effectiveness.
- Follow up all woody encroachment removal and weed treatments with immediate seeding of native species. Prairie seed is typically short-lived in the seed bank, so when trees are removed there is very poor natural re-vegetation. Native species should be seeded to preempt the likely alternative outcome of invasive species colonization.

5. APPENDICES

Appendix A: Aerial photo of Lost Creek Meadow and planting map

Sensitive species location information has been removed from website versions of IAE reports. Please contact the report author for more information.

Appendix B: Restoration Activities at Lost Creek Meadow (2005-2017)

2005

- Site survey and weed assessment.
- Hitchcock's blue-eyed grass (*Sisyrinchium hitchcockii*) monitoring.
- Hitchcock's blue-eyed grass seeds collected and sent to Berry Botanical Garden for long term storage.

2006

- No activities

2007

- No activities

2008

- Site assessment and Hitchcock's blue-eyed grass monitoring with Cheshire Mayrsohn.
- Collected seed of Hitchcock's blue-eyed grass.

2009 (Start of restoration activities at Lost Creek)

- Began growing Hitchcock's blue-eyed grass from seed collected in 2008.
- Felled ~30 trees to expand the perimeter of the meadow.
- Used brushcutter to remove Himalayan blackberry and other shrubs from the perimeter of the meadow.

2010

- Hitchcock's blue-eyed grass monitoring.
- Collected seed of Hitchcock's blue-eyed grass.
- Removed ~20 trees to expand the perimeter of the meadow.

2011

- Site assessment and coordination.
- Collected seed of Hitchcock's blue-eyed grass.
- Planted 10 Hitchcock's blue-eyed grass plants grown from seed collected in 2008.
- Used brushcutter to remove Himalayan blackberry and pulled false brome (Walama Restoration).

2012

- Site assessment and coordination.
- Girdled Douglas-fir on east side of meadow ~20 feet in the woods.
- Hitchcock's blue-eyed grass monitoring.
- Collected seed of Hitchcock's blue-eyed grass.
- Used brushcutter to remove Himalayan blackberry.

2013

- Seeding of bare areas created in 2012 with SOS seed collections.

- Site assessment and coordination.
- Hand pulling of false brome and thistle.
- Monitoring of Hitchcock's blue-eyed grass.
- Used brushcutter to remove Himalayan blackberry, English hawthorn, and Oregon ash.

2014

- Site assessment and coordination.
- Mapped extent of Hitchcock's blue-eyed grass population with GPS.
- Used brushcutter to remove Himalayan blackberry and Oregon ash and fruit tree stump resprouts.
- Hand pulled false brome.
- Consolidated slash piles.

2015

- Site assessment and coordination.
- Hand pulled false brome.
- Used brushcutter to remove Himalayan blackberry and Oregon ash resprouts.

2016

- Site assessment and coordination.

2017 (planned)

- Site assessment and coordination.
- Use brushcutter to remove Himalayan blackberry and Oregon ash and fruit tree stump resprouts.
- Hand pulling of false brome, teasel, and bull thistle.
- Census of Hitchcock's blue-eyed grass population in the meadow.
- Potential seed collection and growout of Hitchcock's blue-eyed grass.