

**IDAHO DEPARTMENT OF FISH AND GAME**

**Ed Schriever, Director**

**Project F19AF00804**

**Idaho Panhandle Bees to Bears Climate Adaptation Project  
Cooperative Endangered Species Conservation**

**Final Performance Report**



**Performance Period**

July 1, 2019 through June 30, 2020

**Compiled and edited by:**

Michael Lucid, Panhandle Region Wildlife Diversity Biologist

June 2020  
Boise, Idaho

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# ESA TRADITIONAL SECTION 6 FINAL PERFORMANCE REPORT

1. **State:** Idaho

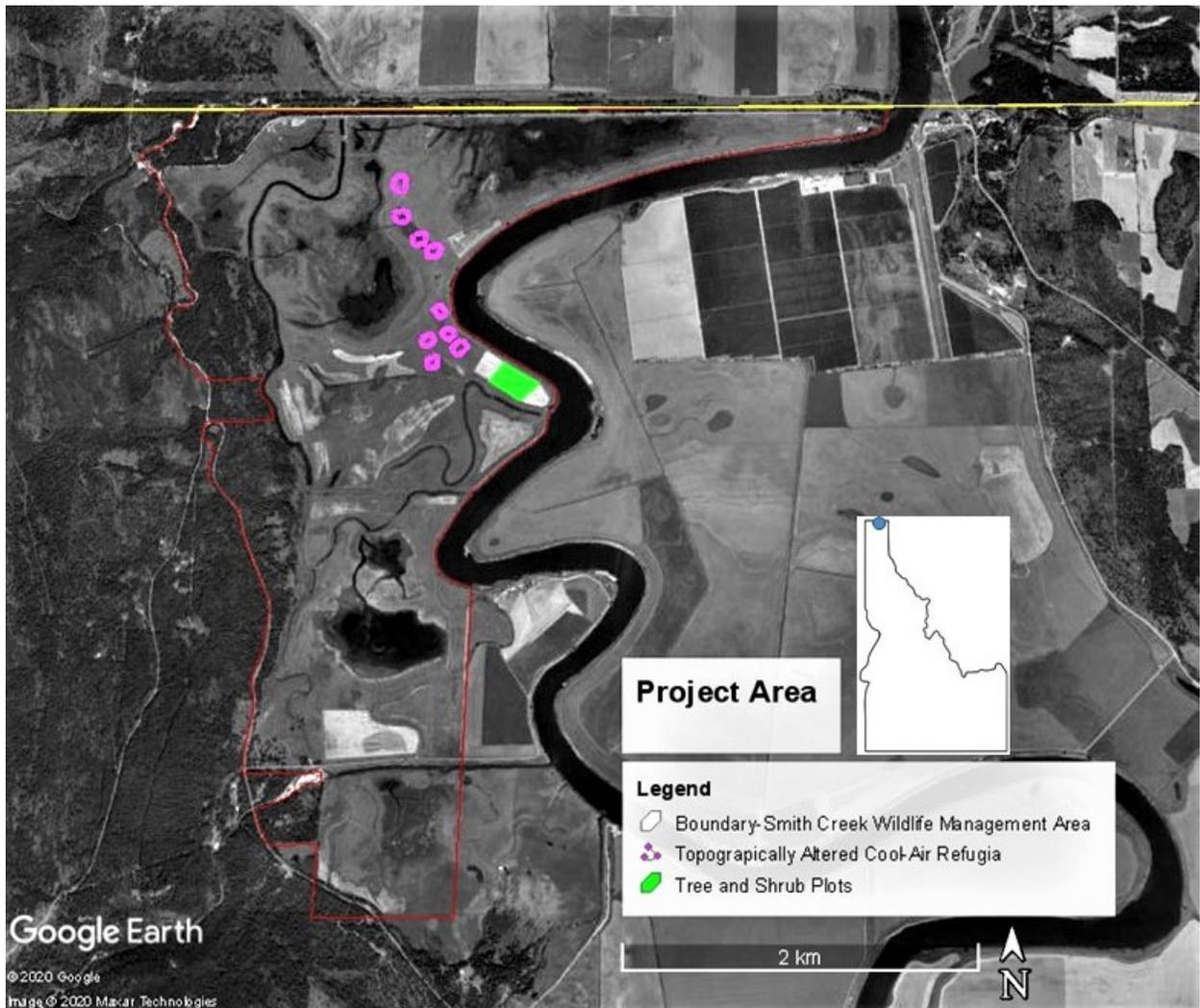
**Grant number:** F19AF00804

**Grant name:** Idaho Panhandle Bees to Bears Climate Adaptation Project (B2B)

2. **Report Period:** July 1, 2019 through December 1, 2019

**Report due date:** September 28, 2020

3. **Location of work:** Boundary-Smith Creek Wildlife Management Area, Boundary Co., Idaho



**Figure 1.** Project Area

#### 4. Objectives

The objectives of this grant are the following deliverables:

Western Bumble Bee

- Restore 25 acres of topographically-altered forested bumble bee habitat.

Grizzly Bear

- Plant 10,000 trees and shrubs to benefit grizzly bears.

Both Species

- Develop a written long-term monitoring plan.

#### 5. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

This project is part of a larger undertaking with other components and funding. The Idaho Panhandle Bees to Bears Climate Adaptation project (B2B) is a cooperative partnership between IDFG and the Yellowstone to Yukon Conservation Initiative. This project is funded by grants from the US Fish and Wildlife Service, Wildlife Conservation Society Climate Adaptation Fund, and the Doris Duke Charitable Foundation. Additional partners include Ducks Unlimited, Idaho Conservation League, and Selkirk Outdoor Leadership and Education. The focus of B2B is restoring 250 acres of forested lowland habitat to improve landscape climate resiliency for six Species of Greatest Conservation Need on the Boundary-Smith Creek Wildlife Management Area (WMA). Climate specific actions of the larger B2B project include: 1) Restoration of ephemeral flood cycles to benefit western toads (*Anaxyrus boreas*) and northern leopard frogs (*Rana pipiens*), 2) creating topographically altered pollinator habitat to provide cool-air refugia for western (*Bombus occidentalis*) and Suckley's cuckoo (*Bombus suckleyi*) bumble bees, and 3) reforestation with 50,000 native trees and understory plants to provide cover for grizzly bears (*Ursus arctos*) and improve soil moisture content and reduce air temperatures for pale-jumping slugs (*Hemphillia camelus*).

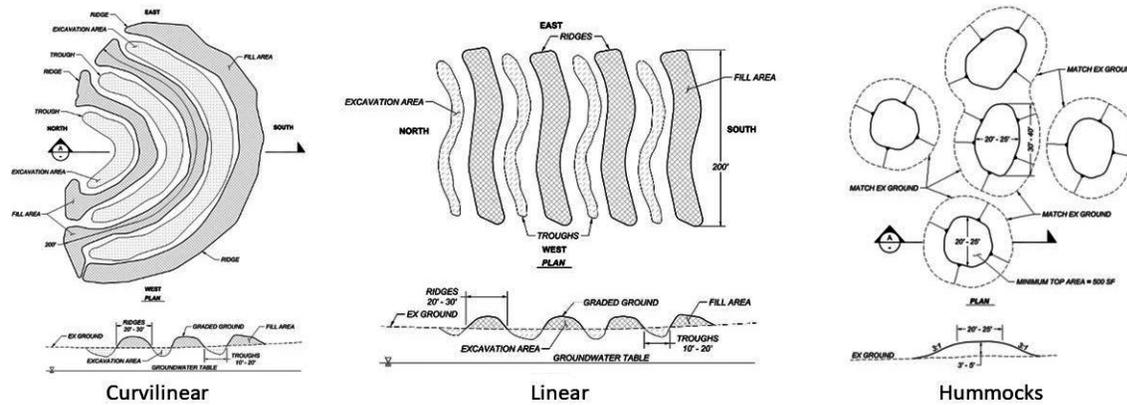
To fund this project we originally applied for funding under F17AF01079. In that project proposal we had developed project goals for a four year project. We anticipated annually applying for funding to continue to work toward those goals. Rather than request amendments to F17AF01079 we applied for a new grant each funding cycle. Therefore, we have three grants (F17AF01079, F18AF01187, F19AF00804) which are working toward the four year goals of reforestation of 75 acres of grizzly bear habitat and 25 acres of topographically altered western bumble bee habitat. In this document we report the final work completed by F19AF00804 only. Work funded by F17AF01079 and F18AF01187 is summarized in separate reports.

#### 6. Describe how the objectives were met.

##### 1) Restore 25 acres of topographically altered bumble bee habitat.

We have made the following progress toward this objective:

- Heavy equipment was used to construct nine cool air refugia (CAR) totaling four acres (Figure 2).



**Figure 2.** Cool air refugia (CAR) designs. We built one of each design along with a fourth control CAR. The control site is a flat area from which reed canary grass was stripped with a bulldozer and will be planted with pollinator forage plants and a mix of trees and shrubs similar to the three other designs. CAR designs were developed by Brian Heck, Ducks Unlimited.

**2) Plant 10,000 trees and shrubs.**

- 2019: 10,000 trees and shrubs were planted across 58 acres.
- To prevent ungulate damage to saplings, two additional exclosures were constructed. The exclosures are 4.6 and 8.9 acres in size.

**7. Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with Federal Aid grant funds.**

- 1) 25 acres of topographically altered bumble bee habitat.  
We topographically altered 9 acres of bumble bee habitat. Additional topographic alteration is discussed in the F18AF01187 final report.
- 2) Plant 10,000 trees and shrubs.  
We planted 23,800 trees and shrubs.
- 3) Develop a written long-term monitoring plan.  
We were unable to complete this objective due to an unanticipated loss of key personnel.

**8. List any publications or in-house reports resulting from this work.**

Jarrod, C. and J. Grossman. 2019. Wildlife Conservation Society Final Report, December 20, 2019. Canmore, Alberta.

**Literature Cited**

Koch, J. 2012. Bumble bees of the western United States. US Forest Service; *San Francisco, Calif.*

Lucid, M., Robinson, L., & Ehlers, S. 2016. Multi-species Baseline Initiative Project Report: 2010–2014. *Idaho Department of Fish and Game, Coeur d'Alene, ID.*

**Name, title, phone number, and e-mail address of people compiling this report:**

Michael Lucid  
Panhandle Region Wildlife Diversity Biologist  
(208) 769-1414  
[michael.lucid@idfg.idaho.gov](mailto:michael.lucid@idfg.idaho.gov)

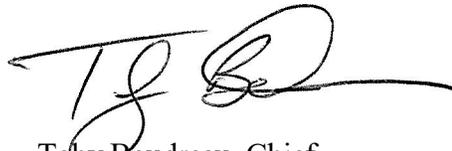
Submitted by:  
David Smith  
Grants/Contracts Specialist  
[David.smith@idfg.idaho.gov](mailto:David.smith@idfg.idaho.gov)



Martha Wackenhut  
Federal Aid Coordinator  
Assistant Bureau Chief, Wildlife

Approved by:

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Toby Boudreau, Chief  
Bureau of Wildlife