SEEDING THE FUTURE

Last fall, Rare Care initiated a new study to investigate whether direct seeding is a viable alternative for establishing new populations of White Bluffs bladderpod (*Physaria douglasii* ssp. *tuplashensis*). Its only known population occurs on the white bluffs of Hanford Reach National Monument, growing on a white cemented alkaline substrate rich in calcium.

White Bluffs bladderpod was listed as threatened under the Endangered Species Act in 2013. Slumping of the bluffs was identified as one of the main threats to the plant, resulting in the loss of plants and suitable habitat. Slumping is a natural process, but it has been made worse by the presence of groundwater originating from irrigation of fields and water impoundments on lands above the bluffs. Therefore, a strategy for this species’ recovery will be to increase its presence on more stable sections of the bluffs where the white substrate is exposed.

Practitioners commonly use plants grown in a nursery for reintroductions. Reintroductions with plants have a higher establishment rate per propagule (any material that can be used to propagate a plant) than directly sown seeds; therefore, less material is needed. However, growing plants in a nursery and caring for them during the first several seasons is time intensive and expensive.

Therefore, sowing seeds becomes an attractive alternative if sufficient seeds are available.

This may be the case with the White Bluffs bladderpod. This short-lived perennial starts flowering in its first or second year and produces abundant seed. However, its environment may make seeding challenging. The steep exposed white soils of the bluffs form a hardened layer that seeds can easily roll off. Seasonal rainfall is very low and episodic. Prevailing winds also cause a challenge. They arise from the wind and accelerate over the crest of the bluffs, strewing material out onto the sagebrush plains.

Rare Care’s seeding experiments will tackle these thorny issues by testing different techniques, timing and locations for direct seeding. We will seed 300 seeds into a series of 1-square-meter plots in different seasons using different site preparations. Plots will be located along transects in three locations: one adjacent to and within the northern extent of the natural population, and two located further north along the bluffs where the species is not known to occur.

We will track recruitment over several years and consider how physical site characteristics, site preparation, and cover of associated species affect germination and establishment. We will also consider how climatic variation during the experimental period may influence the success of the seedings. We hope the results will shed light into whether seeding is a viable option for this species, how it might be accomplished, and whether the bluffs north of the natural population are suitable for this species.
PRESERVING PARTNERSHIPS AND HABITATS

Rare Care’s partnership with the Washington Natural Heritage Program (WNHP) is invaluable and the relationships we build with their staff create a strong foundation for our program. This year we’d like to spotlight WNHP’s new Program Manager Joe Rocchio.

Growing up in Indiana Joe developed a love of the natural world while exploring the geology of nearby quarries hunting for fossils. Later on, he considered a degree in paleontology until a fieldtrip to Pinhook Bog of Indiana Dunes National Park. While there, surrounded by sundews, pitcher plants, and tamarack trees growing on floating mats of sphagnum moss, he realized “this is what I want to do” and went on to study wetland ecology.

Peatlands, like Pinhook Bog, are old ecosystems. Their acidic and water-logged conditions slow decomposition and as material builds up over millennia, they become a type of repository, a record keeper of natural history. For Joe, to stand in a peatbog is to be transported to another era. He reflects “It’s humbling to know you’re in an ancient place.”

In 2011, Joe was thrilled to discover the only known raised bog (a rare type of wetland) in the western US called Crowberry Bog. Joe says “I felt like Indiana Jones finding the Ark of the Covenant.” Over the next eight years, Joe conducted research and petitioned for Crowberry Bog to be conserved. In 2019, it was designated a Natural Area Preserve. Experiences like these inform Joe in his new role as WNHP Program Manager. He is excited to strengthen existing partnerships and build new ones to conserve Washington’s unique habitats like Crowberry Bog.

UPCOMING EVENTS

Due to COVID-19, events are TBD. We will confirm by email.

**Howellia aquatilis Training**
1st week of June
Turnbull Natl. Wildlife Refuge

**Annual Monitoring Weekend**
June 12-14
Trout Lake

**Wenatchee Mountain Checkermallow Mapping**
Late June/early July, Camas Meadows

**Spalding’s Catchfly Monitoring**
2nd week of July,
Turnbull Natl. Wildlife Refuge

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