

Completion Report 2019 Hebgen and Quake Lakes Weed Treatment Project

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Background

Despite ongoing efforts by the Gallatin National Forest weed program to keep noxious weeds at bay, extreme recreational pressure on Hebgen Lake and along the Madison River continues to cause dispersal of noxious weeds throughout these areas. Species such as spotted knapweed, yellow toadflax, hound's tongue, orange hawkweed, hoary alyssum, oxeye daisy, and Canada thistle threaten native plant communities in these areas. Earthquake Lake and Hebgen Lake provides critically important waterfowl nesting habitat, foraging areas and cover for grizzly bears, moose and elk winter range, and nesting territories for bald eagles. The Madison River between Hebgen Dam and Earthquake Lake is an important migration corridor for elk and also provides important moose winter habitat. The importance of these areas for wildlife cannot be overstated, but all of these areas are threatened by the presence and potential spread of noxious weeds. Weed treatment is not a one-time event; rather, it must be ongoing in order to be effective.

The Northwestern Energy *Updated Five Year (2018 thru 2022) Madison and Missouri River Wildlife and Terrestrial Habitat Plan per Project 2188 License Articles 411, 418, 421, 423, and 424* states under Article 421 that NorthWestern Energy will continue to work with cooperating agencies to protect and enhance important wildlife habitat. Article 423 of the License directs NorthWestern Energy to develop a plan to enhance native plants and wildlife populations on the lands and waters associated with the 2188 license. This project would enhance native plant communities and wildlife populations around Earthquake Lake and Hebgen Lake, in compliance with Article 423, by reducing the abundance and spread of noxious weeds.

Objective

To reduce the size of existing noxious weed sites and aggressively treat new sites in the Basin. Approximately 160 acres of existing noxious weeds around Earthquake Lake and Hebgen Lake would be treated in the summer of 2019.

Methods

Chemical spray and biological controls (where feasible) would be used to treat existing high-density weeds sites. Two weeks after treatment the site would be monitored to evaluate the effectiveness of the treatment. New sites would also be treated as they are discovered or reported by the public and Forest Service personnel. The Forest Service would contract with the Montana Conservation Corp for the bulk of manpower needed to spray weeds sites along Hebgen and Earthquake Lakes. A Forest Service Weeds Specialist and intern would also participate in spraying and would provide supervision for MCC crews during the three weeks that they are working on the District.

Results

Approximately 150 acres of noxious weeds adjacent to Hebgen and Earthquake Lakes were treated during the 2019 field season. This acreage failed to meet the 2019 objective for weed treatment in the

Basin, largely due to cool and wet weather that lasted well into the summer. The cool weather slowed maturation of weeds, making identification difficult, and resulted in fewer days where application of chemicals was feasible. Treatment areas included the Earthquake Lake Visitor Center, Earthquake Lake, Beaver Creek, Ghost Village, Refuge Point, Kirkwood, Edwards Peninsula, Horse Butte, Lonesomehurst, and Madison Arm areas. Additional weed infestations in the Hebgen Basin and elsewhere on the Hebgen Lake Ranger District were treated using contracted chemical applicators. These additional resources treated an additional 951 acres on the District, outside the project area. While it is difficult to completely eradicate noxious weeds once established, treatment activities have significantly reduced the cover of knapweed adjacent to Hebgen Lake from approximately 70% to 80% down to approximately 1%. A reduction in the noxious weed overstory at treated sites has permitted native species to recolonize affected acres and reduced the in-growth of cheat grass in most areas. Some areas continue to be problematic, including the area in the vicinity of the Quake Lake Visitor Center. In addition, new noxious weed sites are constantly being discovered.

Funding

Funding for this project in 2019 was as follows:

Category	Funding Source		Total
	NWE	USFS	
Direct Labor	\$12,000	\$9,600	\$21,600
Materials and Supplies	\$0	\$1,200	\$1,200
Other Direct Expenses - Vehicle	\$0	\$1,000	\$1,000
Total	\$12,000	\$11,800	\$23,800

Future Activities

Weed treatment activities have been successful at reducing densities of noxious weeds at known sites in the vicinity of Earthquake and Hebgen Lakes. In summer 2020, spraying of existing sites would continue in order to maintain or reduce the size of infestations and maintain low densities at the sites. Given the later maturation of noxious weeds this season, it is expected that a greater proportion of individual noxious weed plants than normal was missed (due to small size, lack of flowers, etc.), which may result in a higher workload next season in some areas. We are planning to host a MCC crew for two to three weeks next year in the Hebgen Basin to focus on existing high priority weed sites.