

Category A—High

Perennial pepperweed (*Lepidium latifolium*)



Photo credit: S. Dewey, USU



Photo credit: J.M. DiTomaso



Photo Credit: L.J. Mehrhoff

Key ID Tips

- Small clusters of white flowers.
- Branching, deep, and woody roots.
- Serrate, ovate leaves that are hairless and greyish green.
- Seed pods are covered in short, fine hairs.

Navajo Name

Os si tsóh

Origin

Native to Eurasia

Description

Perennial pepperweed is a perennial forb that can grow to 6 feet tall, although most are 2 to 4 feet tall. It prefers moist or seasonally wet sites, growing near riparian areas and wetlands. The crown and stems are slightly woody. Leaves are larger at the base, serrated, ovate, and lack hairs. They appear greyish green and are alternate. Flowers are in clusters of small white flowers. Flowers have four petals and produce small pods with tiny reddish-brown seeds that are covered in short, fine hairs. Seed pods are flat and circular. Pepperweed has deep, thick roots that creep vigorously, but are unable to retain soils (DiTomaso et al. 2013). Aboveground material dies off in the late fall and winter, leaving dead stems and leaves that can persist for several years.



Photo credit: L.J. Mehrhoff

Biology

Pepperweeds can tolerate saline and alkaline soils. It spreads mostly vegetatively, while being a prolific seeder. Small root fragments can resprout into new plants and can be moved by flooding, erosion, and human and animal activity. Plants can easily germinate in a range of temperatures and soil moisture conditions. However, seeds do not live for long in soils, making vegetative reproduction the main way for new plants to generate.

Locations

Perennial pepperweed has been found in Marble Canyon and on NAPI-NIIP lands on the Navajo Nation.

Ecological Threat and Management Concerns

Perennial pepperweed resprouts vigorously from root fragments, making it hard to control. It can form dense thickets that crowd out native vegetation. Seeds can stick to animals, shoes, and tires, allowing them to disperse great distances.

Management Recommendations

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Additional safety measures and limitations may apply to each method. Refer to the [Navajo Nation Integrated Weed Management Plan](#) for more information.

Mechanical/Manual Removal

Hand pulling and tilling can be effective on new populations, but are ineffective on established plants as they can quickly resprout. Tilling and grubbing established populations can increase the size of populations. Cleaning equipment is important to prevent spread to new areas. Mowing is not effective and can produce new growth, but it can be used to remove dead thatch and prevent shading of other plants.

Biological

No biological control organisms are available for use on the Navajo Nation.

Cultural Control

Cattle, sheep, and goats can graze on pepperweed in the early spring, when in the rosette stage. Sheep and goats are most tolerant of pepperweed, but must remain in the affected pasture permanently to provide effective control. Burning is not effective at controlling pepperweed but can be used to remove accumulated thatch and is best done in the spring or winter before growth is initiated in the spring. Maintaining native plant cover is most effective at suppressing and preventing pepperweed.

Chemical

Use of herbicides can be effective. Refer to the product labels for application rates, timing, and approved application methods.

Recommended herbicides include:

- 2,4-D
- Chlorsulfuron methyl
- Dichlobenil
- Glyphosate
- Imazapic
- Metsulfuron methyl

References

DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center. University of California. 544 pp.

USDA, NRCS. 2023. PLANTS Database. Available at <https://plants.sc.egov.usda.gov/>. National Plant Data Team, Greensboro, NC 27401-4901 USA



Bureau of Indian Affairs
 Navajo Region
 301 West Hill Street
 Gallup, NM 87301
 Phone: (505) 863-8314
www.bia.gov/regional-offices/Navajo-region