Parrotfeather Identification and Management

List A

Parrotfeather (Myriophyllum aquaticum) is an aquatic to semi-terrestrial perennial plant also known by the names "Brazilian watermilfoil" and "thread-of-life." The plant is colony-forming, creating large, emersed mats of vegetation. Adventitious roots form at the nodes, and plant parts break off easily and form new infestations. This species is dioecious, meaning that there are both female and male plants. However, only female plants occur in the plant's non-native range, so reproduction is exclusively vegetative. Seeds have not been observed outside of the native range.

The finely-dissected, feather-like leaves of the plant are arranged around the stem in whorls of four to six. Emergent leaves are 2-5 centimeters long with 6-18 divisions per leaf, and the submerged leaves are 1.5-3.5 centimeters long with 20-30 divisions per leaf. Emergent vegetation stands upright, up to a foot high above the water, and looks like miniature fir trees. The emergent leaves are stiffer and darker in color. Stems can become woody, and the plant is unpalatable to most grazers. Flowers are very small, translucent to white in color, and develop in the axils of middle to upper submersed and emersed leaves from April to July.

Parrotfeather is native to the Amazon River in South America and was introduced in the late 1800s as an aquarium plant and pond ornamental. Parrotfeather has naturalized worldwide, especially in warmer climates. It grows along the shorelines of lakes, canals, reservoirs, and other bodies of water, and it tends to colonize slow-moving or still water rather than high-flow areas. Colonies can become detached and form floating mats, and the plant can also live in a semi-terrestrial form on mud flats. Infestations can clog waterways, impeeding recreational and commercial boating activities. Dense monocultures also disrupt the native aquatic plant community.

The key to effective control of parrotfeather is to prevent establishment through proper land management. Maintain healthy riparian corridors, wetlands and irrigation canals, and continually monitor your property for new infestations. Parrotfeather is related to and can highly resemble a List B noxious weed known as Eurasian watermilfoil. Be sure to identify species correctly so that appropriate treatment can be applied.

Parrotfeather is a designated "List A" species in the Colorado Noxious Weed Act. It is not known in the state but is required to be eradicated if found. The following page provides management recommendations. For more information please visit: www.colorado.gov/ag/weeds or call the State Weed Coordinator at the Colorado Department of Agriculture, at 303-869-9034.

Key ID Points

1. Aquatic plant with submersed AND emergent leaves.
2. Feather-like leaves in whorls of 4-6.
3. Emergent growth up to 1 foot above water surface, resembling tiny fir trees.
4. Reproduction is vegetative only in non-native range.

Parrotfeather

Myriophyllum aquaticum

List A

Integrated Weed Management Recommendations

Parrotfeather

Myriophyllum aquaticum

Prevention is the best control for parrotfeather. Its tough rhizomes can be transported long distances on boat trailers. Avoid introduction through boating activities. Once established, it is difficult to fully eliminate parrotfeather, due to its thick waxy cuticle and aquatic environment.

CULTURAL
Prevent the introduction and establishment of new infestations by conducting regular inspections of recreational and commercial boats and waterways. Remove all plant parts from boats and prevent transportation of propagules into uninfested waters. Maintaining healthy native communities in slow-moving streams, ponds, reservoirs, and wetlands to help prevent establishment.

BIOLOGICAL
Biocontrol agents are not included in the prescribed management plans by the State since eradication is the management objective for all List A species. No biocontrol agents for parrotfeather is available. For more information on the use of biocontrol agents to control weeds in Colorado, please contact the Palisade Insectary of the Colorado Department of Agriculture at 970-464-7916.

MECHANICAL
Small infestations can be raked or seined out of the water, but caution should be used since mechanical efforts while the plant is still invading may enhance its rate of spread. In addition, all plant parts must be collected so that the infestation doesn't reestablish from remaining fragments and roots. Rhizomes can be very dense and tough, and the plant regrows quickly. Makes sure you can access all plant parts before attempting mechanical treatment.

CHEMICAL
Parrotfeather is difficult to control chemically due to its thick waxy cuticle. The following are recommendations for herbicides that can be applied in aquatic environments to treat parrotfeather. Rates are approximate and based on smaller infestation, spot-spraying techniques. Please reference the label for exact rates. Always read, understand, and follow the label directions. The herbicide label is the LAW!

HERBICIDE	RATE	APPLICATION TIMING
2,4-D liquid (Hardball, Weedar 64, etc.) or 2,4-D granules (Sculpin, Navigate)	2.3 gal/acre with 5-gal min. mix/acre for emerged plants 2.5-6.2 gal/acre-ft. for submerged	Treat emerged plants when vegetation has at least 1 foot above water. Must include an aquatic-safe surfactant for effective absorption. Submerged treatments are limited to 2 per year. **Coordination and approval from local entities may be necessary for all aquatic treatments.**
Endothall (Aquathol)	1.9-3.2 gal/acre-ft. for spot or lake margin treatment	Spot treat on emerged and submerged plants. If treating an entire waterbody, rates will be lower. Be sure to follow label.
Imazapyr (Habitat: apply to emerged vegetation only)	2-3 pints/acre. Plus aquatic surfactant	Use only on emerged plant parts. Must include an aquatic-safe surfactant for effective absorption. Treat when emergent vegetation has at least 1 foot above water.

Colorado Department of Agriculture - Conservation Services
305 Interlocken Parkway
Broomfield, CO 80021
(303) 869-9030
www.colorado.gov/ag/weeds

Rev. 10/14