

## Appendix J: 2003 Draft Preliminary Milfoil Management Plan

### DRAFT

#### Newman Lake Flood Control Zone District

### PRELIMINARY AQUATIC VEGETATION MANAGEMENT PLAN

#### For Control Of Eurasian Watermilfoil In Newman Lake

Background: In September 2002, we discovered a very young infestation of Eurasian Watermilfoil (*Myriophyllum spicatum*) at the South end of Newman Lake around the outlet gate area (see attached location map). As disappointing as it was to find, it was probably inevitable that at some point we would get it. It spreads easily from even small plant fragments brought in by boats. Many lakes and rivers in Northeast Washington and Idaho panhandle (as well as all over the US) have been fighting Eurasian Milfoil for years, including Liberty Lake, Loon Lake, Long Lake, Diamond Lake, Pend Oreille River, Little Spokane river and others. Fortunately we have caught it an early stage of growth and is relatively small thin stand. The area infested is only about 20 acres area and if plants all pushed together probably cover an area less than 2 acres. Management and control is much easier especially if we act soon and keep on top of it.

Why is this a Problem: Eurasian Watermilfoil (Milfoil) is a submersed aquatic plant that has become a problem in many of Washington's lakes and rivers. This invasive non-native species is fast growing, and easily spreads by plant fragments and root systems. Because it is not native it seems to have no natural enemies to control its growth. Potential negative impacts include:

1. **Recreational Use of the Lake:** Milfoil can eventually produce dense mats that interfere with navigation and recreational activities such as boating, swimming, fishing, and water-skiing. Although so far in Newman Lake we have only seen the milfoil growing in about 3 feet of water, it can grow at depths of up to 30 feet and reach the surface when growing in depths of up to 15 feet. For a shallow lake like Newman this could be significant portion of the lake though visibility may limit its spread.
2. **Aquatic Habitat:** Milfoil also adversely impacts aquatic ecosystems by forming dense fast growing canopies that often shade out native vegetation. It's mono-specific stands provide poor habitat and food for waterfowl, fish, and other wildlife.
3. **Water Quality:** With its fast thick growth Milfoil can also significantly increase the decomposing biomass at the end of the growing season and therefore increase the internal loading of nutrients to the water and decreasing water quality. Since Newman Lake already has an excess nutrient problem, this could be special concern.

Goals of Control Program: Because of these potentially serious impacts of Milfoil in Newman Lake, the Newman Lake Flood Control Zone District (NLFCZD) is trying to act quickly to implement a control plan. Eradication is rarely successful. Our goal at this time is to:

6. Contain milfoil to the existing infested areas outlet area and hopefully reduce the plants in this area.

7. Minimize any negative environmental impacts of the control methods
8. Minimize costs of control to the State and the Newman Lake Homeowner.

**Management:** Based on the experience of other lakes, effective and affordable control requires a long-term commitment and early action. It involves frequent surveying to determine milfoil locations, implementation of control actions up to 2 or 3 times per year, and education to prevent continued re-infestation.

**Survey:** Plans now include surveying the entire lakeshore by boat and/or foot in late May as we did last fall. We will be locating and mapping plans and infested areas with GPS. Identification before infestations have spread will reduce control costs. We will monitor trouble some areas routinely with full follow up surveys in spring and fall.

**Control options:** Various methods have been used with varying degrees of success in other lakes and water bodies. A summary of these options is below

**Diver hand pulling:** During hand pulling, milfoil plants are manually removed from the lake bottom, with care taken to remove the entire root crown and to not create fragments. In deeper water, divers are usually needed to reach the plants. Cost effective in small areas of light infestation and /or early or follow-up control.

**Chemical herbicides:** Of those permitted and effective against milfoil 2,4D is the most selective for milfoil, easiest to use in a limited area (granular application) and also most cost effective and least environmental impact. Complete decomposition of 2,4D in water is usually about 3 weeks (but can be as short as 1 week).

**Bottom barriers** Bottom barriers are semi-permanent materials that are laid over the top of milfoil beds and are analogous to using landscape fabric to suppress the growth of weeds in yards. They are difficult to anchor for very long and also block native vegetation, which can help control milfoil spread. Can be considered in the future for small limited areas around docks.

**Mechanical harvesting:** Harvesting is a way to mechanically remove milfoil in order to provide open areas of water for recreational activities and navigation. Harvesting immediately removes surfacing milfoil mats, but since the cut plants grow back (sometimes within weeks), the same area may need to be harvested twice or more per growing season. Using in early infestations of Milfoil this method usually does more harm than good as it spreads plant fragments.

**No Action:** This is always an option but not recommend as potential severe impacts and high future costs.

**Recommendations:** The most effective in Newman Lake *at this time* seems to be treatment with 2,4D, a selective herbicide proven very effective against milfoil with out impacting native aquatic vegetation. Then following up with diver hand pulling which is most effective with small infestations and isolated plants. This is based on advice from Department of Ecology and Br. Barry Moore (who has had extensive experience controlling milfoil at Liberty Lake).

**Herbicide Application Procedures/Schedule:** We are tentatively looking at scheduling the first 2,4D treatment for late June this year. We will be contracting with a State licensed applicator who will obtain permits under

State Dept. Of Agriculture's NPDES permit. All residences and businesses within ¼ mile will be notified 10-21 days prior to application. All permit and label conditions will be followed including notification to and restrictions of irrigation and drinking water users with in or near treatment area. If necessary we will be providing water supplies at no cost during the restricted period to those with impacted intakes and with no alternative supply. We will also be performing follow-up testing of herbicide levels to determine when herbicide levels have dissipated.

Education and Identification: We can use your help in preventing and identifying any further spread of this noxious aquatic weed.

1. **Please remove any plant fragments from your boat before launching in Newman Lake.** Be especially careful around props and intakes where they snag and hide easily.
2. **Volunteer** to help us with our weekend education efforts at the public boat launch.
3. **Monitor your beach:** Keep your eyes open for any new infestations in your area. Eurasian watermilfoil is a submersed perennial plant with finely dissected feather-like leaves. The leaves are arranged in whorls of 4 around the stem at each node. Each Eurasian water milfoil leaf generally has 12 or more leaflet pairs. Until you've seen a few, it can be easy to confuse this with other native plants. If you think you may have spotted a milfoil plant, contact me (see contact info below) and I'll come out and take a look. Do not try to remove the plants yourself! If not careful you can spread more with improper removal.

Cost: Since we've caught it early, control costs will hopefully stay manageable. 2,4D treatments can cost \$400-\$600/acre of treated area. Surveying and hand pulling efforts currently cost Liberty Lake about \$3,000 annually. Fortunately the Newman Lake Flood Control Zone District has received a \$50,000 grant from Dept. of Ecology to manage Eurasian Water Milfoil growth over the next 3 years. We are required to provide only a 12.5% (\$7,143) match from our District funds this will be in the form of staff time and volunteer time. At least for now we see only a small roughly \$2,000/year impact to the annual District Budget or on the order of 1-2% increase in District assessments (\$5-10/ year for an average homeowner paying \$500/year assessment).

To Learn More: If your interested in learning more about aquatic weeds and Eurasian Milfoil, the best place to start is the Department of Ecology's web site for Lakes and aquatic plants at <http://www.ecy.wa.gov/programs/wq/links/plants.html>.

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