PROBLEM STATEMENT

The presence of the non-native invasive aquatic plant, Eurasian watermilfoil (milfoil – *Myriophyllum Spicatum*), is common to many lakes throughout Washington and the Pacific Northwest. The growth of milfoil in Black Lake limits recreation, navigation, disrupts natural water flow, and adversely impacts aquatic habitat and water quality. To date, hand pulling has been employed to control plant density by physically removing plants. This method of control has prevented the rapid expansion of both the area covered and density potential of this nuisance plant. Two other non-native plants are also adversely impacting the ecological balance of the lake and its beneficial uses. Specifically, yellow iris (*Iris pseudacorus*) and white waterlily (*Nymphaea odorata*) are encroaching upon the shoreline and open water area of the lake. Not only are all parts of yellow iris poisonous, causing skin irritation, but the plant forms dense colonies that alter shoreline and aquatic habitat. The white waterlily can grow to nuisance densities and, in response to high nutrient availability, accelerate nutrient over-enrichment of a water body.

Two native plants are also found in notable densities in Black Lake, slender water-nymph (*Najas flexilis*) and spatterdock (*Nuphar polysepala*). Dense growth of water-nymph is a likely a response to the lake's nutrient supply as it forms some dense colonies that directly impacts some recreational uses. On the other hand, water-nymph provides direct aquatic habitat benefits to fishes and invertebrates and is an important food source for waterfowl. The plant also serves to balance the primary production in the lake by providing direct and indirect competition for nutrients versus the cyanobacteria (blue-green algae) that also have produced blooms in the lake. Spatterdock also provides aquatic habitat and is a direct food source for aquatic biota, but its current coverage is not presenting a nuisance relative to the beneficial uses of the lake.

The purpose of the Black Lake Integrated Aquatic Vegetation Management Plan (IAVMP) is to develop a long-term adaptive strategy to eradicate non-native aquatic plants and manage expanding densities of nuisance native species from Black Lake. This adaptive strategy will provide an ecologically balanced way to maintain and improve existing beneficial and recreational uses to meet future water resources needs and ecosystem demands.

MANAGEMENT GOALS

The overarching management goal of the Black Lake IAVMP is to provide the citizens of Black Lake and Thurston County the guidance and understanding to efficiently and effectively *eradicate* non-native milfoil, white waterlily, and yellow iris from Black Lake. The IAVMP will also provide for the balanced management of native plants particularly water-nymph. Additionally, the management approach identified in this IAVMP will maximize the beneficial uses of Lake Tapps and maintain water quality, recreation, fish and wildlife habitat, and aesthetics. Successful eradication will require a multi-year, aggressive, and dedicated management strategy.

Short-term Goals

- Community buy-in and ownership of the management goals,
- Aggressive treatment protocols in Year 1 with follow-up action in subsequent years as needed,
- Diligent monitoring and hand removal of satellite populations.

Long-term Goals

- Establish a community-led management program in corporation with Thurston County,
- Regular reviews and adaptive changes to management approaches,
- Continue to identify, evaluate, and apply the best available science.