Hayden Lake - North Arm,

I was able to visit and observe the current situation on the North Arm of Hayden Lake on Tuesday July 13, 2021 as a part of a survey project that I was conducting. My main focus on the North Arm of Hayden Lake was to assess the level of presence of Eurasian watermilfoil & Hybrids (EWM) and the potential need for a chemical or mechanical treatment of the North Arm. Currently there is a low percentage of EWM present with the highest population percentage in the shallows at the far north end of the North Arm, with presence averaging 5% when compared to native plant species present. So, at this time, we will not be treating the North Arm for EWM. Some of the main factors that led to this decision are as follows:

- High density of native plant growth- As is known regarding the North Arm, this area is the perfect habitat for aquatic plant growth, with high nutrient rich sediments and shallow depths. I am extremely happy that there are far more native species than invasive plants and hopefully the natives will continue to outcompete the invasive plants, keeping the ecosystem diverse and healthy. With the higher densities of native species combined with lower water levels this year, it presents a large challenge in having an effective application of both chemical and mechanical treatment options.
- Dissolved Oxygen Levels (DO)- problems usually occur when DO levels become either too high or too low. Causing any significant change to an already stressed system due to higher temps, lower water levels, and high plant densities could cause an issue for all aquatic species from fish to plants, to beneficial algae and organisms. The main concern would be a significant drop in the DO levels due to a large, sudden increase in decomposing algae and plant material as a result of a chemical treatment of the north arm.
- Additional Chemical treatment problematic issues- the herbicide of choice for a EWM treatment in the North Arm would be ProcellaCOR. This herbicide offers the best options for drinking water restrictions (None!), recreation restrictions (None!), irrigation of grasses (None!) and Irrigation of broadleaved ornamental and crop varieties (Restricted until residual levels fall below recommended levels 1ppb) while being extremely effective on the control of target species due to its systemic control. The issue that would be faced is a higher rate of herbicide would need to be used due to the higher density of plants present, as the herbicide is engineered to quickly be absorbed by plants while only affecting target species with receptive plant receptors. This rapid uptake would result in the herbicide being quickly removed from the water column. With higher plant densities, even non target plant species, the herbicide would not be able to effectively distribute throughout the treatment area, which would result in a less than effective treatment as the herbicide would be quickly absorbed in the area in which it would be applied. EWM control would only occur in the strip or band where the product is initially applied within the treatment area.
- Additional mechanical treatment problematic issues- the preferred method of removal of EWM is by divers assisted with a suction harvester. Due to the high density of plants present in the North Arm, this could cause issues for the divers' equipment, which needs obstruction free water to operate a suction harvester. Also of concern is the visibility of the plants to the divers. When swimming submerged through a forest of plants, being able

to pick out a single plant becomes very difficult. Lastly is a safety concern for the divers. Becoming tangled in the plants while trying to swim through them is a very real concern.

In working through the pros and cons of each of the issues of the invasive plant control options available to us, the decision was made to not treat at this time. We will be conducting an additional survey later in September to assess both EWM and CLP growth in the later part of the season with the intention of determining 2022 treatment strategies.
Also, thank you to those that responded to the short survey put out by the Hayden Lake Watershed Improvement District in regard to a potential additional treatment in the North Arm. The comments received where very helpful as additional information in our decision-making process. As always, thanks for your support over the years as we work to manage the invasive plants present in the North Arm. Should any of you have any additional questions or concerns please feel free to reach out.

Regards,

Jeremey Varley
Agriculture Section Manager
Noxious Weeds
Idaho State Department of Agriculture
208-332-8667 office
208-993-0950 cell