

In preparation for the 2020 Invasive Aquatic Weeds Community Info Meeting, community members had the opportunity to pose questions for Jeremy Varley, ISDA's Noxious Weeds Program Manager. Participants in the April 7 meeting also exchanged Q & A after Jeremy's presentation. Read expanded answers to these questions here.

**Treatment locations and strategies:**

Q

1. When are the new applications planned for 2020?
2. What areas of the lake will be treated for weeds this spring?
3. Based on the assessment of results from the May treatment, might a July treatment take place?

In the spring:

- 1 ISDA and the contracted applicator, Clean Lakes, will treat the North Arm for Curly Leaf Pondweed, beginning approximately May 18. The exact date will depend upon the plant development; ISDA is targeting the point after last season's turions have germinated but just before the plants develop new turions.
  - 3 Assessment of the May treatment, i.e., post-treatment residue sampling, will monitor herbicide concentrations in the water and indicate when water restrictions can be lifted. These assessments do not check plant growth or decay and cannot have any bearing on future treatment.
- A
- 2 The main body of the lake, including the southern and western shorelines, will not be treated in the spring.

In the summer:

- 1 ISDA will treat the shoreline around the main body of the lake only if surveys indicate the problematic growth of Eurasian Watermilfoil. Surveys of this area will take place early in the summer. Treatment, if any, will take place after July 4. Keep an eye on the ISDA Treatment and Survey maps for more exact dates.
- The north arm will not be surveyed in anticipation of further treatments in 2020.

Q

Will treatment take place in Skinner Bay?

A

Skinner Bay will most likely receive the spring treatment. Consult the ISDA Treatment Map for specific treatment locations and dates.

Q

Will you be treating the Windy Bay area?

A

Windy Bay, as a part of the main body of the lake, will be surveyed for weed growth early in the summer. If invasive weed growth is problematic there, then ISDA will treat it after July 4. If you are aware of significant Eurasian Watermilfoil growth and are concerned that it emerged after the ISDA survey, feel free to contact them to do a specific site assessment.

Q

It looks like there is a lot of Curlyleaf Pondweed in the southwest portion of the lake near Bervin's Bay; will that area be ignored?

A Remember that not all Curlyleafs are Curlyleaf Pondweed! Native pondweeds are beneficial for managing the growth and suppressing the dominance of invasive weeds like Curlyleaf. There may be a lot of them, but if they are not invasive, ISDA cannot address them.

When ISDA conducts its survey of the main-body shoreline, they will investigate the area adjacent to the Avondale Lake runoff area. If they determine that invasive weed growth is problematic, they will treat the area after July 4.

Q What can we expect in the south end of the lake in terms of weed growth and treatment?

A In 2019, ISDA treated the shoreline around the main body of the lake with Procellacor. While this was Hayden Lake's first experience with Procellacor, this herbicide has successfully managed weeds through multiple seasons in Priest River and other parts of the country. Anticipating similar results, ISDA will survey last year's treatment spots in the spring, the entire growth zone around the main-body early in the summer, and the 2019 treatment spots again in the fall. If they find problematic invasive weed growth, they will treat the infected areas after July 4.

### The Herbicides Used

Q

1. Why are they not using the same type of chemical this year and going to a different one than last year?
2. What were the results of last year's treatment, and how is this year's treatment different?

In 2019, ISDA used Fluridone to treat Curlyleaf Pondweed and Eurasian Watermilfoil growth in the North Arm. They used Procellacor to treat Eurasian Watermilfoil growth along the shoreline of the main body of the lake.

In the spring of 2020, they will use Galeon in the North Arm to treat Curlyleaf. If needed, they will again use Procellacor for Eurasian Watermilfoil Treatment around the main body of the lake.

A Why is the north-arm chemistry changing? 2019's Fluridone use involved multiple applications over an extended treatment period. This led to a complex process of planning, communication, treatment, and testing. Despite the effort, the Fluridone did not have a dramatic impact on Curlyleaf Pondweed as was expected, though it did suppress the Eurasian Watermilfoil as hoped.

Galeon was not usable per ISDA's contract in 2019. The new 2020 contract includes Galeion, and so it is the herbicide of choice this year. ISDA selected it for its more straightforward treatment plan of one application and ~30-day impact time and its reported effect on subsequent reseeding of Curlyleaf Pondweed.

### Specific Weed Growth

Regarding Curlyleaf Pondweed:

Q

1. What is meant by Growing Degree Days?
2. Before the treatment – will the plant growth reach the level where we are chopping them up with our boat propellers?
3. Once the herbicide is applied, what can we expect; how long before we see results?

4. You are going to try to titrate out the turions from the sediments and thereby dip the concentration. What do you see beyond the three years?

Curlyleaf Pondweed begins its growth cycle in the fall. It develops over winter, even beneath an iced-over lake surface. In the spring, it grows rapidly toward summer maturity, at which time it puts out turions, to seed the next Curlyleaf lifecycle.

<sup>1</sup> The term “Growing Degree Days” (GDD) refers to the accumulated amount of energy that is available to support plant growth. Because the plant’s growth process is driven by energy from the sun, a measure of the accumulated solar energy available by a given date is a reasonable estimation or indicator of the maturity of the plant.

Curlyleaf experts tell us that by the time these plants experience a GDD of 200-250 degrees, they are mature enough to direct their energy toward producing turions. If the growth of the plant can be interrupted at that point, it won’t be able to seed next year’s crop. Based on 2019’s weather, we should reach the 200 degrees point around May 18.

A <sup>4</sup> According to SeaPro, the herbicide manufacturer, Galeon will prevent or reduce the plant’s development of turions – the cone-like seed pods from which the next plant generation grows. Viable turions in the lake sediment from seasons prior to 2020 will germinate in 2021. If 2021’s growth is treated with Galeon, then new growth won’t produce new turions. Less growth will emerge in 2022 from older, viable turions that remain in the sediment. As each year presents new Curlyleaf, and if the weed is treated, the sediment will become depleted of viable turions. As the Curlyleaf population declines, native aquatic plants will thrive and help keep the Curlyleaf in check. After approximately three seasons, the Curlyleaf population, while not eradicated, should be manageable by less harsh means than annual herbicide treatment. If, on the other hand, the North Arm is not treated in subsequent years, the Curlyleaf population will regrow rapidly.

The three-year scenario is not a guaranteed timeframe to bring Curlyleaf under control. During and beyond this period, ISDA will continuously reassess the plant population to determine whether it’s responding to treatment and how to proceed.

<sup>2</sup> Before treatment, we can expect Curlyleaf to grow as tall and vibrant as it did in 2018 and 2019. Because of the point being targeted in its lifecycle, it should not top out before treatment. If all goes according to plan, we will not be chopping up Curlyleaf with our boat motors. But remember, this is a dynamic system with many parts that may or may not cooperate. If you see Curlyleaf near the water’s surface, please avoid motoring through it.

<sup>3</sup> After treatment, we can expect the Curlyleaf to take about 30 days to drop out of the water column.

Regarding Eurasian Watermilfoil:

Q

1. What is happening to the Milfoil that was the big worry in years past?
2. Curly Leaf gets a lot of attention in the springtime, but what about Milfoil?

A

The growing season for Eurasian Watermilfoil is later than that for Curlyleaf Pondweed. It starts growing in the springtime rather than the previous fall. At about the time when Curlyleaf is dropping out of the water column, Milfoil is reaching for the top.

Some may recall 2018 when Milfoil in the North Arm grew right up out of the wilting Curlyleaf, and it was difficult to see when or where one stopped and the other began. It felt like one long season of aquatic invasive weeds! In the North Arm in 2019, the weed season felt shorter

because, while we had significant Curlyleaf, the Fluridone did its job of inhibiting the Milfoil growth. We expect to see similarly suppressed Milfoil growth in 2020, thanks to last year's Fluridone treatment and this year's Galeon treatment.

Around the main body of the lake, the Milfoil has been spreading. 2019's Procellacor treatment should have nipped it before it grew out of control in those areas. ISDA is closely watching this part of the lake and is poised to treat it again if needed.

Milfoil is still a worry. All of us need to continue to do our parts to prevent fragmentation and spread around the lake.

### **Resident's, Property Owners', and Recreators' actions**

- Q
1. What should we be doing before, during, or after the treatment to help or to alleviate our frustrations?
  2. Is raking up the weeds that blow into our dock area a good idea or a bad idea?
  3. What should we NOT do?

<sup>1</sup> The most important thing that we can do, as residents and recreators on Hayden Lake, is CLEAN, DRAIN, DRY!

- A
- <sup>2</sup> It's hard to believe, but sometimes we must rake. When raking floating mats of weeds, pull them up high onto the land, well above the waterline, so that they are not inadvertently blown back into the water. Bag them and dispose of them as you would trash so that the nutrients and sediment from decay aren't washed back into the lake.

<sup>3</sup> Be very careful not to rake plants that are still rooted to the bottom. This results in fragmentation and propagation of the most viable parts of the plants.

And, if you see weed mats or weeds just below the surface of the water, avoid motoring through them. If you must, move slowly to avoid increasing the spread of fragments or stirring up the bottom sediments. And, if you pull up a bundle of weeds, don't throw them back in the water. Instead, haul them to the shore and dispose of them like trash.

### **Other concerns:**

- Q
- How does treatment affect the fish?

A

Chemical treatment of aquatic plants has the potential to harm other aquatic life in many ways. The chemical itself or its components could be poisonous to fish or birds. It could be taken up by desirable plants and damage them or work its way into the food chain. Just in doing its targeted job – killing weeds – it sets in motion a decay process that consumes the dissolved oxygen in the water. If the plant decay uses oxygen faster than the processes that add oxygen to the water, then the lives of less tolerant fish species can be in peril.

The herbicides used by the ISDA have been stringently tested by the EPA to assess their direct effect on fish, birds, humans, and other species that rely on the water. Galeon and Procellacor are very targeted for the plants that they treat. They are safe for fish and humans at the concentrations

being used to treat Hayden Lake. Additionally, because the weed die-off is slow, the rate at which the Curlyleaf or Milfoil will die and enter the decay cycle is slower than the rate at which oxygen will be added to the water, so dissolved oxygen levels will not decline and endanger the fish.

Q Is it possible to have channel markers for the north arm, so that boat traffic knows where to move without chopping up the weeds? (After the 4<sup>th</sup> of July, the weed debris just from boat propellers is incredible.)

A The Hayden Lake Watershed Association and the residents of the North Arm are working to understand the pros and cons of this solution.

Q What is the cost of this program? Is there adequate funding for the next three years of invasive weed treatment in Hayden Lake.

A ISDA receives funding from the legislature via the general appropriation. Funding is in place for 2020. Each year, the legislature votes to fund its priorities. Milfoil has been of considerable concern for the legislature in the past. If you are ever concerned about invasive plant management remaining on the priority list, contact your legislator for information and to express your concern.