Lower Nemahbin STARRY STONEWORT DASH TREATMENT – 2023

Eco Waterway Services (ECO) was engaged in 2023 to do follow up hand harvesting treatments to remove an outbreak of the invasive species, Starry Stonewort (SS), found at the Lower Nemahbin boat launch area. We performed this service at two different times during the summer season for one day each treatment. The first treatment was done on 7/13/23 and the second treatment was completed on 8/21/23. The SSW removal process is specialized as the divers need to carefully place their hands in the sediment and "roll up" the bulbils and algae material. Material is then collected in bags and disposed of. This method is considered hand harvesting.

7/13/2023 Treatment – Eco targeted all four designated zones on the map, covering the docking area and its surroundings, including the south side, the boat launch area's eastern side, and south of the bridge. Ongoing manual efforts are managing sporadic plant outbreaks in these zones. Divers focused on the deeper side of each area working towards land, in order to create navigation paths in hopes of limiting the amount of starry touched by watercrafts at the launch. Starry Stonewort remains the prevalent species, with some intermingled Chara. Eco's focus remains on selectively eliminating starry stonewort, even in areas where it coexists with Chara. Eco left Chara beds that did not have a presence of Starry in hopes they will be able to overpower the area to help reduce the Starry Stonewort return next season. This year Eco collected the following number bags in each area on the first visit.

Area 1: 13 bags Area 2: 35 bags Area 3: 21 bags Area 4: 8 bags

The 2nd treatment for 2023 will go back over these same areas to remove any missed or new growth of the Starry Stonewort plants.

8/21/2023 Treatment – A follow up treatment was completed. We found significantly less SS around the boat launch area treated in July. Most of the time was spent in Area 3, south of the bridge and covering any missed plants or regrowth in the remaining areas. We collected a total of 31 bags of material.

Area 1: 4 bags Area 2: 9 bags Area 3: 16 bags Area 4: 2 bags

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Lower Nemahbin STARRY STONEWORT DASH TREATMENT – 2022

Eco Waterway Services (ECO) was engaged in 2022 to do follow up hand harvesting treatments to remove an outbreak of the invasive species, Starry Stonewort (SS), found at the Lower Nemahbin boat launch area. We performed this service at two different times during the summer season for one day each treatment. The first treatment was done on 7/18/22 and the second treatment was completed on 8/08/22. The SSW removal process is specialized as the divers need to carefully place their hands in the sediment and "roll up" the bulbils and algae material. Material is then collected in bags and disposed of. This method is considered hand harvesting.

7/18/2022 Treatment – Eco targeted the boat launch areas 1 and 2 shown on the map above. This includes directly in and under the docking area, the south side of the docking area, and along the east side of the boat launch area. There consistently seems to be small outbreaks of scattered plants which is being controlled by hand pulling. This year ECO collected 37 bags north of the bridge in Areas 1 and 2. The 2nd treatment for 2022 will concentrate on the south side of the bridge, looking for sporadic outbreaks. Other Native plants of chara and water celery were present around harvesting areas.

8/8/2022 Treatment – A follow up treatment was completed. We found significantly less SS around the boat launch area treated in July. Harvesting was focused south of the bridge in Area 3. We collected 53 bags of plant material.

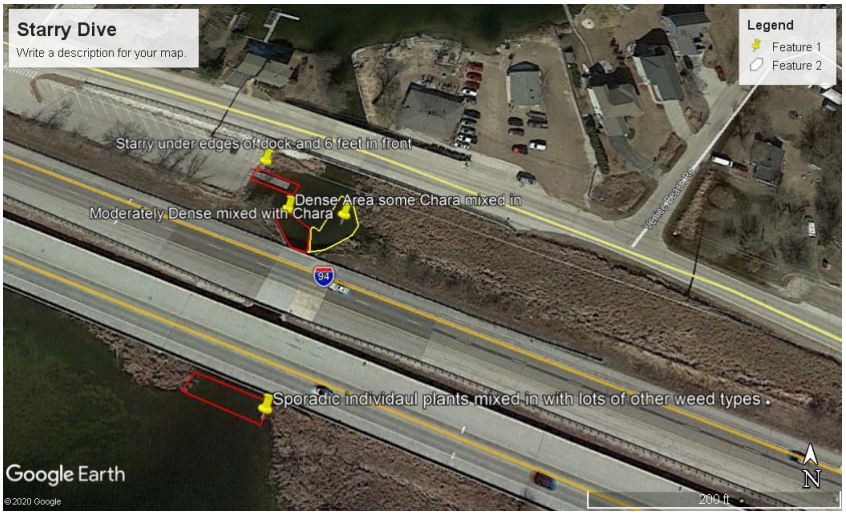
Lower Nemahbin STARRY STONEWORT DASH TREATMENT – 2021

Eco Waterway Services (ECO) was engaged in 2021 to do follow up hand harvesting treatments to remove an outbreak of the invasive species, Starry Stonewort (SS), found at the Lower Nemahbin boat launch area. We will perform this service at two different times during the summer season for one day each treatment. The first treatment was done on 7/12/21 and the second treatment was completed on 8/25/21. The SS removal process is specialized as the divers need to carefully place their hands in the sediment and "roll up" the bulbils and algae material. Material is than collected in bags and disposed of. This method is considered hand harvesting.

7/12/21 Treatment – A review of the area shows that areas harvested in 2019 when we used geo textile bags and collected some sediment along with plant material was still relatively clear of SS. This includes directly in and under the docking area and the south side of the docking area, and along the middle channel. There consistently seems to be small outbreaks of scattered plants which is being controlled by hand pulling. The areas where we did not remove much sediment in 2019 but have been hand pulling along the east side of the boat launch and on the south side of the bridge leading into Lower Nemahbin had dense patches of SS. Both in 2019 and 2020, we limited the harvesting on the east side of the boat launch due to it being considered a non-traffic area. This is the area which now is abundant with SS and moving into the main channel area. Eco spent a majority of time in this area. The area on the south side of the bridge also had a higher density of SS then in 2020. Eco collected 62 bags of SS on 7/12/21. Last year at the first treatment Eco collected 32 bags. The 2nd treatment for 2021 will concentrate first on the East side of the boat launch again and harvesting further out on the south side of the bridge, looking for sporadic outbreaks. Other Native plants of chara and water celery were present around harvesting areas.

8/25/21 Treatment – A follow up treatment was completed. We found significantly less SS around the boat launch area treated in July. Most of the SS was near the Lily Pads and against the wall of the I94 bridge on the south of the boat launch area. We collected 9 bags of plant material. Last year during the second treatment Eco collected 5 bags.

Lower Nemahbin STARRY STONEWORT DASH TREATMENT – 2020



Eco Waterway Services (ECO) was engaged in 2020 to do follow up hand harvesting treatments to remove an outbreak of the invasive species, Starry Stonewort (SS), found at the Lower Nemahbin boat launch area. We performed this service at two different times during the summer season for one day each treatment. The first treatment was done on 7/27/20 and the second treatment was done on 8/31/20. The SS removal process is specialized as the divers need to carefully place their hands in the sediment and "roll up" the bulbils and algae material. Material is than collected in bags and disposed of. This method is considered hand harvesting.

7/27/20 Treatment – While the amount of SS was significantly decreased in certain areas from the outbreak in 2019, there were still some moderately dense areas within the boat launch area and on the outside of the South I94 overpass bridge. Most of the outbreak was in specific patches and not in an overall area. A map is attached of the service from this hand harvesting treatment. We collected 32 bags or 1120lbs of plant material. 75% of the material was SS and 25% native plants of primarily Chara. Based on DNR direction and in consideration of allowed treatment time and budget, some SS was left on the East side of the boat launch. This area was considered a non-traffic area with less exposure for migration.

8/31/20 Treatment – A follow up hand harvesting treatment was completed. There was little to no SS plant material in the areas treated in July. There were a few small patches that were found within the boat launch area and removed. Divers concentrated more on Lower Nemahbin, South of the I94 overpass bridge. New outbreak areas were found where there was prop rutting. SS was growing within the bare areas of the prop ruts. Divers removed these plants and determined the entire original treatment area, except the previously excluded area on the East side of the boat launch was clean. There were some sporadic SS plants intermingled with other native plants, primarily CHARA. The native plant environment seemed to be overtaking the SS growth areas. Primary plant was CHARA. Amy Kruetlow, DNR, was present at treatment time and observed the results of treatments. We collected 5 bags or 175lbs of plant material. 90% of the material was SS and 10% native Chara. A map is attached of the service from this hand harvesting treatment.

Total amount of bags collected over last 4 years:

2023: 108

2022: 90

2021: 71

2020: 37