GENERAL GOVERNMENT & PUBLIC SAFETY COMMITTEE
TUESDAY, FEBRUARY 23, 2021
9:30 A.M.
REMOTE ATTENDANCE

To comply with Governor Inslee's Proclamation 20-28, the General Government & Public Safety Committee Meeting will be conducted remotely, not in person. However, you may view the meeting by watching live through Zoom.

Link: **https://us02web.zoom.us/j/83233915658**

The public may also listen to the meeting via telephone by dialing toll-free:

(888) 788-0099 or **(877) 853-5247** – when prompted, enter Webinar ID: **832 3391 5658** press # (participant ID not required)

LACEY POLICE DEPARTMENT 2020 IN REVIEW - PRELIMINARY DATA
ROBERT ALMADA, INTERIM POLICE CHIEF
(PRESENTATION)

HICKS LAKE 2020 ANNUAL REPORT
TOM PALMATEER, MANAGEMENT ANALYST
(STAFF REPORT)

GENERAL GOVERNMENT & PUBLIC SAFETY COMMITTEE
February 23, 2021

SUBJECT: Hicks Lake 2020 Aquatic Macrophyte Control Program Annual Report

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RECOMMENDATION: Briefing Only. This report provides information from the Annual Report prepared by Northwest Aquatics Eco-Systems for the Hicks Lake Management District that details aquatic vegetation treatments and progress in 2020.

STAFF CONTACT: Scott Spence, City Manager
Scott Egger, Public Works Director
Tom Palmateer, Management Analyst

ORIGINATED BY: Public Works Department

ATTACHMENTS: 1. Hicks Lake 2020 Aquatic Macrophyte Control Program Report

FISCAL NOTE: This annual report was funded by the Hicks Lake Management District through their annual assessments of property owners. Annual assessment total approximately $48,000.

PRIOR REVIEW: None.

BACKGROUND:

The Hicks Lake Management District was formed by the City of Lacey Council in October of 2015 after a supermajority of supportive votes from the property owners in the district. In 2016, a Lake Management Plan was developed and aquatic vegetation treatments began in 2017 by Northwest Aquatics Eco-Systems. Treatments have been completed annually during the spring through fall months. This report covers the actions taken in 2020 and shows the progress made in the last four years and is provided as information to the Committee.

ADVANTAGES:

1. This report is funded entirely by the Hicks Lake Management District.

DISADVANTAGES:

1. None.

Hicks Lake

2020 Aquatic Macrophyte Control Program

Prepared By
Northwest Aquatic Eco-Systems
855 Trosper Road SW #108-313
Tumwater, WA 98512
360-357-3285
Pondweeds@comcast.net

Project Overview

Hicks Lake, located in Lacey WA, is a moderately shallow water-body consisting of approximately 160 acres and a maximum depth of 35 feet. Historically, private efforts had been undertaken to try and alleviate access related problems associated with the non-native waterlily (Nymphaea Odorata). Most recently, the lake's diverse native species population has become dominated by Najas, colonizing most of the lake's littoral zone and establishing recreational safety hazards and aesthetic related problems lake-wide. As the successful management of the najas populations has evolved, broad leaf pondweeds have expanded their range throughout most of the littoral zone. During 2020 the control strategy shifted from najas control to broad leaf pondweed control. Najas control was not abandoned since the product utilized in broad leaf pondweed control also targets najas. Densities lake-wide were inconsistent with some shorelines supporting sparse growth while other shorelines were proving to be problematic. Since 2017, when lily pad and najas control was initiated najas densities have decreased while native broad leaf pondweeds presently pose a much greater threat to recreational safe water use.

The Hicks Lake water level at the onset of 2020 was lower than in prior years. This lower water level resulted in minor issues later in the season when addressing lily pad control. Historically it has been difficult to complete shoreline spraying and lily pad control within one spraying event. Typically windy conditions would eventually terminate spraying. Our final lily pad control operation for 2020 was scheduled over a two day timeframe. This allowed for the possibility of returning to the site if weather restricted the spraying of the complete shoreline on the first day.

Hicks Lake floating macrophyte community is dominated by the non-native water lily Nymphaea odorata. This species is a Class C noxious weed in Washington State. Class C noxious weeds are not mandated by state law for control but a Class C classification allows jurisdictions to enforce control if locally desired. In general, jurisdictions do not mandate control of Class C weeds but merely provide education and technical assistance to those property owners with established Class C infestations.

In addition to Nymphaea odorata, Hicks Lake supports a diverse submersed native plant community dominated by the species water-nymph (Najas guadalupensis) and broad leaf pondweed. Native plant communities are considered problematic when biomass levels interfere with the recreational use of the lake and impede shoreline access to the main water-body similar to Nymphaea odorata. Ironically Nuphar, Najas and broad leaf pondweed occupy the same environmental niche. Once the Nuphar species are removed, Najas and pondweeds typically recolonize the area quickly.

Funding for control efforts during earlier years were on a volunteer private basis. As years of non-lake-wide treatment continued, residents soon became alarmed about the lake's condition and requested the City of Lacey assist the property owners in securing a funding format capable of developing and sustaining a lake management plan and initiating control. The City of Lacey with the assistance of the local property owners

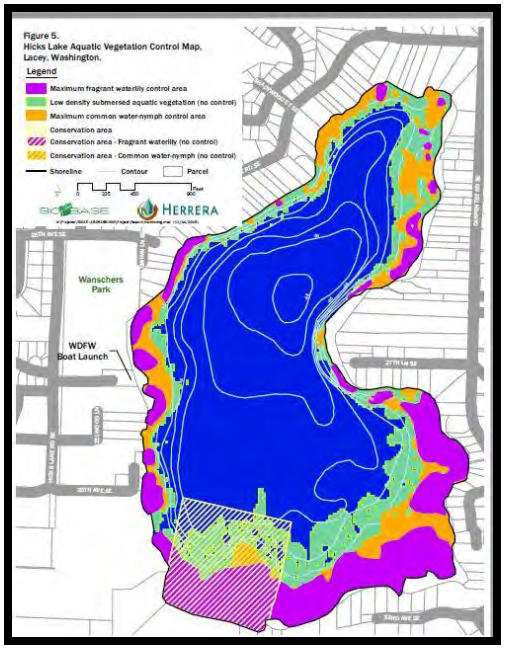
established a lake management taxing district which now provides financial resources for lake related environmental issues.

Upon formation and approval of the Lake Management District, the District formulated a lake management plan for Hicks Lake. The plan researched all current technologies available to the property owners associated with floating and submersed plant control. After numerous meetings and discussions with all stakeholders, a chemical control approach was adopted and the approved plan was formally implemented during the summer of 2017.

Plan design was recognized as a developing project format that allowed for quick platform changes as conditions evolved throughout the summer. The ability to change the yearly approach has been necessary as the program's success at controlling targeted species evolved. These subtle conservative changes were designed to provide the anticipated relief to property owners without unnecessary environmental or financial burden. Problematic plan components throughout the summer were evaluated and redirected in an environmentally responsible fashion.

Established Lake Zones

Only one conservancy lake zone was recognized through the IAVMP process. This area is located along the southwest shoreline lake region and consists of non-developed property owned by the City of Lacey and private entities. Within this conservancy area a channel was installed during 2020 in an effort to afford fisherman and paddle boarders greater access. This area is also designated as a location to anchor floating mats associated with lily pad control.



The majority of the lake use consists of recreational and residential shoreline components. In general, the main recreational area is located approximately 50 feet from the shoreline and extends outward to mid-lake. All developed shoreline areas are considered residential and extend outward approximately 50 feet. Within these residential shoreline areas, both lily pad and problematic submersed weed growth activities are authorized in accordance with NPDES permit guidelines.

Survey Protocol

The first phase of the management plan focused on Nuphar and Najas control as identified in the adopted Hicks Lake IAVMP. A treatment survey map produced during the development of the IAVMP was used in conjunction with all mapping and surveys performed by NWAE. Since the initial 2017 survey, the broad leaf species P. amplifolious was added as a targeted plant within the residential shoreline areas. P. amplifolious was targeted aggressively during the 2020 season in an effort to reduce the plants' expansion lake-wide.

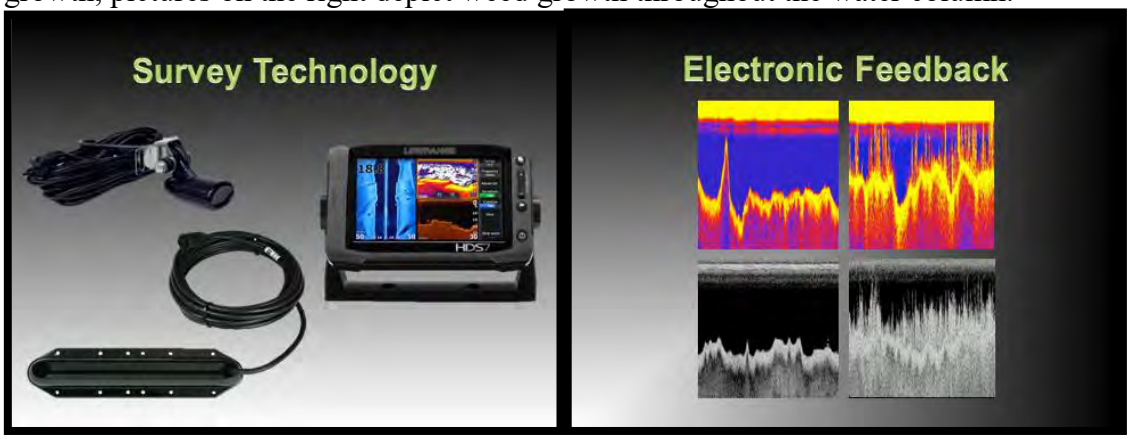
The NWAE mapping protocol utilizes state of the art Bio Base mapping technology. This system produces three map types consisting of a bathymetric contour, a sediment composition profile and a macrophyte density map. All maps are GIS friendly and can be exported into any GIS program. Maps are color coded so they can be easily evaluated by any viewer.

Mapping technology utilizes specialized transducers that electronically collect thousands of data points as the survey boat transects the lake's littoral zone. Data is recorded and viewed onboard. Each file contains one hour of survey data. A completed survey may be comprised of one or more files. Upon completion, all the program files are downloaded and processed. The survey and sonar log produces a stored electronic file of the lake bottom that can be viewed in house at any time and allows the ability to view plant growth along the boat's survey track.

Our protocol encompasses a surface vehicle transecting the lake along the entire littoral zone. Boat tracks are designed to be approximately 150 feet apart. Sonar beam data collection extends approximately 150 feet from all directions surrounding the boat. To ensure the efficacy of the survey, a bottom sampling rake is thrown from the boat at various locations lake-wide. The rake is then drawn across the lake bottom, brought to the surface and into the boat. Plants attached to the rake are identified and confirmed as being the same species as noted through the structure scan or visually noted through the water column. This sampling point is then incorporated into the file data log as a single point reference noting the species captured during the rake tow. These points are then added to the final project map.

Noted below is the equipment utilized during a survey event. The survey technology picture below identifies the chart recorder, transducer and structure scan electronics. Electronic feedback picture displays real time data as being recorded and viewed on

screen. Color and black/white photos on the left identify a lake bed bottom without weed growth, pictures on the right depict weed growth throughout the water column.



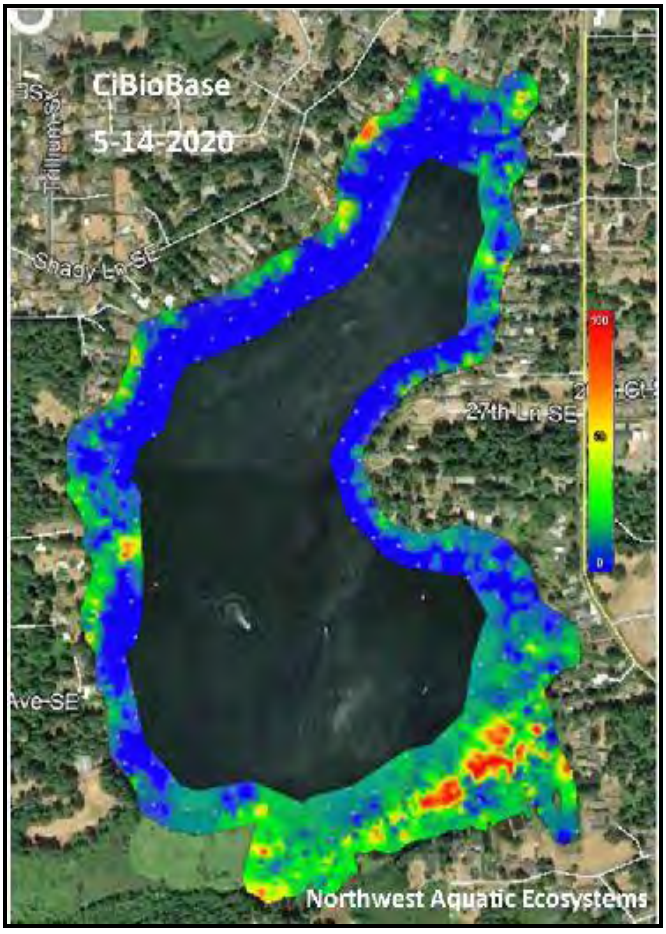
Our program provides for a straightforward format for the interpretation of pre and post treatment results. Another favorable component of this program is the ability to clearly define whether a treatment has successfully controlled the targeted species at an acceptable level, employing both visual and analytical tools to quantify treatment results.

NWAE also incorporated drone technology into our surveying efforts. This component of our survey protocol establishes a clear visual interpretation of lake conditions at the time of the aerial survey. In reference to Hicks Lake, our aerial work was used to document lily pad growth prior to and following treatments. NWAE utilizes a DJI Phantom 3 Professional drone that captures 4K video at up to 30 frames per second and 12 megapixel photos.

Pre-treatment pictures/video are evaluated against post treatment aerials taken at the end of the season. This approach again allows for simple but precise evaluation of spraying efficacy.

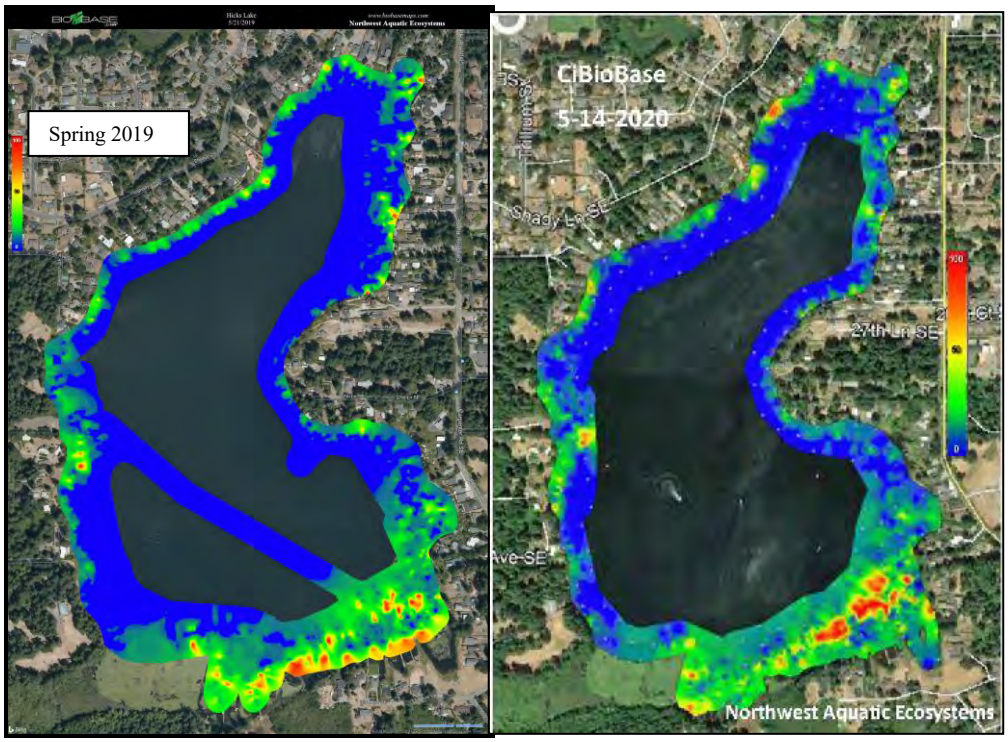
Pre-Treatment Survey

The initial 2020 pre-treatment assessment was conducted on May 14, 2020. The 2020 survey was completed approximately six days earlier than the 2019 survey.

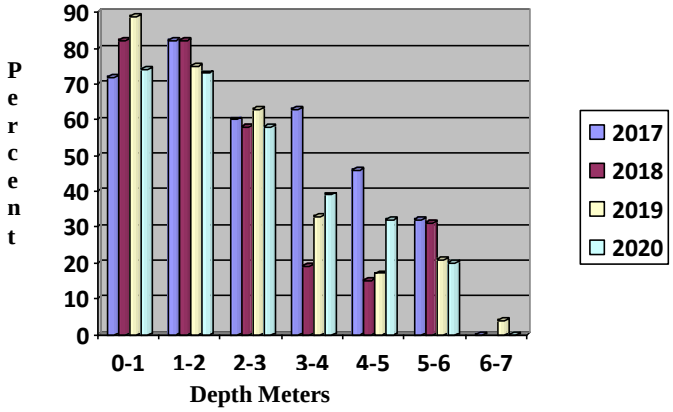


Blue – 0% Bottom Coverage
Green – 20-40% Bottom Coverage
Yellow – 50-60% Bottom Coverage
Red – 75-100% Bottom Coverage

In general the targeted treatment sites remained the same for 2020. Areas that previously consisted of dominant problematic Najas growth now supported low density Najas colonization with emerging P. amplifolius. P. amplifolius is a difficult species to contain once the species establishes a healthy baseline producing viable seeds that can be transported lake-wide. Our 2020 script for treatment shifted from Najas control to P. amplifolius. Materials selected for P. amplifolius control are slightly systemic in nature providing for an additional means to transport herbicide throughout the plant. Aquathol K is also very effective against Najas but is more costly to use.



Percentage of Lake Bottom Infested with Macrophytes & Macro Algae Spring 2017, 2018, 2019, & 2020



Pre-Treatment Residential Notice

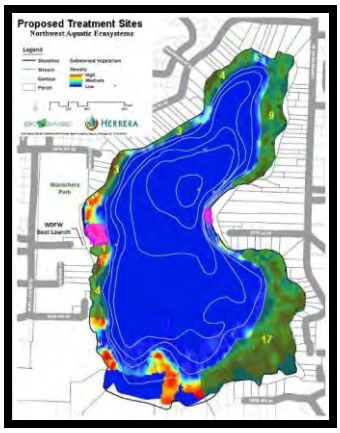
Notices were mailed to all of the property owners within the lake management district from a mailing list provided by the City of Lacey. The notice identified the materials to be used and the approximate time-frame when spraying would take place. This mailing took place approximately three weeks prior to the first planned treatment.

Submersed Weed Control 6-12-2020

Submersed weed control was conducted on 6-12-2020 approximately two weeks earlier than 2019. Lake water level was historically lower and windy conditions persisted throughout the day. Surface spraying of lily pads and shoreline emergent plants was postponed. Forty-three acres were treated with an Aquathol K diquat mix. Tank mixing of diquat and Aquathol K resembles the same herbicide configuration Aquastrike, currently sold throughout the United States. Our increased use of Aquathol K was a result of targeting more broad leaf pondweed lake-wide. Aquathol K has a slight systemic mode that increases the products efficacy during treatment.

Prior to treatment, the shoreline was posted notifying residents of the pending treatment. At the time of treatment, the public boat launch and the Lacey City Park properties were also posted. Treatment sites were those developed at the onset of the program during 2017. Some minor changes have been made. All modifications were within the permit guidelines issued for this project.

A private residential property was used to stage the event. This was the same site employed since 2017. Material was offloaded from a truck and transferred into a 25 gallon holding tank within the application boat. Once full, the boat operator and applicator proceeded to disperse the material. Lake water was drawn into the boat where a venturi injection configuration metered the herbicide into the pumping system. Once the herbicide and lake water were mixed, the resulting combination was then injected back down into the water utilizing weighted hoses. The spray mixture was injected slightly above the plant canopy. When the application boat was empty, it returned to the staging area to be refilled. This process continued until all of the targeted sites were treated.



Najas &
P. amplifolius
Targeted Sites

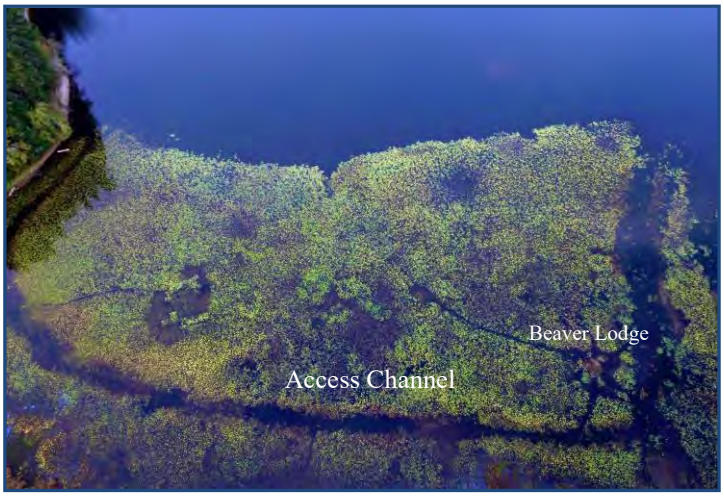
Green areas: original targeted sites.
Pink areas: added targeted sites

Nymphaea odorata & Emergent Shoreline Control 7-10 & 7-16

Lily pad and shoreline emergent plant control was initiated on 07-10-2020. Favorable conditions throughout the morning did not extend into the afternoon. Spraying was discontinued before the application was completed. NWAE returned to the site on 7-16-20 to complete the task. During 7-16-20, windy conditions intermittently surfaced throughout the treatment process. Yellow flag iris, reed canary grass and floating plants were also targeted. Locations that had been historically difficult to spray because of public use at the sites during spraying, City of Lacey Park and Gwinwood camp, also received treatment. Prior to both spraying events, the shoreline and public launch areas were posted similar to the procedures followed during the submersed weed control component.

Imazapyr and triclopyr based herbicides were applied to the lake at a 1% tank solution. In addition to the herbicide, a spray adjuvant was added to the mixture. Spray adjuvants are typically wetting agent activators that allow for better penetration of the herbicide into the plants' leaf structures. Spraying was accomplished using a small aluminum gas powered boat on one occasion and a 16 foot Airgator airboat on the other occasion. Both application boats were equipped with a 25-gallon spray tank and gas powered pump. Once the herbicide, adjuvant and water were mixed, the boat traveled along the shoreline, spraying all targeted sites. Small infestations received full coverage while larger sites received approximately 75% targeted coverage. This was the fourth year of surface spraying lily pads. Results obtained from past applications were noticeable.

An additional pathway was targeted through the conservancy area in an effort to provide lake users additional access near beaver lodge. The newly established lily pad access channel should provide excellent habitat for the established bass fishery.



Nymphaea odorata Control 9-15 & 9-16

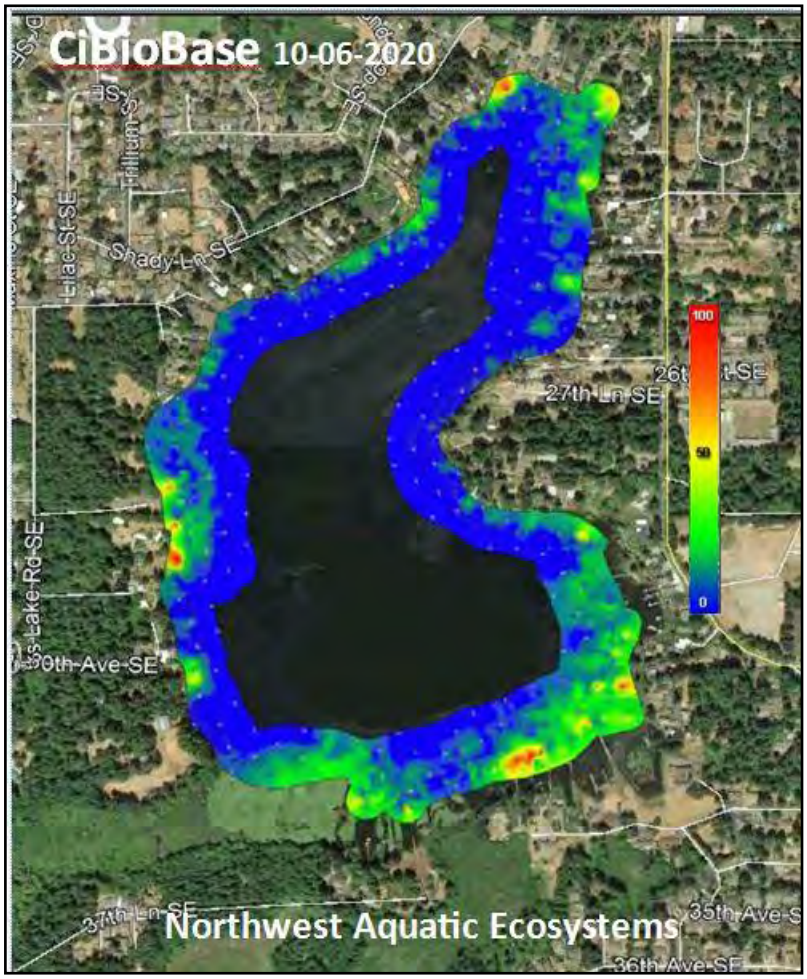
A final spraying of the pads occurred on 9-15 & 9-16. Previous historical problems associated with wind related issues required a modified approach to this spraying event. Notices posted prior to the spraying indicated application would occur over a two day time period. This approach was initiated in an attempt to complete the entire lake spraying under one shoreline posting event. On 9-15 wind issues didn't surface and the entire lake was sprayed. NWAE returned to Hicks Lake on 9-16 to inspect the results of the earlier spray and resprayed floating pads that had not exhibited the presence of dry spray mixture on the surface of the pads. Our 9-15 & 9-16 appearances utilized a 1% solution of triclopyr, similar to past applications.

Post Treatment Electronic Survey 10-06-2020

The dominant species noted throughout the survey was broad leaf pondweed and macro algae. Broad leaf pondweeds were small emerging from old root stock. One of the growth characteristics of this plant is that the plant produces underground runners that sprout new plants from these runners. Plants were sporadic throughout most of the survey with the greatest bio volumes noted within the shallow northern shoreline adjacent to the conservancy zone. Nitella and chara (macro algae) were identified throughout most all of the 43 acres that were targeted for treatment earlier in the summer. Growth of macro algae following treatment is not uncommon. This low level dense growth assists in stabilizing the soft mucky bottom sediments and the suspension of this fine particulate matter from boat and wind aided wave action.

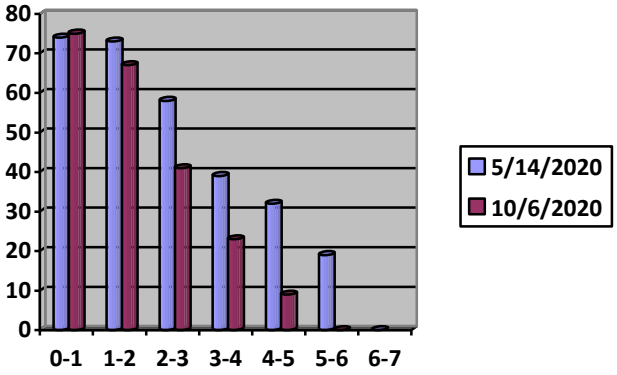
Chara Nitella

Fall Survey 10-06-2020

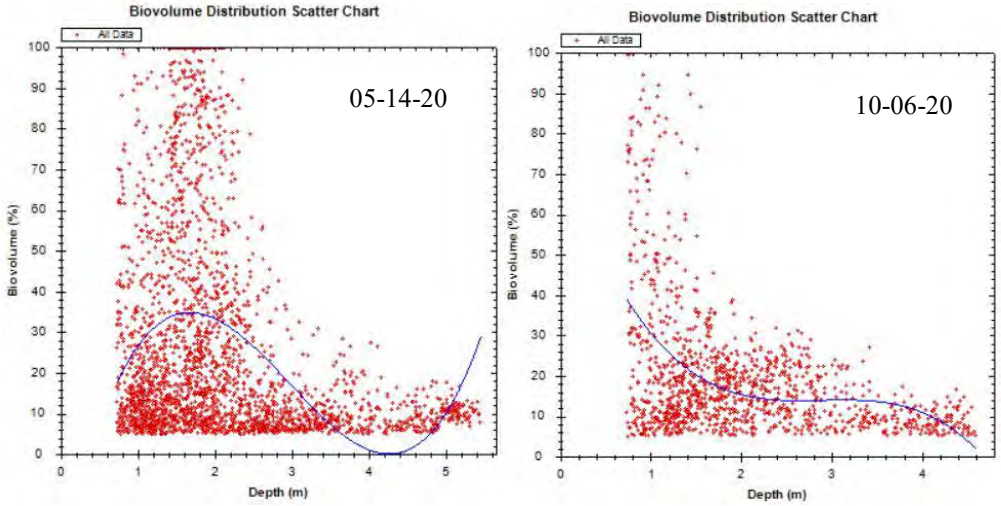


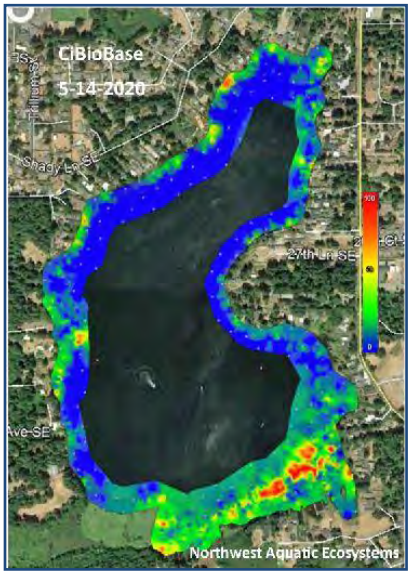
Blue – 0% Bottom Coverage
Green – 20-40% Bottom Coverage
Yellow – 50-60% Bottom Coverage
Red – 75-100% Bottom Coverage

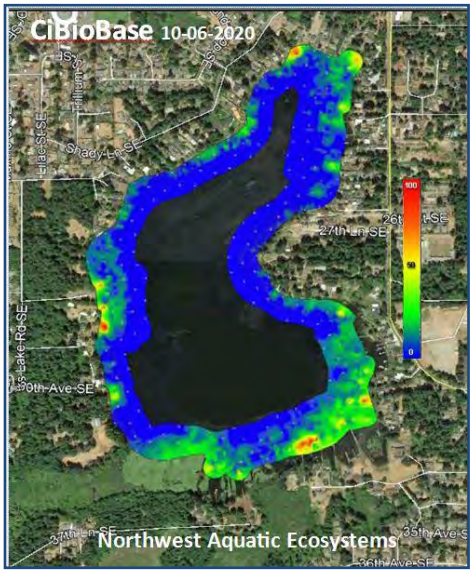
Percentage of Lake Bottom Infested with Macrophytes & Algae 05-14-20 & 10-06-20



Plant Densities Pre & Post Treatment







Aerial Survey October 19, 2020

A fall aerial survey of the Hicks Lake shoreline was conducted on October 19, 2020. The same protocol and techniques exercised in capturing the prior project videos were again instituted during this event. Overcast, sunny weather and wind gusts prevailed throughout the survey. All project videos can be viewed on YouTube.

Our fall 2020 video provides a brief historical progression from the onset of the program in 2017 through 2020. Sections of the lake are historically organized in an effort to document the control obtained over the years. Results to date have largely produced the anticipated outcomes with all targeted sites supporting a considerable reduction in floating plant densities.


Hicks Lake
Boat Launch - Summer 2017
© Northwest Aquatic-Eco Systems


Hicks Lake
Boat Launch - Fall 2020
© Northwest Aquatic-Eco Systems


July 2017


Eastern Side of Hicks Lake
Carpenter Rd SE - Fall 2020
© Northwest Aquatic-Eco Systems

General Seasonal Overview

1. Nitella & chara continue to colonize many of the lake areas once infested with Najas. Nitella and chara are seasonal in nature and may vary in density and location on a year to year basis lake-wide. Residents mistakenly identified nitella and chara as water-nymph.
2. Most all of the pads lake-wide can be sprayed as one unit. There is no longer any need to leave sections, in once recognized large patches, untreated. Some selective control will still be required along the northern shoreline.
3. Potamogeton amplifolious appears to be contained. Areas that once supported heavy lily pad growth are most susceptible to new P. amplifolius colonization.

4. Floating mat control is problematic and difficult to schedule because of the low water level. Floating mat issues are currently isolated and reside within the southeast residential shoreline lake areas. These areas historically experience exposed mucky bottom sediments as the lake level declines.

5. As new open water is developed it becomes quickly inhabited with native species.

Floating Mat Removal

Due to the low lake water level, no mat removal operations were implemented.

Property Right Treatment Issues

Two shoreline properties owners have requested that no spraying activities occur within their designated parcel boundaries. Below are the assessor's maps of the areas in question depicting the true property lines of these parcels. Over 90% of the lily pads are located outside the assessors' boundary lines for one parcel and about 50% for the other.

Recommendations for 2020

This will conclude our fourth year of service to the Hicks Lake LMD group. Most all residential lily pad infestations lake-wide have been reduced or eliminated. Small patches still are present. These areas will continue to require attention as limited growth may reappear. Problematic growth still is present along the southern shoreline of the lake. This shallow area at the onset of the 2017 program supported the largest concentration of lily pad growth. NWAE anticipates a continued slow cautious decline proceeding over the next few years. All lakefront residents currently have effortless access to the main lake basin. Floating mat issues are still present. However, poor access late in the season when mats surface has made removal difficult. These areas historically experience floating mat issues as lake water level declines throughout the summer. No mat removal was undertaken during 2019 and 2020.

Najas currently is not recognized as problematic since the LMD started targeting the plant in 2017. The reduction in najas has resulted in an increase in broad leaf pondweed lake-wide even though our efforts at targeting the plant have produced favorable outcomes. Our ability to control najas through our current approach has proven to be stress-free and effective. NWAE would like to continue the targeting of P. amplifolius during 2021. Costs associated with control will decrease as targeted plant communities decline. Our program on the lake continues to evolve as new issues that need to be addressed develop. Aquathol K use during 2020 has shown that the product will not only control the broad leaf pondweed but will also control najas. Aquathol K has not been

used for najas control in the past because of the increased expenses associated with product use. Minor modifications will likely always be necessary as the program continues to evolve in supporting the needs of the LMD members.

1. Continue early and late seasonal electronic and aerial surveys of the lake to direct control activities during the summer months. Early survey should include a brief tour of the lake with a board member. Interaction between the board and contractor will ensure that all parties are familiar with the lake's current condition. This approach assures that the goals of the LMD are sustained.

2. Controlled use of liquid Aquathol K on those areas experiencing P. amplifolious associated problems. Aquathol K granular was utilized during 2018 & 2019 when addressing isolated infestations. Aquathol K liquid was used during 2020 and is cost effective when associated with large treatment areas.

3. Continued use of an Aquathol K, diquat mix in treating specific lake areas during 2020. This mixture will ensure control of both najas and the broad leaf pondweed while also reducing the further expansion of broad leaf weeds.

4. Late seasonal application of liquid or granular formulations of Aquathol K to address any noted regrowth of broad leaf pondweeds.

5. Continued use of triclopyr and imazapyr in the control of lily pads, canary grass and yellow flag iris.

6. Continue the conservative approach to lily pad control within only those areas currently supporting large infestations. All other infestations will receive full spray coverage per event.

7. Project goals and timelines need to be revisited and altered if the current timeline will not meet the goals and anticipated results of the LMD board.

8. Lily pad and emergent plant control will be scheduled as a two day event.

Estimated Project Costs For 2021
(not to exceed $35,635.00)

As noted through the developmental phase of this project, component elements need to be reviewed and updated if necessary. Our budget for 2020 recognizes all potential future costs associated with full implementation of the control program. NWAE recognizes that some of these components may not be necessary but should be budgeted for.

2021 Ecology NPDES Fee		$725.00
Pre-Treatment Mailing		$200.00
Electronic Pre Treatment Spring Survey		$1,600.00
Pre-Treatment Aerial Survey		$500.00
Pre-Treatment Shoreline Posting		$400.00
Spring Submersed Weed Control Diquat 30 @ $285.00/ac		$8,550.00
Submersed Weed Control Aquathol K & Diquat 15 @ $800.00		$12,000.00
Submersed Weed Control Aquathol K Granular 100 lbs @ $37/lb		$3,700.00
Shoreline Posting		$400.00
Initial Lily Pad Control	7.8 @ $195.00	$1,521.00
Initial Shoreline Posting Lily Pads		$400.00
Second Shoreline Posting Lily Pads		$400.00
Second Lily Pad Spray		$1,521.00
Third Shoreline Posting Lily Pads		$400.00
Third Lily Pad Spray		$1,521.00
Post Treatment Aerial Survey		$500.00
Post Treatment Electronic Survey		$2,000.00
Lily Pad Floating Mat Removal Labor	24 @ $90.00	$2,160.00
Lily Pad Floating Mat Removal Labor	24 @ $65.00	$1,560.00
Mobilization		$200.00
Demobilization		$200.00
Social Media		$300.00
Insurance		$390.00
Year End Report		$750.00

Spray Records 2020

State of Washington
Department of Agriculture
Olympia, Washington 98504

PESTICIDE APPLICATION RECORD (Version 3)

NOTE: This form must be completed same day as the application and it must be retained for 7 years. (Ref. RCW 17.21)

1. **Date of Application-Year:** 2020 **Month:** June **Date:** 12 **Time:** 8:30

2. **Name of person for whom the pesticide was applied:** Hicks Lake Improvement District, City of Lacey, Tom Palmater
   Firm Name (if applicable):
   Street Address: 420 College Street SE **City:** Lacey 98503

3. **Licensed Applicator's Name (if different from #2 above**): Douglas Dorling
   Firm Name): Northwest Aquatic Eco-Systems
   4426 Bush Mountain Drive SW.
   Olympia, WA. 98512
   360-357-3285
   License # 375

4. **Name of person who applied the pesticide (if different than #3 above):**

   License No(s). if applicable:

5. **Application Crop or Site:** Hicks Lake

6. **Total Area Treated (acre, sq. ft., etc.):** 40 acres,

7. **Was this application made as a result of a WSDA Permit ?** No

8. **Pesticide information (please list all information for each pesticide in the tank mix):**

a) Product Name Pesticide Applied	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied ppm
Tribune	100-1390	40 gallons	1 gal	
Aquathol K	70506-176	200 gallons	5 gal	2.5

9. Address or exact location of application NOTE: If the application made to one acre or more of Agricultural land, the field location must also be shown on the map on page two of this form. Hicks Lake, Lacey, WA 98503

10. Date: 6-12-20 **11. Name of person making application:** Douglas Dorling

12. License No: 375 **13. Apparatus License. Plate No.:** G-424

14. Start: 8:30 **Stop:** 4:00

15. Acres completed : 41

16. Wind Direction: SW **Wind Velocity:** 0-07

17. Temperature: 70

Location of Application (If the application covers more than one township or range, please indicate the township & range for the top left section of the map only):
Township: T18N
Range: E OR W (please indicate) 01W

Section(s): 22 &27
County: Thurston

PLEASE NOTE:
The map is divided into 4 sections with each section divided into quarter-quarter sections. Please complete it by marking the appropriate section number(s) on the map and indicate as accurately as possible the location of the area treated.

State of Washington
Department of Agriculture
Olympia, Washington 98504

PESTICIDE APPLICATION RECORD (Version 3)

NOTE: This form must be completed same day as the application and it must be retained for 7 years. (Ref. RCW 17.21)

2. **Date of Application-Year:** 2020 **Month:** July **Date:** 10 **Time:** 9:00

2. **Name of person for whom the pesticide was applied:** Hicks Lake Improvement District, City of Lacey, Tom Palmater
   Firm Name (if applicable):
   Street Address: 420 College Street SE **City:** Lacey 98503

3. **Licensed Applicator's Name (if different from #2 above**): Douglas Dorling
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4. **Name of person who applied the pesticide (if different than #3 above):**

   License No(s). if applicable:

5. **Application Crop or Site:** Hicks Lake

6. **Total Area Treated (acre, sq. ft., etc.):** 2.5 acres,

7. **Was this application made as a result of a WSDA Permit ?** No

8. **Pesticide information (please list all information for each pesticide in the tank mix):**

a) Product Name Pesticide Applied	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied ppm
Imazapyr	241-416	1 gallon	1 %	1%
Cygnet Plus	N/A	1.25 gallons		2 qt/ 100 H2O
Triclopyr	81927-13	1.5	1%	1%

9. Address or exact location of application NOTE: If the application made to one acre or more of Agricultural land, the field location must also be shown on the map on page two of this form. Hicks Lake, Lacey, WA 98503

10. Date: 7-10-20 **11. Name of person making application:** Douglas Dorling

12. License No: 375 **13. Apparatus License. Plate No.:** G-424

14. Start: 9:00 **Stop:** 2:00

15. Acres completed : 2.5

16. Wind Direction: SW **Wind Velocity:** 0-05

17. Temperature: 73

Location of Application (If the application covers more than one township or range, please indicate the township & range for the top left section of the map only):
Township: T18N
Range: E OR W (please indicate) 01W

Section(s): 22 &27
County: Thurston

PLEASE NOTE:
The map is divided into 4 sections with each section divided into quarter-quarter sections. Please complete it by marking the appropriate section number(s) on the map and indicate as accurately as possible the location of the area treated.

State of Washington
Department of Agriculture
Olympia, Washington 98504

PESTICIDE APPLICATION RECORD (Version 3)

NOTE: This form must be completed same day as the application and it must be retained for 7 years. (Ref. RCW 17.21)

3. **Date of Application-Year:** 2020 **Month:** July **Date:** 16 **Time:** 10:30

2. **Name of person for whom the pesticide was applied:** Hicks Lake Improvement District, City of Lacey, Tom Palmater
   Firm Name (if applicable):
   Street Address: 420 College Street SE **City:** Lacey 98503

3. **Licensed Applicator's Name (if different from #2 above**): Douglas Dorling
   Firm Name): Northwest Aquatic Eco-Systems
   4426 Bush Mountain Drive SW.
   Olympia, WA. 98512
   360-357-3285
   License # 375

4. **Name of person who applied the pesticide (if different than #3 above):**

   License No(s). if applicable:

5. **Application Crop or Site:** Hicks Lake

6. **Total Area Treated (acre, sq. ft., etc.):** 2.25 acres,

7. **Was this application made as a result of a WSDA Permit ?** No

8. **Pesticide information (please list all information for each pesticide in the tank mix):**

a) Product Name Pesticide Applied	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied ppm
Imazapyr	241-416	,25 gallons	1 %	1%
Cygnet Plus	N/A	1.5 gals		1qt/ 100 H20
Triclopyr	81927-13	2 gals	1%	

9. Address or exact location of application NOTE: If the application made to one acre or more of Agricultural land, the field location must also be shown on the map on page two of this form. Hicks Lake, Lacey, WA 98503

10. Date: 7-16-20 **11. Name of person making application:** Douglas Dorling

12. License No: 375 **13. Apparatus License. Plate No.:** G-424

14. Start: 10:30 **Stop:** 2:00

15. Acres completed : 2.25
16. Wind Direction: SW **Wind Velocity:** 0-10

17. Temperature: 83

Location of Application (If the application covers more than one township or range, please indicate the township & range for the top left section of the map only):
Township: T18N
Range: E OR W (please indicate) 01W

Section(s): 22 &27
County: Thurston

PLEASE NOTE:
The map is divided into 4 sections with each section divided into quarter-quarter sections. Please complete it by marking the appropriate section number(s) on the map and indicate as accurately as possible the location of the area treated.

State of Washington
Department of Agriculture
Olympia, Washington 98504

PESTICIDE APPLICATION RECORD (Version 3)

NOTE: This form must be completed same day as the application and it must be retained for 7 years. (Ref. RCW 17.21)

1. **Date of Application-Year:** 2020 **Month:** September **Date:** 15 **Time:** 10:00

2. **Name of person for whom the pesticide was applied:** Hicks Lake Improvement District, City of Lacey, Tom Palmater
   Firm Name (if applicable):
   Street Address: 420 College Street SE **City:** Lacey 98503

3. **Licensed Applicator's Name (if different from #2 above):** Douglas Dorling
   Firm Name): Northwest Aquatic Eco-Systems
   4426 Bush Mountain Drive SW.
   Olympia, WA. 98512
   360-357-3285
   License # 375

4. **Name of person who applied the pesticide (if different than #3 above):**

   License No(s). if applicable:

5. **Application Crop or Site:** Hicks Lake

6. **Total Area Treated (acre, sq. ft., etc.):** 2.5 acres

7. **Was this application made as a result of a WSDA Permit ?** No

8. **Pesticide information (please list all information for each pesticide in the tank mix):**

a) Product Name Pesticide Applied	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied ppm
Triclopyr	819127-13	2.5 gallon	1 %	1%
Cygnet Plus	N/A	5 qts		1qt/ 100 H2O

9. Address or exact location of application NOTE: If the application made to one acre or more of Agricultural land, the field location must also be shown on the map on page two of this form. Hicks Lake, Lacey, WA 98503

10. Date: 9-15-20 **11. Name of person making application:** Douglas Dorling

12. License No: 375 **13. Apparatus License. Plate No.:** G-425

14. Start: 10:00 **Stop:** 3:00

15. Acres completed : 2.5
16. Wind Direction: SW **Wind Velocity:** 0-5

17. Temperature: 81

Location of Application (If the application covers more than one township or range, please indicate the township & range for the top left section of the map only):
Township: T18N
Range: E OR W (please indicate) 01W

Section(s): 22 &27
County: Thurston

PLEASE NOTE:
The map is divided into 4 sections with each section divided into quarter-quarter sections. Please complete it by marking the appropriate section number(s) on the map and indicate as accurately as possible the location of the area treated.