Aquatic Plant Management

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. If there are no updates in 90 days, your draft is deleted

This Application has been Signed and Submitted by: i:0#.f|wamsmembership|hdharveyiii signed on 2025-04-09T14:52:26

Site or Project Name:	Eagle Spring Lake Management District 2025	
Site of Hojeet Name.	The permit application will be saved automatically with this name	
Activity:	Chemical Control Application-Lake, River, Pond	
	Does the waterbody have:	
Eligibility: (All questions must be no for it to be considered a private pond.)	 More than one property owner? 	\odot Yes \bigcirc No
	 Uncontrolled surface water discharge? 	🔾 Yes 🖲 No
	Public access?	● Yes ○ No

3200-004 Chemical Aquatic Control Application - Lake, River, Pond

NOTE: To be considered a private pond, a waterbody must meet all of the following requirements:

- 1. Confined to one property owner.
- 2. The pond has no uncontrolled surface water discharge.
- 3. No public access.

Upon submittal of your permit application, a **non-refundable \$20 permit processing fee will be charged**. Additional acreage fees will be refunded if the permit request is denied or if no treatment occurs.

3200-004 Chemical Aquatic Plant Control Application

- Annually complete all pages on Form 3200-004 for chemical plant management applications. Complete form 3200-004a for large scale treatments(exceeds 10.0 acres in size or 10% of the area of the water body that is 10 feet or less in depth) as required by NR107.04(3).
 - Form 3200-004 is competed electronically through this system.
 - Form 3200-004a must be completed outside the system and uploaded to the attachments section. Please refer to this link for a copy of this form: <u>http://dnr.wi.gov/files/pdf/forms/3200/3200-004A.pdf</u>
- Attach a map that shows the treatment location(s), treatment dimensions and riparian landowners. If requesting WPDES coverage, attach a water body map that shows surface outflow and receiving waters.
- For a large-scale treatment, attach evidence that a public notice has been published in a regional / local newspaper and if required that a public informational meeting has been conducted as defined in NR107.04(3).
- Pay fee online.
- Sign and Submit form.
- A signed permit application certifies to the Department that a copy of the application has been provided to any affected property owner's association/district and to landowners adjacent to treatment area.

Applicant InformationOrganizationEagle Spring Lake ManagemeLast Name:DayFirst Name:TomMailing Address:P O Box 196City:Eagle	ent District
OrganizationEagle Spring Lake ManagemeLast Name:DayFirst Name:TomMailing Address:P O Box 196City:Eagle	ent District
Last Name:DayFirst Name:TomMailing Address:P O Box 196City:Eagle	
First Name:TomMailing Address:P O Box 196City:Eagle	
Mailing Address:P O Box 196City:Eagle	
City: Eagle	
State: <u>WI</u>	
Zip Code: 53119	
Email:	
Phone Number:	
(xxx-xxx) Alternative Phone Number:	
(xxx-xxx)	
Last Name	
Eirst Name:	
Street Address: W/350S10115 Highviow Drivo	
City: Eaglo	
State: W/I	
Zin Codo: 52110	
Email: Phone Number:	
(xxx-xxx-xxxx)	
Alternative Phone Number: (xxx-xxxx)	
Applicator	
Name of Applicator Firm: Schmidt's Aquatic LLC	
Applicator Certification #: 000977	
Business Location License #: 93-022613-020730	
Restricted Use Pesticide #:	
Address: 7470 Sherman Rd	
City: Bancroft	
State: WI	
Zip: 54921	
Email: hdhiii@schmidtsaquatic.com	
Phone Number: (xxx-xxx-xxxx) 920-980-9190	

Adjacent Riparian Property Owne	ers				
NOTE: Phone and email address will not b	be publicly viewable.				
Uploaded riparian owners to attachme	ent tab 🛛 🗌 Riparian O	wners Information	n is not applicable f	or this application	
Name	Address		Phone		Email Address
Site Information - Complete					
Waterbody Containing Contro	ol Area(s)				
Waterbody Property Owners Association		Eagle Spring	Lake Managei	ment District	
or Waterbody Distri	ict Representative :	None			
Water Body	or Wetland Name:	Eagle Spring La	ake		
	Primary County:	Waukesha		_	
	Latitude:	42.85001			
	Longitude:	-88.4416			
	Section:	36			
	Township:	05			
	Range:	17			
	Direction:	● E ○ W			
Water	body Surface Area:	279	acres		
Estimated Surface area	a that is 10ft or less	279	acres		

Estimated Surface area that is 10ft or less 279

Proposed Control Area(s)

Area(s) Proposed for Co	ntrol:				
<u>Site Name</u> (Optional)	<u>Treatment</u> <u>Length</u>	Treatment Width	Estimated Acreage	Average Depth	Calculated Volume
Pickeral Bay	0 ft.	x 0 ÷ 43,560 ft. ²	= 7.00 ac	6.00 ft =	42.00 ac-ft
Jack's bay	0 ft.	x 0 ÷ 43,560 ft. ²	= 4.00 ac	4.00 ft =	16.00 ac-ft
		Estimated Acreage Grand Total	11.00 _{ac}	Calculated Volume Grand Total	58.00 ac-ft

Is the area with in or adjacent to a sensitive area designated by the Department of Natural Resources. More Information ○ Yes ● No

If the estimated acreage is greater than 10 acres, or is greater than 10 percent of the estimated area 10 feet or less in depth in Section II, complete and attach Form 3200-004A, Large-Scale Treatment Worksheet.

Chemical Aquatic Plant Control Information - Lake, River, Pond Form 3200-004 (R 2/17)

Notice: Use of this form is required by the Department for any application filed pursuant to s. 281.17(2), Wis. Stats., and Chapters NR 107, 200 and 205, Wis. Adm. Code. This permit application is required to request coverage for pollutant discharge into waters of the state. Personally identifiable information on this form may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

Treatment Type:

 \bullet Lake \bigcirc Pond \bigcirc Wetland \bigcirc Marina \bigcirc Other

Has a management plan been provided to the DNR? Yes ONO ODON't Know	If Yes, date approved of most current copy 3/1/2022	Link to Approved Plan:
Does the proposed plant removal agree with the approved plan? If NO, explain, Attach additional sheets if necessary.	Uploaded Plan copy as an Attachment	

Goal of Aquatic Plant Control:

- □ Maintain navigation channel
- Maintain boat landing and carry in access
- Improve fish habitat
- ☐ Maintain swimming area
- Control of invasive exotics
- Other

Nuisance Caused By:

🗌 Algae

- Emergent water plants (majority of leaves & stems growing above water surface, e.g. cattail, bulrushes)
- □ Floating water plants (majority of leaves floating on water surface, e.g., water lilies, duckweed)
- Submerged water plants (leaves & stems below surface, flowering parts may be exposed: milfoil, coontail)
- Other

List Target Plants		
🗌 Algae	Flowering Rush	🗌 Purple Loosestrife
🗌 Common/Glossy Buckthorn	🗌 Hybrid Cattail	Reed Canary Grass
🗌 Coontail	Hybrid Watermilfoil	🗌 Reed Manna Grass
🗌 Curly-Leaf Pondweed	🗌 Japanese Knotweed	Starry Stonewort
Duckweed	🗌 Naiad	Yellow Floating Heart
🗌 Elodea	🗌 Narrow-Leaf Cattail	Yellow Iris
Eurasian Watermilfoil	Phragmites	Pondweed
Other Target Plants:		

Note: Different plants require different chemicals for effective treatment. Do not purchase chemical before identifying plants.

Chemical Control			
Full Trade Name of Proposed	d Chemical(s)		
✓ Agristar 2,4-D Amine	🗌 Clipper	🗌 К-Теа	SCI-62
🗌 Algimycin PWF	🗌 Clipper SC	🗌 Littora	🗌 Sculpin G
🗌 Alligare 2,4-D	🗌 Current	Milestone	SeClear
🗌 Alligare Argos	🗌 Cutrine-Plus	🗌 Nautique	🗌 SeClear G
🗌 Alligare Diquat	🗌 Cutrine-Plus Granular	🗌 Navigate	Shoreklear-Plus
🗌 Alligare Ecomazapyr	🗌 Cutrine-Ultra	🗌 Navitrol	🗌 Shredder Amine
🗌 Alligare Glyphosate 5.4	🗌 DMA 4 IVM	🗌 Navitrol DPF	🗌 Sonar AS
🗌 Aqua Neat	🗋 Earthtec	🗌 Phycomycin SCP	🗌 Sonar Genesis
🗌 Aqua Star	🗌 Element 3A	🗌 Polaris	🗌 Sonar H4C
🗌 AquaPro	🗌 Flumioxazin 51% WDG	Polaris AC	🗌 Sonar PR
🗌 Aquashade	🗌 Formula F-30	🗌 Pond-Klear	🗌 Sonar Q
🗌 Aquashadow	🗌 Garlon 3A	ProcellaCOR EC	🗌 Sonar RTU
🗌 Aquastrike	🗌 Green Clean	🗌 Refuge	🗌 Sonar SRP
🗌 Aquathol K	🗌 Habitat	🗌 Renovate 3	🗌 SonarOne
🗌 Aquathol Super K	🗌 Harpoon	🗌 Renovate LZR	🗌 Stingray
🗌 Avast! SC	🗌 Harvester	🗌 Renovate LZR Max	🗌 Symmetry NXG
🗌 Captain	🗌 Havoc Amine	🗌 Renovate Max G	🗌 Touchdown Pro
🗌 Captain XTR	🗌 Hydrothol 191	🗌 Renovate OTF	🗌 Tribune
🗌 Chinook	🗌 Hydrothol Granular	🗌 Reward	🗌 Trycera
🗌 Clearcast	🗌 Komeen	🗌 Rodeo	🗌 Weedar 64
🗌 Clearigate	🗌 Komeen Crystal	🗌 Roundup Custom	🗌 Weedestroy AM-40
Other Proposed Chemical(s):			

Have the proposed chemicals been permitted in a prior year on the proposed site? \bullet *All* \bigcirc *Some* \bigcirc *None*

What were the results of the treatment?

Good control

Method of Application: Injection

Other Method of Application

NOTE: Chemical fact sheets for aquatic pesticides used in Wisconsin are available from the Department of Natural Resources upon request.

Alternatives to Chemical Control:	Feasible?	If No, Why Not?
1. Mechanical harvesting	● Yes ○ No	The lake district odes use their own harvester
2. Manual removal	🔾 Yes 🖲 No	Area too large
3. Sediment screens/covers	🔾 Yes 🖲 No	Area too large and too expensive
4. Dredging	🔾 Yes 🖲 No	Too expensive
5. Waterbody drawdown	🔾 Yes 🖲 No	This lake is an emboundment
6. Nutrient controls in watershed	🔾 Yes 🖲 No	Not significant to EWM growth
7. Other:	🔾 Yes 🖲 No	N/A
All and the second and the second		

Note: If proposed treatment involves multiple properties, consider feasibility of EACH alternative for EACH property owner.

Will surface water outflow and/or overflow be controlled to prevent chemical loss?

○ Yes ● No

Is the treatment area greater than 5% of surface area?

○ Yes ● No

WPDES Permit Request

Is WPDES coverage being requested? Refer to

http://dnr.wi.gov/topic/wastewater/aquaticpesticides.html for more information

 \bigcirc Yes - complete section VII with signature.

• No

- Already have WPDES
- \bigcirc WPDES coverage not needed

Required Attachments and Supplemental Information

Upload Required Attachments (15 MB per file limit) - Help reduce file size and trouble shoot file uploads

* indicates completion of this item is required

Note: To add additional attachments using the down arrow icon. To replace an existing file, use the 'Click here to attach file ' link. To remove additional items, select the item and press CNTRL Delete.

Riparian Owners	File Attachment	Eagle Spring Lake 2025 Jacks Bay and Pickeral (140).xlsx
Public Notice	III File Attachment	Newspaper Notification Eagle Spring 4-4-2025.pdf
Large Scale Worksheet	III File Attachment	3200-4A Eagle Spring Lake 2025 Signed Copy.pdf
Site Map	III File Attachment	ESLMD 2025 Chemical Treatment MAP & DOSING.pdf
Lake Management Plan	File Attachment	Eagle Spring Lake Management Plan 2022- compressed.pdf
Lake Management Plan	File Attachment	Aff & E-Tear Aquatic Permit.pdf

Fee Calculation

Chemical Control Application

1. s. NR 107.11(1), Wis. Adm. Code, lists the conditions under which the permit fee is limited to the \$20 minimum charge.

2. s. NR 107.11(4), Wis. Adm. Code, lists the uses that are exempt from permit requirements.

3. s. NR 107.04(2), Wis. Adm. Code, provides for a refund of acreage fees if the permit is denied or if no treatment occurs.

If Proposed treatment is over 0.25, calculate acreage fee:	11
(round up to nearest whole acre, to maximum of 50 acres)	
If proposed treatment is less than 0.25 acre, acreage fee is \$0	\$275.00
Basic Permit Fee (non-refundable)	\$20.00
Total Fee	\$295

Invoice Number:

WP-00052580

Payment Confirmation Number: WS2WT3012334786

Amount Paid: \$295

Sign and Submit

Applicant Responsibilities and Certification

- 1. The applicant has prepared a detailed map which shows the length, width and average depth of each area proposed for the control of rooted vegetation and the surface area in acres or square feet for each proposed algae treatment.
- 2. The applicant understands that the Department of Natural Resources may require supervision of any aquatic plant management project involving chemicals. Under s.NR 107.07 Wis. Adm. Code, supervision may include inspection of the proposed treatment area, chemicals and application equipment before, during or after treatment. The applicant is required to notify the regional office 4 working days in advance of each anticipated treatment with the date, time, location and size of treatment unless the Department waives this requirement. Do you request the Department to waive the advance notification requirement?

🔿 Yes 💿 No

- 3. The applicant agrees to comply with all terms or conditions of this permit, if issued, as well as all provisions of Chapter NR 107, Wis. Adm. Code. The required application fee is attached.
- 4. The applicant will provide a copy of the current application to any affected property owners' association inland Lake District and, in the case of chemical applications for rooted aquatic plants, to all owners of property riparian or adjacent to the treatment area. The applicant has also provided a copy of the current chemical fact sheet for the chemicals proposed for use to any affected property owner's association or inland Lake District.
- 5. Conditions related to invasive species movement. The applicant and operator agree to the following methods required under s.NR 109.05(2), Wis. Adm. Code for controlling, transporting and disposing of aquatic plants and animals, and moving water:
 - Aquatic plants and animals shall be removed and water drained from all equipment as required by s.30.07, Wis. Stats., and ss. NR 19.055 and 40.07, Wis. Adm. Code.
 - Operator shall comply with the most recent Department-approved 'Boat, Gear, and Equipment Decontamination and Disinfection Protocol', Manual Code #9183.1, available at http://dnr.wi.gov/topic/invasives/disinfection.html

All portions of this permit, map and accompanying cover letter must be in possession of the chemical applicator at the time of treatment. During treatment all provisions of Chapter NR 107 107.07 and NR 107.08, Wis. Adm. Code, must be complied with, as well as the specific conditions contained in the permit cover letter.

I hereby certify that that the above information is true and correct and that copies of the application shall be provided to all affected property owners promptly and that the conditions of the permit will be adhered to. All portions of this permit, map and accompanying cover letter must be in possession of the applicant or their agent at time of plant removal. During plant removal activities, all provisions of applicable Wisconsin Administrative Rules must be complied with, as well as the specific conditions contained in the permit cover letter.

Steps to Complete the signature process

IMPORTANT: All email correspondence will be sent to the address associated with your WAMS ID).

- 1. Read and Accept the Responsibilities and Certification
- 2. Press the Initiate Signature Process button
- 3. Open the confirmation email for a one time confirmation code and instructions to complete the signature process.

You will receive a final acknowledgement email upon completing these steps .

- ☑ Check if you are signing as Agent for Applicant.
- ✓ I hereby certify that the above information is true and correct and that copies of this submittal shall be provided to the appropriate parties named in the contact section and that the conditions of the permit and pesticide use will be adhered to.

i:0#.f|wamsmembership|hdharveyiii signed on 202.

WORKSHEET FOR LARGE-SCALE CHEMICAL AQUATIC PLANT TREATMENT Form 3200-4A 3-89

NOTE: Completion of this form is required by the Department, pursuant to s. 144.025(2)(i), Wis. Stats., and Chapter NR 107, Wis. Adm. Code, once every five years for proposed treatments that would cover more than 10 acres on one lake, or more than 10 percent of that portion of the lake that is 10 feet or less in depth.

The purpose of this form is to identify the: (1) recreational needs of the property owners and visitors;

- (2) value of the proposed treatment area to fish and wildlife;
- $(3)\ cause(s)$ of the excess plant growth problem; and
- (4) short and long-term solutions to the problem.

Please furnish a detailed map(s) of the lake and its watershed. Indicate the watershed boundaries on the map. If you do not have a watershed map for the lake you wish to treat, your DNR lake management coordinator can help you locate or prepare one.

SECTION I. BACKGROUND	
Name of Applicant Eagle Spring Lake Management District - Tom Day	Date Completed 4/9/2025
Name of Lake Eagle Spring Lake - Waushara County WI	
SECTION II. RECREATIONAL USES	
Check those uses that apply and complete the information requested:	
1. <u>SWIMMING:</u> Indicate on your lake map the portions of the proposed treat What distance from shore is needed to provide adequate sw What is the average depth at this distance?	timent area that are used for swimming. vimming space? feet feet
2. <u>FISHING</u> : Indicate on your lake map any fishing areas that are within the	proposed treatment area.
3. <u>HUNTING:</u> Indicate on your lake map any hunting areas that are within o	r adjacent to the proposed treatment area.
4. <u>BOATING/NAVIGATION:</u> Indicate on your lake map where the following treatment area: Sailing W Pleasure boating Je	g boating activities take place within the proposed Vater skiing Fishing et skiing Other
5. <u>AESTHETIC:</u> Indicate on your lake map any wildlife or nature observation. Do you object to the aesthetic quality (appearance, odor) of	on areas within the proposed treatment area.
6. OTHER: What other activities occur in the proposed treatment area?	wimming, boating, and recreational activities
take place throughout the entire lake.	
SECTION III. FISH AND WILDLIFE VALUE	
1. <u>Fisheries:</u> To maintain a quality fishery, a lake must provide good spawning, rear map the location of any quality fisheries habitat. (Contact your local DNR fish your lake's fishery.)	ring and feeding habitat. Please indicate on your lake manager or your local fishing club for information about
2. <u>Wildlife:</u> Indicate on your lake map any portions of the proposed treatment area of wildlife habitat. (Constact your local DNR wildlife manager or your local wildlife wildlife around (and in) your lake.)	or adjacent shoreline that are considered to be good e or hunting club for additional information about the
3. Which organization(s) or individual(s) did you contact for your information?	WIDNR
SECTION IV. CAUSES OF THE PROBLEM	
What are perceived to be the local or regional causes of the problem? (Check all those	se that apply.)
A. Agricultural runoff (from barnyards or croplands) that contributes sedimer	nt, nutrients and/or bacteria to the lake.
B. Urban runoff (from stormwater) that contributes sediment, nutrients and o	ther pollutants to the lake.
C. Sewage treatment or industrial discharges upstream of the lake.	
D. Possible faulty septic systems in the area around the lake.	
E. Runoff from fertilized lawns near the lake.	
F. Sediments contaminated with nutrients from past pollution activities.	
G. Naturally fertile - no known human sources of excessive sediment, nutrier	nts or other pollutants.
H. Other:	own source.
Please identify on your watershed map the locations of any land use practices that are problems in the lake.	e perceived to be contributing to excess plant growth

SECTION V. SOLUTIONS

Control of aquatic plant problems can be temporarily accomplished with short-term measures, but no strategy will be successful without long-term planning to address the source of the problem. A sound plant management program should combine both short-term and long-term control strategies.	
1. What have a first term control do successible to achieve?	
1. What level of short-term control do you wish to achieve?	
Remove 100% of the plants in the treatment area.	
Remove 70-99% of the plants in the treatment area.	
Remove less than 70% of the plants in the treatment area.	
2. Which plants do you wish to remove in the short-term?	
Remove all plant species.	
Remove specific plant species only. (Name(s) of species:)
3. How often will it be necessary to:	
A. Chemically treat? $\underline{0}$ times per year for algae; $\underline{1}$ times per year for other plants	
B. Mechanically harvest? As needed times per year	
4. What long-term control alternatives have you begun to implement?	
Developed a lake plant management plan.	
Developed a lake protection plan.	
Formed a Lake District, Lake Association or other organization. (Name: Eagle Spring Lake Management District)
Established a monitoring program for the lake.	
Contacted the Soil Conservation Service or Land Conservation Commission to identify land use controls that are needed in the	
Conducted a sentic survey with the county sanitarian	
Other:	
Long-term planning can provide an organized approach to solving the problems that are affecting the water quality of your lake. Your DNR lake management coordinator, county extension agent, or regional planning commission can provide specific technical information and assistance.	
SECTION VI. PUBLIC INVOLVEMENT	
1. Before you conduct a large-scale chemical aquatic plant treatment, you are required to provide the public with formal notice of the planne treatment (s. NR 107.04(3), Wis. Adm. Code). <u>Please attach evidence (e.g., newspaper clipping) that such notice has been made.</u>	£
2. You are also required to conduct a public informational meeting on the proposed large-scale treatment if 5 or more individuals, organizations or local or special units of government request such a meeting within 5 days of the notice (s. NR 107.04(3), Wis. Adm. Code).	
Was a public informational meeting required for the proposed treatment? $\prod v_{es} \bigotimes v_{o}$	
If yes, please attach evidence that such a meeting was held.	
3. These public notice and public meeting provisions apply each year that a treatment is proposed.	

NOTE: This form is to be updated once every 5 years to include new information. Modifications of the proposed treatment within the 5-year period also require re-submittal of this form if the location or target organisms are changed, or if the treatment area is expanded by more than 10 percent.

I hereby certify that the above information is true and correct and that copies of this application have been provided to the appropriate parties named in Section II of Form 3200-4, Application for Permit for Chemical Aquatic Plant Control.

Applicant's Signature

Please attach with map(s) to Form 3200-4, Application for Permit for Chemical Aquatic Plant Control.



2,4-D CHEMICAL FACT SHEET

Formulations

2.4-D has been widely used since 1946 as a household weed-killer, agricultural herbicide and aquatic herbicide. It was registered with the U.S. EPA in 1986 and re-reviewed in 2005. It is currently under registration review. An interim registration review decision is expected in 2023. The active ingredient is 2.4dichloro-phenoxyacetic acid. There are three types of 2.4-D used as aquatic herbicides: dimethyl amine salt, butoxyethyl ester and choline salt. 2.4-D is available in both liquid and granular formulations. It is labeled for control of emergent, floating-leaf and submerged vegetation using direct foliar, surface or subsurface application. Commercial formulations approved for aquatic use in Wisconsin include Weedar® 64, Sculpin® G and Freelexx[®].*

Aquatic Use and Considerations

2,4-D is a systemic herbicide (i.e., it moves throughout the plant tissue) that primarily affects broadleaf plants. It is a WSSA Group 4 herbicide, meaning that the mechanism of action is by mimicking the plant growth hormone auxin. Following treatment, 2,4-D is taken up by the plant and translocated through the roots, stems and leaves, resulting in bending and twisting of stems followed by growth inhibition. Plants begin to decay within one to two weeks after application, but it can take several weeks for plants to fully decompose. Treatments should be made when plants are actively growing.

It is important to note that repeated use of herbicides in the same WSSA group (i.e., with the same mechanism of action) can lead to herbicide-resistant plants, even in aquatic environments. In order to reduce the risk of developing resistant genotypes, avoid using the same type of herbicides year after year, and utilize effective integrated pest management strategies as part of any longterm control program.

For many years, 2,4-D has been used primarily in small-scale spot treatments. Some recent studies have found that 2,4-D moves quickly through the water and mixes throughout the waterbody regardless of where it is applied. Accordingly, 2,4-D has been used in Wisconsin experimentally for whole-lake treatments.

2,4-D is labeled to control the invasive plant species Eurasian watermilfoil (*Myriophyllum spicatum*). Native species that are labeled as susceptible to 2,4-D include native milfoils (*Myriophyllum* spp.), coontail (*Ceratophyllum demersum*), common waterweed (*Elodea canadensis*), naiads (*Najas* spp.), waterlilies (*Nymphaea* spp. and *Nuphar* spp.), bladderworts (*Utricularia* spp.) and duckweeds (*Lemna* spp.).[†]

Post-Treatment Water Use Restrictions

There are no post-treatment restrictions on treated water use for fishing or livestock drinking water. Following the last registration review in 2005, the butoxyethyl ester products require a 24-hour waiting period for swimming. Minimum setback distances may apply for applications on waterbodies with potable water intakes. If 2,4-D is applied within the minimum setback distance, treated water should not be used as human drinking water for at least 7 to 21 days after treatment, depending on product and application rate. However, in one study, 2,4-D persisted in the

^{*} Product names are provided solely for your reference and should not be considered exhaustive nor endorsements.

[†] May vary by formulation, application rate and/or product. Every product label must be carefully read and followed by the user.

The Wisconsin Department of Natural Resources (DNR) is committed to promoting diversity, fairness, equity and the principles of environmental justice. We ensure that we do not discriminate in employment, programs, decisions, actions or delivery of services. If you have questions or to request information in an alternative format (large print, Braille, audio tape, etc.), please contact us at 888-936-7463 or https://dnr.wisconsin.gov/About/Nondiscrimination.

Page 2

water at levels above the irrigation threshold 93 days after treatment, suggesting that the current restrictions may not be sufficient under all application scenarios. Treated water can be used as potable water sooner if the concentration of 2,4-D falls below 70 parts per billion (ppb). Restrictions on treated water use for irrigation may apply based on application rate, product and irrigation site.[†]

Herbicide Degradation, Persistence and Trace Contaminants

The half-life of 2.4-D (the time it takes for half of the active ingredient to degrade) ranges from 13 to 40 days. In anaerobic lab conditions, the half-life has been measured up to 333 days. After treatment, the 2,4-D concentration in the water is reduced primarily through microbial activity, off-site movement by water, or adsorption to small particles in silty water. 2,4-D degradation in water is highly variable depending on numerous factors such as microbial presence, temperature, nutrients, light, oxygen, organic content of substrate, pH and whether the water has been previously exposed to 2,4-D. It is slower to degrade in cold or acidic water and appears to be slower to degrade in lakes that have not been treated with 2,4-D previously.

Once in contact with water, both the ester and amine formulations dissociate to the acid form of 2,4-D, with a faster dissociation to the acid form under more alkaline conditions.

Impacts on Fish and Other Aquatic Organisms

Toxicity of aquatic 2,4-D products vary depending on whether the formulation is an amine or an ester. The ester formulations are moderately to highly toxic to freshwater fish and invertebrates; the amine formulations are slightly toxic to practically non-toxic to freshwater fish and invertebrates.

2,4-D does not accumulate at significant levels in fish tissues. Although fish exposed to 2,4-D may take up very small amounts of its breakdown products to then be metabolized, most of these products are rapidly excreted in urine. On a short-term exposure basis, 2,4-D is practically non-toxic to honeybees and slightly to moderately toxic to birds and mammals.

As with all chemical herbicide applications it is very important to read and follow all label instructions to prevent adverse environmental impacts.

Human Health

Adverse health effects are possible after shortand long-term exposure to 2,4-D. It can cause irreversible eye damage and is harmful if swallowed, inhaled or absorbed through the skin. Wear proper personal protective equipment and follow label instructions while handling. In its consideration of exposure risks, the U.S. EPA believes no significant risks will occur to recreational users of water treated with 2,4-D.

There is not a clear link between exposure to 2,4-D and elevated cancer risk. The U.S. EPA has determined that there is not sufficient evidence to classify 2,4-D as a human carcinogen.

For Additional Information

U.S. Environmental Protection Agency (EPA) Office of Pesticide Programs <u>epa.gov/pesticides</u>

Wisconsin Department of Agriculture, Trade, and Consumer Protection <u>datcp.wi.gov/Pages/Programs_Services/ACMOv</u> <u>erview.aspx</u>

Wisconsin Department of Natural Resources 608-266-2621 <u>dnr.wi.gov/lakes/plants</u>

Wisconsin Department of Health Services <u>dhs.wisconsin.gov</u>

National Pesticide Information Center 1-800-858-7378 <u>npic.orst.edu</u>



FLORPYRAUXIFEN-BENZYL CHEMICAL FACT SHEET

Formulations

Florpyrauxifen-benzyl is a relatively new herbicide that was first registered with the U.S. EPA in 2017. The active ingredient is 4-amino-3chloro-6-(4-chloro-2-fluoro-3-methoxyphenyl)-5-fluoro-pyridine-2-benzyl ester, also identified as florpyrauxifen-benzyl. Florpyrauxifen-benzyl is labeled for control of submerged, floating and emergent aquatic plants using surface, subsurface or foliar application in slow-moving and quiescent waters. Commercial formulations approved for aquatic use in Wisconsin include ProcellaCOR™*.

Aquatic Use and Considerations

Florpyrauxifen-benzyl is a systemic herbicide (i.e., it moves throughout the plant tissue). It is a WSSA Group 4 herbicide, meaning that the mechanism of action is by mimicking the plant growth hormone auxin and causing excessive elongation of plant cells, ultimately killing the plant. Affected plants may show atypical growth patterns (e.g., large and/or twisted leaves, stem elongation), and leaf and shoot tissue may become fragile. While initial effects will become apparent within a few days after treatment, it will take two to three weeks for the full plant decomposition process to occur. Florpyrauxifen-benzyl should be applied to plants that are actively growing; mature plants may require a higher concentration of herbicide and a longer contact time compared to smaller, less established plants.

It is important to note that repeated use of herbicides in the same WSSA group (i.e., with the same mechanism of action) can lead to herbicide-resistant plants, even in aquatic environments. In order to reduce the risk of developing resistant genotypes, avoid using the same type of herbicides year after year, and utilize effective integrated pest management strategies as part of any longterm control program.

Florpyrauxifen-benzyl has relatively short contact exposure time (CET) requirements (typically 12 to 24 hours). The short CET may be advantageous for localized treatments of submersed aquatic plants, however, the target species efficacy compared to the size of the treatment area is not yet known. In some Wisconsin lakes impacts to target and nontarget plants have been observed in areas beyond the targeted treatment areas, and research is ongoing to better understand the herbicide's dissipation and degradation patterns across various lake types.

Florpyrauxifen-benzyl is labeled for control of invasive Eurasian watermilfoil (*Myriophyllum spicatum*), hybrid watermilfoil (*M. spicatum x sibiricum*) and yellow floating heart (*Nymphoides peltata*)[†]. Native species listed on the product label as susceptible to florpyrauxifen-benzyl include coontail (*Ceratophyllum demersum*), variable-leaf watermilfoil (*Myriophyllum heterophyllum*), watershield (*Brasenia schreberi*), pickerelweed (*Pontederia cordata*) and American lotus (*Nelumbo lutea*)[†].

Preliminary results from pre- and posttreatment monitoring conducted on a subset of Wisconsin lakes observed negative impacts to dicot species such as northern watermilfoil (*Myriophyllum sibiricum*), white water crowfoot (*Ranunculus aquatilis*), water marigold (*Bidens beckii*), & coontail following treatment.

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^{*} Product names are provided solely for your reference and should not be considered exhaustive nor endorsements.

[†] May vary by formulation, application rate, and/or product. Every product label must be carefully reviewed and followed by the user.

Post-Treatment Water Use Restrictions

There are no drinking water or recreational use restrictions, including swimming and fishing, and no restrictions on irrigating turf. There is a short waiting period (dependent on application rate) for other non-agricultural irrigation purposes. Treated water should not be used for livestock drinking water or for agricultural irrigation without analytical monitoring to confirm dissipation[†].

Herbicide Degradation, Persistence and Trace Contaminants

Florpyrauxifen-benzyl is short-lived, with a half-life (the time it takes for half of the active ingredient to degrade) of four to six days in aerobic aquatic environments and two days in anaerobic aquatic environments. Florpyrauxifen-benzyl in water is subject to rapid breakdown by light (photolysis), with a reported photolytic half-life of approximately two hours in surface water when exposed to sunlight. In addition, the herbicide can convert partially to an acid form via breakdown by water (hydrolysis) at high pH (greater than 9) and higher water temperatures (greater than 25°C). Microbial activity in the water and sediment can also enhance degradation.

Florpyrauxifen-benzyl breaks down into five major degradation products. These materials are generally more persistent in water than the active herbicide (with a half-life of up to three weeks), but four of the five products are minor metabolites detected at less than 5% of applied active ingredient.

Florpyrauxifen-benzyl has a high soil adsorption coefficient (KOC) and low volatility, which allows for rapid plant uptake resulting in short exposure time requirements. Florpyrauxifen-benzyl degrades quickly (two to 15 days) in sediment. Few studies have yet been completed for groundwater, but based on known environmental properties, florpyrauxifen-benzyl is not expected to be associated with potential environmental impacts in groundwater.

Impacts on Fish and Other Aquatic Organisms

Florpyrauxifen-benzyl is practically nontoxic to freshwater fish and invertebrates, birds, bees, reptiles, amphibians and mammals. Florpyrauxifen-benzyl will temporarily bioaccumulate (the process by which chemicals in the environment or in a food source are taken up by plants or animals) in freshwater organisms but is expelled and/or metabolized within one to three days after exposure to high (greater than 150 parts per billion) concentrations.

Human Health

There are no risks of concern to human health since no adverse short- or long-term effects, including a lack of carcinogenicity or mutagenicity, were observed in the submitted toxicological studies for florpyrauxifen-benzyl regardless of the route of exposure. Drinking water exposures to florpyrauxifen-benzyl also do not pose a significant human health risk. Additionally, there is no hazard concern for metabolites and/or degradants of florpyrauxifen-benzyl that may be found in drinking water, plants and livestock.

For Additional Information

U.S. Environmental Protection Agency (EPA) Office of Pesticide Programs <u>epa.gov/pesticides</u>

Wisconsin Department of Agriculture, Trade, and Consumer Protection <u>datcp.wi.gov/Pages/Programs_Services/ACMOv</u> <u>erview.aspx</u>

Wisconsin Department of Natural Resources 608-266-2621 <u>dnr.wi.gov/lakes/plants</u>

National Pesticide Information Center 1-800-858-7378 <u>npic.orst.edu</u>

Washington State Department of Ecology. 2017. fortress.wa.gov/ecy/publications/documents/ 1710020.pdf



WARNING PESTICIDE TREATMENT AREA

THIS WATERBODY HAS BEEN CHEMICALLY TREATED FOR:

✓ INVASIVE PLANTS ALGAE NAVIGATION/ACCESS

MOSQUITO/BLACK FLY

DATE TREATED

PESTICIDE APPLIED

Agri-Star 2,4-D Amine

ProcellaCOR EC

ACTIVE INGREDIENT

Liquid Dimethylamine Salt of 2,4-D

Florpyrauxifen Benzyl

WATER USE RESTRICTIONS APPLY AS FOLLOWS:

TO THE ENTIRE WATERBODY

TO \checkmark WATER WITHIN $\frac{2400}{100}$ FT OF THIS NOTICE AND $\frac{2400}{100}$ FT FROM SHORE

DO NOT USE TREATED WATER FOR THE FOLLOWING PURPOSES UNTIL:

SWIMMING ^{0 Days}

CONSUMING FISH ⁰ Days

DRINKING WATER ^{21 Days}

PET/LIVESTOCK WATER 21 Days



Wisconsin Dept. of Natural Resources 101 S. Webster St., P.O. Box 7921 Madison, WI 53707-7921 www.dnr.state.wi.us/lakes/plants/factsheets HOUSEHOLD USE (dishes, laundry, etc.)

0 Days

IRRIGATION (CROP)^{21 Days} IRRIGATION (OTHER)^{21 Days}

SPONSOR ______ Lake Management District

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