



Dairyland Power Incident-Specific Activation of RRT5

Joint Region 5 & Region 7 Regional Response Team Meeting

Spring 2023 Meeting – April 5-6

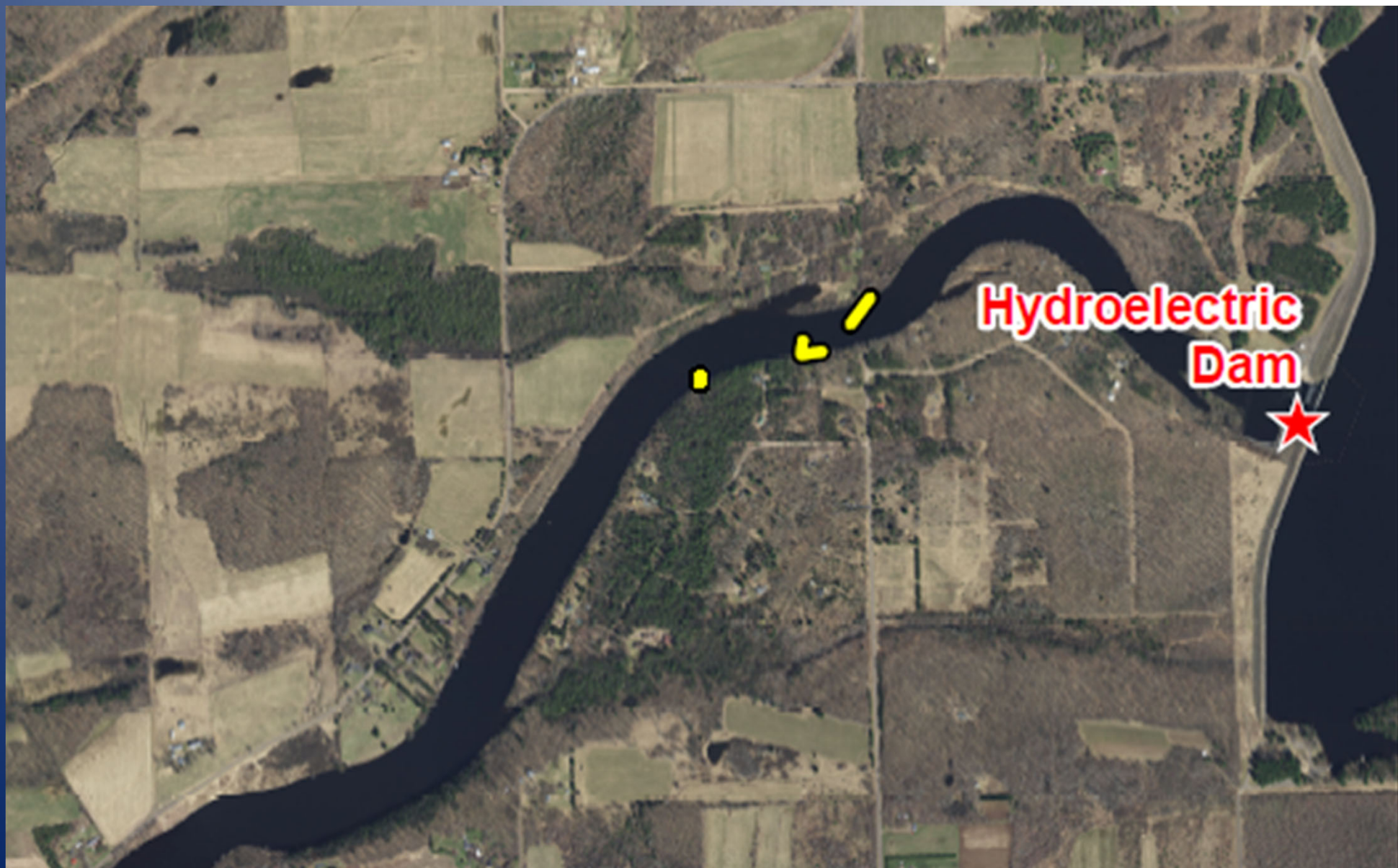
St. Charles County Government Administration Building
201 N. 2nd Street, St. Charles, Missouri



The Incident:

Dairyland Power Cooperative lubrication oil Spill, 11/06/2022

NRC 1351955



On Sunday 11/6/22, Dairyland Power had a release of approximately 175 gallons of turbine oil from their hydro-electric dam on the Flambeau River upstream of Ladysmith, WI. The oil went through the turbine and was discharged to the river 20 feet below the water surface. As a result, the oil became highly emulsified.



November 10 – Wednesday 16, 2022. Efforts to flush and recover using cold river water was unsuccessful in eliminating oil sheen from shoreland.

Bay West mobilized seven staff, three vessels, including an 18-foot SeaArk response vessel, OSRO Response Trailer, and Containment Boom Trailer. Vessels were launched from Memorial Park in Ladysmith, WI. Bay West staff began a shoreland cleanup assessment (SCAT) and strategically placed 850-feet of containment boom over a three-mile stretch of river downstream of the hydroelectric dam. The placement of the boom effectively contained all surface material flowing down river.

No recoverable turbine oil was observed downstream of the dam, however a persistent sheen continued from several shoreland areas impacted by petroleum residue.

On Wednesday November 16, 2022, Bay West made a formal request to Jeff Paddock with the Wisconsin Department of Natural Resources (WDNR), and the Environmental Protection Agency Regional Response Team (EPA RRT), to use a cleaning agent, **Simple Green**, to assist with mobilizing the petroleum residue from a section of impacted shoreline.



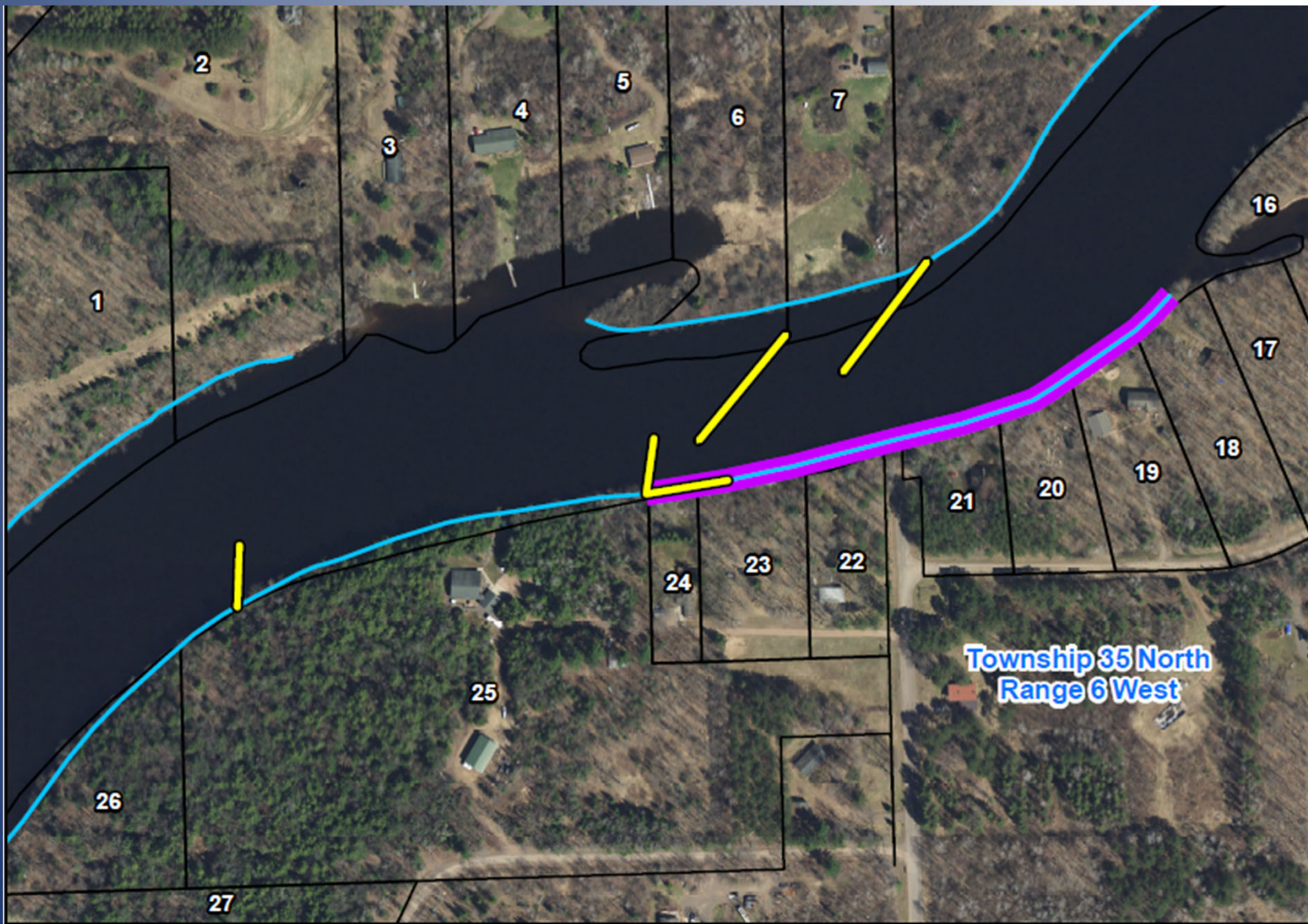
- **Why the product needs to be applied?**

Upon arrival, the Bay West crew encountered a light sheen downstream of the dam with pockets of oil “self-contained” and suspended near the base of the dam. Due to the emulsification of the oil, shallow water and rocks, navigation of the river and recovery of the oil has proven difficult. Petroleum sheen has migrated downstream and is hung up on the rocks / shoreline of the river. These pockets of oil continue to produce sheen.

Approximately 850 feet of 6”X6” containment boom has been strategically set over a 3-mile stretch of river to recovery/consolidate the sheen to facilitate recovery. A persistent petroleum sheen exists; no recoverable oil has been observed downstream of the dam. Efforts to wash and mobilize this residue are proving ineffective, especially given the existing weather conditions and flow dynamics of the river. This application is requested as the last best options to mobilize the petroleum sheen from the shoreline.



Up to two gallons of Simple Green, will be mixed with river water at a ratio of 1:10, and will be applied using a Hudson sprayer.



The application will occur on emerged rocks/shoreline along approximately 1000ft of shoreline.

What efforts will be taken to contain any sheen, product or bi-product creating during the application

The area of impact/application is currently contained with 400ft of 6"x6" oil containment boom. The containment boom is arranged in a 3-tier cascade system that is effectively diverting all surface material towards the left descending bank where it is being collected for recovery. This containment system is lined with absorbent boom and backed with an additional 50ft section of 6"x6" containment boom. The material being collected in the boom is being recovered using a vacuum to skim the material from the water surface. The collected material is being placed in 55-gallon, steel, open-top drums for disposal.

- What control methods will be applied to determine the effectiveness of the application

Bay West staff will visually observe the application to mobilization of the material from the rock/shoreline.

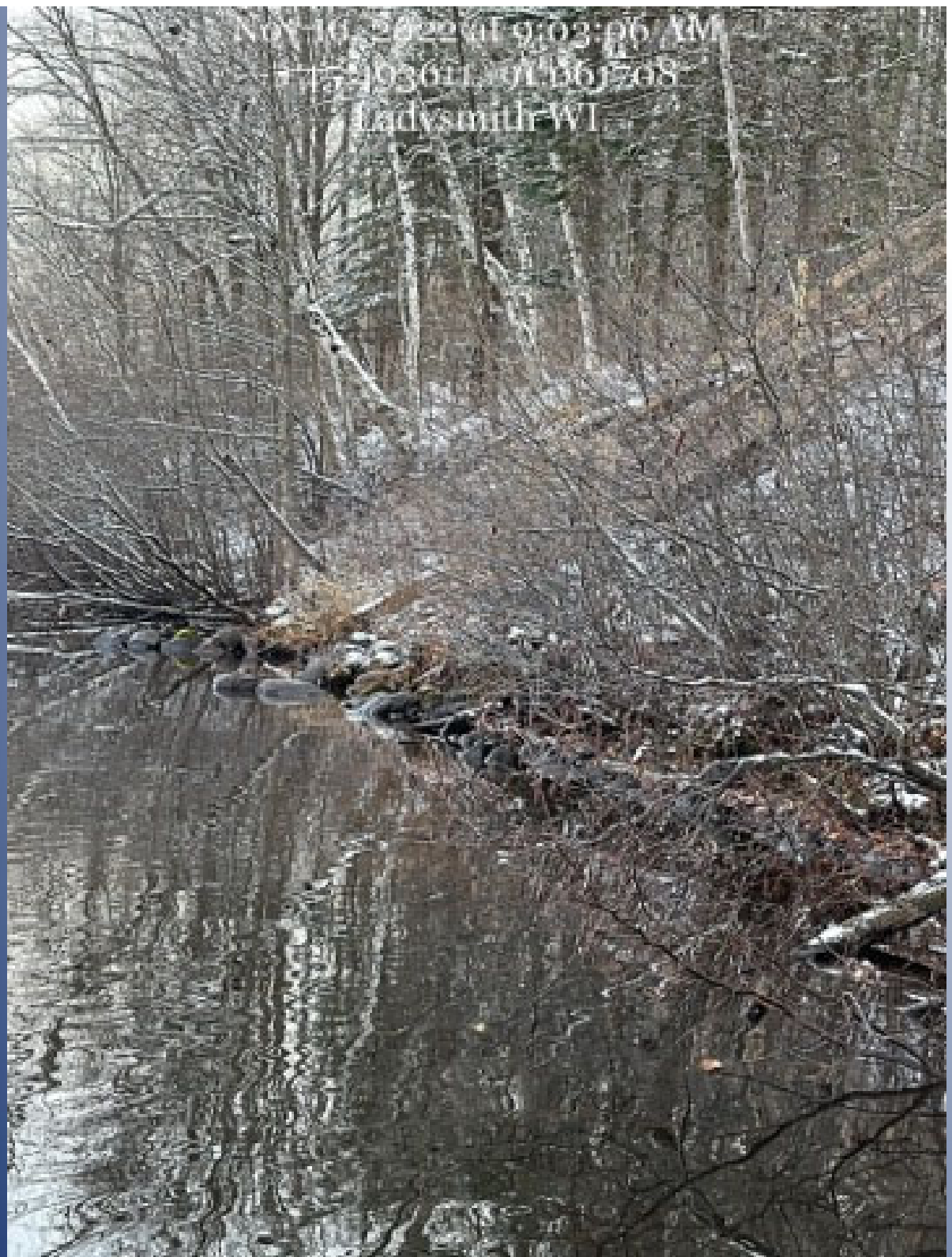
- The time period that you expect to use the product and if it is a onetime application.

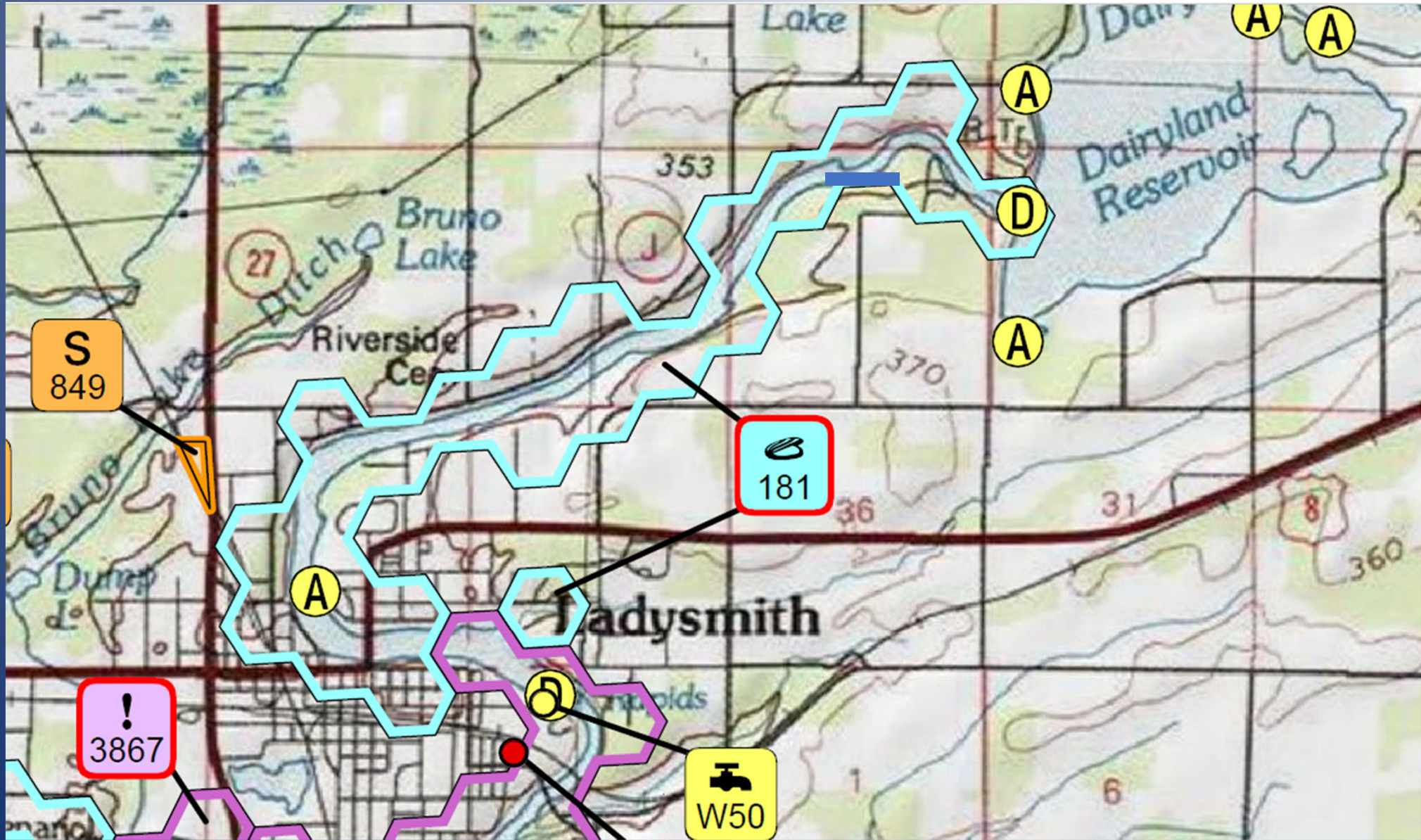
This will be a one-time application. After application, all rock and shoreline will be rinsed with river water using a 2" trash pump.

As we discussed, if there is a release of the product beyond the boomed/containment area, DNR may consider that an additional release.



Nov 16, 2020 at 9:03:06 AM
15-103661-01-06708
Madysmith WI





Inland Sensitivity Atlas

Application Area

Icon	Species Group	State Listed	Federally Listed	Global Rank 1-3
181	Aquatic/Riparian Invertebrates	Y		
3867	Multiple Species Grouping			
	Aquatic/Riparian Invertebrates	Y		
	Aquatic/Riparian Invertebrates	Y		Y
	Aquatic/Riparian Invertebrates	Y	Y	Y
3868	Multiple Species Grouping			
	Aquatic/Riparian Invertebrates	Y		
	Aquatic/Riparian Invertebrates	Y	Y	Y
3869	Multiple Species Grouping			
	Aquatic/Riparian Amphibians and Reptiles	Y		
	Aquatic/Riparian Invertebrates	Y		
	Aquatic/Riparian Invertebrates	Y		Y
	Aquatic/Riparian Invertebrates	Y	Y	Y

SENSITIVE SPECIES



Aquatic/Riparian Zone



Plant



Bird



Amphibian and/or Reptile



Mammal



Invertebrate



Fish



Natural Community



Icon Indicating Threatened or Endangered Status



Water Intake (nonpotable)



Multiple Species Grouping

Safety Data Sheet: **Simple Green® All-Purpose Cleaner**



Version No. 13000-21A

Issue Date: February 1, 2021

Supersedes Date: August 8, 2018

OSHA HCS-2012 / GHS

Section 1: IDENTIFICATION

Product Name: Simple Green® All-Purpose Cleaner

Additional Names:

Manufacturer's Part Number: *Please refer to Section 16

Recommended Use: Cleaner & Degreaser for water tolerant surfaces.

Restrictions on Use: Do not use on non-rinseable surfaces.

Company: Sunshine Makers, Inc.

15922 Pacific Coast Highway

Huntington Beach, CA 92649 USA

Telephone: 800-228-0709 • 562-795-6000 *Mon – Fri, 8am – 5pm PST*

Fax: 562-592-3830

Email: info@simplegreen.com

Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS Number</u>	<u>Percent Range</u>
Water	7732-18-5	> 80.698%*
C9-11 Alcohols Ethoxylated	68439-46-3	< 5.000%*
Surfactant	Proprietary	< 5.000%*
Sodium Citrate	68-04-2	< 5.000%*
Sodium Carbonate	497-19-8	< 1.000%*
Tetrasodium Glutamate Diacetate	51981-21-6	< 1.000%*
Citric Acid	77-92-9	< 1.000%*
Blend of Polyoxyalkylene Substituted Chromophores (Cyan and Yellow)	Proprietary Mixture	< 0.100%*
Fragrances	Proprietary Mixture	< 1.000%*
Anethole	104-46-1	< 0.100%*
Eucalyptol	470-82-6	< 0.100%*
Methylchloroisothiazolinone	26172-55-4	< 0.001%*
Methylisothiazolinone	2682-20-4	< 0.0001%*

*specific percentages of composition are being withheld as a trade secret

Section 12: ECOLOGICAL INFORMATION

- Ecotoxicity:** Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
- Aquatic:** Aquatic Toxicity - Low, based on OECD 201, 202, 203 + Microtox: EC₅₀ & IC₅₀ ≥100 mg/L. Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
- Terrestrial:** Not tested on finished formulation.

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Safety Data Sheet: **Simple Green® All-Purpose Cleaner** ★

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Section 12: ECOLOGICAL INFORMATION - continued

- Persistence and Degradability:** Readily Biodegradable per OCED 301D, Closed Bottle Test. Reaches 100% biodegradation within 60 days.
- Bioaccumulative Potential:** No data available.
- Mobility in Soil:** No data available.
- Other Adverse Effects:** No data available.

U.S. ENVIRONMENTAL PROTECTION AGENCY

NATIONAL CONTINGENCY PLAN

PRODUCT SCHEDULE

AUGUST 2022

(8/23/2022)

<u>Category Abbreviations</u>	<u>Currently Listed Products by Category</u>
B	Bioremediation Agents
BA	Biological Additives (22)
MC	Microbiological Cultures (21)
EA	Enzyme Additives (1)
NA	Nutrient Additives (7)
D	Dispersants
M	Miscellaneous Oil Spill Control Agents Solidifiers (11)
S	Surface Collecting Agents
SW	Surface Washing Agents

SIMPLE GREEN® (SW-15)

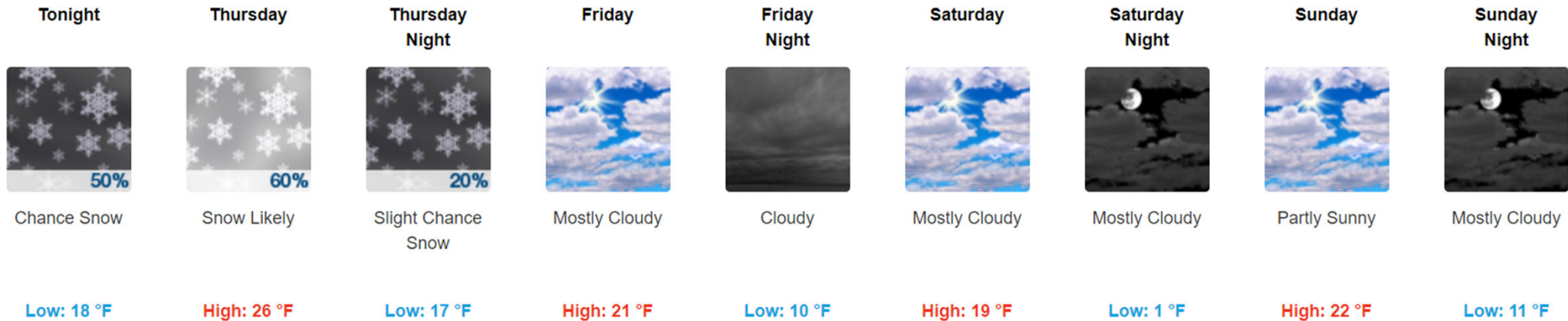
Surface Washing Agent

SIMPLE GREEN® 2013 Reformulation (SW-64)

Surface Washing Agent

Weather

Extended Forecast for
Ladysmith WI



Winter is onsetting and ice should start to form along shorelines.

FOSC Actions/ Approval requested by FOSC to RRT:

Ray West is requesting to use Simple Green as a dispersant. Simple Green 2013 Reformulation is listed on the Product Schedule.

The area of impact/application is currently contained with 400ft of 6" x5" oil containment boom. The containment boom is arranged in a 3-bar cascade system that is effectively diverting all surface material towards the left descending bank where it is being collected for recovery. This containment system is lined with absorbent boom and backed with an additional 50ft section of 6" x5" containment boom. The material being collected in the boom is being recovered using a vacuum to skim the material from the water surface. The solid material is being placed in 55-gallon, steel, open-top drums for disposal.

Expedited decisions needed because of safety concerns with shoreline cleanup due to cold/late weather forecast in Northern Wisconsin.

RRT Decision/Action/ Recommendation on request from FOSC:

Regional Response Team concurs with the limited one time use of the Surface Cleaning Agent, Simple Green, to remove emulsified oil from the specified shoreland area on the Flambeau River.

Additional action items as a result of this incident-USFWS to be added to the WDNR spill notification lists for immediate notification when spills could impact federally listed species. Also suggestion that WDNR Endangered Resources also be notified for information on state-listed species. Also, tribe emails will be added to the WDNR notification lists for spill notification.

 Rationale:

-Sarah Warner, USFWS-spokes of concern is a muskie was known to exist in the last survey done in the area of concern. FWS has responded stating that it is unlikely that there are populations of sheepsnose in this stretch of the river. WI DNR listed muscoid biologist has stated that a survey conducted in 2020 detected no populations of any listed muscoid species downstream from the Ladysmith Dam. However, there are several listed muscoid species downstream from the Ladysmith Dam.

Therefore, the FWS is in agreement with the response continuing as planned using Simple Green diluted 1:10 in river water to remediate the emulsified oil, use of boom in the area as a catchment for the oil, and the washing of rocks and shoreline with the remediation solution.

-David Morrison, EPA/FOSC spoke to Kristen Nelson from Lac du Flambeau Natural Resources. There are concerns with Muskies in the area as well as wild fox, however the risk/benefit of concern is upstream of the release.

 ESA Initial Consultation:

Completed with:

USFWS

Point of Contact: Sarah Warner

NOAA

Point of Contact:

State(s)

Point(s) of Contact:

REGIONAL RESPONSE TEAM 5

 Additional Notes**SIGNATURES**

Member/ Agency:

Concur:

Non-Concur:

REGIONAL RESPONSE TEAM 5

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Scott Binko USCG	
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Leif Tolokken	Leif.Tolokken@DairylandPower.com
Jim Stockinger	jstockinger@baywest.com

RRT 5 Meeting Attendees.

11/17/2022,

08:00 – 09:00

CONCURRENCE

From: Warner, Sarah E <sarah_warner@fws.gov>

Sent: Thursday, November 17, 2022 10:22 AM

To:

Subject: FWS Response:WI Dairy Land Dam Remediation

.....Therefore, the FWS is in agreement with the response continuing as planned using Simple Green diluted 1:10 in river water to remediate the emulsified oil,.....

RRT5 Incident Specific participants.

Attached are comments from U.S. Fish and Wildlife regarding agreement with the proposed use of the surface cleaning agent. I also spoke to Kristen Nelsen from Lac du Flambeau Natural Resources. There are concerns with Muskie in the area as well as wild rice, however the rice bed of concern is upstream of the release.

With general agreement from the Natural Resource trustees, Barbi and I will send out concurrence on behalf of the RRT

Timeframe:

- 11/16/2022 - Request to use Cleaning Agent.
 - Email invitation sent out for RRT meeting.
- 11/17/2022 – 8:00 am meeting of RRT
 - response deadline for review set for 12:00 on 11/18.
- 11/18/2022 – Formal concurrence by emails.
 - Formal approval sent to PRP and OSRO (12:14)
 - Response work commenced at 12:55 on 11/18

The Regional Response Team concurs with the limited one time use of the Surface Cleaning Agent, Simple Green, to remove emulsified oil from the specified shoreland area on the Flambeau River.

Implementation

At 1255, Bay West received approval from the EPA RRT and WDNR to apply the cleaning agent.

Upon receiving approval, one-gallon of the cleaning agent, Simple Green, was mixed with ten-gallons of river water. This solution was placed in a Hudson sprayer which was used to apply the solution. A total of eleven gallons of this solution was applied to approximately 1000ft of rocky shoreline as indicated in Figure 3...

Following this one-time application, the area where the cleaning agent was applied was rinsed with a river water using a 2-inch pump, hose and spray nozzle. The cleaning agent and rinse was effective in mobilizing the residual petroleum to the containment boom set just downstream of the application area.

Photos: Post-application of cleaning agent.



Upon completion of the application of the cleaning agent and flushing operations, it was determined to leave the containment system in place through the weekend.

