20080227-5009 FERC PDF (Unofficial) 02/27/2008 12:04:36 PM

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

February 27, 2008

FERC Project No. 2433

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Mail Code: DTCA, HL 21.3
888 First Street, N.E.
Washington, DC 20426

Dear Secretary Bose:

Proposed Eurasian Watermilfoil Control Plan for the Grand Rapids Hydroelectric Project

Wisconsin Public Service Corporation (WPSC) is responding to a letter received from the Federal Energy Regulatory Commission (FERC) dated May 14, 2007 concerning WPSC's filing of the 2006 Eurasian Water Milfoil (EWM) Monitoring Report for the Grand Rapids Hydroelectric Project (FERC Project #2433).

The letter in part, refers to a request from the Michigan Department of Natural Resources (MDNR) for FERC assistance with requiring WPSC to control EWM at the Grand Rapids Hydroelectric Project. The letter also includes the FERC's recommendation that WPSC develop a proposed control plan in coordination with the resource agencies.

In a correspondence letter dated December 27, 2007, WPSC requested for a 60-day extension of time to FERC in an effort to cooperate with the resource agencies to develop a EWM Control Plan.

WPSC has worked cooperatively with the resource agencies in developing a EWM Control Plan. Conference calls with the resource agencies were conducted on January 17, 2008 and February 13, 2008. As a result of this cooperative effort a EWM Control Plan for the Grand Rapids Hydroelectric Project will be implemented beginning in 2008. The proposed EWM Control Plan for the Grand Rapids Hydroelectric Projects is included in Appendix A.

WPSC has provided a draft of this plan to the Wisconsin Department of Natural Resources (WDNR), the MDNR and the U.S. Fish and Wildlife Service (USFWS). Comments received from the resource agencies and response (if necessary) to those comments are provided in Appendix B.

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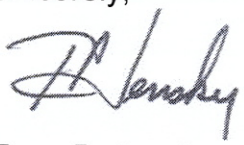
Should you have any questions or concerns regarding the proposed control plan, please contact Jamie Nuthals at (920) 433-1460.

Sincerely,



Terry P. Jensky
Vice President - Energy Supply Operations
Telephone: (715) 355-2047

syx

Enc.

cc: Ms. Joan Johanek, WPSC - D2
Mr. Bruce Crocker, WPSC - D2
Mr. Gil Snyder, WPSC - D2
Mr. Howard Giesler, WPSC - PUL
Mr. Edward Brandt, WPSC - WMAR
Mr. Mark DeCleene, WPSC - CRI
Ms. Peggy Harding, FERC - Chicago
Ms. Carlisa Linton, FERC - DC
Mr. Greg Egtvedt, WPSC - D2

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APPENDIX A

GRAND RAPIDS HYDROELECTRIC PROJECT

PROPOSED EURASIAN WATERMILFOIL CONTROL PLAN

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Proposed EWM Control Plan for the Grand Rapids Hydroelectric Projects, FERC Project # 2433

Objective: To control the spread of Eurasian watermilfoil (*Myriophyllum spicatum*) (EWM) in the Grand Rapids Hydroelectric Project and help prevent the spread of EWM to neighboring river basins. Surveys have indicated that EWM is present at several locations within the reservoir.

Methods: WPSC will conduct EWM control activities in the hydroelectric project for a series of three years. WPSC plans to drawdown the reservoir in June of Year 1 (2008). The drawdown is anticipated to be conducted the first week of June and will return to normal reservoir license conditions by mid to late July. The drawdown depth of the reservoir will total 6.0 feet. WPSC will be applying herbicides to the exposed EWM stands and any EWM stand that remain submerged. WPSC anticipates the majority of the EWM will be exposed during the drawdown. WPSC will apply the herbicide to the EWM stands provided all Michigan Department of Environmental Quality (MDEQ) permits can be secured.

WPSC is currently working with the resource agencies and herbicide specialists to determine an appropriate herbicide to apply and the method of application. WPSC will consult with the resource agencies prior to the application of any herbicide.

In Year 2 and 3, WPSC will again conduct herbicide treatments on the remaining EWM stands. These treatments will be conducted under normal reservoir license conditions.

Monitoring: WPSC will conduct EWM surveys in August/September 2008, 2009 and 2010 following the herbicide treatment.

After three years of EWM treatments and surveys, for the 2011 field season, WPSC will consult with the Michigan Department of Natural Resources (MDNR) Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish & Wildlife Services (USFWS) to determine further action.

Documentation of Existing Colonies: The EWM stands identified during the 2007 survey will be used as the baseline map. EWM stand perimeters identified during the next three years of surveys will be mapped using Global Position System (GPS).

Sampling Protocol: A representative sampling transect will be designated for each EWM stand identified. Each transect will be sampled with a rake in three twelve foot diameter sections, if applicable. Each section will be sampled in quarters. The first quarter will be sampled at a depth of 0-0.5 meters below the surface, the second 0.5-1.5 meters below the surface, the third 1.5-3.0 meters below the surface and the fourth beyond 3.0 meters below the surface. The results from each survey at each transect will be displayed in table form indicating EWM presence or absence.

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Documentation: WPSC will provide annual updates on the control methods used, EWM stand perimeters, presence or absence, and a comparison of the stands from year to year for the next three years. The information will be provided to the MDNR, WDNR and USFWS no later than October 31st and to FERC no later than November 30th. In the annual update, WPSC will provide FERC with any comments received from the resource agencies.

After three years of control have been implemented, WPSC will consult with the resource agencies to evaluate the effectiveness of the control methods and to determine if adaptive management measures are necessary for 2011.

Implementation: WPSC will conduct the drawdown activities in June of 2008. Provided all MDEQ permits can be secured, WPSC will apply herbicides to the exposed and submerged EWM in 2008. WPSC will then apply herbicide treatments to any EWM stands remaining for the following two years (2009, 2010).

If during anytime of the three years of control, it is determined that the control methods are not effective, WPSC will consult with the resource agencies to determine an appropriate plan of action.

Public Awareness: WPSC will ensure that noxious plant information signs will be placed at all public access areas within the project boundary. An information post will be constructed for the purposes of providing pamphlets on noxious plants at all project public access areas. The noxious plants pamphlets shall be provided by the resource agencies.

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APPENDIX B

GRAND RAPIDS HYDROELECTRIC PROJECTS

DOCUMENTATION OF CONSULTATION

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WPSC CORRESPONDCE TO THE WDNR, U.S. FWS, AND MDNR

20080227-5009 FERC PDF (Unofficial) 02/27/2008 12:04:36 PM

Nuthals, James D

From: Nuthals, James D
Sent: Wednesday, February 20, 2008 5:07 PM
To: 'Christie_Deloria@fws.gov'; 'louise_clemency@FWS.gov'; 'Jessica Mistak'; 'Simon, Byron D - DNR'; 'michael.donofrio@dnr.state.wi.us'
Subject: Review of Proposed EWM Control Plan for the Grand Rapids Hydroelectric Project

Importance: High

Attachments: Draft Proposed EWM Control Plan for the Grand Rapids Hydroelectric Projects.doc

Draft Proposed EWM Control Pla...

Hello Everyone,

I am including an Eurasian Watermilfoil control plan for the Grand Rapids Hydroelectric Project for your review and comment. The plan was constructed in a cooperative effort with the resource agencies.

For those new to this project, I am providing a brief and summarized overview of how the plan was constructed.

Wisconsin Public Service Corporation (WPSC responded to a letter received from the Federal Energy Regulatory Commission (FERC) dated May 14, 2007 concerning WPSC's filing of the 2006 Eurasian Water Milfoil (EWM) Monitoring Report for the Grand Rapids Hydroelectric Project (FERC project # 2433).

The letter in part, referred to a request from the Michigan Department of Natural Resource (MDNR) for FERC assistance with requiring WPSC to control EWM at the Grand Rapids Hydroelectric Project. The letter also includes the FERC's recommendation that WPSC develop a proposed control plan in coordination with the resource agencies.

In a correspondence letter dated December 27, 2007, WPSC requested for a 60 day extension of time to FERC in an effort to cooperate with the resource agencies to develop a EWM control plan.

WPSC has worked cooperatively with the resource agencies in developing a EWM control plan. The all consulting resource agencies were invited to partake in the development of the plan. Conference calls with the resource agencies were conducted on January 17, 2008 and February 13, 2008. As a result of this cooperative effort a EWM control plan for the Grand Rapids Hydroelectric Project will be implemented beginning in 2008.

Because the plan was constructed in a cooperation with the resource agencies and because it is due to FERC by March 1st, I please ask that you review the plan and provide comments via e-mail or letter by Tuesday, February 26th. If you will require more time, please let me know by Monday, February 25th. If comments are not received prior to this date, WPSC will assume you have no comments for the plan. The plan will have to be sent to FERC by Friday, February 29th, in order to make the March 1st deadline.

Please contact me if you have any questions or comments on the plan. Also, the MDNR was heavily involved with the plan and may be able to assist with questions you may have on how the plan was constructed.

Thanks again,

Jamie Nuthals
Environmental Consultant
WPSC
(920) 433-1460

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MDNR CORRESPONDCE TO WPSC

SEE COMMENTS ATTACHED

Nuthals, James D

From: Jessica Mistak [mistakjl@michigan.gov]

Sent: Tuesday, February 26, 2008 1:53 PM

To: Christie_Deloria@FWS.gov; louise_clemency@FWS.gov; michael.donofrio@dnr.state.wi.us; Nuthals, James D; Simon, Byron D - DNR

Subject: Re: Review of Proposed EWM Control Plan for the Grand Rapids Hydroelectric Project

Jaime,
The Michigan DNR has reviewed WPSC's Eurasian Watermilfoil (EWM) control plan and we have the following comments:

- The plan needs to specify the timing, extent, and duration of the drawdown.

- The plan should specify the type of herbicide that will be used, as well as the proposed rate, timing, and frequency of application. If this information is not known at this time, please provide an update on how this information will be obtained and when it will be shared with the resource agencies.

- As WPSC stated in the plan, the proposal to treat exposed EWM after a drawdown is an experimental control method. If this method fails to show a reduction in EWM, WPSC should consult with the resource agencies to determine an agreed upon future method of control. It is our understanding that we will utilize adaptive management throughout the proposed 3 year control effort and into the future.

- A comprehensive survey is essential for identifying and effectively treating EWM. The proposed survey method may need to be modified to accurately characterize the extent of EWM at the Grand Rapids project.

Please let me know if you have further questions. We look forward to working closely with you on this effort.
Jessica

Jessica Mistak, Senior Fisheries Biologist
DNR Marquette Fisheries Station
484 Cherry Creek Rd
Marquette, MI 49855
906-249-1611 ext. 308
FAX 906-249-3190

>>> "Nuthals, James D" <JDNuthals@integrysgroup.com> 02/20/2008 6:06 PM >>>
Hello Everyone,

I am including an Eurasian Watermilfoil control plan for the Grand Rapids Hydroelectric Project for your review and comment. The plan was constructed in a cooperative effort with the resource agencies.

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2008. As a result of this cooperative effort a EWM control plan for the Grand Rapids Hydroelectric Project will be implemented beginning in 2008.

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Please contact me if you have any questions or comments on the plan. Also, the MDNR was heavily involved with the plan and may be able to assist with questions you may have on how the plan was constructed.

Thanks again,

Jamie Nuthals
Environmental Consultant
WPSC
(920) 433-1460

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WPSC RESPONSE TO MDNR

SEE ATTACHED

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MDNR COMMENTS AND RESPONSE TO COMMETNS

1. MDNR Comment: The plan needs to specify the timing, extent, and duration of the drawdown.

   WPSC Response: The plan has been amended accordingly.

2. MDNR Comment: The plan should specify the type of herbicide that will be used, as well as the proposed rate, timing, and frequency of application. If this information is not known at this time, please provide an update on how this information will be obtained and when it will be shared with the resource agencies.

   WPSC Response: The plan has been amended to provide for an update.

3. MDNR Comment: As WPSC stated in the plan, the proposal to treat exposed EWM after a drawdown is an experimental control method. If this method fails to show a reduction in EWM, WPSC should consult with the resource agencies to determine an agreed upon future method of control. It is our understanding that we will utilize adaptive management throughout the proposed 3 year control effort and into the future.

   WPSC Response: WPSC concurs, and addresses these concerns under the implementation section of the Proposed EWM Control Plan for the Grand Rapids Hydroelectric Projects

4. MDNR Comment: A comprehensive survey is essential for identifying and effectively treating EWM. The proposed survey method may need to be modified to accurately characterize the extent of EWM at the Grand Rapids project.

   WPSC Response: The proposed survey method has been proven effective in accurately characterizing the extent of EWM, as it was approved by the Federal Energy Regulatory Commission (FERC) for all WPSC's hydroelectric projects were EWM surveying is required.

   If after the 2008 surveying season, the proposed survey method is determined to be inadequate, WPSC will consult with the resource agencies on any adaptations that may be necessary to improve the surveying method.

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U.S. FWS CORRESPONDCE TO WPSC

SEE ATTACHED

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Nuthals, James D

From: Christie_Deloria@fws.gov
Sent: Tuesday, February 26, 2008 3:04 PM
To: Nuthals, James D
Cc: Simon, Byron D - DNR; Nuthals, James D; louise_clemency@FWS.gov; michael.donofrio@dnr.state.wi.us; mistakjl@michigan.gov
Subject: Re: Review of Proposed EWM Control Plan for the Grand Rapids Hydroelectric Project

Jamie - The Service concurs with the comments of MDNR below. Please continue to keep myself and Louise informed as this project moves forward.

Thanks.

Christie

Christie Deloria-Sheffield
Fish & Wildlife Biologist

U.S. Fish & Wildlife Service
Upper Peninsula Sub-Office
Ecological Services
3090 Wright Street
Marquette, MI 49855
(906) 226-1240 Telephone
(906) 226-3632 FAX
(906) 360-1811 Mobile

"Jessica Mistak" <mistakjl@michigan.gov>

02/26/2008 02:52 PM

To: Christie_Deloria@FWS.gov, louise_clemency@FWS.gov, michael.donofrio@dnr.state.wi.us, "Nuthals, James D" <JDNuthals@integrysgroup.com>, "Simon, Byron D - DNR" <Byron.Simon@Wisconsin.gov>

cc:

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Jessica

Jessica Mistak, Senior Fisheries Biologist DNR Marquette Fisheries Station
484 Cherry Creek Rd
Marquette, MI 49855
906-249-1611 ext. 308
FAX 906-249-3190

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>>> >>>
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Thanks again,

Jamie Nuthals
Environmental Consultant
WPSC
(920) 433-1460

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WDNR CORRESPONDCE TO WPSC

SEE COMMENTS ATTACHED

20080227-5009 FERC PDF (Unofficial) 02/27/2008 12:04:36 PM

Nuthals, James D

From: Sevener, Gregory A - DNR [Gregory.Sevener@wisconsin.gov]
Sent: Friday, February 22, 2008 2:45 PM
To: Nuthals, James D
Subject: FW: Observations on choosing appropriate herbicides from John Skogerboe
Attachments: 2,4-D CET.pdf; endothall CET.pdf; Fluridone CET.pdf; Triclopyr CET.pdf

Jamie,
I am trying this again spelling your name properly in the email address. Scroll down because John Skogerboe has some interesting discussion on chemicals to use and required contact times. The attachments are informative too. I don't think Sonar would be the one to use because of long contact time required and the use on drawn down lake bed. I think it would be good to talk with John Skogerboe if you can about this situation treatment his number is on the bottom.

Gregory A. Sevener
Wisconsin Department of Natural Resources
P.O. Box 208
101 N.Ogden Road
Peshtigo, WI. 54157
Phone: 715-582-5013
Fax: 715-582-5005
gregory.sevener@wisconsin.gov

From: Sevener, Gregory A - DNR
Sent: Friday, February 22, 2008 2:02 PM
To: 'JDNutals@integrysgroup.com'
Subject: FW: Observations on choosing appropriate herbicides from John Skogerboe

Hello Jamie,

I am forwarding to you some information just sent to us on these chemicals efficacy on EWM for your information. 2,4D, Fluridone and Triclopyr are systemic herbicides and endothall is a contact herbicide. I mispoke myself when I spoke to you about triclopyr being a contact. Look at the contact time with residual needed for the chemicals. These are all designed pretty much to treat submergents in some water.

How much water will there be in the areas you treat? Do you know what the EPA Reg. Nos. are of the chemicals you are possibly using?

We touched on this aspect in the conversation but am not sure of the depth being anticipated when treating. I just want to be sure you are not treating outside the label allowances to need an experimental permit from DATCP. Like I said I had not heard of treating vegetation on dewatered lake bottom. One person one can speak with on labels is Matt Sunseri at DATCP whose number is 608-224-4547. It sounded like you may be trying to treat when completely dewatered. That's why I wondered that is in compliance with the label of specific chemical being used.

Also must make sure formulations have current registration in Wisconsin and Michigan.

I am not trying to be a roadblock but want to avoid issues surfacing at last minute.

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Gregory A. Sevener
Wisconsin Department of Natural Resources
P.O. Box 208
101 N.Ogden Road
Peshtigo, WI. 54157
Phone: 715-582-5013
Fax: 715-582-5005
gregory.sevener@wisconsin.gov

From: Asplund, Tim - DNR
Sent: Wednesday, February 20, 2008 11:19 AM
To: Koshere, Frank J - DNR; Toshner, Pamela J - DNR; Blumer, David L - DNR; Kreitlow, James D - DNR; Gauthier Sr, Kevin J - DNR; Provost, Scott M - DNR; Sorge, Patrick W - DNR; Johnson, Ted M - DNR; Sesing, Mark F - DNR; Gansberg, Mary K - DNR; Reyburn, James R - DNR; Sevener, Gregory A - DNR; Dax, Kathy D - DNR; Fitzgibbon, Charles R - DNR; Bunk, Heidi J - DNR; Masterson, John P - DNR; Helker, Craig D - DNR; Graham, Susan - DNR; Schaal, Carroll - DNR; Hauxwell, Jennifer A - DNR; Vennie III, James G - DNR; Mikulyuk, Alison F - DNR; Nault, Michelle E - DNR
Cc: 'Susan Knight'; Korth, Robert; John Skogerboe
Subject: FW: Observations on choosing appropriate herbicides from John Skogerboe

Hi Folks -

I asked John if I could pass this along to all of you. He does a better job than I did at the quarterly of explaining why its important to evaluate all of the options for conducting large scale to whole lake scale herbicide treatments. I will be adding this information to the "Guidelines" document so you don't have to keep this email forever, but I thought it would be good for you to see John's original response. I'll put the PDF documents on the internal Lakes Technical Team folder for now, but also hope to develop an intranet page to capture this material along with other guidance and protocols we are developing.

Tim

From: John Skogerboe [mailto:skoger@gte.net]
Sent: Thursday, February 14, 2008 1:08 PM
To: 'Ted Ritter'; Gauthier Sr, Kevin J - DNR
Cc: 'WATKINS RADLEY'; 'CLIFF SCHMIDT'; tom.cota@yahoo.com; ralphjean@nnex.net; Asplund, Tim - DNR
Subject: RE: Big Sand Lake, Vilas County

I have struggled over how to reply to this, which is why it has taken me so long.

I recommend that all of the herbicide options should be evaluated based on potential efficacy, selectivity, cost, and federal and state use restrictions especially in large projects.

There are 5 herbicides that can be used to manage Eurasian watermilfoil (2,4-D, triclopyr, fluridone, endothall, and diquat) and 3 herbicides that can be used to manage curly-leaf pondweed (fluridone, endothall, and diquat). We are also using combinations of endothall + 2,4-D or triclopyr on an experimental basis. Used properly and under the right conditions all of them can produce good, selective results. All of these herbicides have pluses and minuses. All of these herbicides except for diquat have granular and liquid formulations. I am working on projects with all of them.

[Text ommitted]

Granular herbicide formulations are more expensive than liquid formulations (per active ingredient), however, granular formulations release active ingredient over a longer period of time. Granular formulations therefore may be more suited to situations were herbicide exposure time is a concern. Factors that affect exposure time are

size of treatment area, configuration of treatment area, water flow, and wind. Attached are concentration exposure time journal articles for all herbicides except for diquat. Notice 2,4-D, triclopyr and endothall have similar contact time requirements 18 to 72 hours, while fluridone requires 45 to 60 days. Diquat requires only 2 to 3 hrs. Some areas on Big Sand Lake may be suitable for liquid formulations while others might be better treated with granular formulations.

I base my application rates on the CET data presented in the journal articles above. Application rates for liquid and granular formulations are not interchangeable. Water residues resulting from granular treatments may never come near to the application rate, but the exposure time should be increased. In the case of the 2,4-D journal article for example, 2,4-D was effective at a 0.5 mg/L ai application rate and a 72 hr exposure time. That equates to about 25 lbs/acre for a granular formulation in terms of active ingredient. That doesn't mean that you would see 0.5 mg/L in the water column with the granular formulation or that you should use that rate. In fact, some preliminary 2,4-D residue data has shown that 150 lbs/acre (~3 mg/L ai) of granular 2,4-D applied at an average depth greater than 5 ft produced water concentrations around 0.4 mg/L for several weeks. These treatments appeared to effective. The CET data present above for 2,4-D range from 0.5 mg/L ai to 2 mg/L ai which is the actual concentration in the water. A rate of 1 to 1.5 mg/L applied as a liquid is a middle rate that will require a contact time of 36 to 48 hrs. Bill Ratajczyk of Applied Biochemist recommends application rates for Navigate (granular) of 100 lbs/acre for depths of 0 to 5 ft, 150 lbs/acre for 5 to 10 ft, and 200 lbs/acre for > 10 ft. Higher concentrations may be necessary where exposure times may be seriously reduced. Based on the data I have seen to date, I agree with this. When new 2,4-D labels are issued, you will have to base your application rates for granular herbicide on mg/L not lbs/acre.

Traditionally milfoil control projects have emphasized nuisance control in small bands and blocks where exposure times are short. Here granular (slower release herbicide) may be more cost effective than liquids. In large, shallow lakes with wide spread milfoil, a whole lake treatment with a low rate of liquid herbicide may be more cost effect and in some cases and it could actually use less total active ingredient than targeting specific infested areas with granular herbicide. I cannot give you specific guidelines of when and where one should use a granular or liquid herbicide. I have used liquid herbicides in block treatments of 5 to 10 acres, but you have to be very patient on the weather. Similar sized treatments have not been as successful when applied to long narrow bands. If you have to spend 4 or 5 days watching the wind blow, liquids might not be as cost effective. Large blocks tend to provide longer contact times and might be worth wait on the weather. This paragraph does not pertain to fluridone which requires whole lake or very protected areas for treatment. Again careful consideration of all the herbicide options can save a lot of money, improve results, and/or prevent ineffective herbicide treatments (wasted money). For a given lake, liquid herbicides may be appropriate in some areas while granular herbicides may be more appropriate in other areas. In some cases a liquid herbicide formulation might be appropriate for an initial treatment, and granular formulations might be appropriate in following years depending on the milfoil infestation

Selectivity is another important consideration. Native plants have a wide range of sensitivity o different herbicides so the composition of the native plant community is an important consideration. I believe Jennifer Hauxwell is compiling a data base on which native species are sensitive/tolerant to the various herbicides. 2,4-D and triclopyr are selective for dicots not just Eurasian watermilfoil, so if large numbers of native dicots are present they may not be completely selective. Endothall and fluridone are broad spectrum herbicides that can potentially kill or injure many different native species, but used correctly they can be as selective as the dicot specific herbicides. In some cases they may be more selective. Early spring (April to mid May) has the potential to significantly improve the selectivity of 2,4-D, triclopyr, endothall, and diquat, but you can't treat everything before the opening of fishing season. Combinations of herbicides at lower application rates appear to also have potential for improving selectivity.

Use of liquid 2,4-D on a large scale in WI is somewhat experimental as are all the herbicides used on a large scale for managing aquatic plant communities. Traditionally Navigate (2,4-D ester, granular) has been used in the Midwest while Weedar 64 (2,4-D amine, liquid) has been used by TVA. Growth chamber studies have shown that 2,4-D ester and 2,4-D amine have similar efficacies on Eurasian watermilfoil. Again the key is concentration and exposure time. I think there is a reluctance to use liquid herbicides because of the concerns over exposure times and lack of experience with them, but they are being used successfully.

John
(651) 325-8181

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WPSC RESPONCE TO WDNR

SEE ATTACHED

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WPSC RESPONSE TO WDNR COMMETNS

WPSC Response: Comments noted. WPSC will address these comments in the determination of an appropriate herbicide to use at the Grand Rapids Hydroelectric Project. WPSC will continue to work with the WDNR and the other resource agencies in this process.

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Submission Contents