

December 1, 2009

Wisconsin Public Service Corporation

700 North Adams Street P.O. Box 19001 Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

Ms. Kimberly D. Bose, Secretary The Federal Energy Regulatory Commission 888 First Street NE Washington, DC 20426

Dear Secretary Bose:

Alexander Hydroelectric Project (FERC Project No. 1979) Annual Invasive Species Survey Results

As per the order approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project (Project No. 1979) issued on March 4, 2005, Wisconsin Public Service Corporation (WPS) is submitting the purple loosestrife, Eurasian water milfoil (EWM) and zebra mussel survey results.

Additionally, as per the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued on July 9, 2009, WPS revised the survey methods to include general plant vigor information in its purple loosestrife survey results.

Purple Loosestrife

A survey for purple loosestrife was completed for the Alexander Project on August 1, 2009. The survey results indicated that there were a total of 20 purple loosestrife colonies on the project. No colonies were cut or sprayed with herbicide in order to avoid adverse impacts to existing or potential new populations of *Galerucella sp.* beetles (beetles). Each colony located during the survey was issued an individual number and mapped on the WPS GIS system. Plant vigor information was recorded for each colony. Of the 20 colonies, nine had a plant vigor of less than good. This is due to existing beetle populations at the project. The 2009 survey will serve as a good baseline for the five-year biological control project.

On July 10, 2009, WPS released beetles at the Alexander Project that were reared in potted purple loosestrife plants. The beetles were released near existing colonies. It is estimated that approximately 10,000 beetles were released.

A data sheet and figure providing the 2009 purple loosestrife figure including colony locations, identification numbers and beetle release location can be found in Appendix A. The purple loosestrife general plant vigor survey forms are also found in Appendix A.

Eurasian Water Milfoil

A survey for EWM was conducted on August 1, 2009. Samples were collected at three sampling locations within the Alexander Hydroelectric Project. The Sample locations were specifically chosen near boat landings. No EWM was identified during the survey. A summary of 2009 EWM survey results has been included in Appendix B.

Ms. Kimberly D. Bose December 1, 2009 Page 2 of 2

Zebra Mussels

Monthly inspections of substrate samplers for the presence of zebra mussels were conducted during the months of May through September. Zebra mussels were not found during any of the monthly 2009 inspections. A summary of the results has been included in Appendix C.

Documentation of submittal of these reports to the resource agencies has been included in Appendix D.

If you have any questions, please do not hesitate to contact Darrin Johnson at (715) 345-7509.

Sincerely,

Terry P. Jensky

Vice President - Energy Supply Operations

Telephone: (920) 433-2900

Enc.

cc: Ms. Carlisa Linton, FERC-DC

Mr. Gil Snyder, WPSC - D2

Mr. Bill Bloczynski, WPSC - MERH

Mr. Howard Giesler, WPSC - PUL

Mr. Bruce Crocker, WPSC - D2

Ms. Joan Johanek, WPSC - D2

APPENDIX A 2009 PURPLE LOOSESTRIFE SURVEY RESULTS

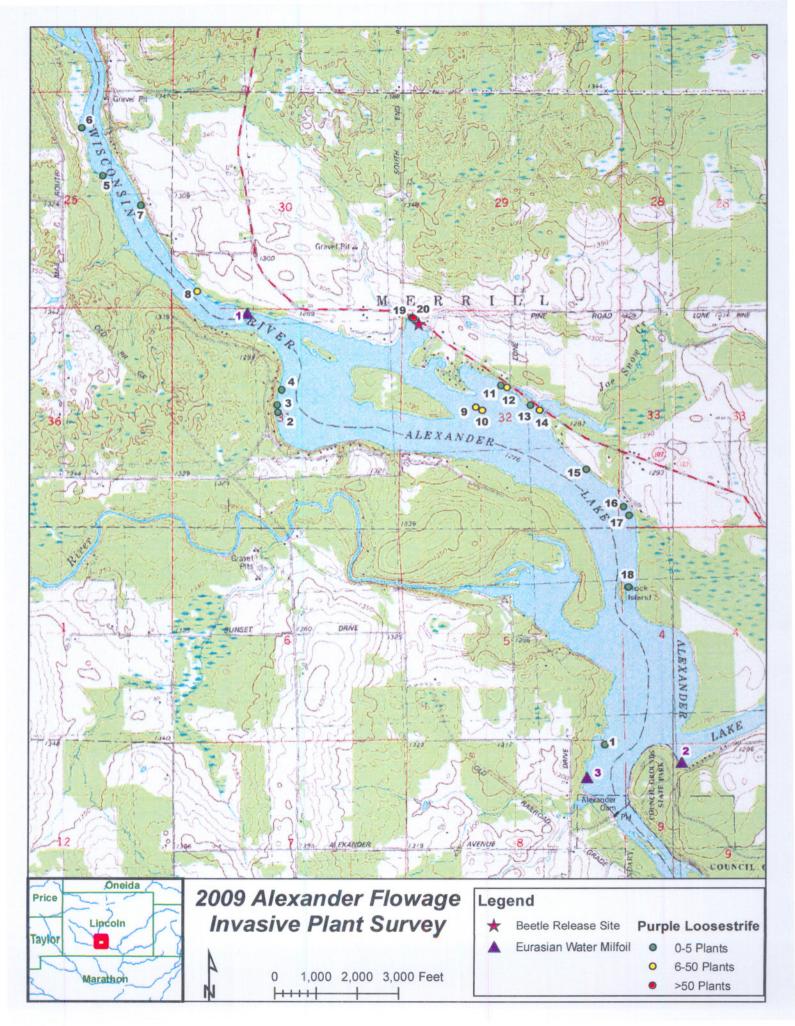
APPENDIX B 2009 EURASIAN WATERMILFOIL SURVEY RESULTS

APPENDIX C 2009 ZEBRA MUSSEL SURVEY RESULTS

APPENDIX D

DOCUMENTATION OF RESOURCE AGENCY CONSULTATION

APPENDIX A 2009 PURPLE LOOSESTRIFE SURVEY RESULTS



Purple Loosestrife Survey Form

Hydroelectric Project ALEXANDER
Inspection Date 1-Aug-09

ALEXANDER 1-Aug-09

			General Plant Vigo				трилинический
Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS Point
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2	S	4	4	4 No feeeding	12		791
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5	S	4	4	4	12		794
6	S	4	4	4 No feeeding	12		795
7	S	4	4	4 No feeeding	12		796
8	М	3	4	3	10		797
9	M	3	2	3	8		798
10	M	3	2	1	6		799
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Purple Loosestrife Survey Form

Hydroelectric Project Inspection Date

ALEXANDER
1-Aug-09

		PRODUCTION CONTROL CURVINO	General Plant V	igor			
Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS Point
12	M	2	3	2	7		801
13	S	2	3	2	7		802
14	M	3	4	2	9		803
15	S	4	4	4 No feeding	12		804
16	S	4	4	4 No feeding	12		805
17	S	4	4	4 No feeding	12		806
18	S	4	4	4 No feeding	12		807
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20	L	3	3	1	7		809
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APPENDIX B

2009 EURASIAN WATERMILFOIL SURVEY RESULTS

Eurasian Water Milfoil Surveys - 2009

Alexander

Transect#	0-0.5M	0.5-1.5 M	1.5-3M	>3M
1A	0	NA	NA	NA
1B	0	0	NA	NA
1C	0	0	NA	NA
2A	0	NA	NA	NA
2B	0	0	NA	NA
2C	. 0	0	NA	NA
3A	0	NA	NA	NA
3B	0	0	NA	NA
3C	0	0	0	NA

NA- Not applicable

Abandance Scale: 0-absent, 1-present, 2 presence less than half, 3 equal presence to other species

Note: all transects are 40 feet in length and proceed away from shore in a direction perpendicular to the shoreline

⁴⁻ Dominant species present, 5-Total infestation

APPENDIX C 2009 ZEBRA MUSSEL SURVEY RESULTS

ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME					•
☐ Grandfather Falls		Merrill		Tomahawk	□ Otter Rapids □ Hat Rapids
□ Wausau		Alexander	니	Jersey	El Hat Kahitis
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DATE: 2-12-09					
COMMENTS/RESU					

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ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME		
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DATE: 4-19-09		
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DATE: _ 5-11-09		
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DATE: 6-28-09		
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DATE: 7-2-69 COMMENTS/RESULTS:		
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INSPECTION TYPE:

MONTHLY INSPECTION

DATE:

COMMENTS/RESULTS:

ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME ☐ Otter Rapids Tomahawk ☐ Grandfather Falls Merrill ☐ Hat Rapids Jersey □ Wausau Alexander ☐ INSPECTION DURING DRAWDOWN INSPECTION TYPE: D'MONTHLY INSPECTION DATE: 8-6-09 COMMENTS/RESULTS: ☐ INSPECTION DURING DRAWDOWN INSPECTION TYPE: X MONTHLY INSPECTION DATE: 9-8-09 COMMENTS/RESULTS: ☐ INSPECTION DURING DRAWDOWN INSPECTION TYPE: MONTHLY INSPECTION DATE: COMMENTS/RESULTS: I INSPECTION DURING DRAWDOWN INSPECTION TYPE: MONTHLY INSPECTION DATE: COMMENTS/RESULTS: ☐ INSPECTION DURING DRAWDOWN INSPECTION TYPE: MONTHLY INSPECTION DATE: COMMENTS/RESULTS:

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APPENDIX D DOCUMENTATION OF RESOURCE AGENCY CONSULTATION



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

September 25, 2009

Mr. Phil Moy UW Manitowoc 705 Viebann Street Manitowoc, WI 54220

Dear Mr. Moy:

FERC Project No. 1979

As per the order approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project (Project No. 1979) issued on March 4, 2005, Wisconsin Public Service Corporation (WPS) is submitting the survey results for zebra mussels.

Monthly inspections of substrate samplers for the presence of zebra mussels were conducted during the months of May through September. Zebra mussels were not found during any of the monthly 2009 inspections. A summary of the results has been included in Appendix A.

If you have any questions, please do not hesitate to call me at 715-305-1466.

Sincerely,

Darrin Johnson

Environmental Consultant

Enc.

cc: Ms. Joan Johanek, WPSC

Mr. Bill Bloczynski, WPSC - MERH

Mr. Bruce Crocker, WPSC

APPENDIX A ZEBRA MUSSEL SURVEYS – 2008

COMMENTS/RESULTS:

ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

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☐ Wausau 📜 Alexander 🗆	l Jersey □ Hat Rapids
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DATE: 10-31-08	
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DATE: 11-11-08	
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DATE: 1-25-09	
COMMENTS/RESULTS: I ced over	
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INSPECTION TYPE: ☑ MONTHLY INSPECTION DATE: 2-7-09	D Marechon Doring Drawdown
COMMENTS/RESULTS: TEER OVER	
INSPECTION TYPE: KI MONTHLY INSPECTION	☐ INSPECTION DURING DRAWDOWN
DATE: 2-12-09	

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ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

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ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME

TENTO LAME						
☐ Grandfather Falls ☐ Wausau	口 复	Merrill Alexander		Tomahawk Jersey		☐ Otter Rapids ☐ Hat Rapids
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DATE: 9-8-09						
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Wisconsin Public Service Corporation

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

September 25, 2009

Mr. Nicholaus Utrup U. S. Fish and Wildlife Service Department of the Interior 2661 Tower Drive New Franken, WI 54229-9565

Dear Mr. Utrup:

FERC Project No. 1979

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Additionally, as per the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued on July 9, 2009, WPS revised the survey methods to include general plant vigor information in its purple loosestrife survey results.

Purple Loosestrife

A survey for purple loosestrife was completed for the Alexander Project on August 1, 2009. The survey results indicated that there were a total of 20 purple loosestrife colonies on the project. No colonies were cut or sprayed with herbicide in order to avoid adverse impacts to existing or potential new populations of *Galerucella sp.* beetles (beetles). Each colony located during the survey was issued an individual number and mapped on the WPS GIS system. Plant vigor information was recorded for each colony. Of the 20 colonies, nine had plant vigor of less than good. This is due to existing beetle populations at the project. The 2009 survey will serve as a good baseline for the five year biological control project.

In 2009, WPS released beetles at the Alexander Project that were reared in potted purple loosestrife plants. The beetles were released near existing colonies. It is estimated that approximately 10,000 beetles were released on July 10, 2009.

A data sheet and figure providing the 2009 purple loosestrife figure including colony locations, identification numbers and beetle release locations can be found in

Appendix A. The purple loosestrife general plant vigor survey forms are also found in Appendix A.

Eurasian Water Milfoil

A survey for EWM was conducted on August 1, 2009. Samples were collected at three sampling locations within the Alexander Hydroelectric Project. The sample locations were specifically chosen near boat landings. No EWM was identified during the survey. A summary of 2009 EWM survey results has been included in Appendix B.

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Monthly inspections of substrate samplers for the presence of zebra mussels were conducted during the months of May through September. Zebra mussels were not found during any of the monthly 2009 inspections. A summary of the results has been included in Appendix C.

If you have any questions, please do not hesitate to call me at 715-305-1466.

Sincerely,

Darrin Johnson Environmental Consultant

Enc.

cc: Ms. Joan Johanek, WPSC

Mr. Bill Bloczynski, WPSC – MERH

Mr. Bruce Crocker, WPSC



Wisconsin Public Service Corporation

700 North Adams Street P.O. Box 19001 Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

September 25, 2009

Mr. Dale Simon – Chief Biologist Wisconsin Department of Natural Resources 101 S. Webster Street WT/4 PO Box 7921 Madison, WI 53703

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Darrin Johnson

Environmental Consultant

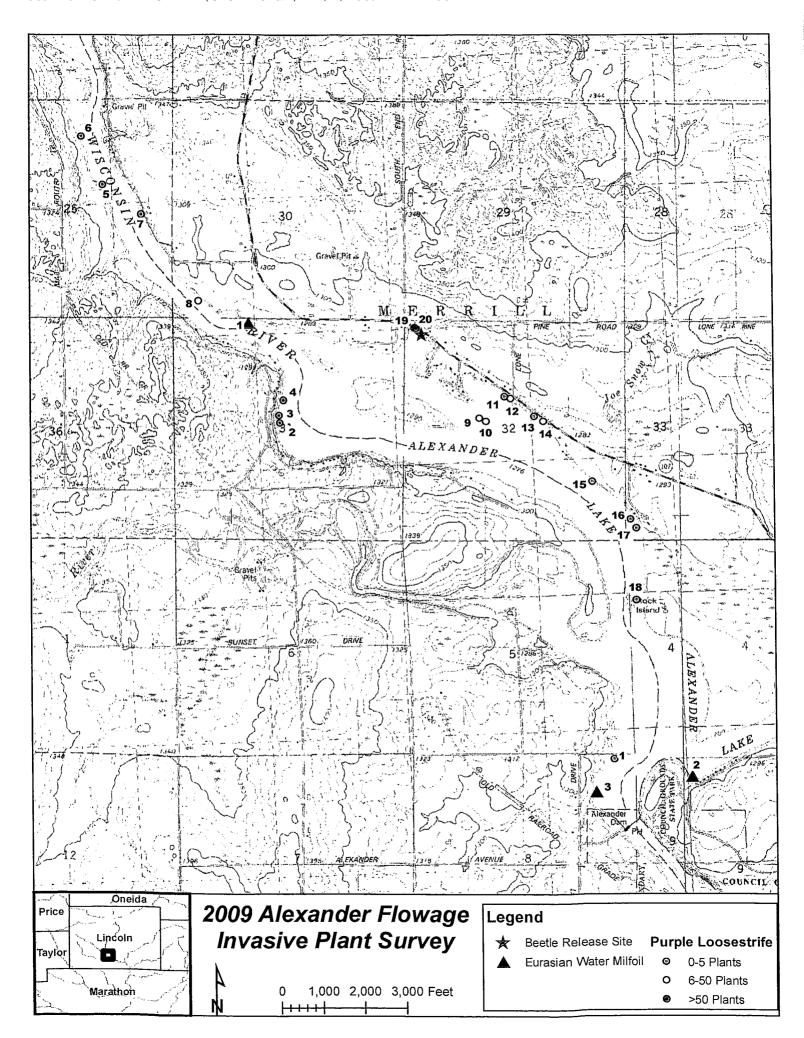
Enc.

cc: Ms. Joan Johanek, WPSC

Mr. Bill Bloczynski, WPSC - MERH

Mr. Bruce Crocker, WPSC

APPENDIX A 2009 PURPLE LOOSESTRIFE SURVEY RESULTS



Hydroelectric Project Inspection Date

Purple Loosestrife Survey Form
Project ALEXANDER
Date 1-Aug-09

			General Plant Vigor				
Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS Point
1	S	3	4	2	9		787
2	S	4	4	4 No feeeding	12		791
3	S	4	4	4 No feeeding	12		792
4	S	4	4	4 No feeeding	12		793
5	S	4	4	4	12		794
6	S	4	4	4 No feeeding	12		795
7	S	4	4	4 No feeeding	12		796
8	M	3	4	3	10		797
9	M	3	. 2	3	8		798
10	M	3	2	1	6		799
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Purple Loosestrife Survey Form
Hydroelectric Project ALEXANDER
Inspection Date 1-Aug-09

	General Plant Vigor						
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12	M	2	3	2	7		801
13	S	2	3	2	7		802
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16	S	4	4	4 No feeding	12		805
17	S	4	4	4 No feeding	12		806
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APPENDIX B

2009 EURASIAN WATERMILFOIL SURVEY RESULTS

Eurasian Water Milfoil Surveys - 2009

Alexander

Transect #	0-0.5M	0.5-1.5 M	1.5-3M	>3M
1A	0	NA	NA	NA
1B	0	0	NA	NA
1C	0	0	NA	NA
2A	0	NA	NA	NA
2B	0	0	NA	NA
2C	0	0	NA	NA
3A	0	NA	NA	NA
3B	0	0	NA	NA
3C	0	0	0	NA

NA- Not applicable

Abandance Scale: 0-absent, 1-present, 2 presence less than half, 3 equal presence to other species

Note: all transects are 40 feet in length and proceed away from shore in a direction perpendicular to the shoreline

⁴⁻ Dominant species present, 5-Total infestation

APPENDIX C 2009 ZEBRA MUSSEL SURVEY RESULTS

ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HY	DRO NAME					
	Grandfather Falls		Merrill		Tomahawk	□ Otter Rapids □ Hat Rapids
	Wausau	X	Alexander		Jersey	☐ Hat Rapids
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ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME	•	
7 Clandrather rang — Highing] Tomahawk	☐ Otter Rapids
□ Wausau] Jersey	☐ Hat Rapids
INSPECTION TYPE: (MONTHLY INSPECTION	☐ INSPECTION D	URING DRAWDOWN
DATE: 3-7-09		
COMMENTS/RESULTS: O 57°		
		TERROR AND OTTAL
INSPECTION TYPE: 🔯 MONTHLY INSPECTION	☐ INSPECTION D	URING DRAWDOWN
DATE: 4-4-09		
COMMENTS/RESULTS: 40°		
	LI MIGDECTION L	OURING DRAWDOWN
INSPECTION TYPE: MONTHLY INSPECTION	E HARLECTION E	Olding Digitibe 112.
DATE: 4-19-09		
COMMENTS/RESULTS:		
INSPECTION TYPE: Ø MONTHLY INSPECTION	☐ INSPECTION I	DURING DRAWDOWN
DATE: 5-11-09		
COMMENTS/RESULTS: 58° FOOMS FOR FORM	L	
CONTINUE TO SELECTION OF FEW	1	
INSPECTION TYPE: MONTHLY INSPECTION	☐ INSPECTION I	DURING DRAWDOWN
DATE: 6-28-09		
COMMENTS/RESULTS: 75°		
hid		
INSPECTION TYPE: X MONTHLY INSPECTION	☐ INSPECTION	DURING DRAWDOWN
DATE: 7-2-69		
COMMENTS/RESULTS:		
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ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

	Grandfather Falls Wausau	宣	Merrill Alexander		Tomahawk Jersey	☐ Otter Rapids ☐ Hat Rapids
	SPECTION TYPE: TE: <u>8-6-09</u>	MO.	NTHLY INSPECTIO	M	☐ INSPECTION DU	JRING DRAWDOWN
CO	MMENTS/RESULT	S:	0			
DA	SPECTION TYPE: TE: <u>9-8-09</u> MMENTS/RESULT		NTHLY INSPECTIO	Ν	☐ INSPECTION DI	URING DRAWDOWN
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