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January 9, 2015

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

Subject: New License Article 401 (Condition 8 of the 401 Water Quality Certification)
Invasive Species Monitoring and Control Report
June 6, 2012, Order Modifying and Approving Invasive Species Monitoring and Control Plan
Badger-Rapide Croche Hydroelectric Project; FERC Project No. 2677-026
Lower Fox River; Outagamie County, Wisconsin

Dear Secretary Bose:

On June 6, 2012, the Federal Energy Regulatory Commission (FERC) issued an "Order Modifying and Approving Invasive Species Monitoring and Control Plan." Paragraph (B) of the Director's orders outlines the monitoring and reporting requirements related to invasive species.

Mead & Hunt, Inc. (Mead & Hunt), on behalf of Kaukauna Utilities (KU), is hereby submitting (via electronic copy) a copy of the *Invasive Species Monitoring and Control Report* for 2014. Copies have also been provided to the U.S. Fish & Wildlife Service and the Wisconsin Department of Natural Resources.

Attachment A presents a copy of the FERC's June 6, 2012, Order. Attachment B contains the report outlining the results of the 2014 invasive species monitoring efforts, while Attachment C presents the results of the consultation efforts related to the monitoring efforts and subsequent report.

Thank you for your time and consideration in this matter. If you have any questions, please contact me at (608) 273-6380 or arie.dewaal@meadhunt.com.

Respectfully submitted,

MEAD & HUNT, Inc.

Arie DeWaal

Arie DeWaal
Senior Project Manager

Attachments

cc: Mr. Nick Utrup, U.S. Fish & Wildlife Service
Ms. Cheryl Laatsch, Wisconsin Department of Natural Resources
Mr. Mike Pedersen, Kaukauna Utilities
Mr. Perry Rossa, Mead & Hunt, Inc.

Attachment A

139 FERC ¶ 62,184
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Kaukauna, Wisconsin Project No. 2677-026

ORDER MODIFYING AND APPROVING INVASIVE SPECIES MONITORING AND CONTROL PLAN

(Issued June 6, 2012)

1. On March 30 2012, the City of Kaukauna, Wisconsin (licensee) filed its invasive species monitoring and control plan for the Badger-Rapide Croche Hydroelectric Project No. 2677, pursuant to license article 401 and the Wisconsin Department of Natural Resources section 401 Water Quality Certification Condition (WQC) No. 8.[1] The project is located on the Fox River in Outagamie County, Wisconsin, and includes two developments - the Badger and Rapide Croche developments. The Badger Development is located in the City of Kaukauna at the U.S. Army Corps of Engineers' (Corps) Kaukauna dam. The Rapide Croche Development is located in the Town of Buchanan at the Corps' Rapide Croche dam.

LICENSE REQUIREMENTS

2. Article 401 requires the licensee to file plans, for Federal Energy Regulatory Commission (Commission) approval, pursuant to various conditions in the Wisconsin WQC. WQC Condition No. 8 requires the licensee to develop an invasive species monitoring and control plan (Plan) subject to the approval of the Commission and the Wisconsin Department of Natural Resources (WDNR) within one year of license issuance. The Plan should include measures to monitor and control Japanese knotweed, garlic mustard, buckthorn, Eurasian water milfoil, purple loosestrife, phalaris, phragmites, and dreissenid mussels.

3. In addition, the licensee must monitor for any "prohibited" species as required by NR 40, Wisconsin Administrative Code. "Prohibited invasive species" or "prohibited species" means an invasive species that the department at the time of listing under s. NR 40.04 (2), has determined is likely to survive and spread if introduced into the state, potentially causing economic or environmental harm or harm to human health, but which is not found in the state or in that region of the state where the species is listed as

[1] Order Issuing New License issued May 18, 2011 (135 FERC ¶ 62,149).

prohibited in s. NR 40.04 (2), with the exception of isolated individuals, small populations, or small pioneer stands of terrestrial species, or in the case of aquatic species, that are isolated to a specific watershed in the state or the Great Lakes, and for which statewide or regional eradication or containment may be feasible.

LICENSEE'S PLAN

4. The licensee's Plan provides a detailed description and life-history, with colored photographs, of the listed WQC Condition No. 8 invasive species for monitoring: Japanese knotweed (*Fallopia japonica*); garlic mustard (*Alliaria petiolata*); buckthorn (*Rhamnus cathartica*); Eurasian water milfoil (*Myriophyllum spicatum*); purple loosestrife (*Lythrum salicaria*); phalaris (*Phalaris arundinacea* or reed canary grass); phragmites (*Phragmites australis* or common reed); and dreissenid mussels (*Dreissenidae*); a family of bi-valve mollusks that includes the visually-similar quagga mussel (*Dreissena bugensis*), zebra mussel (*Dreissena polymorpha*), and false darkmussel (*Mytilopsis leucophaeata*). In addition, the licensee's Plan provides for the monitoring for any "prohibited" species as required under NR 40, Wisconsin Administrative Code.

5. The licensee's Plan provides maps of the project areas to be monitored for invasive species. The seasonal monitoring timeframe for each identified invasive species is presented in the Plan. All monitoring is to be conducted by qualified ecologists familiar with the life history and visual characteristics of the invasive species. Monitoring will be conducted every year from 2013 through 2015, and every other following year, in accordance with the seasonal timeframe presented. All monitoring will use aerial orthophotographs to support the mapping of invasive plant populations in the field. Data concerning the locations of all identified invasive species will be collected using a Global Positioning System (GPS) unit.

6. Mussels will also be monitored for during April - September monthly rakings of the Badger and Rapide Croche development trashracks. The trashracks at both developments are cleaned using a long special-purpose rake, offering an opportunity to monitor for the invasive mussels. Eurasian water milfoil will be monitored every fourth year in accordance with field procedures, sampling tools, and data analysis, and reporting protocols of the WDNR. A cumulative occurrence map will be produced each year of monitoring that includes the locations of all detected invasive species that year.

7. The licensee's Plan provides for measures to increase public awareness and education of invasive species in the project area. The licensee will post a WDNR invasive species sign at the new Rapide Croche impoundment boat landing, in addition to the existing WDNR invasive species sign at the City boat landing (Riverside Marina) upstream of Badger Dam. The licensee will also post signs for Viral Hemorrhagic Septicemia (VHS) at the two boat landings, using current WDNR signage graphics to alert anglers and boaters of this deadly infectious fish disease. The licensee will provide

invasive species brochures and publications at its customer service office. The licensee's Plan outlines coordination with the Outagamie County Highway Department and its highway maintenance staff concerning the presence of any of the listed invasive species on highway lands.

8. The licensee's Plan provides for the control of the spread of invasive species through Adaptive Management practices in consultation with WDNR or the local invasive species coordinator of the University of Wisconsin - Extension or Outagamie County. The Plan outlines the procedures for the Adaptive Management strategy that will be followed during each monitoring year. The Plan provides an extensive summary of measures, compiled from the best management practices for the control of each invasive species.

9. The licensee's Plan provides for the submittal of a monitoring report to the WDNR Coordinator by December 20 of each monitoring year. The report is to include narrative accounts of any detected presence of the listed invasive species, supplemented by an orthophotograph-based map showing the relevant locations. The map will also show the locations of the aquatic Eurasian water milfoil monitoring, as well as labels for roads and other features to assist in orientation and use. Population limits or locations of invasive species are to be based on Geographic Information System (GIS) coordinates. The monitoring reports will also include counts of the number brochures and publications handed-out to the public.

AGENCY CONSULTATION

10. The licensee provided the draft invasive species monitoring and control plan to the WDNR and the U.S. Fish and Wildlife Service on January 12, 2012, for review and comment. All comments and recommendations were addressed in email correspondences and during a teleconference held on February 29, 2012.

DISCUSSION

11. The licensee's Plan proposes to submit a monitoring report to the WDNR Coordinator by December 20 of each monitoring year. A copy of the monitoring report should also be submitted to the U.S. Fish and Wildlife Service for their review and comment. In order to keep the Commission apprised of the progress of the licensee's invasive species monitoring and control plan program, the licensee shall file a report with the Commission, for each year in which monitoring occurs. The licensee should allow the resource agencies a minimum of 30 days to provide review and comment on the monitoring report before filing the report with the Commission. The monitoring report, along with any comments and recommendations by the resource agencies, shall be filed with the Commission by January 31, of the year following monitoring.

12. The licensee's invasive species monitoring and control plan, filed March 30, 2012, fulfills the requirements of license article 401 and WDNR WQC Condition No. 8, and, as modified, should be approved.

The Director orders:

(A) The City of Kaukauna, Wisconsin's (licensee) invasive species monitoring and control plan, filed March 30, 2012, pursuant to license article 401 and Wisconsin Department of Natural Resources' Water Quality Certification Condition No. 8, as modified by paragraph (B), is approved.

(B) The licensee shall conduct its initial monitoring survey for invasive species in 2013, with subsequent annual surveys to be conducted in 2014 and 2015, and every other following year. The licensee shall file the initial annual monitoring report with the Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service by December 20, 2013, with subsequent annual monitoring reports in 2014 and 2015. The licensee shall allow the resource agencies a minimum of 30 days to provide comments and/or recommendations on the reports. Each annual monitoring report should be filed with the Commission including any comments and/or recommendations from the resource agencies and the licensee's response to the agency comments by January 31, 2014, with subsequent annual monitoring reports in 2015 and 2016. If the licensee does not adopt a recommendation, the report shall include the licensee's reasons, based on project-specific information. The Commission reserves the right to require modifications to the monitoring and control plan based on the licensee's monitoring reports or new information, as it becomes available.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 8251 (2006), and by the Commission's regulations at 18 C.F.R. § 385.713 (2011). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Thomas J. LoVullo
Chief, Aquatic Resources Branch
Division of Hydropower
Administration and Compliance

Attachment B

Invasive Species Monitoring and Control Report

Badger-Rapide Croche Hydroelectric Project

FERC Project No. 2677

Lower Fox River
Outagamie County, Wisconsin

Prepared for

KAUKAUNA UTILITIES

Kaukauna, Wisconsin

Prepared by

Mead & Hunt

www.meadhunt.com

December 2014

Table of Contents

Appendices

Tables

1. Introduction

On May 18, 2011, the Federal Energy Regulatory Commission (FERC) issued a new license to Kaukauna Utilities (KU) for the Badger-Rapide Croche Hydroelectric Project (FERC Project No. 2677). This license required the filing of certain plans for FERC approval in consultation with the U.S. Fish and Wildlife Service (FWS) and the Wisconsin Department of Natural Resources (WDNR) under the FERC License Article 401. These plans covered a number of Section 401 Water Quality Certification conditions imposed by the WDNR, of which Condition 8 specified that KU develop an *Invasive Species Monitoring and Control Plan*.

This plan was prepared in March 2012 in consultation with the agencies and approved by the FERC on June 6, 2012. The plan included field monitoring formats for certain invasive species and this report is the second completed in compliance with License Article 401. It presents the results of 2014 fieldwork and other compliance measures taken by KU.

2. Monitoring Requirements

Invasive species monitoring requirements are summarized in Table 1.

Table 1. Badger-Rapide Croche Invasive Species Annual Monitoring Schedule

Species	Monitoring Timeframe	Method*
a. Japanese knotweed (*Fallopia japonica*)	July	P
b. Garlic mustard (*Alliaria petiolata*)	May	P
c. Buckthorn (*Rhamnus cathartica*)	May	P
d. Purple loosestrife (*Lythrum salicaria*)	July	B
e. Reed canary grass (*Phalaris arundinacea*)	May	B,P
f. Common reed (*Phragmites australis*)	May-June	B
g. Dreissenid mussels (3 spp.)	May-July	O

** B = boat; P = pedestrian; O = other*

The other method referred to in Table 1 (last row) is raking of the trashracks on hydroelectric plant intakes by KU personnel.

In accordance with the FERC order approving the *Invasive Species Monitoring and Control Plan*, Eurasian Water Milfoil will be monitored every fourth year, beginning in 2017, using field procedures, tools, data analysis, and protocols of the WDNR.

3. 2014 Field Monitoring

A. Monitoring Area

The monitoring area for invasive species includes river, shoreline, and lands within the project boundary of the Badger-Rapide Croche Project (see Appendix A). The total reach of river covered by this monitoring work is about 6 miles; an intervening reach of about 1.5 miles between the Badger plant discharge and the upstream limit of the Rapide Croche impoundment is within the project boundary of the KU City Hydroelectric Project, which is not subject to this monitoring effort.

Generally, areas monitored for invasive species include:

- The Kaukauna Dam impoundment (including power intake trash racks)
- The Fox River bypass reach and power canal for the Badger plant
- The discharge area downstream of Badger
- Power transmission line right-of-way from Badger to Rapide Croche plants
- The Rapide Croche impoundment (including power intake trash racks)
- Rapide Croche Park, covering about 5 acres on the south bank of the Fox River

Also included in this year's monitoring was a 2-acre parcel of land that is currently under an American Transmission Company (ATC) easement. This particular parcel was being considered as a potential site for a new Rapide Croche boat landing. Subsequently, the WDNR has informed KU that the site is no longer suitable for a new boat landing due to regional management concerns about the introduction of aquatic invasive species. As a result, future monitoring of the site will not be necessary.

At the Project, the Fox River lies within a moderately deep valley of limited floodplain area. Except within the urbanized and industrial area of central Kaukauna, forest covers the valley slopes, with grades of 15 to 30 percent or more. Dominant trees include northern red oak, white oak, red maple, hickory, basswood, and ironwood, with silver maple, cottonwood, ash, box elder, and black willow more common along the river's edge. This edge habitat is often crowded with dense brush that includes chokecherry, red osier dogwood, American black currant, Eurasian honeysuckle, and buckthorn.

In late 2013 construction of the new Badger plant was completed, during which activity also involved replacement of power canal masonry, as well as grading and other construction disturbance in adjacent project areas. These areas were therefore included in the 2014 monitoring effort. Construction of Hydro Park, adjacent to the new Badger plant, continued through the 2014 monitoring period; therefore, this area will be included in the 2015 invasive species monitoring scope.

B. Results

Invasive plant monitoring was performed on June 16 through 18 and August 10 through 12, 2014. Project areas accessible on foot around the Badger plant, the ATC easement parcel, and Rapide Croche Park were toured, while impoundment shorelines were accessed via canoe. The transmission line right-of-way was toured by vehicle.

Reference maps using 1"=300' (1:3600) scaled orthophotos were used for way-finding and notation, while invasive plant locations were surveyed using a Geo Trimble XH hand-held GPS unit. Satellite reception during fieldwork was generally good, and we were able to post-process the data files to an accuracy of within 25 feet.

Of the invasive plants in Table 1, garlic mustard, buckthorn, reed canary grass, and purple loosestrife were documented within the monitoring limits. As in 2013, no Japanese knotweed or common reed was found. The most prevalent species was buckthorn, which occurred along northern and southern river banks throughout the project. Spot occurrences of one to several mature shrubs remained common, interspersed with naturalized Eurasian honeysuckle (*Lonicera x bella*) and red osier dogwood. These two species of brush appeared to be competitively excluding buckthorn by overgrowing it in many locations. In other riverbank areas, however, continuous, narrow populations of mature buckthorn were noted along the shoreline and are mapped as lines in Appendix A.

In response to a WDNR request upon filing of the 2013 invasive species monitoring report, 2014 field monitoring results were entered into the Surface Water Integrated Monitoring System (SWIMS), a WDNR information system that compiles chemical, physical, and biological data concerning the state's waters. SWIMS is the state's repository for water and sediment monitoring data collected for Clean Water Act work and is the source of data sharing through the federal Water Quality Exchange Network. SWIMS is also the data system that citizen volunteers use to document water monitoring results for Wisconsin lakes, streams, and wetlands. The GIS digital data was also made available on SWIMS, referenced by the FERC project number.

Purple loosestrife remained uncommon in 2014, but approximately 20 new plants were located, mostly in level, open areas of herbaceous vegetation that included emergent wetlands, on water-logged dead wood, or in mown or rip-rapped areas adjacent to residences. Most plants found appeared to be mature specimens more than a year old. The mature woody vegetation that dominates most of the steep project shoreline continues to exert a controlling effect on loosestrife due to shading and habitat exclusion.

Reed canary grass occurrence and cover remained essentially unchanged from 2013, being found as either isolated tufts in rip-rap and canopy gaps beneath shoreline shrubbery, or as continuous populations occupying wet, exposed shorelines. The populations within the transmission line right-of-way continue to be subject to regular mowing. Overall, the occurrence of reed canary grass remains substantially lower than in many riparian areas of southern Wisconsin due to shading and the relatively limited amount of wet habitat provided by the steep banks of the Fox River.

The garlic mustard remained infrequent along the shoreline. An infested area of about 2.5 acres mapped at Rapide Croche Park in 2013 was subjected to management (see Section 4).

Monitoring for Dreissenid mussels was done by KU personnel only at the Rapide Croche plant, since the new Badger plant was under construction. Monitoring was done by trash rack cleaning, with few occurrences noted. Zebra mussels have been noted at the project before and are common in the river. According to KU personnel, mussels usually pass through the hydroelectric units and do not accumulate on the trashracks because of intake velocity. They are usually limited to the corners of the racks, where velocity is low enough for the veligers (mussel larvae) to attach. Similarly, mussels do not effect operations because of the high water velocities within the intakes and units. KU dewaters their units every other year for maintenance and mussels have never been found in these locations.

4. Invasive Species Control

As a result of identifying a garlic mustard infestation on approximately 2.5 acres of Rapide Croche Park woodlands, KU retained Prairie Nursery of Westfield, Wisconsin, to perform garlic mustard control and evaluate the ecological health of the park's woodlands. An initial site visit on November 14, 2013, revealed a small remnant of rare Fox Valley oak savanna habitat within the park, with healthy mature white oaks and a partially intact native herb community. In light of this discovery, KU requested Prairie Nursery to identify restoration and management strategies for this habitat, as well as perform garlic mustard control. Prairie Nursery's management report is being provided to KU under separate cover as it is outside the scope of FERC license compliance.

Prairie Nursery's management strategy for controlling garlic mustard involves cutting off the pre-mature seed stalks just after flowering is complete in early June (see Figure 1). This prevents maturation of the seed while starving the rootstock. This cost-effective strategy also offers significant advantages over pulling, which disturbs the soil and stimulates germination of dormant mustard seed. It is also safer than spraying herbicides, which can lead to unacceptable collateral damage to desirable native vegetation. When repeated annually, this strategy offers a cost-effective control that also encourages recovery of adjacent native ground layer vegetation.

Figure 1. Example of cut-over garlic mustard infested area, June 6, 2014.

5. Public Awareness and Education

As part of this monitoring program, KU has taken measures to increase public awareness, including posting of WDNR invasive species and viral hemorrhagic septicemia (VHS) signs at the City boat landing.

KU has also provided a range of informative pamphlets and information sheets to the public at its main office on Island Street in Kaukauna. The following publications have been made available:

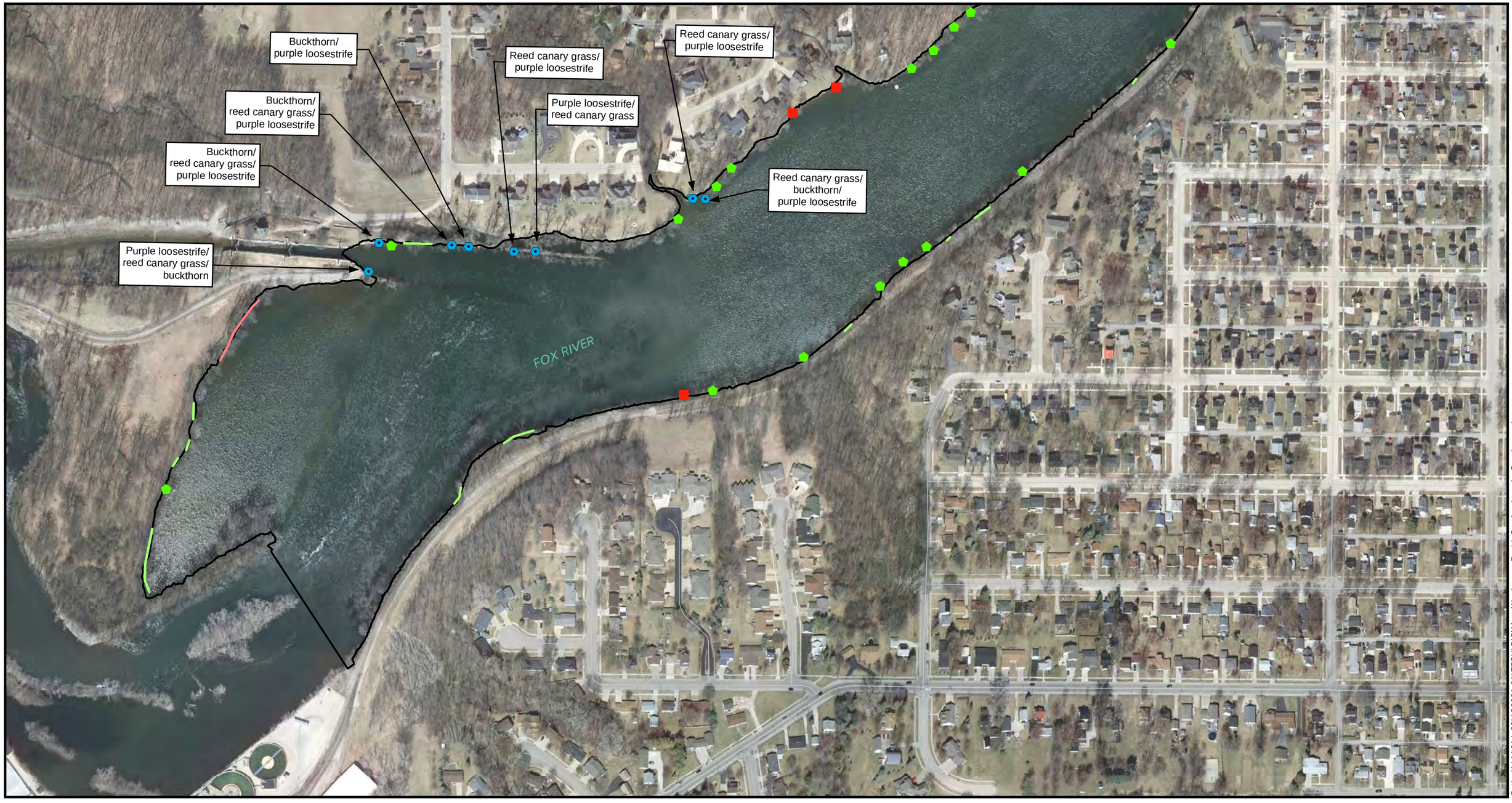
- *Stop Aquatic Hitchhikers*, UW Cooperative Extension CBCW brochure WT-801
- *Zebra Mussels Boaters Guide,* UW Cooperative Extension CBCW brochure WT-383
- *Regulated Aquatic Invasive Plants in WI,* UW Cooperative Extension Fact Sheet WT-960
- *Purple Loosestrife,* UW Cooperative Extension CBCW brochure WI-799
- *Japanese Knotweed,* UW Cooperative Extension CBCW brochure ER-657
- *The Facts on Eurasian Water Milfoil,* UW Cooperative Extension PUB-WT-781 2004
- *Common and Glossy Buckthorn,* DNR PUB FR-216 2007
- *Invasive Exotic Shrub Honeysuckles,* DNR PUB FR-448 2009
- NR 40 Regulated Exotic Plant List from: http://dnr.wi.gov/topic/Invasives/documents/NR40plantlist.pdf
- *Garlic Mustard (Alliaria petiolata),* DNR PUB-FR-350-2006

According to KU staff who periodically re-supply the pamphlet area, only two of the three *Zebra Mussels Boaters Guide* were taken by customers as of October 7, 2014. All publications remain available in the pamphlet area.

Appendix A. Field Monitoring Maps

Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



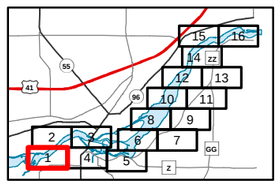
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 1 of 17

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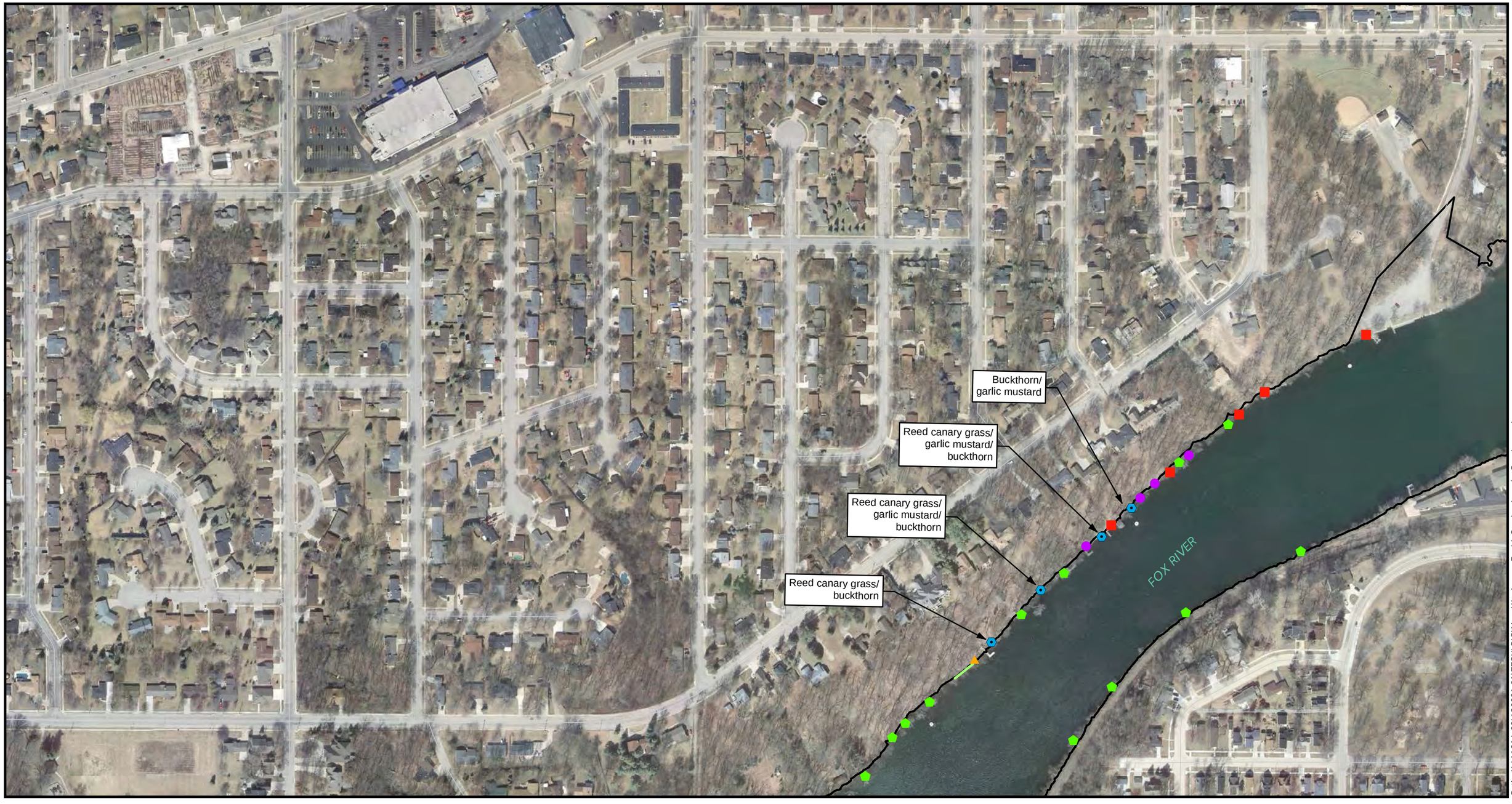
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



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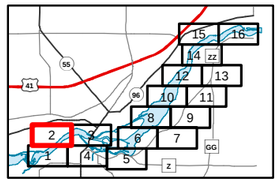

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Map 2 of 17

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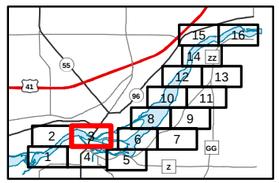

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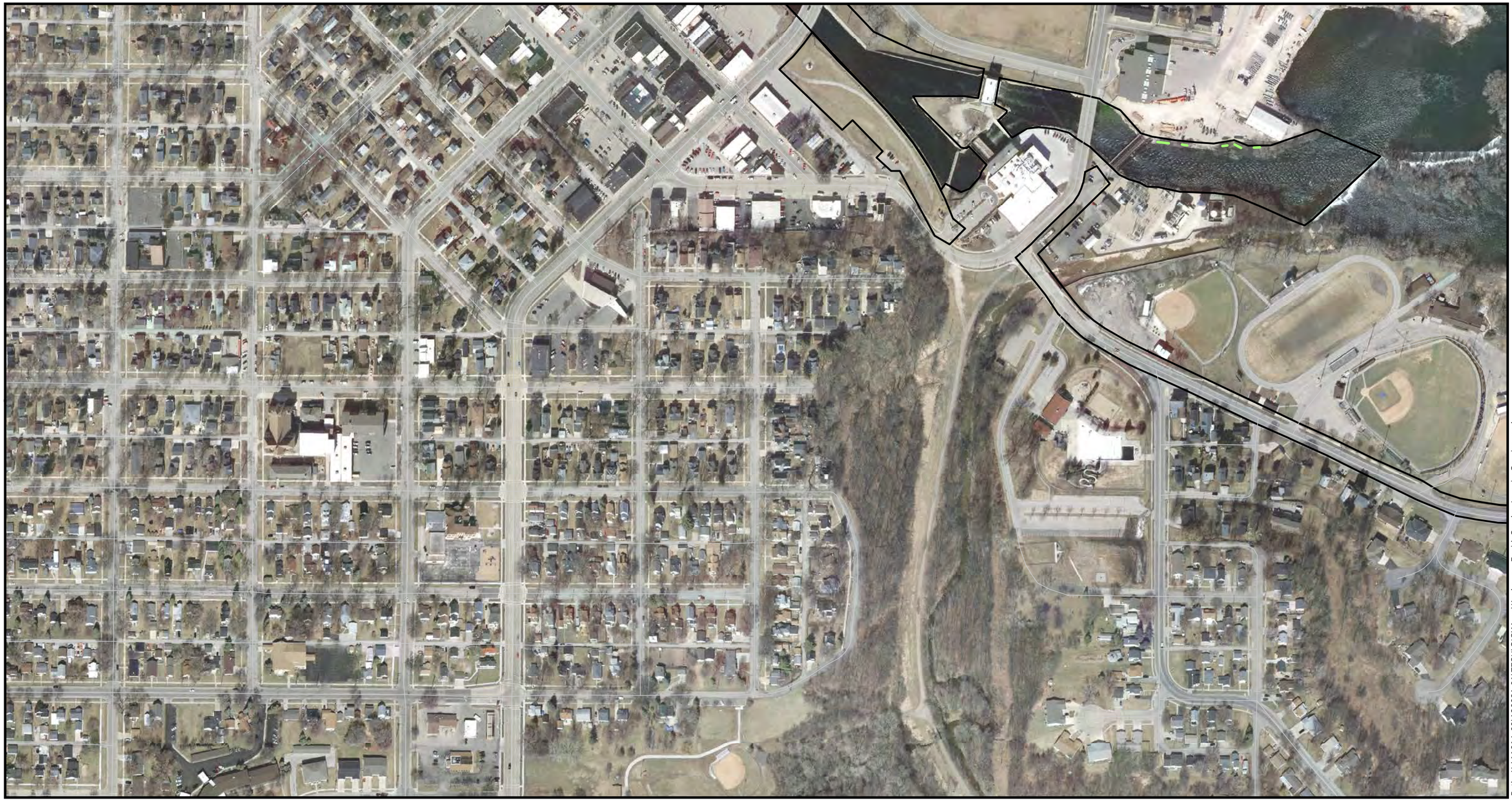

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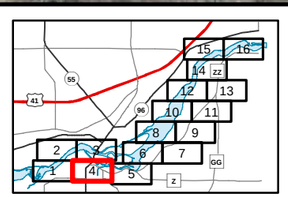

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Map 4 of 17

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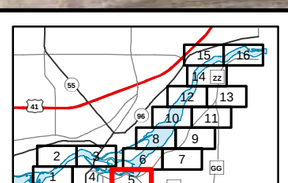

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Map 5 of 17

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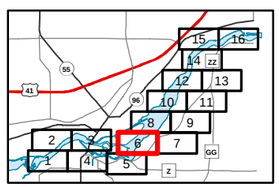

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Map 6 of 17

0 150 300 600 900 Feet

Mead & Hunt

Path: X:\11014-00\1300031.01\TECH\GIS\Maps\Kaukauna_RapideCroche_InvasiveSpecies.mxd

Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations

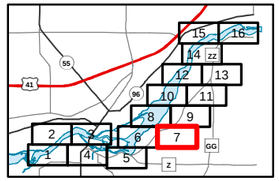
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 7 of 17

0 150 300 600 900 Feet

Mead & Hunt

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Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations

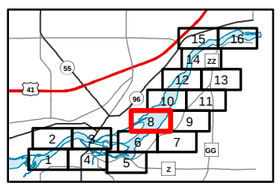
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 8 of 17

0 150 300 600 900 Feet

Mead & Hunt

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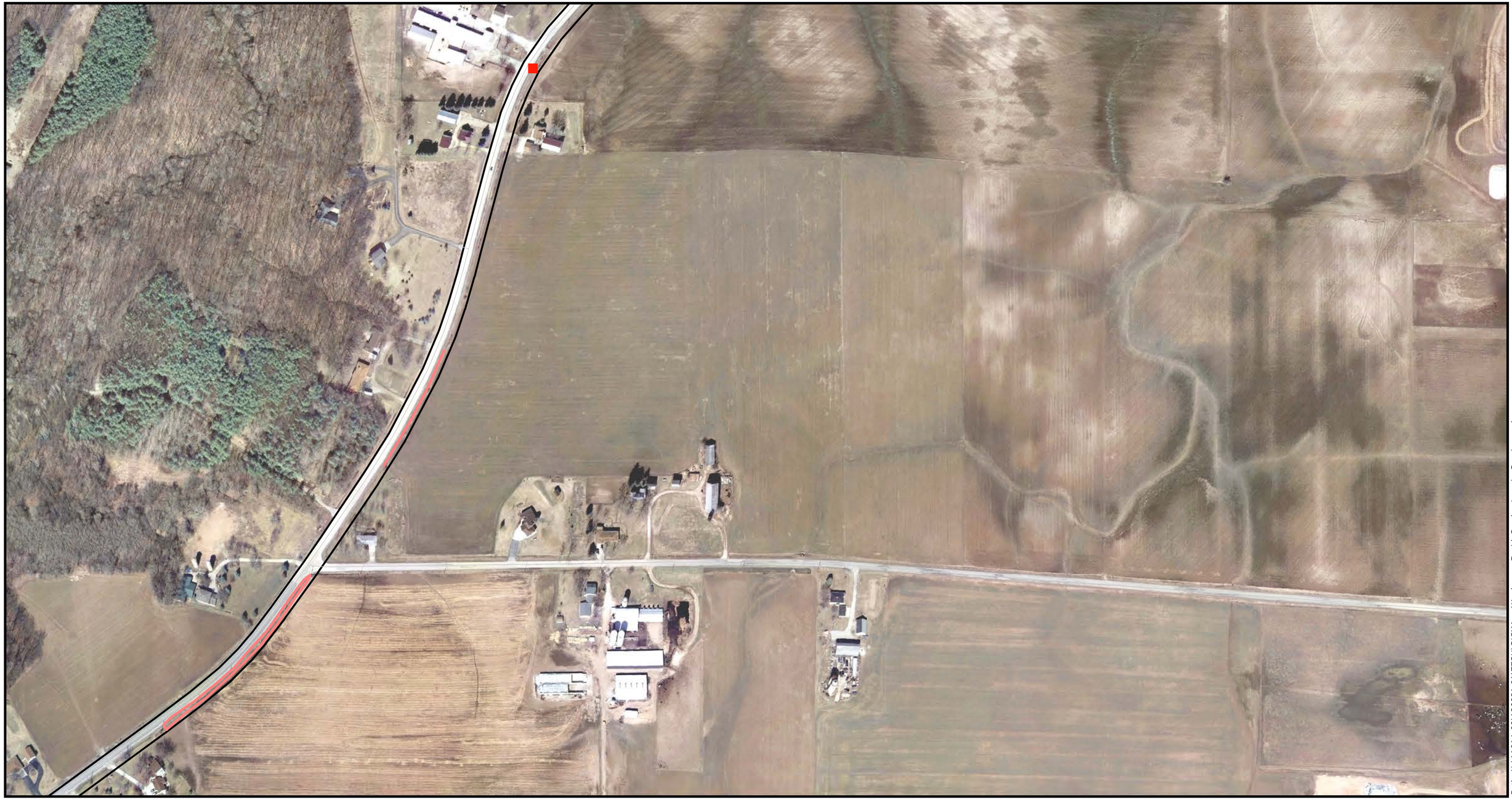
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



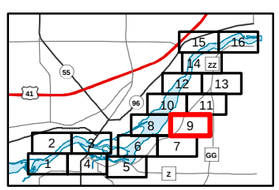
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 9 of 17

0 150 300 600 900 Feet

Mead & Hunt

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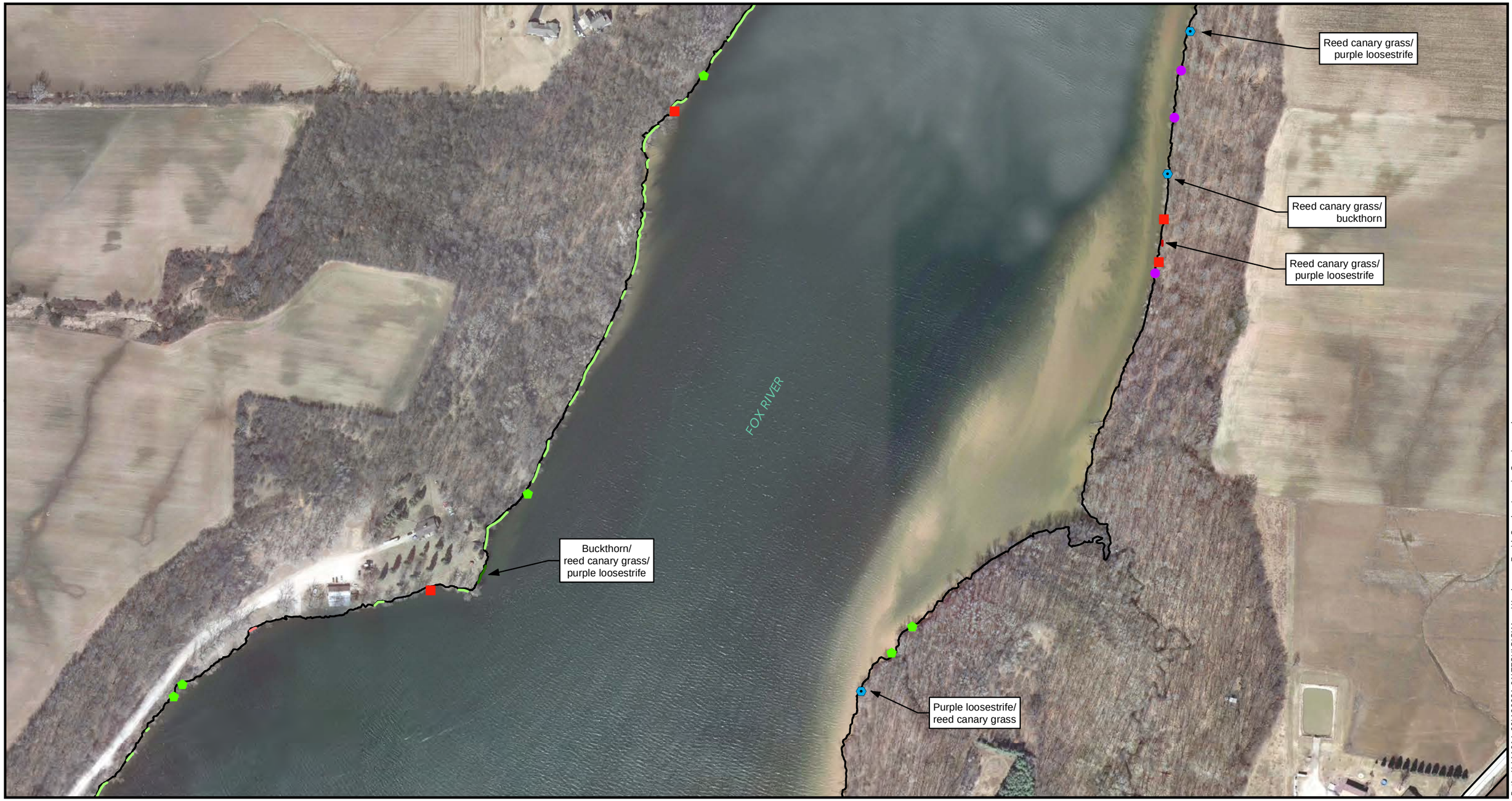
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



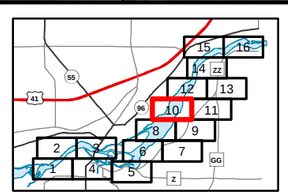
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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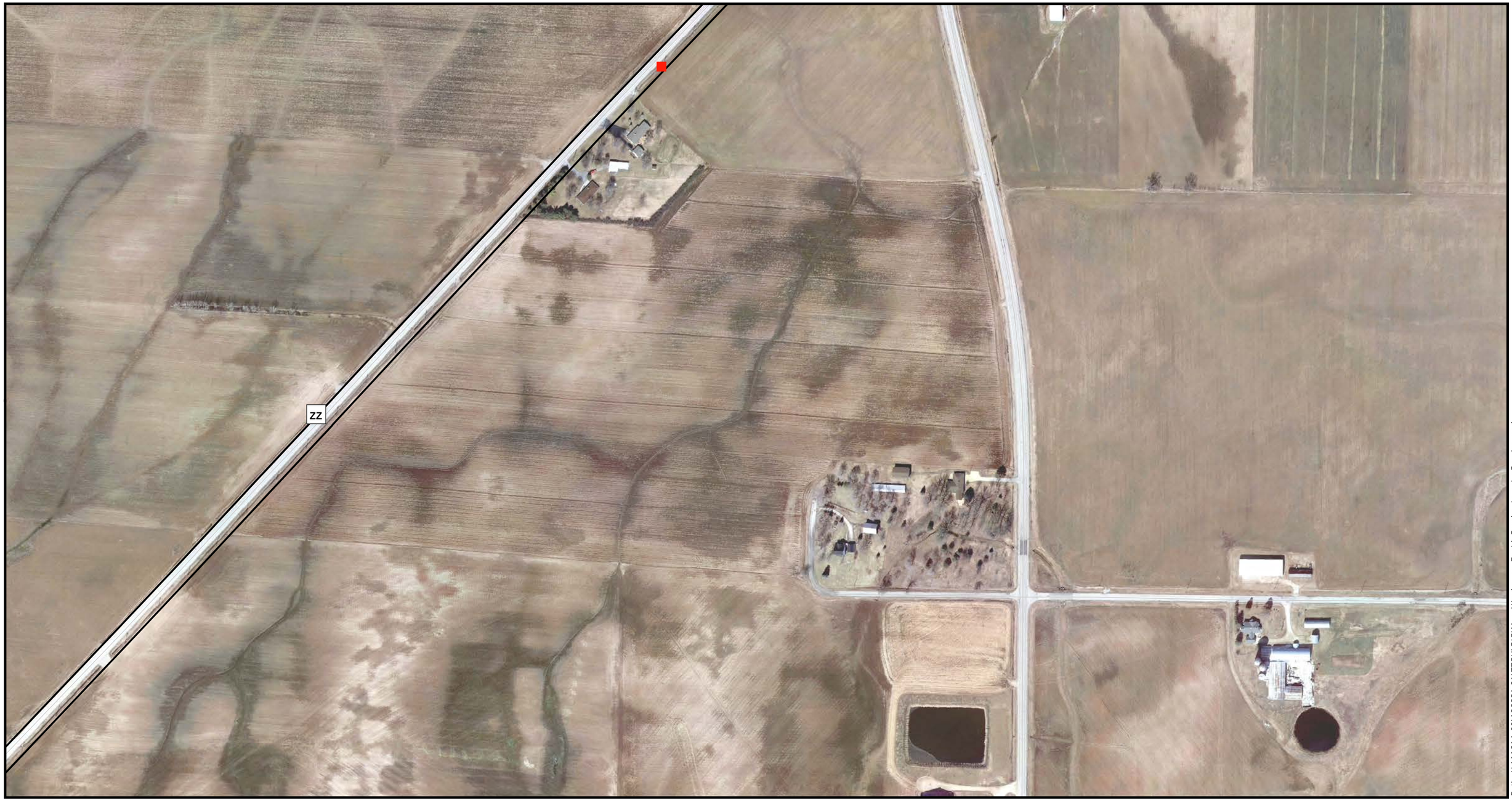
Map 10 of 17

0 150 300 600 900 Feet

Mead & Hunt

Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



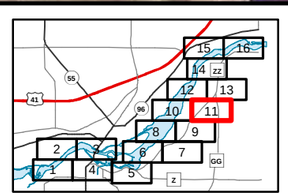
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 11 of 17

0 150 300 600 900 Feet

Mead & Hunt

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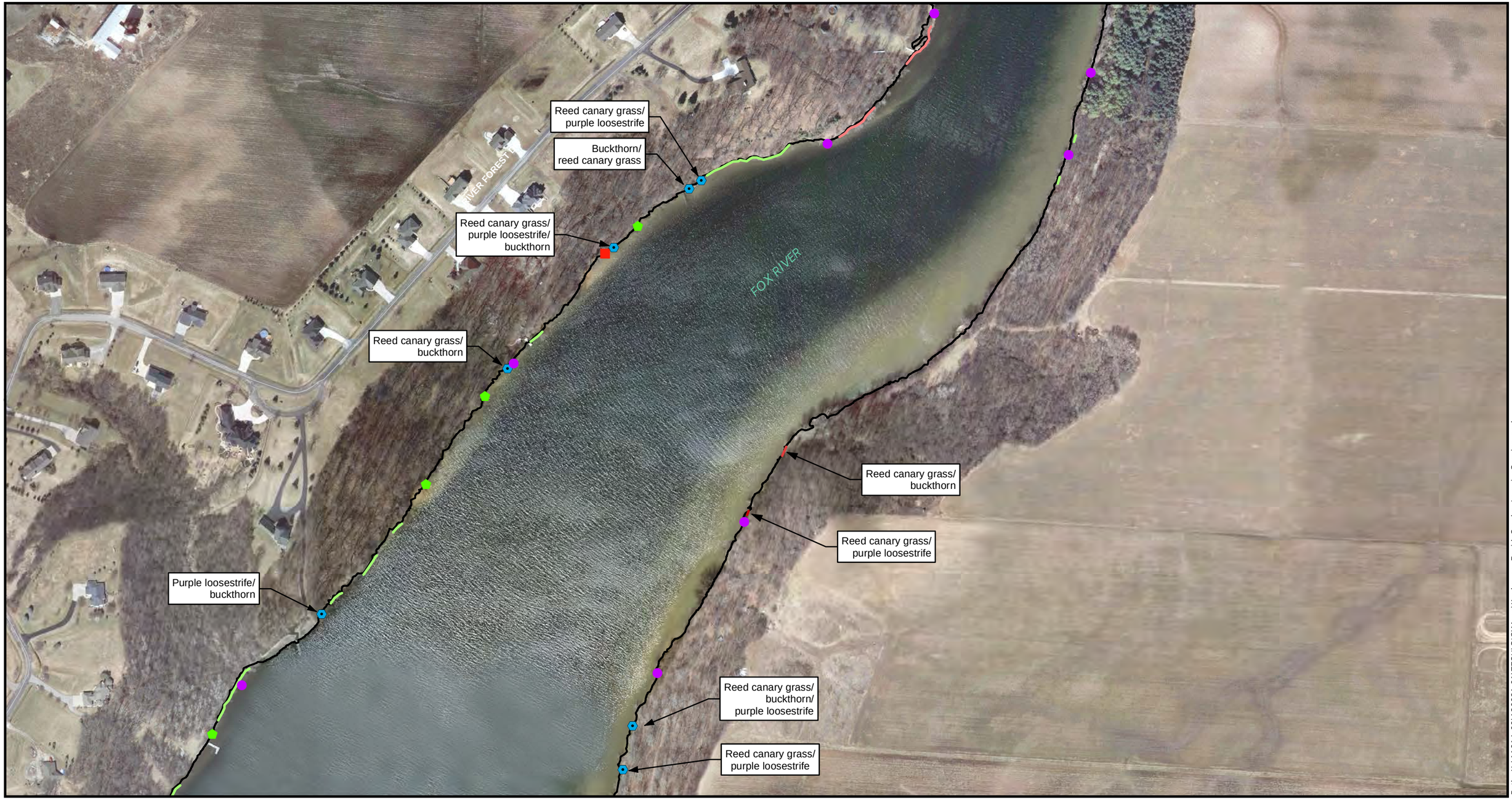
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



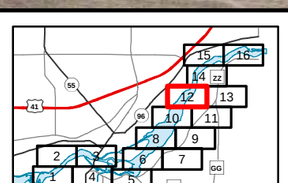
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 12 of 17

0 150 300 600 900 Feet

Mead & Hunt

Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations

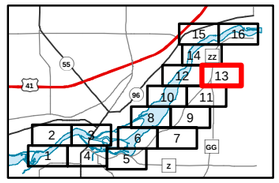
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 13 of 17

0 150 300 600 900 Feet

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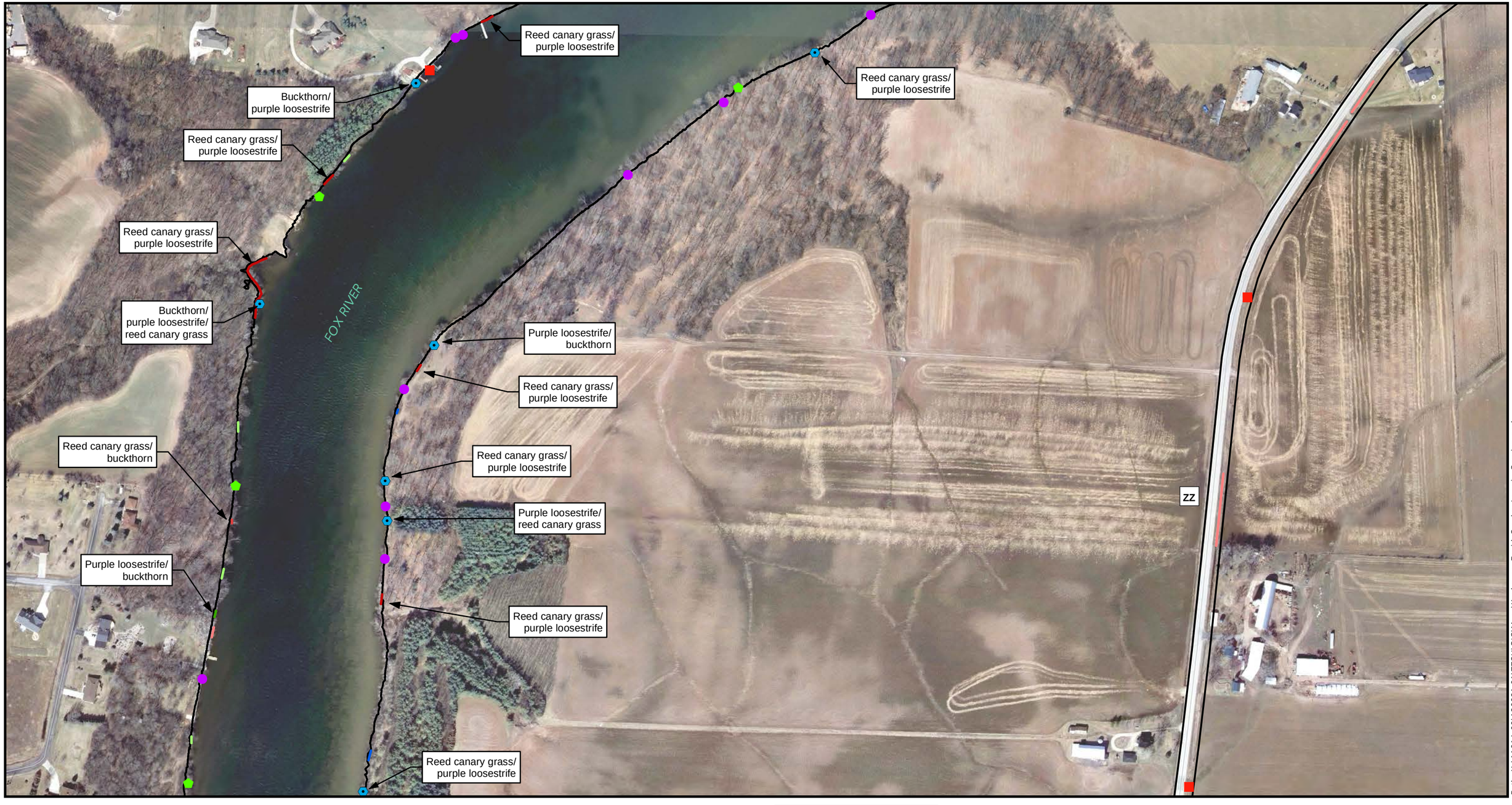
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



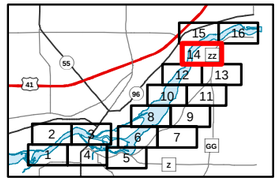
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 14 of 17

0 150 300 600 900 Feet

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Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations

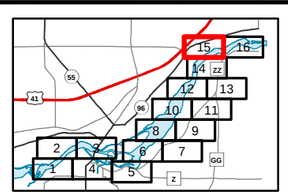
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 15 of 17

0 150 300 600 900 Feet

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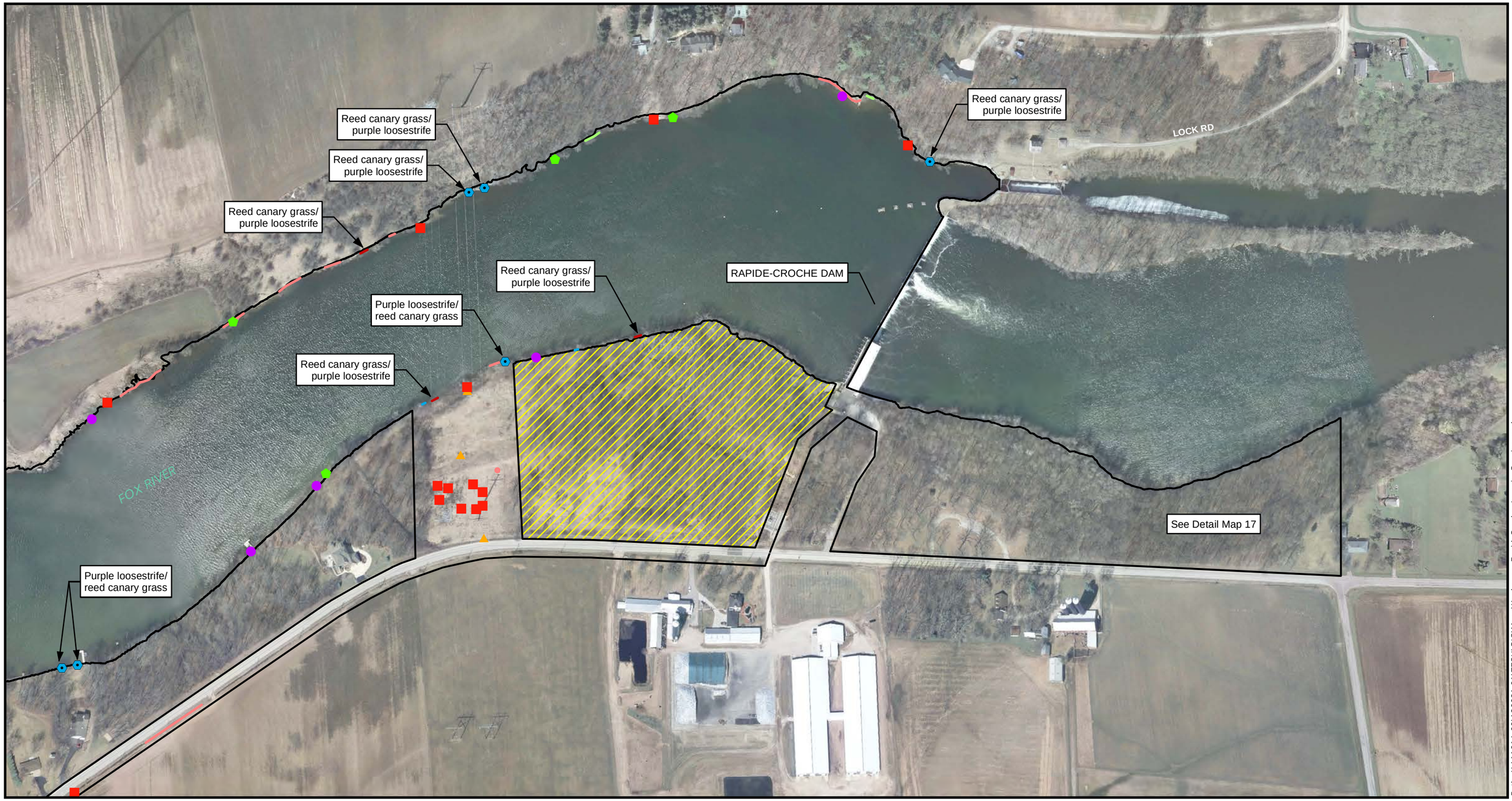
Invasive Species Monitoring

Badger/Rapide-Croche Dams
Monitoring Locations



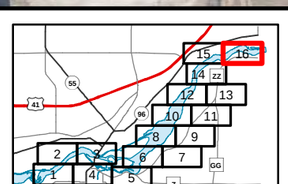
Spot Occurrences
- Buckthorn
- Garlic mustard
- Purple loosestrife
- Reed canary grass
- Multiple Species Occurrences

Species Type(s)
- Buckthorn
- Buckthorn/purple loosestrife
- Buckthorn/reed canary grass/purple loosestrife
- Purple loosestrife
- Reed canary grass
- Reed canary grass/buckthorn
- Reed canary grass/purple loosestrife

Invasive Species Monitoring Areas
- Monitoring Area
- Non-Project Area

Map Notes:

Image base from the Wisconsin Regional Orthophotography Consortium (WROC), 2010.
Field work conducted June 4 - 6 and July 9, 2013 and from June 13 - 16 and August 11 - 13, 2014.



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Map 16 of 17

0 150 300 600 900 Feet

Mead & Hunt

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Woody Management Area
Rapide - Croche Park

0 30 60 120 180 240
Feet

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Attachment C

The following pages document consultation efforts between Kaukauna Utilities and the U.S. Fish & Wildlife Service (USFWS) and Wisconsin Department of Natural Resources (WDNR) related to the review of the 2014 Invasive Species Monitoring Report (Report). Copies of the report were submitted to the USFWS and WDNR for review and comment on October 23, 2014.

At the time of this filing, the USFWS has not submitted any comments. The WDNR submitted comments on December 16, 2014.

The WDNR's review focused on the monitoring efforts and results shown on each of the 17 map sheets contained in the Report. Follow-up discussions with the WDNR resulted in the WDNR's recommendation that future monitoring in a number of areas within the project boundary were neither warranted nor desired. Rather, the WNDR would like future monitoring/management efforts to focus near waterways, wetlands, tributaries, and backwaters within the project boundary and impoundment shorelines.

The WDNR further recommended a meeting in February 2015 take place to develop revised monitoring and management as appropriate to prepare for the 2015 monitoring season.

Kaukauna Utilities concurs with the WDNR comments/recommendations.

Arie DeWaal

From: Perry Rossa
Sent: Thursday, October 23, 2014 1:50 PM
To: Laatsch, Cheryl - DNR (Cheryl.Laatsch@Wisconsin.gov); Nick_Utrup@fws.gov
Cc: Mike Pedersen (MPedersen@ku-wi.org) (MPedersen@ku-wi.org); Arie DeWaal
Subject: Kaukauna Utilities, Badger - Rapide Croche FERC Project No. 2677: 2014 Invasive Species Report DRAFT for comment
Attachments: 141022A_Kaukauna FERC 2677 Invasive Species DRAFT.pdf

Hello Everyone,

Attached is the draft of the 2014 invasive plant monitoring report for Kaukauna Utilities' Badger-Rapide Croche project on the Fox River. The report is for your review and comment during the next 30 days. Please feel free to call me if you have any questions – thanks for your attention!

Perry Rossa | PWS, PH
Mead & Hunt | 10700 West Research Drive, Suite 155 | Wauwatosa, WI 53226
Main: 414-935-4255 | Mobile: 608-577-2358 |
perry.rossa@meadhunt.com | www.meadhunt.com

Arie DeWaal

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Tuesday, December 16, 2014 11:35 AM
To: Perry Rossa; Arie DeWaal; Mike Pedersen (mpedersen@ku-wi.org)
Subject: WDNR response to p-2677 Invasive Species Monitoring Report

Perry, Arie, Mike -

We are recommending the changes above to reflect a more productive use of time and resource management. Large areas of infestations, or areas that are constantly disturbed are difficult to monitor and manage. We are requesting that future monitoring and management focus on areas that are sensitive to changes in plant communities, such as backwater shoreline areas, wetlands, areas where streams enter the river, etc.

General Comments:

1. On future maps please put the USGS waterways on the maps so we can see where the stream are entering the River.
2. Focus on management near waterways and wetlands, tributaries, and backwaters.
3. Follow-up discussion on management objectives, thresholds for management, monitoring objectives, and frequency. Plan for meeting in February 2015 to develop revised monitoring and management plan, as appropriate, to prepare for the 2015 monitoring season.

Please use the spreadsheet below for recommended changes to management and monitoring. If you have any questions, please let me know. Thanks

Map Sheet #	Comments
1	No need to document the linear sections of RCG and Buckthorn on the peninsula. Focus efforts on the backwaters areas and areas where streams are entering the River.
2	Continue to monitor as required in the plan.
3	The area appears to be heavy industrial. Manage the buckthorn.
4	No further monitoring and management of Road right-of-ways is necessary. Focus efforts on ditch systems near roadways that can transport invasive.
5	Only monitor and manage the public parking area/lookout area. No further monitoring and management of Road right-of-ways is necessary.
6	No further monitoring and management of Road right-of-ways is necessary.
7	No further monitoring and management of Road right-of-ways is necessary.
8	Continue to monitor and manage
9	No further monitoring and management of Road right-of-ways is necessary.
10	Linear stretches of buckthorn do not need to be monitored. Focus efforts on new infestations, wetlands, tributaries
11	No further monitoring and management of Road right-of-ways is necessary.
12	Continue to monitor and manage
13	No further monitoring and management of Road right-of-ways is necessary.
14	No further monitoring and management of Road right-of-ways is necessary.
15	Continue to monitor as required.
16	No further monitoring and management of Road right-of-ways is necessary.
17	Continue to monitor as required.

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Cheryl Laatsch
Statewide FERC Coordinator – Watershed Bureau/Water Division
Wisconsin Department of Natural Resources
N7225 Highway 28, Horicon WI 53032
Phone: 920-387-7869
Fax: 920-387-7888
Cheryl.laatsch@wisconsin.gov


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