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December 27, 2019

The Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426
eFiled FERC Online 12/27/2019

RE: WVIC Project 2113; 2019 Purple Loosestrife Triennial Monitoring Report

In accordance with monitoring and reporting revisions approved in WVIC's Fish and Wildlife Management Plan Update Report, Submitted July 15, 2016, WVIC hereby submits the 2019 Purple Loosestrife Triennial Monitoring Report (Attachment 1). The Report includes: monitoring results identifying relative abundance of purple loosestrife, locations with *Galerucella sp.* beetle activity, vegetative damage assessments, and corresponding tables and figures. The U.S. Fish and Wildlife Service (USFWS) and Wisconsin Department of Natural Resources (WDNR) did not provide comments (Attachment 2).

Sincerely,

Scott Blado
Environmental Specialist

Enclosures:

Attachment 1: 2019 Purple Loosestrife Triennial Monitoring Report
Attachment 2: Documentation of Agency Consultation

Attachment 1

**2019 Purple Loosestrife Triennial
Monitoring Report**

Wisconsin Valley Improvement Company

2019 Purple Loosestrife Triennial Monitoring Report

Introduction

In compliance with Wisconsin Valley Improvement Company's (WVIC) 1996 FERC license (Project No. 2113), the purple loosestrife control program became a part of WVIC's FERC approved 1997 Fish and Wildlife Management Plan (Article 413). The Fish and Wildlife Management Plan was updated in 2001, 2006, 2011, and 2016 in accordance with a five-year update requirement in WVIC's FERC license. WVIC submitted a Modified Purple Loosestrife Control Plan on November 26, 2008 as an amendment request to WVIC's Fish and Wildlife Management Plan. FERC issued an Order Amending the Plan June 16, 2009 and approved the Plan with minor reporting modifications. As proposed by WVIC in the 2016 Fish and Wildlife Management Plan Update Report submitted July 15, 2016 and approved on May 2, 2017 (159 FERC ¶ 62,105 "Order Approving Fish and Wildlife Enhancement Plan and Bald Eagle Protection Plan Updates Pursuant to Articles 413 and 415"), the frequency of monitoring and reporting was changed from annually to every three years. The next monitoring report will be submitted in 2022, barring any changes in the scheduled 2021 Fish and Wildlife Management Plan Update. In accordance, the 2019 Purple Loosestrife Triennial Monitoring Report follows.

General Procedure

Areas of historically known purple loosestrife (PL) presence are accessed primarily by boat. The areas are then surveyed by walking the exposed shorelines or islands and counting both immature and mature plants. GPS readings are taken every 100 ft. where plants are observed. The relative abundance of PL is recorded as A (1-5 plants), B (6-50 plants) or C (50+ plants). In addition to abundance, the observed plants are examined for the presence of *Galuracella* sp. If presence is noted, beetle abundance in the specific stand of PL is quantified with a numeric 1 to 4 (0-25%, 26-50%, 51-75%, 76-100%), which represents the overall percentage of plants in the stand with beetle activity. In addition, the degree of leaf damage on impacted plants is quantified with a numeric 1 to 4 (0-25%, 26-50%, 51-75%, 76-100%), which represents the average leaf damage level to plants in that particular stand of PL.

In addition, WVIC performs limited mechanical control for new pioneer sites with 1-5 plants present. Plants within these low density sites located in outlying areas from main populations are hand-pulled when soil and site conditions allow for entire uprooting. If individual plants are found in areas with compacted soils or extensive vegetative root mats inhibit successful hand pulling efforts, PL inflorescences are cut. All PL material is bagged and safely disposed of to prevent seed dispersal.

2019 Field Monitoring Results

Willow Reservoir – On August 7, 2019, WVIC monitored the area of Willow Reservoir where purple loosestrife (PL) has historically occurred. Reservoir elevation was 1527.70 ft. NGVD (1.65 ft. below full). Figure 1 is a distribution and relative abundance map of recorded locations in 2019 and Table 1 lists GPS coordinates for each observation. There were 8 sites of 1-5 plants, 5 sites of 6-50 plants and 0 sites of 50+ plants identified in 2019. PL was not identified outside the historic range at Willow.

Galerucella sp. beetle activity and leaf damage was not identified in 2019. In 2016, 4 sites had evidence of beetle damage and in 2015, one site showed beetle damage.

Rice Reservoir – On August 8 & 30, 2019, WVIC monitored the portions of Rice Reservoir where PL has historically occurred. Reservoir elevation was 1461.28 & 1462.16 ft. NGVD (1.97 & 1.09 ft. below full), respectively. Figure 2 is a distribution and relative abundance map of recorded PL and beetle activity locations in 2019 and Table 2 lists GPS coordinates for each observation. There were 35 sites of 1-5 plants, 58 sites of 6-50 plants and 3 sites of 50+ plants identified in 2019. PL was not observed outside the historic range at Rice.

Galerucella sp. beetle activity and leaf damage was identified at 19 sites in 2019 marking a slight increase from the 17 sites with damage in 2016 (Figure 3). Beetle activity was found at 0 of 3 sites with 50+ plants, 15 of 58 sites with 6-50 plants and 4 of 35 sites with 1-5 plants. 2019 was the fourth season in which vegetative damage assessments were conducted at each site where beetle activity was identified. Table 2 provides the percent range of plants damaged at each site and leaf tissue removed per plant within the site. Figure 4 displays the average damage scores (1-4 scale) for each of the PL relative abundance categories. The highest level of beetle activity was found at sites with 6-50 plants where more damage was observed throughout the site and within individual plants as compared to sites with only 1-5 plants.

Spirit Reservoir – On August 7, 2019 WVIC monitored the portion of Spirit Reservoir where PL has historically occurred. Reservoir elevation was 1437.36 ft. NGVD (0.52 ft. below full). Figure 5 is a distribution and relative abundance map of recorded PL locations in 2019 and Table 3 lists GPS coordinates for each observation. There were 8 sites of 1-5 plants, 9 sites of 6-50 plants and 0 sites of 50+ plants identified in 2019. PL was not identified outside the historic range at Spirit.

Galerucella sp. beetle activity was observed in 2019, for the first time since 2011. Beetle activity was observed at 5 of the 9 sites (a record high for Spirit Reservoir) with 6-50 plants and at 0 of the 8 sites with 1-5 plants. Table 3 provides the percent range of plants damaged at each site and leaf tissue removed per plant within the site. Figure 6 shows the number of sites with beetles present from 2008-2019.

Eau Pleine Reservoir – WVIC used chemical control to combat PL populations on the Eau Pleine Reservoir in 1998 and 1999. Only one plant was identified during post treatment monitoring in 2000 and it was removed by hand. Staff from the Golden Sands Resource Conservation and Development Council (Golden Sands RC&D) discovered an isolated population in August of 2015 and contacted WVIC. WVIC was unable to locate the previously observed isolated population in 2016 or 2019. WVIC will continue to partner with Golden Sands to monitor for the presence of purple loosestrife populations on the reservoir and conduct hand pulling and/or facilitate volunteer monitoring and removal efforts with the Big Eau Pleine Citizens Organization.

Figure 1

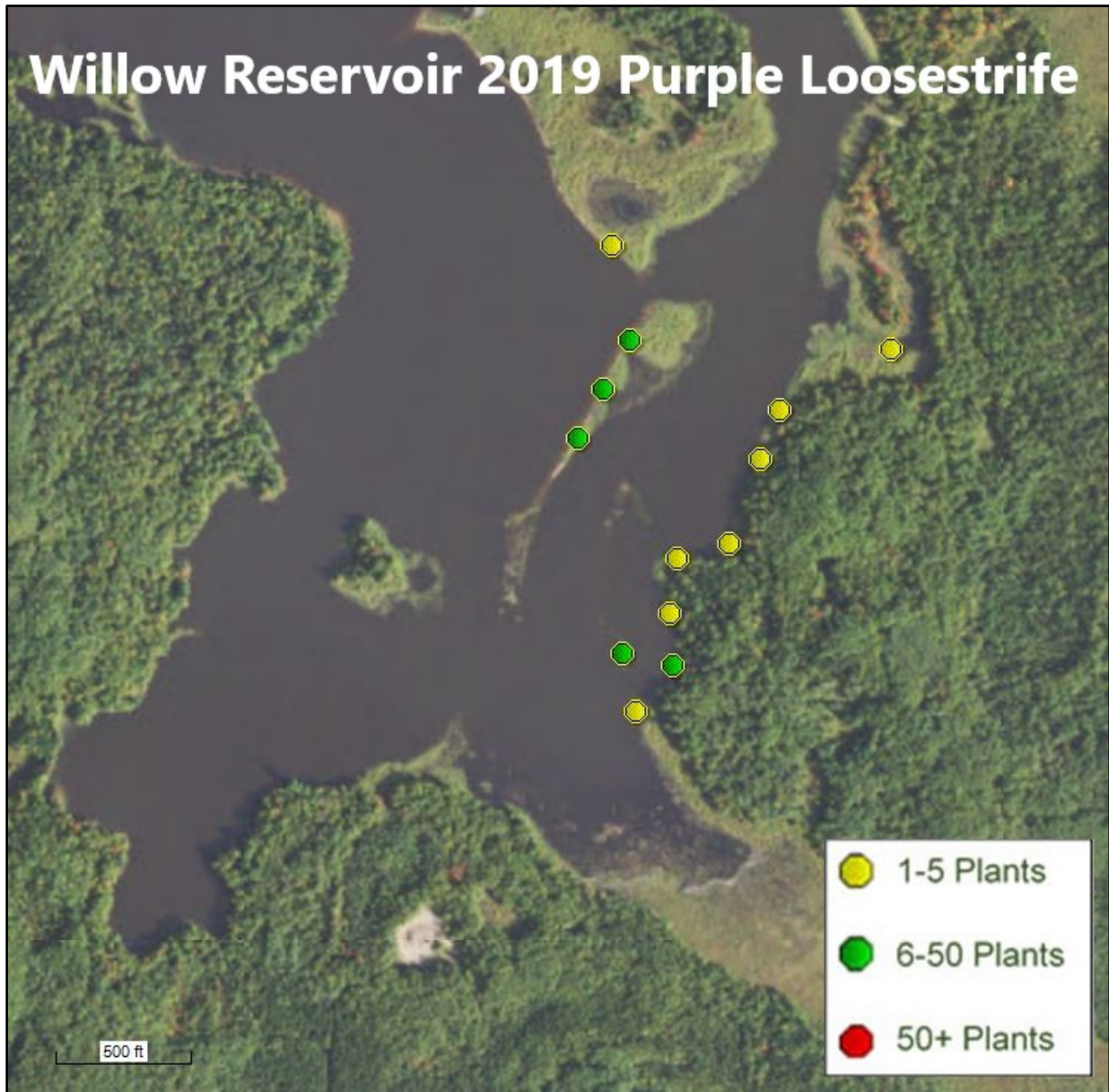


Table 1

| Purple Loosestrife Survey - 2019 | | | | | | |
|----------------------------------|----------|----------|-----------|----------|-------------|-----------------|
| Willow Reservoir | | | | | | |
| Number | Latitude | | Longitude | | Amount | Beetle Activity |
| 1 | 45° | 41.41222 | 89° | 50.44668 | 1-5 Plants | no |
| 2 | 45° | 41.34862 | 89° | 50.20441 | 1-5 Plants | no |
| 3 | 45° | 41.3119 | 89° | 50.30113 | 1-5 Plants | no |
| 4 | 45° | 41.28262 | 89° | 50.31762 | 1-5 Plants | no |
| 5 | 45° | 41.23042 | 89° | 50.34402 | 1-5 Plants | no |
| 6 | 45° | 41.22214 | 89° | 50.38914 | 1-5 Plants | no |
| 7 | 45° | 41.18824 | 89° | 50.39664 | 1-5 Plants | no |
| 8 | 45° | 41.12866 | 89° | 50.42538 | 1-5 Plants | no |
| 9 | 45° | 41.35396 | 89° | 50.43084 | 6-50 Plants | no |
| 10 | 45° | 41.32492 | 89° | 50.45388 | 6-50 Plants | no |
| 11 | 45° | 41.29504 | 89° | 50.47572 | 6-50 Plants | no |
| 12 | 45° | 41.16436 | 89° | 50.43774 | 6-50 Plants | no |
| 13 | 45° | 41.15632 | 89° | 50.39388 | 6-50 Plants | no |

Figure 2

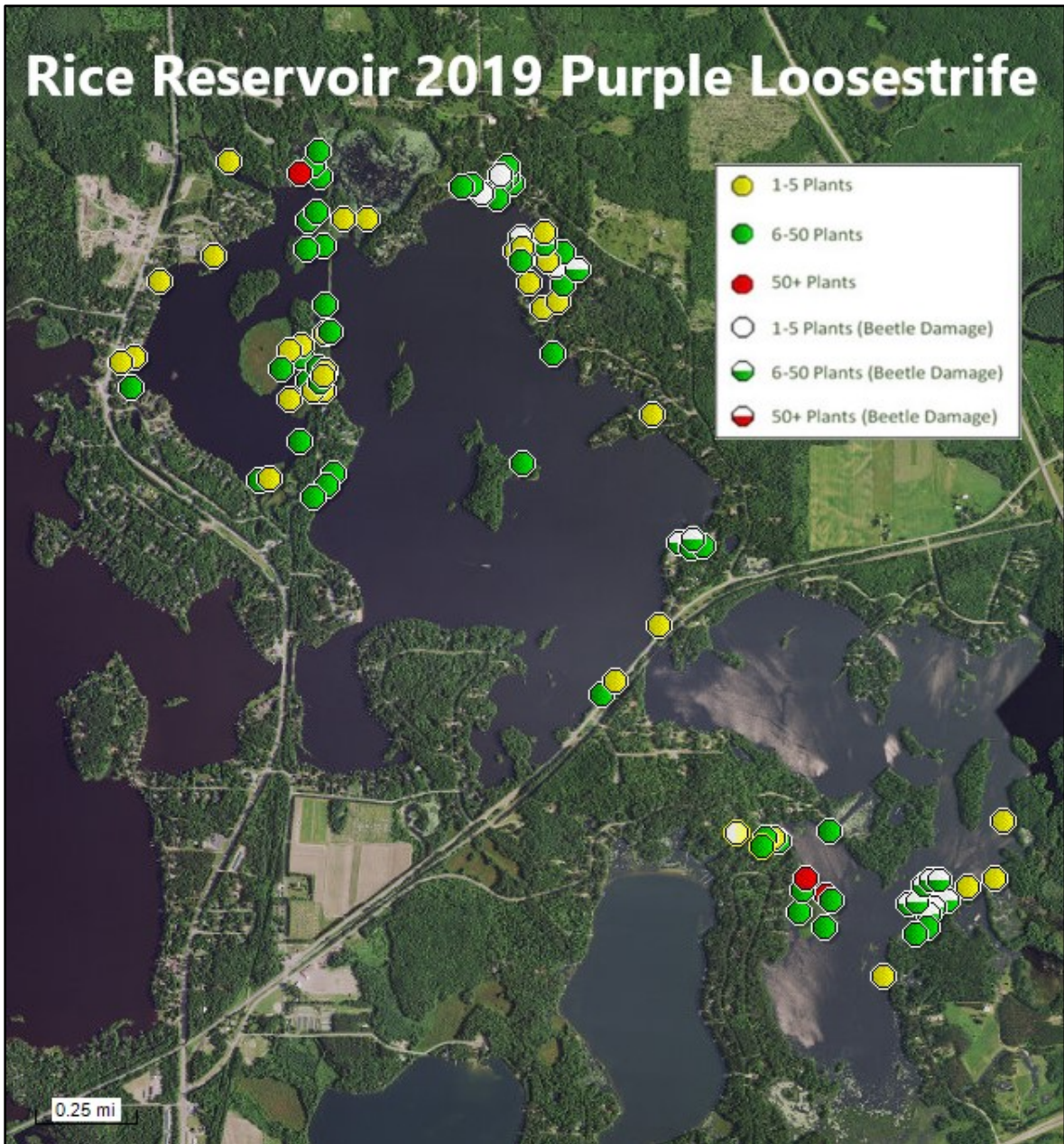


Figure 3

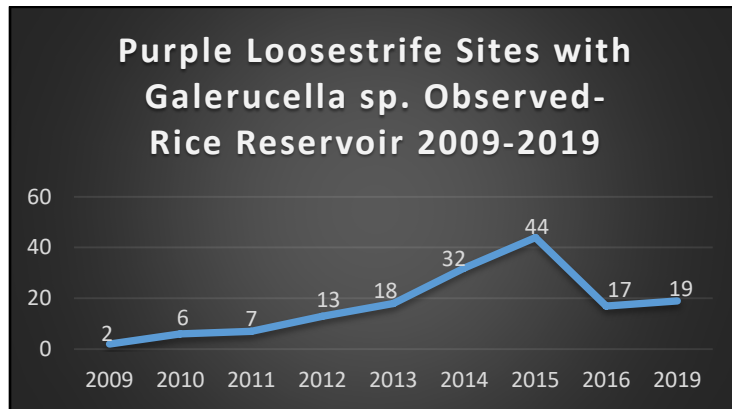


Figure 4

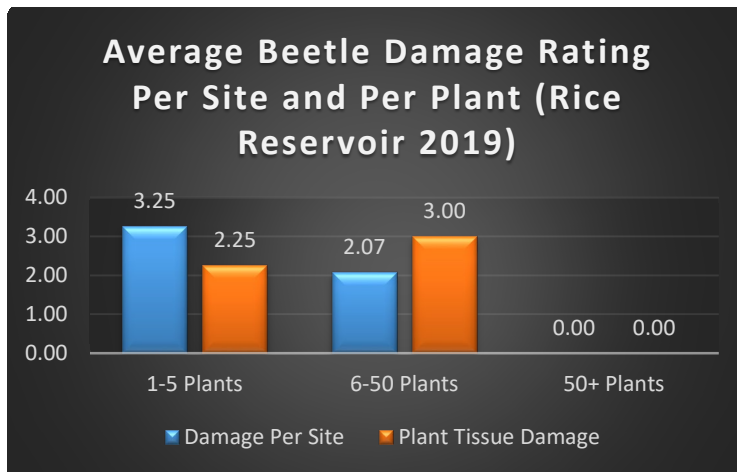


Table 2

| Purple Loosestrife Survey - 2019 | | | | | | | | |
|----------------------------------|----------|------------|-----------|------------|-------------|---------|------------------------------|---------------------------|
| Rice Reservoir | | | | | | | | |
| Number | Latitude | | Longitude | | Amount | Beetles | % of Damaged Plants Per Site | % Tissue Damage Per Plant |
| 1 | 45° | 34.6142100 | 89° | 42.9797500 | 1-5 plants | no | | |
| 2 | 45° | 34.4910800 | 89° | 42.5573800 | 1-5 plants | no | | |
| 3 | 45° | 34.4897600 | 89° | 42.6295500 | 1-5 plants | no | | |
| 4 | 45° | 34.4634300 | 89° | 42.0185800 | 1-5 plants | no | | |
| 5 | 45° | 34.4277100 | 89° | 42.0825900 | 1-5 plants | no | | |
| 6 | 45° | 34.4231500 | 89° | 42.1044200 | 1-5 plants | no | | |
| 7 | 45° | 34.4111900 | 89° | 43.0259700 | 1-5 plants | no | | |
| 8 | 45° | 34.4007400 | 89° | 42.0034500 | 1-5 plants | no | | |
| 9 | 45° | 34.3571800 | 89° | 43.1898000 | 1-5 plants | no | | |
| 10 | 45° | 34.3525300 | 89° | 42.0620600 | 1-5 plants | no | | |
| 11 | 45° | 34.3145000 | 89° | 41.9735900 | 1-5 plants | no | | |
| 12 | 45° | 34.2999100 | 89° | 42.0198700 | 1-5 plants | no | | |
| 13 | 45° | 34.2433300 | 89° | 42.6866400 | 1-5 plants | no | | |
| 14 | 45° | 34.2195200 | 89° | 42.7598800 | 1-5 plants | no | | |
| 15 | 45° | 34.2072700 | 89° | 42.7949800 | 1-5 plants | no | | |
| 16 | 45° | 34.1942100 | 89° | 43.2693100 | 1-5 plants | no | | |
| 17 | 45° | 34.1835500 | 89° | 43.3064300 | 1-5 plants | no | | |
| 18 | 45° | 34.1666700 | 89° | 42.6853100 | 1-5 plants | no | | |
| 19 | 45° | 34.1526800 | 89° | 42.6897300 | 1-5 plants | no | | |
| 20 | 45° | 34.1226900 | 89° | 42.7240700 | 1-5 plants | no | | |
| 21 | 45° | 34.1214100 | 89° | 42.6930900 | 1-5 plants | no | | |
| 22 | 45° | 34.1028800 | 89° | 42.7925900 | 1-5 plants | no | | |
| 23 | 45° | 34.0726000 | 89° | 41.6878200 | 1-5 plants | no | | |
| 24 | 45° | 33.9350600 | 89° | 42.8576200 | 1-5 plants | no | | |
| 25 | 45° | 33.6185400 | 89° | 41.6678600 | 1-5 plants | no | | |
| 26 | 45° | 33.4992600 | 89° | 41.7977800 | 1-5 plants | no | | |
| 27 | 45° | 33.1975500 | 89° | 40.6133500 | 1-5 plants | no | | |
| 28 | 45° | 33.1621700 | 89° | 41.3169600 | 1-5 plants | no | | |
| 29 | 45° | 33.0747300 | 89° | 40.6395700 | 1-5 plants | no | | |
| 30 | 45° | 33.0564300 | 89° | 40.7230800 | 1-5 plants | no | | |
| 31 | 45° | 32.8647900 | 89° | 40.9810700 | 1-5 plants | no | | |
| 32 | 45° | 34.5845300 | 89° | 42.1523700 | 1-5 plants | yes | 76-100 | 51-75 |
| 33 | 45° | 34.5439900 | 89° | 42.2063600 | 1-5 plants | yes | 51-75 | 26-50 |
| 34 | 45° | 34.3902900 | 89° | 41.9827100 | 1-5 plants | yes | 26-50 | 26-50 |
| 35 | 45° | 33.1740300 | 89° | 41.4277000 | 1-5 plants | yes | 76-100 | 26-50 |
| 36 | 45° | 34.6369000 | 89° | 42.7050800 | 6-50 plants | no | | |

WVIC Purple Loosestrife Triennial Monitoring Report – 2019

| Number | Latitude | | Longitude | | Amount | Beetles | % of Damaged Plants Per Site | % Tissue Damage Per Plant |
|--------|----------|------------|-----------|------------|-------------|---------|------------------------------|---------------------------|
| 37 | 45° | 34.6076900 | 89° | 42.7219600 | 6-50 plants | no | | |
| 38 | 45° | 34.6039800 | 89° | 42.1313400 | 6-50 plants | no | | |
| 39 | 45° | 34.5818500 | 89° | 42.7028800 | 6-50 plants | no | | |
| 40 | 45° | 34.5651500 | 89° | 42.1136800 | 6-50 plants | no | | |
| 41 | 45° | 34.5617600 | 89° | 42.2361500 | 6-50 plants | no | | |
| 42 | 45° | 34.5609300 | 89° | 42.2687400 | 6-50 plants | no | | |
| 43 | 45° | 34.5343400 | 89° | 42.1582700 | 6-50 plants | no | | |
| 44 | 45° | 34.5038700 | 89° | 42.7119200 | 6-50 plants | no | | |
| 45 | 45° | 34.4866500 | 89° | 42.7387600 | 6-50 plants | no | | |
| 46 | 45° | 34.4336700 | 89° | 42.6898200 | 6-50 plants | no | | |
| 47 | 45° | 34.4257200 | 89° | 42.7420900 | 6-50 plants | no | | |
| 48 | 45° | 34.4164800 | 89° | 41.9590200 | 6-50 plants | no | | |
| 49 | 45° | 34.4015600 | 89° | 42.0884900 | 6-50 plants | no | | |
| 50 | 45° | 34.3482700 | 89° | 41.9579100 | 6-50 plants | no | | |
| 51 | 45° | 34.3069200 | 89° | 42.6835700 | 6-50 plants | no | | |
| 52 | 45° | 34.2479200 | 89° | 42.6712000 | 6-50 plants | no | | |
| 53 | 45° | 34.2010600 | 89° | 41.9925300 | 6-50 plants | no | | |
| 54 | 45° | 34.1928400 | 89° | 42.7569600 | 6-50 plants | no | | |
| 55 | 45° | 34.1719500 | 89° | 42.7071300 | 6-50 plants | no | | |
| 56 | 45° | 34.1685700 | 89° | 42.8172500 | 6-50 plants | no | | |
| 57 | 45° | 34.1441200 | 89° | 42.7371600 | 6-50 plants | no | | |
| 58 | 45° | 34.1406900 | 89° | 42.7005600 | 6-50 plants | no | | |
| 59 | 45° | 34.1298800 | 89° | 43.2772700 | 6-50 plants | no | | |
| 60 | 45° | 34.0120800 | 89° | 42.7652400 | 6-50 plants | no | | |
| 61 | 45° | 33.9647400 | 89° | 42.0856200 | 6-50 plants | no | | |
| 62 | 45° | 33.9447800 | 89° | 42.6608300 | 6-50 plants | no | | |
| 63 | 45° | 33.9309400 | 89° | 42.8873600 | 6-50 plants | no | | |
| 64 | 45° | 33.9183700 | 89° | 42.6794800 | 6-50 plants | no | | |
| 65 | 45° | 33.8924300 | 89° | 42.7209100 | 6-50 plants | no | | |
| 66 | 45° | 33.7881000 | 89° | 41.5324200 | 6-50 plants | no | | |
| 67 | 45° | 33.7863800 | 89° | 41.5687700 | 6-50 plants | no | | |
| 68 | 45° | 33.4702400 | 89° | 41.8387700 | 6-50 plants | no | | |
| 69 | 45° | 33.1792500 | 89° | 41.1463700 | 6-50 plants | no | | |
| 70 | 45° | 33.1625100 | 89° | 41.3404600 | 6-50 plants | no | | |
| 71 | 45° | 33.1543500 | 89° | 41.2987600 | 6-50 plants | no | | |
| 72 | 45° | 33.1445100 | 89° | 41.3533600 | 6-50 plants | no | | |
| 73 | 45° | 33.0518700 | 89° | 41.2277800 | 6-50 plants | no | | |
| 74 | 45° | 33.02787 | 89° | 41.13881 | 6-50 plants | no | | |
| 75 | 45° | 33.00477 | 89° | 41.23852 | 6-50 plants | no | | |
| 76 | 45° | 32.97237 | 89° | 40.84956 | 6-50 plants | no | | |
| 77 | 45° | 32.97129 | 89° | 41.16089 | 6-50 plants | no | | |

WVIC Purple Loosestrife Triennial Monitoring Report – 2019

| Number | Latitude | | Longitude | | Amount | Beetles | % of Damaged Plants Per Site | % Tissue Damage Per Plant |
|--------|----------|----------|-----------|----------|-------------|---------|------------------------------|---------------------------|
| 78 | 45° | 32.95791 | 89° | 40.88148 | 6-50 plants | no | | |
| 79 | 45° | 34.58141 | 89° | 42.12886 | 6-50 plants | yes | 26-50 | 76-100 |
| 80 | 45° | 34.565 | 89° | 42.15015 | 6-50 plants | yes | 26-50 | 76-100 |
| 81 | 45° | 34.44949 | 89° | 42.08965 | 6-50 plants | yes | 1-25 | 26-50 |
| 82 | 45° | 34.43537 | 89° | 42.01472 | 6-50 plants | yes | 1-25 | 76-100 |
| 83 | 45° | 34.38105 | 89° | 41.91878 | 6-50 plants | yes | 76-100 | 51-75 |
| 84 | 45° | 33.80377 | 89° | 41.56419 | 6-50 plants | yes | 76-100 | 26-50 |
| 85 | 45° | 33.79741 | 89° | 41.60635 | 6-50 plants | yes | 1-25 | 76-100 |
| 86 | 45° | 33.07353 | 89° | 40.83648 | 6-50 plants | yes | 26-50 | 26-50 |
| 87 | 45° | 33.07233 | 89° | 40.81074 | 6-50 plants | yes | 26-50 | 26-50 |
| 88 | 45° | 33.06285 | 89° | 40.857 | 6-50 plants | yes | 51-75 | 51-75 |
| 89 | 45° | 33.02751 | 89° | 40.78488 | 6-50 plants | yes | 1-25 | 51-75 |
| 90 | 45° | 33.02583 | 89° | 40.87908 | 6-50 plants | yes | 76-100 | 76-100 |
| 91 | 45° | 33.02193 | 89° | 40.90656 | 6-50 plants | yes | 1-25 | 26-50 |
| 92 | 45° | 33.01491 | 89° | 40.82778 | 6-50 plants | yes | 1-25 | 26-50 |
| 93 | 45° | 32.99967 | 89° | 40.84302 | 6-50 plants | yes | 26-50 | 76-100 |
| 94 | 45° | 34.58703 | 89° | 42.763 | 50+ plants | no | | |
| 95 | 45° | 33.07707 | 89° | 41.21848 | 50+ plants | no | | |
| 96 | 45° | 33.04125 | 89° | 41.15507 | 50+ plants | no | | |

Figure 5



Figure 6

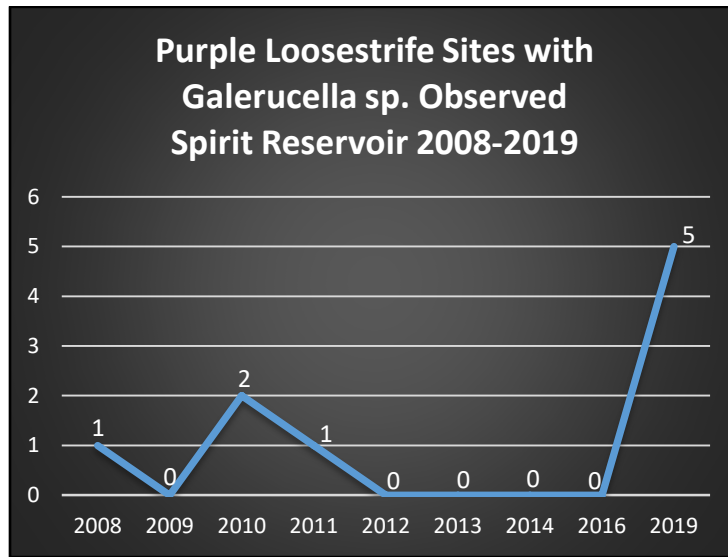


Table 3

| Purple Loosestrife Survey - 2019 | | | | | | | | |
|----------------------------------|----------|------------|-----------|-----------|-------------|-----------------|------------------------------|---------------------------|
| Spirit Reservoir | | | | | | | | |
| Number | Latitude | | Longitude | | Amount | Beetle Activity | % of Damaged Plants Per Site | % Tissue Damage Per Plant |
| 1 | 45° | 27.3406300 | 89° | 50.288020 | 1-5 plants | no | | |
| 2 | 45° | 27.2844900 | 89° | 50.076160 | 1-5 plants | no | | |
| 3 | 45° | 27.2784300 | 89° | 50.208810 | 1-5 plants | no | | |
| 4 | 45° | 27.2656500 | 89° | 50.270610 | 1-5 plants | no | | |
| 5 | 45° | 27.2510700 | 89° | 50.291190 | 1-5 plants | no | | |
| 6 | 45° | 27.0212700 | 89° | 49.853450 | 1-5 plants | no | | |
| 7 | 45° | 27.0015300 | 89° | 49.922380 | 1-5 plants | no | | |
| 8 | 45° | 26.9651700 | 89° | 49.786310 | 1-5 plants | no | | |
| 9 | 45° | 27.2666700 | 89° | 50.306200 | 6-50 plants | no | | |
| 10 | 45° | 27.1934100 | 89° | 50.281230 | 6-50 plants | no | | |
| 11 | 45° | 27.1382100 | 89° | 50.253810 | 6-50 plants | no | | |
| 12 | 45° | 27.0576900 | 89° | 49.867250 | 6-50 plants | no | | |
| 13 | 45° | 27.2846700 | 89° | 50.348730 | 6-50 plants | yes | 76-100 | 26-50 |
| 14 | 45° | 27.2822700 | 89° | 50.306070 | 6-50 plants | yes | 76-100 | 51-75 |
| 15 | 45° | 27.2796300 | 89° | 50.258490 | 6-50 plants | yes | 51-75 | 1-25 |
| 16 | 45° | 27.2644500 | 89° | 50.111500 | 6-50 plants | yes | 26-50 | 26-50 |
| 17 | 45° | 27.2350500 | 89° | 50.345790 | 6-50 plants | yes | 76-100 | 51-75 |

Attachment 2

**Consultation With
WDNR and USFWS**

Scott Blado

From: Scott Blado
Sent: Friday, December 13, 2019 7:53 AM
To: 'Cheryl.laatsch@wisconsin.gov'; 'Nick_Utrup@fws.gov'
Cc: Ben Niffenegger
Subject: RE: 2019 WVIC Purple Loosestrife Update Report

Good morning Cheryl and Nick,

Just following up to ensure that any comments from WDNR or USFWS staff regarding WVIC's 2019 Purple Loosestrife Update are submitted to me so they can be addressed/included in our official filing to FERC.

Thank you,

Scott Blado

Environmental Specialist

Wisconsin Valley Improvement Company

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From: Scott Blado
Sent: Wednesday, November 13, 2019 4:02 PM
To: 'Cheryl.laatsch@wisconsin.gov'; 'Nick_Utrup@fws.gov'
Cc: Ben Niffenegger
Subject: RE: 2019 WVIC Purple Loosestrife Update Report

Correction – Please respond with comments by Friday, December 13, 2019.

Scott Blado

Environmental Specialist

Wisconsin Valley Improvement Company

2301 N. Third Street | Wausau, WI 54403

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From: Scott Blado
Sent: Wednesday, November 13, 2019 3:56 PM

To: 'Cheryl.laatsch@wisconsin.gov'; 'Nick_Utrup@fws.gov'

Cc: Ben Niffenegger

Subject: 2019 WVIC Purple Loosestrife Update Report

Good Afternoon Cheryl and Nick,

Attached is WVIC's 2019 Purple Loosestrife Update Report. Please respond with any comments by Friday, November 13, 2019.

Thank you,

Scott Blado

Environmental Specialist

Wisconsin Valley Improvement Company

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