Appendix D

Ecological Restoration Monitoring

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Abbreviations

A/P	Area to Perimeter Ratio
AIBI	Amphibian Index of Biotic Integrity
BAP	Borrow Area Project
CC	Coefficient of Conservatism
DBH	Diameter at Breast Height
DOE	U.S. Department of Energy
FACW	Facultative Wet
FPA	Former Production Area
FQAI	Floristic Quality Assessment Index
GIS	Graphical Information System
NPP	Northern Pine Plantation
NRRP	Natural Resource Restoration Plan
NRT	Natural Resource Trustee
NWE	Northern Woodlot Enhancement
OBL	Obligate
Ohio EPA	Ohio Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
VIBI	Vegetation Index of Biotic Integrity
WM1	Wetland Mitigation Phase I
WM2	Wetland Mitigation Phase II
WMMP	Fernald Preserve Wetland Mitigation Monitoring Plan
WMMR	Fernald Preserve Wetland Mitigation Monitoring Report

Measurement Abbreviations

cm	centimeters
m^2	meter squared

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D.1.0 Ecological Restoration Monitoring

Ecological restoration monitoring at the Fernald Preserve in 2011 involved completing the wetland mitigation monitoring program, as well as characterization of forest communities as part of functional monitoring. Implementation monitoring was conducted in 2011 as well, as a follow-up to the Natural Resource Trustee (NRT) "Resolution No. 3" projects. Species inventory activities also took place, including reptile and small mammal coverboards.

Wetland mitigation monitoring, functional phase monitoring and implementation monitoring are required as a result of the natural resource damage settlement between U. S. Department of Energy (DOE), Ohio Environmental Protection Agency (Ohio EPA) and U.S. Department of Interior. The *Fernald Preserve Natural Resource Restoration Plan* (NRRP) specifies ecological restoration monitoring requirements (State of Ohio 2008).

D.1.1 Wetland Mitigation Monitoring

Enhanced wetland mitigation monitoring was to take place from 2009 through 2011, as specified in the *Fernald Preserve Wetland Mitigation Monitoring Plan* (WMMP, DOE 2009). For 2011, activities included vegetation surveys, amphibian monitoring, hydrological monitoring and soil biogeochemical sampling. A jurisdictional wetland delineation was also conducted, in order to calculate the extent of mitigation wetland acreage created. Wetland perimeter to area ratios and basin morphometry were calculated as well, Figure D−1 shows the wetland areas that are included in the wetland mitigation monitoring program.

The discussion below summarizes 2011 activities only. The *Fernald Preserve Wetland Mitigation Monitoring Report* (WMMR, DOE 2012) presents detailed discussions of the three-year monitoring effort, as well as a comparison to mitigation performance standards that were established in the WMMP (DOE 2009).

D.1.1.1 Jurisdictional Wetland Delineation and Other Design Parameters

Mitigation wetland acreage was estimated via a jurisdictional wetland delineation. The 1987 U.S. Army Corp of Engineers (USACE) *Wetland Delineation Manual* (USACE 1987) and associated *Interim Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Midwest Region* (USACE 2008) were used to delineate wetland boundaries within all evaluated wetland basins. Fieldwork commenced in late May 2011 and continued through July 2011. Field personnel identified major landscape or vegetation units within each of the 23 wetland areas to be evaluated. One or more delineation sample points were selected from each basin. Two indicator tests were applied to determine the presence of hydrophytic vegetation and hydric soil in order to determine whether the delineation sample point fell within a wetland area, thus determining the wetland boundary. Landscape-level photographs and photographs of vegetation and soil, were taken at each sample point. Each sample point was documented with a *Midwest Region Wetland Determination Data Form* (USACE 2008). Pursuant to Ohio EPA monitoring protocols (Mack 2004), net wetland acreage was calculated by subtracting the area of unvegetated open water (above 10 percent) from the total acreage within the delineation boundary.

A total of 31.3 acres of jurisdictional wetlands was delineated across the wetland areas included in the monitoring program. Table D-1 provides wetland acreages by basin. Figures D–2A through D–2E show the wetland delineation boundary within each basin, along with delineation sample locations. The delineation acreage is well in excess of the 17.85 acres of mitigation wetlands specified in the WMMP.

Additional design parameter performance standards include a perimeter to area ratio of greater than 75 percent, and basin morphometry of greater than 15:1 ratio (i.e., less than 6.8 percent side slope). Basin morphometry and perimeter-to-area ratio were estimated using Graphical Information System (GIS) measurement and analytical tools. Delineation boundaries were used to calculate morphometry via slope histograms. Slope percentage was determined for all areas within the wetland boundary. Pursuant to the Ohio EPA monitoring protocols, the performance standard is met when greater than 50 percent of the wetland area has a slope of less than 6.8 percent.

Because impacted wetlands were lost during remediation, a "basin to basin" comparison for determining perimeter to area ratio was not possible. Instead, the ratio was calculated on a sitewide basis. The total length of mitigation wetlands is approximately 84 percent of the total impacted wetland length. Therefore, the 75 percent performance standard is met. Note that since this calculation is for all wetlands evaluated, basin-specific percentages are not presented in Table D–1.

For basin morphometry (percent side slopes), Table D–1 shows that this performance standard was met for all basins except FPAW7. This is most likely an artifact of the way that morphometry is calculated. The "open water" portions of the wetland areas are excluded from the area calculations by the GIS program. Most of FPAW7 consists of a level, emergent wetland community. Since the GIS shape considers this area "open water" it is not included in the calculation. If it were included, FPAW7 would certainly meet the greater than 50 percent performance standard.

D.1.1.2 Hydrologic Regime Parameters

Hydrological monitoring consists of daily water level readings from shallow wells (i.e., piezometers) that were installed in late 2009. The location of piezometers within site wetlands is shown on Figures D–2A to D–2E. Table D–2 summarizes the 2011 findings.

There are three performance standards associated with water levels: the average depth to water from ground surface should be less than 29.4 centimeters (cm), water should be present in the root zone (less than 30 cm from ground surface) more than 53 percent of the time, and the "flashiness index" of the basin should be less than 2.0. Flashiness index is determined by calculating the absolute value of daily water elevation differences and averaging them throughout the year.

Table D–2 shows that most wetlands met both the root zone standard and average depth standard. All basins met the standard for flashiness index. These findings are as expected for surface water-fed emergent wetlands such as those at Fernald. Hydrographs, which are included in Figures D–3A to D–3W showed a similar trend as in 2010, with variation dictated by precipitation. Over 60 inches of rain fell onsite in 2011, making it the wettest year on record.

Nevertheless, most basins experienced a drawdown of water in the fall. This pattern is consistent with other surface water-fed wetlands in Ohio (Mack 2004). Note that the results presented in the hydrographs and in Table D–2 are slightly different than what is reported in the WMMR (DOE 2012). These SER results represent the entire calendar year, while the values presented in the WMMR were through October 15, 2011. Notes are provided on the hydrograph charts indicating when the piezometer was dry, or when data was not collected due to transducer failure.

D.1.1.3 Vegetation Parameters and Vegetation Index of Biotic Integrity

Several vegetation parameters are used to compare on-site restored wetlands against performance criteria established by Ohio EPA (Mack 2004). Parameters include less than 10 percent of unvegetated open water, greater than 75 percent native perennial hydrophytes, and a Vegetation Index of Biotic Integrity (VIBI) of 48 to 63. All of these metrics are obtained via fixed plot vegetation survey, where ten 10-meter by 10-meter modules are established and surveyed for species richness. The 10 plots are arranged to be representative of the vegetation within a particular wetland area. Usually, the fixed plot grid is laid out in a 2-module by 5-module pattern. However, this configuration can be altered if conditions warrant. For instance, a 1-module by 10-module pattern may be used to survey a long, narrow stretch of wetland vegetation along a shoreline. Four of the 10 modules are intensively monitored, with cover and biomass data collected in addition to species richness. Field procedures are documented in the *Fernald Preserve Ecological Monitoring Methods Plan* (DOE 2010).

Unvegetated open water is determined from cover estimates taken during the fixed plot surveys. The percentage of native perennial hydrophytes is estimated via species richness values for each wetland basin. The Ohio Floristic Quality Assessment Index (FQAI) Database is used to determine nativity status (Andreas 2004).

The VIBI is calculated using 10 metrics. Collected vegetation data are used to assign a score (0, 3, 7, 10) for each of the 10 metrics, which results in a composite score for a given wetland between 0 and 100. The WMMP (DOE 2009) established that site wetland areas will be evaluated against the emergent wetland performance criteria. Therefore, the VIBI metrics calculated from the collected vegetation data include the following:

1. *Carex* Richness: The total number of species in the genus *Carex.*
2. Dicot Richness: The total number of native species that are dicotyledons.
3. Shrub Richness: The total number of native wetland shrubs.
4. Hydrophyte Richness: The total number of native species that have a facultative wetland (FACW) or obligate (OBL) wetland indicator status.
5. Annual/Perennial Ratio (A/P Ratio): The number of annual species divided by the number of perennial species.
6. FQAI: The sum of Coefficient of Conservatism (CC) values is divided by the square root of the total number of species.
7. Percent Sensitive Species: The sum of relative cover for all species with CC of 6 or higher.
8. Percent Tolerant Species: The sum of relative cover for all species with CC of 2 or less. This includes non-native species, which are assigned a CC of 0.

9. Percent Invasive Graminoids: The sum of the relative cover for reed canary grass (*Phalaris arundacea*), cattails (*Typha* spp.), and giant reed (*Phragmites australis*).
10. Biomass: Average grams per square meter (m^2) of standing biomass samples. Four biomass samples were collected in each wetland basin; one from each of the four intensive modules.

Figures D–2A to D–2E show the location of fixed plot grids within each wetland basin evaluated. Data summaries for each of the wetland basins are provided in Table D–3. Basin-specific species lists are included in Tables D–4 to D–26. As discussed in the WMMR, results of the vegetation surveys are mixed. Most basins met the unvegetated open water standard. Most of the basins that did not meet the standard were created adjacent to larger open water bodies. For the percent native perennial hydrophytes, many basins either met the standard or came close. As the basin-specific tables show, some basins are influenced by non-native species such as cattail (*Typha x glauca*).

There may be some benefit to wetlands that are located near existing forest communities. All of the wetlands in the Northern Pine Plantation (NPP) and Wetland Mitigation Phase II (WM2) met the VIBI performance standard. These wetland areas are both located in the northern part of the site, adjacent to undisturbed woodlots (Figure D–1). The basin-specific tables show that the WM2 basins benefit from establishment of volunteer woody vegetation. For other wetland areas, it is difficult to discern a pattern for vegetation. Additional monitoring in future years would help to establish trends.

D.1.1.4 Soil Biogeochemical Parameters and Water Chemistry

Soil and water samples were collected at each wetland basin. Pursuant to Ohio EPA monitoring protocols, six samples were collected: five in a "Y" shaped pattern that extended into the wetland basin and one at the center of vegetation monitoring fixed plots (Mack 2004). Samples were analyzed for total nitrogen, total organic carbon, and percent solids. Median values were calculated for all parameters in each basin. Additionally, a surface water grab sample was collected in each basin and analyzed for a number of water quality parameters. Sample locations are shown on Figures D–2A to D–2E.

Table D–27 provides the results of soil and water chemistry sampling. For soil sampling, the only performance standards that were obtained were for percent total organic carbon in three of the Former Production Area basins. These results are consistent with other wetland mitigation evaluations in Ohio (Fennessy 2004). The compacted clay that is needed to construct surface water-fed wetlands limits the establishment of a loose, organic soil column. Field observations showed that there was strong stratification in the soil samples, with a thin organic layer sitting on top of a dense clay horizon. It is expected that biogeochemistry will improve over time. Hydrologic and vegetation results show that basins are sufficiently inundated and that wetland vegetation is well established. These factors will lend to gradual buildup of the organic soils that are characteristic of natural wetlands.

There are no performance standards associated with water quality. All of the results appear to be within normal range of conditions.

D.1.1.5 Amphibian Index of Biotic Integrity

The use of the Amphibian Index of Biotic Integrity (AIBI) is an additional tool for evaluation of wetlands as detailed in the WMMP (DOE 2009). The purpose of the AIBI is to use amphibian communities in wetlands as indicators of overall wetland conditions. The data collected provides information on species richness and abundance per wetland basin. While there are no performance standards associated with AIBI calculations, the results do provide a good indication of mitigation wetland ecological services and functions.

Monitoring and data collection are conducted three times between late February and early July, with each event spaced approximately six weeks apart. Late winter to early spring sampling (late February to early April) allows for monitoring of adult salamanders, early breeding frogs and macroinvertebrates. Middle spring sampling (late April to mid May) is conducted to collect adult frog species, amphibian larvae, and macroinvertebrates. Late spring to early summer sampling (early June to early July) is conducted to collect well-developed amphibian larvae and macroinvertebrates.

Ten funnel traps are placed evenly around the perimeter of a wetland basin. The distance between each trap was determined by pacing around the wetland perimeter and dividing the total paces by 10. Traps are placed on the substrates of the wetland and partially submerged. The traps are left at the designated locations for 24 hours to ensure results for diurnal and nocturnal activity patterns. Traps are not baited. Funnel traps are similar in size and shape to a commercial minnow trap but constructed with a smaller mesh aluminum screen. Cylinders are 18 inches long and 8 inches in diameter with fiberglass cones on each end. The funnels are directed inward and contain a 1.75-inch-diameter circular opening in the middle. The monitoring methods described above are in accordance with *Integrated Wetland Assessment Program Part 7: Amphibian Index of Biotic Integrity for Ohio Wetlands* (Micacchion 2004).

The AIBI is calculated using five metrics. Amphibian data are used to assign a score (0, 3, 7, 10) for each of the 5 metrics resulting in a composite score for a given wetland between 0 and 50. The WMMP established that site wetland areas will be evaluated against the emergent wetland performance criteria (DOE 2009), therefore, the AIBI metrics calculated from the collected amphibian data include the following:

- Amphibian Quality Assessment Index: A weighted index that takes into account both the sensitivity of individual species and the number of individuals collected. The sum of each individual species is multiplied by its associated CC score. This total is then divided by the total number of amphibians collected in the wetland.
- Relative Abundance of Sensitive Species: The sum for all species with CC of six or higher divided by the total number of amphibians.
- Relative Abundance of Tolerant Species: The sum for all species with CC of three or less divided by the total number of amphibians.
- Number of Pond Breeding Salamanders Species: Adult pond breeding ambystomatid salamander species are primarily terrestrial; however, egg and larval life stages are aquatic.
- Presence of Spotted Salamanders or Wood Frogs: These two species are indicators of relatively undisturbed conditions. Neither occurs at sites that are severely degraded.

Fifteen wetland basins within five different restoration areas were surveyed in 2011. Figures D–2A to D–2E show the wetland areas that are included in the amphibian monitoring program.

Scoring metrics and results of the amphibian monitoring program are provided in Table D–28. Table D–29 lists the amphibian species observed in 2011. These tables show that several of the onsite mitigation wetlands are developing into good habitat for amphibians. It is interesting to note the importance of placement of created wetlands. As with the vegetation results discussed above, most of the basins that support ambystomatid salamanders are located adjacent to established forest communities. The NPP wetlands had two species observed, and all three WM2 wetlands included at least one salamander species. These findings are corroborated with previous species inventory and public outreach activities, where ambystomatid salamanders have been observed in the WM2 basins for several years. For the first time, a larval salamander (*Ambystoma sp.*) was also observed in the Wetland Mitigation Phase I (WM1) wetlands. This is an encouraging indication that ambystomatid salamanders may be expanding their range where habitat allows.

D.1.2 Forest Functional Phase Monitoring

Pursuant to the NRRP, functional phase monitoring in 2011 focused on restored and existing forest communities. Fifteen random 1 m^2 quadrats were surveyed across each of 23 forest areas during the growing season (June through September). Figures D–4A to D–4D show quadrat locations within each monitoring area. Surveys were divided into three rounds of five samples to ensure coverage throughout the growing season. Species richness data were collected and were used to calculate the percent native species, average CC and FQAI for each restoration area. Cover class estimates were also obtained in order to evaluate the extent of vegetation establishment across restored areas. Processes for calculating FQAI and cover are described in the *Ecological Monitoring Methods Plan* (DOE 2010).

A summary of forest functional monitoring findings is provided in Tables D–30 and D–31. Results are presented separately in these tables for the herbaceous layer and woody vegetation. As with previous functional monitoring efforts, the forest data sets are used to compare to both the baseline and reference sites. The baseline and reference site information was originally reported in the *2002 Consolidated Monitoring Report for Restored Areas* (DOE 2003). This information is now available as an appendix to the *Fernald Preserve Ecological Monitoring Methods Plan* (DOE 2010). A comparison of the three communities originally investigated in 2005 is provided in Table D–32. Area-specific data summaries for herbaceous vegetation are provided in Tables D–33 through D–55. For woody vegetation, area-specific results are included in Tables D–56 to D–78.

Results are mostly as expected across the site, with older forests containing quality herbaceous vegetation and larger trees. A number of restored forest communities have diverse native trees and shrubs, due to revegetation efforts during restoration. For the baseline and reference site comparison, results show improvement over baseline conditions in Area 8, Phase II, but relatively similar conditions in the Northern Woodlot Enhancement (NWE) and the Southern Waste Units. The NWE area benefits from restoration plantings, but this was offset by several new woody invasives that were not present in 2005. Callery pear (*Pyrus communis*) is establishing in restored areas, and this has affected the native species composition in NWERF1. There was also a higher density of multiflora rose (*Rosa multiflora*) and amur honeysuckle

(*Lonicera maackii*) when compared to 2005 (Table D-32). Continued control of invasive species is needed to reverse this trend.

D.1.3 Implementation Monitoring

The Natural Resource Trustee Resolution No. 3 projects were completed in late summer 2010. These projects involved erosion repair, addition of soil amendment and seeding to establish mesic tallgrass prairie within three areas in the Former Production Area. Figure D-1 shows the location of these projects, which are known as the Solid Waste Landfill, the Haul Road, and the Prairie Area. In 2011, herbaceous surveys were conducted as required in the NRRP. Five random quadrats were sampled from each of these areas to determine total cover and native species establishment. A summary of results is provided in Table D–79, with area-specific species lists included in Tables D–80 to D–82. Figures D–4A to D–4D show quadrat locations within each area.

The NRRP specifies a goal of 90 percent total cover and 50 percent native species establishment. Native species was met for two of the three areas, but total cover goals were not met. The Prairie Area appears to be impacted by the existing cool season grasses and forbs that dominated the area prior to seeding, with only two forbs from the seeding mix observed (gray-headed coneflower and black-eyed Susan, Table 82). Glysophate herbicide was applied to the area prior to seeding, but there still appeared to be competition from the soil seedbank. A large amount of ragweed (*Ambrosia artemisifolia*) became established, prompting the need to mow and bale the area. This may have led to additional impacts from Canada geese, which were observed grazing these mowed areas in the fall of 2011. All three of the Resolution No. 3 project areas will be surveyed in 2012, to determine if conditions have improved.

D.1.4 Species Inventory Activities

An effort was initiated in 2008 to inventory a variety of plant and animal species at the Fernald Preserve. This work assists with adaptive management of ecologically restored areas, adds to the local database of biological information, and provides opportunities for educational outreach.

Reptile and small mammal surveys were continued in 2011. Coverboards were placed around a number of site wetlands and monitored biweekly from April through October. The coverboards are simply 2-feet by 4-feet pieces of corrugated sheet metal placed directly on the ground. Animals are attracted to the cover and warmth the coverboards provide. Table D–83 lists the species observed and frequency of occurrence in 2011. Findings were roughly similar to those in previous years. No new species of reptiles or amphibians were observed in 2011.

D.1.5 Activities in 2012

The WMMR is the primary driver for future monitoring activities (DOE 2012). The report specifies that intensive annual monitoring of mitigation wetlands is no longer required. However, wetlands will continue to be evaluated on a three-year rotation, as part of a continued functional monitoring program. This process involves vegetation and amphibian surveys of mitigation wetlands in 2012. Hydrological monitoring will also continue. Implementation monitoring will continue as well, with a second year of herbaceous cover in the Resolution No. 3 project areas. Several restoration projects are planned for 2012, and these will be evaluated for herbaceous cover and woody vegetation survival. Project-specific species inventory activities will also continue.

Table D–1. Wetland Mitigation Design Parameters Summary

Restoration Project Area	Wetland Area	Delineation Acreage	Less Than 6.8% side slope (Percent of area)
Borrow Area (BAP)	BAPW2	NA[a]	NA[a]
	BAPW3	2.8	**84%**
	BAPW4	3.0	**86%**
	BAPW7	NA[a]	NA[a]
	BAPW9	7.3	**76%**
Former Production Area (FPA)	FPAW2	2.0	**84%**
	FPAW4	1.4	**76%**
	FPAW5	1.2	**85%**
	FPAW7	1.4	48%
	FPAW9	0.5	**68%**
	PREW6	2.8	**75%**
Northern Pine Plantation Enhancement (NPP)	NPPW4	0.7	**73%**
	NPPW5	0.2	**98%**
Wetland Mitigation Phase I (WM1)	WM1W1	0.9	**68%**
	WM1W2	1.1	**91%**
	WM1M3	0.8	**80%**
	WM1W4	0.8	**88%**
	WM1W5	0.2	**71%**
	WM1W6	1.5	**83%**
	WM1W7	0.5	**76%**
Wetland Mitigation Phase II (WM2)	WM2W1	1.2	**55%**
	WM2W2	0.6	**89%**
	WM2W3	0.5	**53%**
	All Basins	**31.3**	
Peformance Standard		**17.85 Acres**	**>50%**

Values in bold have met the performance standard

[a]NA = Not Applicable. BAPW2 and BAPW7 were combined during the delineation. The acreage for these three areas are included in the delineation acreage for BAPW9.

Table D–2. Wetland Mitigation Hydrological Monitoring Summary

Restoration Project Area	Wetland Area	Average Depth (cm)	Time in Root Zone (Percent)	Flashiness Index
Borrow Area (BAP)	BAPW2	**25**	**70%**	**0.6**
	BAPW3	**13**	**81%**	**0.8**
	BAPW4	**17**	**81%**	**0.8**
	BAPW7	**26**	**79%**	**0.4**
	BAPW9	**18**	**77%**	**0.9**
Former Production Area (FPA)	FPAW2	**27**	**78%**	**0.4**
	FPAW4	**16**	**85%**	**0.3**
	FPAW5	**23**	**81%**	**0.4**
	FPAW7	**20**	**80%**	**0.9**
	FPAW9	30	**76%**	**0.3**
	PREW6	**7**	**83%**	**0.5**
Northern Pine Plantation Enhancement (NPP)	NPPW4	**18**	**76%**	**0.7**
	NPPW5	**24**	**73%**	**0.6**
Wetland Mitigation Phase I (WM1)	WM1W1	41	**55%**	**0.7**
	WM1W2	32	**74%**	**0.4**
	WM1W3	38	**69%**	**0.7**
	WM1W4	**22**	**79%**	**0.4**
	WM1W5	**29**	**67%**	**1.3**
	WM1W6	52	46%	**0.6**
	WM1W7	**25**	**66%**	**0.6**
Wetland Mitigation Phase II (WM2)	WM2W1	**4**	**97%**	**0.9**
	WM2W2	**20**	**60%**	**0.7**
	WM2W3	**0**	**76%**	**0.6**
Performance Standard		<29.4	>53%	<2.0

Values in bold have met the performance standard

Table D–3. Wetland Mitigation Vegetation Monitoring Summary

Restoration Project Area	Wetland Area	Unvegetated Open Water (Percent)	Native Perennial Hydrophytes (Percent)	Total Species	Native Species	Non-Native Species	Native Species (Percent)	Average CC[a]	FQAI[b]	VIBI Score[c]
Borrow Area (BAP)	BAPW2	**1.3%**	**84.3%**	34	30	4	88%	2.78	15.73	**46**
	BAPW3	**2.0%**	67.2%	37	30	6	81%	2.08	12.5	42
	BAPW4	**1.3%**	61.8%	42	28	14	67%	1.71	10.93	23
	BAPW7	**1.8%**	55.5%	45	35	9	78%	1.83	11.88	**50**
	BAPW9	**3.0%**	70.2%	35	28	7	80%	1.91	11.15	29
Former Production Area (FPA)	FPAW2	40.0%	**96.1%**	22	19	3	86%	2.14	9.82	40
	FPAW4	26.0%	42.0%	33	27	4	82%	2.10	11.67	18
	FPAW5	11.5%	56.0%	58	42	13	72%	2.17	15.8	**54**
	FPAW7	**1.0%**	29.1%	12	10	2	83%	2.25	8.37	13
	FPAW9	**2.8%**	58.3%	35	30	4	86%	2.85	16.36	**56**
	PREW6	17.3%	46.2%	40	28	12	70%	1.64	10.25	25
Northern Pine Plantation Enhancement (NPP)	NPPW4	**5.3%**	72.1%	49	41	6	84%	2.34	16.05	**58**
	NPPW5	**3.8%**	**79.6%**	55	44	10	80%	2.04	14.97	**61**
Wetland Mitigation Phase I (WM1)	WM1W1	**1.3%**	47.2%	33	27	6	82%	2.18	12.53	39
	WM1W2	**2.1%**	60.6%	70	52	18	74%	1.94	16.01	**61**
	WM1M3	**3.8%**	**75.6%**	43	29	13	67%	1.75	11.07	46
	WM1W4	**8.0%**	60.2%	63	48	14	76%	1.72	13.44	**54**
	WM1W5	**0.0%**	71.0%	42	22	19	52%	1.30	8.22	32
	WM1W6	**1.3%**	43.3%	58	42	16	72%	1.96	14.7	**48**
	WM1W7	**2.9%**	64.0%	29	21	6	72%	2.00	10.39	42
Wetland Mitigation Phase II (WM2)	WM2W1	**1.0%**	63.8%	50	37	10	74%	1.73	11.63	**53**
	WM2W2	13.8%	**81.0%**	34	31	2	91%	2.29	12.75	**49**
	WM2W3	20.5%	55.6%	45	38	7	84%	2.20	14.76	**51**
Performance Standard		<10%	>75%	NA[d]	NA[d]	NA[d]	NA[d]	NA[d]	NA[d]	48-63

Values in bold have met the performance standard

[a]CC = Coefficent of Conservatism

[b]FQAI = Floristic Quality Assessment Index

[c]VIBI = Vegetative Index of Biotic Integrity

[d]NA = Not Applicable. No performance standard exists for this parameter

Table D–4. BAPW2 Wetland Vegetation Monitoring Data Summary

Total Species:	34
Native Species:	30
Non-Native Species:	4
Average CC[a]:	2.78

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.296%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.075%
Ammannia robusta	SESSILE TOOTH-CUP	forb	7	OBL	0.296%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	1.035%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.739%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.222%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.517%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	1.035%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.001%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	10.420%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.443%
Elymus canadensis	CANADA WILD RYE	grass	6	FACU+	0.517%
Hamamelis virginiana	WITCH-HAZEL	sm tree	5	FAC-	0.074%
Juncus tenuis	PATH RUSH	forb	1	FAC-	0.443%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	10.790%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.001%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	0.223%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	18.476%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.591%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	7.243%
Robinia pseudoacacia	BLACK LOCUST	tree	0	FACU-	5.617%
Sagittaria latifolia	COMMON ARROWHEAD	forb	1	OBL	0.074%
Salix nigra	BLACK WILLOW	tree	2	FACW+	2.143%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	5.912%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.222%
Sorghastrum nutans	INDIAN GRASS	grass	5	UPL	0.074%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	1.330%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	22.171%
Ulmus rubra	SLIPPERY ELM	tree	3	FAC	1.109%
Vitis sp.	NDA[c]	vine	NDA[c]	NDA[c]	0.001%
Agrostis gigantea	**REDTOP**	grass	0	FACW	1.109%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	6.651%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.074%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.075%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–5. BAPW3 Wetland Vegetation Monitoring Data Summary

Total Species:	37
Native Species:	30
Non-Native Species:	6
Average CC[a]:	2.08

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	1.568%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.224%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.224%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.672%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	0.523%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.747%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.763%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	0.523%
Cornus amomum	SILKY DOGWOOD	shrub	2	FACW	1.120%
Cyperus strigosus	STRAW-COLORED UMBRELLA-S.	sedge	1	FACW	0.075%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	10.978%
Eupatorium altissimum	TALL BONESET	forb	0	UPL	0.224%
Iris versicolor	NORTHERN BLUE FLAG	forb	6	OBL	1.120%
Juncus effusus	SOFT RUSH	forb	1	FACW+	1.120%
Juncus tenuis	PATH RUSH	forb	1	FAC-	1.120%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	4.854%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.075%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	3.659%
Mimulus ringens	COMMON MONKEY-FLOWER	forb	4	OBL	0.075%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	12.696%
Phyla lanceolata	FOG-FRUIT	forb	3	OBL	0.224%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.149%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	18.670%
Salix nigra	BLACK WILLOW	tree	2	FACW+	2.838%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	4.258%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.523%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	0.523%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.224%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	0.523%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	1.120%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.075%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	6.721%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.075%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.672%
Trifolium pratense	**RED CLOVER**	forb	0	FACU-	0.075%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	18.969%
Euphorbia species	NDA[c]	forb	NDA[c]	NDA[c]	0.001%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–6. BAPW4 Wetland Vegetation Monitoring Data Summary

Total Species:	42
Native Species:	28
Non-Native Species:	14
Average CC[a]:	1.71

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer negundo	BOX ELDER	tree	3	FAC+	0.173%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	3.001%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.346%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.404%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.289%
Bidens connata	PURPLE-STEMMED BEGGAR'S-TICK	forb	3	FACW+	0.115%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	1.154%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	4.385%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.808%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.346%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.597%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	0.866%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[a]	0.173%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	5.078%
Juncus effusus	SOFT RUSH	forb	1	FACW+	0.808%
Juncus tenuis	PATH RUSH	forb	1	FAC-	1.673%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	1.731%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	5.366%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.173%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.731%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	6.751%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	17.022%
Sagittaria latifolia	COMMON ARROWHEAD	forb	1	OBL	0.173%
Salix nigra	BLACK WILLOW	tree	2	FACW+	0.115%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	4.155%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	7.617%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.173%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.173%
Agrostis gigantea	**REDTOP**	grass	0	FACW	3.289%
Bromus japonicus	**JAPANESE BROME**	grass	0	FACU-	0.058%
Cichorium intybus	**CHICORY**	forb	0	UPL	0.001%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.058%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	0.173%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	6.347%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	UPL	0.058%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.173%
Potamogeton crispus	**CURLY-LEAVED PONDWEED**	forb	0	OBL	1.731%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.173%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.058%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.173%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	20.196%
Xanthium strumarium	**COMMON COCKLEBUR**	forb	0	FAC	0.115%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–7. BAPW7 Wetland Vegetation Monitoring Data Summary

Total Species:	45
Native Species:	35
Non-Native Species:	9
Average CC[a]:	1.83

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	1.448%
Alopecurus sp.	NDA[c]	grass	NDA[c]	NDA[c]	0.603%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.121%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.181%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.060%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.784%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.181%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	3.016%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.181%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	1.749%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	5.549%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	5.488%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	0.181%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.181%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	5.609%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	4.825%
Eupatorium altissimum	TALL BONESET	forb	0	UPL	1.267%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	0.181%
Juncus effusus	SOFT RUSH	forb	1	FACW+	0.603%
Juncus tenuis	PATH RUSH	forb	1	FAC-	10.555%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	1.327%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.785%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	0.603%
Mimulus ringens	COMMON MONKEY-FLOWER	forb	4	OBL	1.327%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	11.158%
Polygonum hydropiper	WATER-PEPPER	forb	1	OBL	0.181%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	3.016%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.965%
Salix nigra	BLACK WILLOW	tree	2	FACW+	1.809%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	0.724%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	4.644%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	0.905%
Scirpus pendulus	DROOPING BULRUSH	sedge	2	OBL	0.422%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.060%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	4.825%
Agrostis gigantea	**REDTOP**	grass	0	FACW	5.549%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.181%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.362%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	0.181%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	11.580%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.060%
Potamogeton crispus	**CURLY-LEAVED PONDWEED**	forb	0	OBL	4.222%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.483%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	1.689%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.181%

[a] CC = Coefficient of Conservatism

[b] see http://plants.usda.gov/wetinfo.html

[c] NDA = No Determination Available

Species in bold are non-native.

Table D–8. BAPW9 Wetland Vegetation Monitoring Data Summary

Total Species:	35
Native Species:	28
Non-Native Species:	7
Average CC[a]:	1.91

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	1.149%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.805%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	3.678%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.805%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	12.643%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	1.724%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	8.046%
Cornus amomum	SILKY DOGWOOD	shrub	2	FACW	0.805%
Cyperus sp.	NDA[a]	sedge	NDA[c]	NDA[c]	0.690%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	1.609%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	4.368%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	1.149%
Eupatorium altissimum	TALL BONESET	forb	0	UPL	0.345%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.345%
Juncus tenuis	PATH RUSH	forb	1	FAC-	5.747%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	4.253%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.692%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	3.333%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	FACU	0.345%
Polygonum hydropiper	WATER-PEPPER	forb	1	OBL	0.345%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	1.609%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.034%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.805%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	5.747%
Senna hebecarpa	NORTHERN WILD SENNA	forb	4	FAC	0.345%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	1.724%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	19.539%
Ulmus rubra	SLIPPERY ELM	tree	3	FAC	0.002%
Agrostis gigantea	**REDTOP**	grass	0	FACW	3.448%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	1.609%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	5.747%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	4.023%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.690%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.690%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	0.115%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–9. FPAW2 Wetland Vegetation Monitoring Data Summary

Total Species:	22
Native Species:	19
Non-Native Species:	3
Average CC[a]:	2.14

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer sp.	NDA[a]	tree	NDA[c]	NDA[c]	0.002%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	2.256%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.846%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.094%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.282%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.094%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	7.049%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	5.639%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	1.974%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	16.541%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	1.128%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	0.282%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	4.041%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	51.221%
Sagittaria latifolia	COMMON ARROWHEAD	forb	1	OBL	0.094%
Salix nigra	BLACK WILLOW	tree	2	FACW+	6.579%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	0.846%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.094%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	0.282%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.376%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.188%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	0.094%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–10. FPAW4 Wetland Vegetation Monitoring Data Summary

Total Species:	33
Native Species:	27
Non-Native Species:	5
Average CC[a]:	2.10

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.251%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.497%
Apocynum cannabinum	INDIAN HEMP	forb	1	FACU	0.124%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	1.368%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	FACW-	0.002%
Bidens connata	PURPLE-STEMMED BEGGAR'S-TICK	forb	3	FACW+	0.124%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.622%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	2.736%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	0.124%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.612%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	1.244%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	2.985%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	1.865%
Erechtites hieracifolia	PILEWORT	forb	2	FACU	0.002%
Juncus tenuis	PATH RUSH	forb	1	FAC-	0.746%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	27.111%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	5.969%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	10.944%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.002%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	3.109%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.251%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	UPL	0.373%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	FACU-	0.124%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	0.622%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.373%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.622%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.249%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	4.726%
Hydrocotyle ranunculoides	**BUTTERCUP-PENNYWORT**	forb	0	OBL	1.741%
Melilotus alba	**WHITE SWEET-CLOVER**	forb	0	FACU-	0.373%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	2.612%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	24.251%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	1.244%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–11. FPAW5 Wetland Vegetation Monitoring Data Summary

Total Species:	58
Native Species:	42
Non-Native Species:	13
Average CC[a]:	2.17

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.163%
Ammannia robusta	SESSILE TOOTH-CUP	forb	7	OBL	0.003%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	5.373%
Apocynum cannabinum	INDIAN HEMP	forb	1	FACU	0.488%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.488%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	FACW-	0.166%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.814%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.163%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.488%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	11.886%
Carex sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.488%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	6.513%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	3.256%
Chamaecrista fasciculata	PARTRIDGE-PEA	forb	3	FACU	0.488%
Conyza canadensis	HORSEWEED	forb	0	UPL	0.163%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	2.280%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	1.628%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	1.628%
Elymus canadensis	CANADA WILD RYE	grass	6	FACU+	0.488%
Erigeron annuus	DAISY FLEABANE	forb	0	FACU	0.163%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	FAC-	0.003%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	0.003%
Juncus tenuis	PATH RUSH	forb	1	FAC-	3.419%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	8.141%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	3.582%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	3.256%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	0.163%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.488%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	7.164%
Penstemon digitalis	FOXGLOVE BEARD-TONGUE	forb	2	FAC	0.163%
Platanus occidentalis	SYCAMORE	tree	7	FACW-	0.651%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.651%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	1.628%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	UPL	1.143%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	FACU-	0.651%
Salix nigra	BLACK WILLOW	tree	2	FACW+	0.166%
Schizachyrium scoparium	LITTLE BLUESTEM	grass	5	FACU-	3.582%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.628%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	2.768%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	1.140%
Tradescantia ohiensis	OHIO SPIDERWORT	forb	5	FAC	0.488%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.651%
Bromus japonicus	**JAPANESE BROME**	grass	0	FACU-	0.003%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.488%
Conium maculatum	**POISON-HEMLOCK**	forb	0	FACW	0.488%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.977%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	3.582%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.163%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	FACU-	8.141%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	UPL	0.326%
Plantago major	**COMMON PLANTAIN**	forb	0	FACU	0.003%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.163%
Trifolium pratense	**RED CLOVER**	forb	0	FACU-	0.163%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.488%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	5.048%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.163%
Unknown grass	UNKNOWN	grass	NDA[c]	NDA[c]	0.651%
Unknown	UNKNOWN	NDA[c]	NDA[c]	NDA[c]	0.488%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–12. FPAW7 Wetland Vegetation Monitoring Data Summary

Total Species:	12
Native Species:	10
Non-Native Species:	2
Average CC[a]:	2.25

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	3.524%
Carex comosa	BEARDED SEDGE	sedge	2	UPL	1.542%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	1.542%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	6.608%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	24.228%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	3.304%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.225%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.000%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	3.304%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	10.792%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	1.982%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	42.950%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–13. FPAW9 Wetland Vegetation Monitoring Data Summary

Total Species:	35
Native Species:	30
Non-Native Species:	4
Average CC[a]:	2.85

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.467%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	0.350%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	4.433%
Ammannia robusta	SESSILE TOOTH-CUP	forb	7	OBL	0.117%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.233%
Apocynum cannabinum	INDIAN HEMP	forb	1	FACU	0.355%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	1.867%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.583%
Bouteloua curtipendula	SIDE-OATS GRAMA GRASS	grass	8	UPL	0.117%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	5.716%
Cornus amomum	SILKY DOGWOOD	shrub	2	FACW	0.117%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.117%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	2.917%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	1.517%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	FAC-	3.267%
Ilex verticillata	WINTERBERRY	shrub	6	FACW+	0.117%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.236%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	9.919%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.350%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	16.333%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	3.267%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	3.733%
Salix discolor	PUSSY WILLOW	shrub	3	FACW	1.633%
Salix nigra	BLACK WILLOW	tree	2	FACW+	10.383%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.517%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	4.900%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	1.167%
Spiraea alba	MEADOW-SWEET	shrub	3	FACW+	0.350%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.002%
Vitis vulpina	FROST GRAPE	vine	3	FAC	0.002%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.119%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.002%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.467%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	23.332%
Unknown cress	UNKNOWN	forb	NDA[c]	NDA[c]	0.002%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–14. PREW6 Wetland Vegetation Monitoring Data Summary

Total Species:	40
Native Species:	28
Non-Native Species:	12
Average CC[a]:	1.64

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer negundo	BOX ELDER	tree	3	FAC+	0.107%
Acer saccharinum	SILVER MAPLE	tree	3	FACW	0.320%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	1.814%
Apocynum cannabinum	INDIAN HEMP	forb	1	FACU	0.002%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.002%
Campsis radicans	TRUMPET-CREEPER	vine	1	FAC	0.107%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.747%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	8.003%
Cyperus strigosus	STRAW-COLORED UMBRELLA-S.	sedge	1	FACW	0.747%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	5.656%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.320%
Erechtites hieracifolia	PILEWORT	forb	2	FACU	0.320%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	FAC-	0.002%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	1.069%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	8.857%
Platanus occidentalis	SYCAMORE	tree	7	FACW-	0.747%
Polygonum hydropiper	WATER-PEPPER	forb	1	OBL	3.950%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.107%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	7.470%
Rosa palustris	SWAMP ROSE	shrub	5	OBL	0.747%
Salix nigra	BLACK WILLOW	tree	2	FACW+	8.003%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	6.936%
Scirpus pendulus	DROOPING BULRUSH	sedge	2	OBL	1.601%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.107%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	0.322%
Toxicodendron radicans	POISON-IVY	vine	1	FAC	1.601%
Ulmus rubra	SLIPPERY ELM	tree	3	FAC	0.107%
Vitis sp.	NDA[c]	vine	NDA[c]	NDA[c]	0.107%
Agrostis gigantea	**REDTOP**	grass	0	FACW	1.707%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	UPL	0.107%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.320%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	FACU	0.107%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	13.339%
Phalaris arundinacea	**REED CANARY GRASS**	grass	0	FACW+	9.711%
Phleum pratense	**TIMOTHY**	grass	0	FACU	0.107%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.320%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.640%
Sorghum halepense	**JOHNSON GRASS**	grass	0	FACU	0.320%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	13.339%
Xanthium strumarium	**COMMON COCKLEBUR**	forb	0	FAC	0.107%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–15. NPPW4 Wetland Vegetation Monitoring Data Summary

Total Species:	49
Native Species:	41
Non-Native Species:	6
Average CC[a]:	2.34

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Agrimonia gryposepala	TALL AGRIMONY	forb	3	FACU	1.875%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.893%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.268%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.089%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.091%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.268%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.270%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	1.160%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	6.427%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	0.536%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.142%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	0.268%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	0.268%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	1.428%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.089%
Epilobium coloratum	PURPLE-LEAVED WILLOW-HERB	forb	1	OBL	2.142%
Erechtites hieracifolia	PILEWORT	forb	2	FACU	0.089%
Eupatorium maculatum	SPOTTED JOE-PYE WEED	forb	6	FACW	0.625%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	4.285%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	2.053%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.268%
Juncus effusus	SOFT RUSH	forb	1	FACW+	4.642%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	0.536%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	20.531%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.896%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.428%
Mimulus ringens	COMMON MONKEY-FLOWER	forb	4	OBL	5.088%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.002%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	0.268%
Polygonum amphibium	WATER SMARTWEED	forb	4	OBL	0.002%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.089%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	UPL	0.268%
Sagittaria latifolia	COMMON ARROWHEAD	forb	1	OBL	0.002%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.607%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	11.069%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	4.285%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	11.158%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	0.982%
Ulmus rubra	SLIPPERY ELM	tree	3	FAC	0.089%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.002%
Verbena urticifolia	WHITE VERVAIN	forb	3	FACU	0.714%
Agrostis gigantea	**REDTOP**	grass	0	FACW	1.250%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	UPL	0.002%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.179%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	FACU	6.784%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.004%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	1.875%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.091%
Unknown grass	UNKNOWN	grass	NDA[c]	NDA[c]	0.625%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–16. NPPW5 Wetland Vegetation Monitoring Data Summary

Total Species:	55
Native Species:	44
Non-Native Species:	10
Average CC[a]:	2.04

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	FAC	0.820%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.546%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	7.558%
Aster pilosus	AWL ASTER	forb	1	UPL	0.273%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.637%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	5.828%
Carex granularis	MEADOW SEDGE	sedge	3	FACW+	0.911%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	1.366%
Carex shortiana	SHORT'S SEDGE	sedge	2	FAC	0.182%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	4.006%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	2.823%
Cyperus strigosus	STRAW-COLORED UMBRELLA-S.	sedge	1	FACW	0.364%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	2.094%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	2.185%
Epilobium coloratum	PURPLE-LEAVED WILLOW-HERB	forb	1	OBL	0.002%
Erigeron annuus	DAISY FLEABANE	forb	0	FACU	0.004%
Eupatorium altissimum	TALL BONESET	forb	0	UPL	1.275%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	0.273%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	2.278%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	1.548%
Juncus effusus	SOFT RUSH	forb	1	FACW+	1.821%
Juncus tenuis	PATH RUSH	forb	1	FAC-	2.550%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	1.275%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	14.569%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.637%
Liatris spicata	SPIKED BLAZING-STAR	forb	7	FAC+	0.546%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.275%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.093%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	3.005%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	UPL	0.639%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	FACU-	0.093%
Schizachyrium scoparium	LITTLE BLUESTEM	grass	5	FACU-	0.273%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	6.376%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	9.834%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	1.366%
Scirpus pendulus	DROOPING BULRUSH	sedge	2	OBL	0.273%
Senna hebecarpa	NORTHERN WILD SENNA	forb	4	FAC	0.091%
Silphium laciniatum	COMPASS PLANT	forb	8	UPL	0.091%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	2.276%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	9.470%
Toxicodendron radicans	POISON-IVY	vine	1	FAC	0.091%
Ulmus rubra	SLIPPERY ELM	tree	3	FAC	0.091%
Verbena urticifolia	WHITE VERVAIN	forb	3	FACU	0.182%
Vernonia gigantea	TALL IRONWEED	forb	2	FAC	0.002%
Agrostis gigantea	**REDTOP**	grass	0	FACW	4.462%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.182%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	1.184%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	FACU-	0.091%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	0.637%
Phleum pratense	**TIMOTHY**	grass	0	FACU	0.091%
Plantago major	**COMMON PLANTAIN**	forb	0	FACU	0.002%
Potamogeton crispus	**CURLY-LEAVED PONDWEED**	forb	0	OBL	0.637%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.182%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.637%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.002%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–17. WM1W1 Wetland Vegetation Monitoring Data Summary

Total Species:	33
Native Species:	27
Non-Native Species:	6
Average CC[a]:	2.18

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.069%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.412%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	3.569%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	8.030%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	0.412%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	5.149%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	1.235%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	2.608%
Epilobium coloratum	PURPLE-LEAVED WILLOW-HERB	forb	1	OBL	0.137%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	3.638%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.069%
Juncus effusus	SOFT RUSH	forb	1	FACW+	1.167%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	1.579%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.892%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.235%
Lycopus americanus	AMERICAN WATER-HOREHOUND	forb	3	OBL	0.480%
Mimulus ringens	COMMON MONKEY-FLOWER	forb	4	OBL	1.579%
Polygonum hydropiperoides	MILD WATER-PEPPER	forb	6	OBL	0.137%
Polygonum lapathifolium	DOCK-LEAVED SMARTWEED	forb	1	FACW+	0.069%
Sagittaria latifolia	COMMON ARROWHEAD	forb	1	OBL	0.206%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	13.383%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.206%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	0.207%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	1.441%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	1.167%
Utricularia vulgaris	COMMON BLADDERWORT	forb	6	OBL	0.755%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	1.029%
Agrostis gigantea	**REDTOP**	grass	0	FACW	3.363%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.275%
Mentha x piperata	**PEPPERMINT**	forb	0	FACW+	3.569%
Phragmites australis subsp. australis	**GIANT REED**	grass	0	FACW	17.158%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.069%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	24.708%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D-18. WM1W2 Wetland Vegetation Monitoring Data Summary

Total Species:	70
Native Species:	52
Non-Native Species:	18
Average CC[a]:	1.94

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer rubrum	RED MAPLE	tree	2	FAC	0.001%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	FAC	0.069%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.207%
Alopecurus sp.	NDA[c]	grass	NDA[c]	NDA[c]	0.069%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	1.105%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	11.256%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.760%
Asclepias syriaca	COMMON MILKWEED	forb	1	FACU-	0.069%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	FACW-	0.414%
Aster pilosus	AWL ASTER	forb	1	UPL	0.345%
Bidens connata	PURPLE-STEMMED BEGGAR'S-TICK	forb	3	FACW+	0.070%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.207%
Carex blanda	COMMON WOOD SEDGE	sedge	1	FAC	0.276%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	1.450%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.483%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.207%
Carex lupulina	HOP SEDGE	sedge	3	OBL	0.069%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	0.276%
Carex scoparia	POINTED BROOM SEDGE	sedge	3	FACW	0.207%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.555%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	11.394%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.898%
Decodon verticillatus	SWAMP LOOSESTRIFE	forb	6	OBL	0.483%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	0.691%
Elymus canadensis	CANADA WILD RYE	grass	6	FACU+	0.069%
Erigeron annuus	DAISY FLEABANE	forb	0	FACU	0.138%
Eupatorium altissimum	TALL BONESET	forb	0	UPL	0.070%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	0.276%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	0.414%
Galium aparine	CLEAVERS	forb	0	FACU	0.276%
Geum canadense	WHITE AVENS	forb	2	FACU	0.001%
Juncus effusus	SOFT RUSH	forb	1	FACW+	1.450%
Juncus tenuis	PATH RUSH	forb	1	FAC-	3.867%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	FACU	0.207%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	2.072%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.001%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	0.691%
Lycopus americanus	AMERICAN WATER-HOREHOUND	forb	3	OBL	1.243%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.069%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	1.450%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	FACU	0.069%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	UPL	0.207%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	FACU-	0.414%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.483%
Senna hebecarpa	NORTHERN WILD SENNA	forb	4	FAC	1.312%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	4.143%
Sorghastrum nutans	INDIAN GRASS	grass	5	UPL	0.207%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	1.243%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	18.645%
Utricularia vulgaris	COMMON BLADDERWORT	forb	6	OBL	0.138%
Vernonia gigantea	TALL IRONWEED	forb	2	FAC	0.691%
Vitis riparia	RIVERBANK GRAPE	vine	3	FACW	0.207%
Agrostis gigantea	**REDTOP**	grass	0	FACW	8.287%
Bromus japonicus	**JAPANESE BROME**	grass	0	FACU-	0.276%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.691%
Cirsium vulgare	**BULL THISTLE**	forb	0	FACU-	0.069%
Conium maculatum	**POISON-HEMLOCK**	forb	0	FACW	0.691%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	1.105%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	3.038%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	0.069%
Hordeum jubatum	**SQUIRREL-TAIL BARLEY**	grass	0	FAC	0.138%
Medicago lupulina	**BLACK MEDICK**	forb	0	UPL	0.001%
Mentha x piperata	**PEPPERMINT**	forb	0	FACW+	1.174%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	0.276%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	FACU	1.243%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.069%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.069%
Trifolium pratense	**RED CLOVER**	forb	0	FACU-	0.069%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.483%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	8.632%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–19. WM1W3 Wetland Vegetation Monitoring Data Summary

Total Species:	43
Native Species:	29
Non-Native Species:	13
Average CC[a]:	1.75

Species	Common Name	Type	CC[a]	Nativity	Wetland Indicator[b]	Relative Cover
Acer saccharum	SUGAR MAPLE	tree	5	native	FACU-	0.230%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	native	OBL	0.989%
Apocynum cannabinum	INDIAN HEMP	forb	1	native	FACU	0.304%
Asclepias incarnata	SWAMP MILKWEED	forb	4	native	OBL	0.533%
Carex cristatella	CRESTED SEDGE	sedge	3	native	FACW	0.228%
Carex hystericina	PORCUPINE SEDGE	sedge	5	native	OBL	0.076%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	native	OBL	0.533%
Carex vulpinoidea	FOX SEDGE	sedge	1	native	OBL	2.663%
Carex sp.	NDA[c]	sedge	NDA[c]	native	NDA[c]	0.228%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	native	OBL	11.871%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	native	OBL	6.088%
Erechtites hieracifolia	PILEWORT	forb	2	native	FACU	3.044%
Eupatorium perfoliatum	COMMON BONESET	forb	3	native	FACW+	0.536%
Fraxinus pennsylvanica	GREEN ASH	tree	3	native	FACW	0.076%
Galium aparine	CLEAVERS	forb	0	native	FACU	0.457%
Juncus effusus	SOFT RUSH	forb	1	native	FACW+	4.033%
Leersia oryzoides	RICE CUT GRASS	grass	1	native	OBL	1.294%
Ludwigia palustris	WATER-PURSLANE	forb	3	native	OBL	0.989%
Lycopus americanus	AMERICAN WATER-HOREHOUND	forb	3	native	OBL	8.523%
Polygonum hydropiper	WATER-PEPPER	forb	1	native	OBL	0.304%
Polygonum lapathifolium	DOCK-LEAVED SMARTWEED	forb	1	native	FACW+	2.511%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	native	OBL	0.076%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	native	UPL	0.076%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	native	OBL	37.667%
Solidago canadensis	CANADA GOLDENROD	forb	1	native	FACU	6.544%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	native	OBL	0.228%
Toxicodendron radicans	POISON-IVY	vine	1	native	FAC	0.078%
Utricularia vulgaris	COMMON BLADDERWORT	forb	6	native	OBL	0.152%
Vitis sp.	NDA[c]	vine	NDA[c]	native	NDA[c]	0.076%
Agrostis gigantea	**REDTOP**	grass	0	adventive	FACW	1.674%
Cirsium arvense	**CANADA THISTLE**	forb	0	adventive	FACU	1.902%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	adventive	UPL	0.304%
Dipsacus fullonum	**WILD TEASEL**	forb	0	adventive	FACU-	1.370%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	adventive	FACU	0.304%
Glechoma hederacea	**GROUND IVY**	forb	0	adventive	FACU	0.230%
Medicago lupulina	**BLACK MEDICK**	forb	0	adventive	UPL	0.076%
Mentha x piperata	**PEPPERMINT**	forb	0	adventive	FACW+	1.065%
Polygonum persicaria	**LADY'S THUMB**	forb	0	adventive	FACW	1.370%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	adventive	FACU	0.002%
Trifolium repens	**WHITE CLOVER**	forb	0	adventive	FACU-	0.078%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	adventive	OBL	0.913%
Xanthium strumarium	**COMMON COCKLEBUR**	forb	0	adventive	FAC	0.228%
Unknown forb	UNKNOWN	forb	NDA[c]	native	NDA[c]	0.076%

[a] CC = Coefficient of Conservatism

[b] see http://plants.usda.gov/wetinfo.html

[c] NDA = No Determination Available

Table D–20. WM1W4 Wetland Vegetation Monitoring Data Summary

Total Species:	63
Native Species:	48
Non-Native Species:	14
Average CC[a]:	1.72

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	FAC	0.087%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.694%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.260%
Apocynum cannabinum	INDIAN HEMP	forb	1	FACU	0.087%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	5.208%
Asclepias syriaca	COMMON MILKWEED	forb	1	FACU-	0.260%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	FACW-	0.260%
Aster pilosus	AWL ASTER	forb	1	UPL	0.087%
Bidens connata	PURPLE-STEMMED BEGGAR'S-TICK	forb	3	FACW+	0.087%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.260%
Calystegia sepium	HEDGE BINDWEED	forb	1	FAC-	0.521%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	0.608%
Carex blanda	COMMON WOOD SEDGE	sedge	1	FAC	0.260%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	1.910%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.087%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.608%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	6.250%
Carex tribuloides	BLUNT BROOM SEDGE	sedge	4	FACW+	0.868%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	2.083%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	0.694%
Decodon verticillatus	SWAMP LOOSESTRIFE	forb	6	OBL	1.563%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	0.087%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	0.868%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.347%
Erigeron annuus	DAISY FLEABANE	forb	0	FACU	0.434%
Eupatorium perfoliatum	COMMON BONESET	forb	3	FACW+	1.476%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.694%
Galium aparine	CLEAVERS	forb	0	FACU	0.608%
Juncus effusus	SOFT RUSH	forb	1	FACW+	6.250%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	FACU	1.128%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	3.993%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.649%
Nymphaea odorata	FRAGRANT WATER-LILY	forb	6	OBL	13.021%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	0.868%
Polygonum lapathifolium	DOCK-LEAVED SMARTWEED	forb	1	FACW+	0.521%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.521%
Prunella vulgaris	SELF-HEAL	forb	0	FACU+	0.694%
Rosa palustris	SWAMP ROSE	shrub	5	OBL	0.260%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	UPL	0.260%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	3.646%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	1.563%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	1.302%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	7.378%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.955%
Vernonia gigantea	TALL IRONWEED	forb	2	FAC	2.778%
Viburnum dentatum	ARROW-WOOD	shrub	2	FAC	0.521%
Vitis riparia	RIVERBANK GRAPE	vine	3	FACW	0.260%
Vitis sp.	NDA[c]	vine	NDA[c]	NDA[c]	0.087%
Agrostis gigantea	**REDTOP**	grass	0	FACW	5.903%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.521%
Cirsium vulgare	**BULL THISTLE**	forb	0	FACU-	0.087%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.868%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	2.257%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	FAC-	1.215%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	UPL	2.604%
Medicago lupulina	**BLACK MEDICK**	forb	0	UPL	0.087%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	FACU-	0.347%
Najas minor	**EURASIAN WATER-NYMPH**	forb	0	OBL	4.601%
Pyrus communis	**PEAR**	sm tree	0	UPL	1.910%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.087%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	1.389%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	2.604%
Unknown grass	UNKNOWN	grass	NDA[c]	NDA[c]	0.608%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–21. WM1W5 Wetland Vegetation Monitoring Data Summary

Total Species:	42
Native Species:	22
Non-Native Species:	19
Average CC[a]:	1.30

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.002%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.495%
Aster pilosus	AWL ASTER	forb	1	UPL	0.002%
Cornus amomum	SILKY DOGWOOD	shrub	2	FACW	0.124%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.247%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	6.186%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.742%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	1.114%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	1.237%
Mimulus ringens	COMMON MONKEY-FLOWER	forb	4	OBL	0.371%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	1.237%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	FACU	0.124%
Phyla lanceolata	FOG-FRUIT	forb	3	OBL	0.371%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.002%
Salix exigua	SANDBAR WILLOW	shrub	1	OBL	18.312%
Salix nigra	BLACK WILLOW	tree	2	FACW+	0.124%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	39.593%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.124%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	2.227%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	1.980%
Sorghastrum nutans	INDIAN GRASS	grass	5	UPL	0.742%
Vernonia gigantea	TALL IRONWEED	forb	2	FAC	0.002%
Agrostis gigantea	**REDTOP**	grass	0	FACW	0.742%
Bromus japonicus	**JAPANESE BROME**	grass	0	FACU-	0.002%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.371%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	UPL	0.002%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.250%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.374%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	0.742%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	UPL	0.371%
Morus alba	**WHITE MULBERRY**	tree	0	UPL	0.124%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	UPL	0.495%
Polygonum persicaria	**LADY'S THUMB**	forb	0	FACW	1.237%
Pyrus communis	**PEAR**	sm tree	0	UPL	0.371%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	FACU	0.124%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.742%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.002%
Sonchus arvensis	**FIELD SOW-THISTLE**	forb	0	UPL	0.124%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.002%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	18.188%
Xanthium strumarium	**COMMON COCKLEBUR**	forb	0	FAC	0.371%
Regreen	REGREEN	grass	NDA[c]	NDA[c]	0.002%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D-22. WM1W6 Wetland Vegetation Monitoring Data Summary

Total Species:	58
Native Species:	42
Non-Native Species:	16
Average CC[a]:	1.96

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer saccharum	SUGAR MAPLE	tree	5	FACU-	0.003%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.296%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.151%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	0.592%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.148%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	FACW-	0.148%
Aster sp.	NDA[c]	forb	NDA[c]	NDA[c]	0.003%
Carex annectens	YELLOW FOX SEDGE	sedge	3	FACW	4.442%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	0.444%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	2.517%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	2.369%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.444%
Carex lurida	BOTTLEBRUSH SEDGE	sedge	3	OBL	0.296%
Carex normalis	LARGE STRAW SEDGE	sedge	4	FACU	0.148%
Carex stricta	TUSSOCK SEDGE	sedge	5	OBL	0.148%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	3.258%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	2.221%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.003%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	0.444%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.148%
Erigeron annuus	DAISY FLEABANE	forb	0	FACU	2.665%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	0.447%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.148%
Juglans nigra	BLACK WALNUT	tree	5	FACU	0.148%
Juncus effusus	SOFT RUSH	forb	1	FACW+	1.037%
Juncus tenuis	PATH RUSH	forb	1	FAC-	7.256%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.003%
Ludwigia palustris	WATER-PURSLANE	forb	3	OBL	1.481%
Lycopus americanus	AMERICAN WATER-HOREHOUND	forb	3	OBL	0.296%
Panicum clandestinum	DEER'S-TONGUE PANIC GRASS	grass	2	FAC+	0.595%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	9.625%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	FACU	0.148%
Polygonum amphibium	WATER SMARTWEED	forb	4	OBL	0.003%
Prunella vulgaris	SELF-HEAL	forb	0	FACU+	0.003%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.481%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.740%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	0.148%
Senna hebecarpa	NORTHERN WILD SENNA	forb	4	FAC	1.037%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	12.142%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	9.625%
Toxicodendron radicans	POISON-IVY	vine	1	FAC	0.148%
Verbesina alternifolia	WINGSTEM	forb	5	FAC	0.154%
Agrostis gigantea	**REDTOP**	grass	0	FACW	3.702%
Bromus japonicus	**JAPANESE BROME**	grass	0	FACU-	11.109%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.891%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	4.442%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	0.296%
Hordeum jubatum	**SQUIRREL-TAIL BARLEY**	grass	0	FAC	0.003%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	UPL	0.148%
Lotus corniculatus	**BIRD'S-FOOT TREFOIL**	forb	0	FACU-	3.258%
Medicago lupulina	**BLACK MEDICK**	forb	0	UPL	0.003%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	FACU-	0.592%
Phleum pratense	**TIMOTHY**	grass	0	FACU	0.444%
Pyrus communis	**PEAR**	sm tree	0	UPL	1.333%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	FACU	1.481%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.003%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.296%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	4.442%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available

Table D–23. WM1W7 Wetland Vegetation Monitoring Data Summary

Total Species:	29
Native Species:	21
Non-Native Species:	6
Average CC[a]:	2.00

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	3.786%
Amorpha fruticosa	FALSE INDIGO	forb	3	FACW	1.136%
Carex comosa	BEARDED SEDGE	sedge	2	OBL	1.515%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	7.573%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	3.786%
Glyceria striata	FOWL MANNA GRASS	grass	2	OBL	0.379%
Iris versicolor	NORTHERN BLUE FLAG	forb	6	OBL	0.379%
Juncus effusus	SOFT RUSH	forb	1	FACW+	12.495%
Juncus tenuis	PATH RUSH	forb	1	FAC-	15.903%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	3.786%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	3.786%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.386%
Polygonum amphibium	WATER SMARTWEED	forb	4	OBL	1.893%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	1.515%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	1.136%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	1.515%
Senecio aureus	GOLDEN RAGWORT	forb	4	FACW	0.008%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	1.522%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	9.466%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	OBL	13.253%
Verbena hastata	BLUE VERVAIN	forb	4	FACW+	0.379%
Agrostis gigantea	**REDTOP**	grass	0	FACW	9.466%
Cirsium arvense	**CANADA THISTLE**	forb	0	FACU	0.394%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.379%
Festuca elatior	**TALL FESCUE**	grass	0	FACU	1.515%
Rumex crispus	**CURLY DOCK**	forb	0	FACU	0.379%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	1.136%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.758%
Unknown	UNKNOWN	NDA[c]	NDA[c]	NDA[c]	0.379%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–24. WM2W1 Wetland Vegetation Monitoring Data Summary

Total Species:	50
Native Species:	37
Non-Native Species:	10
Average CC[a]:	1.73

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer rubrum	RED MAPLE	tree	2	FAC	0.082%
Achillea millefolium	YARROW	forb	1	FACU	0.242%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	FAC	0.081%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.161%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.081%
Calystegia sepium	HEDGE BINDWEED	forb	1	FAC-	0.081%
Campsis radicans	TRUMPET-CREEPER	vine	1	FAC	0.081%
Carex sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.081%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.161%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.403%
Carex granularis	MEADOW SEDGE	sedge	3	FACW+	0.645%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.081%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	0.886%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	0.242%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	18.933%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	0.081%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	1.208%
Equisetum arvense	FIELD HORSETAIL	fern	0	FAC	2.338%
Erigeron sp.	NDA[c]	forb	NDA[c]	NDA[c]	0.081%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	0.081%
Geum canadense	WHITE AVENS	forb	2	FACU	0.081%
Hamamelis virginiana	WITCH-HAZEL	sm tree	5	FAC-	7.251%
Juncus tenuis	PATH RUSH	forb	1	FAC-	0.806%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	0.725%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.002%
Monarda fistulosa	WILD BERGAMOT	forb	3	UPL	0.002%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	UPL	0.002%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	1.128%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.483%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	22.156%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	0.242%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.483%
Scirpus cyperinus	WOOL-GRASS	sedge	1	FACW+	0.242%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.324%
Sparganium eurycarpum	GIANT BUR-REED	forb	4	OBL	12.891%
Toxicodendron radicans	POISON-IVY	vine	1	FAC	0.242%
Vernonia gigantea	TALL IRONWEED	forb	2	FAC	0.002%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	UPL	0.081%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.483%
Lysimachia nummularia	**MONEYWORT**	forb	0	OBL	0.242%
Medicago lupulina	**BLACK MEDICK**	forb	0	UPL	0.002%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	UPL	0.002%
Plantago major	**COMMON PLANTAIN**	forb	0	FACU	0.081%
Potamogeton crispus	**CURLY-LEAVED PONDWEED**	forb	0	OBL	15.469%
Solanum carolinense	**HORSE NETTLE**	forb	0	UPL	0.081%
Trifolium repens	**WHITE CLOVER**	forb	0	FACU-	0.322%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	10.071%
Unknown Cress	UNKNOWN	forb	NDA[c]	NDA[c]	0.081%
Unknown Grass	UNKNOWN	grass	NDA[c]	NDA[c]	0.002%
Unknown	UNKNOWN	NDA[c]	NDA[c]	NDA[c]	0.002%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–25. WM2W2 Wetland Vegetation Monitoring Data Summary

Total Species:	34
Native Species:	31
Non-Native Species:	2
Average CC[a]:	2.29

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Acer rubrum	RED MAPLE	tree	2	FAC	0.148%
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.148%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.148%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	1.038%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.445%
Campsis radicans	TRUMPET-CREEPER	vine	1	FAC	0.151%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	0.445%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.593%
Carex granularis	MEADOW SEDGE	sedge	3	FACW+	0.297%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.448%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	1.187%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	2.077%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	5.192%
Cyperus sp.	NDA[c]	sedge	NDA[c]	NDA[c]	0.003%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	UPL	0.445%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	54.885%
Eleocharis obtusa	BLUNT SPIKE-RUSH	sedge	1	OBL	0.148%
Eupatorium sp.	NDA[a]	forb	NDA[c]	NDA[c]	0.148%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	1.038%
Juncus tenuis	PATH RUSH	forb	1	FAC-	0.593%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	0.593%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	6.675%
Penstemon digitalis	FOXGLOVE BEARD-TONGUE	forb	2	FAC	0.003%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.148%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	0.448%
Salix nigra	BLACK WILLOW	tree	2	FACW+	2.670%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	2.670%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	0.148%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.148%
Strophostyles helvula	WILD BEAN	forb	3	FACU-	0.297%
Verbena urticifolia	WHITE VERVAIN	forb	3	FACU	0.148%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.148%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	16.317%
Unknown forb	UNKNOWN	forb	NDA[c]	NDA[c]	0.006%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–26. WM2W3 Wetland Vegetation Monitoring Data Summary

Total Species:	45
Native Species:	38
Non-Native Species:	7
Average CC[a]:	2.20

Species	Common Name	Type	CC[a]	Wetland Indicator[b]	Relative Cover
Alisma subcordatum	SOUTHERN WATER-PLANTAIN	forb	2	OBL	0.608%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	FACU	0.004%
Andropogon gerardii	BIG BLUESTEM	grass	5	FAC	1.419%
Asclepias incarnata	SWAMP MILKWEED	forb	4	OBL	0.608%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	FACW	0.203%
Calystegia sepium	HEDGE BINDWEED	forb	1	FAC-	0.004%
Carex cristatella	CRESTED SEDGE	sedge	3	FACW	1.018%
Carex frankii	FRANK'S SEDGE	sedge	2	OBL	0.203%
Carex granularis	MEADOW SEDGE	sedge	3	FACW+	1.014%
Carex hirsutella	HIRSUTE SEDGE	sedge	2	FACU	0.004%
Carex hystericina	PORCUPINE SEDGE	sedge	5	OBL	0.203%
Carex shortiana	SHORT'S SEDGE	sedge	2	FAC	0.203%
Carex vulpinoidea	FOX SEDGE	sedge	1	OBL	1.825%
Cephalanthus occidentalis	BUTTONBUSH	shrub	6	OBL	0.811%
Ceratophyllum demersum	COONTAIL	forb	2	OBL	15.207%
Eleocharis erythropoda	RED-FOOTED SPIKE-RUSH	sedge	4	OBL	0.000%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	FAC-	0.811%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	FAC	0.008%
Fraxinus pennsylvanica	GREEN ASH	tree	3	FACW	0.608%
Juncus tenuis	PATH RUSH	forb	1	FAC-	1.622%
Juncus torreyi	TORREY'S RUSH	forb	3	FACW	0.811%
Leersia oryzoides	RICE CUT GRASS	grass	1	OBL	0.811%
Lemna minor	COMMON DUCKWEED	forb	3	OBL	0.203%
Lycopus americanus	AMERICAN WATER-HOREHOUND	forb	3	OBL	0.203%
Panicum virgatum	SWITCH GRASS	grass	4	FAC	5.069%
Penstemon digitalis	FOXGLOVE BEARD-TONGUE	forb	2	FAC	0.004%
Platanus occidentalis	SYCAMORE	tree	7	FACW-	0.203%
Populus deltoides	EASTERN COTTONWOOD	tree	3	FAC	0.203%
Potamogeton nodosus	LONG-LEAVED PONDWEED	forb	3	OBL	15.207%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	FACU-	0.004%
Salix exigua	SANDBAR WILLOW	shrub	1	OBL	0.406%
Salix nigra	BLACK WILLOW	tree	2	FACW+	0.608%
Schoenoplectus tabernaemontani	SOFT-STEMMED BULRUSH	sedge	2	OBL	7.097%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	OBL	1.217%
Sisyrinchium angustifolium	STOUT BLUE-EYED-GRASS	forb	2	FACW-	0.004%
Solidago canadensis	CANADA GOLDENROD	forb	1	FACU	0.203%
Sorghastrum nutans	INDIAN GRASS	grass	5	UPL	0.203%
Verbena urticifolia	WHITE VERVAIN	forb	3	FACU	0.203%
Dipsacus fullonum	**WILD TEASEL**	forb	0	FACU-	0.203%
Lysimachia nummularia	**MONEYWORT**	forb	0	OBL	2.636%
Melilotus alba	**WHITE SWEET-CLOVER**	forb	0	FACU-	0.203%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	UPL	0.203%
Poa annual	**ANNUAL BLUEGRASS**	grass	0	FACU	0.004%
Schoenoplectus mucronatus	**RICEFIELD BULRUSH**	sedge	0	OBL	0.203%
Typha x glauca	**HYBRID CAT-TAIL**	forb	0	OBL	37.510%

[a] CC = Coefficient of Conservatism
[b] see http://plants.usda.gov/wetinfo.html
[c] NDA = No Determination Available
Species in bold are non-native.

Table D–27. Wetland Mitigation Soil Biogeochemistry and Water Chemistry Analytical Summary

Soil					Water																
Restoration Project Area	**Wetland Area**	**Total Nitrogen (Median Percent)**	**Total Organic Carbon (Median Percent)**	**Solids (Median Percent)**	**Ammonia Total as Nitrogen (mg/L)**	**Chloride (mg/L)**	**Dissolved Oxygen (mg/L)**	**Iron (mg/L)**	**Magnesium (mg/L)**	**Nitrate + Nitrate as Nitrogen (mg/L)**	**Oxidation Reduction Potential (mV)**	**pH (S. U.)**	**Phophorous (mg/L)**	**Potassium (mg/L)**	**Specific Conductance (umhos/cm)**	**Temperature (C)**	**Total Kjeidahl Nitrogen (mg/L)**	**Total Organic Carbon (mg/L)**	**Total Solids (mg/L)**	**Total Suspended Solids (mg/L)**	**Turbidity (NTU)**
Borrow Area (BAP)	BAPW2	0.2	1.2	75.4	0.228	0.534	11.54	0.872	14.7	1.25	5.5	7.66	0.3	3.37	294	26.67	1.78	16.6	438	184	2.65
	BAPW3	0.1	0.5	74.3	0.278	0.624	3.35	19.1	17.6	0.127	-67	7.06	0.3	3.47	407	27.62	1.07	22.1	463	217	4.25
	BAPW4	0.1	0.9	74.6	0.212	1.21	10.04	1.17	17.9	0.01	24	7.79	0.1	0.745	502	29.22	1.27	16.9	223	18.8	6.99
	BAPW7	0.2	1.6	67.3	0.193	0.353	7.5	2.25	11.8	0.05	-104	6.95	0.3	1.4	392	23.73	1.19	15.7	297	96	6.16
	BAPW9	0.4	1.5	85.7	0.226	0.405	10.59	0.768	6.99	1.99	2	8.09	0.6	2.05	160	27.52	2.76	13.7	350	222	2.65
Former Production Area (FPA)	FPAW2	0.2	**6.0**	75.0	1.2	8.35	3.57	7.04	43.9	<0.01	-86.7	7.03	0.4	12.1	578	21.37	10.3	62.2	783	198	96
	FPAW4	0.1	**4.5**	60.0	0.295	0.955	3.23	1.36	15.4	<0.01	-15	7.87	0.111	6.27	330	21.11	2.16	24.6	241	18.4	10.3
	FPAW5	0.2	3.3	55.3	0.513	12.8	1.24	2.53	57.3	0.01	-159	7.2	0.4	37.8	1024	20.66	9.61	37.5	928	198	9.35
	FPAW7	0.2	**5.7**	79.6	0.641	0.367	5.84	8.03	36.4	1.83	-115	6.93	0.8	6.57	874	18.35	6.77	50.6	968	352	22.7
	FPAW9	0.1	4.3	85.9	0.31	1.49	4.83	0.995	11.5	0.178	-31.5	7.55	0.1	7.87	321	22.82	2.05	19.9	269	75	6.24
	PREW6	0.1	0.4	74.9	0.263	0.456	5.3	3.43	8.62	2.59	185	7.6	0.7	5.15	162	22.11	2.05	16.5	229	63	8.08
Northern Pine Plantation Enhancement (NPP)	NPPW4	0.1	0.8	78.4	0.236	21.7	4.26	18.1	17.6	1.04	-30	6.87	0.1	2.64	255	28	2.29	16.3	532	189	9.48
	NPPW5	0.1	0.6	71.2	0.174	19.8	9.9	1.14	24.3	0.286	56	7.66	0.2	1.92	606	25.22	0.312	9.47	452	50.8	13.6
Wetland Mitigation Phase I (WM1)	WM1W1	0.1	1.7	78.2	0.153	2.68	9.61	3.52	16.3	<0.01	11.2	7.07	<0.1	3.08	453	19.67	0.237	13.4	400	91.2	50.9
	WM1W2	0.3	1.1	77.8	0.156	1.01	5.01	3.69	16.6	<0.01	116.4	7.26	<0.1	4.22	450	20.24	0.988	15.7	352	73	23.8
	WM1W3	0.2	1.3	83.8	0.148	0.674	4.75	2	20.4	0.311	103	7.28	<0.1	4.36	494	20.41	0.253	15.6	314	5.6	13
	WM1W4	0.1	0.6	76.3	0.113	0.908	6.06	2.01	6.49	2.03	57.9	7.53	0.2	4.19	190	20.53	1.7	9.64	369	215	29.9
	WM1W5	0.1	1.5	79.5	0.36	19.4	6.22	2.67	19.6	<0.01	63.3	7.05	0.5	22.8	540	18.58	2.1	28.6	508	108	179
	WM1W6	0.1	1.1	85.5	0.136	78.6	3.91	1.24	19.8	0.166	-25.6	6.97	0.2	1.56	763	19.21	0.36	10.6	615	150.8	24.5
	WM1W7	0.1	1.9	84.3	0.183	140	7.62	1.37	21.7	0.396	83.5	7.23	0.4	2.18	900	19.61	0.359	17.4	698	35.6	22.2
Wetland Mitigation Phase II (WM2)	WM2W1	0.0	0.5	73.9	0.146	12.9	6.75	3.62	22.7	0.095	-21.1	7.08	<0.2	1.48	384	27.08	1.69	8.83	310	17.2	7.23
	WM2W2	0.1	0.5	85.0	0.129	11.5	7.28	2	12.2	<0.01	125	7.73	<0.1	2.28	295	26.86	0.991	12.2	266	31.2	34.2
	WM2W3	0.0	0.3	78.6	0.132	26.8	8.04	1.88	18.5	<0.01	113	7.61	0.3	2.94	482	28.68	0.783	14.3	507	171	22.5
Performance Standard		>0.5	>3.9	<46.6	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]

Values in bold have met the performance standard

[a]*No performance standard exists for this parameter*

Table D–28. Wetland Mitigation Amphibian Monitoring Scoring Metrics and Results Summary

Restoration Area	Wetland Area	Amphibian Quality Assessment Index	Score	Percent Relative Abundance Sensitive Species	Score	Percent Relative Abundance Tolerant Species	Score	Number of Pond-Breeding Salamanders	Score	Spotted Salamanders or Wood Frogs	Score	Amphibian Index of Biotic Integrity Score
Borrow Area (BAP)	BAPW2	1.60	0	0%	0	100%	0	0	0	0	0	0
	BAPW4	1.00	0	0%	0	100%	0	0	0	0	0	0
	BAPW7	3.20	3	20%	7	60%	3	0	0	0	0	13
Former Production Area (FPA)	FPAW2	3.50	3	25%	7	75%	3	0	0	0	0	13
	FPAW7	1.90	0	0%	0	100%	0	0	0	0	0	0
	FPAW9	2.28	0	29%	7	71%	3	0	0	0	0	10
	PREW6	4.18	3	45%	7	55%	3	0	0	0	0	13
Northern Pine Plantation Enhancement (NPP)	NPPW4	6.26	10	85%	10	15%	10	1	3	0	0	33
	NPPW5	2.82	0	0%	0	100%	0	0	0	0	0	0
Wetland Mitigation Phase I (WM1)	WM1W1	2.00	0	0%	0	80%	0	1	3	0	0	3
	WM1W4	1.51	0	2%	3	98%	0	0	0	0	0	3
	WM1W7	3.00	0	0%	0	100%	0	0	0	0	0	0
Wetland Mitigation Phase II (WM2)	WM2W1	2.31	0	7%	3	91%	0	1	3	0	0	6
	WM2W2	1.66	0	1%	3	99%	0	2	3	0	0	6
	WM2W3	3.61	3	2%	3	65%	3	1	3	0	0	12

Table D–29. Wetland Mitigation Amphibian Species Monitoring Summary

			Species and Number of Individuals												
Restoration Project Area	**Wetland Area**	**AIBI[a]**	**Cricket Frog (*Acris crepitans*)**	**Streamside Salamander (*Ambystoma barbouri*)**	**Marbled Salamander (*Ambystoma opacum*)**	**Salamander Species (*Ambystoma sp*)**	**Tiger Salamander (*Ambystoma tigrinum*)**	**American Toad (*Anaxyrus americanus*)**	**Fowlers Toad (*Anaxyrus fowleri*)**	**Toad Species (*Anaxyrus sp*)**	**American Bull Frog (*Lithobates catesbeiana*)**	**Green Frog (*Lithobates clamitans*)**	**Northern Leopard Frog (*Lithobates pipiens*)**	**Frog Species (*Lithobates sp*)**	**Spring Peeper (*Pseudacris crucifer*)**
Borrow Area (BAP)	BAPW2	0	0	0	0	0	0	0	0	0	3	0	0	2	0
	BAPW4	0	0	0	0	0	0	0	0	0	0	1	0	19	0
	BAPW7	13	1	0	0	0	0	0	0	0	0	1	1	1	1
Former Production Area (FPA)	FPAW2	13	1	0	0	0	0	0	0	0	2	0	0	0	1
	FPAW7	0	0	0	0	0	0	0	0	0	1	0	0	10	0
	FPAW9	10	12	0	0	0	0	0	0	1	0	0	0	28	0
	PREW6	13	10	0	0	0	0	0	0	0	10	2	0	0	0
Northern Pine Plantation Enhancement (NPP)	NPPW4	33	40	0	0	1	1	0	0	0	4	2	1	0	0
	NPPW5	0	0	0	0	0	0	0	0	0	3	0	0	0	14
Wetland Mitigation Phase I (WM1)	WM1W1	3	0	0	1	0	0	0	0	0	1	3	0	0	0
	WM1W4	3	1	0	0	0	0	0	0	0	15	7	0	19	0
	WM1W7	0	0	0	0	0	0	0	0	0	0	0	0	0	40
Wetland Mitigation Phase II (WM2)	WM2W1	6	0	2	0	7	0	0	0	10	98	2	2	0	0
	WM2W2	6	0	1	1	0	0	0	0	213	2	0	1	134	2
	WM2W3	12	1	0	0	16	0	0	0	0	2	0	0	2	28

[a] *AIBI = Amphibian Index of Biotic Integrity Score*

Table D–30. Forest Functional Monitoring Herbaceous Vegetation Summary

Forest Community Type	Functional Monitoring Area	Total Species	Native Species	Native Species (Percent)	Relative Frequency of Native Species (Percent)	CC[a] (Median)	FQAI[b]
Mature Forest	NWEFO1	44	35	80%	72%	2.18	14.43
	PREFO1	36	27	75%	67%	1.67	10.00
	PREFO2	53	39	74%	65%	2.35	17.14
	PRWFO1	22	12	55%	33%	1.40	6.57
	PRWFO2	50	41	82%	67%	2.32	16.40
	PRWFO3	38	25	66%	85%	3.32	20.44
Pine Plantation	NPPPP1	35	22	63%	55%	1.33	7.89
	PREPP1	49	37	76%	72%	2.04	14.30
Restored Forest	A82RF1	45	31	69%	68%	1.86	12.48
	A82RF2	46	29	63%	55%	1.53	10.41
	ERPRF1	42	25	60%	47%	1.83	11.83
	FWPRF1	46	27	59%	56%	1.17	7.91
	NPPRF1	43	30	70%	68%	1.76	11.52
	NWERF1	54	38	70%	63%	1.47	10.81
	PRERF1	49	33	67%	64%	1.50	10.50
	PRERF2	36	23	64%	54%	1.41	8.47
	PRWRF1	41	28	68%	58%	1.85	11.82
	PRWRF2	50	34	68%	57%	1.53	10.84
	SWURF1	42	23	55%	52%	1.55	10.05
	SWURF2	38	26	68%	68%	2.09	12.86
Successional Forest	NPPSF1	32	23	72%	58%	1.30	7.35
	NWESF1	44	32	73%	68%	1.74	9.83
	PRESF1	60	42	70%	69%	1.61	12.45

[a]*CC = Coefficent of Conservatism*

[b]*FQAI = Floristic Quality Assessment Index*

Table D–31. Forest Functional Monitoring Woody Vegetation Summary

Forest Community Type	Functional Monitoring Area	Total Species	Native Species	Native Species (Percent)	Relative Density of Native Species (Percent)	CC[a] (Mean)	FQAI[b]	DBH[c] (Mean cm)
Mature Forest	NWEFO1	9	9	100%	100%	4.78	14.33	32.4
	PREFO1	17	15	88%	35%	4.00	16.49	17.8
	PREFO2	18	16	89%	35%	4.17	17.68	19.3
	PRWFO1	17	16	94%	20%	4.88	20.10	24.2
	PRWFO2	17	15	88%	46%	3.00	12.37	19.6
	PRWFO3	16	14	88%	13%	3.71	14.82	19.2
Pine Plantation	NPPPP1	12	9	75%	54%	3.25	11.26	8.3
	PREPP1	17	13	76%	81%	3.24	13.34	11.9
Restored Forest	A82RF1	33	29	88%	92%	3.39	19.46	6.9
	A82RF2	14	12	86%	77%	3.31	12.38	13.3
	ERPRF1	19	15	79%	80%	3.65	15.91	1.8
	FWPRF1	35	33	94%	89%	3.60	21.30	1.4
	NPPRF1	37	33	89%	95%	3.62	22.03	2.3
	NWERF1	26	21	81%	77%	2.80	14.28	5.6
	PRERF1	29	24	83%	98%	3.24	17.46	2.1
	PRERF2	40	36	90%	94%	4.00	25.30	1.4
	PRWRF1	32	27	84%	96%	3.45	19.53	2.1
	PRWRF2	24	20	83%	81%	3.33	16.33	1.7
	SWURF1	13	11	85%	87%	4.00	14.42	1.1
	SWURF2	19	16	84%	40%	4.58	19.96	2.1
Successional Forest	NPPSF1	15	14	93%	25%	4.07	15.75	16.6
	NWESF1	13	11	85%	32%	3.38	12.20	22.6
	PRESF1	23	21	91%	50%	4.18	20.06	11.8

[a] *CC = Coefficent of Conservatism*
[b] *FQAI = Floristic Quality Assessment Index*
[c] *DBH = Diameter at Breast Height*

Table D–32. Forest Functional Monitoring Comparison

	Southern Waste Units Restoration				Area 8, Phase II Revegetation				Northern Woodlot Enhancement			
Parameter	2005	2011	Reference (Upland Forest Complex)	Baseline (Developed)	2005	2011	Reference (Riparian)	Baseline (Grazed Pasture)	2005	2011	Reference (Upland Forest Complex)	Baseline (Woodlot)
Total Species	82	82	62	NA[c]	66	74	95	38	82	68	62	56
Total Native Species	61	55	58	NA[c]	44	55	85	15	58	50	58	42
Percent Native Species	74%	67%	94%	NA[c]	67%	74%	91%	39%	71%	74%	94%	75%
Average CC[a]	3.0	2.6	3.9	NA[c]	2.2	2.5	3.3	0.4	1.8	2.0	3.9	2.4
FQAI[b]	26.70	23.13	30.50	NA[c]	17.50	21.38	31.80	2.60	16.70	16.89	30.50	18.00

[a] *CC = Coefficent of Conservatism*
[b] *FQAI = Floristic Quality Assessment Index*
[c] *NA = Not Applicable (Developed areas were not characterized. Baseline conditions are assumed to be zero for all parameters.)*

Table D–33. NWEFO1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	44	**Mean CC[a]:**	2.18
Native Species:	35	**Average Cover:**	53.2%
Non-Native Species:	9	**FQAI[b]:**	14.43
Percent Native:	80%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.20	3%
Acer saccharinum	SILVER MAPLE	tree	3	0.13	2%
Aesculus glabra	OHIO BUCKEYE	tree	6	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.07	1%
Camassia scilloides	WILD HYACINTH	forb	6	0.07	1%
Cardamine concatenata	CUT-LEAVED TOOTHWORT	forb	3	0.27	4%
Carya sp.	NDA[c]	tree	NDA[c]	0.20	3%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.20	3%
Echinocystis lobata	WILD CUCUMBER	vine	2	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.13	2%
Elymus sp.	NDA[c]	grass	NDA[c]	0.13	2%
Eupatorium perfoliatum	COMMON BONESET	forb	3	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.20	3%
Fragaria virginiana	WILD STRAWBERRY	forb	1	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.27	4%
Galium aparine	CLEAVERS	forb	0	0.13	2%
Geranium maculatum	WILD GERANIUM	forb	4	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.07	1%
Geum laciniatum	ROUGH AVENS	forb	2	0.13	2%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.20	3%
Impatiens sp.	NDA[c]	forb	NDA[c]	0.13	2%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.40	6%
Pilea pumila	CLEARWEED	forb	2	0.20	3%
Polygonum virginianum	JUMPSEED	forb	3	0.20	3%
Prunus serotina	BLACK CHERRY	tree	3	0.13	2%
Smilax rotundifolia	COMMON GREENBRIER	vine	4	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.13	2%
Trillium sessile	TOAD-SHADE	forb	5	0.20	3%
Ulmus americana	AMERICAN ELM	tree	2	0.13	2%
Verbesina alternifolia	WINGSTEM	forb	5	0.13	2%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.13	2%
Viola sp.	NDA[c]	forb	NDA[c]	0.13	2%
Vitis vulpina	FROST GRAPE	vine	3	0.20	3%
Agrostis gigantea	**REDTOP**	grass	0	0.13	2%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.67	9%
Cardamine hirsuta	**HOARY BITTER CRESS**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.20	3%
Glechoma hederacea	**GROUND IVY**	forb	0	0.20	3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.47	7%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.07	1%
Plantago major	**COMMON PLANTAIN**	forb	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.13	2%
			Native Species:	5.07	72%
			Non-Native Species:	2.00	28%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–34. PREFO1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	36	**Mean CC[a]:**	1.67
Native Species:	27	**Average Cover:**	56.3%
Non-Native Species:	9	**FQAI[b]:**	10.00
Percent Native:	75%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.27	5%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.07	1%
Amphicarpaea bracteata	HOG-PEANUT	forb	4	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.20	4%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.07	1%
Carex sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Carya sp.	NDA[c]	tree	ND	0.07	1%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.07	1%
Corydalis flavula	YELLOW HARLEQUIN	forb	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.53	10%
Fragaria virginiana	WILD STRAWBERRY	forb	1	0.13	2%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.07	1%
Geranium maculatum	WILD GERANIUM	forb	4	0.13	2%
Geum canadense	WHITE AVENS	forb	2	0.47	9%
Heliopsis helianthoides	SMOOTH OXEYE	forb	5	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.20	4%
Polygonum virginianum	JUMPSEED	forb	3	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Sanicula gregaria	CLUSTERED SNAKEROOT	forb	3	0.20	4%
Smilax rotundifolia	COMMON GREENBRIER	vine	4	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.20	4%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.13	2%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.53	10%
Glechoma hederacea	**GROUND IVY**	forb	0	0.07	1%
Ipomoea hederacea	**IVY-LEAVED MORNING-GLORY**	forb	0	0.07	1%
Lamium purpuream	**PURPLE DEAD-NETTLE**	forb	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.60	11%
Maclura pomifera	**OSAGE-ORANGE**	tree	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.20	4%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.13	2%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	1%
			Native Species:	3.60	67%
			Non-Native Species:	1.80	33%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–35. PREFO2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	53	**Mean CC[a]:**	2.35
Native Species:	39	**Average Cover:**	56.4%
Non-Native Species:	14	**FQAI[b]:**	17.14
Percent Native:	74%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.20	3%
Acer rubrum	RED MAPLE	tree	2	0.07	1%
Amelanchier arborea	DOWNY SERVICEBERRY	sm tree	5	0.13	2%
Aster pilosus	AWL ASTER	forb	1	0.13	2%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.13	2%
Carex stipata	CROWDED SEDGE	sedge	2	0.07	1%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.07	1%
Cornus florida	FLOWERING DOGWOOD	sm tree	5	0.07	1%
Corydalis flavula	YELLOW HARLEQUIN	forb	4	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.13	2%
Elymus sp.	NDA[c]	grass	NDA[c]	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.13	2%
Elymus virginicus	VIRGINIA WILD RYE	grass	3	0.07	1%
Erythronium albidum	WHITE TROUT-LILY	forb	5	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.27	4%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.13	2%
Fraxinus quadrangulata	BLUE ASH	tree	7	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.27	4%
Geum canadense	WHITE AVENS	forb	2	0.13	2%
Hackelia virginiana	VIRGINIA STICKSEED	forb	2	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.13	2%
Isopyrum biternatum	FALSE RUE-ANEMONE	forb	7	0.07	1%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	0.07	1%
Maianthemum racemosum	FALSE SOLOMON'S-SEAL	forb	4	0.07	1%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.07	1%
Ostrya virginiana	HOP-HORNBEAM	tree	5	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.47	6%
Phryma leptostachya	LOPSEED	forb	5	0.07	1%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.27	4%
Solidago rugosa	ROUGH GOLDENROD	forb	2	0.13	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.27	4%
Ulmus americana	AMERICAN ELM	tree	2	0.13	2%
Vernonia gigantea	TALL IRONWEED	forb	2	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.13	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.13	2%
Vitis vulpina	FROST GRAPE	vine	3	0.13	2%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.53	7%
Allium vineale	**FIELD GARLIC**	forb	NDA[c]	0.20	3%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Cardamine hirsuta	**HOARY BITTER CRESS**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.13	2%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.13	2%
Festuca sp.	**NDA[c]**	grass	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.27	4%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.13	2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.53	7%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.07	1%
Saponaria officinalis	**SOAPWORT**	forb	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.27	4%
Trifolium sp.	**NDA[c]**	forb	0	0.07	1%
		Native Species:		4.80	65%
		Non-Native Species:		2.53	35%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–36. PRWFO1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	22	**Mean CC[a]:**	1.40
Native Species:	12	**Average Cover:**	38.5%
Non-Native Species:	10	**FQAI[b]:**	6.57
Percent Native:	55%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.07	2%
Asarum canadense	WILD GINGER	forb	6	0.07	2%
Cyperus sp.	NDA[c]	sedge	NDA[c]	0.07	2%
Elymus villosus	HAIRY WILD RYE	grass	4	0.13	4%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.20	6%
Prunus serotina	BLACK CHERRY	tree	3	0.07	2%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.20	6%
Verbesina alternifolia	WINGSTEM	forb	5	0.07	2%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	2%
Vitis vulpina	FROST GRAPE	vine	3	0.07	2%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.60	18%
Allium vineale	**FIELD GARLIC**	forb	0	0.13	4%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.07	2%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.07	2%
Festuca elatior	**TALL FESCUE**	grass	0	0.07	2%
Glechoma hederacea	**GROUND IVY**	forb	0	0.07	2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.93	27%
Ranunculus ficaria	**LESSER CELANDINE**	forb	0	0.20	6%
Rumex crispus	**CURLY DOCK**	forb	0	0.07	2%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	2%
			Native Species:	1.13	33%
			Non-Native Species:	2.27	67%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–37. PRWFO2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	50	**Mean CC[a]:**	2.32
Native Species:	41	**Average Cover:**	53.2%
Non-Native Species:	9	**FQAI[b]:**	16.40
Percent Native:	82%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.27	4%
Acer rubrum	RED MAPLE	tree	2	0.07	1%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Amphicarpaea bracteata	HOG-PEANUT	forb	4	0.07	1%
Bidens connata	PURPLE-STEMMED BEGGAR'S-TICK	forb	3	0.07	1%
Carex sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Carex stipata	CROWDED SEDGE	sedge	2	0.07	1%
Carya sp.	NDA[c]	tree	NDA[c]	0.07	1%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.07	1%
Corydalis flavula	YELLOW HARLEQUIN	forb	4	0.07	1%
Elymus sp.	NDA[c]	grass	NDA[c]	0.20	3%
Elymus villosus	HAIRY WILD RYE	grass	4	0.07	1%
Elymus virginicus	VIRGINIA WILD RYE	grass	3	0.13	2%
Elymus virginicus	VIRGINIA WILD RYE	grass	3	0.00	0%
Erythronium albidum	WHITE TROUT-LILY	forb	5	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.33	5%
Fragaria virginiana	WILD STRAWBERRY	forb	1	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.13	2%
Fraxinus quadrangulata	BLUE ASH	tree	7	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.13	2%
Geranium maculatum	WILD GERANIUM	forb	4	0.13	2%
Geum canadense	WHITE AVENS	forb	2	0.13	2%
Geum laciniatum	ROUGH AVENS	forb	2	0.13	2%
Gleditsia triacanthos	HONEY LOCUST	tree	4	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.07	1%
Isopyrum biternatum	FALSE RUE-ANEMONE	forb	7	0.07	1%
Maianthemum racemosum	FALSE SOLOMON'S-SEAL	forb	4	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.20	3%
Pilea pumila	CLEARWEED	forb	2	0.20	3%
Polygonum amphibium	WATER SMARTWEED	forb	4	0.07	1%
Polygonum virginianum	JUMPSEED	forb	3	0.07	1%
Prunus serotina	BLACK CHERRY	tree	3	0.07	1%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.07	1%
Solidago juncea	PLUME GOLDENROD	forb	2	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.13	2%
Ulmus americana	AMERICAN ELM	tree	2	0.20	3%
Verbesina alternifolia	WINGSTEM	forb	5	0.20	3%
Vitis riparia	RIVERBANK GRAPE	vine	3	0.07	1%
Vitis vulpina	FROST GRAPE	vine	3	0.07	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.73	12%
Allium vineale	**FIELD GARLIC**	forb	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.13	2%
Glechoma hederacea	**GROUND IVY**	forb	0	0.27	4%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.47	7%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.20	3%
Xanthium sp.	**NDA[c]**	forb	0	0.07	1%
		Native Species:		4.27	67%
		Non-Native Species:		2.07	33%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–38. PRWFO3 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	38	**Mean CC[a]:**	3.32
Native Species:	25	**Average Cover:**	49.2%
Non-Native Species:	13	**FQAI[b]:**	20.44
Percent Native:	66%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.13	3%
Actaea alba	WHITE BANEBERRY	forb	7	0.13	3%
Agrimonia sp.	NDA[c]	forb	ND	0.06	1%
Cardamine concatenata	CUT-LEAVED TOOTHWORT	forb	3	0.06	1%
Carex sp.	NDA[c]	sedge	NDA[c]	0.06	1%
Celtis occidentalis	HACKBERRY	tree	4	0.06	1%
Elymus sp.	NDA[c]	grass	NDA[c]	0.13	3%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.13	3%
Fragaria virginiana	WILD STRAWBERRY	forb	1	0.06	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.13	3%
Galium aparine	CLEAVERS	forb	0	0.13	3%
Impatiens sp.	NDA[c]	forb	NDA[c]	0.13	3%
Juglans nigra	BLACK WALNUT	tree	5	0.06	1%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	0.13	3%
Leersia sp.	NDA[c]	grass	NDA[c]	0.06	1%
Mertensia virginica	BLUEBELLS	forb	6	0.06	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.06	1%
Prunus serotina	BLACK CHERRY	tree	3	0.06	1%
Sanguinaria canadensis	BLOODROOT	forb	5	0.06	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.13	3%
Solidago rigida	STIFF GOLDENROD	forb	8	0.06	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.06	1%
Ulmus americana	AMERICAN ELM	tree	2	0.06	1%
Verbesina alternifolia	WINGSTEM	forb	5	0.19	4%
Viola sp.	NDA[c]	forb	NDA[c]	0.25	5%
Agrostis gigantea	**REDTOP**	grass	0	0.06	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.69	15%
Allium vineale	**FIELD GARLIC**	forb	0	0.13	3%
Conium maculatum	**POISON-HEMLOCK**	forb	0	0.06	1%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.06	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.56	12%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.13	3%
Melilotus alba	**WHITE SWEET-CLOVER**	forb	0	0.13	3%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.06	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.13	3%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.06	1%
Trifolium repens	**WHITE CLOVER**	forb	0	0.06	1%
Urtica dioica var. dioica	**EUROPEAN STINGING NETTLE**	forb	0	0.13	3%
			Native Species:	4.00	85%
			Non-Native Species:	0.69	15%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–39. NPPPP1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	35	**Mean CC[a]:**	1.33
Native Species:	22	**Average Cover:**	84.7%
Non-Native Species:	13	**FQAI[b]:**	7.89
Percent Native:	63%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.13	2%
Acer rubrum	RED MAPLE	tree	2	0.07	1%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.20	3%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.07	1%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.47	8%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.13	2%
Galium aparine	CLEAVERS	forb	0	0.13	2%
Humulus lupulus	COMMON HOPS	vine	2	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.07	1%
Leersia oryzoides	RICE CUT GRASS	grass	1	0.20	3%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.27	5%
Phytolacca americana	POKEWEED	forb	1	0.13	2%
Polygonum hydropiperoides	MILD WATER-PEPPER	forb	6	0.13	2%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.13	2%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.13	2%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.20	3%
Toxicodendron radicans	POISON-IVY	vine	1	0.20	3%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.13	2%
Agrostis gigantea	**REDTOP**	grass	0	0.07	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.53	9%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.20	3%
Conium maculatum	**POISON-HEMLOCK**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.27	5%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.47	8%
Polygonum cespitosum	**LONG-BRISTLED SMARTWEED**	forb	0	0.20	3%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.27	5%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.20	3%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.07	1%
Urtica dioica var. dioica	**EUROPEAN STINGING NETTLE**	forb	0	0.13	2%
		Native Species:		3.13	55%
		Non-Native Species:		2.60	45%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–40. PREPP1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	49	**Mean CC[a]:**	2.04
Native Species:	37	**Average Cover:**	59.1%
Non-Native Species:	12	**FQAI[b]:**	14.30
Percent Native:	76%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.43	5%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Asimina triloba	PAWPAW	sm tree	6	0.14	2%
Aster pilosus	AWL ASTER	forb	1	0.07	1%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.29	3%
Boehmeria cylindrica	FALSE NETTLE	forb	4	0.07	1%
Calystegia sepium	HEDGE BINDWEED	forb	1	0.07	1%
Campsis radicans	TRUMPET-CREEPER	vine	1	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.21	3%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Epilobium angustifolium	FIREWEED	forb	7	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.43	5%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	0.07	1%
Fraxinus americana	WHITE ASH	tree	6	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.14	2%
Galium aparine	CLEAVERS	forb	0	0.29	3%
Geranium maculatum	WILD GERANIUM	forb	4	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.14	2%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.21	3%
Oxalis stricta	COMMON YELLOW WOOD SORREL	forb	0	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.71	9%
Phacelia purshii	MIAMI-MIST	forb	4	0.07	1%
Phytolacca americana	POKEWEED	forb	1	0.07	1%
Polygonum amphibium	WATER SMARTWEED	forb	4	0.07	1%
Polygonum hydropiper	WATER-PEPPER	forb	1	0.07	1%
Polygonum punctatum	DOTTED SMARTWEED	forb	6	0.21	3%
Polygonum virginianum	JUMPSEED	forb	3	0.07	1%
Prunus serotina	BLACK CHERRY	tree	3	0.14	2%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Sanicula gregaria	CLUSTERED SNAKEROOT	forb	3	0.21	3%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.14	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.64	8%
Verbena urticifolia	WHITE VERVAIN	forb	3	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.14	2%
Agrostis gigantea	**REDTOP**	grass	0	0.07	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.43	5%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.07	1%
Festuca sp.	**ND**	grass	0	0.14	2%
Glechoma hederacea	**GROUND IVY**	forb	0	0.50	6%
Ipomoea hederacea	**IVY-LEAVED MORNING-GLORY**	forb	0	0.07	1%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.36	4%
Phalaris arundinacea	**REED CANARY GRASS**	grass	0	0.21	3%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.29	3%
Saponaria officinalis	**SOAPWORT**	forb	0	0.07	1%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.07	1%
			Native Species:	6.00	72%
			Non-Native Species:	2.36	28%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–41. A82RF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	45	**Mean CC[a]:**	1.86
Native Species:	31	**Average Cover:**	87.0%
Non-Native Species:	14	**FQAI[b]:**	12.48
Percent Native:	69%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.40	6%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Achillea millefolium	YARROW	forb	1	0.07	1%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.20	3%
Asclepias incarnata	SWAMP MILKWEED	forb	4	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.07	1%
Calystegia sepium	HEDGE BINDWEED	forb	1	0.07	1%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.13	2%
Desmodium canadense	CANADA TICK-TREFOIL	forb	4	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.07	1%
Erigeron philadelphicus	PHILADELPHIA FLEABANE	forb	2	0.07	1%
Eryngium yuccifolium	RATTLESNAKE-MASTER	forb	7	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.13	2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.40	6%
Physalis heterophylla	CLAMMY GROUND-CHERRY	forb	1	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.47	7%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.13	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.53	8%
Tridens flavus	GREASE GRASS	grass	1	0.07	1%
Verbesina alternifolia	WINGSTEM	forb	5	0.27	4%
Vernonia gigantea	TALL IRONWEED	forb	2	0.13	2%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	1%
Vitis labrusca	FOX GRAPE	vine	3	0.13	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.27	4%
Agrostis gigantea	**REDTOP**	grass	0	0.33	5%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.07	1%
Allium vineale	**FIELD GARLIC**	forb	0	0.07	1%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.27	4%
Festuca sp.	**NDA[c]**	grass	0	0.40	6%
Glechoma hederacea	**GROUND IVY**	forb	0	0.13	2%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.07	1%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.27	4%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.07	1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.20	3%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.07	1%
Vicia sativa	**COMMON VETCH**	forb	0	0.07	1%
			Native Species:	4.47	68%
			Non-Native Species:	2.13	32%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–42. A82RF2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	46	**Mean CC[a]:**	1.53
Native Species:	29	**Average Cover:**	78.3%
Non-Native Species:	17	**FQAI[b]:**	10.41
Percent Native:	63%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.47	6%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Aster sp.	NDA[c]	forb	NDA[c]	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.33	4%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.07	1%
Cornus racemosa	GRAY DOGWOOD	shrub	1	0.07	1%
Desmodium canadense	CANADA TICK-TREFOIL	forb	4	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.20	3%
Galium aparine	CLEAVERS	forb	0	0.27	3%
Geum canadense	WHITE AVENS	forb	2	0.13	2%
Gleditsia triacanthos	HONEY LOCUST	tree	4	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.07	1%
Maianthemum racemosum	FALSE SOLOMON'S-SEAL	forb	4	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.20	3%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.33	4%
Pilea pumila	CLEARWEED	forb	2	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.13	2%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.27	3%
Solidago sp.	NDA[c]	forb	NDA[c]	0.13	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.27	3%
Verbesina alternifolia	WINGSTEM	forb	5	0.33	4%
Vernonia gigantea	TALL IRONWEED	forb	2	0.07	1%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.13	2%
Vitis riparia	RIVERBANK GRAPE	vine	3	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.20	3%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.13	2%
Allium vineale	**FIELD GARLIC**	forb	0	0.20	3%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.13	2%
Dactylis glomerata	**ORCHARD GRASS**	grass	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.60	8%
Festuca elatior	**TALL FESCUE**	grass	0	0.20	3%
Festuca sp.	**NDA[c]**	grass	0	0.47	6%
Glechoma hederacea	**GROUND IVY**	forb	0	0.40	5%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.40	5%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.13	2%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.07	1%
Solanum carolinense	**HORSE NETTLE**	forb	0	0.13	2%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.13	2%
Trifolium repens	**WHITE CLOVER**	forb	0	0.07	1%
			Native Species:	4.27	55%
			Non-Native Species:	3.47	45%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–43. ERPRF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	42	**Mean CC[a]:**	1.83
Native Species:	25	**Average Cover:**	95.4%
Non-Native Species:	17	**FQAI[b]:**	11.83
Percent Native:	60%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.20	3%
Amphicarpaea bracteata	HOG-PEANUT	forb	4	0.07	1%
Asarum canadense	WILD GINGER	forb	6	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.13	2%
Cardamine concatenata	CUT-LEAVED TOOTHWORT	forb	3	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.13	2%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.07	1%
Desmodium canadense	CANADA TICK-TREFOIL	forb	4	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.13	2%
Galium aparine	CLEAVERS	forb	0	0.13	2%
Gleditsia triacanthos	HONEY LOCUST	tree	4	0.07	1%
Humulus lupulus	COMMON HOPS	vine	2	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.13	2%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.13	2%
Phacelia purshii	MIAMI-MIST	forb	4	0.07	1%
Ruellia strepens	SMOOTH RUELLIA	forb	5	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.40	6%
Solidago sp.	NDA[c]	forb	NDA[c]	0.07	1%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.13	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.13	2%
Verbesina alternifolia	WINGSTEM	forb	5	0.27	4%
Vernonia gigantea	TALL IRONWEED	forb	2	0.20	3%
Vitis sp.	NDA[c]	vine	NDA[c]	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.47	7%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.13	2%
Allium vineale	**FIELD GARLIC**	forb	0	0.07	1%
Bromus inermis	**HUNGARIAN BROME**	grass	0	0.07	1%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.20	3%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	0.20	3%
Datura stramonium	**JIMSONWEED**	forb	0	0.13	2%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.20	3%
Festuca sp.	**NDA[c]**	grass	0	0.80	13%
Glechoma hederacea	**GROUND IVY**	forb	0	0.33	5%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.07	1%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.20	3%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.07	1%
Sorghum halepense	**JOHNSON GRASS**	grass	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.13	2%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.13	2%
		Native Species:		3.00	47%
		Non-Native Species:		3.33	53%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D44.FWPRF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	46	**Mean CC[a]:**	1.17
Native Species:	27	**Average Cover:**	66.2%
Non-Native Species:	19	**FQAI[b]:**	7.91
Percent Native:	59%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.13	2%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.13	2%
Asclepias incarnata	SWAMP MILKWEED	forb	4	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.13	2%
Carex sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Chamaecrista fasciculata	PARTRIDGE-PEA	forb	3	0.07	1%
Cornus racemosa	GRAY DOGWOOD	shrub	1	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.33	5%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.20	3%
Geum canadense	WHITE AVENS	forb	2	0.33	5%
Geum laciniatum	ROUGH AVENS	forb	2	0.07	1%
Impatiens sp.	NDA[c]	forb	NDA[c]	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.07	1%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.07	1%
Muhlenbergia schreberi	NIMBLEWILL	grass	0	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.47	7%
Robinia pseudoacacia	BLACK LOCUST	tree	0	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.20	3%
Toxicodendron radicans	POISON-IVY	vine	1	0.27	4%
Trichophorum planifolium	FLAT-LEAVED BULRUSH	sedge	7	0.07	1%
Verbesina alternifolia	WINGSTEM	forb	5	0.20	3%
Vernonia gigantea	TALL IRONWEED	forb	2	0.07	1%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.20	3%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.40	6%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.07	1%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.27	4%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.33	5%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.33	5%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.07	1%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.20	3%
Plantago major	**COMMON PLANTAIN**	forb	0	0.13	2%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.07	1%
Setaria sp.	**NDA[c]**	grass	0	0.07	1%
Sonchus arvensis	**FIELD SOW-THISTLE**	forb	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.13	2%
Trifolium pratense	**RED CLOVER**	forb	0	0.07	1%
Trifolium sp.	**NDA[c]**	forb	0	0.07	1%
			Native Species:	3.53	56%
			Non-Native Species:	2.80	44%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–45. NPPRF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	43	**Mean CC[a]:**	1.76
Native Species:	30	**Average Cover:**	97.0%
Non-Native Species:	13	**FQAI[b]:**	11.52
Percent Native:	70%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.20	3%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.33	6%
Apocynum cannabinum	INDIAN HEMP	forb	1	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.13	2%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex hystericina	PORCUPINE SEDGE	sedge	5	0.07	1%
Cyperus sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.13	2%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.07	1%
Juncus effusus	SOFT RUSH	forb	1	0.13	2%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.13	2%
Panicum virgatum	SWITCH GRASS	grass	4	0.20	3%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.07	1%
Polygonum hydropiperoides	MILD WATER-PEPPER	forb	6	0.07	1%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	0.07	1%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.27	4%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.27	4%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	0.07	1%
Silphium perfoliatum	CUP-PLANT	forb	6	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.73	12%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.07	1%
Spartina pectinata	PRAIRIE CORD GRASS	grass	5	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.07	1%
Ulmus americana	AMERICAN ELM	tree	2	0.20	3%
Vernonia gigantea	TALL IRONWEED	forb	2	0.13	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.27	4%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.13	2%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.13	2%
Conium maculatum	**POISON-HEMLOCK**	forb	0	0.13	2%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.13	2%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.40	7%
Epilobium parviflorum	**SMALL-FLOWERED WILLOW-HERB**	forb	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.27	4%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.13	2%
Solanum tuberosum	**POTATO**	forb	0	0.07	1%
			Native Species:	4.07	68%
			Non-Native Species:	1.93	32%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–46. NWERF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	54	**Mean CC[a]:**	1.47
Native Species:	38	**Average Cover:**	85.5%
Non-Native Species:	16	**FQAI[b]:**	10.81
Percent Native:	70%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.20	2%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.13	2%
Asclepias syriaca	COMMON MILKWEED	forb	1	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.27	3%
Campsis radicans	TRUMPET-CREEPER	vine	1	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex frankii	FRANK'S SEDGE	sedge	2	0.07	1%
Cornus amomum	SILKY DOGWOOD	shrub	2	0.07	1%
Echinocystis lobata	WILD CUCUMBER	vine	2	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.20	2%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.20	2%
Fraxinus sp.	NDA[c]	tree	NDA[c]	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.20	2%
Geum laciniatum	ROUGH AVENS	forb	2	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.13	2%
Juncus tenuis	PATH RUSH	forb	1	0.07	1%
Muhlenbergia schreberi	NIMBLEWILL	grass	0	0.13	2%
Oxalis stricta.	COMMON YELLOW WOOD SORREL	forb	0	0.07	1%
Panicum clandestinum	DEER'S-TONGUE PANIC GRASS	grass	2	0.20	2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.33	4%
Penstemon digitalis	FOXGLOVE BEARD-TONGUE	forb	2	0.07	1%
Phacelia purshii	MIAMI-MIST	forb	4	0.20	2%
Polygonum hydropiperoides	MILD WATER-PEPPER	forb	6	0.07	1%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.27	3%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.67	8%
Solidago sp.	NDA[c]	forb	NDA[c]	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.53	6%
Verbena urticifolia	WHITE VERVAIN	forb	3	0.07	1%
Verbesina alternifolia	WINGSTEM	forb	5	0.07	1%
Vernonia gigantea	TALL IRONWEED	forb	2	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.33	4%
Zizia aurea	GOLDEN ALEXANDERS	forb	6	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.40	5%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.27	3%
Allium vineale	**FIELD GARLIC**	forb	0	0.07	1%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.13	2%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.07	1%
Festuca sp.	**ND**	grass	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.20	2%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.27	3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.53	6%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.33	4%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.07	1%
Rhamnus cathartica	**EUROPEAN BUCKTHORN**	sm tree	0	0.07	1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.47	5%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	1%
Trifolium repens	**WHITE CLOVER**	forb	0	0.13	2%
		Native Species:		5.53	63%
		Non-Native Species:		3.20	37%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–47. PRERF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	49	**Mean CC[a]:**	1.50
Native Species:	33	**Average Cover:**	74.8%
Non-Native Species:	16	**FQAI[b]:**	10.50
Percent Native:	67%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.13	2%
Aesculus flava	YELLOW BUCKEYE	tree	7	0.07	1%
Alopecurus carolinianus	CAROLINA FOXTAIL	grass	1	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.20	3%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.27	4%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.20	3%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.20	3%
Conyza canadensis	HORSEWEED	forb	0	0.07	1%
Carex granularis	MEADOW SEDGE	sedge	3	0.07	1%
Carex vulpinoidea	FOX SEDGE	sedge	1	0.13	2%
Cyperus sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Desmodium canescens	HOARY TICK-TREFOIL	forb	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.07	1%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.13	2%
Juncus tenuis	PATH RUSH	forb	1	0.13	2%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.13	2%
Panicum virgatum	SWITCH GRASS	grass	4	0.20	3%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.13	2%
Populus deltoides	EASTERN COTTONWOOD	tree	3	0.07	1%
Rhus glabra	SMOOTH SUMAC	shrub	2	0.13	2%
Rhus typhina	STAGHORN SUMAC	shrub	2	0.07	1%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.33	5%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.20	3%
Schizachyrium scoparium	LITTLE BLUESTEM	grass	5	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.27	4%
Solidago sp.	NDA[c]	forb	NDA[c]	0.33	5%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.20	3%
Toxicodendron radicans	POISON-IVY	vine	1	0.07	1%
Verbena hastata	BLUE VERVAIN	forb	4	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.13	2%
Agrostis gigantea	**REDTOP**	grass	0	0.07	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.40	6%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.13	2%
Dactylis glomerata	**ORCHARD GRASS**	grass	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.40	6%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.13	2%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.13	2%
Festuca elatior	**TALL FESCUE**	grass	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.20	3%
Glechoma hederacea	**GROUND IVY**	forb	0	0.20	3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.27	4%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.07	1%
Phalaris arundinacea	**REED CANARY GRASS**	grass	0	0.07	1%
Plantago major	**COMMON PLANTAIN**	forb	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.20	3%
Sorghum halepense	**JOHNSON GRASS**	grass	0	0.07	1%
		Native Species:		4.47	64%
		Non-Native Species:		2.53	36%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–48. PRERF2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	36	**Mean CC[a]:**	1.41
Native Species:	23	**Average Cover:**	96.2%
Non-Native Species:	13	**FQAI[b]:**	8.47
Percent Native:	64%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Achillea millefolium	YARROW	forb	1	0.20	3%
Asclepias syriaca	COMMON MILKWEED	forb	1	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.13	2%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Cercis canadensis	REDBUD	sm tree	3	0.07	1%
Desmodium canadense	CANADA TICK-TREFOIL	forb	4	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.07	1%
Hypericum sphaerocarpum	ROUND-FRUITED ST. JOHN'S-WORT	forb	6	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.13	2%
Leersia virginica	WHITE GRASS	grass	4	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.13	2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.47	8%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.40	6%
Solidago sp.	NDA[c]	forb	NDA[c]	0.13	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.47	8%
Verbena urticifolia	WHITE VERVAIN	forb	3	0.07	1%
Vernonia gigantea	TALL IRONWEED	forb	2	0.20	3%
Vitis sp.	NDA[c]	vine	NDA[c]	0.20	3%
Agrostis gigantea	**REDTOP**	grass	0	0.47	8%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.07	1%
Cirsium vulgare	**BULL THISTLE**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.47	8%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.13	2%
Festuca sp.	**NDA[c]**	grass	0	0.87	14%
Glechoma hederacea	**GROUND IVY**	forb	0	0.13	2%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.13	2%
Setaria glauca	**YELLOW FOXTAIL GRASS**	grass	0	0.13	2%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	1%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.13	2%
Trifolium sp.	**NDA[c]**	forb	0	0.13	2%
			Native Species:	3.33	54%
			Non-Native Species:	2.87	46%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–49. PRWRF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	41	**Mean CC[a]:**	1.85
Native Species:	28	**Average Cover:**	91.4%
Non-Native Species:	13	**FQAI[b]:**	11.82
Percent Native:	68%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer saccharinum	SILVER MAPLE	tree	3	0.33	5%
Achillea millefolium	YARROW	forb	1	0.13	2%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.07	1%
Asclepias syriaca	COMMON MILKWEED	forb	1	0.07	1%
Aster pilosus	AWL ASTER	forb	1	0.20	3%
Bouteloua curtipendula	SIDE-OATS GRAMA GRASS	grass	8	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex cristatella	CRESTED SEDGE	sedge	3	0.07	1%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.13	2%
Cornus amomum	SILKY DOGWOOD	shrub	2	0.07	1%
Desmodium canadense	CANADA TICK-TREFOIL	forb	4	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.20	3%
Geum canadense	WHITE AVENS	forb	2	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.07	1%
Juncus tenuis	PATH RUSH	forb	1	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.27	4%
Physalis heterophylla	CLAMMY GROUND-CHERRY	forb	1	0.07	1%
Platanus occidentalis	SYCAMORE	tree	7	0.07	1%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.27	4%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.20	3%
Verbesina alternifolia	WINGSTEM	forb	5	0.13	2%
Vernonia gigantea	TALL IRONWEED	forb	2	0.33	5%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.13	2%
Viola sp.	NDA[c]	forb	NDA[c]	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.33	5%
Agrostis gigantea	**REDTOP**	grass	0	0.67	10%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.07	1%
Allium vineale	**FIELD GARLIC**	forb	0	0.27	4%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Cirsium arvense	**CANADA THISTLE**	forb	0	0.20	3%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.20	3%
Glechoma hederacea	**GROUND IVY**	forb	0	0.60	9%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.07	1%
Phleum pratense	**TIMOTHY**	grass	0	0.27	4%
Sorghum halepense	**JOHNSON GRASS**	grass	0	0.07	1%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.13	2%
			Native Species:	3.73	58%
			Non-Native Species:	2.73	42%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–50. PRWRF2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	50	**Mean CC[a]:**	1.53
Native Species:	34	**Average Cover:**	95.4%
Non-Native Species:	16	**FQAI[b]:**	10.84
Percent Native:	68%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Achillea millefolium	YARROW	forb	1	0.07	1%
Aesculus glabra	OHIO BUCKEYE	tree	6	0.07	1%
Allium canadense	WILD GARLIC	forb	2	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.13	2%
Calystegia sepium	HEDGE BINDWEED	forb	1	0.07	1%
Campsis radicans	TRUMPET-CREEPER	vine	1	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex sp.	NDA[c]	sedge	NDA[c]	0.07	1%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Cercis canadensis	REDBUD	sm tree	3	0.07	1%
Erigeron annuus	DAISY FLEABANE	forb	0	0.07	1%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.13	2%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.07	1%
Juglans nigra	BLACK WALNUT	tree	5	0.07	1%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	0.07	1%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.07	1%
Oxalis sp.	NDA[c]	forb	NDA[c]	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.07	1%
Rhus aromatica var. aromatica	FRAGRANT SUMAC	shrub	3	0.07	1%
Rhus glabra	SMOOTH SUMAC	shrub	2	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.47	8%
Solidago sp.	NDA[c]	forb	NDA[c]	0.20	3%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.20	3%
Verbena urticifolia	WHITE VERVAIN	forb	3	0.07	1%
Verbesina alternifolia	WINGSTEM	forb	5	0.33	5%
Vernonia gigantea	TALL IRONWEED	forb	2	0.07	1%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.13	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.20	3%
Agrostis gigantea	**REDTOP**	grass	0	0.47	8%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.27	4%
Allium vineale	**FIELD GARLIC**	forb	0	0.33	5%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.07	1%
Convolvulus arvensis	**FIELD BINDWEED**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.13	2%
Festuca elatior	**TALL FESCUE**	grass	0	0.13	2%
Festuca sp.	**NDA[c]**	grass	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.33	5%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.13	2%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.07	1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.07	1%
Solanum carolinense	**HORSE NETTLE**	forb	0	0.07	1%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	1%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.27	4%
Trifolium pratense	**RED CLOVER**	forb	0	0.13	2%
			Native Species:	3.53	57%
			Non-Native Species:	2.67	43%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–51. SWURF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	42	**Mean CC[a]:**	1.55
Native Species:	23	**Average Cover:**	83.9%
Non-Native Species:	19	**FQAI[b]:**	10.05
Percent Native:	55%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Achillea millefolium	YARROW	forb	1	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.33	5%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.33	5%
Aster novae-angliae	NEW ENGLAND ASTER	forb	2	0.13	2%
Aster pilosus	AWL ASTER	forb	1	0.47	7%
Bouteloua curtipendula	SIDE-OATS GRAMA GRASS	grass	8	0.13	2%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.07	1%
Carex vulpinoidea	FOX SEDGE	sedge	1	0.07	1%
Conyza canadensis	HORSEWEED	forb	0	0.07	1%
Cyperus sp.	NDA[c]	sedge	NDA[c]	0.13	2%
Echinacea purpurea	PURPLE CONEFLOWER	forb	6	0.13	2%
Elymus canadensis	CANADA WILD RYE	grass	6	0.13	2%
Eupatorium maculatum	SPOTTED JOE-PYE WEED	forb	6	0.07	1%
Juncus tenuis	PATH RUSH	forb	1	0.07	1%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.27	4%
Panicum virgatum	SWITCH GRASS	grass	4	0.27	4%
Physalis heterophylla	CLAMMY GROUND-CHERRY	forb	1	0.07	1%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.07	1%
Schizachyrium scoparium	LITTLE BLUESTEM	grass	5	0.13	2%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.33	5%
Solidago rugosa	ROUGH GOLDENROD	forb	2	0.07	1%
Solidago sp.	NDA[c]	forb	NDA[c]	0.13	2%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.27	4%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.27	4%
Cichorium intybus	**CHICORY**	forb	0	0.07	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.60	9%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.27	4%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.07	1%
Festuca elatior	**TALL FESCUE**	grass	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.13	2%
Leonurus cardiaca	**MOTHERWORT**	forb	0	0.13	2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.07	1%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.07	1%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.47	7%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	0.07	1%
Plantago major	**COMMON PLANTAIN**	forb	0	0.07	1%
Polygonum aviculare	**COMMON KNOTWEED**	forb	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.07	1%
Setaria sp.	**NDA[c]**	grass	0	0.13	2%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.27	4%
Trifolium repens	**WHITE CLOVER**	forb	0	0.13	2%
			Native Species:	3.60	52%
			Non-Native Species:	3.27	48%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] NDA= No Determination Available

Species in bold are non-native.

Table D–52. SWURF2 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	38	**Mean CC[a]:**	2.09
Native Species:	26	**Average Cover:**	80.5%
Non-Native Species:	12	**FQAI[b]:**	12.86
Percent Native:	68%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.07	1%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.40	8%
Aster pilosus	AWL ASTER	forb	1	0.07	1%
Bouteloua curtipendula	SIDE-OATS GRAMA GRASS	grass	8	0.13	3%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.20	4%
Carex frankii	FRANK'S SEDGE	sedge	2	0.07	1%
Echinacea purpurea	PURPLE CONEFLOWER	forb	6	0.07	1%
Galium aparine	CLEAVERS	forb	0	0.07	1%
Juniperus virginiana	EASTERN RED CEDAR	tree	3	0.07	1%
Monarda fistulosa	WILD BERGAMOT	forb	3	0.13	3%
Panicum virgatum	SWITCH GRASS	grass	4	0.40	8%
Populus deltoides	EASTERN COTTONWOOD	tree	3	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD SORREL	forb	0	0.07	1%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	0.07	1%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	1	0.07	1%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.13	3%
Schizachyrium scoparium	LITTLE BLUESTEM	grass	5	0.13	3%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.40	8%
Solidago rigida	STIFF GOLDENROD	forb	8	0.07	1%
Solidago sp.	NDA[c]	forb	NDA[c]	0.27	5%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.27	5%
Tridens flavus	GREASE GRASS	grass	1	0.07	1%
Ulmus americana	AMERICAN ELM	tree	2	0.13	3%
Ulmus rubra	SLIPPERY ELM	tree	3	0.07	1%
Verbena urticifolia	WHITE VERVAIN	forb	3	0.07	1%
Vitis sp.	NDA[c]	vine	NDA[c]	0.07	1%
Agrostis gigantea	**REDTOP**	grass	0	0.13	3%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.20	4%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.20	4%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.40	8%
Dipsacus laciniatus	**CUT-LEAVED TEASEL**	forb	0	0.07	1%
Festuca sp.	**NDA[c]**	grass	0	0.13	3%
Glechoma hederacea	**GROUND IVY**	forb	0	0.13	3%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.13	3%
Melilotus sp.	**NDA[c]**	forb	0	0.07	1%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	0.07	1%
Trifolium sp.	**NDA[c]**	forb	NDA[c]	0.07	1%
Valerianella locusta	**EUROPEAN CORN-SALAD**	forb	0	0.07	1%
			Native Species:	3.60	68%
			Non-Native Species:	1.67	32%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–53. NPPSF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	32	**Mean CC[a]:**	1.30
Native Species:	23	**Average Cover:**	41.7%
Non-Native Species:	9	**FQAI[b]:**	7.35
Percent Native:	72%		

Species	Common Name	Type	CC	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.07	2%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.07	2%
Asplenium platyneuron	EBONY SPLEENWORT	fern	3	0.07	2%
Aster pilosus	AWL ASTER	forb	1	0.07	2%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.13	3%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.07	2%
Celtis occidentalis	HACKBERRY	tree	4	0.07	2%
Conyza canadensis	HORSEWEED	forb	0	0.07	2%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.27	6%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	0.07	2%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.07	2%
Geum canadense	WHITE AVENS	forb	2	0.13	3%
Geum laciniatum	ROUGH AVENS	forb	2	0.07	2%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.27	6%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.07	2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.13	3%
Prunus serotina	BLACK CHERRY	tree	3	0.07	2%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.13	3%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	0.07	2%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.20	5%
Solidago sp.	NDA[c]	forb	NDA[c]	0.07	2%
Toxicodendron radicans	POISON-IVY	vine	1	0.07	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.13	3%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.53	13%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.07	2%
Festuca sp.	**NDA[c]**	grass	0	0.07	2%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.20	5%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.53	13%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.07	2%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.13	3%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.07	2%
Urtica dioica var. dioica	**EUROPEAN STINGING NETTLE**	forb	0	0.07	2%
			Native Species:	2.40	58%
			Non-Native Species:	1.73	42%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–54. NWESF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	44	**Mean CC[a]:**	1.74
Native Species:	32	**Average Cover:**	59.9%
Non-Native Species:	12	**FQAI[b]:**	11.53
Percent Native:	73%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.07	1%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Agrimonia parviflora	SMALL-FLOWERED AGRIMONY	forb	2	0.20	3%
Aster pilosus	AWL ASTER	forb	1	0.20	3%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.07	1%
Cardamine concatenata	CUT-LEAVED TOOTHWORT	forb	3	0.07	1%
Carex davisii	DAVIS' SEDGE	sedge	5	0.13	2%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.20	3%
Claytonia virginica	SPRING-BEAUTY	forb	2	0.13	2%
Elymus hystrix	BOTTLEBRUSH GRASS	grass	4	0.13	2%
Eupatorium rugosum	WHITE SNAKEROOT	forb	3	0.20	3%
Euthamia graminifolia	FLAT-TOPPED GOLDENROD	forb	2	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.33	4%
Galium aparine	CLEAVERS	forb	0	0.07	1%
Galium triflorum	SWEET-SCENTED BEDSTRAW	forb	4	0.07	1%
Geum canadense	WHITE AVENS	forb	2	0.60	8%
Hypericum sphaerocarpum	ROUND-FRUITED ST. JOHN'S-WORT	forb	6	0.07	1%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.40	5%
Impatiens sp.	NDA[c]	forb	NDA[c]	0.13	2%
Juncus tenuis	PATH RUSH	forb	1	0.07	1%
Leersia virginica	WHITE GRASS	grass	4	0.27	3%
Panicum clandestinum	DEER'S-TONGUE PANIC GRASS	grass	2	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.40	5%
Pilea pumila	CLEARWEED	forb	2	0.07	1%
Polygonum lapathifolium	DOCK-LEAVED SMARTWEED	forb	1	0.27	3%
Rubus occidentalis	BLACK RASPBERRY	shrub	1	0.07	1%
Scirpus atrovirens	GREEN BULRUSH	sedge	1	0.27	3%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.20	3%
Solidago rugosa	ROUGH GOLDENROD	forb	2	0.07	1%
Toxicodendron radicans	POISON-IVY	vine	1	0.27	3%
Verbesina alternifolia	WINGSTEM	forb	5	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.13	2%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.13	2%
Allium vineale	**FIELD GARLIC**	forb	0	0.27	3%
Elaeagnus umbellata	**AUTUMN-OLIVE**	sm tree	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.27	3%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.07	1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.53	7%
Lysimachia nummularia	**MONEYWORT**	forb	0	0.27	3%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.13	2%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.47	6%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.27	3%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.07	1%
Trifolium repens	**WHITE CLOVER**	forb	0	0.07	1%
			Native Species:	5.40	68%
			Non-Native Species:	2.60	33%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–55. PRESF1 Forest Functional Monitoring Herbaceous Cover Data Summary

Total Species:	60	**Mean CC[a]:**	1.61
Native Species:	42	**Average Cover:**	81.2%
Non-Native Species:	18	**FQAI[b]:**	12.45
Percent Native:	70%		

Species	Common Name	Type	CC[a]	Frequency (species/quadrat)	Relative Frequency
Acer negundo	BOX ELDER	tree	3	0.20	2%
Acer saccharinum	SILVER MAPLE	tree	3	0.07	1%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.13	1%
Aster divaricatus	WHITE WOOD ASTER	forb	5	0.07	1%
Aster lateriflorus	CALICO ASTER	forb	2	0.07	1%
Aster sp.	NDA[c]	forb	NDA[c]	0.07	1%
Cardamine pensylvanica	PENNSYLVANIA BITTER CRESS	forb	3	0.13	1%
Carex blanda	COMMON WOOD SEDGE	sedge	1	0.20	2%
Carex laxiflora	TWO-EDGED WOOD SEDGE	sedge	3	0.07	1%
Carex sp.	NDA[c]	sedge	NDA[c]	0.13	1%
Celtis occidentalis	HACKBERRY	tree	4	0.07	1%
Cercis canadensis	REDBUD	sm tree	3	0.13	1%
Conyza canadensis	HORSEWEED	forb	0	0.07	1%
Elymus canadensis	CANADA WILD RYE	grass	6	0.07	1%
Elymus villosus	HAIRY WILD RYE	grass	4	0.27	3%
Elymus virginicus	VIRGINIA WILD RYE	grass	3	0.07	1%
Eupatorium perfoliatum	COMMON BONESET	forb	3	0.07	1%
Eupatorium serotinum	LATE-FLOWERING BONESET	forb	2	0.80	8%
Fraxinus americana	WHITE ASH	tree	6	0.07	1%
Fraxinus pennsylvanica	GREEN ASH	tree	3	0.13	1%
Galium aparine	CLEAVERS	forb	0	0.20	2%
Geum canadense	WHITE AVENS	forb	2	0.40	4%
Geum laciniatum	ROUGH AVENS	forb	2	0.60	6%
Impatiens capensis	SPOTTED TOUCH-ME-NOT	forb	2	0.07	1%
Ipomoea pandurata	POTATO-VINE	forb	2	0.07	1%
Oxalis stricta	COMMON YELLOW WOOD-SORREL	forb	0	0.13	1%
Panicum capillare	WITCH GRASS	grass	1	0.07	1%
Panicum virgatum	SWITCH GRASS	grass	4	0.07	1%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	2	0.47	4%
Pilea pumila	CLEARWEED	forb	2	0.07	1%
Plantago rugelii	RUGEL'S PLANTAIN	forb	0	0.07	1%
Polygonatum biflorum	SMOOTH SOLOMON'S-SEAL	forb	4	0.07	1%
Polygonum lapathifolium	DOCK-LEAVED SMARTWEED	forb	1	0.07	1%
Polygonum virginianum	JUMPSEED	forb	3	0.13	1%
Ranunculus abortivus	KIDNEY-LEAVED BUTTERCUP	forb	1	0.13	1%
Sanicula gregaria	CLUSTERED SNAKEROOT	forb	3	0.40	4%
Senecio aureus	GOLDEN RAGWORT	forb	4	0.07	1%
Smilax sp.	NDA[c]	ND	NDA[c]	0.07	1%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.33	3%
Toxicodendron radicans	POISON-IVY	vine	1	0.40	4%
Viola sororia	COMMON BLUE VIOLET	forb	1	0.07	1%
Viola sp.	NDA[c]	forb	NDA[c]	0.20	2%
Vitis sp.	NDA[c]	vine	NDA[c]	0.27	3%
Agrostis gigantea	**REDTOP**	grass	0	0.07	1%
Alliaria petiolata	**GARLIC MUSTARD**	forb	0	0.40	4%
Allium vineale	**FIELD GARLIC**	forb	0	0.13	1%
Bromus sp.	**NDA[c]**	grass	0	0.13	1%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.27	3%
Festuca sp.	**NDA[c]**	grass	0	0.07	1%
Glechoma hederacea	**GROUND IVY**	forb	0	0.40	4%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	0	0.27	3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0	0.33	3%
Medicago lupulina	**BLACK MEDICK**	forb	0	0.13	1%
Melilotus alba	**WHITE SWEET-CLOVER**	forb	0	0.07	1%
Plantago major	**COMMON PLANTAIN**	forb	0	0.07	1%
Polygonum persicaria	**LADY'S THUMB**	forb	0	0.20	2%
Pyrus callieryana	**CALLIERY PEAR**	sm tree	0	0.07	1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	0	0.27	3%
Stellaria media	**COMMON CHICKWEED**	forb	0	0.13	1%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.07	1%
Trifolium repens	**WHITE CLOVER**	forb	0	0.13	1%
			Native Species:	7.27	69%
			Non-Native Species:	3.20	31%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–56. NWEFO1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.78	**Native Species:**	9
Total Species:	9	**Non-Native Species.:**	0
FQAI[b]:	14.33	**Percent Native:**	100%
Total Abundance:	87	**Average DBH[c] (cm):**	32.4

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Aesculus glabra	OHIO BUCKEYE	tree	4.5	6	32	3.2	36.8%
Acer saccharum	SUGAR MAPLE	tree	8.6	5	3	0.3	3.4%
Acer saccharinum	SILVER MAPLE	tree	17.1	3	39	3.9	44.8%
Celtis occidentalis	HACKBERRY	tree	29.3	4	2	0.2	2.3%
Fraxinus pennsylvanica	GREEN ASH	tree	31.2	3	1	0.1	1.1%
Gymnocladus dioicus	KENTUCKY COFFEE-TREE	tree	39.6	3	6	0.6	6.9%
Quercus shumardii	SHUMARD OAK	tree	42.4	7	1	0.1	1.1%
Carya tomentosa	MOCKERNUT HICKORY	tree	48.8	6	2	0.2	2.3%
Quercus rubra	RED OAK	tree	70.1	6	1	0.1	1.1%
				Native Species:	87	8.7	100.0%
				Non-Native Species:	0	0.0	0.0%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH = Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–57. PREFO1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.00	**Native Species:**	15
Total Species:	17	**Non-Native Species.:**	2
FQAI[b]:	16.49	**Percent Native:**	88%
Total Abundance:	529	**Average DBH[c] (cm):**	17.8

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	13.6	3	21	2.1	4.0%
Acer saccharum	SUGAR MAPLE	tree	0.6	5	104	10.4	19.6%
Aesculus glabra	OHIO BUCKEYE	tree	7.4	6	2	0.2	0.4%
Carya cordiformis	BITTERNUT HICKORY	tree	25.3	5	2	0.2	0.4%
Celtis occidentalis	HACKBERRY	tree	7.5	4	7	0.7	1.3%
Cercis canadensis	REDBUD	sm tree	12.1	3	4	0.4	0.8%
Cornus florida	FLOWERING DOGWOOD	sm tree	6.0	5	3	0.3	0.6%
Fraxinus pennsylvanica	GREEN ASH	tree	25.0	3	8	0.8	1.5%
Juglans nigra	BLACK WALNUT	tree	30.9	5	2	0.2	0.4%
Prunus serotina	BLACK CHERRY	tree	19.2	3	7	0.7	1.3%
Quercus coccinea	SCARLET OAK	tree	17.5	6	2	0.2	0.4%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	26.5	7	6	0.6	1.1%
Quercus velutina	BLACK OAK	tree	44.2	7	1	0.1	0.2%
Ulmus americana	AMERICAN ELM	tree	13.4	2	10	1.0	1.9%
Vitis sp.	NDA[d]	vine	N/A[e]	NDA[d]	7	0.7	1.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	339	33.9	64.0%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	4	0.4	0.8%
				Native Species:	186	18.6	35.2%
				Non-Native Species:	343	34.3	64.8%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH = Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–58. PREFO2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.17	**Native Species:**	16
Total Species:	18	**Non-Native Species.:**	2
FQAI[b]:	17.68	**Percent Native:**	89%
Total Abundance:	308	**Average DBH[c] (cm):**	19.3

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	11.0	3	6	0.6	1.9%
Acer saccharinum	SILVER MAPLE	tree	6.6	3	1	0.1	0.3%
Acer saccharum	SUGAR MAPLE	tree	11.0	5	34	3.4	11.0%
Aesculus glabra	OHIO BUCKEYE	tree	6.0	6	7	0.7	2.3%
Asimina triloba	PAWPAW	sm tree	0.6	6	7	0.7	2.3%
Carya tomentosa	MOCKERNUT HICKORY	tree	0.6	6	3	0.3	1.0%
Celtis occidentalis	HACKBERRY	tree	13.5	4	3	0.3	1.0%
Fraxinus americana	WHITE ASH	tree	4.2	6	7	0.7	2.3%
Fraxinus pennsylvanica	GREEN ASH	tree	0.6	3	4	0.4	1.3%
Juglans cinerea	BUTTERNUT	tree	27.4	7	3	0.3	1.0%
Juglans nigra	BLACK WALNUT	tree	32.4	5	8	0.8	2.6%
Juniperus virginiana	EASTERN RED CEDAR	tree	16.0	3	11	1.1	3.6%
Liriodendron tulipifera	TULIP TREE	tree	84.8	6	1	0.1	0.3%
Platanus occidentalis	SYCAMORE	tree	71.4	7	2	0.2	0.6%
Sassafras albidum	SASSAFRAS	tree	0.6	3	1	0.1	0.3%
Ulmus americana	AMERICAN ELM	tree	22.3	2	10	1.0	3.2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	199	19.9	64.6%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	1	0.1	0.3%
			Native Species:		108	10.8	35.1%
			Non-Native Species:		200	20.0	64.9%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–59. PRWFO1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.88	**Native Species:**	16
Total Species:	17	**Non-Native Species.:**	1
FQAI[b]:	20.10	**Percent Native:**	94%
Total Abundance:	83	**Average DBH[c] (cm):**	24.2

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Asimina triloba	PAWPAW	sm tree	1.1	6	13	1.3	3.1%
Aesculus glabra	OHIO BUCKEYE	tree	4.2	6	2	0.2	0.5%
Acer saccharinum	SILVER MAPLE	tree	6.2	3	5	0.5	1.2%
Acer negundo	BOX ELDER	tree	9.2	3	4	0.4	1.0%
Celtis occidentalis	HACKBERRY	tree	12.9	4	32	3.2	7.6%
Carya cordiformis	BITTERNUT HICKORY	tree	14.0	5	1	0.1	0.2%
Prunus serotina	BLACK CHERRY	tree	15.2	3	2	0.2	0.5%
Fraxinus pennsylvanica	GREEN ASH	tree	22.8	3	2	0.2	0.5%
Quercus rubra	RED OAK	tree	24.1	6	1	0.1	0.2%
Carya laciniosa	SHELLBARK HICKORY	tree	25.7	7	1	0.1	0.2%
Carya tomentosa	MOCKERNUT HICKORY	tree	26.4	6	8	0.8	1.9%
Ulmus americana	AMERICAN ELM	tree	29.2	2	6	0.6	1.4%
Juglans nigra	BLACK WALNUT	tree	34.3	5	2	0.2	0.5%
Quercus velutina	BLACK OAK	tree	45.0	7	2	0.2	0.5%
Platanus occidentalis	SYCAMORE	tree	53.1	7	1	0.1	0.2%
Quercus imbricaria	SHINGLE OAK	tree	64.3	5	1	0.1	0.2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	336	33.6	80.2%
				Native Species:	83	8.3	19.8%
				Non-Native Species:	336	33.6	80.2%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–60. PRWFO2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.00	**Native Species:**	15
Total Species:	17	**Non-Native Species.:**	2
FQAI[b]:	12.37	**Percent Native:**	88%
Total Abundance:	238	**Average DBH[c] (cm):**	19.6

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	12.4	3	31	3.1	13.0%
Acer saccharum	SUGAR MAPLE	tree	13.0	5	2	0.2	0.8%
Aesculus flava	YELLOW BUCKEYE	tree	14.0	7	6	0.6	2.5%
Aesculus glabra	OHIO BUCKEYE	tree	3.6	6	29	2.9	12.2%
Campsis radicans	TRUMPET-CREEPER	vine	N/A[e]	1	1	0.1	0.4%
Carya cordiformis	BITTERNUT HICKORY	tree	69.9	5	1	0.1	0.4%
Celtis occidentalis	HACKBERRY	tree	4.3	4	3	0.3	1.3%
Crataegus pruinosa	FROSTED HAWTHORN	sm tree	7.9	2	2	0.2	0.8%
Gleditsia triacanthos	HONEY LOCUST	tree	27.3	4	3	0.3	1.3%
Juglans nigra	BLACK WALNUT	tree	23.7	5	3	0.3	1.3%
Maclura pomifera	OSAGE-ORANGE	tree	9.7	0	1	0.1	0.4%
Platanus occidentalis	SYCAMORE	tree	33.3	7	12	1.2	5.0%
Robinia pseudoacacia	BLACK LOCUST	tree	20.4	0	9	0.9	3.8%
Ulmus americana	AMERICAN ELM	tree	16.0	2	6	0.6	2.5%
Vitis sp.	NDA[d]	vine	N/A[e]	0	1	0.1	0.4%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	125	12.5	52.5%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	3	0.3	1.3%
				Native Species:	109	10.9	45.8%
				Non-Native Species:	128	12.8	53.8%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–61. PRWFO3 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.71	**Native Species:**	14
Total Species:	16	**Non-Native Species.:**	3
FQAI[b]:	14.82	**Percent Native:**	88%
Total Abundance:	333	**Average DBH[c] (cm):**	19.2

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	15.5448	3	2	0.2	0.6%
Acer saccharinum	SILVER MAPLE	tree	20.828	3	1	0.1	0.3%
Aesculus glabra	OHIO BUCKEYE	tree	15.748	6	3	0.3	0.9%
Carya cordiformis	BITTERNUT HICKORY	tree	18.9992	5	2	0.2	0.6%
Carya tomentosa	MOCKERNUT HICKORY	tree	32.004	6	2	0.2	0.6%
Celtis occidentalis	HACKBERRY	tree	21.463	4	2	0.2	0.6%
Fraxinus pennsylvanica	GREEN ASH	tree	42.7482	3	6	0.6	1.8%
Juglans nigra	BLACK WALNUT	tree	0.635	5	1	0.1	0.3%
Juniperus virginiana	EASTERN RED CEDAR	tree	0.635	3	5	0.5	1.5%
Platanus occidentalis	SYCAMORE	tree	62.738	7	1	0.1	0.3%
Quercus imbricaria	SHINGLE OAK	tree	21.59	5	2	0.2	0.6%
Quercus macrocarpa	BUR OAK	tree	26.543	6	12	1.2	3.6%
Quercus velutina	BLACK OAK	tree	24.6888	7	2	0.2	0.6%
Robinia pseudoacacia	BLACK LOCUST	tree	1.524	0	1	0.1	0.3%
Ailanthus altissima	**TREE-OF-HEAVEN**	tree	0.635	0	1	0.1	0.3%
Catalpa speciosa	**NORTHERN CATALPA**	tree	0.635	0	1	0.1	0.3%
Lonicera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	289	28.9	86.8%
			Native Species:		42	4.20	12.6%
			Non-Native Species:		291	29.10	87.4%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–62. NPPPP1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.25	**Native Species:**	9
Total Species:	12	**Non-Native Species.:**	3
FQAI[b]:	11.26	**Percent Native:**	75%
Total Abundance:	213	**Average DBH[c] (cm):**	8.3

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.3	3	48	4.8	22.5%
Celtis occidentalis	HACKBERRY	tree	13.5	4	1	0.1	0.5%
Fraxinus americana	WHITE ASH	tree	3.4	6	2	0.2	0.9%
Fraxinus pennsylvanica	GREEN ASH	tree	2.5	3	5	0.5	2.3%
Juglans nigra	BLACK WALNUT	tree	0.6	5	1	0.1	0.5%
Morus rubra	RED MULBERRY	tree	0.6	7	1	0.1	0.5%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	3.8	2	1	0.1	0.5%
Pinus strobus	WHITE PINE	tree	28.2	6	48	4.8	22.5%
Prunus serotina	BLACK CHERRY	tree	6.0	3	7	0.7	3.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	84	8.4	39.4%
Pinus nigra	**AUSTRIAN PINE**	tree	23.5	0	14	1.4	6.6%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	1	0.1	0.5%
				Native Species:	114	11.4	53.5%
				Non-Native Species:	99	9.9	46.5%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–63. PREPP1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.24	**Native Species:**	13
Total Species:	17	**Non-Native Species.:**	4
FQAI[b]:	13.34	**Percent Native:**	76%
Total Abundance:	257	**Average DBH[c] (cm):**	11.9

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.4	3	139	13.9	54.1%
Acer saccharum	SUGAR MAPLE	tree	2.8	5	1	0.1	0.4%
Cornus florida	FLOWERING DOGWOOD	sm tree	3.2	5	7	0.7	2.7%
Euonymus atropurpureus	BURNING-BUSH	shrub	2.5	3	1	0.1	0.4%
Fagus grandifolia	AMERICAN BEECH	tree	0.6	7	1	0.1	0.4%
Nyssa sylvatica	BLACK-GUM	tree	2.5	7	1	0.1	0.4%
Pinus strobus	WHITE PINE	tree	31.2	6	44	4.4	17.1%
Prunus serotina	BLACK CHERRY	tree	3.8	3	4	0.4	1.6%
Quercus imbricaria	SHINGLE OAK	tree	89.7	5	1	0.1	0.4%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	1	0.1	0.4%
Tilia americana	AMERICAN BASSWOOD	tree	2.0	6	1	0.1	0.4%
Ulmus americana	AMERICAN ELM	tree	0.6	2	1	0.1	0.4%
Viburnum dentatum	ARROW-WOOD	shrub	1.0	2	5	0.5	1.9%
Celastrus orbiculatus	**ORIENTAL BITTERSWEET**	vine	0.6	0	1	0.1	0.4%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	37	3.7	14.4%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	2	0.2	0.8%
Pinus nigra	**AUSTRIAN PINE**	tree	25.2	0	10	1.0	3.9%
			Native Species:		207	20.7	80.5%
			Non-Native Species:		50	5.0	19.5%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–64. A82RF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.39	**Native Species:**	29
Total Species:	33	**Non-Native Species.:**	4
FQAI[b]:	19.46	**Percent Native:**	88%
Total Abundance:	318	**Average DBH[c] (cm):**	6.9

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.0	3	83	8.3	26.1%
Acer saccharum	SUGAR MAPLE	tree	11.0	5	8	0.8	2.5%
Aesculus glabra	OHIO BUCKEYE	tree	5.6	6	4	0.4	1.3%
Campsis radicans	TRUMPET-CREEPER	vine	N/A[e]	1	1	0.1	0.3%
Carya cordiformis	BITTERNUT HICKORY	tree	17.3	5	1	0.1	0.3%
Carya ovata	SHAGBARK HICKORY	tree	0.6	6	2	0.2	0.6%
Celtis occidentalis	HACKBERRY	tree	16.3	4	1	0.1	0.3%
Cercis canadensis	REDBUD	sm tree	3.2	3	5	0.5	1.6%
Cornus amomum	SILKY DOGWOOD	shrub	0.7	2	11	1.1	3.5%
Cornus florida	FLOWERING DOGWOOD	sm tree	1.2	5	2	0.2	0.6%
Cornus racemosa	GRAY DOGWOOD	shrub	1.1	1	12	1.2	3.8%
Crataegus crus-galli	COCKSPUR	sm tree	2.9	3	4	0.4	1.3%
Fagus grandifolia	AMERICAN BEECH	tree	5.2	7	2	0.2	0.6%
Fraxinus americana	WHITE ASH	tree	8.0	6	9	0.9	2.8%
Fraxinus pennsylvanica	GREEN ASH	tree	7.6	3	1	0.1	0.3%
Gymnocladus dioicus	KENTUCKY COFFEE-TREE	tree	9.1	3	1	0.1	0.3%
Hypericum prolificum	SHRUBBY ST. JOHN'S-WORT	shrub	N/A[e]	3	12	1.2	3.8%
Juglans nigra	BLACK WALNUT	tree	2.0	5	51	5.1	16.0%
Juniperus virginiana	EASTERN RED CEDAR	tree	10.9	3	1	0.1	0.3%
Lindera benzoin	SPICEBUSH	shrub	N/A[e]	5	3	0.3	0.9%
Liriodendron tulipifera	TULIP TREE	tree	1.7	6	11	1.1	3.5%
Prunus serotina	BLACK CHERRY	tree	31.1	3	2	0.2	0.6%
Quercus macrocarpa	BUR OAK	tree	15.2	6	1	0.1	0.3%
Quercus velutina	BLACK OAK	tree	17.3	7	3	0.3	0.9%
Robinia pseudoacacia	BLACK LOCUST	tree	0.8	0	3	0.3	0.9%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	54	5.4	17.0%
Sambucus canadensis	COMMON ELDERBERRY	shrub	N/A[e]	3	2	0.2	0.6%
Ulmus sp.	NDA[d]	NDA[d]	1.3	NDA[d]	1	0.1	0.3%
Vitis sp.	NDA[d]	vine	N/A[e]	NDA[d]	2	0.2	0.6%
Elaeagnus umbellata	**AUTUMN-OLIVE**	sm tree	0.9	0	4	0.4	1.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	14	1.4	4.4%
Maclura pomifera	**OSAGE-ORANGE**	tree	1.4	0	2	0.2	0.6%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	5	0.5	1.6%
				Native Species:	293	29.3	92.1%
				Non-Native Species:	25	2.5	7.9%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–65. A82RF2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.31	**Native Species:**	12
Total Species:	14	**Non-Native Species.:**	2
FQAI[b]:	12.38	**Percent Native:**	86%
Total Abundance:	128	**Average DBH[c] (cm):**	13.3

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	2.4	3	53	5.3	41.4%
Acer saccharum	SUGAR MAPLE	tree	9.7	5	1	0.1	0.8%
Aesculus glabra	OHIO BUCKEYE	tree	10.4	6	3	0.3	2.3%
Fagus grandifolia	AMERICAN BEECH	tree	9.7	7	6	0.6	4.7%
Fraxinus americana	WHITE ASH	tree	9.7	6	3	0.3	2.3%
Fraxinus pennsylvanica	GREEN ASH	tree	6.4	3	6	0.6	4.7%
Juglans nigra	BLACK WALNUT	tree	6.3	5	15	1.5	11.7%
Juniperus virginiana	EASTERN RED CEDAR	tree	34.8	3	1	0.1	0.8%
Prunus serotina	BLACK CHERRY	tree	30.2	3	1	0.1	0.8%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	6	0.6	4.7%
Rubus occidentalis	BLACK RASPBERRY	shrub	N/A[e]	1	2	0.2	1.6%
Vitis sp.	NDA[d]	vine	N/A[e]	NDA[d]	1	0.1	0.8%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	18	1.8	14.1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	12	1.2	9.4%
			Native Species:		98	9.8	76.6%
			Non-Native Species:		30	3.0	23.4%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–66. ERPRF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.65	**Native Species:**	15
Total Species:	19	**Non-Native Species.:**	4
FQAI[b]:	15.91	**Percent Native:**	79%
Total Abundance:	151	**Average DBH[c] (cm):**	1.8

Species	Common Name	Type	avg dbh (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	2.1	3	24	2.4	15.9%
Acer saccharum	SUGAR MAPLE	tree	0.8	5	5	0.5	3.3%
Aesculus flava	YELLOW BUCKEYE	tree	2.3	7	1	0.1	.7%
Aesculus glabra	OHIO BUCKEYE	tree	4.8	6	1	0.1	.7%
Carya cordiformis	BITTERNUT HICKORY	tree	0.6	5	1	0.1	.7%
Castanea dentata	AMERICAN CHESTNUT	tree	5.6	6	2	0.2	1.3%
Celtis occidentalis	HACKBERRY	tree	0.6	4	1	0.1	.7%
Cercis canadensis	REDBUD	sm tree	1.5	3	1	0.1	.7%
Cornus florida	FLOWERING DOGWOOD	sm tree	0.6	5	1	0.1	.7%
Fagus grandifolia	AMERICAN BEECH	tree	0.6	7	1	0.1	.7%
Juglans nigra	BLACK WALNUT	tree	2.2	5	17	1.7	11.3%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	0.6	7	2	0.2	1.3%
Robinia pseudoacacia	BLACK LOCUST	tree	3.4	0	53	5.3	35.1%
Rubus occidentalis	BLACK RASPBERRY	shrub	0.6	1	1	0.1	.7%
Ulmus americana	AMERICAN ELM	tree	0.6	2	2	0.2	1.3%
Ulmus thomasii	ROCK ELM	sm tree	1.4	7	8	0.8	5.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	3	0.3	2%
Pyrus communis	**PEAR**	sm tree	2.3	0	1	0.1	.7%
Quercus acutissima	**SAWTOOTH OAK**	tree	1.2	0	19	1.9	12.6%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	7	0.7	4.6%
				Native Species:	121	12.10	80.1%
				Non-Native Species:	30	3	0.198675

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–67. FWPRF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.60	**Native Species:**	33
Total Species:	35	**Non-Native Species.:**	2
FQAI[b]:	21.30	**Percent Native:**	94%
Total Abundance:	446	**Average DBH[c] (cm):**	1.4

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.6	3	46	4.6	10.3%
Acer rubrum	RED MAPLE	tree	1.0	2	9	0.9	2.0%
Acer saccharinum	SILVER MAPLE	tree	0.6	3	1	0.1	0.2%
Acer saccharum	SUGAR MAPLE	tree	1.2	5	2	0.2	0.4%
Asimina triloba	PAWPAW	sm tree	3.0	6	14	1.4	3.1%
Celastrus scandens	BITTERSWEET	vine	0.6	2	4	0.4	0.9%
Celtis occidentalis	HACKBERRY	tree	6.2	4	2	0.2	0.4%
Cephalanthus occidentalis	BUTTONBUSH	shrub	0.6	6	2	0.2	0.4%
Cercis canadensis	REDBUD	sm tree	0.6	3	1	0.1	0.2%
Cornus racemosa	GRAY DOGWOOD	shrub	0.6	1	17	1.7	3.8%
Crataegus crus-galli	COCKSPUR	sm tree	0.6	3	5	0.5	1.1%
Fraxinus americana	WHITE ASH	tree	2.5	6	2	0.2	0.4%
Fraxinus pennsylvanica	GREEN ASH	tree	2.8	3	13	1.3	2.9%
Hamamelis virginiana	WITCH-HAZEL	sm tree	0.6	5	1	0.1	0.2%
Ilex verticillata	WINTERBERRY	shrub	0.6	6	1	0.1	0.2%
Juglans nigra	BLACK WALNUT	tree	2.0	5	5	0.5	1.1%
Juniperus virginiana	EASTERN RED CEDAR	tree	2.3	3	4	0.4	0.9%
Lindera benzoin	SPICEBUSH	shrub	0.6	5	4	0.4	0.9%
Liriodendron tulipifera	TULIP TREE	tree	0.6	6	1	0.1	0.2%
Physocarpus opulifolius	NINEBARK	shrub	0.6	4	14	1.4	3.1%
Platanus occidentalis	SYCAMORE	tree	0.9	7	72	7.2	16.1%
Populus deltoides	EASTERN COTTONWOOD	tree	3.6	3	123	12.3	27.6%
Prunus serotina	BLACK CHERRY	tree	1.0	3	2	0.2	0.4%
Quercus alba	WHITE OAK	tree	1.5	6	3	0.3	0.7%
Quercus rubra	RED OAK	tree	0.6	6	2	0.2	0.4%
Rhus aromatica var. aromatica	FRAGRANT SUMAC	shrub	0.6	3	12	1.2	2.7%
Robinia pseudoacacia	BLACK LOCUST	tree	2.2	0	2	0.2	0.4%
Rubus occidentalis	BLACK RASPBERRY	shrub	0.6	1	7	0.7	1.6%
Salix nigra	BLACK WILLOW	tree	3.0	2	15	1.5	3.4%
Symphoricarpos orbiculatus	CORALBERRY	shrub	0.6	3	3	0.3	0.7%
Ulmus americana	AMERICAN ELM	tree	0.6	2	1	0.1	0.2%
Ulmus thomasii	ROCK ELM	sm tree	2.1	7	5	0.5	1.1%
Viburnum dentatum	ARROW-WOOD	shrub	0.6	2	1	0.1	0.2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	47	4.7	10.5%
Morus alba	**WHITE MULBERRY**	tree	0.6	0	3	0.3	0.7%
			Native Species:		396	39.6	88.8%
			Non-Native Species:		50	5.0	11.2%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–68. NPPRF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.62	**Native Species:**	33
Total Species:	37	**Non-Native Species.:**	4
FQAI[b]:	22.03	**Percent Native:**	89%
Total Abundance:	573	**Average DBH[c] (cm):**	2.3

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	3.0	3	5	0.5	0.9%
Acer rubrum	RED MAPLE	tree	2.1	2	4	0.4	0.7%
Acer saccharinum	SILVER MAPLE	tree	3.3	3	13	1.3	2.3%
Acer saccharum	SUGAR MAPLE	tree	5.7	5	10	1	1.7%
Asimina triloba	PAWPAW	sm tree	1.1	6	4	0.4	0.7%
Carya cordiformis	BITTERNUT HICKORY	tree	0.6	5	2	0.2	0.3%
Carya tomentosa	MOCKERNUT HICKORY	tree	1.0	6	4	0.4	0.7%
Ceanothus americanus	NEW JERSEY TEA	shrub	1.0	5	2	0.2	0.3%
Cercis canadensis	REDBUD	sm tree	3.2	3	4	0.4	0.7%
Cornus florida	FLOWERING DOGWOOD	sm tree	1.3	5	16	1.6	2.8%
Cornus racemosa	GRAY DOGWOOD	shrub	1.1	1	7	0.7	1.2%
Fagus grandifolia	AMERICAN BEECH	tree	2.2	7	4	0.4	0.7%
Fraxinus americana	WHITE ASH	tree	1.4	6	12	1.2	2.1%
Fraxinus pennsylvanica	GREEN ASH	tree	1.7	3	10	1	1.7%
Juglans nigra	BLACK WALNUT	tree	2.5	5	7	0.7	1.2%
Liriodendron tulipifera	TULIP TREE	tree	2.0	6	1	0.1	0.2%
Ostrya virginiana	HOP-HORNBEAM	tree	1.3	5	1	0.1	0.2%
Physocarpus opulifolius	NINEBARK	shrub	0.6	4	9	0.9	1.6%
Populus deltoides	EASTERN COTTONWOOD	tree	3.7	3	75	7.5	13.1%
Prunus serotina	BLACK CHERRY	tree	0.6	3	2	0.2	0.3%
Quercus alba	WHITE OAK	tree	2.7	6	7	0.7	1.2%
Quercus macrocarpa	BUR OAK	tree	1.1	6	3	0.3	0.5%
Quercus prinus	ROCK CHESTNUT OAK	tree	1.0	7	3	0.3	0.5%
Quercus rubra	RED OAK	tree	2.4	6	4	0.4	0.7%
Quercus shumardii	SHUMARD OAK	tree	8.9	7	1	0.1	0.2%
Rhus glabra	SMOOTH SUMAC	shrub	N/A[e]	2	8	0.8	1.4%
Rhus typhina	STAGHORN SUMAC	shrub	1.6	2	3	0.3	0.5%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	247	24.7	43.0%
Rubus occidentalis	BLACK RASPBERRY	shrub	0.1	1	17	1.7	3.0%
Symphoricarpos orbiculatus	CORALBERRY	shrub	1.0	3	44	4.4	7.7%
Ulmus americana	AMERICAN ELM	tree	3.8	2	3	0.3	0.5%
Ulmus rubra	SLIPPERY ELM	tree	3.3	3	8	0.8	1.4%
Viburnum dentatum	ARROW-WOOD	shrub	0.8	2	4	0.4	0.7%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	24	2.4	4.2%
Morus alba	**WHITE MULBERRY**	tree	3.0	0	2	0.2	0.3%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	2	0.2	0.3%
Pyrus communis	**PEAR**	sm tree	7.9	0	1	0.1	0.2%
				Native Species:	544	54.4	94.9%
				Non-Native Species:	29	2.9	5.1%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–69. NWERF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	2.80	**Native Species:**	21
Total Species:	26	**Non-Native Species.:**	5
FQAI[b]:	14.28	**Percent Native:**	81%
Total Abundance:	819	**Average DBH[c] (cm):**	5.6

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	5.0	3	8	0.8	1.0%
Acer saccharum	SUGAR MAPLE	tree	23.6	5	2	0.2	0.2%
Campsis radicans	TRUMPET-CREEPER	vine	0.6	1	1	0.1	0.1%
Celtis occidentalis	HACKBERRY	tree	3.2	4	3	0.3	0.4%
Cornus florida	FLOWERING DOGWOOD	sm tree	0.9	5	54	5.4	6.6%
Cornus racemosa	GRAY DOGWOOD	shrub	0.8	1	149	14.9	18.2%
Fagus grandifolia	AMERICAN BEECH	tree	0.6	7	7	0.7	0.9%
Fraxinus americana	WHITE ASH	tree	29.9	6	11	1.1	1.3%
Fraxinus pennsylvanica	GREEN ASH	tree	1.8	3	281	28.1	34.3%
Juniperus virginiana	EASTERN RED CEDAR	tree	2.2	3	25	2.5	3.1%
Ostrya virginiana	HOP-HORNBEAM	tree	1.0	5	2	0.2	0.2%
Parthenocissus quinquefolia	VIRGINIA CREEPER	vine	0.6	2	1	0.1	0.1%
Platanus occidentalis	SYCAMORE	tree	24.8	7	7	0.7	0.9%
Prunus serotina	BLACK CHERRY	tree	6.7	3	2	0.2	0.2%
Quercus imbricaria	SHINGLE OAK	tree	0.6	5	1	0.1	0.1%
Quercus rubra	RED OAK	tree	1.5	6	1	0.1	0.1%
Robinia pseudoacacia	BLACK LOCUST	tree	4.3	0	1	0.1	0.1%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	0.6	1	45	4.5	5.5%
Rubus occidentalis	BLACK RASPBERRY	shrub	0.6	1	7	0.7	0.9%
Ulmus americana	AMERICAN ELM	tree	10.6	2	18	1.8	2.2%
Vitis sp.	ND[c]	vine	N/A[e]	NDA[d]	2	0.2	0.2%
Elaeagnus umbellata	**AUTUMN-OLIVE**	sm tree	2.4	0	6	0.6	0.7%
Lonicera japonica	**JAPANESE HONEYSUCKLE**	vine	N/A[e]	0	1	0.1	0.1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	100	10	12.2%
Pyrus communis	**PEAR**	sm tree	0.6	0	1	0.1	0.1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	83	8.3	10.1%
				Native Species:	628	62.8	76.7%
				Non-Native Species:	191	19.1	23.3%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–70. PRERF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.24	**Native Species:**	24
Total Species:	29	**Non-Native Species.:**	5
FQAI[b]:	17.46	**Percent Native:**	83%
Total Abundance:	390	**Average DBH[c] (cm):**	2.1

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	0.9	3	29	2.9	7.4%
Acer saccharinum	SILVER MAPLE	tree	1.3	3	2	0.2	0.5%
Acer saccharum	SUGAR MAPLE	tree	0.6	5	3	0.3	0.8%
Cornus amomum	SILKY DOGWOOD	shrub	0.8	2	21	2.1	5.4%
Fagus grandifolia	AMERICAN BEECH	tree	2.8	7	2	0.2	0.5%
Fraxinus pennsylvanica	GREEN ASH	tree	0.6	3	7	0.7	1.8%
Fraxinus quadrangulata	BLUE ASH	tree	1.5	7	1	0.1	0.3%
Juglans nigra	BLACK WALNUT	tree	1.6	5	2	0.2	0.5%
Liriodendron tulipifera	TULIP TREE	tree	0.6	6	1	0.1	0.3%
Platanus occidentalis	SYCAMORE	tree	1.3	7	9	0.9	2.3%
Populus deltoides	EASTERN COTTONWOOD	tree	3.8	3	24	2.4	6.2%
Prunus serotina	BLACK CHERRY	tree	0.6	3	1	0.1	0.3%
Quercus alba	WHITE OAK	tree	2.0	6	8	0.8	2.1%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	0.6	7	5	0.5	1.3%
Quercus rubra	RED OAK	tree	3.2	6	2	0.2	0.5%
Quercus velutina	BLACK OAK	tree	0.6	7	1	0.1	0.3%
Rhus copallinum	WINGED SUMAC	shrub	1.5	4	2	0.2	0.5%
Rhus glabra	SMOOTH SUMAC	shrub	0.6	2	2	0.2	0.5%
Robinia pseudoacacia	BLACK LOCUST	tree	4.3	0	35	3.5	9.0%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	168	16.8	43.1%
Rubus occidentalis	BLACK RASPBERRY	shrub	N/A[e]	1	6	0.6	1.5%
Salix nigra	BLACK WILLOW	tree	4.8	2	1	0.1	0.3%
Ulmus americana	AMERICAN ELM	tree	0.6	2	8	0.8	2.1%
Viburnum dentatum	ARROW-WOOD	shrub	N/A[e]	2	41	4.1	10.5%
Catalpa speciosa	**NORTHERN CATALPA**	tree	9.1	0	1	0.1	0.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	2	0.2	0.5%
Pyrus communis	**PEAR**	sm tree	0.6	0	1	0.1	0.3%
Quercus acutissima	**SAWTOOTH OAK**	tree	4.7	0	4	0.4	1.0%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	1	0.1	0.3%
			Native Species:		381	38.1	97.7%
			Non-Native Species:		9	0.9	2.3%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–71. PRERF2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.00	**Native Species:**	36
Total Species:	40	**Non-Native Species.:**	4
FQAI[b]:	25.30	**Percent Native:**	90%
Total Abundance:	396	**Average DBH[c] (cm):**	1.4

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.4	3	3	0.3	0.8%
Acer rubrum	RED MAPLE	tree	1.5	2	1	0.1	0.3%
Acer saccharum	SUGAR MAPLE	tree	0.9	5	12	1.2	3.0%
Asimina triloba	PAWPAW	sm tree	0.6	6	4	0.4	1.0%
Carya cordiformis	BITTERNUT HICKORY	tree	1.6	5	38	3.8	9.6%
Carya laciniosa	SHELLBARK HICKORY	tree	0.6	7	1	0.1	0.3%
Carya tomentosa	MOCKERNUT HICKORY	tree	0.6	6	2	0.2	0.5%
Cercis canadensis	REDBUD	sm tree	0.6	3	3	0.3	0.8%
Cornus amomum	SILKY DOGWOOD	shrub	0.8	2	139	13.9	35.1%
Cornus florida	FLOWERING DOGWOOD	sm tree	0.6	5	1	0.1	0.3%
Corylus americana	AMERICAN HAZEL	shrub	0.6	4	18	1.8	4.5%
Crataegus mollis	DOWNY HAWTHORN	sm tree	0.6	3	1	0.1	0.3%
Fraxinus americana	WHITE ASH	tree	0.9	6	7	0.7	1.8%
Fraxinus pennsylvanica	GREEN ASH	tree	1.2	3	5	0.5	1.3%
Hamamelis virginiana	WITCH-HAZEL	sm tree	0.6	5	4	0.4	1.0%
Ilex verticillata	WINTERBERRY	shrub	0.6	6	4	0.4	1.0%
Juglans nigra	BLACK WALNUT	tree	2.0	5	21	2.1	5.3%
Morus rubra	RED MULBERRY	tree	1.1	7	4	0.4	1.0%
Ostrya virginiana	HOP-HORNBEAM	tree	1.0	5	6	0.6	1.5%
Populus deltoides	EASTERN COTTONWOOD	tree	1.2	3	2	0.2	0.5%
Prunus serotina	BLACK CHERRY	tree	3.3	3	1	0.1	0.3%
Quercus alba	WHITE OAK	tree	1.0	6	2	0.2	0.5%
Quercus bicolor	SWAMP WHITE OAK	tree	1.1	7	2	0.2	0.5%
Quercus imbricaria	SHINGLE OAK	tree	1.4	5	4	0.4	1.0%
Quercus macrocarpa	BUR OAK	tree	1.6	6	6	0.6	1.5%
Quercus rubra	RED OAK	tree	1.8	6	1	0.1	0.3%
Quercus shumardii	SHUMARD OAK	tree	3.0	7	1	0.1	0.3%
Quercus velutina	BLACK OAK	tree	0.6	7	2	0.2	0.5%
Rhus glabra	SMOOTH SUMAC	shrub	0.6	2	1	0.1	0.3%
Rhus typhina	STAGHORN SUMAC	shrub	2.5	2	1	0.1	0.3%
Robinia pseudoacacia	BLACK LOCUST	tree	4.0	0	7	0.7	1.8%
Rosa carolina	PASTURE ROSE	shrub	N/A[e]	4	2	0.2	0.5%
Rubus allegheniensis	COMMON BLACKBERRY	shrub	N/A[e]	1	1	0.1	0.3%
Rubus occidentalis	BLACK RASPBERRY	shrub	N/A[e]	1	56	5.6	14.1%
Tilia americana	AMERICAN BASSWOOD	tree	2.3	6	8	0.8	2.0%
Tilia heterophylla	WHITE BASSWOOD	tree	0.6	6	1	0.1	0.3%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	4.1	0	10	1	2.5%
Morus alba	**WHITE MULBERRY**	tree	0.6	0	2	0.2	0.5%
Pyrus communis	**PEAR**	sm tree	1.3	0	1	0.1	0.3%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	11	1.1	2.8%
				Native Species:	372	37.2	93.9%
				Non-Native Species:	24	2.4	6.1%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–72. PRWRF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.45	**Native Species:**	27
Total Species:	32	**Non-Native Species.:**	5
FQAI[b]:	19.53	**Percent Native:**	84%
Total Abundance:	592	**Average DBH[c] (cm):**	2.1

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.4	3	98	9.8	16.6%
Acer saccharinum	SILVER MAPLE	tree	1.7	3	20	2	3.4%
Acer saccharum	SUGAR MAPLE	tree	0.8	5	24	2.4	4.1%
Asimina triloba	PAWPAW	sm tree	1.3	6	1	0.1	0.2%
Cercis canadensis	REDBUD	sm tree	2.4	3	7	0.7	1.2%
Cornus florida	FLOWERING	sm tree	1.0	5	4	0.4	0.7%
Cornus racemosa	GRAY DOGWOOD	shrub	0.6	1	3	0.3	0.5%
Fagus grandifolia	AMERICAN BEECH	tree	2.1	7	6	0.6	1.0%
Fraxinus americana	WHITE ASH	tree	4.6	6	1	0.1	0.2%
Fraxinus pennsylvanica	GREEN ASH	tree	1.1	3	6	0.6	1.0%
Hydrangea arborescens	WILD HYDRANGEA	shrub	N/A[e]	7	1	0.1	0.2%
Juglans nigra	BLACK WALNUT	tree	1.3	5	10	1	1.7%
Liriodendron tulipifera	TULIP TREE	tree	0.6	6	2	0.2	0.3%
Ostrya virginiana	HOP-HORNBEAM	tree	1.1	5	3	0.3	0.5%
Platanus occidentalis	SYCAMORE	tree	2.3	7	112	11.2	18.9%
Populus deltoides	EASTERN	tree	2.3	3	185	18.5	31.2%
Prunus serotina	BLACK CHERRY	tree	0.6	3	2	0.2	0.3%
Quercus alba	WHITE OAK	tree	2.0	6	2	0.2	0.3%
Quercus imbricaria	SHINGLE OAK	tree	0.6	5	1	0.1	0.2%
Quercus macrocarpa	BUR OAK	tree	3.7	6	2	0.2	0.3%
Quercus rubra	RED OAK	tree	4.1	6	1	0.1	0.2%
Rhus glabra	SMOOTH SUMAC	shrub	1.3	2	4	0.4	0.7%
Robinia pseudoacacia	BLACK LOCUST	tree	7.2	0	3	0.3	0.5%
Rubus allegheniensis	COMMON	shrub	N/A[e]	1	54	5.4	9.1%
Rubus occidentalis	BLACK RASPBERRY	shrub	N/A[e]	1	8	0.8	1.4%
Ulmus americana	AMERICAN ELM	tree	0.6	2	1	0.1	0.2%
Vitis sp.	NDA[d]	vine	N/A[e]	NDA[d]	8	0.8	1.4%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0.3	0	6	0.6	1.0%
Maclura pomifera	**OSAGE-ORANGE**	tree	0.6	0	1	0.1	0.2%
Morus alba	**WHITE MULBERRY**	tree	2.0	0	3	0.3	0.5%
Quercus acutissima	**SAWTOOTH OAK**	tree	8.0	0	2	0.2	0.4%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	11	1.1	1.9%
				Native Species:	569	56.9	96.1%
				Non-Native Species:	23	2.3	3.9%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–73. PRWRF2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.33	**Native Species:**	20
Total Species:	24	**Non-Native Species.:**	4
FQAI[b]:	16.33	**Percent Native:**	83%
Total Abundance:	421	**Average DBH[c] (cm):**	1.7

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	1.5	3	74	7.4	17.5%
Acer saccharinum	SILVER MAPLE	tree	0.9	3	8	0.8	1.9%
Acer saccharum	SUGAR MAPLE	tree	1.9	5	9	0.9	2.1%
Carya laciniosa	SHELLBARK HICKORY	tree	0.6	7	3	0.3	0.7%
Cercis canadensis	REDBUD	sm tree	0.8	3	3	0.3	0.7%
Cornus amomum	SILKY DOGWOOD	shrub	1.3	2	3	0.3	0.7%
Crataegus crus-galli	COCKSPUR	sm tree	2.0	3	1	0.1	0.2%
Fraxinus americana	WHITE ASH	tree	1.4	6	6	0.6	1.4%
Fraxinus pennsylvanica	GREEN ASH	tree	3.8	3	1	0.1	0.2%
Hamamelis virginiana	WITCH-HAZEL	sm tree	0.6	5	5	0.5	1.2%
Juglans nigra	BLACK WALNUT	tree	2.3	5	27	2.7	6.4%
Prunus serotina	BLACK CHERRY	tree	2.3	3	5	0.5	1.2%
Quercus alba	WHITE OAK	tree	2.3	6	10	1	2.4%
Quercus macrocarpa	BUR OAK	tree	0.6	6	1	0.1	0.2%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	2.3	7	4	0.4	0.9%
Quercus rubra	RED OAK	tree	3.3	6	1	0.1	0.2%
Rhus glabra	SMOOTH SUMAC	shrub	N/A[e]	2	125	12.5	29.6%
Rhus typhina	STAGHORN SUMAC	shrub	0.6	2	27	2.7	6.4%
Robinia pseudoacacia	BLACK LOCUST	tree	3.1	0	16	1.6	3.8%
Symphoricarpos orbiculatus	CORALBERRY	shrub	N/A[e]	3	11	1.1	2.6%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0.1	0	68	6.8	16.1%
Maclura pomifera	**OSAGE-ORANGE**	tree	1.7	0	2	0.2	0.5%
Pyrus communis	**PEAR**	sm tree	2.2	0	8	0.8	1.9%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	3	0.3	0.7%
				Native Species:	340	34.0	80.8%
				Non-Native Species:	81	8.1	19.2%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–74. SWURF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.00	**Native Species:**	11
Total Species:	13	**Non-Native Species.:**	2
FQAI[b]:	14.42	**Percent Native:**	85%
Total Abundance:	82	**Average DBH[c] (cm):**	1.1

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Fraxinus americana	WHITE ASH	tree	1.8	6	9	0.9	11.0%
Fraxinus pennsylvanica	GREEN ASH	tree	0.6	3	2	0.2	2.4%
Fraxinus sp.	NDA[d]	tree	3.0	NDA[d]	1	0.1	1.2%
Platanus occidentalis	SYCAMORE	tree	1.9	7	6	0.6	7.3%
Populus deltoides	EASTERN COTTONWOOD	tree	1.4	3	24	2.4	29.3%
Quercus coccinea	SCARLET OAK	tree	0.6	6	1	0.1	1.2%
Quercus rubra	RED OAK	tree	0.6	6	2	0.2	2.4%
Quercus shumardii	SHUMARD OAK	tree	1.2	7	2	0.2	2.4%
Quercus velutina	BLACK OAK	tree	1.1	7	3	0.3	3.7%
Rhus glabra	SMOOTH SUMAC	shrub	0.6	2	4	0.4	4.9%
Salix exigua	SANDBAR WILLOW	shrub	0.7	1	17	1.7	20.7%
Pyrus communis	**PEAR**	sm tree	0.6	0	1	0.1	1.2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	0.1	0	10	1	12.2%
			Native Species:		71	7.1	86.6%
			Non-Native Species:		11	1.1	13.4%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–75. SWURF2 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.58	**Native Species:**	16
Total Species:	19	**Non-Native Species.:**	3
FQAI[b]:	19.96	**Percent Native:**	84%
Total Abundance:	122	**Average DBH[c] (cm):**	2.1

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Carya cordiformis	BITTERNUT HICKORY	tree	1.4	5	3	0.3	2.5%
Carya tomentosa	MOCKERNUT HICKORY	tree	2.1	6	5	0.5	4.1%
Fagus grandifolia	AMERICAN BEECH	tree	1.4	7	5	0.5	4.1%
Fraxinus americana	WHITE ASH	tree	0.6	6	1	0.1	0.8%
Fraxinus pennsylvanica	GREEN ASH	tree	0.6	3	1	0.1	0.8%
Hamamelis virginiana	WITCH-HAZEL	sm tree	1.3	5	1	0.1	0.8%
Juniperus virginiana	EASTERN RED CEDAR	tree	2.0	3	9	0.9	7.4%
Liquidambar styraciflua	SWEETGUM	tree	0.6	6	1	0.1	0.8%
Physocarpus opulifolius	NINEBARK	shrub	0.6	4	5	0.5	4.1%
Platanus occidentalis	SYCAMORE	tree	17.5	7	6	0.6	4.9%
Populus deltoides	EASTERN COTTONWOOD	tree	0.6	3	6	0.6	4.9%
Quercus bicolor	SWAMP WHITE OAK	tree	2.4	7	2	0.2	1.6%
Quercus coccinea	SCARLET OAK	tree	0.6	6	1	0.1	0.8%
Quercus macrocarpa	BUR OAK	tree	0.6	6	1	0.1	0.8%
Quercus velutina	BLACK OAK	tree	0.6	7	1	0.1	0.8%
Tilia americana	AMERICAN BASSWOOD	tree	1.5	6	1	0.1	0.8%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	70	7	57.4%
Pyrus communis	**PEAR**	sm tree	0.6	0	1	0.1	0.8%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	2	0.2	1.6%
			Native Species:		49	4.9	40.2%
			Non-Native Species:		73	7.3	59.8%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–76. NPPSF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.07	**Native Species:**	14
Total Species:	15	**Non-Native Species.:**	1
FQAI[b]:	15.75	**Percent Native:**	93%
Total Abundance:	365	**Average DBH[c] (cm):**	16.6

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Celtis occidentalis	HACKBERRY	tree	12.4	4	11	1.1	3.0%
Cercis canadensis	REDBUD	sm tree	15.7	3	1	0.1	0.3%
Cornus florida	FLOWERING DOGWOOD	sm tree	4.6	5	2	0.2	0.5%
Cornus racemosa	GRAY DOGWOOD	shrub	3.3	1	5	0.5	1.4%
Fraxinus americana	WHITE ASH	tree	15.3	6	4	0.4	1.1%
Fraxinus pennsylvanica	GREEN ASH	tree	23.5	3	9	0.9	2.5%
Juglans nigra	BLACK WALNUT	tree	23.6	5	12	1.2	3.3%
Quercus imbricaria	SHINGLE OAK	tree	23.1	5	4	0.4	1.1%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	9.7	7	2	0.2	0.5%
Quercus rubra	RED OAK	tree	35.2	6	5	0.5	1.4%
Quercus shumardii	SHUMARD OAK	tree	28.1	7	2	0.2	0.5%
Quercus velutina	BLACK OAK	tree	16.8	7	2	0.2	0.5%
Robinia pseudoacacia	BLACK LOCUST	tree	9.0	0	29	2.9	7.9%
Ulmus americana	AMERICAN ELM	tree	11.6	2	4	0.4	1.1%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	273	27.3	74.8%
			Native Species:		92	9.2	25.2%
			Non-Native Species:		273	27.3	74.8%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–77. NWESF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	3.38	**Native Species:**	11
Total Species:	13	**Non-Native Species.:**	2
FQAI[b]:	12.20	**Percent Native:**	85%
Total Abundance:	280	**Average DBH[c] (cm):**	22.6

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	24.7	3	8	0.8	2.9%
Acer saccharinum	SILVER MAPLE	tree	30.2	3	1	0.1	0.4%
Carya laciniosa	SHELLBARK HICKORY	tree	14.7	7	46	4.6	16.4%
Celtis occidentalis	HACKBERRY	tree	9.9	4	2	0.2	0.7%
Cornus racemosa	GRAY DOGWOOD	shrub	0.6	1	1	0.1	0.4%
Fraxinus pennsylvanica	GREEN ASH	tree	28.2	3	6	0.6	2.1%
Platanus occidentalis	SYCAMORE	tree	50.5	7	1	0.1	0.4%
Quercus shumardii	SHUMARD OAK	tree	22.4	7	1	0.1	0.4%
Quercus velutina	BLACK OAK	tree	30.7	7	1	0.1	0.4%
Ulmus americana	AMERICAN ELM	tree	14.4	2	14	1.4	5.0%
Vitis sp.	ND[c]	vine	N/A[e]	0	8	0.8	2.9%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	143	14.3	51.1%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	48	4.8	17.1%
			Native Species:		89	8.9	31.8%
			Non-Native Species:		191	19.1	68.2%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–78. PRESF1 Forest Functional Monitoring Woody Stem Data Summary

Mean CC[a]:	4.18	**Native Species:**	21
Total Species:	23	**Non-Native Species.:**	2
FQAI[b]:	20.06	**Percent Native:**	91%
Total Abundance:	600	**Average DBH[c] (cm):**	11.8

Species	Common Name	Type	Avg DBH (cm)	CC	Abundance	Density (ind./100m^2)	Relative Density
Acer negundo	BOX ELDER	tree	11.4	3	19	1.9	3.2%
Acer saccharum	SUGAR MAPLE	tree	15.4	5	4	0.4	0.7%
Aesculus glabra	OHIO BUCKEYE	tree	5.2	6	2	0.2	0.3%
Asimina triloba	PAWPAW	sm tree	1.9	6	191	19.1	31.8%
Carya cordiformis	BITTERNUT HICKORY	tree	5.2	5	2	0.2	0.3%
Celastrus scandens	BITTERSWEET	vine	0.6	2	1	0.1	0.2%
Celtis occidentalis	HACKBERRY	tree	22.1	4	2	0.2	0.3%
Cercis canadensis	REDBUD	sm tree	10.1	3	6	0.6	1.0%
Cornus florida	FLOWERING DOGWOOD	sm tree	2.2	5	27	2.7	4.5%
Fraxinus pennsylvanica	GREEN ASH	tree	0.6	3	2	0.2	0.3%
Fraxinus quadrangulata	BLUE ASH	tree	7.2	7	3	0.3	0.5%
Gleditsia triacanthos	HONEY LOCUST	tree	27.4	4	1	0.1	0.2%
Juglans nigra	BLACK WALNUT	tree	35.3	5	6	0.6	1.0%
Juniperus virginiana	EASTERN RED CEDAR	tree	19.8	3	4	0.4	0.7%
Platanus occidentalis	SYCAMORE	tree	19.3	7	1	0.1	0.2%
Prunus serotina	BLACK CHERRY	tree	13.8	3	3	0.3	0.5%
Quercus imbricaria	SHINGLE OAK	tree	11.0	5	4	0.4	0.7%
Quercus muehlenbergii	CHINQUAPIN OAK	tree	13.8	7	2	0.2	0.3%
Quercus shumardii	SHUMARD OAK	tree	0.6	7	1	0.1	0.2%
Ulmus americana	AMERICAN ELM	tree	12.4	2	4	0.4	0.7%
Vitis sp.	NDA[d]	vine	N/A[e]	NDA[d]	13	1.3	2.2%
Loniciera maackii	**AMUR HONEYSUCKLE**	shrub	N/A[e]	0	298	29.8	49.7%
Rosa multiflora	**MULTIFLORA ROSE**	shrub	N/A[e]	0	4	0.4	0.7%
				Native Species:	298	29.8	49.7%
				Non-Native Species:	302	30.2	50.3%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] DBH- Diameter at Breast Height
[d] NDA= No Determination Available
[e] N/A= Not Applicable
Species in bold are non-native.

Table D–79. Implementation Monitoring Summary

Area	Total Species	Native Species	Native Species (Percent)	Relative Frequency of Native Species (Percent)	Cover (Percent)
FPA-Haul Road	19	11	58%	49%	85%
FPA - Solid Waste Landfill	24	14	58%	51%	85%
FPA-Prairie Area	15	5	33%	40%	73%

Table D–80. FPA-Haul Road Implementation Monitoring Herbaceous Cover Data Summary

Total Species:	19	**Mean CC[a]:**	1.26
Native Species:	11	**Average Cover:**	85.3%
Non-Native Species:	8	**FQAI[b]:**	5.51
Percent Native:	58%		

Species	Common Name	Type	CC	Frequency (species/quadrat)	Relative Frequency
Amaranthus albus	TUMBLEWEED	forb	0	0.20	2%
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.60	7%
Conyza canadensis	HORSEWEED	forb	0	0.40	5%
Elymus canadensis	CANADA WILD RYE	grass	6	0.60	7%
Heliopsis helianthoides	SMOOTH OXEYE	forb	5	0.20	2%
Lactuca biennis	TALL BLUE LETTUCE	forb	1	0.20	2%
Panicum capillare	WITCH GRASS	grass	1	0.20	2%
Panicum virgatum	SWITCH GRASS	grass	4	0.20	2%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	0.20	2%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.80	10%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.40	5%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.20	2%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.60	7%
Echinochloa crusgalli	**BARNYARD GRASS**	grass	0	0.40	5%
Lolium multiflorum	**ITALIAN RYEGRASS**	grass	0	0.40	5%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.80	10%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	1.00	12%
Polygonum aviculare	**COMMON KNOTWEED**	forb	0	0.60	7%
Trifolium pratense	**RED CLOVER**	forb	0	0.20	2%
			Native Species:	4.00	49%
			Non-Native Species:	4.20	51%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination
Species in bold are non-native.

Table D–81. FPA - Solid Waste Landfill Implementation Monitoring Herbaceous Cover Data Summary

Total Species:	24	**Mean CC[a]:**	1.79
Native Species:	14	**Average Cover:**	85.3%
Non-Native Species:	10	**FQAI[b]:**	8.78
Percent Native:	58%		

Species	Common Name	Type	CC	Frequency (species/quadrat)	Relative Frequency
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	0.80	9%
Andropogon gerardii	BIG BLUESTEM	grass	5	0.20	2%
Bidens frondosa	DEVIL'S BEGGAR'S-TICK	forb	2	0.20	2%
Chamaecrista fasciculata	PARTRIDGE-PEA	forb	3	0.20	2%
Conyza canadensis	HORSEWEED	forb	0	0.40	4%
Echinacea purpurea	PURPLE CONEFLOWER	forb	6	0.40	4%
Elymus canadensis	CANADA WILD RYE	grass	6	0.40	4%
Eupatorium altissimum	TALL BONESET	forb	0	0.40	4%
Heliopsis helianthoides	SMOOTH OXEYE	forb	5	0.20	2%
Panicum virgatum	SWITCH GRASS	grass	4	0.40	4%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	0.20	2%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.20	2%
Solidago canadensis	CANADA GOLDENROD	forb	1	0.60	6%
Sorghastrum nutans	INDIAN GRASS	grass	5	0.20	2%
Allium vineale	**FIELD GARLIC**	forb	0	0.40	4%
Bromus japonicus	**JAPANESE BROME**	grass	0	0.60	6%
Cichorium intybus	**CHICORY**	forb	0	0.20	2%
Cirsium vulgare	**BULL THISTLE**	forb	0	0.20	2%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	1.00	11%
Dipsacus fullonum	**WILD TEASEL**	forb	0	0.20	2%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.80	9%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	0.40	4%
Setaria sp.	**NDA[c]**	grass	0	0.60	6%
Trifolium repens	**WHITE CLOVER**	forb	0	0.20	2%
			Native Species:	4.80	51%
			Non-Native Species:	4.60	49%

[a] CC = Coefficent of Conservatism

[b] FQAI = Florist Quality Assessment Index

[c] ND= No Determination Available

Species in bold are non-native.

Table D–82. FPA -Prairie Area Implementation Monitoring Herbaceous Cover Data Summary

Total Species:	15	**Mean CC[a]:**	0.47
Native Species:	5	**Average Cover:**	73.4%
Non-Native Species:	10	**FQAI[b]:**	1.81
Percent Native:	33%		

Species	Common Name	Type	CC	Frequency (species/quadrat)	Relative Frequency
Ambrosia artemisiifolia	COMMON RAGWEED	forb	0	1.00	17%
Aster pilosus	AWL ASTER	forb	1	0.20	3%
Erigeron annuus	DAISY FLEABANE	forb	0	0.20	3%
Ratibida pinnata	GRAY-HEADED CONEFLOWER	forb	5	0.60	10%
Rudbeckia hirta	BLACK-EYED SUSAN	forb	1	0.40	7%
Agrostis gigantea	**REDTOP**	grass	0	0.20	3%
Cichorium intybus	**CHICORY**	forb	0	0.20	3%
Daucus carota	**QUEEN-ANNE'S-LACE**	forb	0	0.80	13%
Lolium multiflorum	**ITALIAN RYEGRASS**	grass	0	0.60	10%
Melilotus officinalis	**YELLOW SWEET-CLOVER**	forb	0	0.20	3%
Plantago lanceolata	**ENGLISH PLANTAIN**	forb	0	0.60	10%
Polygonum aviculare	**COMMON KNOTWEED**	forb	0	0.20	3%
Taraxacum officinale	**COMMON DANDELION**	forb	0	0.20	3%
Trifolium pratense	**RED CLOVER**	forb	0	0.20	3%
Trifolium repens	**WHITE CLOVER**	forb	0	0.40	7%
			Native Species:	2.40	40%
			Non-Native Species:	3.60	60%

[a] CC = Coefficent of Conservatism
[b] FQAI = Florist Quality Assessment Index
[c] NDA= No Determination Available
Species in bold are non-native.

Table D–83. Reptile Coverboard Observations

Species	Common Name	BAPW3	BAPW4	BAPW5	BAPW7	BAPW8	BAPW9	NPPW1	NPPW2	NPPW3	NPPW4	NPPW5	PREW6	WM1W1	WM1W2	WM1W3	WM1W4	WM1W5	WM1W6	WM1W7	WM2M1	WM2W2	WM2W3	Frequency	Relative Frequency
Blarnia brevicauda	short-tailed shrew	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	4	3%
Elaphe obsoleta obsoleta	black rat snake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1%
Microtus pennsylvanicus	meadow vole	0	2	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	1	6	14	9%
Peromyscus leucopis	field mouse	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1%
Peromyscus maniculatus	deer mouse	5	6	10	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	1	29	18%
Nerodia sipedon	northern water snake	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	4	1	2	10	6%
Rana clamitans	American green frog	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	3	2%
Rana pipiens	leopard frog	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1%
Thamnophis sirtalis sirtalis	eastern garter snake	2	15	4	6	6	11	3	2	0	2	3	2	4	2	0	5	3	2	0	4	1	16	93	59%
																							Total Frequency:	**158**	

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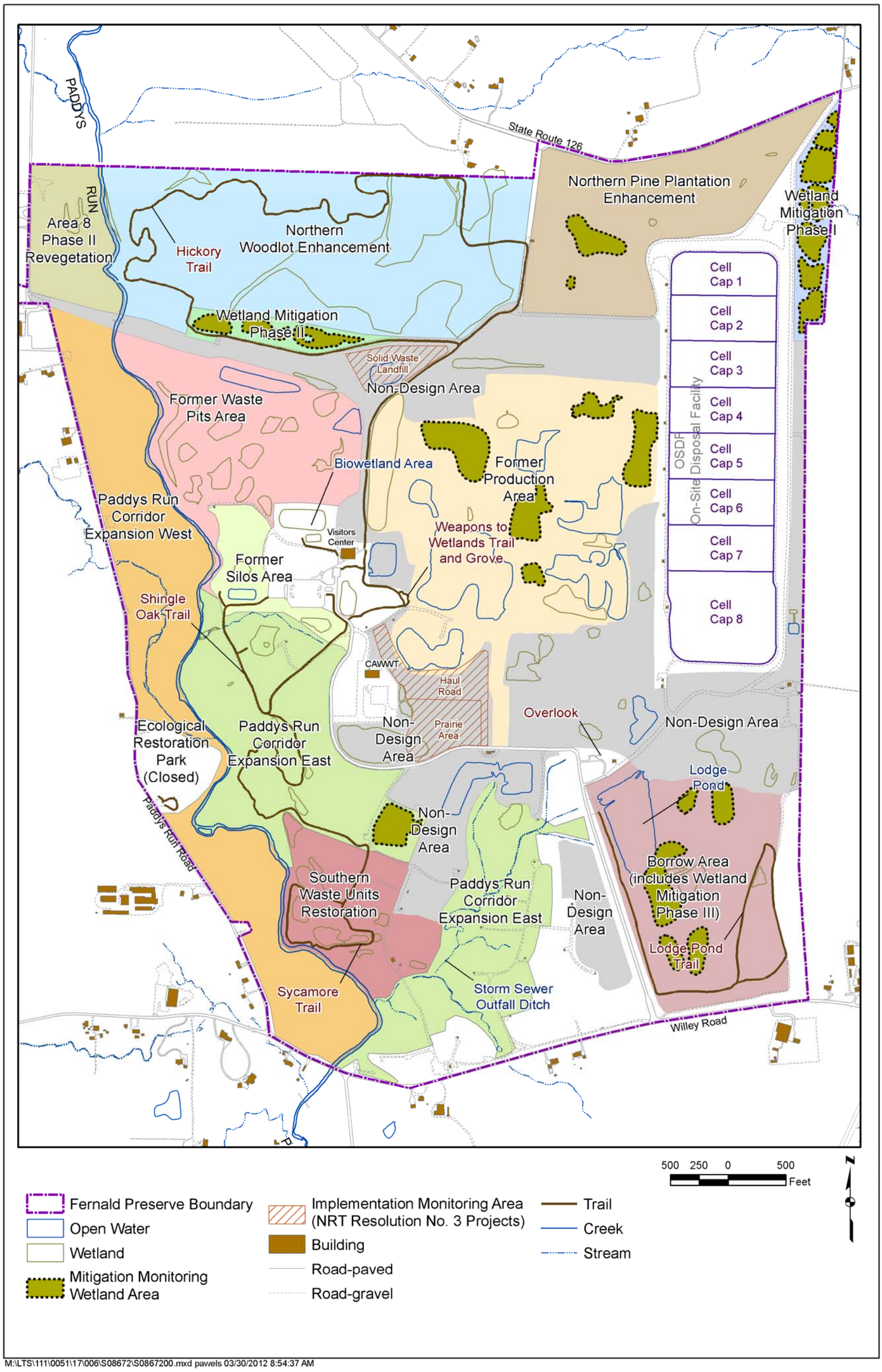

Figure D–1. Ecological Monitoring Areas

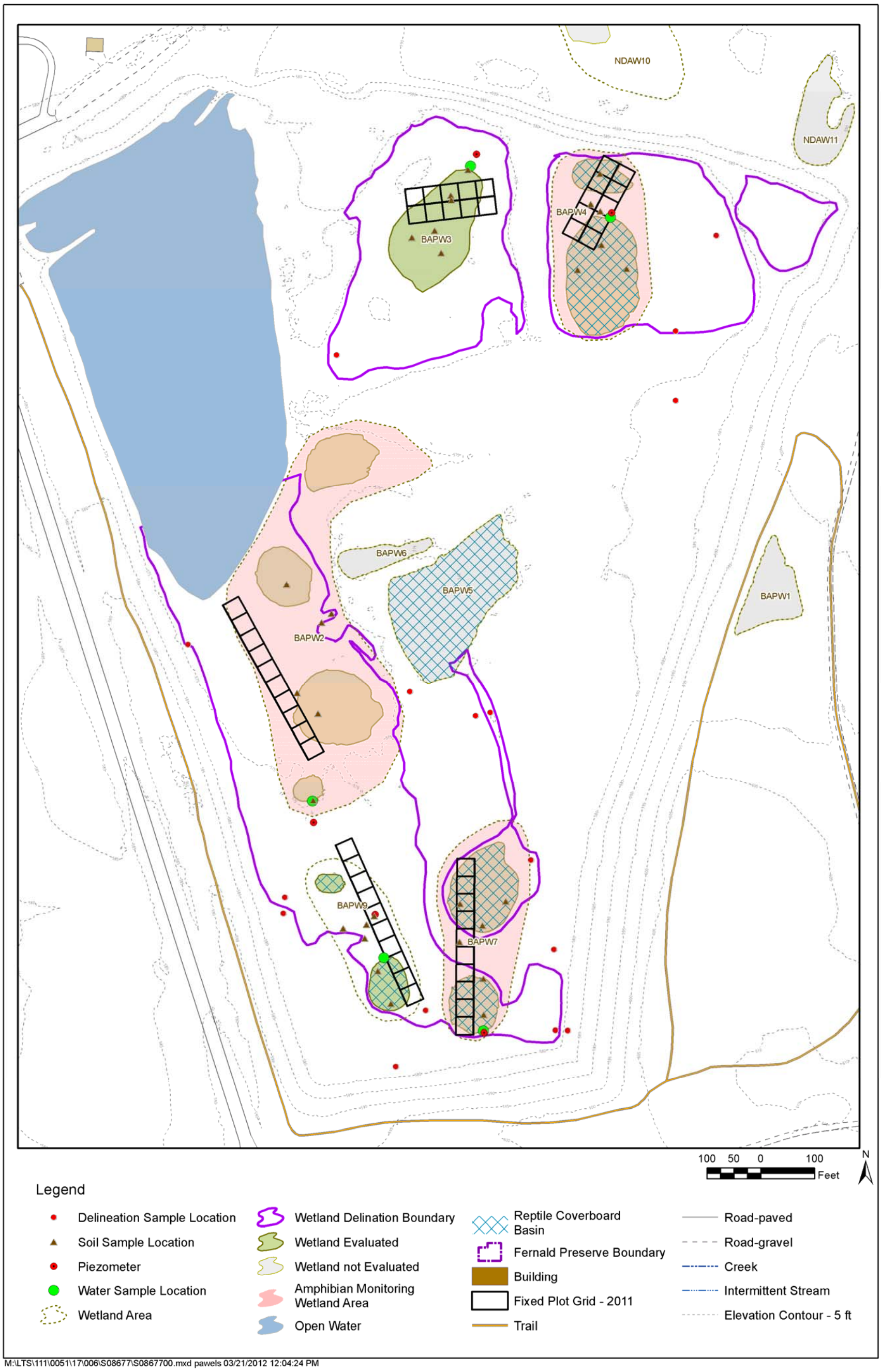

Figure D–2A. Wetland Mitigation – Borrow Area Project Wetlands

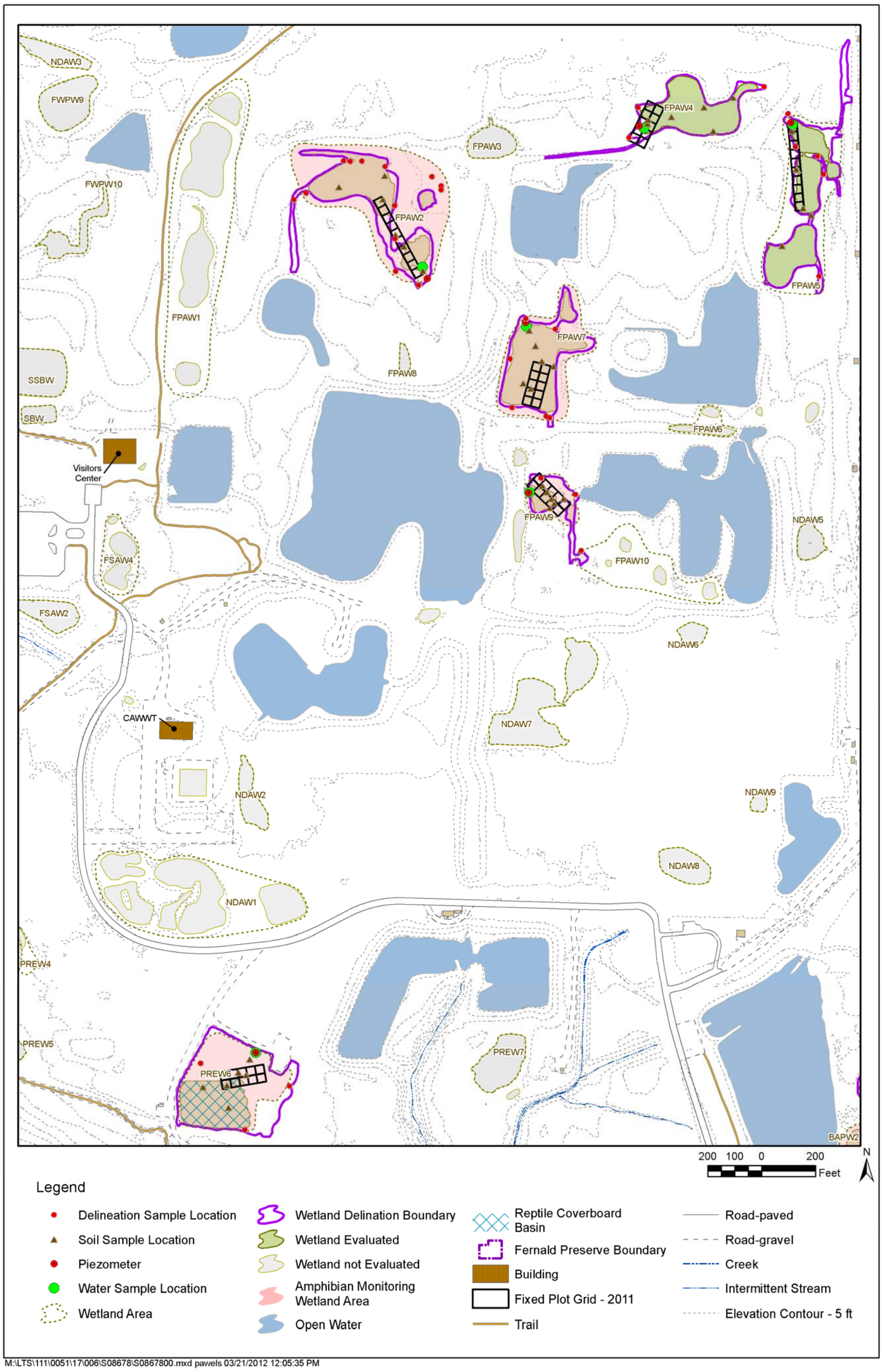

Figure D–2B. Wetland Mitigation – Former Production Area Wetlands

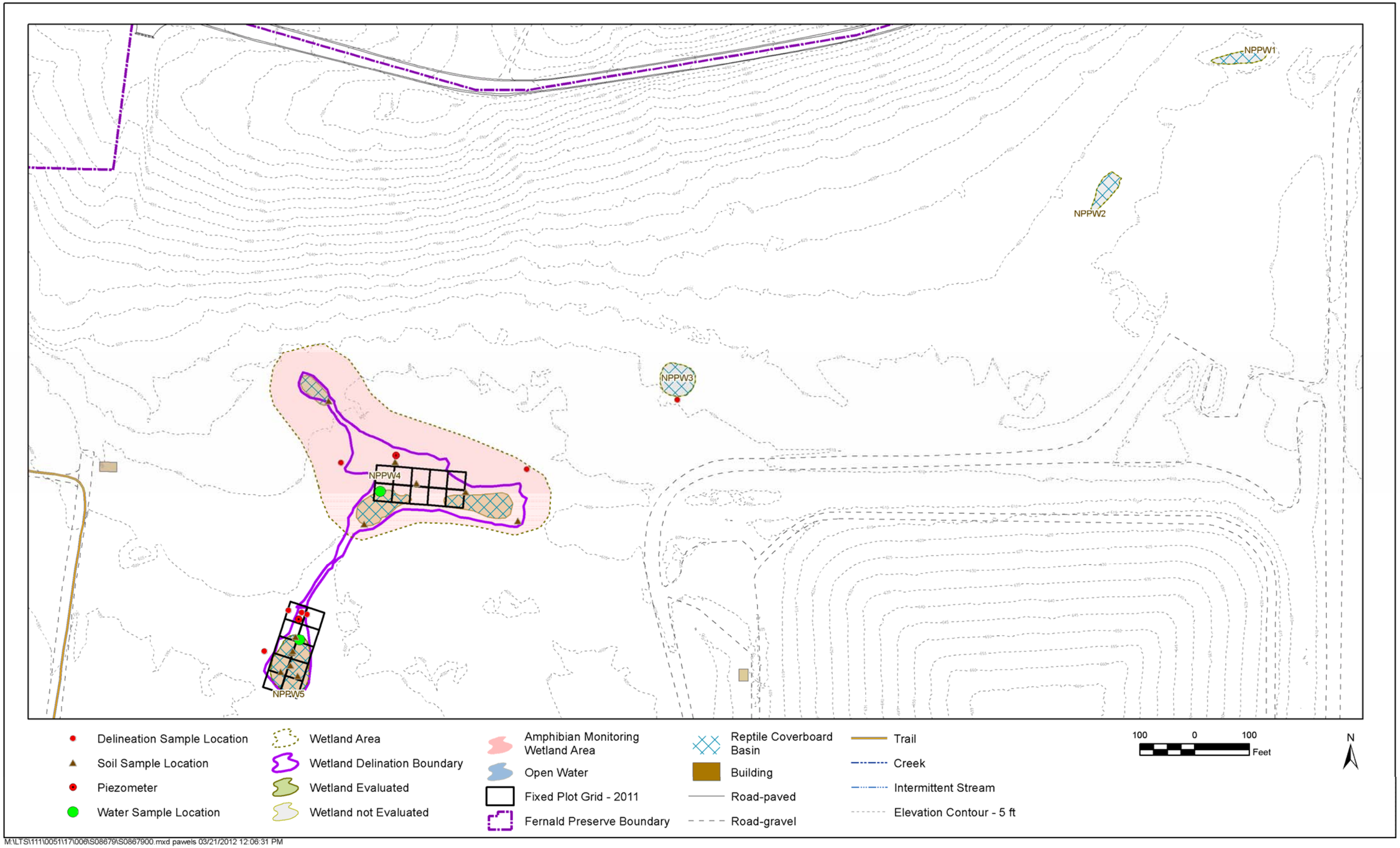

Figure D–2C. Wetland Mitigation – Northern Pine Plantation Wetlands

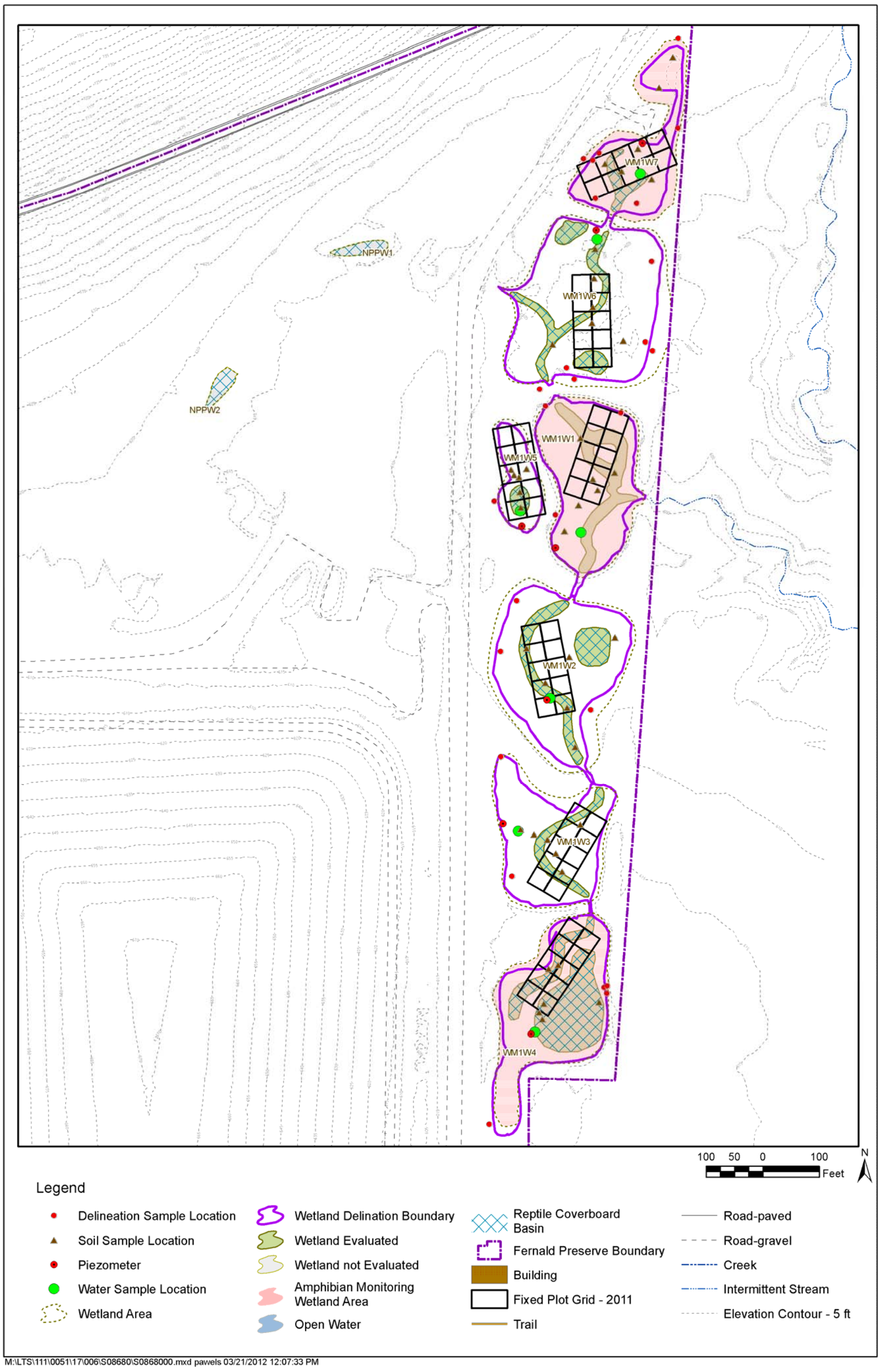

Figure D–2D. Wetland Mitigation – Phase I Wetlands

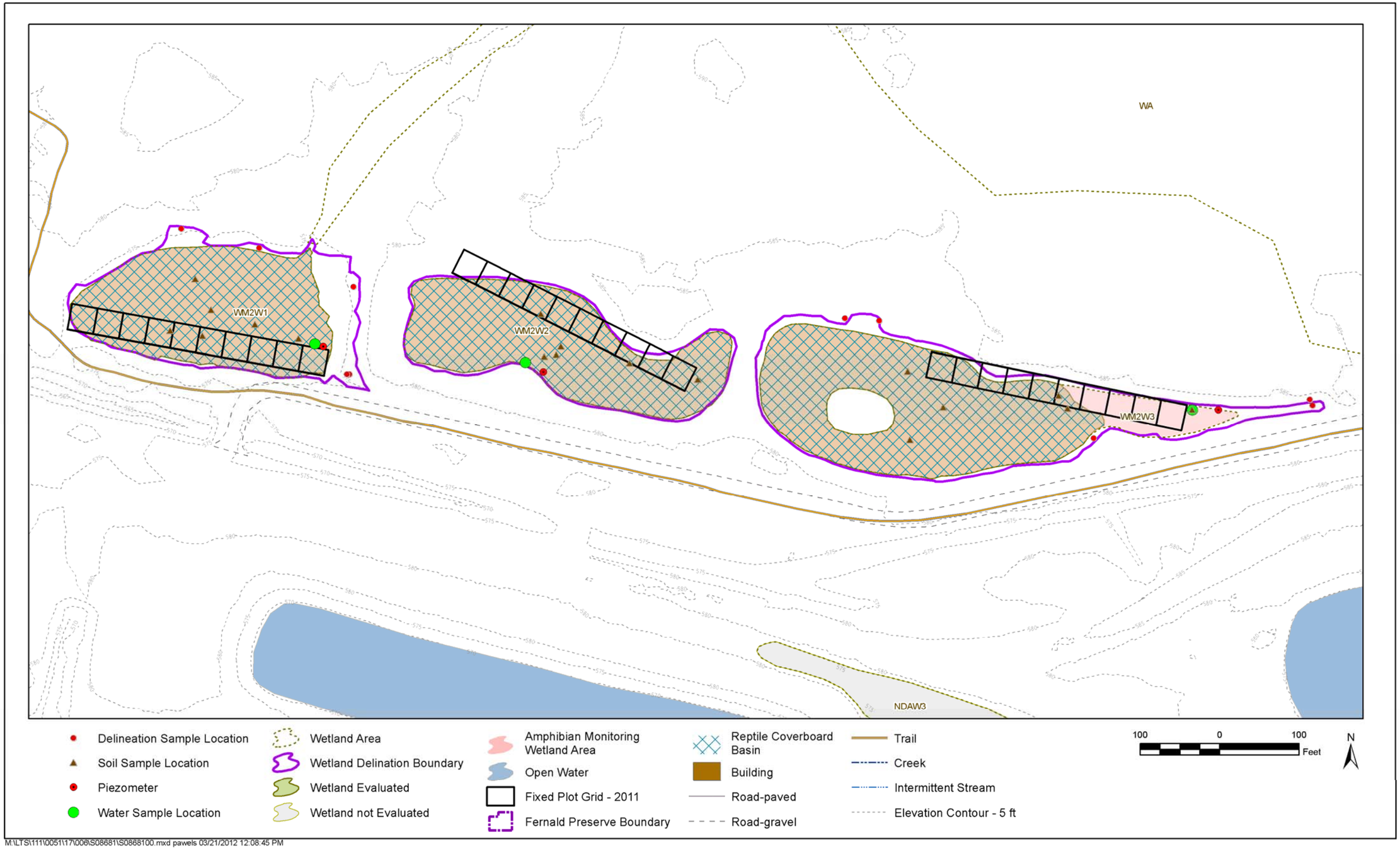

Figure D–2E. Wetland Mitigation – Phase II Wetlands

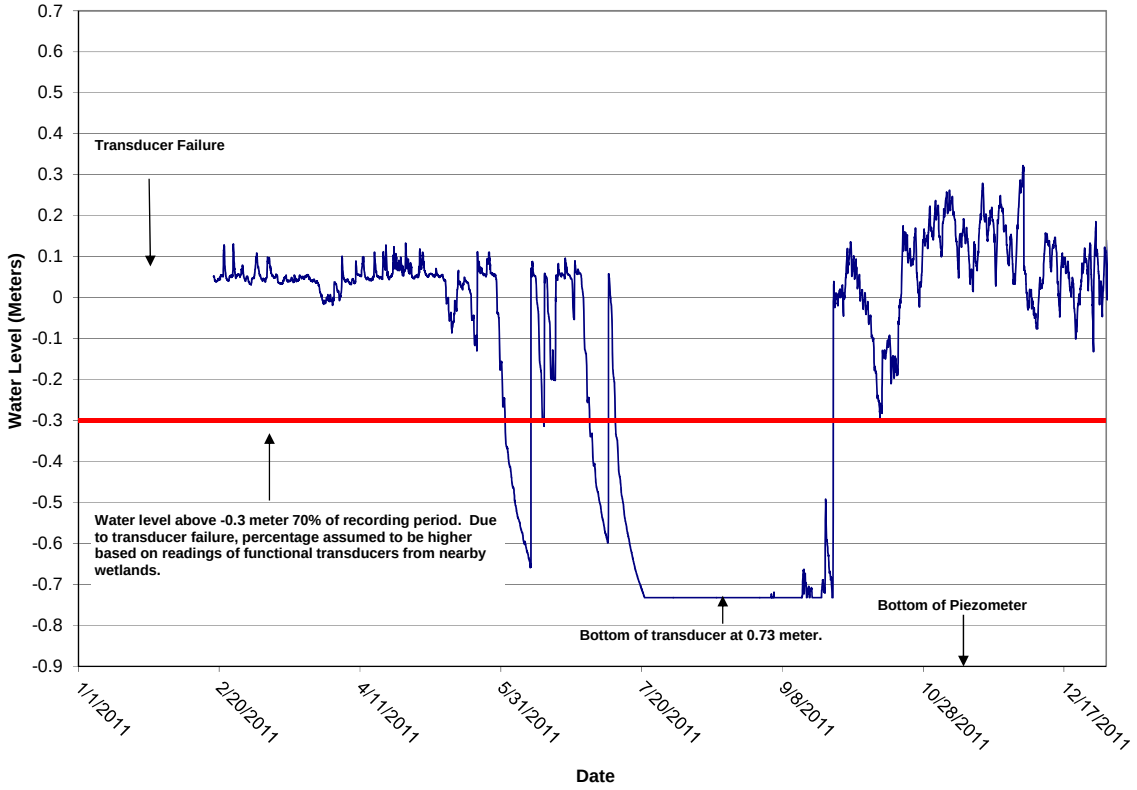

Figure D–3A. Wetland Area BAPW2 Hydrograph

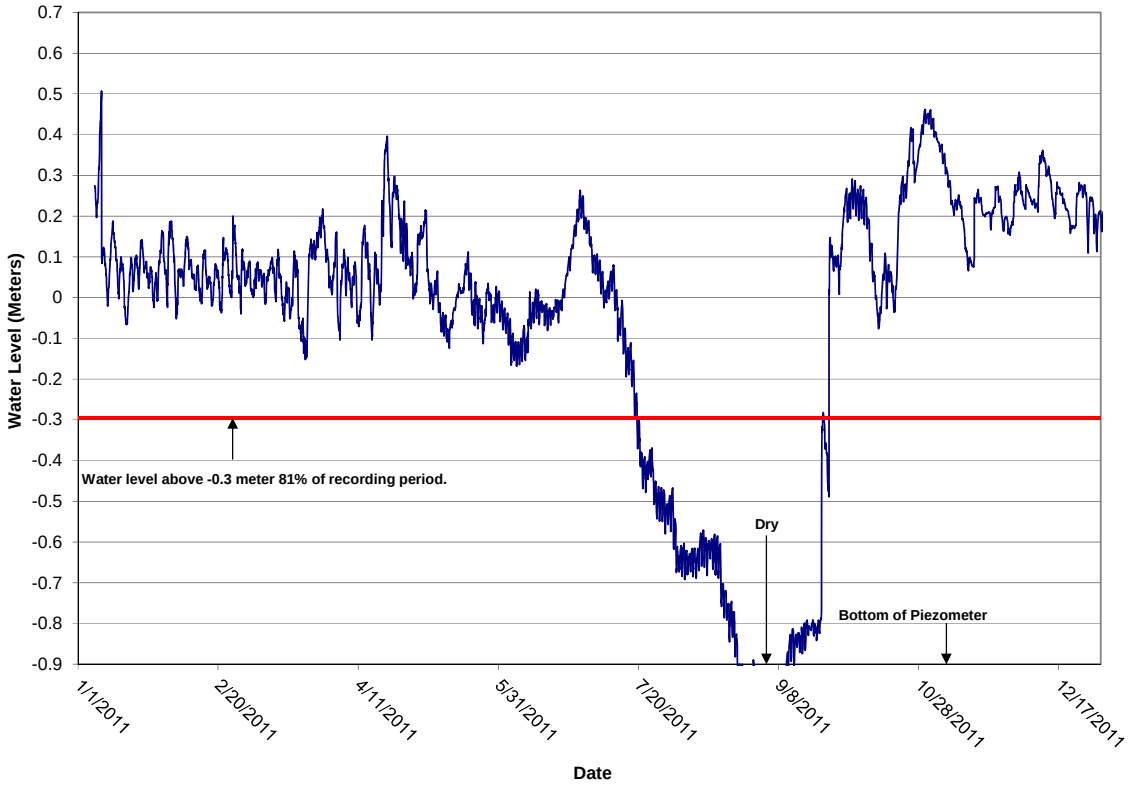

Figure D–3B. Wetland Area BAPW3 Hydrograph

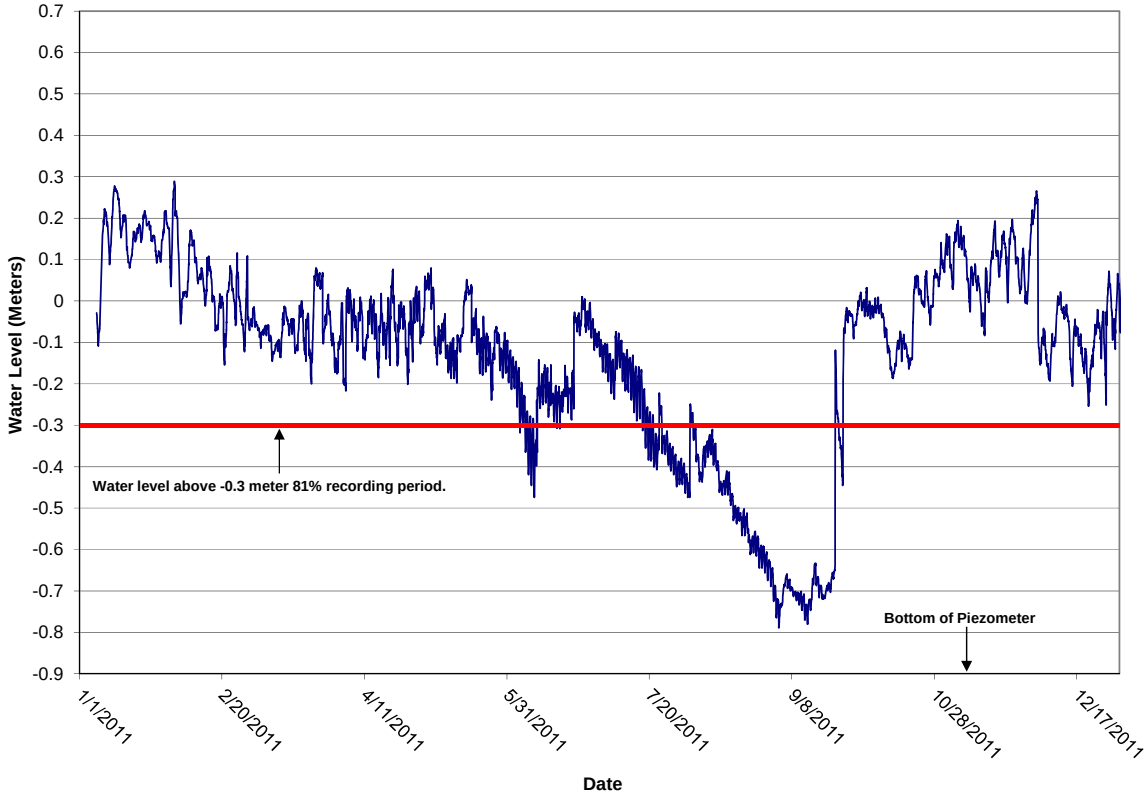

Figure D–3C. Wetland Area BAPW4 Hydrograph

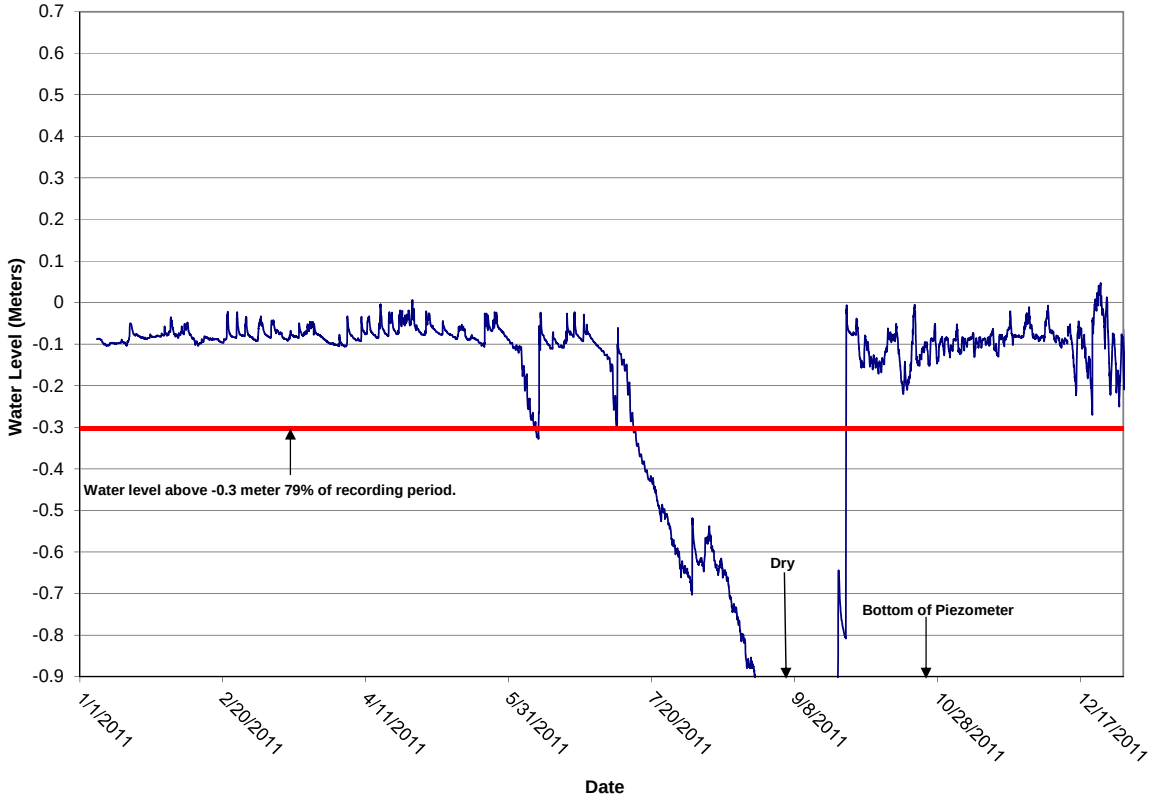

Figure D–3D. Wetland Area BAPW7 Hydrograph

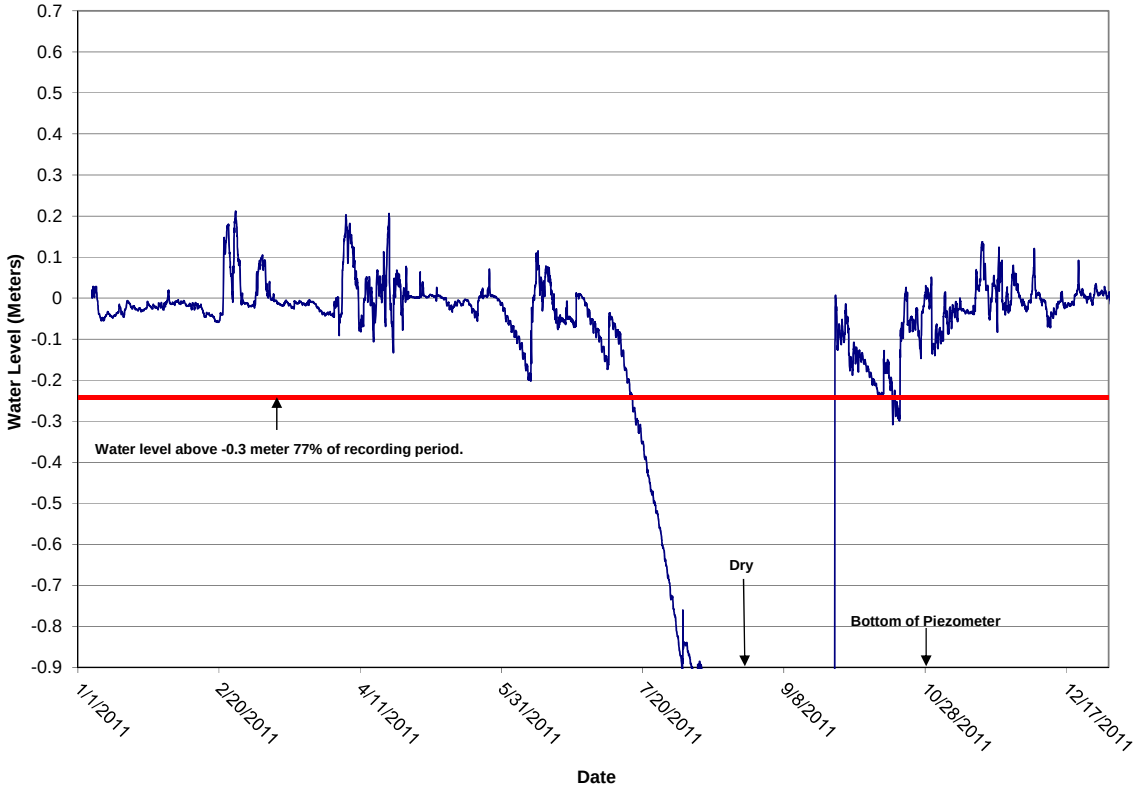

Figure D–3E. Wetland Area BAPW9 Hydrograph

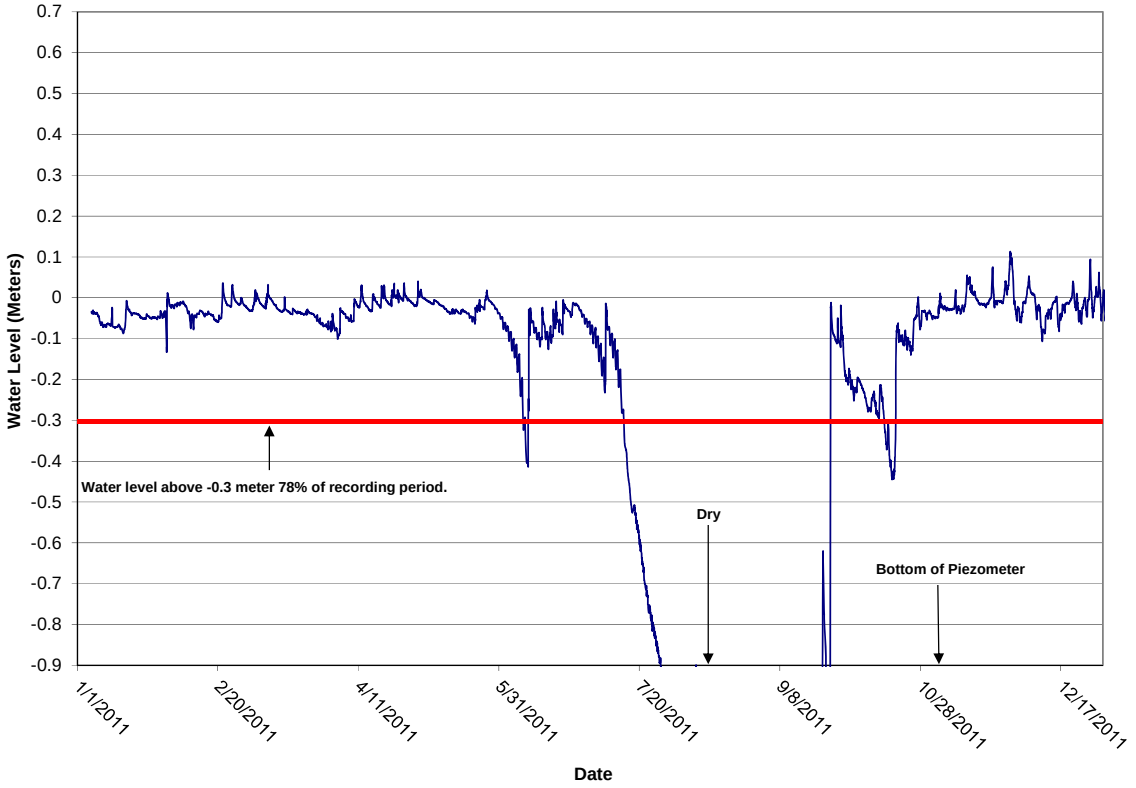

Figure D–3F. Wetland Area FPAW2 Hydrograph

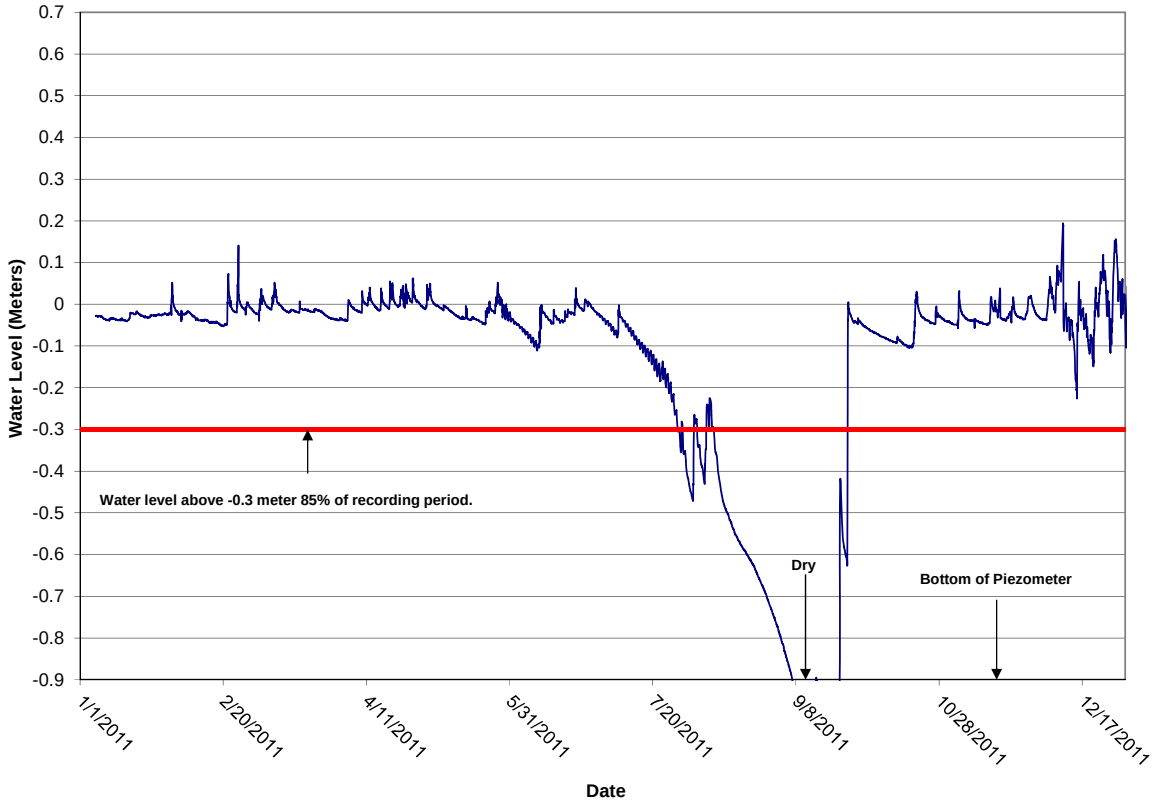

Figure D–3G. Wetland Area FPAW4 Hydrograph

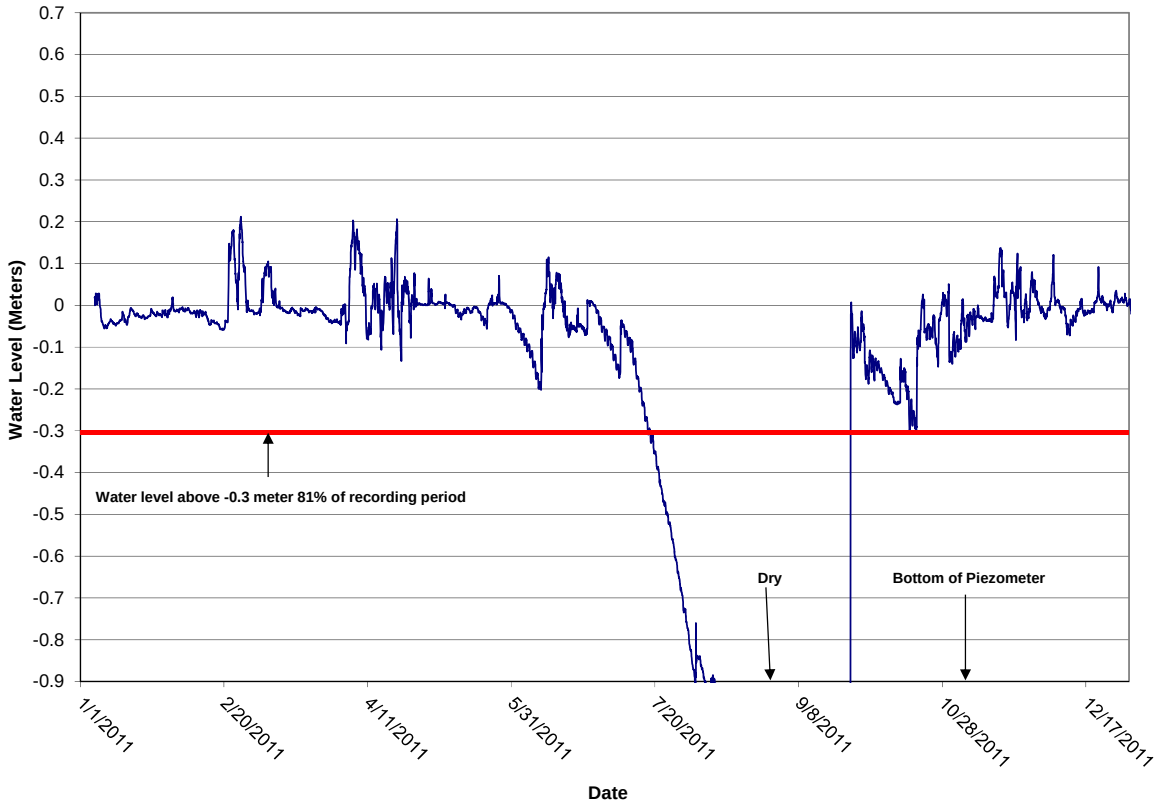

Figure D–3H. Wetland Area FPAW5 Hydrograph

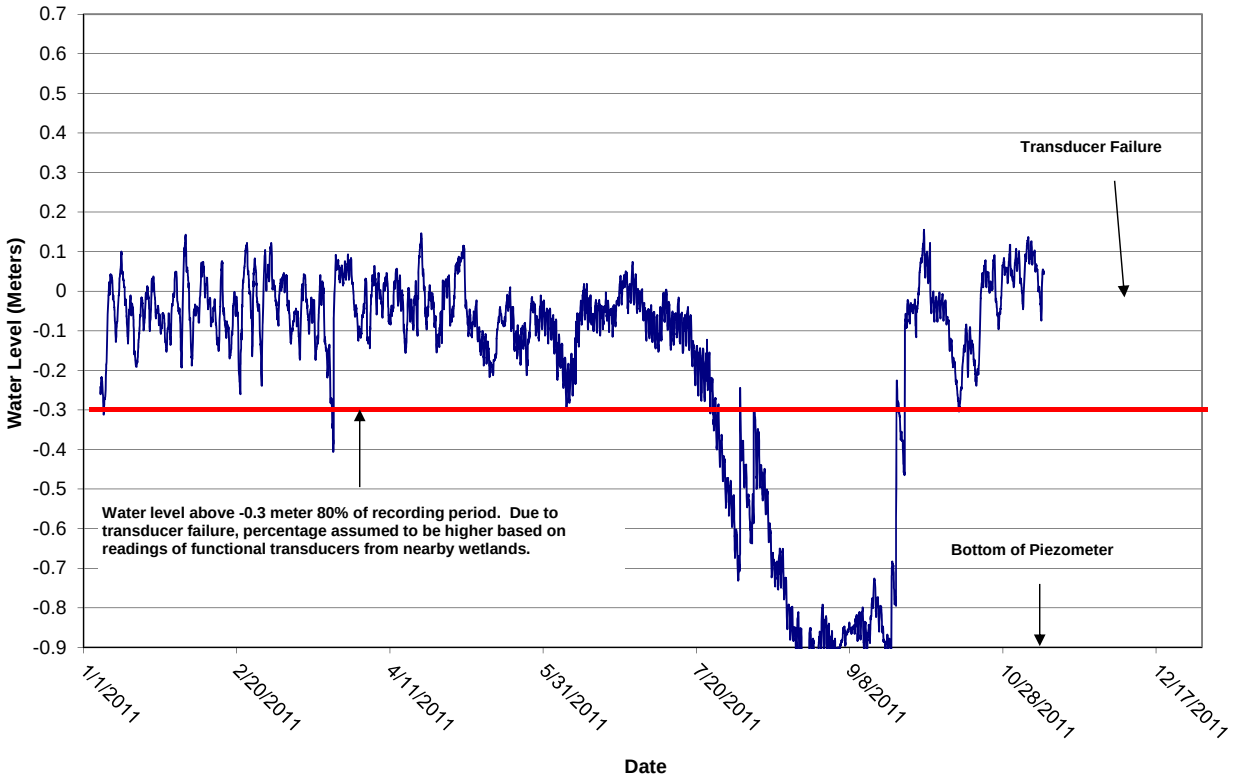

Figure D–3I. Wetland Area FPAW7 Hydrograph

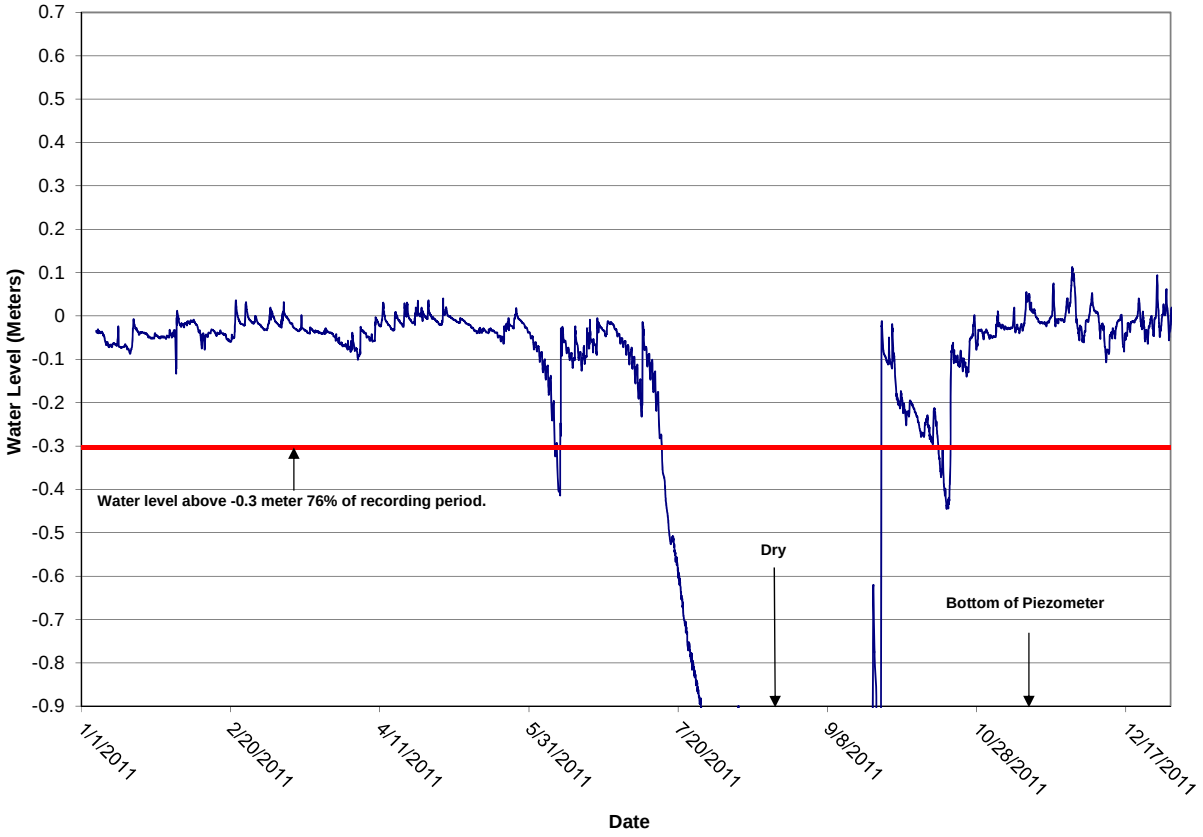

Figure D–3J. Wetland Area FPAW9 Hydrograph

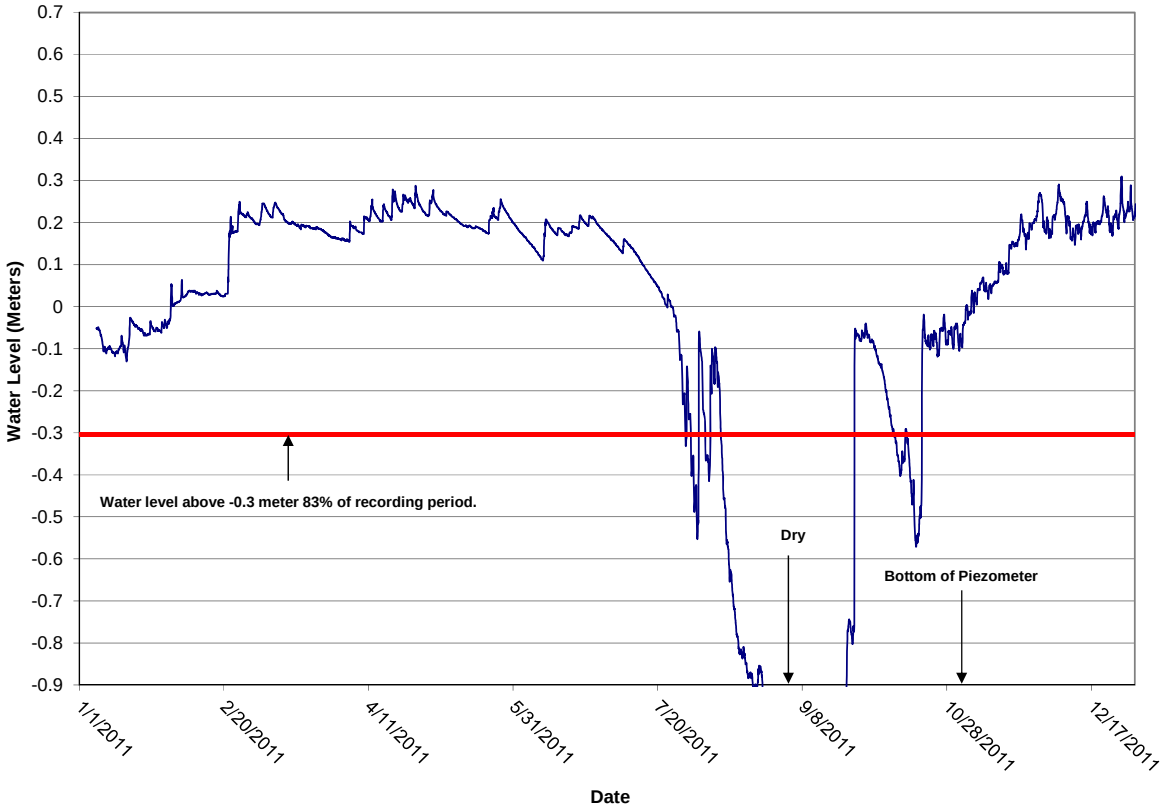

Figure D–3K. Wetland Area PREW6 Hydrograph

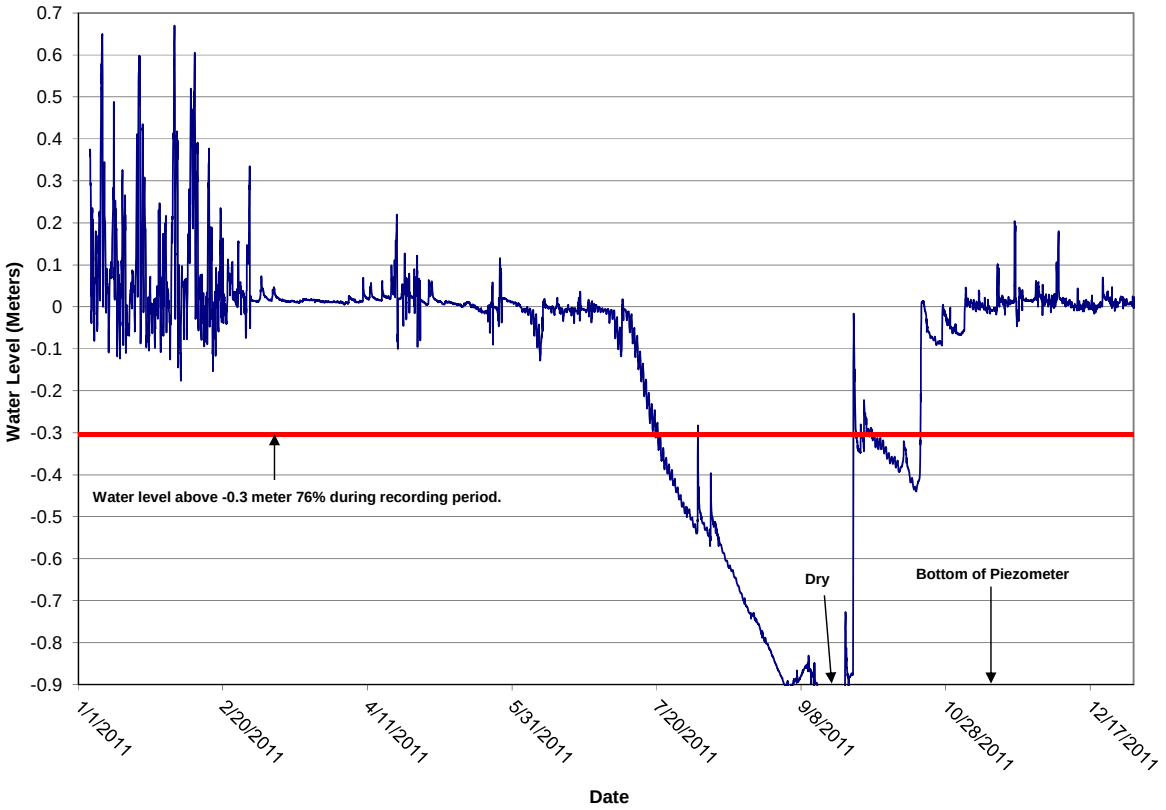

Figure D–3L. Wetland Area NPPW4 Hydrograph

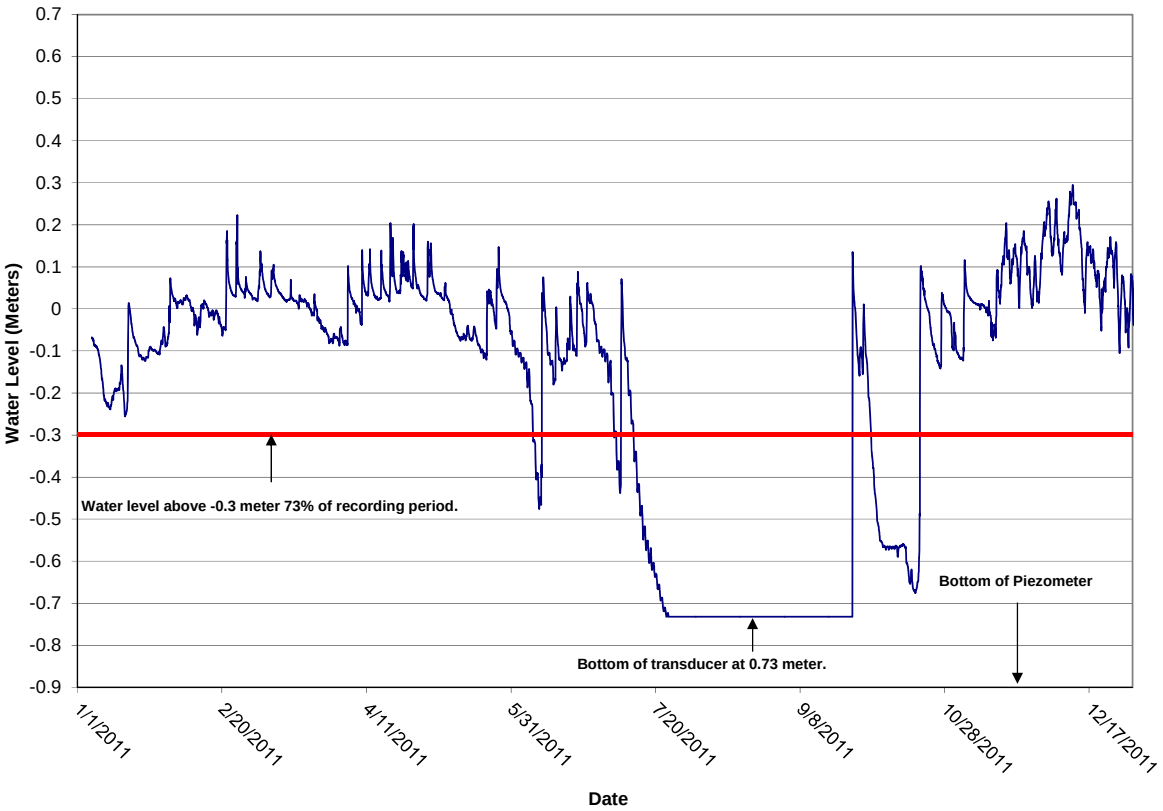

Figure D–3M. Wetland Area NPPW5 Hydrograph

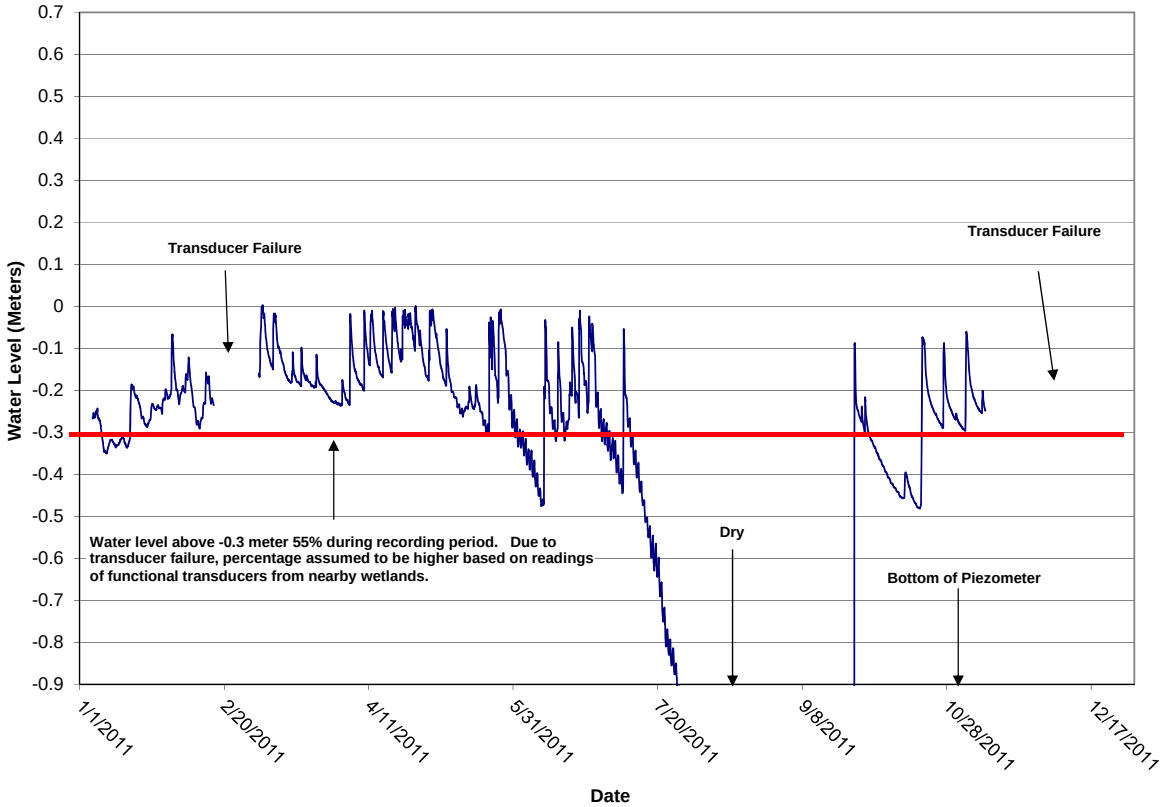

Figure D–3N. Wetland Area WM1W1 Hydrograph

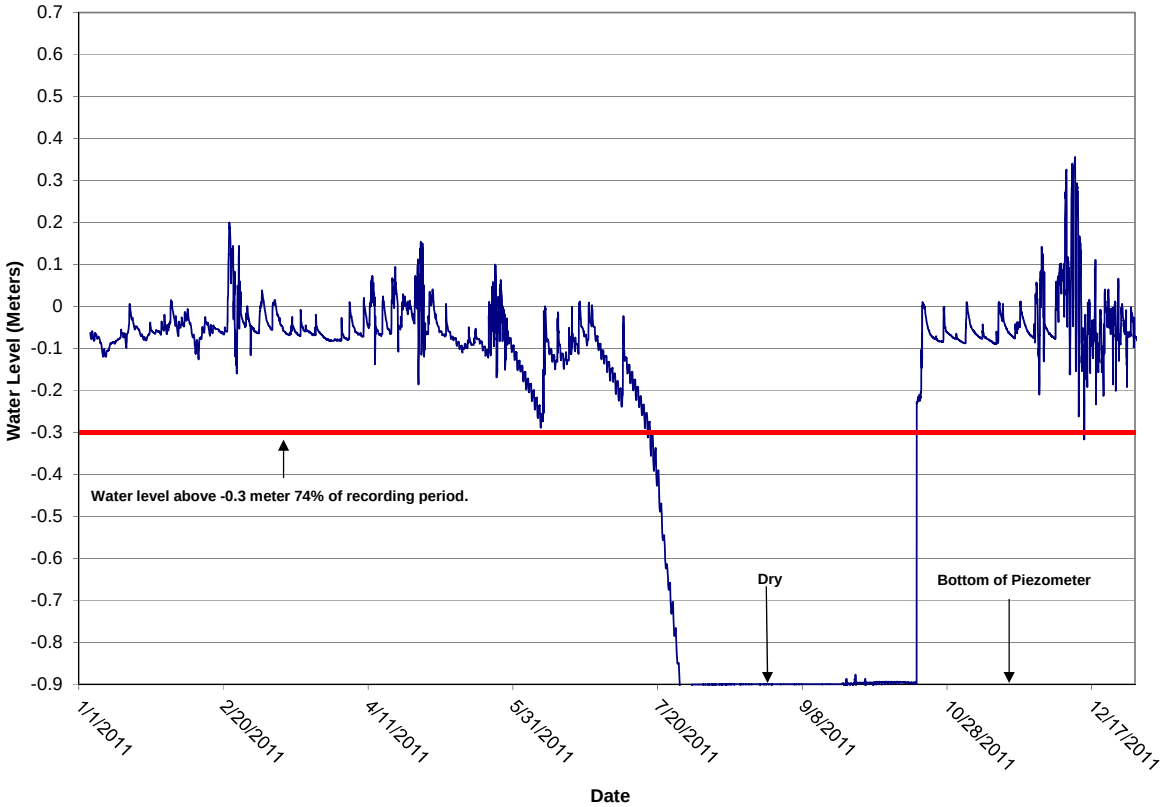

Figure D–3O. Wetland Area WM1W2 Hydrograph

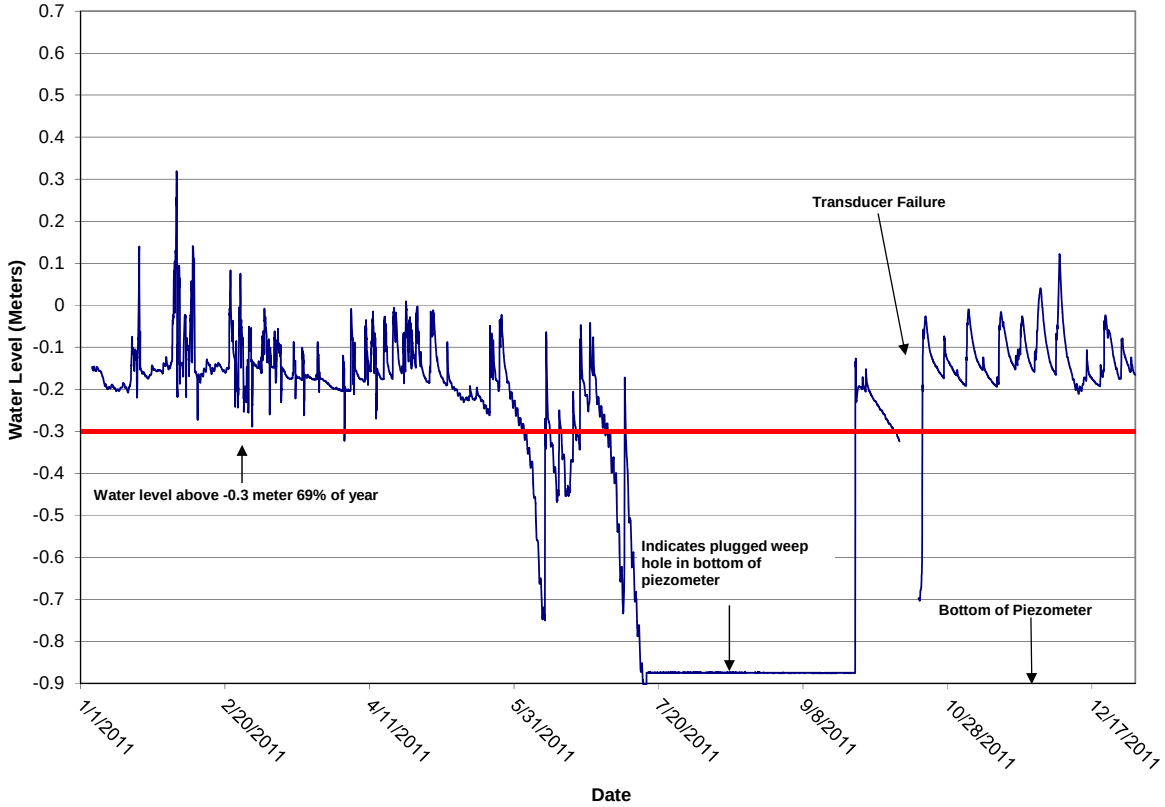

Figure D–3P. Wetland Area WM1W3 Hydrograph

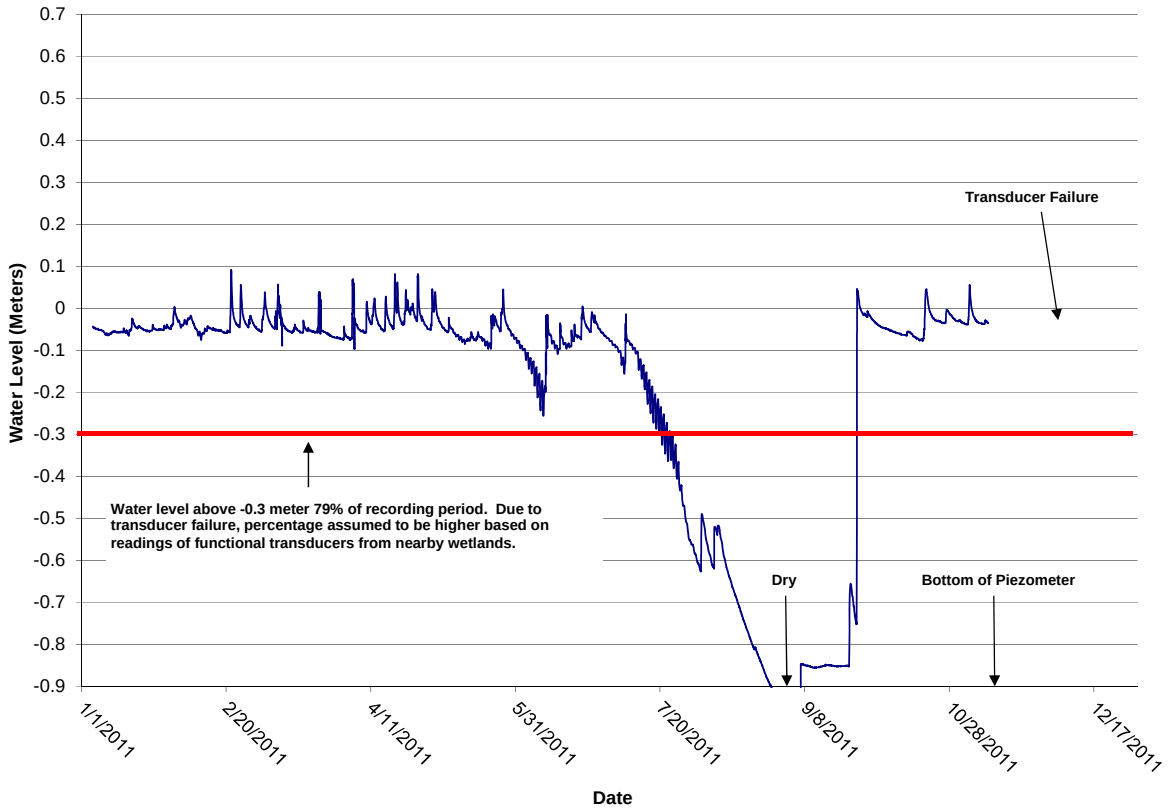

Figure D–3Q. Wetland Area WM1W4 Hydrograph

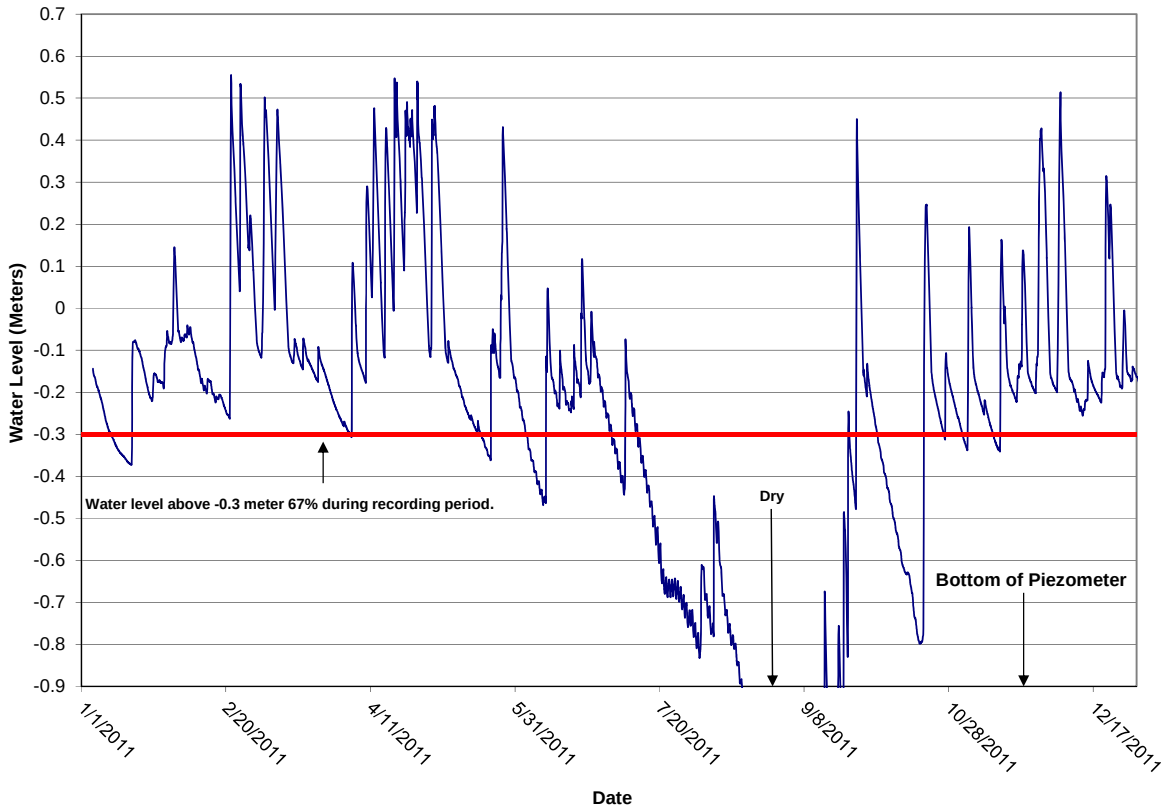

Figure D–3R. Wetland Area WM1W5 Hydrograph

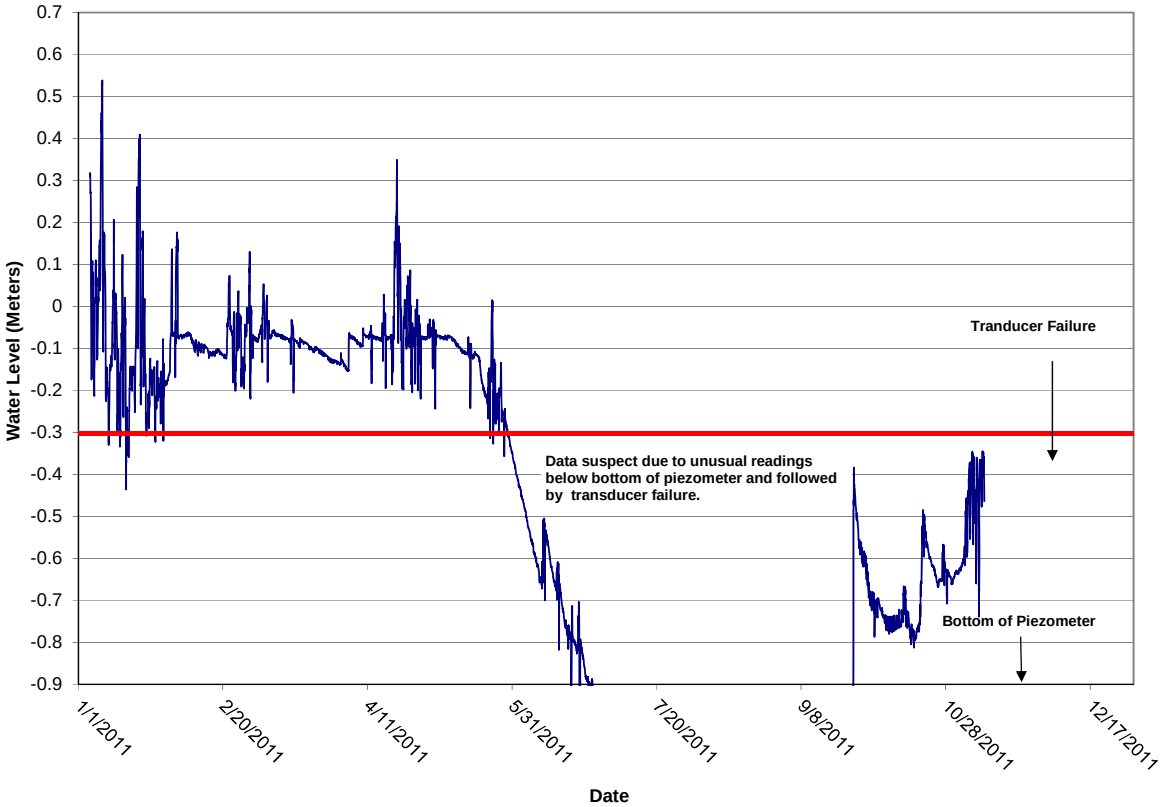

Figure D–3S. Wetland Area WM1W6 Hydrograph

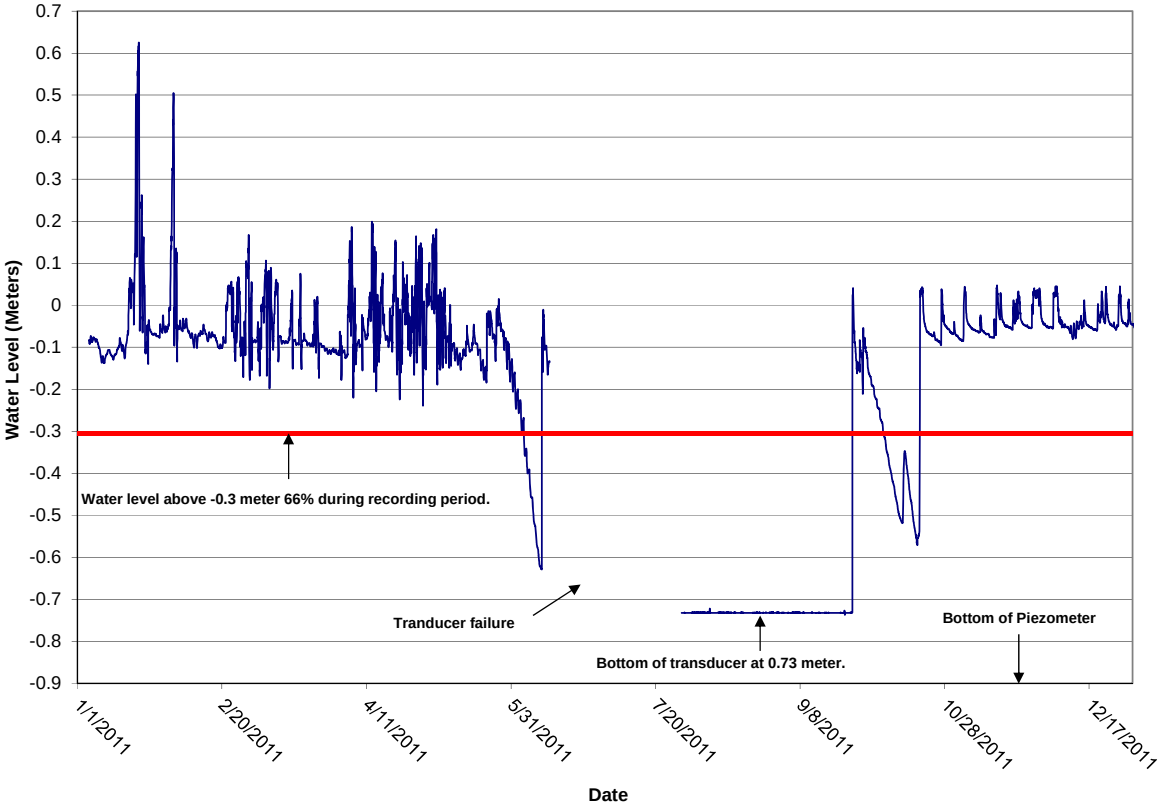

Figure D–3T. Wetland Area WM1W7 Hydrograph

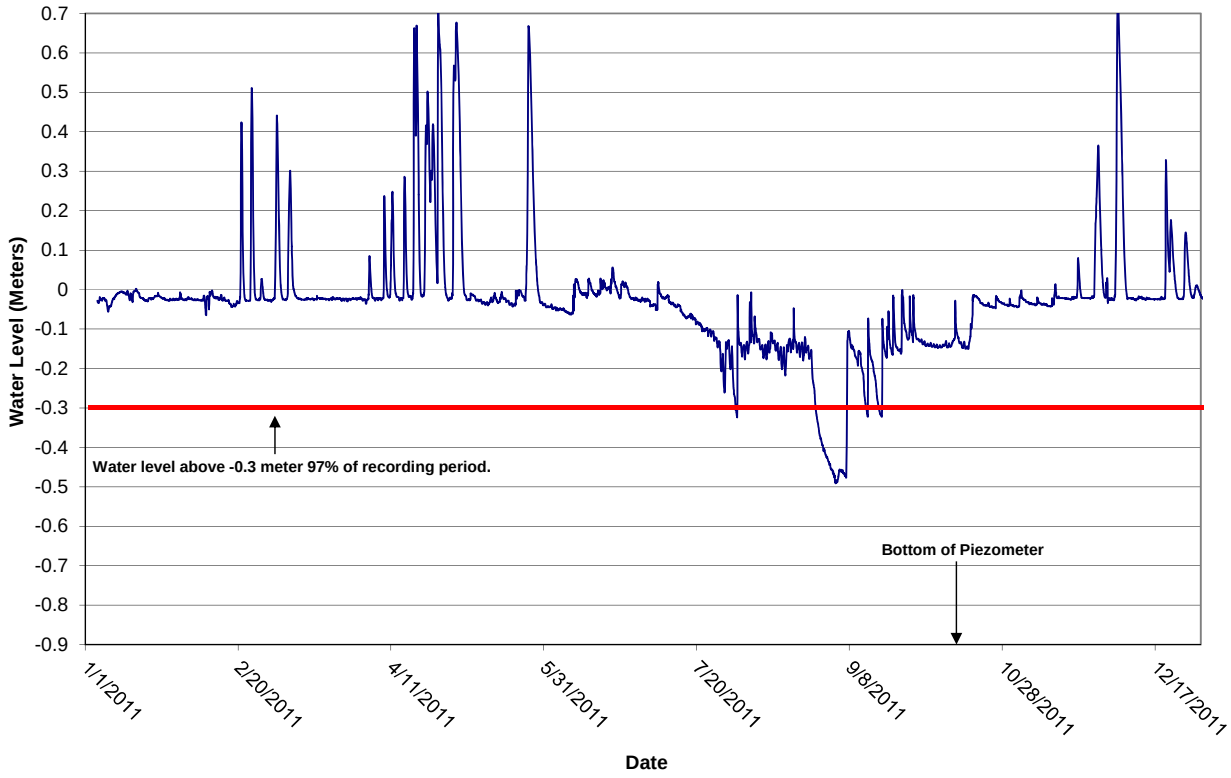

Figure D–3U. Wetland Area WM2W1 Hydrograph

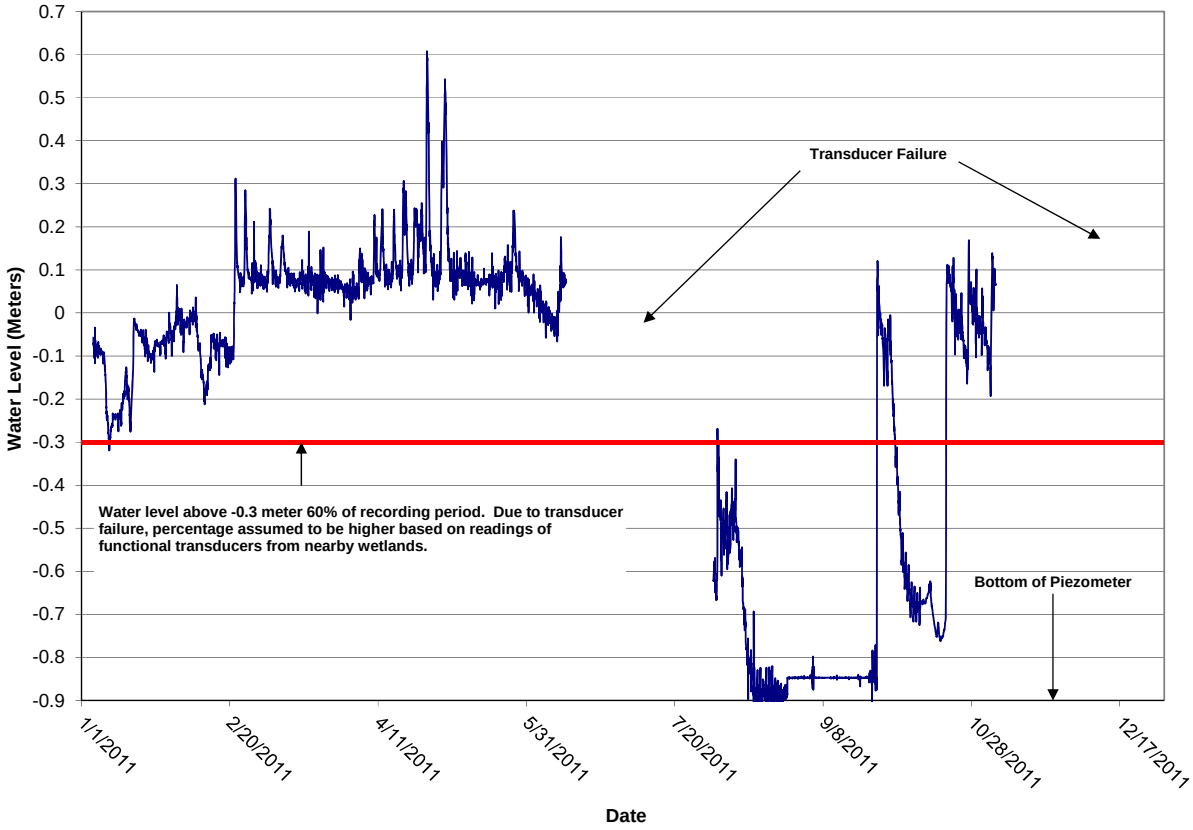

Figure D–3V. Wetland Area WM2W2 Hydrograph

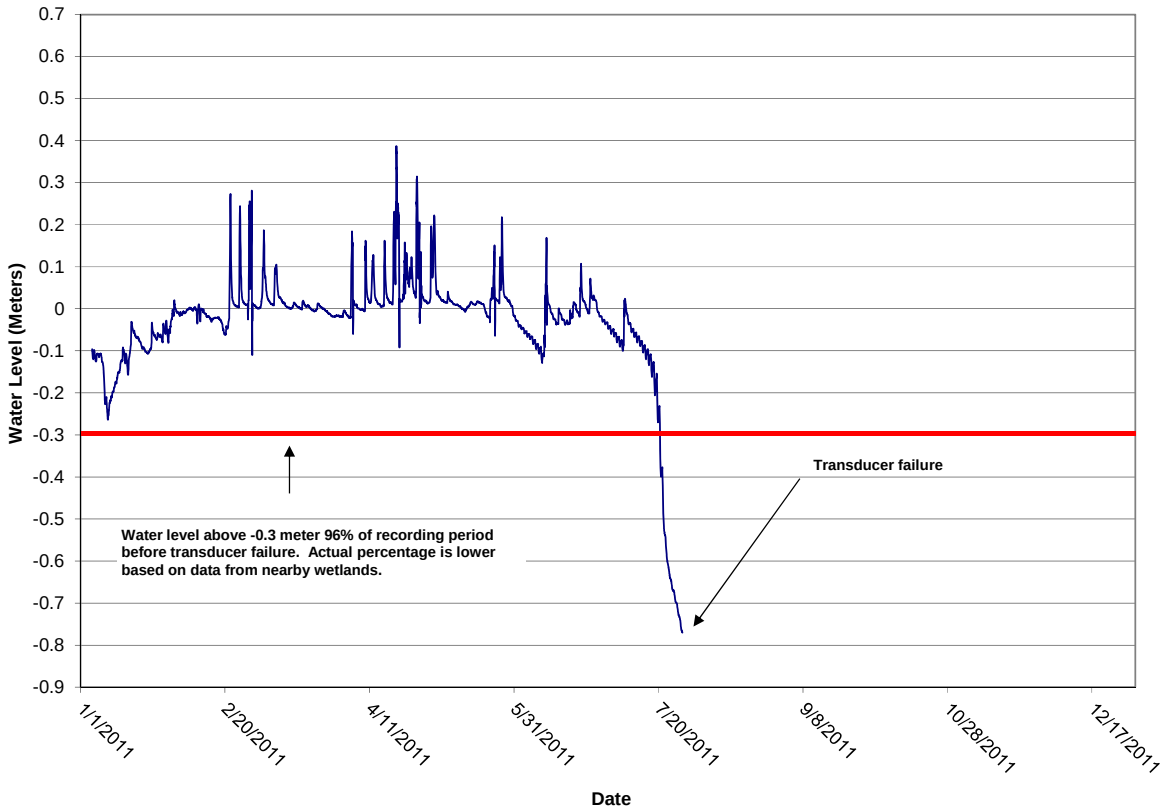

Figure D–3W. Wetland Area WM2W3 Hydrograph

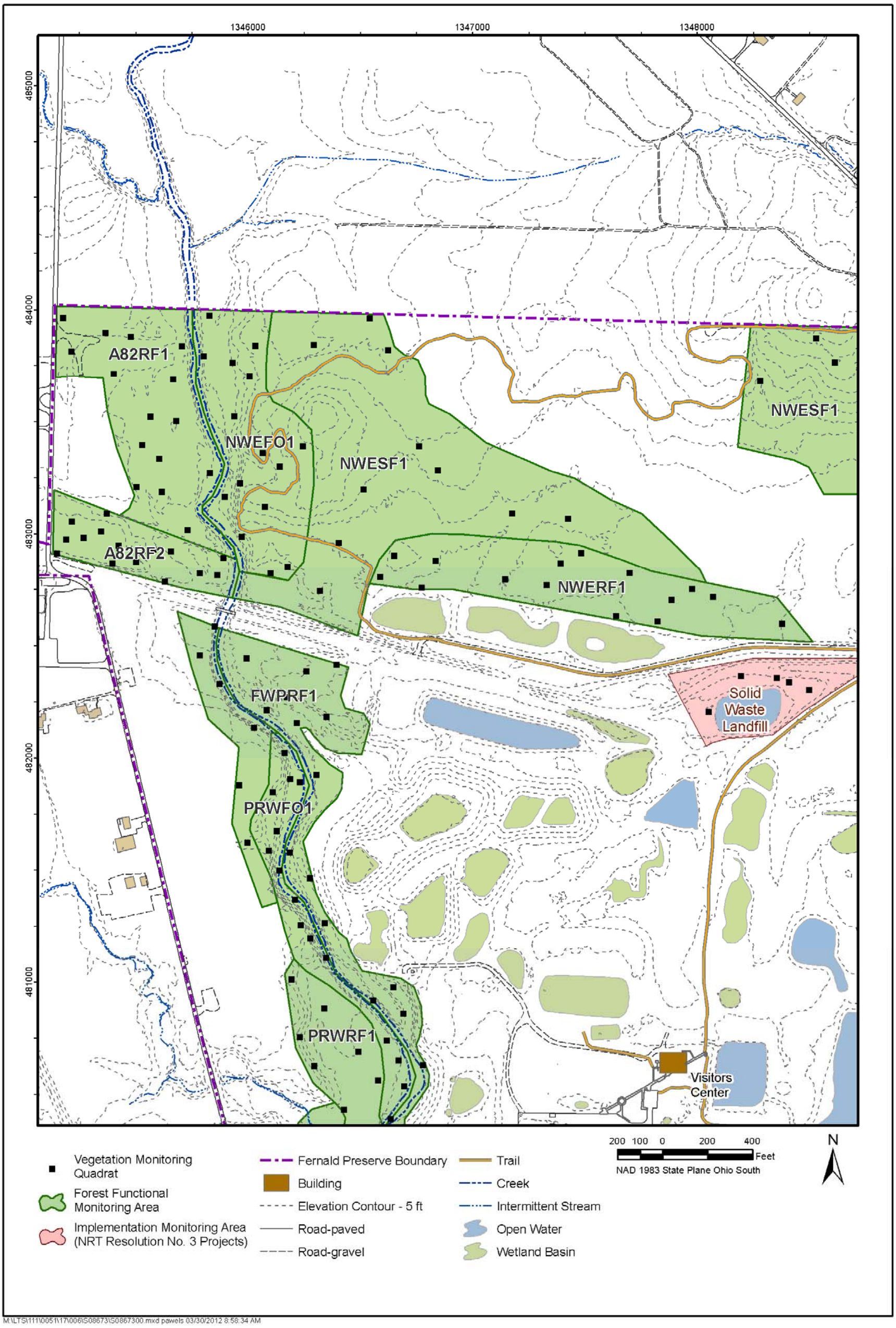

Figure D–4A. Vegetation Monitoring Survey Areas – Northwest Site Quadrant

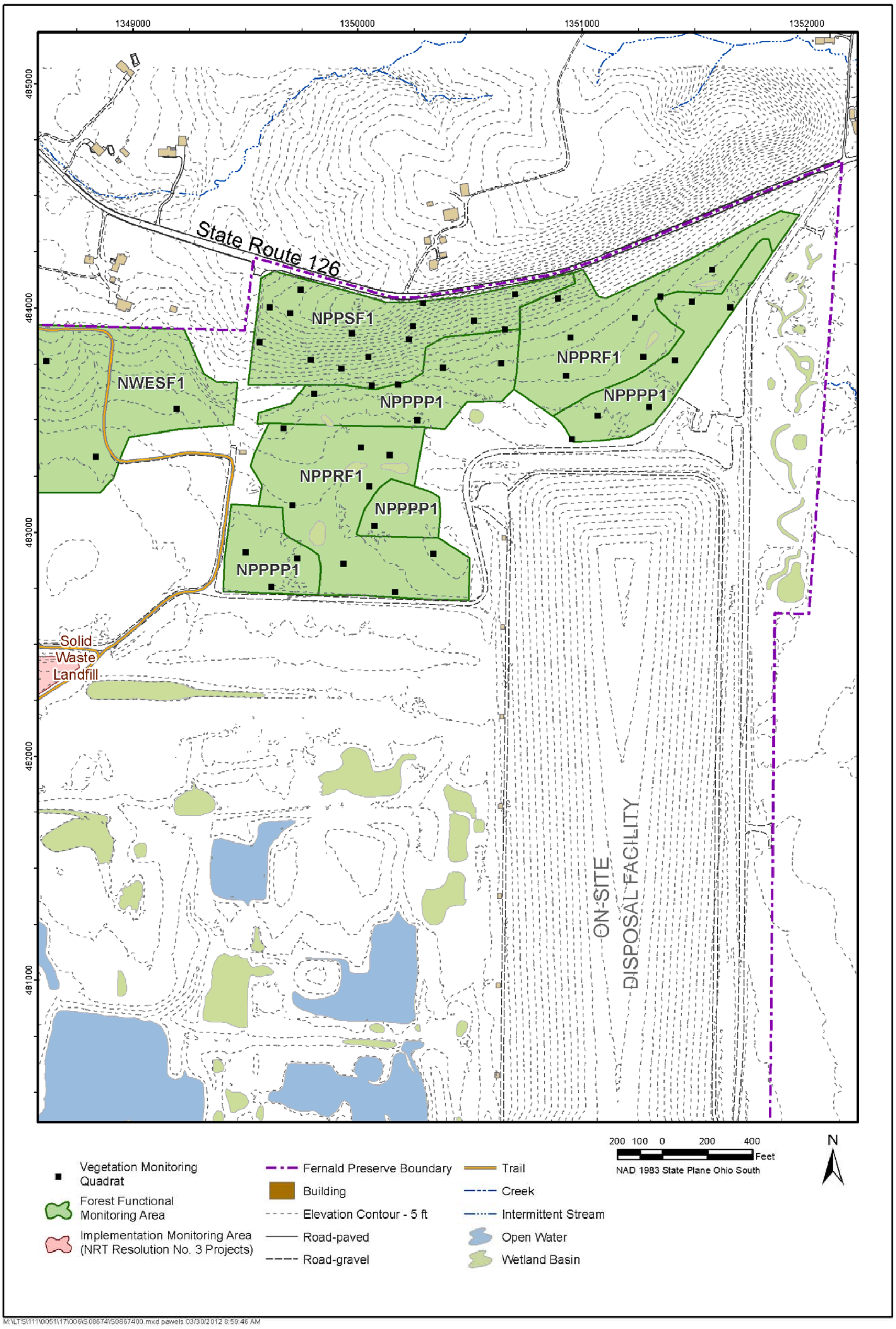

Figure D–4B. Vegetation Monitoring Survey Areas – Northeast Site Quadrant

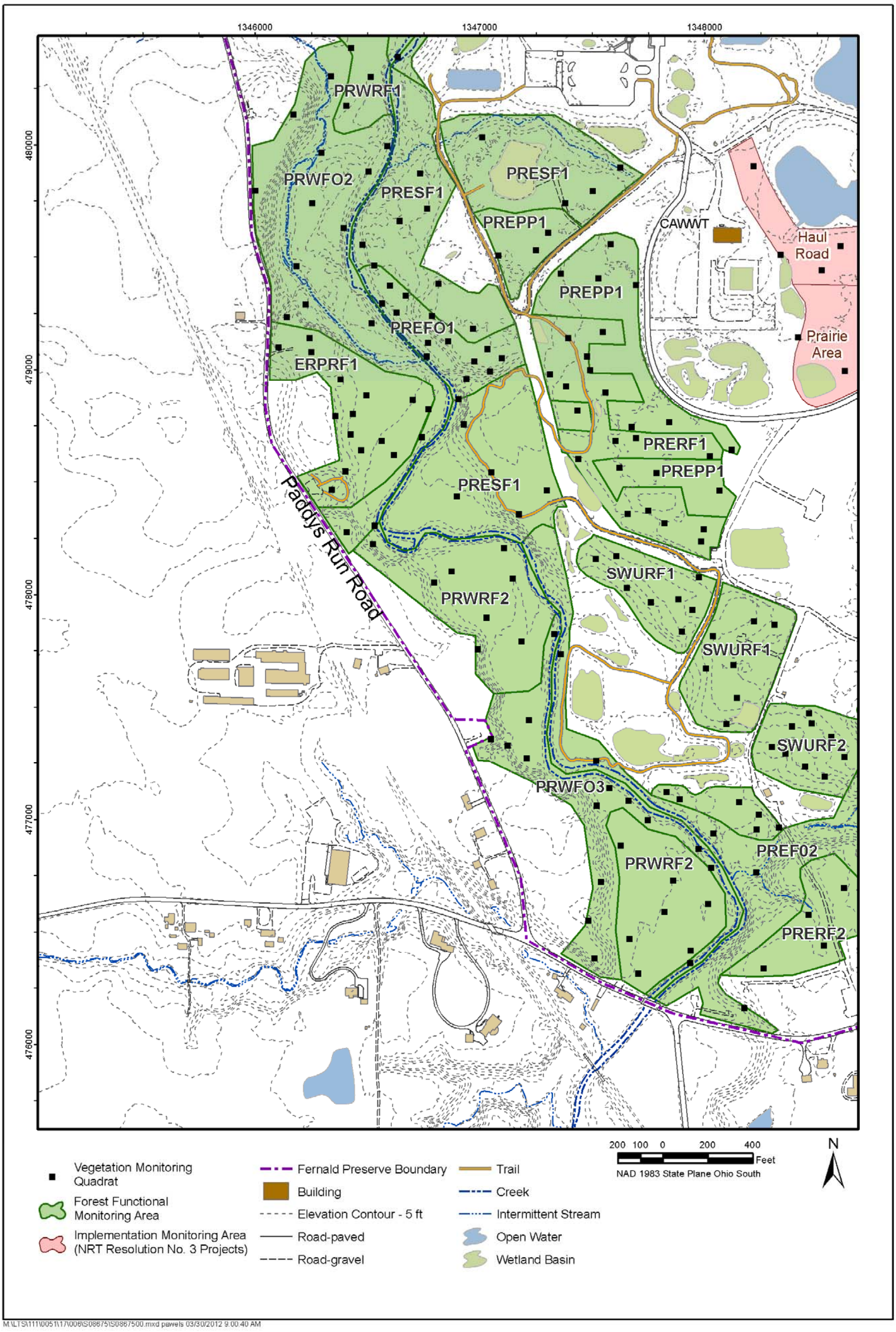

Figure D–4C. Vegetation Monitoring Survey Areas – Southwest Site Quadrant

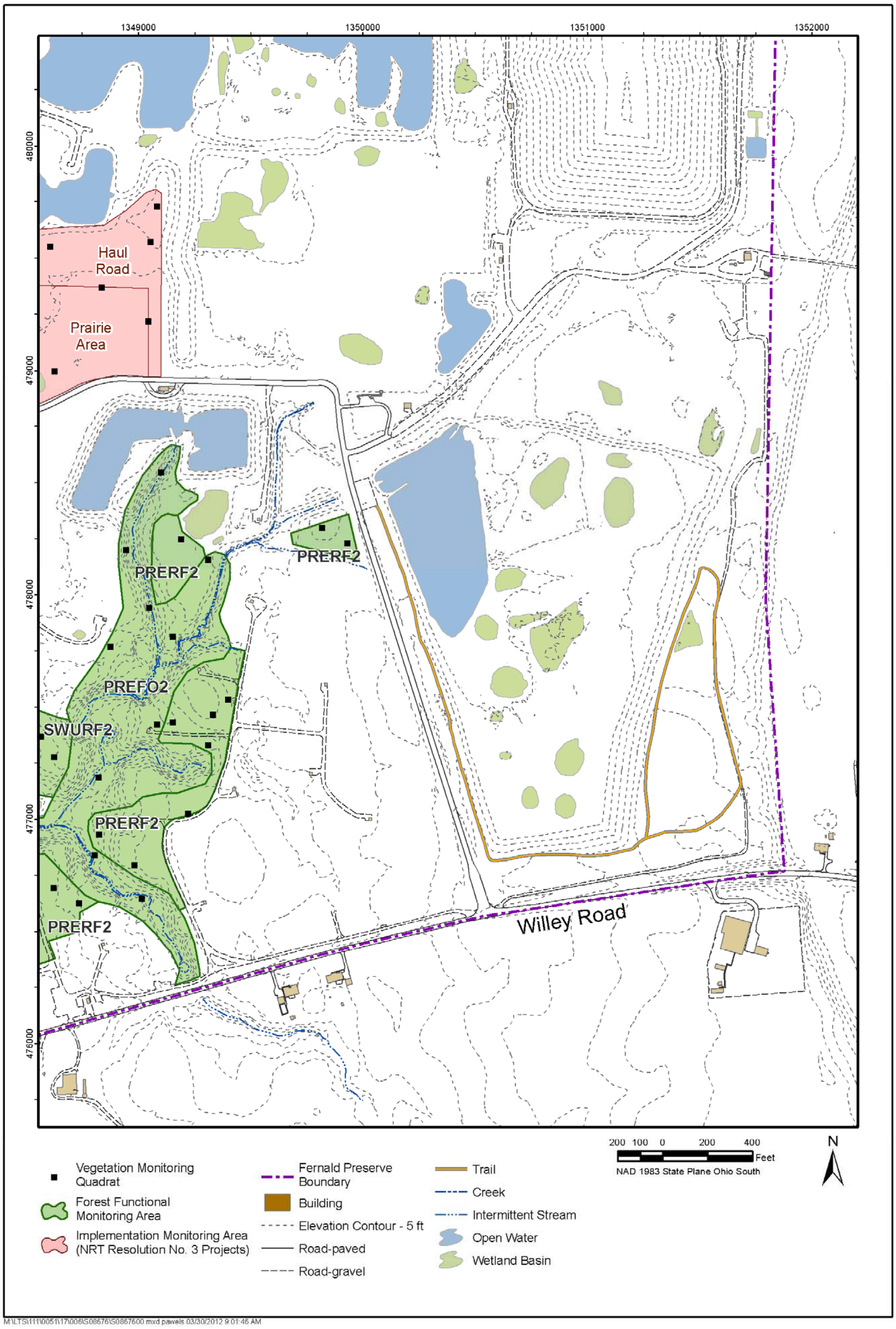

Figure D–4D. Vegetation Monitoring Survey Areas – Southeast Site Quadrant