



**ILLINOIS NATURAL
HISTORY SURVEY**
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Condition of Natural Resources Conservation Service Wetland Easements in Illinois

Final Progress Report

Period: 31 August 2016 – 30 September 2017

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During the 2017 fiscal year (1 October 2016 – 30 September 2017), the Illinois Natural History Survey (INHS) conducted wetland monitoring and wetland quality evaluations for the Natural Resources Conservation Service (NRCS) on Agriculture Conservation Easement Program - Wetland Reserve Easements (ACEP-WRE; $n = 30$). We visited each wetland easement twice; once in autumn/winter (November–January) and again during spring (February–March) totaling 60 easement visits. Easements were located in Lawrence ($n = 29$) and Wayne counties ($n = 1$). Monitored easements comprised eight Emergency Watershed Protection Program-Floodplain Easements (EWPP-FPE) and 22 Wetland Reserve Program (WRP) Easements. The WRP and EWPP-FPE easements were enrolled in NRCS programs prior to 2014 Farm Bill restructuring of wetland easements that now fall into the ACEP-WRE program. We previously submitted easement monitoring worksheets, detailed photographs of easement conditions, and descriptive management plans (Appendix 1) that detailed conditions of the easements and gave recommendations for improvements to vegetation communities and easement infrastructure for all 30 easements.

Easement Level Metrics

We identified the proportion of six habitat types at each wetland easement based on vegetation structure and composition, including: 1) forested – mature stands of trees (≥ 20 ft in height), 2) reforested – tree plantings and natural tree regeneration (< 20 ft in height), 3) agricultural row crop – agricultural plantings grown with intention of harvest, 4) prairie – mid-successional grasslands, 5) food plot – agricultural patches grown for the purpose of attracting game animals, and 6) wetlands – including all areas with standing water or evidence of inundation at some point during the year. Overall, ACEP-WRE easements averaged $28.3 \pm 2.9\%$

(SE) wetland habitats, $24.3 \pm 2.7\%$ forested, $22.6 \pm 3.8\%$ prairie, $20.8 \pm 3.9\%$ reforested, $2.1 \pm 0.6\%$ food plots, and $1.6 \pm 1.6\%$ agricultural row crops.

In addition to assessing habitat types, we ranked easements on an 8-point scale for three metrics: waterfowl management intensity, wetland habitat complexity, and wetland connectivity to rivers and streams. Waterfowl management intensity was characterized by the presence of desirable vegetation for waterfowl, duck blinds, evidence of drawdowns, and vegetation manipulation within wetland cells. Wetland habitat complexity was characterized by the variety or lack of wetland cover types located on an easement. Lastly, wetland connectivity to rivers or streams was categorized by wetland's proximity to the nearest river or stream, the probability that floodwaters from the river or stream could affect the wetland, and if the wetland drained into a river or stream. We found that easements ranked low for waterfowl management intensity and wetland complexity, averaging 2.1 (SE = 0.3) and 3.1 (SE = 0.2), respectively. These low scores indicated that overall the wetland habitats lacked heterogeneity and tended to passively managed for waterfowl. On average, easements ranked near the middle (4.4 ± 0.3) for wetland connectivity and indicated the influence of floodwaters on wetlands and easements was variable.

Wetland Level Metrics

We classified each wetland within an easement based on wetland type and management intensity. For wetland type, we categorized each wetland according to Cowardin et al. (1979). All of our monitored wetlands were palustrine habitats; therefore, we used the following classes to differentiate: 1) unconsolidated bottom – lacked stable substrates (i.e., mud or organic substrate) for plant attachment and contained < 30% vegetative cover, 2) emergent wetland – contained erect, rooted, herbaceous hydrophytic vegetation (i.e., moist-soil vegetation was considered an emergent wetland), 3) scrub-shrub wetland – dominated by woody vegetation < 20

ft in height, which may be in successional transition to a forested wetland (e.g., young oaks (*Quercus* spp.), or a relatively stable community (e.g., buttonbush [*Cephalanthus occidentalis*]), or 4) forested wetland – dominated by woody vegetation ≥ 20 ft in height. Further, we classified wetlands as actively or passively managed or unmanaged. We classified wetlands under active management when we observed signs of water level manipulation, disking, or mowing within the basin. Passively managed wetlands contained infrastructure (e.g., stoplogs, screwgate, or spillway) but lacked obvious indications that water levels or wetland vegetation were manipulated. Lastly, unmanaged wetlands were typified by oxbows, scours, or impounded wetlands that lacked infrastructure for water control. Among the 30 easements, we evaluated 108 distinct wetland basins. Easements averaged 3.6 basins (SE = 0.6) with a range of 1–17 basins/easement. We classified 58 (53.7%) wetlands as emergent, 22 (20.4%) as scrub-shrub, 16 (14.8%) as forested, and 12 (11.1%) as unconsolidated bottom. Unmanaged wetlands ($n = 65$; 60.2%) were most numerous, followed by passively managed ($n = 32$; 29.6%), and actively managed ($n = 11$; 10.2%).

In addition to classifying wetland type and management intensity, we measured wetland inundation during each site visit to compare seasonal wetland habitat availability for migratory waterbirds. During the autumn/winter site visit, wetlands averaged $42.4 \pm 3.6\%$ capacity and 23 (21.3%) wetlands were dry. Excluding dry wetlands, the remaining wetlands were inundated at $55.2 \pm 3.5\%$. During the spring surveys, inundation increased to $67.1 \pm 3.2\%$ ($74.0 \pm 2.7\%$, excluding dry), and the number of dry wetlands decreased to 10 (9.3%). Correspondingly, we witnessed an increase in easements with documented waterbird use from three during autumn/winter to 28 during spring site visits. Disparate waterbird abundance between survey periods was also related to an early freeze in November 2016, whereas, our spring monitoring

efforts were commensurate with peak spring migration of waterfowl in Wabash River Valley. We documented multiple easements with waterfowl numbers exceeding 1,000 birds (Photo 1). Of significant note, we documented the presence of endangered whooping cranes (*Grus americana*) on three separate easements in Lawrence County, Illinois.

Improvements/Criticisms

While conducting easement visits, we often conversed with landowners about their properties including: current and future management and comments and concerns relating to the easement program. Overall, feedback was positive and many landowners were satisfied with the success of their restoration and with local NRCS staff. Generally, landowners enjoyed the hunting opportunities the easements provided, as well as wildlife viewing and land stewardship opportunities. The only negative comment we received pertained to cost sharing funds required to perform maintenance on wetland infrastructure.

During monitoring and site visits, we documented multiple stewardship issues, which, if corrected, could enhance the value of wetland easements. The notable problems included: failing or compromised levees (e.g., scours, breaks, burrowing mammal activity, and woody encroachment; Photo 2), inoperable stoplog structures resulting from beaver (*Castor canadensis*) activity and sedimentation (Photo 3), and woody encroachment in native prairie plantings due to a lack of disturbance (i.e., fire). Maintenance and management of easements can be costly and time consuming, but if maintained, could offer improved wetland communities for waterbirds and terrestrial wildlife. Moreover, some easements contained localized issues, such as, power line replacement, which made large tracks over easement levees and through multiple wetlands (Photo 4); standing water on a county road downstream of an easement (Photo 5); and large

patches of exotic common reed (*Phragmites australis*) that invades and outcompetes native vegetation, as well as spreading to surrounding easements (Photo 6).

Notable Violations

We encountered a few violations committed on easements surveyed during 2016–2017, which were generally minor in scale. Many landowners mowed trails, constructed food plots (Photo 7), and built permanent hunting structures (Photo 8) on their property without a Compatible Use Authorization (CUA). However, we were not aware of all existing CUAs on sampled easements; therefore, some of these developments may have been legitimate. Food plots were small in area and measured below the 5% threshold of total easement area specified under a CUA. Some hunting blinds were portable and built on grain carts allowing their removal (Photo 9). We observed some landowners removing boards from stoplog structures in order to dewater wetlands during spring migration (Photo 10). Although we acknowledge well-timed seasonal drawdowns are beneficial to wetland habitats and provide foraging habitat for waterbirds, draining impoundments during February–March is not recommended for moist-soil plant growth and should be avoided unless required for maintenance on wetland infrastructure. Despite these notable exceptions, all landowners we spoke with were aware of the rules and regulations associated with the stewardship of their easement and were in compliance of the ACEP-WRE terms of the easement.

Bailey-05PN
N 4270437.94
E 398498.73
2/23/17

View of the south impoundment from
west levee (zoomed in at geese).

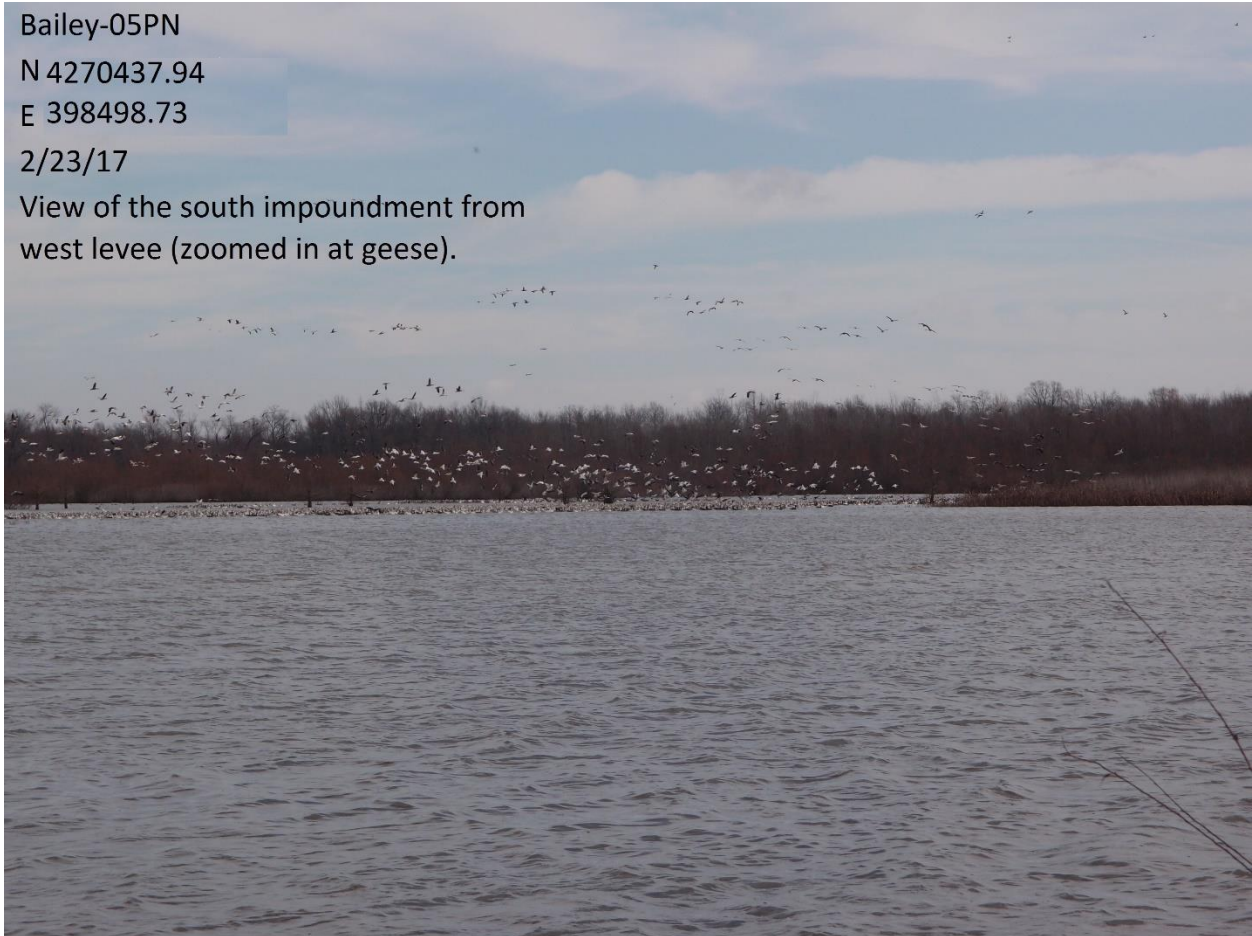


Photo 1. Westerly view of a large group of snow geese (*Anser caerulescens*) on the Bailey (05PN) Easement in Wayne County, Illinois during February 2017.



Photo 2. Example of an inoperable stoplog structure on the Canaday (0J01) Easement in Lawrence County, Illinois during February 2017.

Bailey-05PN
N 4270459.70
E 398241.15
2/23/17

Looking east at levee damage
on the south impoundment.



Photo 3. Easterly view of a scoured levee due to flood waters on the Bailey (05PN) Easement in Wayne County, Illinois during February 2017.

McCormick-062C

N 4291323.01

E 439399.47

2/26/17

Tracks through the middle
impoundment.



Photo 4. Southerly view of large ruts created through a wetland impoundment on the McCormick (062C) Easement in Lawrence County, Illinois. Ruts were caused from electrical crews replacing power line poles during February 2017.



Bailey-05PN

N 4269593.16

E 398771.36

2/23/17

Water on County Road 2200N, facing west.

Photo 5. Westerly view of standing water on County Road 2200 N south of the Bailey (05PN) Easement in Wayne County, Illinois during February 2017.



**Lathrop-O5SM
N 4291418.11
E 439717.35
2/24/17
View NE from SW corner of
easement.**

Photo 6. Northeasterly view of common reed (*Phragmites australis*) within the restored wetland impoundment on the Lathrop (05SM) Easement in Lawrence County, Illinois during February 2017.



Merritt-05WT

N 4292718.23

E 436448.82

12/13/16

Small depressional wetland and food
plot on the west side of oxbow.

Photo 7. Clover (*Trifolium* sp.) food plot and ephemeral wetland on the Merritt (05WT) Easement in Lawrence County, Illinois during December 2016.



Photo 8. Permanent hunting blind located on the south end of the Wolkonowski (05QZ) Easement in Lawrence County, Illinois during January 2017.

Morecraft-0J0Q

N 4293745.63

E 435836.11

2/14/17

View of hunting blind on large foodplot.



Photo 9. Northward view of a moveable hunting blind located on the Morecraft (0J0Q) Easement in Lawrence County, Illinois during February 2017.



Photo 10. Stoplog structure on the NE portion of the the Seitzinger (OXTC) Easement in Lawrence County, Illinois. Photo was taken during February 2017, and all boards were removed from the structure allowing the wetland to dewater prior to spring waterfowl migration along the Embarrass River.

Appendix 1.

Detailed management plans for 30 conservation easements located in Lawrence and Wayne counties, Illinois.

Aldridge – 665A1211015HQ

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Critical Area Planting- Establish perennial vegetation on highly erodible or critically eroding areas to stabilize the soil, reduce damage from sediment runoff to downstream areas, and improve wildlife habitat and visual resources.
- (ii) Structure for Water Control- Install a structure to control the rate of flow or maintain a desired water surface elevation in a wetland impoundment.
- (iii) Tree/Shrub Establishment - Establish an area of predominantly trees and/or shrubs. Establishment methods may include natural regeneration, direct seeding, seedling planting, or a combination of methods to best suit the purpose and planting location.
- (iv) Wetland Restoration- Restore the vegetation and hydrology of the site to reflect the site's historic wetland functions. Structures and modification of drainage systems must be constructed in accordance with the construction plans and specifications provided prior to implementation of the practice.

Easement 665A1211015HQ is a Wetland Reserve Program (WRP) easement in Lawrence County, Illinois. The easement covers 72 acres currently under restoration. The easement is located on the Old Channel of the Embarrass River 5 miles northwest of Lawrenceville, IL. Land use around the easement includes row crop, floodplain forest, and the Keller (0XW4) WRP easement. We visited the easement on 12/21/16 and 3/1/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement is broken up into a north, south, and west tract all of which include an excavated wetland basin and spoil berm. Wetlands on the north and south tract have a screwgate water control structure that drain water into the Old Channel of the Embarrass River. Remaining dirt piles will need to be

dispersed before planting is done. Once restoration is completed the easement will restore natural vegetation and wetland conditions that existed historically.

- Current screw-gate water control structures allow water to be drained from impoundments but do not give the landowner the ability to control drawdown rates for fine scale water manipulations necessary to achieve productive moist-soil impoundments. During future restorations we recommend installing stoplog water control structures which allow landowner to slowly draw down impoundments and give moist soil plants time to establish and grow.

Once restored, the easement will serve multiple ecological purposes and achieve many of the objectives of the ACEP-WRE program. The easement will buffer the Old Channel of the Embarrass River from agricultural runoff and attenuate floodwater from when the river jumps its bank. Wetland excavations will provide feeding and loafing areas for migratory waterbirds during the spring and fall. The Easement will restore vital plant communities native to the Embarrass River Floodplain.

Bach - 665A121301C4D

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Restoration and Management of Declining Habitat - Restore and conserve rare of declining native vegetated communities and associated wildlife species.
- (ii) Critical Area Planting - Vegetation will be established on severely eroding areas requiring extra ordinary means to establish vegetation.
- (iii) Tree/Shrub Establishment - Establish an area of predominantly trees and/or shrubs.
- (iv) Wetland Restoration - Construct or restore the necessary facilities to provide the biological benefits of a wetland.

Easement 665A121301C4D is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covers 28 acres comprised of 18 acres of wetlands, 8 acres of prairie grasses, and 2 forested acres. This easement is located on Otter Pond Ditch 4 miles upstream from its confluence with the Embarrass River. Land use around the easement includes row crops, other WRP easements, and a gravel road to the south. We visited the easement on 12/14/16 and 2/25/17 and assessed wetland habitats, inundation, and management practices as stated in NRCS monitoring contract.

This easement had two wetland basins one on each side of Otter Pond Ditch (Figure 1). The north wetland was covered in persistent emergent cattail and reed canarygrass with small pockets of open water (Photo 1). The south wetland contained open water, moist-soil vegetation (e.g., smartweed, rice cutgrass), and persistent emergent cattail (Photo 2). The south wetland backed up water onto forested bottomland on the Satterthwaite (14WD) WRP easement to the east. Both wetland basins were more than 70% inundated during both visits with water levels slightly higher in February. We saw no waterbirds on the easement during the December walk, and counted 6 mallards during the February visit. A small strip of prairie grass was planted on northwest border of the easement as outlined in the conservation plan (Photo 3). This grass strip served as a buffer strip to protect water quality in the wetland from agricultural runoff from the north. The persistent emergent cover in both wetlands

provided habitat for migrating marshbirds. Moist-soil vegetation in the south wetland provided forage and loafing areas for migrating waterfowl.

- The conservation plan outlined planting of bottomland hardwood tree stock; however, no tree plantings had occurred as of 2/25/2017.
- Large patches of reed canarygrass were present in the north wetland basin. We recommend spraying the patches with appropriate aquatic-labeled glyphosate (such as 2% solution of Aquastar) until eradication.
- Persistent emergent cattail was invading the north wetland. In order to promote more desirable hemi-marsh conditions, we recommend control of cattail by spraying patches with appropriate aquatic-labeled glyphosate.
- Vegetation on the Otter Pond Ditch levees were not accessible with tractor and mower. To prevent woody encroachment the levee should be burned annually, any residual woody material could be cut by hand and sprayed with herbicide.
- Water in the south wetland backs up onto adjacent bottomland hardwoods. A water control structure should be added to the south levee of Otter Pond Ditch to dewater the wetland and adjacent forested area preventing tree mortality and to propagate moist-soil vegetation for foraging waterfowl.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers Otter Pond Ditch from agricultural runoff, and attenuates floodwater from the ditch. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement connects the two parcels of the Satterthwaite WRP easement to the east and west providing 80-acres of contiguous native vegetation in a highly fragmented landscape.

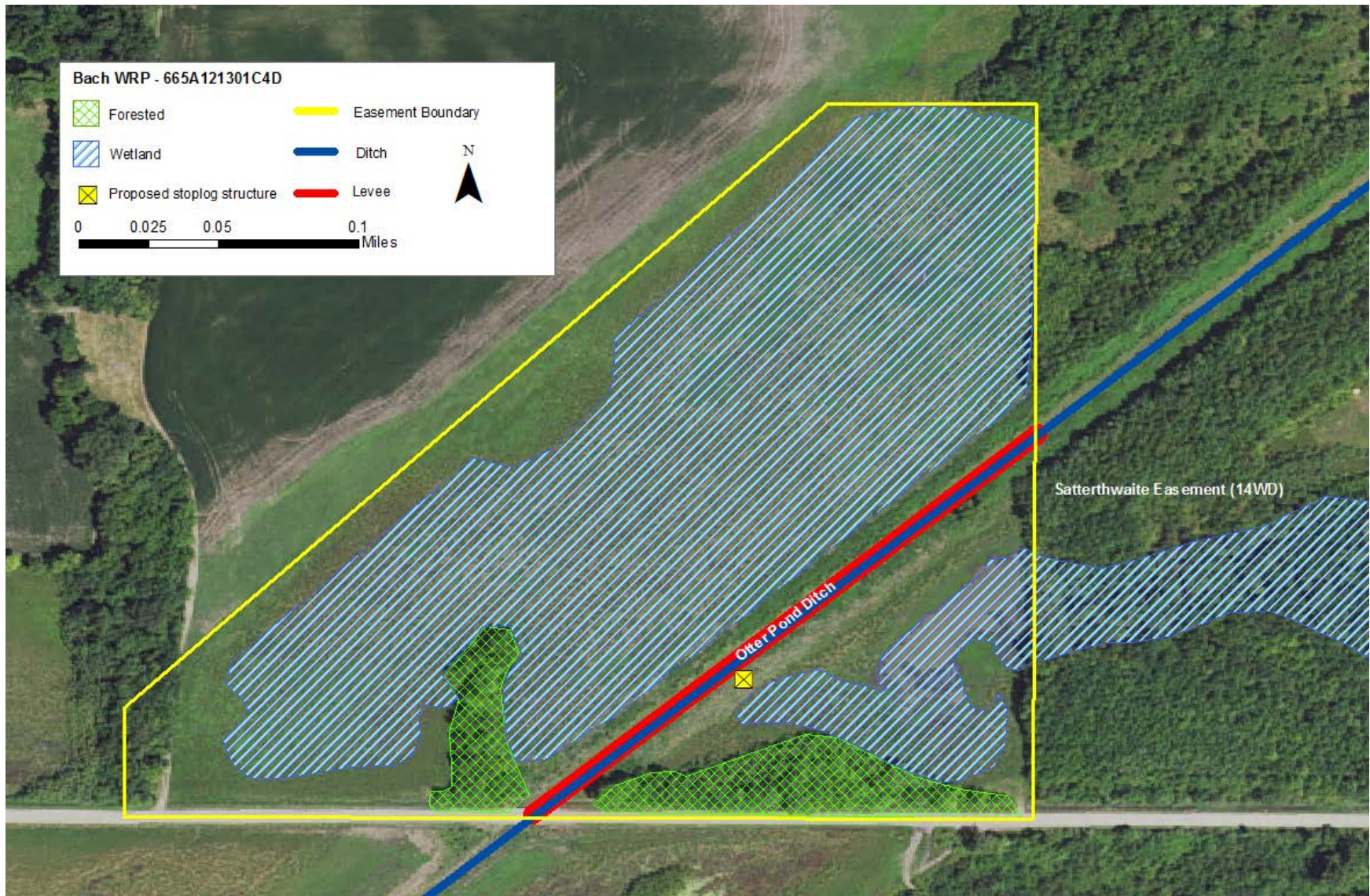


Figure 1: Map of the Bach WRP easement.

Bach - 1C4D
N 4292683.05
E 444135.96
2/25/17

Looking SE at pockets of open water
surrounded by persistent emergent
cattail and reed canary grass.

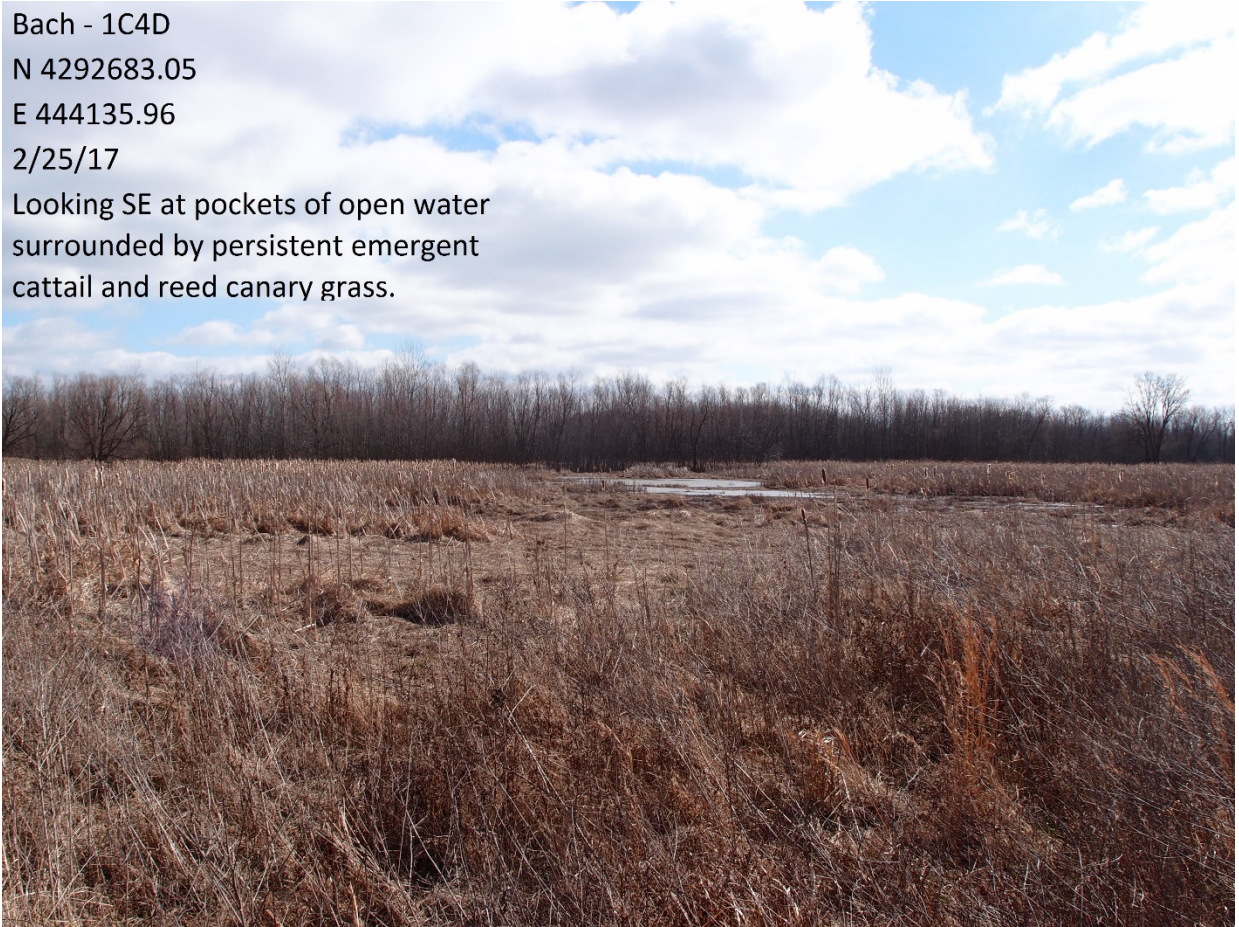


Photo 1: View of the wetland basin north of the Otter Pond Ditch.

Bach - 1C4D
N 4292356.27
E 444222.21
2/25/17

Shallow emergent wetland on the south side of the ditch. This wetland impounds water onto Satterthwaite easement.

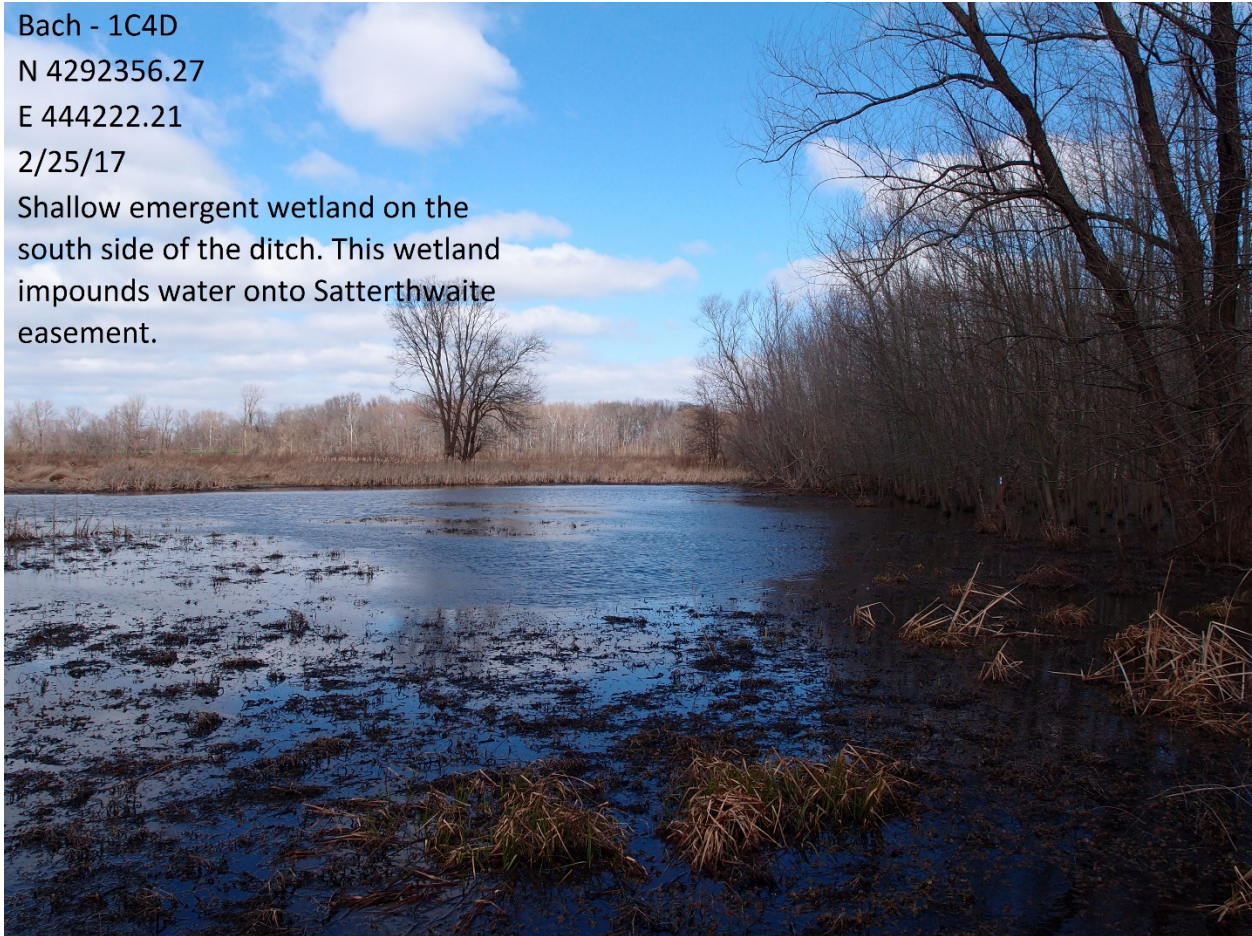


Photo 2: Wetland basin on the south side of Otter Pond Ditch.

Bach - 1C4D
N 4292365.98
E 443849.05
2/25/17

Easement boundary facing NE,
shallow emergent wetland
protects Otter Pond Ditch from
agricultural runoff.

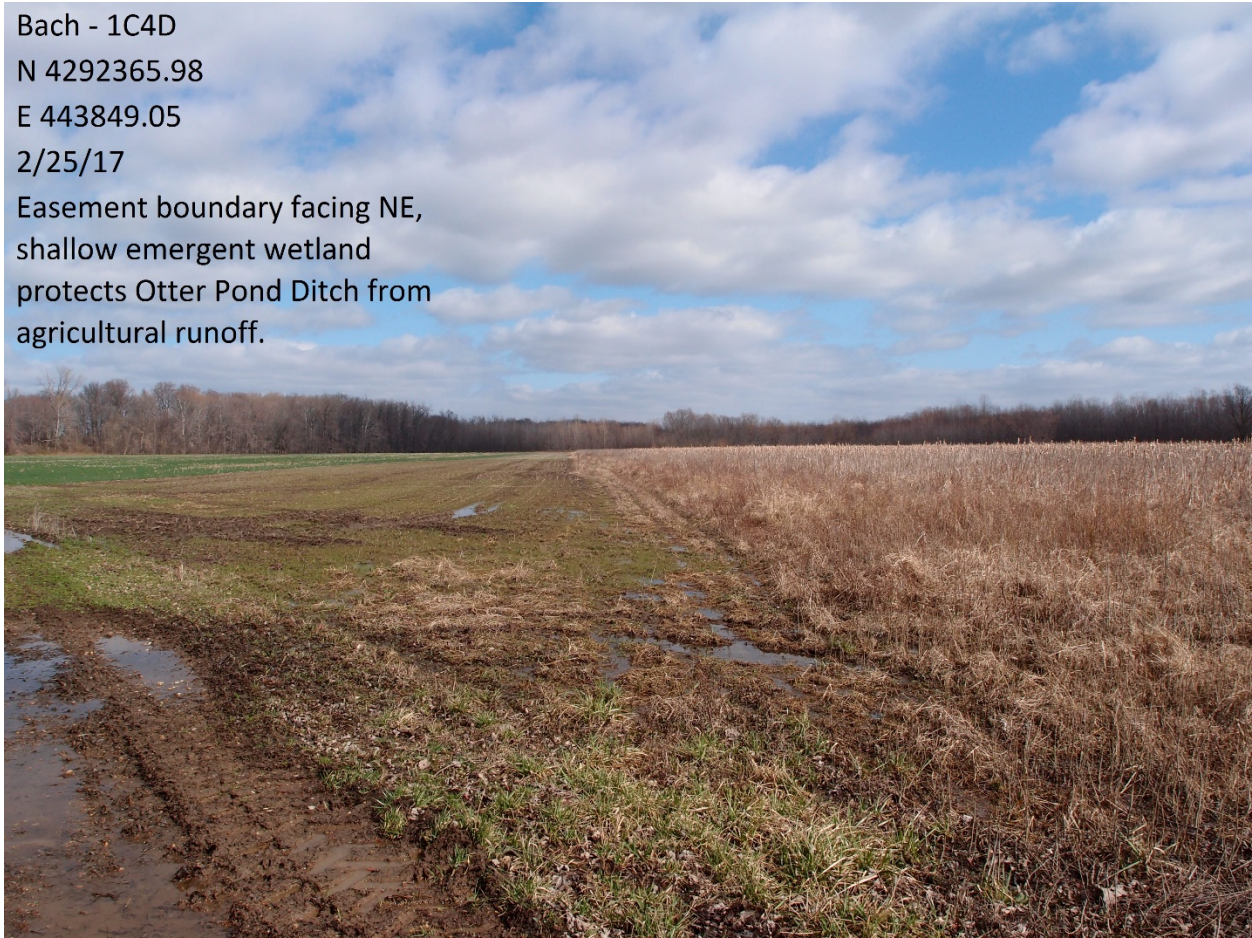


Photo 3: Narrow strip of prairie grasses planted in between wetland and agricultural land use.

Bailey – 665A1204005PN

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration- Hydrologic restoration will be accomplished by excavating shallow wetland areas, constructing low-level dikes and by installing water control structures.
- (ii) Tree Planting- Bottomland hardwood trees will be planted using bare root seedling stock.
- (iii) Wetland Restoration- Reverse flap gates on four pipes through the Little Fox River Levee.
- (iv) Wetland Wildlife Habitat Management- The purpose of this practice is to manage vegetation, food plots, shallow water areas, and wooded acreage for the benefit of wetland wildlife.

Easement 665A1204005PN is a Wetland Reserve Program (WRP) Easement in Wayne County, Illinois. The easement covers 2,150 acres consisting of 588 acres of emergent wetlands, 789 acres of bottomland forest, and 773 acres of upland vegetation including prairie and tree planting restorations. The easement is located on the Fox River ~10 miles SSW of Olney, IL. Land use around the easement includes row crop and bottomland forest. We visited the easement on 11/30/16 and 2/23/17 and assessed conditions relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained 3 impounded wetlands which drain into to the Fox River (Figure 1). All 3 impoundments contained similar vegetation communities including plantings of bald cypress trees (*Taxodium distichum*), river bulrush (*Scirpus fluviatilis*), cattail (*Typha* sp.), woolgrass (*Scirpus cyperinus*), smartweeds (*Polygonum* spp.) reed canarygrass (*Phalaris arundinacea*), rice cutgrass (*Leersia oryzoides*), cocklebur (*Xanthium strumarium*), various sedges (*Carex* spp.), and common reed (*Phragmites australis*). The impoundments were near 100% inundated during the November site visit and 80-90% inundated in February as noted by the presence of mudflats. Waterfowl and other wetland bird species were abundant during both easement visits. In

November, we documented 500 mallards (*Anas platyrhynchos*), 100 American coot (*Fulica americana*) and 2 whooping cranes (*Grus americana*). In February, we documented a greater variety and abundance of waterfowl on the landscape including 2,000 snow geese (*Anser caerulescens*), 1,000 mallards, 500 greater white-fronted geese (*Anser albifrons*), 300 American widgeon (*Mareca americana*), 300 American green-winged teal (*Anas carolinensis*), 200 blue-winged teal (*Spatula discors*), 100 Canada geese (*Branta canadensis*), 100 wood ducks (*Aix sponsa*), 50 gadwall (*Mareca strepera*), 30 great blue heron (*Ardea herodias*), and 20 Wilson's snipe (*Gallinago delicata*). The easement protected a section of the Fox River floodplain and associated bottomland forest which are subjected to frequent flooding. Oxbow lakes and ephemeral wetlands were scattered throughout the easement (Figure 2) and offer additional waterbird habitat. Large expanses of upland grasses and trees provided habitat which benefitted terrestrial wildlife like white-tailed deer (*Odocoileus virginianus*) and upland game birds (e.g., eastern wild turkey [*Meleagris gallopavo*] and northern bobwhite [*Colinus virginianus*]).

- Wetland infrastructure was non-functional and needed maintenance. Stoplog structures on the south and middle impoundments were plugged and unable to convey water. Levees contained holes, scours, and woody encroachment (Photo 1). We recommend maintenance on the middle and south impoundments. Once dewatered, stoplog structures should be cleared of sediment and debris. Levee should be repaired, contoured, and seeded with switchgrass (*Panicum virgatum*) or other erosion resistant grass species. Woody vegetation should be removed from the slopes of the levee system. We recommend annual monitoring and maintenance of levee surfaces, stoplog structures, and annual mowing of the levees.
- Without modifications, wetland impoundments were currently providing wetland habitat, although wetland quality could be improved with seasonal water manipulations. Dewatering impoundments during the June-July would promote moist-soil plant growth and likely increase survival of impounded bald cypress in the south unit. We recommend rotating drawdown schedules among impoundments with one impoundment being dewatered early (May), one late (June-July), and one with no drawdown. Differing drawdown schedules will provide high quality forage for migrating waterfowl, mudflats for shorebirds, and the water for other aquatic wildlife.
- Patches of common reed existed on the landscape west of the Fox River (Figure 3, Photo 2) and will likely invade and outcompete desirable wetland plants and spread to adjacent properties. We recommend spraying of these patches with an aquatically labeled glyphosate product annually until eradication.
- Dams created by beavers (*Castor canadensis*) were scattered throughout the easement limiting the flow of water across the landscape and causing flooding on adjacent farmlands and the gravel road south of the easement (Photo 3). We recommend removal of beaver dams where practical to drain frequently flooded areas. Subsequent removal of nuisance beavers on the property should be conducted in accordance with IDNR regulations.

- The easement contains remnant oil tanks and a pumpjack on the north end of the property (Photo 4), as well as, 2 hunting structures on the south impoundment. We recommend removal of the remnant oil structures, if feasible, to satisfy terms of NRCS contract.

This easement serves multiple ecological purposes and satisfies many objectives of the ACEP-WRE program. The easement buffers the Fox River from agricultural runoff, attenuates floodwater, recharges groundwater stores, and stores carbon. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall and provides year round habitat for upland birds, herps, and furbearers. In total, this easement provides 2,150 acres of restored wetland communities in a highly fragmented landscape.

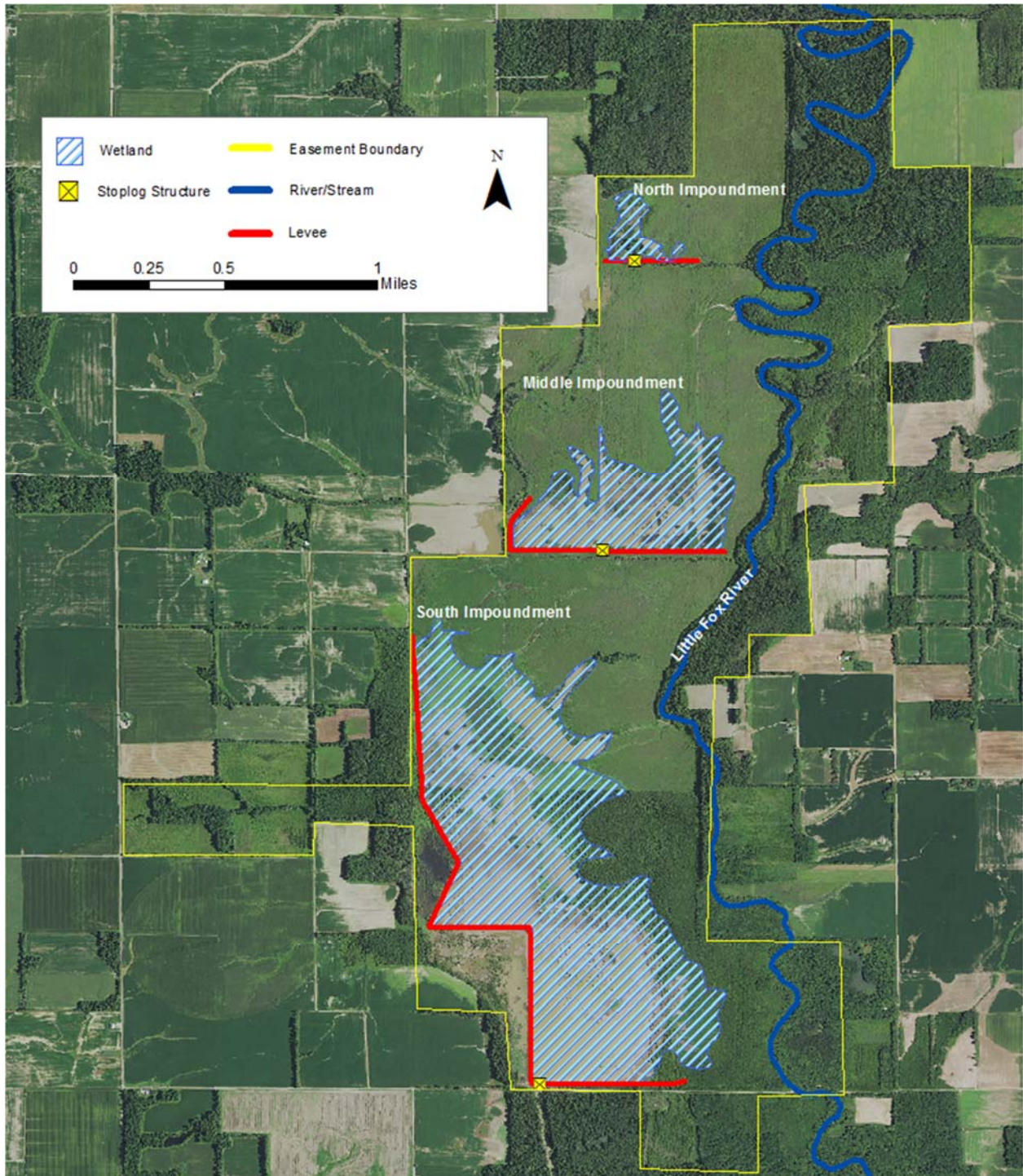


Figure 1: Map of the Bailey WRP Easement and main wetland impoundments in relation to the Fox River corridor.

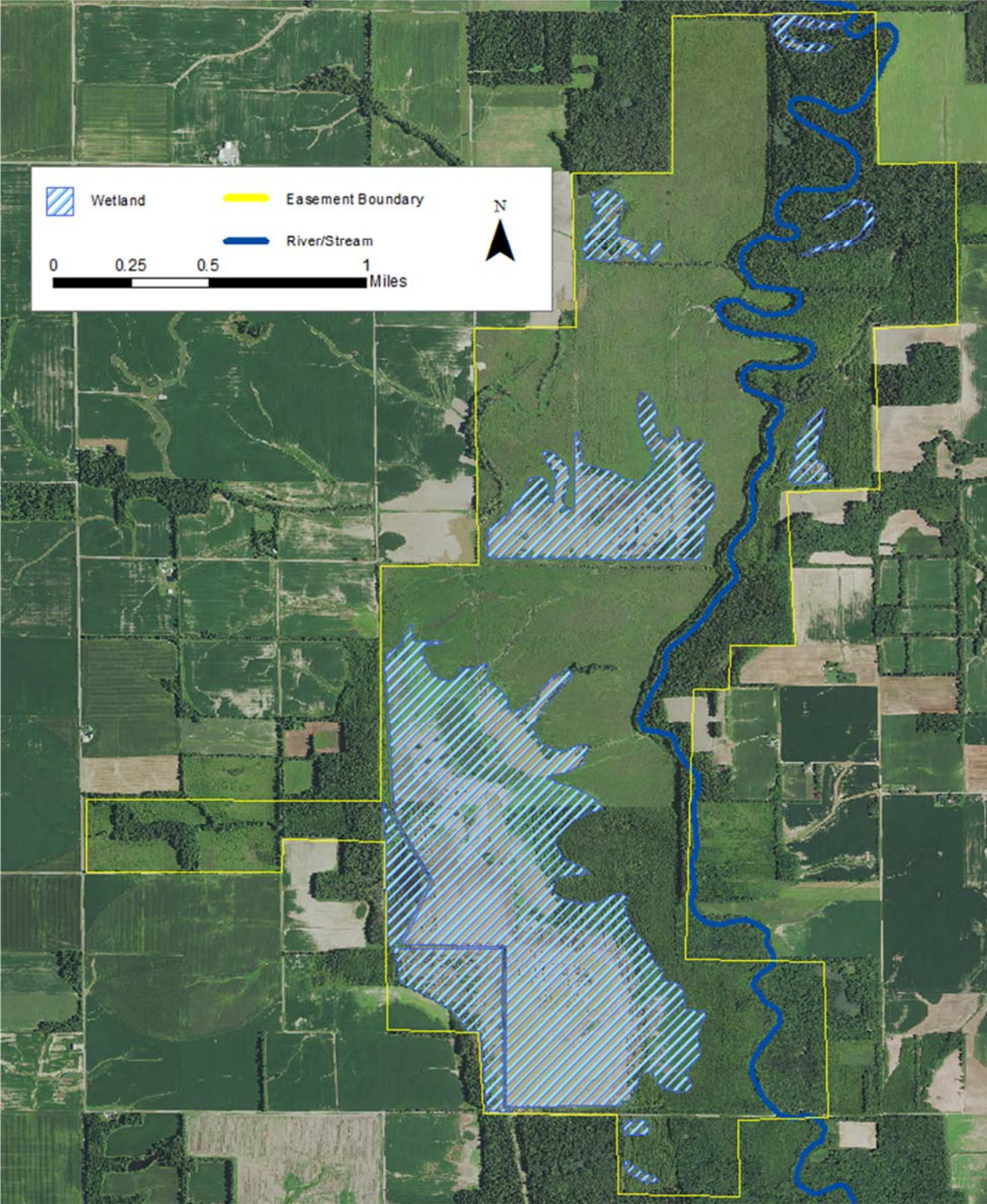


Figure 2: Map of surface water on the Bailey WRP Easement during February monitoring.

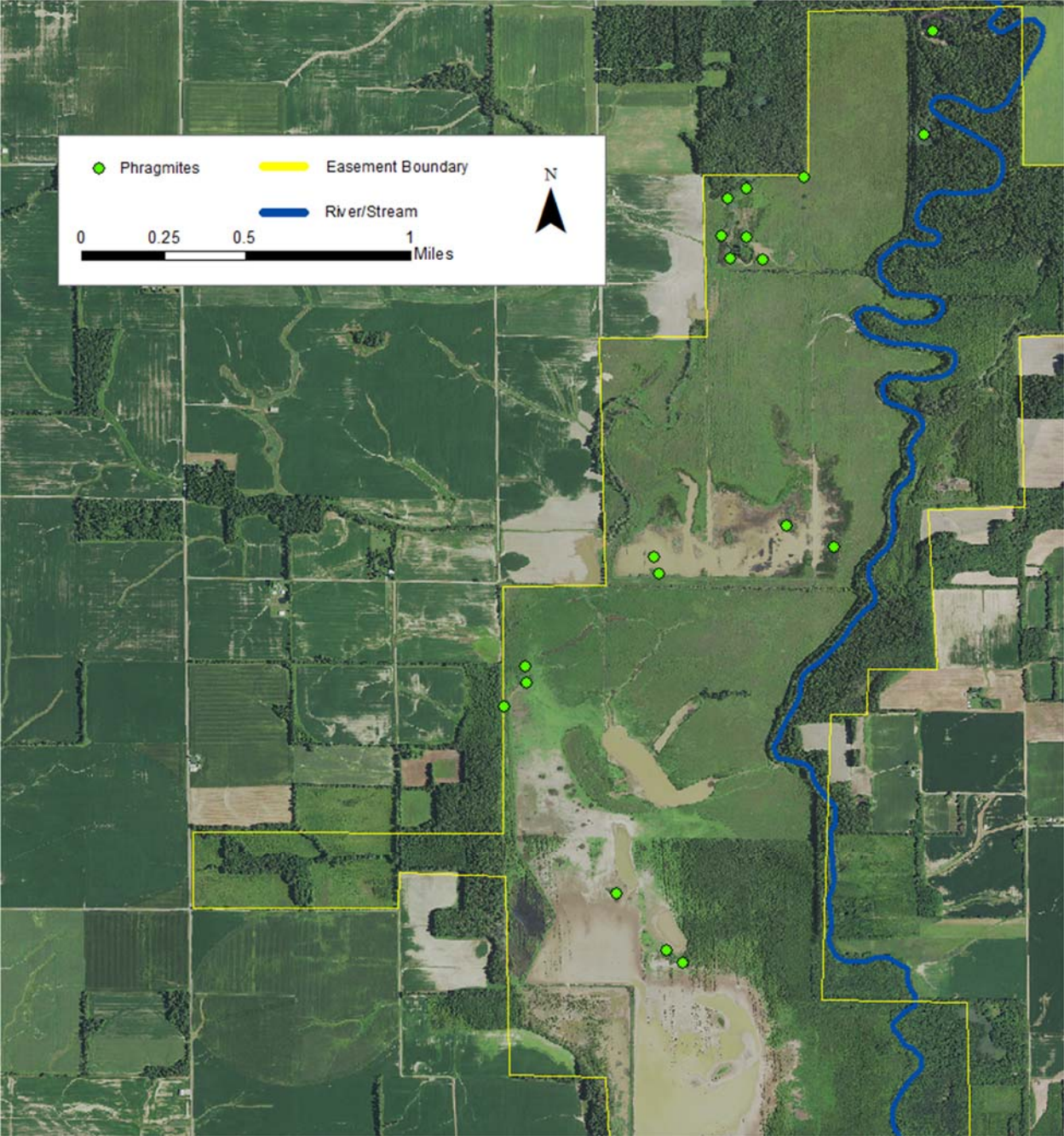


Figure 3: Locations of invasive common reed on the Bailey WRP Easement.

Bailey-05PN
N 4270459.70
E 398241.15
2/23/17

Looking east at levee damage
on the south impoundment.



Photo 1: Damage to the levee surface from floodwaters overtopping levee surface.

Bailey-05PN
N 4272444.15
E 398548.80
2/24/17

Damage to levee on the middle
impoundment.



Photo 2: One of the many phragmites patches located on the Bailey Easement.



Photo 3: Flooded county road on the south side of the easement.

Bailey-05PN
N 4274640.11
E 399664.90
2/23/17

Remnant oil tanks on the easement.
Located in a large Phragmites patch.



Photo 4: Oil tanks on the north end of the easement from previous oil extraction efforts.

Canaday – 755A129900J01

EWPP-FPE Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration – Breach the existing levee on the south side of the easement, repair the levee breaches on the north side of the easement, install inline water control structure, excavate emergency spillway, and seed breach and spillway in cool season grasses.
- (ii) Tree Planting - Plant a mixture of bare root tree seedlings at a rate of 350 trees per acre.

Easement 755A129900J01 is an Emergency Watershed Protection Plan-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covers 152 acres consisting of a 61 acre impounded wetland, 56 forested acres and 35 acres of prairie grasses. The easement is located 3 miles north of Sumner, Illinois with Muddy Creek comprising the east border of the easement (Figure 1). Land use around the easement includes row crop, forest, and a EWPP-FPE easement to the north. We visited the easement on 1/11/17 and 2/20/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contains a large impounded wetland which was near 100% inundated during both easement visits. Cover types in the wetland basin included moist-soil vegetation (e.g., smartweed [*Polygonum* sp.], rice cutgrass [*Leersia oryzoides*], reed canarygrass [*Phalaris arundinacea*]), scrub shrub (buttonbush [*Cephalanthus occidentalis*]) and open water. We counted more than 1000 mallards (*Anas platyrhynchos*) American wigeon (*Anas Americana*), northern shoveler (*Anas clypeata*), white-fronted geese (*Anser albifrons*), and Canadian geese (*Branta canadensis*) using the easement during both visits (Picture 1). Bottomland forest bordered the wetland to the east while a mixture of trees and prairie grasses covered the hill to the west. The easement remained relatively untouched with no trails, food plots or management performed on wetland infrastructure.

- Wetland levees and the emergency spillway contained holes, scours and were covered in reed canarygrass and woody encroachment with some trees on the levee over 15 ft. tall. We recommend clearing the levee of woody debris and filling in holes and scours. Reed canarygrass should be sprayed and levees reseeded in switchgrass (*Panicum virgatum*). Scours on the spillway should be filled and rip rap should be brought in to cover the highly erodible surface.
- The stoplog structure on the north wetland is inoperable and filled with sticks and sediment (Picture 2). We recommend removing debris from inside the structure and excavating sediment buildup on the inlet pipe. Once the stoplog structure is operational we recommend performing annual drawdowns to promote moist-soil vegetation growth over a greater area of the wetland cell than currently covered.
- All of the drainage ditches on the easement contain dams from beaver activity which limit the flow of water across the landscape. We recommend clearing the ditches of sediment and woody debris and the landowner institute population control of beaver populations on the easement in accordance with IDNR regulations.
- Sericea Lespedeza (*Lespedeza cuneate*) is present in the uplands forming a large expanse of undesirable upland cover that outcompetes more desirable native grasses (Picture 3). We recommend annual spraying of sericea lespedeza patches with appropriately labeled herbicide until eradication. Patches cleared of the noxious plant can be seeded in native warm season grasses.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers Muddy Creek from agricultural runoff, and attenuates floodwater when the creek jumps its bank. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement connects to the Double TMC LLC (OHZX) wetland easement to the north providing 277 acres of contiguous native vegetation in a highly fragmented landscape.

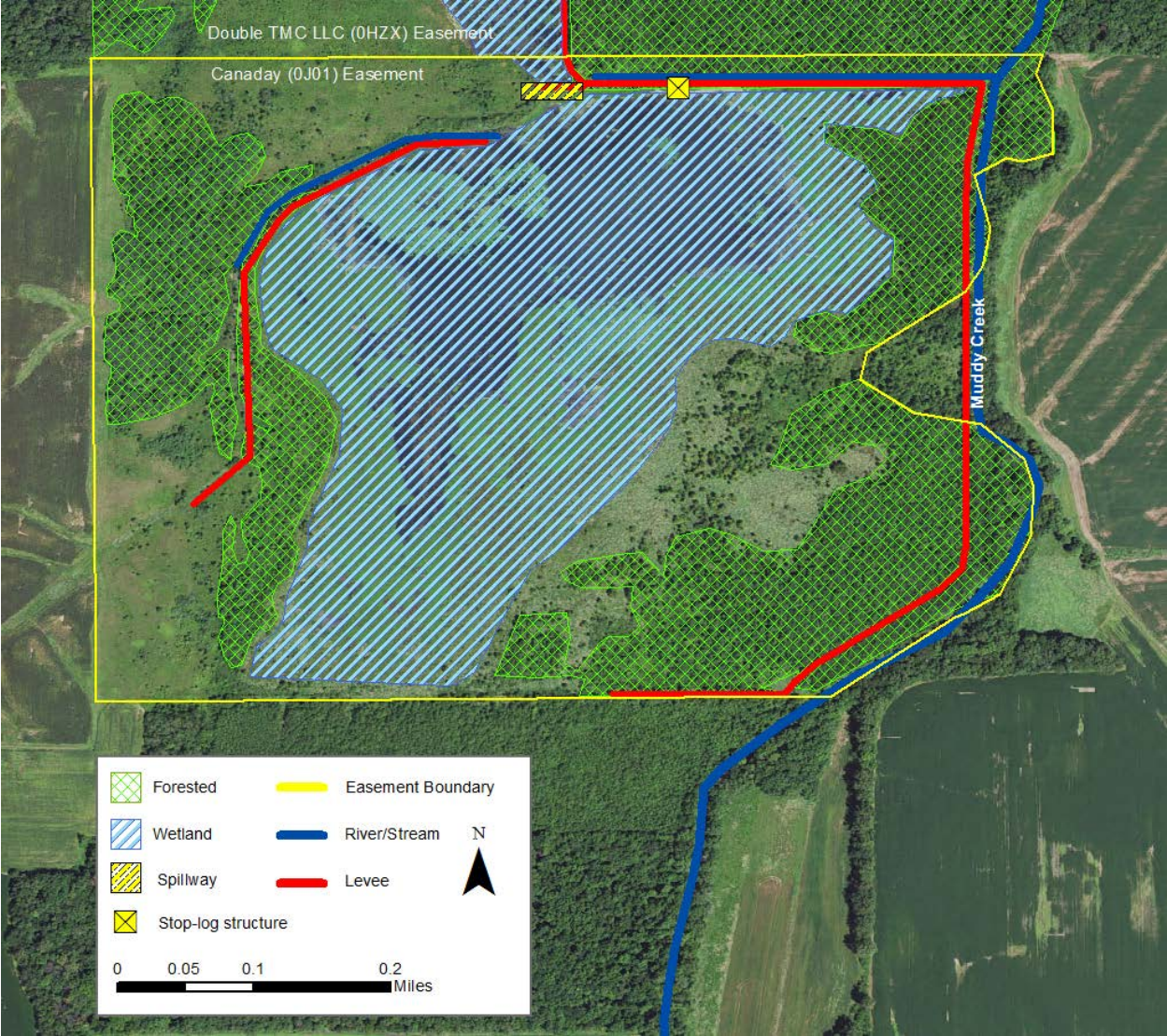


Figure 1: Map of Canaday Easement in relation to Muddy Creek and Double TMC LLC Easement.

Canaday-OJ01

N 4290511.65

E 425784.53

1/11/17

A couple hundred dabblers in wetland,
mainly mallards, facing SE.



Picture 1: Waterfowl on the Canaday wetland during the January easement walk.



Canady - 0J01
N 4290597.10
E 426093.05
2/20/17

View inside of stoplog
structure, structure needs
to be cleared of sediment

Picture 2: Sediment and debris preventing operation of stoplog structure.



Picture 3: Sericea Lespedeza present in uplands of the Canaday easement.

Crowder - 665A1208005YH

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Wildlife Habitat Management - Retain, create, or manage wetland habitat for waterfowl, fur bearers, or other wildlife.
- (ii) Tree/Shrub Establishment - Bottomland hardwood tree planting stock.
- (iii) Wetland Restoration - Restore the functions and values of wetland ecosystems that have been devoted to agricultural use and are within the 100-year floodplain of a permanent river or stream.

Easement 665A1208005YH is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covers 60 acres consisting of 7 acres of excavated wetlands, 50 acres of upland grasses and tree plantings, and 5 forested acres. The easement is located in the Embarrass River Floodplain and contains ephemeral streams that drain into the Old Channel of the Embarrass River (Figure 1). Land uses around the easement include other WRP easements, hardwood forest, and row crop. We visited the easement on 1/17/17 and 2/16 /17 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement was split up into a north and south tract, the north tract contained a large impounded wetland and the south tract contained a forested wetland and forested ephemeral stream corridor. The wetlands were more than 80% flooded during both easement visits. The impounded wetland on the north tract contained open water, persistent emergent vegetation (cattail [*Typha sp.*], woolgrass [*Scirpus cyperinus*]) and moist soil vegetation (smartweeds [*Polygonium sp.*]) (Photo 1). The levee was in good shape and covered in switchgrass (*Panicum vigratum*). Uplands on the north tract contained native warm season grasses (e.g., indiagrass [*Sorghastrum nutans*], broomsedge [*Andropogon virginicus*]) and planted tree species (e.g., oak [*Quercus sp.*], river birch [*Betula nigra*]). The south tract contained similar uplands and tree plantings. The wetland and stream corridor contained bottomland forest. We saw 30 mallards (*Anas platyrhynchos*) and 5 wood ducks (*Aix sponsa*) using the easement during the February

visit. The easement was relatively untouched with no trails on the north tract and one mowed trail on the south tract for access to row crop fields.

- The levee was unmowed and covered in switchgrass (Photo 2). We recommend annual mowing of the levee to discourage woody encroachment.
- The north impoundment did not contain a water control structure. Drawdowns can promote vigorous growth of moist soil plant species as well as allow the landowner to dewater the wetland for levee maintenance and control of noxious vegetation. We recommend installing a stoplog structure on the wetland for aforementioned reasons.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers ephemeral streams and surface water from agricultural runoff, and attenuates floodwater. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement is located on the southeast corner of a group of 9 wetland easements that protect 2,242 contiguous acres of native vegetation communities in a highly fragmented landscape.

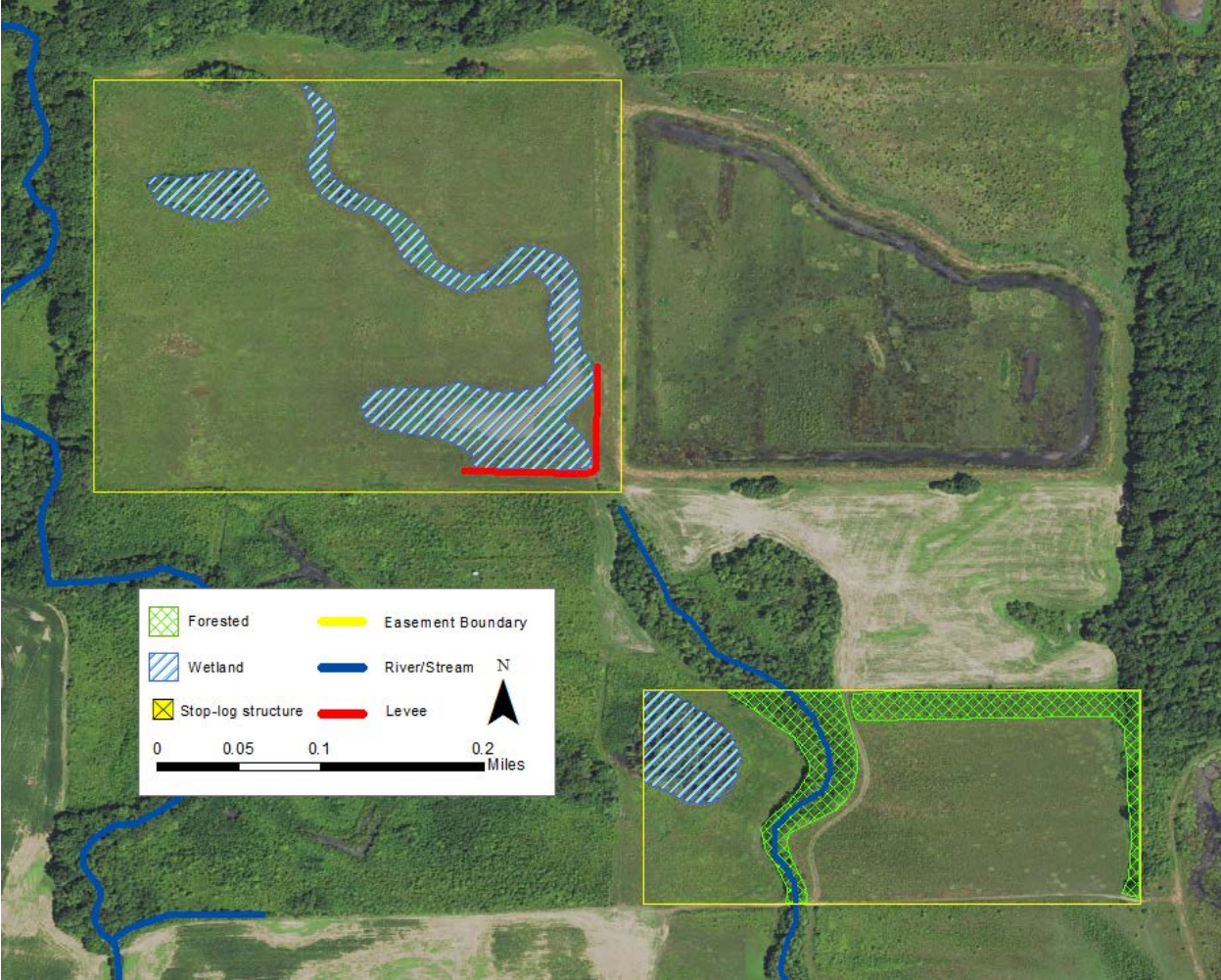


Figure 1: Map of Crowder WRP easement.

Crowder-05YH

N 4292188.80

E 437653.20

1/17/17

View of large impoundment facing NW from diversion.



Photo 1: View of open water, persistent emergent, and small amounts of moist soil vegetation in large wetland impoundment.

Crowder-05YH

N 4292188.80

E 437653.20

2/16/17

Large impoundment facing north
from diversion.



Photo 2: Unmowed levee on the north tract.

Double TMC LLC – 755A129900HZX

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 755A129900HZX is a 125-acre Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covered 125 acres consisting of 38 acres of emergent wetland, 71 forested acres, and 16 acres of upland grasses. The easement was located 3 miles north of Sumner, Illinois with Muddy Creek spanning the east border and Paul Creek comprising the north border of the easement (Fig. 1). Surrounding land use included agricultural row crop, forest, and an adjacent NRCS wetland easement. We visited the easement on 1/11/2017 and 2/20/2017 and assessed condition relative to program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained one large impounded wetland which was fully inundated during both easement visits. Vegetation communities within the wetland included moist soil plants (smartweed [*Polygonum* sp.], reed canarygrass [*Phalaris arudinacea*]), scrub-shrub (buttonbush [*Cephalanthus occidentalis*], willow [*Salix* sp.]), and open water. We counted more than 1000 mallards (*Anas platyrhynchos*) and 100 Canada geese (*Branta canadensis*) on the easement during January. In February we documented more than 500 mallards, 500 American wigeon (*Mareca americana*), 500 American green-winged teal (*Anas crecca*), 200 lesser scaup (*Aythya affinis*), 200 American coot (*Fulica americana*), 100 greater white-fronted geese (*Anser albifrons*), and 100 northern pintail (*Anas acuta*) (Photo 1). The east half of the easement was composed of forested floodplain habitat that showed signs of regular water inundation. The easement remained relatively untouched with no trails, food plots, or management to wetland infrastructure.

- Wetland levees contained holes, scours, and severe woody encroachment. The levees were covered in reed canarygrass and willows which made the levees nearly impassible on foot (Photo 2). We recommend clearing the levee of woody plants and spraying reed canarygrass till eradication. Holes and scours should be filled and any unvegetated areas should be seeded in switchgrass (*Panicum virgatum*) or other erosion resistant plant species.

- All of the drainage ditches and spillways on the easement contained dams from beaver (*Castor Canadensis*) activity which severely limited the flow of water across the landscape (Photo 3). The impounded wetland was fully inundated backing up excess water onto farmland west of the easement. We recommend clearing of beaver dams where possible to reduce impacts of floodwaters on surrounding properties. Lethal control of beaver populations is recommended to reduce future maintenance on the easement and should be done in accordance with ILDNR rules and regulations.
- The wetland impoundment did not contain any sort of water control structure which would aid in the dewatering of the wetland for maintenance and moist soil drawdowns. We recommend installing a stoplog structure on the wetland to improve vegetation communities in the wetland and to facilitate maintenance activities on wetland infrastructure. The water control structure should be large enough to dewater a 40 acre wetland in a timely fashion and equipped with a “Beav away” pipe to discourage beaver dams and sediment from rendering the structure inoperable.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers Muddy and Paul creeks from agricultural runoff and attenuates floodwater from the creeks. The wetlands and adjacent floodplain provides feeding and loafing areas for migratory waterbirds during spring and autumn migrations. The easement connects to the Canaday (0J01) easement to the south providing 277 acres of contiguous natural vegetation in a highly fragmented landscape.

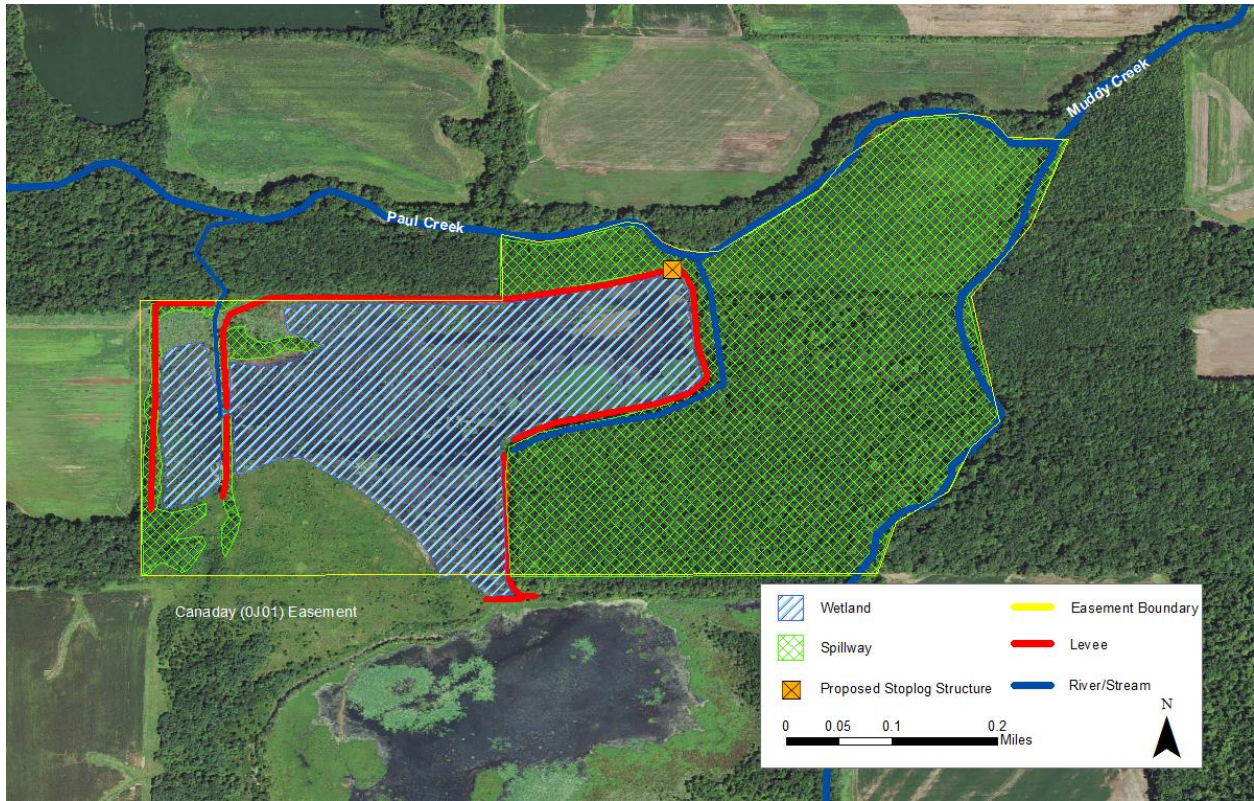


Fig. 1: Map of the Double TMC LLC easement in relation to Paul and Muddy creeks. Located in Lawrence county 3 miles north of Sumner, Illinois.

Double TMC LLC – 0HZX

N 4290827.78

E 426002.98

2/20/17

View of wetland and waterfowl in
the sky. Facing north.

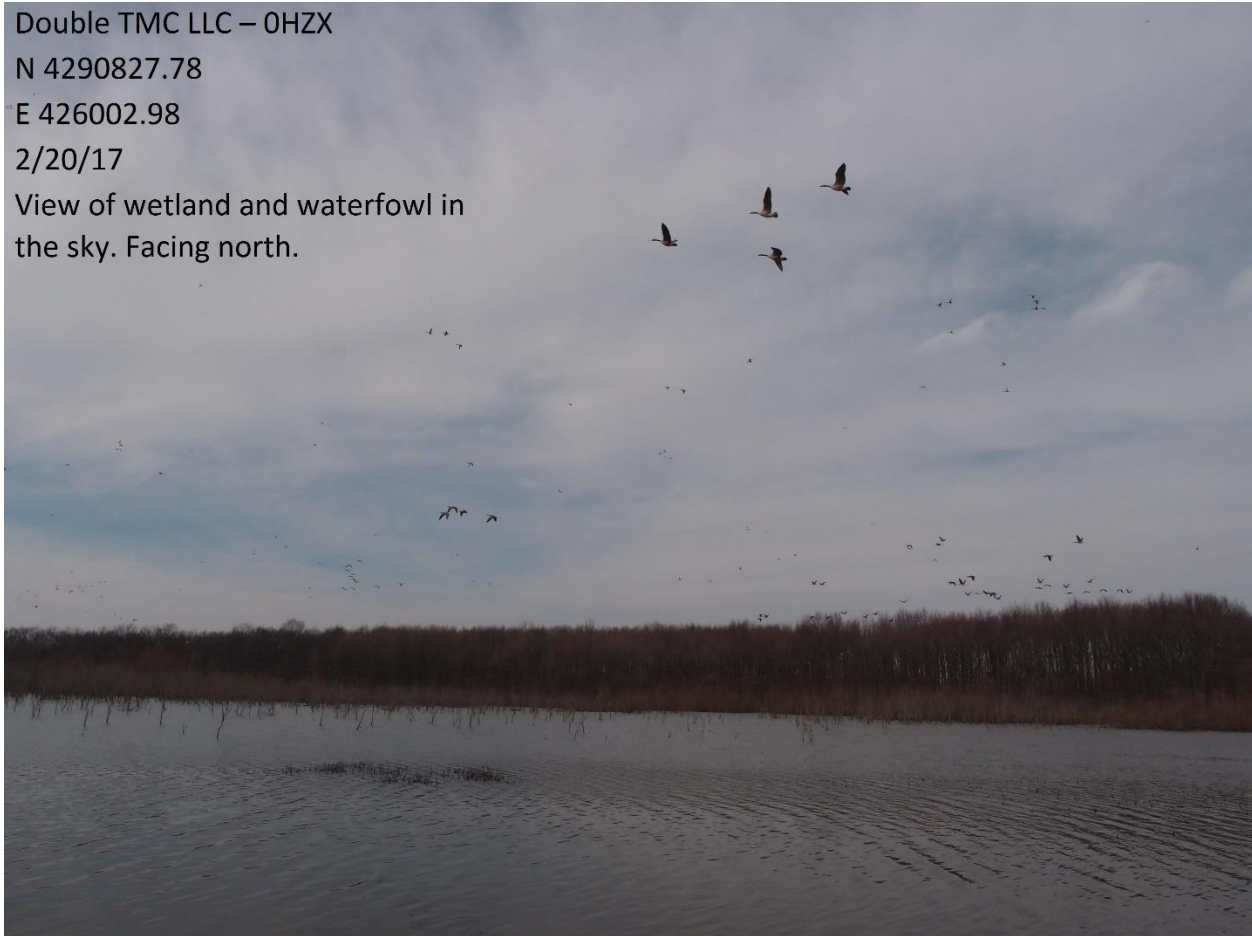


Photo 1: View north of waterfowl flushing from the impounded wetland on the Double TMC LLC easement during February.

Double TMC LLC-0HZX

N 4291046.88

E 426003.39

1/11/17

Levee has been taken over by Reed
Canary and woody vegetation.

Multiple places where water has
eroded away the top of the levee.

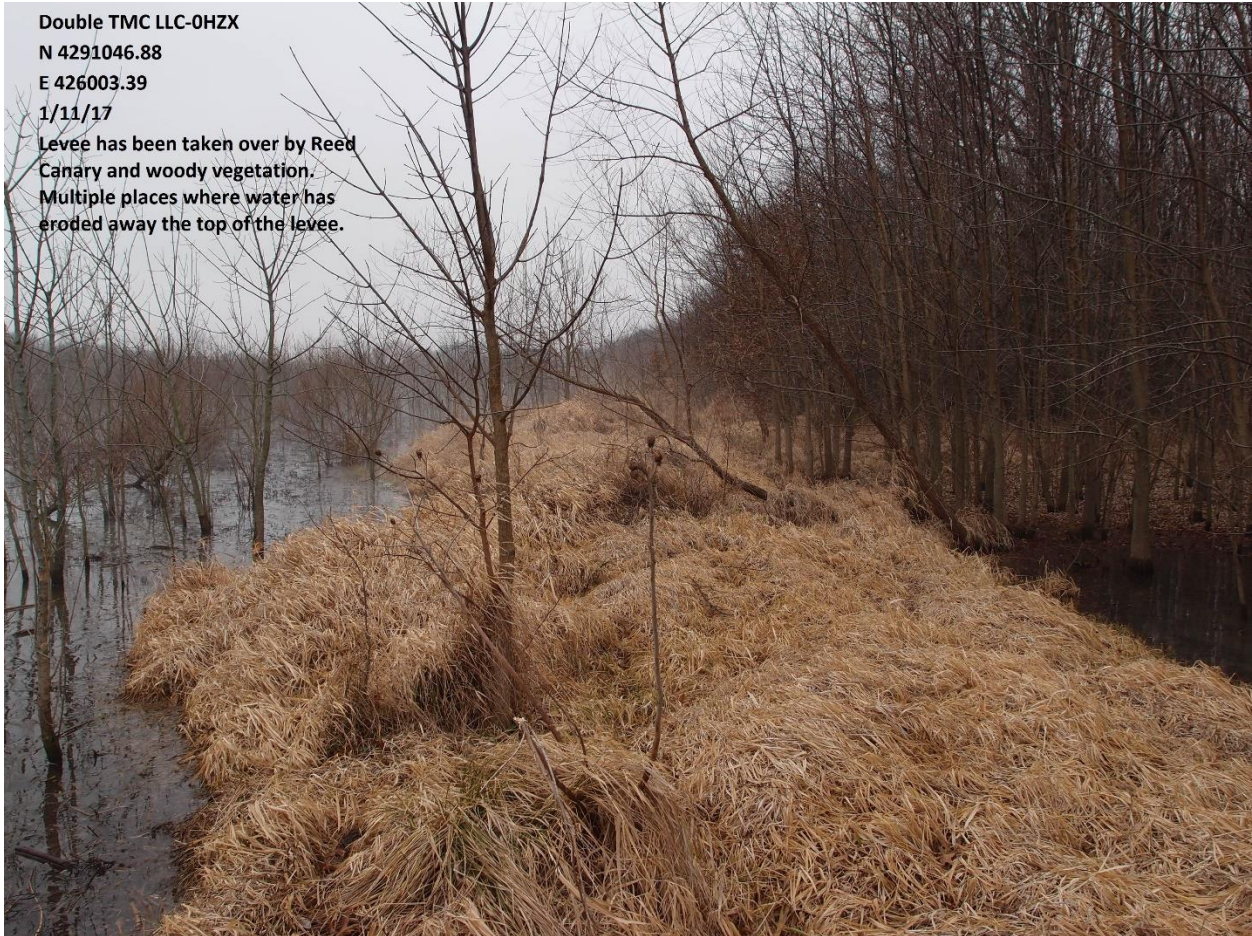


Photo 2: View of the north levee facing west on the Double TMC LLC easement, Lawrence County, during the January easement visit.



Photo 3: One of many beaver dams on the Double TMC LLC easement in Lawrence County, Illinois. This dam was located just outside of the levee on the NE corner of the impounded wetland.

Dennis Greene – 665A1207005WK

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Tree/Shrub Site Preparation – Prepare land for establishing woody species by controlling weeds, removing slash and debris, or otherwise altering the site conditions to favor tree establishment by natural or artificial means.
- (ii) Tree/Shrub Establishment - Establish an area of predominantly trees and/or shrubs.

Easement 665A1207005WK is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covers 48 acres comprised of 32 acres of bottomland forest and 16 acres of tree plantings. The easement is located on Birch Creek (Figure 1), 2 miles west of Pinkstaff, Illinois. Land use around the easement consisted of row crop and forested bottomland. We visited the easement on 1/3/17 and 2/22/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement had no planned or constructed wetlands, instead the easement protected and restored frequently flooded bottomlands around the birch creek corridor which left standing water in the forested areas during both easement visits (Photo 1). The tree/shrub establishment area (Photo 2) contained planned tree species including Bald cypress (*Taxodium distichum*), Oaks (*Quercus* spp.), Sourgum (*Celtis laevigata*) as well as multiple sedge species (*Carex* sp.), cattail (*Typha* sp.), reed canarygrass (*Phalaris arudinaceae*), and upland plant species (e.g., broomsedge [*Andropogon virginicus*], yellow foxtail [*Setaria pumilla*], daisy fleabane [*Erigeron annuus*]). We documented 30 mallards (*Anas platyrhynchos*) and 2 wood ducks (*Aix sponsa*) using the easement in February. Planted tree species seemed to be prospering in the dryer areas and sparse in the wet areas which were covered predominantly in sedges. With the simple but effective restoration techniques enacted on the easement there was little to no maintenance needed.

- Reed canarygrass is present on the easement in patches of the restored upland. We recommend spraying of the patches with appropriately labeled glyphosate till eradication.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers Birch Creek from agricultural runoff, and attenuates floodwater from the ditch. The forested areas provide feeding and loafing areas for migratory waterbirds when standing water is present. The easement protects valuable bottomland floodplain habitat as well as native upland vegetation in a highly fragmented landscape.

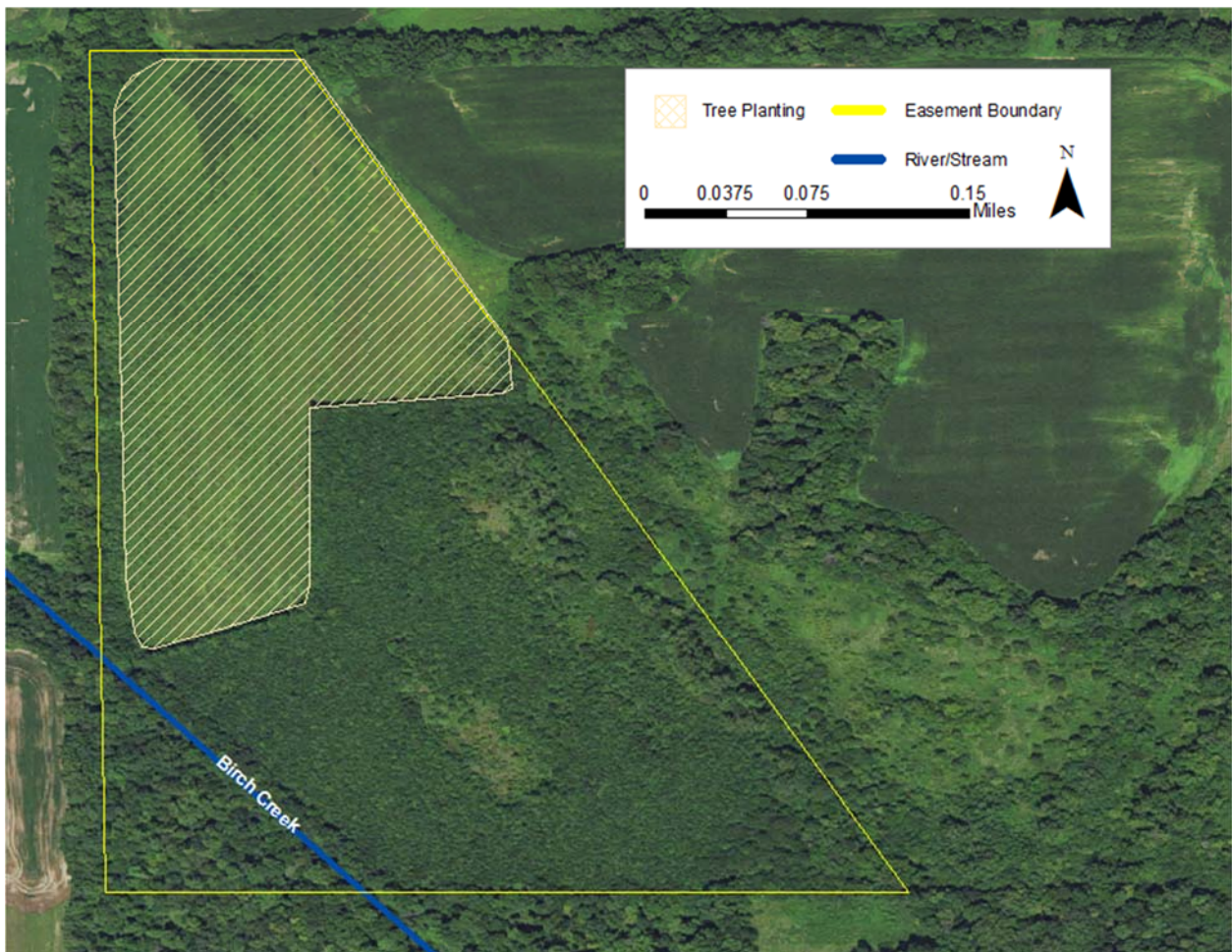


Figure 1: Map of Greene Easement in relation to Birch Creek.



Photo 1: Water inundating the forested area on the south end of the easement.

Greene-05WK

N 4295586.16

E 435372.42

1/3/17

View from the center of
easement, looking west.



Photo 2: Tree planting area with dense vegetation cover.

ILDNR -755A120100J0C

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 755A120100J0C is a 1912-acre Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covered 1,912 acres consisting of 360 acres of emergent and oxbow wetlands, 380 acres of mature floodplain forest, and 1,172 acres of tree plantings and upland habitat. The easement was located on the Embarrass River 1 mile east of Billet, Illinois. The confluence of the Embarrass and the Wabash Rivers was located just south of the easement (Fig. 1). Surrounding land use included agricultural row crop and floodplain forest. We visited the easement a total of 5 times 12/12/2016, 12/21/2016, 1/18/2017, 2/16/2017, and 2/26/17 and assessed condition relative to program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement restored a large area of the Embarrass River floodplain protecting residual scours and oxbows and creating multiple wetland impoundments. We mapped 17 individual wetlands including 15 impounded and 2 oxbow wetlands. Impounded wetlands were all very similar with areas of emergent vegetation (smartweed [*Polygonum* spp.], sedges [*Carex* spp., *Cyperus* spp.], rice cutgrass [*Leersia oryzoides*], reedcanary grass [*Phalaris arudinacea*]), scrub-shrub buttonbush (*Cephalanthus occidentalis*) and small trees (willow [*Salix* sp.], American sycamore [*Plantanus occidentalis*], maple [*Acer* sp.]). The oxbow wetlands contain buttonbush around the edges or the wetland but dominant cover type is open water (Photo 1). Water inundation during the December-January monitoring period averaged 15% with 8 of the 17 wetlands totally dry. Inundation increased to 40% during the February monitoring period with only 3 of the 17 wetland totally dry. 26 great blue herons (*Ardea Herodias*), 20 mallards (*Anas platyrhynchos*), 18 Canada geese (*Branta canadensis*), and 9 hooded mergansers (*Lophodytes cucullatus*) were documented on the easement during the first round of monitoring. Similar to water inundation, waterbird abundance increased during spring monitoring including 213 mallards, 32 wood ducks (*Aix sponsa*), 11 hooded mergansers, 10 American black ducks (*Anas rubripes*), 9 great blue herons, 9 Canada geese, and 5 northern pintail (*Anas acuta*). Various management activities were present on the easement including mowing of levees and trail systems, the creation of fire breaks using a Hydro-Ax, and prescribed fire management of early successional habitat. During our visits we located 13 stoplog structures on the easement, of which all appeared operational. Some of the stoplog structures were missing boards and additional boards were removed before the spring monitoring for levee repair.

- Water inundation was limited by cut and scours on wetland levees (Photo 2). Some impoundments contained deep cuts that prevented the wetland from holding any water while others contained minor scours which marginally reduced water levels but complicated mowing

and maintenance of levee surfaces. We recommend filling in the cuts and seeding the unvegetated area with switchgrass (*Panicum virgatum*) or other erosion resistant grass species.

- Stoplog structures on multiple wetlands had boards removed from structures during both easement visits (Photo 3). Additionally wetlands on the south end of the easement had boards removed during February and were dewatering impoundments which contained heavy waterbird use. We recommend holding off on levee maintenance and moist soil drawdowns till late April to provide suitable habitat for migrating waterfowl and other waterbirds. All stoplog structures on the easement should have boards in place by late August to catch and hold precipitation occurring throughout the fall and winter.
- Trespassing and dumping were an issue on the easement. We found multiple piles of car parts, electronics, appliances, old mattresses, and bags of garbage scattered throughout the easement. Some trails on the easement were full of ruts and we found a large mud pit on the southwest portion of the easement. We recommend cutting off access to vehicles by installing additional gates or large rocks which limit recreational access to foot traffic. Garbage dumps should be cleaned up immediately and the easement should be inspected regularly for new dumping sites or signs of trespassing.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers the Embarrass River from agricultural runoff and attenuates floodwater from the river. The wetlands and adjacent bottomland provide feeding and loafing areas for migratory waterbirds during spring and fall migrations. The easement spans 1,912 acres of the Embarrass River floodplain restoring natural vegetation communities to an otherwise fragmented landscape.

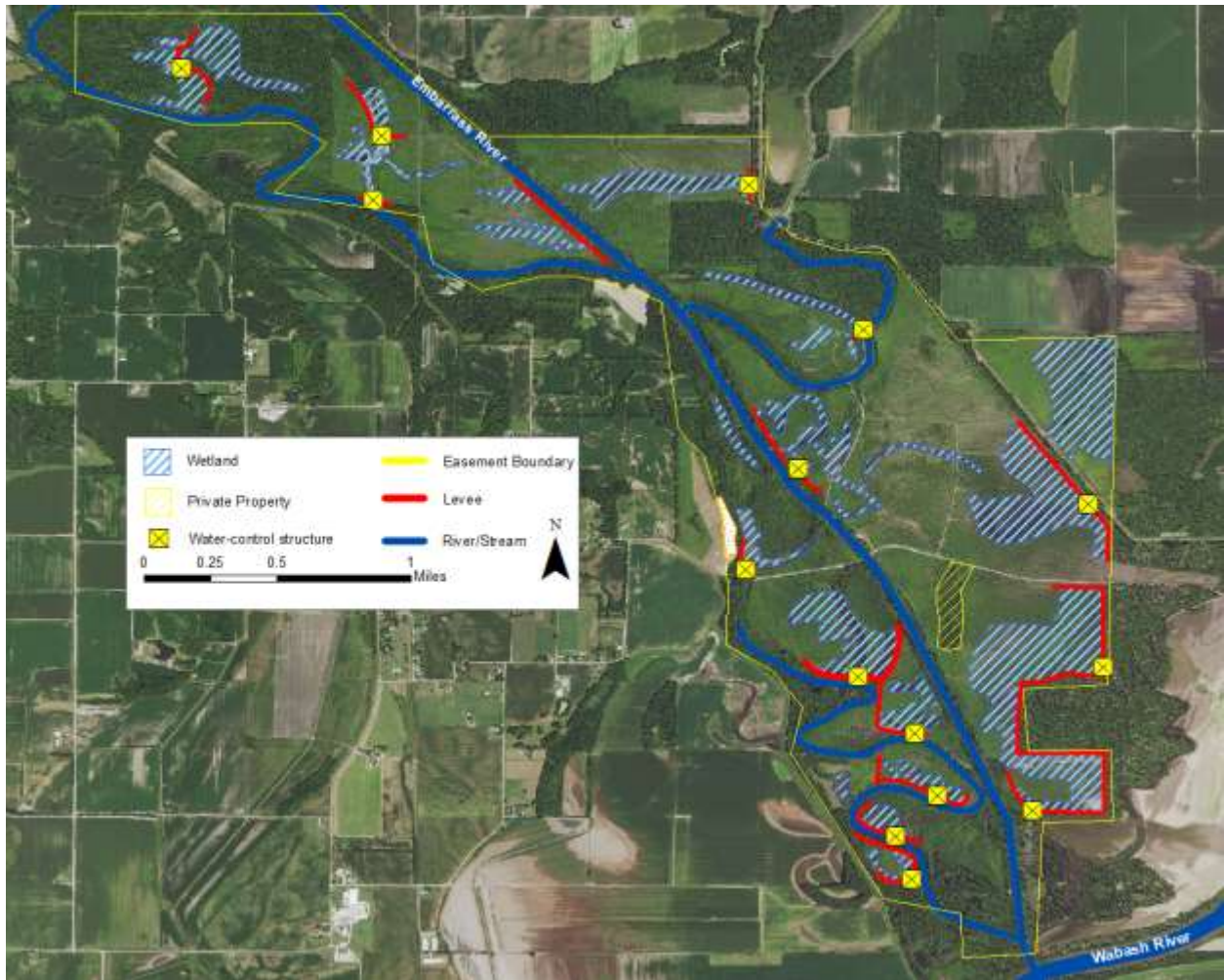


Fig.1: Map of the ILDNR (0J0C) easement in relation to the Embarrass and Wabash rivers. The easement was located in Lawrence County, 2 miles east of Billet, Illinois.

ILDNR-0J0C
N 4282833.34
E 442354.11
1/18/17

North oxbow view facing NW



Photo 1: Northwestern view of an oxbow lake on the ILDNR easement (0J0C) during January 2017 in Lawrence County, IL.



Photo 2: Southerly view of a cut in an impounding levee that influenced inundation levels within the wetland. Photo was taken on the ILDNR (0J0C) easement located in Lawrence County, IL. during January 2017.

ILDNR-OJOC
N 4278008.17
E 446556.13
2/26/17

Boards still removed from stoplog
structure.



Photo 3: Westerly view of a dry impoundment on the ILDNR (OJOC) easement with the riser boards setting on top of the stoplog structure. Photo was taken in February of 2017.

Keller- 665A121000XW4

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration - Construct and restore the necessary facilities to provide the biological benefits of a wetland.
- (ii) Wetland Restoration – Existing drainage systems will be removed or rendered inoperable on a portion of the drain. This is to restore the hydrology so native vegetation can thrive. The work associated with tile decommissioning shall not adversely affect adjacent properties or other water users unless agreed to by signed letter, easement, or permit.
- (iii) Restoration and Management of Declining Habitats- To establish a Native Prairie for wildlife. This restoration may require many years to achieve biological diversity that approximates a native prairie. Proper management of the restored prairie is essential for the restoration to achieve and maintain the full potential of the site for the desired habitat.
- (iv) Tree/Shrub Establishment - Establish woody plants for the planned purpose

Easement 665A121000XW4 is a Wetland Reserve Program (WRP) easement in Lawrence County, Illinois. The easement comprises 167 acres consisting of 9 acres of wetland, 50 acres of hardwood forest, and 108 acres of upland grasses and tree plantings. The Old Channel of the Embarrass River forks off of the Embarrass River on the NW corner of the easement and meanders through the landscape as the Embarrass begins its channelized path into Lawrenceville (Figure 1). Land use around the easement includes row crop, bottomland forest, and the Aldridge (15HQ) WRP easement which is currently under restoration. We visited the easement on 12/21/16 and 3/1/17 and assessed wetland habitats, inundation and management practices as stated in NRCS monitoring contract

The easement contained a large excavated wetland (Picture 1) and 2 small ephemeral wetlands. The excavated wetland was <30% flooded and the ephemeral wetlands were dry during both easement

visits. We observed no waterbirds using the easement during the either easement visit. The excavation contained small amounts of wetland vegetation (e.g., cattail and rice cutgrass). Uplands were recently restored (<3 years ago) and contained early successional (Picture 2). A restored channel scour running through the easement allows for floodwaters permeate the easement and fill the excavated wetland cell. The landowner maintained a trail system through the easement and kept both spoil berms mowed.

- The excavated wetland did not hold adequate water to promote wetland vegetation which could be a result of sandy soils or remnant drain tile which was not decommissioned. We recommend continued monitoring of the site to determine cause of water loss.
- Tree plantings on the landscape are indistinguishable among the prairie grasses and herbaceous dicots.
- Native prairie restoration needs disturbance a regime to clear residual vegetation. We recommend implementing prescribed fire to discourage woody encroachment and promote growth of native grasses and forbs.
- The Embarrass River has eroded rip-rap from the bank of the easement we recommend filling in the eroded area and replacing rip rap or planting vegetation to stabilize the river bank (Picture 3).

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers the Embarrass River and its tributaries from agricultural runoff, and attenuates floodwater from the river. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement has restored 167 acres of native vegetation in the highly fragmented Embarrass River Floodplain

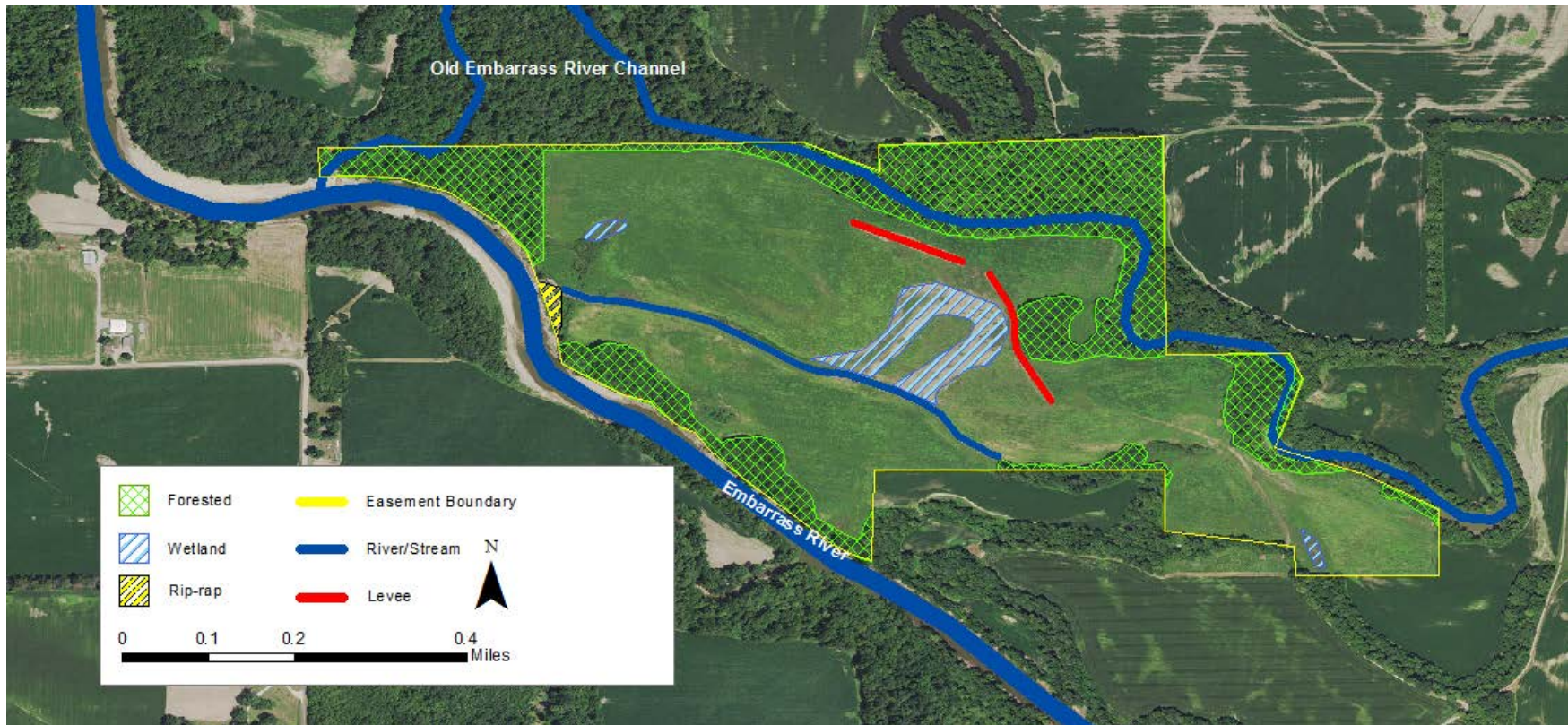


Figure 1: Map of Keller WRP in relation to Embarrass River.

Keller – OXW4

N 4292609.92

E 435019.68

3/1/17

Large excavated wetland with little
water inundation.



Picture 1: Wetland excavation with small amount of water inundation.

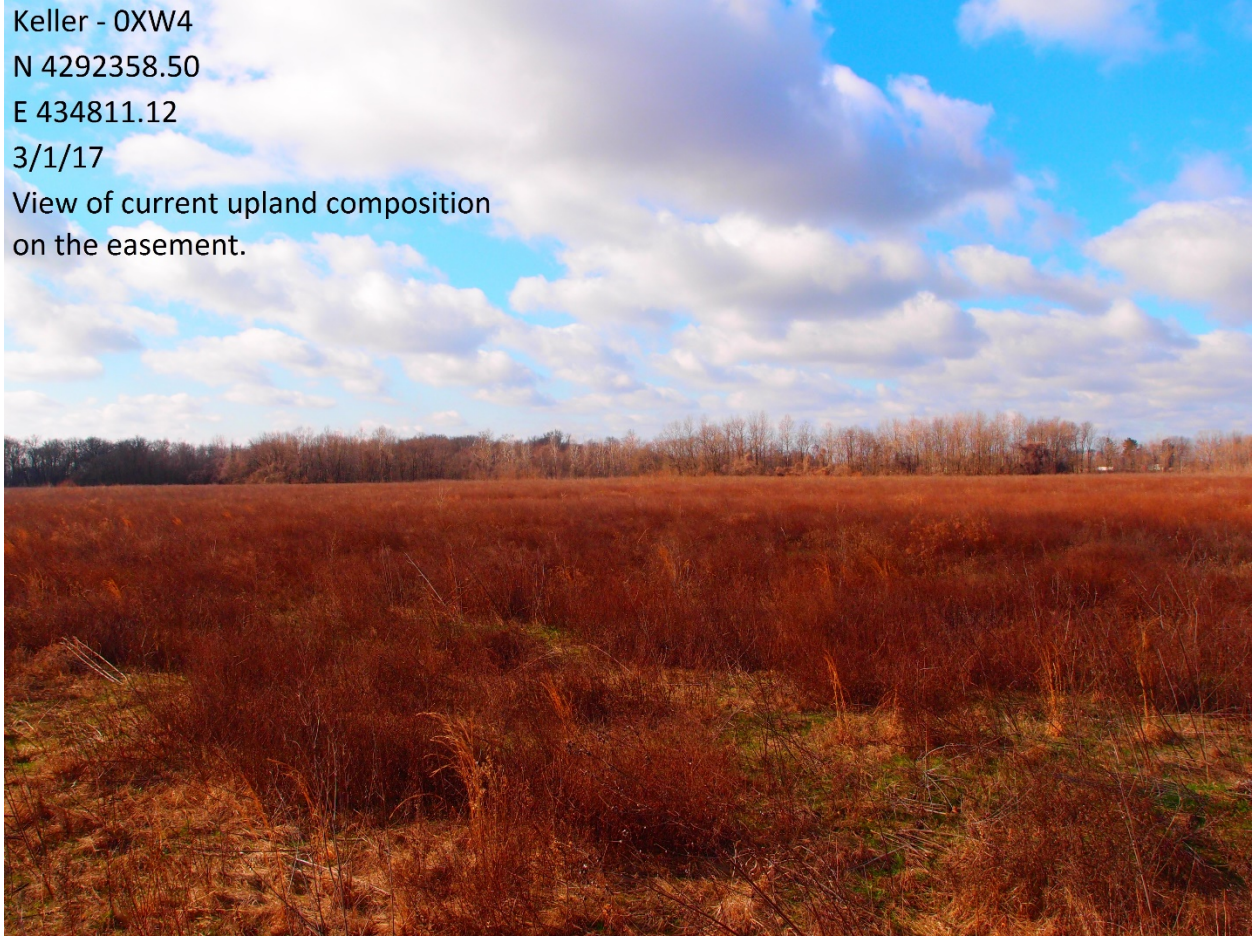
Keller - OXW4

N 4292358.50

E 434811.12

3/1/17

View of current upland composition
on the easement.



Picture 2: Upland vegetation on the Keller easement.



Photo 3: Rip-rap eroded from bank of the Embarrass River.

Lane - 755A129900J07

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration- Dike development, water control structure, critical area seeding for dike.
- (ii) Tree Planting- Plant 40 containerized trees per acre on approximately 35 foot center. Trees should be fall dormant planting.
- (iii) Conservation Cover- Plant a mixture of 2 tallgrass prairie and 2 forb species per NRCS recommendations.
- (iv) Natural Forest Regeneration- All existing agricultural land to naturally regenerate into a natural forest habitat.

Easement 755A129900J07 is an Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covers 164 acres consisting of 8 acres of wetland, 20 acres of hardwood forest, 136 acres of tree plantings and natural forest regeneration and a 2 acre food plot. The easement is located 4 miles northeast of Lawrenceville, IL and the north parcel contains the confluence of Birch and Brushy creeks (Figure 1). Land use around the easement includes rowcrop, bottomland forest, and WRP easements. We visited the easement on 1/17/17 and 2/22/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement is broken up into a north, middle, and south parcel, of which all three contained unique wetland types. Water inundation on the south parcel rose from 20 to 80% from January to February in a emergent wetland containing moist-soil vegetation (e.g., smartweed [*Polygonum* sp.], rice cutgrass [*Leersia oryzoides*]), mudflats, and open water (Photo 1). The north wetland lost water from 40% inundation in January to dry in February and was classified as a shrub scrub wetland containing small (<15 ft.) willow (*Salix* sp.), maple (*Acer* sp.), and hickory (*Carya* sp.) trees. The wetland on the middle parcel was 100% flooded during both walks (Photo 2) and

contained a monoculture of smartweed (*Polygonium* sp.). We saw 20 mallards (*Anas platyrhynchos*) and 3 great blue herons (*Ardea herodias*) on the easement in February. The north and middle parcels had mowed levees and properly functioning stoplog structures. Tree plantings and natural forest regeneration areas contain trees that are 15 to 30 ft. tall. Trees have taken over all three parcels and the only area without woody encroachment are mowed trails and a food plot (Photo 3).

- 33 acres of conservation cover (prairie grasses) outlined in the conservation plan is indistinguishable on the landscape with trees and shrubs covering the easement. We recommend implementing a prescribed fire regime to these areas to recycle nutrients, discourage woody encroachment, and promote new growth of prairie grasses. The first year of management will include cutting of residual woody plants after burn is complete.
- The stoplog structure on the north parcel had all of the riser boards in the structure which was holding floodwater from Brushy Creek out of the wetland cell. We recommend installing a flap-gate riser board into the structure so floodwater can inundate a wetland which would otherwise be dry.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers various creeks and streams from agricultural runoff, and attenuates floodwater from these creeks and streams. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement is located in a large block of 9 easements totaling 2,242 acres of native vegetation within the Embarrass River Floodplain.

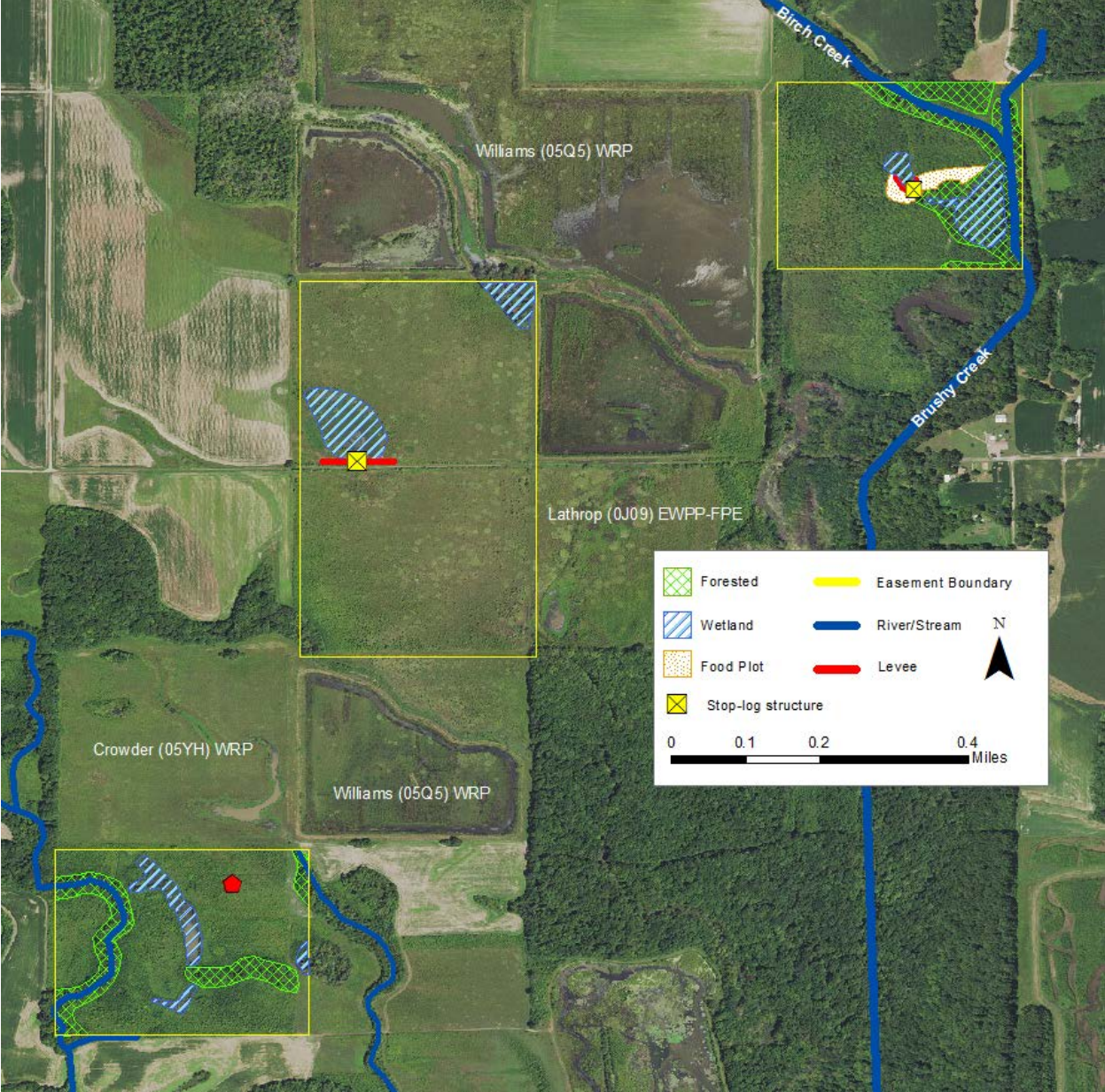


Figure 1: Lane EWPP-FPE easement in relation to Brushy Creek and other NRCS wetland easements.

/ Lane-0J07
N 4291991.84
E 437497.66
1/17/17

Looking north at the large wetland. Emergent vegetation
that was recently flooded.



Photo 1: Emergent wetland on the south parcel of the easement.



Picture 2: Flooded impoundment covered in smartweed.

Lane-0J07

N 4293556.34

E 438729.82

1/17/17

View east of mowed food plot and
stoplog structure.



Photo 3: Food plot area free of woody encroachment.

Lathrop 755A129900J09

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 755A129900J09 is an Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covered 40 acres which consisted of 6 acres of emergent wetlands, 6 acres of forested wetlands, 6 forested acres, and 24 acres of wet meadow habitat. The easement was located to the west of Birch Creek (Fig. 1), 2.5 miles north of Lawrenceville, IL. Land use around the easement included bottomland forest and other WRE easements. We visited the easement on 1/17/2017 and 3/1/2017 and assessed conditions relative to the program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained 2 distinct wetland basins, both of which were 100% inundated during both easement visits. During the January visit the entire easement was under >12 inches of water. Vegetation cover on the easement included cattail (*Typha* sp.) sedge (*Carex* sp., *Cyperus* sp.), smartweed (*Polygonum* sp.), willow (*Salix* sp.), oak (*Quercus* sp.) and cottonwoods (*Populus deltoids*) (Photo 1). During the January we documented 6 Canada geese (*Branta canadensis*) and 10 mallards (*Anas platyrhynchos*). In February we documented 15 Canada geese and 40 mallards (Photo 2). The easement was restored in a simple but effective manner relying on existing bottomland and constructing an excavated wetland with no infrastructure.

- We have no recommendations for improving the function or vegetation the easement. It provided acceptable vegetation communities and ample waterbird habitat during both easement visits.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers Birch Creeks from agricultural runoff, and attenuates floodwater. The protected bottomlands and restored wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement is located in the center of a group of 9 wetland easements that protect 2,242 contiguous acres of natural vegetation communities in a highly fragmented landscape.

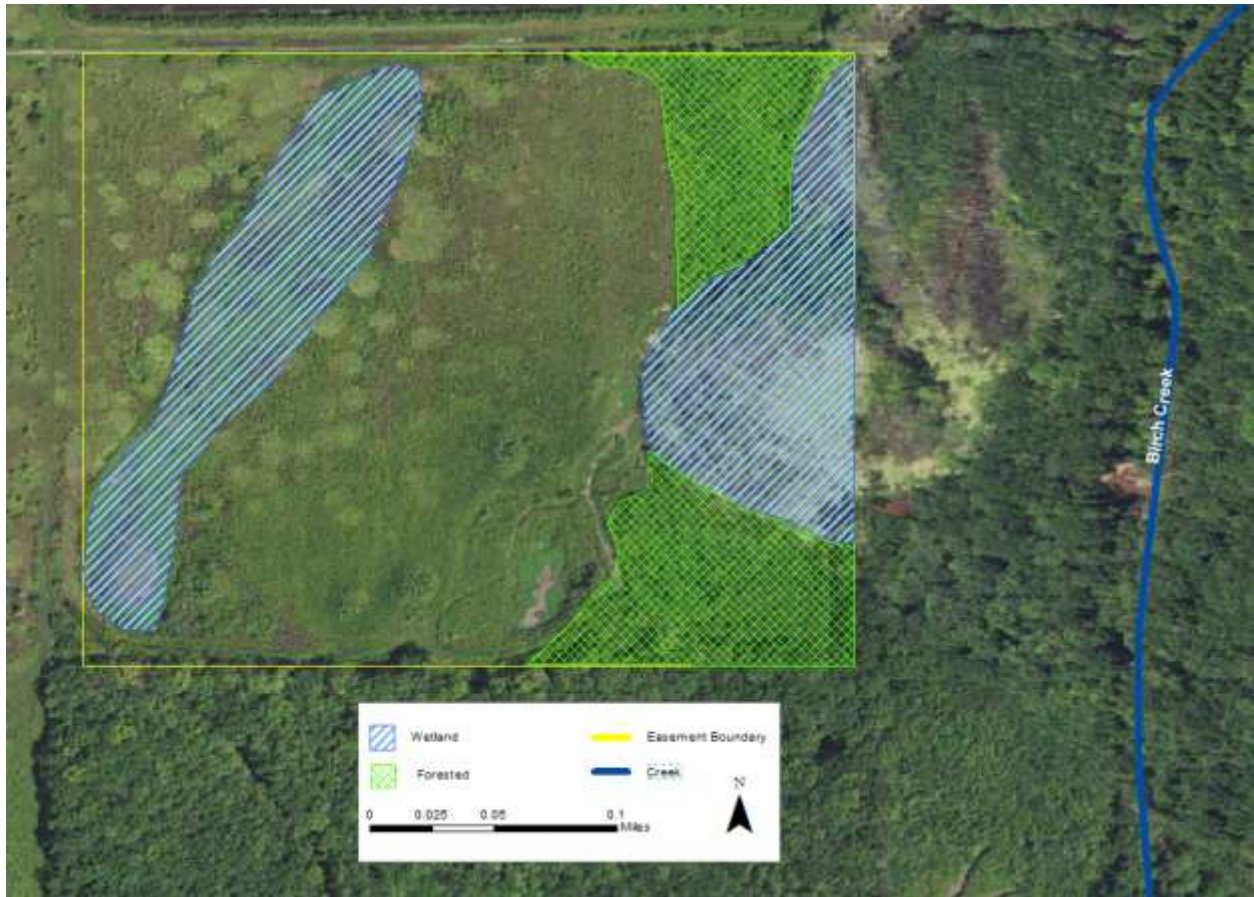


Fig.1: Map of the Lathrop easement in Lawrence County, IL. The easement is located to the west of Birch Creek.

Lane-0107
N 4292820.34
E 438157.556
1/17/17
View of easement facing west



Photo 1: Westerly view of the Lathrop easement in Lawrence Co., IL during January 2017. >12 inches of floodwater was covering the easement in its entirety.

Lathrop-OJ09

N 4292775.32

E 438368.66

3/1/17

Waterfowl flushed from forested
wetland.



Photo 2: Mallards flushed from the forested wetland during the Lathrop easement monitoring in March of 2017.

Lathrop Trust- 665A2305005SM

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration- Restore a wetland by constructing a low level dike with water control structure and spillway. Borrow material for the dike will be excavated within impound area.

Easement 665A2305005SM is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement comprises 46 acres consisting of an 18 acre impounded wetland, 25 forested acres, and 15 acres of prairie grasses with woody encroachment. The easement is located on the east end of a large group of WRP easements. A drainage ditch runs through the property to the east of the wetland (Figure 1) and connects WRP easements to the north and south of the Lathrop easement. Land use around the easement includes row crop, bottomland forest, and other WRP easements. We visited the easement on 1/9/17 and 2/24/17 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The impounded wetland was covered in young (<15 ft.) American sycamore [*Platanus occidentalis*], cottonwood [*Populus* sp.], and willow [*Salix* sp.]. Deep borrow areas within the impoundment were the only areas of open water (Photo 1). We saw no waterbirds in January and 25 mallards [*Anas platyrhynchos*] and 4 American green-winged teal [*Anas carolinensis*] were observed in the wetland during the spring easement walk. The levee was mowed during the previous growing season and had minimal woody encroachment. The southern portion of the easement was covered in bottomland forest (e.g., American sycamore, cottonwood, hickory [*Carya* sp.] oak [*Quercus* sp.], maple [*Acer* sp.]) and seasonally floods (Photo 2). The rip-rap spillway on the west boundary of the wetland appeared operational, draining excess water onto the adjacent McCormick (062C) WRP easement.

- The water control structure was non-operational and plugged with sediment and woody debris. We recommend clearing debris and sediment from the structure to restore proper water level manipulation capabilities.
- The water control structure is located on a drainage ditch which is isolated from the wetland impoundment and offers no water level manipulation capabilities. We recommend excavating a channel that connects the impoundment to the drainage ditch allowing for the impoundment to be drawn down for maintenance and propagation of moist-soil vegetation.
- Phragmites [*Phragmites australis*] patches were scattered around the impounded wetland (Photo 3) and threaten to spread to surrounding WRP easements. We spraying phragmites patches with appropriately labeled herbicide until eradication.
- The levee has multiple cuts and scour points and was more than 90% covered in reed canarygrass [*Phalaris arundinaceae*]. We suggest herbicide control of reed canarygrass until eradication, holes and scours should be filled and the length of the levee should be seeded in switchgrass.
- The northeast corner of the easement contains prairie grasses and small woody stemmed trees and shrubs. We recommend burning this area to kill off woody plants and promote growth of prairie grasses to create a mosaic of habitat types on the easement. Trees and shrubs not affected by the fire should be cut and removed from the area.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement buffers surface water from agricultural runoff and attenuates floodwater. The easement is part of a group of 9 wetland easements that provide 2,242-acres of contiguous native vegetation in a highly fragmented landscape.

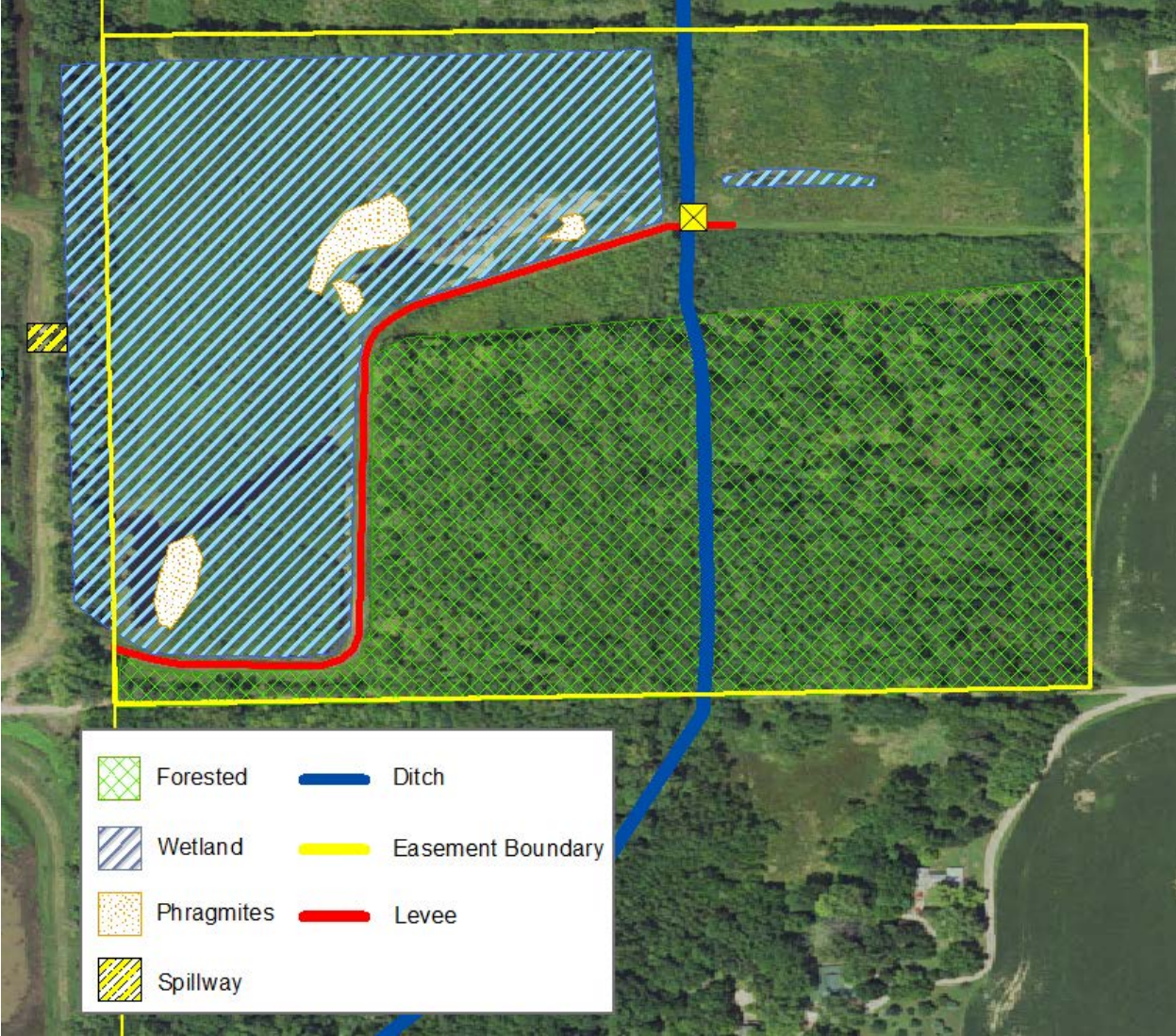


Figure 1: Map of the Lathrop Trust WRP easement

Lathrop-O5SM

N 4291547.73

E 439834.08

2/24/17

**Deep channel in wetland facing SW
from levee.**



Photo 1: Deep borrow area cutting through the impoundment.



Photo 2 Forested bottomland on the south half of the easement.



Lathrop-05SM

N 4291639.94

E 439895.32

1/9/17

Large patch of Phragmites in center of
wetland cell, facing NW.

Photo 3: Large patch of phragmites in the center of the wetland impoundment.

McCormick - 665A1203005PV

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration- Construct and seed berms for impoundments.
- (ii) Tree Planting- Establish tree species in accordance with restoration plan.
- (iii) Conservation Cover- Plant a mixture of three native warm season grasses and two forbs.
- (iv) Upland Wildlife Habitat Management- Food plots and brush piles will be established for wildlife.

Easement 665A1203005PV is a Wetland Reserve Program (WRP) easement in Lawrence County, Illinois. The easement cover 184 acres comprised of 4 acres of constructed wetlands, 7 acres of prairie grasses, 118 acres of bottomland forest, 10 acres of food plots, and 45 acres of tree planting and natural forest regeneration. The easement is located on the south side of the Old Embarrass River Channel just north of its return to the Embarrass River (Figure 1). We visited the easement on 1/10/17 and 2/26/17 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained multiple forested wetland channels and oxbows. The constructed wetlands contained varying degrees of water inundation including one scour that stayed dry during both easement visits. The vegetative composition of the impounded wetlands were similar (Picture 1) with moist-soil vegetation (e.g., rice cutgrass [*Leersia oryzoides*], cocklebur [*Xanthium* sp.] and reed canarygrass [*Phalaris arundinacea*]) surrounded by planted and natural regeneration trees and shrubs. We saw 2 mallards (*Anas platyrhynchos*) in the constructed wetlands, and 2 wood ducks (*Aix sponsa*) loafing on one of the forested oxbows. The forested wetlands held water through both the January and February walks. The easement contained two prairie grass communities, one was dominated by switchgrass (*Panicum* sp.) with minimal woody encroachment (Picture 2), while the other was a mixture of indiangrass (*Sorghastrum*

nutans), big bluestem (*Andropogon gerardi*), and broomsedge (*Andropogon virginicus*) with moderate woody encroachment. The landowner regularly mowed levees and an expansive network of trails. Food plots were scattered throughout the easement with 3 large (>3 ac) and 2 small (<2 ac.) plots of clover and beans (Picture 3).

- Food plots are numerous and make up more than 5% of the total area of the easement. We recommend planting parts of existing food plots into native prairie grasses to decrease total area of plots and create cover for white tailed deer (*Odocoileus virginianus*) and upland game birds (e.g., wild turkey [*Meleagris gallopavo*], bobwhite quail [*Colinus virginianus*]).
- Existing tracts of prairie grass contain woody encroachment or are a monoculture of one grass species (Photo 3). We recommend implementing a controlled burning regime on these areas to recycle nutrients, prohibit woody encroachment, and promote new growth of grass and forbs.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers The Old Channel of the Embarrass River from agricultural runoff, and attenuates floodwater when the river jumps its bank. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement is part of a group of 9 wetland easements that provide 2,242-acres of contiguous native vegetation in the Embarrass River Floodplain.

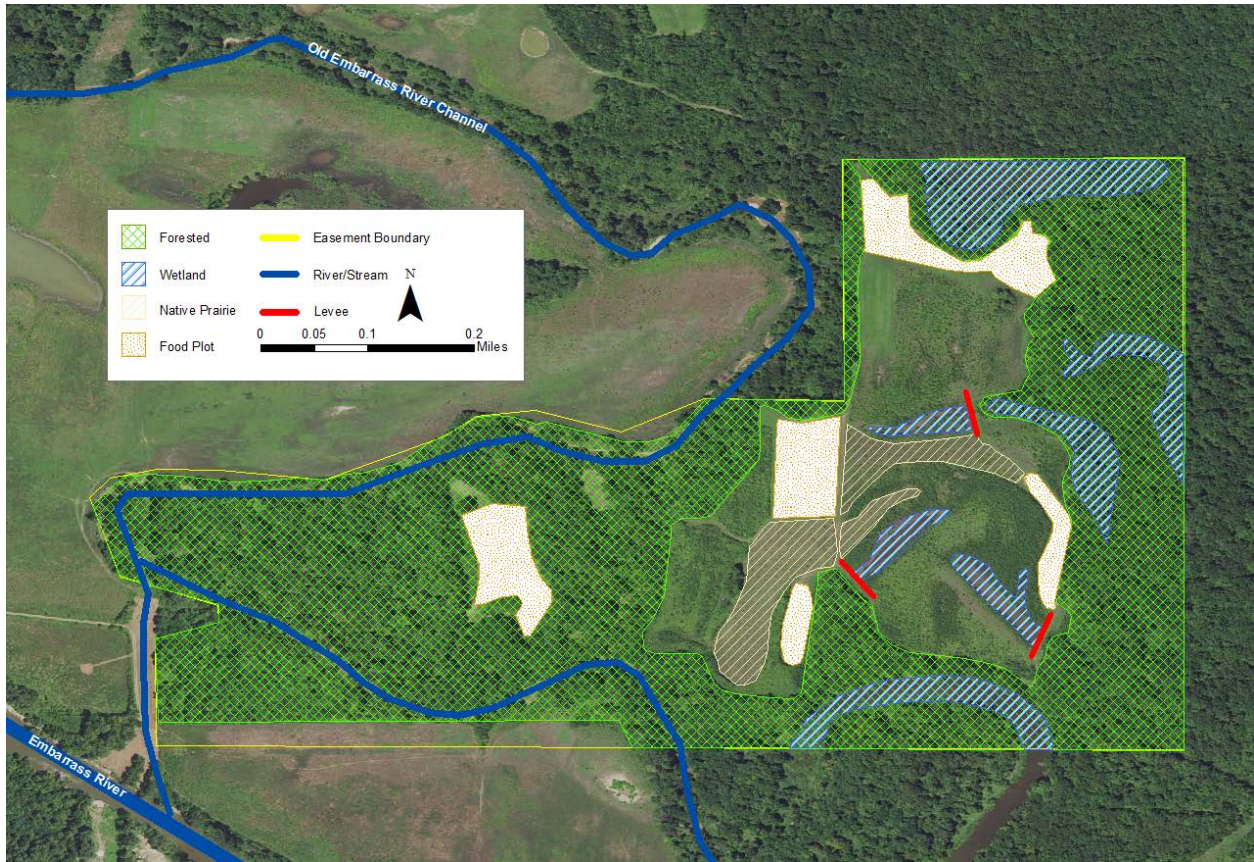


Figure 1: Map of McCormick easement.

McCormick-05PV

N 4289374.50

E 439853.07

1/10/17

Dry swale wetland, looking west from diversion.



Picture 1: Wetland vegetation in a dry impoundment.

McCormick-05PV

N 4289209.21

E 439699.34

1/10/17

Looking west at switchgrass prairie.
This Switchgrass stand is very dense
and could use management such as a
controlled burn or mowing.



Picture 2: Prairie dominated by switchgrass.

McCormick-05PV

N 4289213.73

E 439621.28

1/10/17

West food plot (3 acres) facing south.



Picture 3: One of the 5 food plots on the easement.

McCormick – 755A120900S6R

EWPP-FPE Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 755A120900S6R is an Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covered 311 acres consisting of 174 acres of emergent and forested wetlands, 33 forested upland acres, and 124 acres of native prairie. The easement was located on Otter Pond Ditch (Fig. 1), 3 miles north of its confluence with the Embarrass River. Surrounding land use includes forested acreage, wetlands, and other NRCS wetland easements. We visited the site on 1/4/2016 and 2/21/2017 and assessed conditions relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

Wetlands on the easement consisted of one small seasonal wetland and a large impoundment that spanned the easement from north to south. The impounded wetland contained open water, emergent vegetation (e.g., cattail [*Typha* sp.], river bulrush [*Scirpus fluviatilis*], sedges [*Carex* sp., *Cyperus* sp.], smartweed [*Polygonum* sp.], cocklebur [*Xanthium strumarium*]), as well as areas of scrub shrub and inundated bottomland forest (Photo 1). Water inundation in the impounded wetland was near 100% during both site visits. We observed approximately 400 mallards (*Anas platyrhynchos*) 100 Canada geese (*Branta canadensis*), 20 greater white-fronted geese (*Anser albifrons*), and 3 great blue herons (*Ardea herodias*) in autumn. During the spring visit, we observed a greater abundance of waterbirds including 300 American green-winged teal (*Anas crecca*), 400 mallards, 100 northern shoveler (*Spatula clypeata*), 100 American wigeon (*Mareca americana*), and 50 Canada geese. Upland habitats on the easement contained dense stands of prairie grasses dominated by Indian grass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), big bluestem (*Andropogon gerardi*), and broomsedge (*Andropogon virginicus*). Levees and firebreaks were mowed around the property and free of ruts. The emergency spillway on the north end of the easement was free of debris and functional during February when wetland was fully inundated.

- Upland tracts of prairie grasses contained woody encroachment. We recommend implementing prescribed burns on upland areas to remove dead plant material, deter woody encroachment, and to stimulate prairie grasses. NRCS job sheets recommend burning prairie grasses every 3 years once established.
- Both stoplog structures on the Otter Pond Ditch were plugged with sediment and debris preventing the landowner from manipulating water levels in the impounded wetland. Infrastructure surrounding stoplogs contained cuts where floodwaters eroded at the surrounding levee (Photo 2). We recommend clearing the structures of sediment and debris in order to restore function for annual drawdowns and levee maintenance. Cuts in the supporting infrastructure should be filled and seeded with an erosion resistant grass species (i.e. switchgrass) Once the stoplog structures are functional, we recommend implementing a seasonal drawdown (June-August) to promote moist-soil plant growth within the wetland cell.
- Woody encroachment was present on the inside slope of the east levee (Photo 3) with willows (<15 ft. in height) spanning the length of the levee. We recommend clearing the levee of woody encroachment with a brush mower. Larger diameter trees may need to be cleared with a chainsaw. The landowner should mow the entire width of the levee annually to prevent woody encroachment.

The easement buffered Otter Pond Ditch from agricultural runoff, and attenuated floodwaters from the ditch. The wetlands provided feeding and loafing areas for migratory waterbirds during spring and autumnal migration. The easement is located next to the Seitzinger (OXTC) and (ONBZ) wetland easements and provided 480 acres of contiguous native vegetation in a highly fragmented landscape.

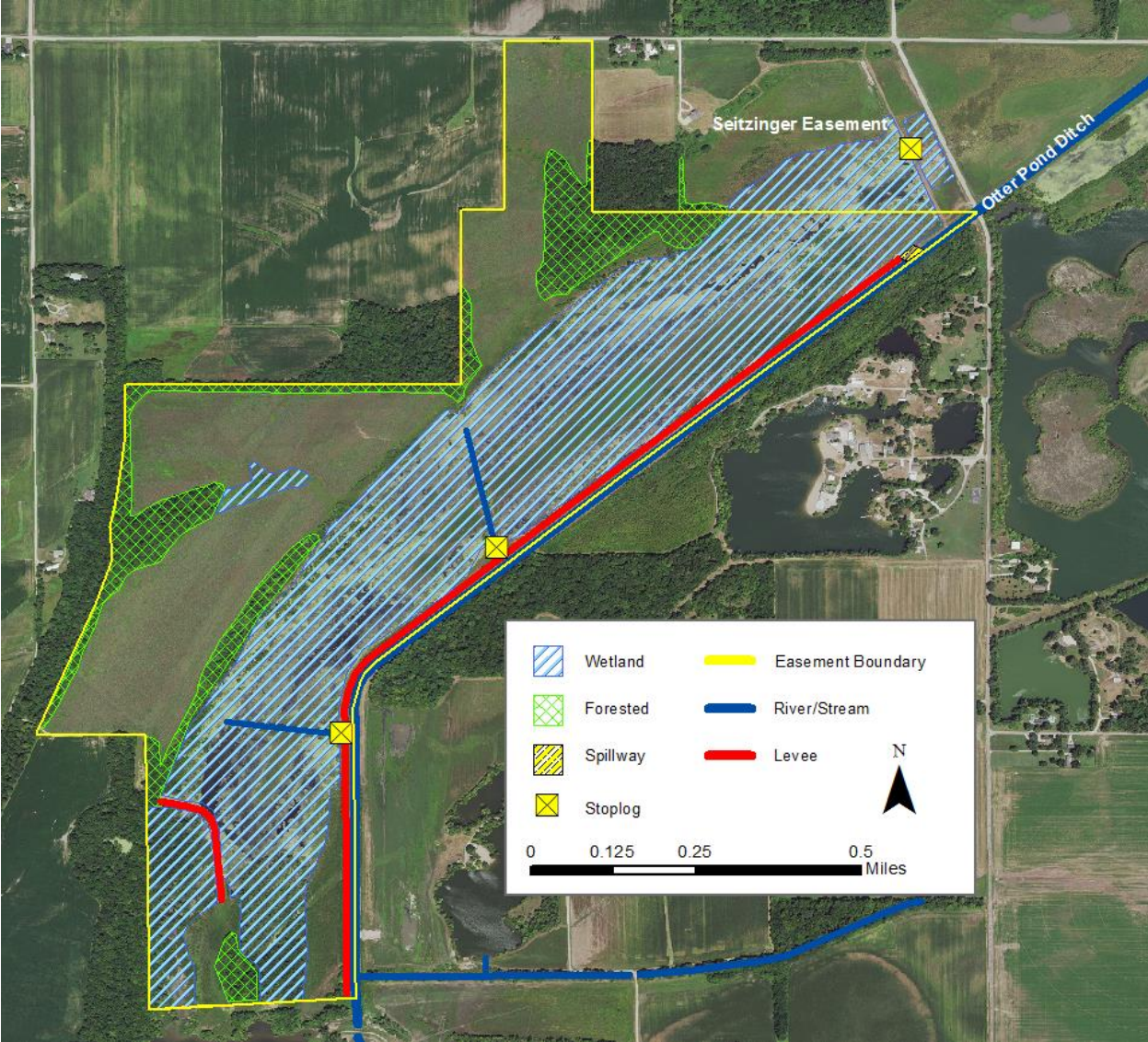


Figure 1: Map of McCormick easement in relation to Otter Pond Ditch in Lawrence County, IL during spring 2017.



McCormick-OS6R

N 4290086.25

E 442213.83

1/4/17

Water backed up into the timber on the south side of the easement.

Photo 1: Inundated forest on the south end of the easement.



Photo 2: Westward view of a large cut in levee next to the water control structure.

McCormick-0S6R

N 4290755.57

E 442381.39

1/4/17

**View NE along easement border. Trees
present on the inside slope of levee.**



Photo 3: Woody encroachment on the inside slope of the east levee.

McCormick – 665A120705SN

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A120705SN is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 36 acres consisting of 12 acres of tree plantings, a 1-acre plot of mowed grasses and 23 acres of forest of which 5 acres were inundated with surface water. The easement was located 2 miles north of Lawrenceville, Illinois. Land use around the easement included row crop, industrial and other NRCS Wetland Easements. We visited the easement on 1/9/17 and 2/17/17 and assessed conditions relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement protects a bottomland forested wetland which shows signs of prolonged water inundation (Photo 1). Vegetation communities within the wetland include mature bottomland tree species (oak [*Quercus* spp.], American sycamore [*Plantanus occidentalis*], hickory [*Juglandaceae* sp.], cottonwood [*Populus deltoids*]), buttonbush (*Cephalanthus occidentalis*), sedges (*Carex* sp, *Cyperus* sp.), and smartweed (*Polygonum* sp.). We documented 30 mallards (*Anas platyrhynchos*) using the easement during February. Upland restorations were mainly composed tree plantings along with a 1 acre food plot (Photo 2). The easement buffers a small creek that runs through the easement and meanders through multiple other wetland easements in the area. The restoration techniques used on this easement were simple but effective with no wetland infrastructure to maintain.

- Reed canarygrass (*Phalaris arudinaceae*) was present in the uplands on the southeast quarter of the easement. Reed canarygrass is a noxious plant species that outcompetes native grass and shrub communities. We recommend spraying with appropriately labeled glyphosate species till eradication and seeding affected area with a more desirable grass species.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers an ephemeral creek from agricultural and industrial runoff, and attenuates floodwater. The protected bottomlands provide feeding and loafing areas for

migratory waterbirds during the spring and fall. The easement is located on the north end of a group of 9 wetland easements that protect 2,242 contiguous acres of native vegetation communities in a highly fragmented landscape.



Fig. 1: Map of the McCormick (05SN) easement in relation to industrial land uses. The easement is located in Lawrence County, IL. 2 miles north of Lawrenceville, IL.



Photo 1: Northerly view of the inundated bottomlands on the north end of the McCormick (05SN) easement during February 2017 in Lawrence County, IL.

McCormick-05SN

N 4291820.19

E 440002.55

2/17/17

Large mowed area on easement.



Photo 2: Easterly view of a 1 acre food plot on the east end of the McCormick (05SN) easement during February of 2017.

McCormick – 665A1206005SP

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A1206005SP is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 673 acres consisting of 114 acres of wetlands, 218 forested acres, 323 acres of upland grasses and tree plantings, and 18 acres of food plot. The easement was located along the Embarrass River (Fig. 1), 1 mile northwest of Lawrenceville IL. Surrounding land use included agricultural row crops and other NRCS wetland easements. We visited the easement on 1/9/2017 and 2/26/2017 and assessed conditions relative to program objectives, extent of inundation, and evaluated management practices consistent with compatible authorizations and uses.

The easement contained 4 emergent wetlands, 1 scrub-shrub wetland, and 1 open water oxbow. Two of these wetlands were impounded with a levee and stoplog water control structure. In January, wetland inundation ranged from 0–50%. February water levels increased and ranged from 25–100%. Emergent wetland polygons contained smartweed (*Polygonum* sp.), rice cutgrass (*Leersia oryzoides*), cocklebur (*Xanthium strumarium*), sedges (*Carex* sp., *Cyperus* sp.) and reed canarygrass (*Phalaris arudinacea*). The scrub-shrub wetland contained buttonbush (*Cephalanthus occidentalis*) and smartweed (Photo 1). The oxbow wetland was primarily open water with sparse buttonbush around the edges of the wetland. We documented 10 mallards (*Anas platyrhynchos*) using the easement on February 26th. The old channel of the Embarrass River meandered through the easement and both impounded wetlands drained directly into this channel. Uplands on the easement contained a mixture of broomsedge (*Andropogon virginicus*), Indiangrass (*Sorghastrum nutans*) switchgrass (*Panicum virgatum*), yellow foxtail (*Setaria pumila*), and daisy fleabane (*Erigeron annuus*). A mowed pipeline and powerline corridor traversed the easement from north to south. The landowner maintained a system of trails on the easement, as well as 5 food plots that ranged from 1–6 acres in size. In the dryer areas, oak (*Quercus* spp.) tree plantings were thriving with trees exceeding 20 ft. in height.

- Both water control structures had issues affecting their functionality. The stoplog structure on the emergent wetland was damaged by mechanical equipment (Photo 2);

however, it appeared to be impounding water up to a certain height. The structure on the oxbow wetland was overgrown with willows (Photo 3), and I was not able to open up the structure although flowing water could be heard from inside. We recommend clearing the willows from the oxbow structure and further assessing its condition. The structure on the emergent wetland was functioning; however, replacing the structure may be warranted if it has lost functionality.

- The easement contained >300 acres of prairie grasses and upland tree plantings. Tree plantings on the west end of the easement have done well in the dry areas. Native prairie was abundant but contained woody encroachment throughout the easement. We recommend implementing a prescribed fire regime on restored native prairies and failed tree plantings. Prairie grasses should be burned every 3 years to promote new growth and discourage woody encroachment. Existing trails could be used as firebreaks, and the landowner should disk firebreaks around successful tree planting to encourage growth.
- The large impounded wetland contained a monoculture of cocklebur which was of limited value to waterbirds. With a proper drawdown and disturbance regime (e.g., mowing, disking, or burning), the wetland could yield large amounts of moist soil vegetation and provide desirable foraging habitat for a wide array of waterbirds.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. The easement buffered the Embarrass River and its tributaries from agricultural runoff and attenuated floodwaters. The restored wetlands and protected bottomlands provide feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement is located on the south end of a group of 9 wetland easements that protect 2,242 contiguous acres of natural vegetation communities in a highly fragmented landscape.

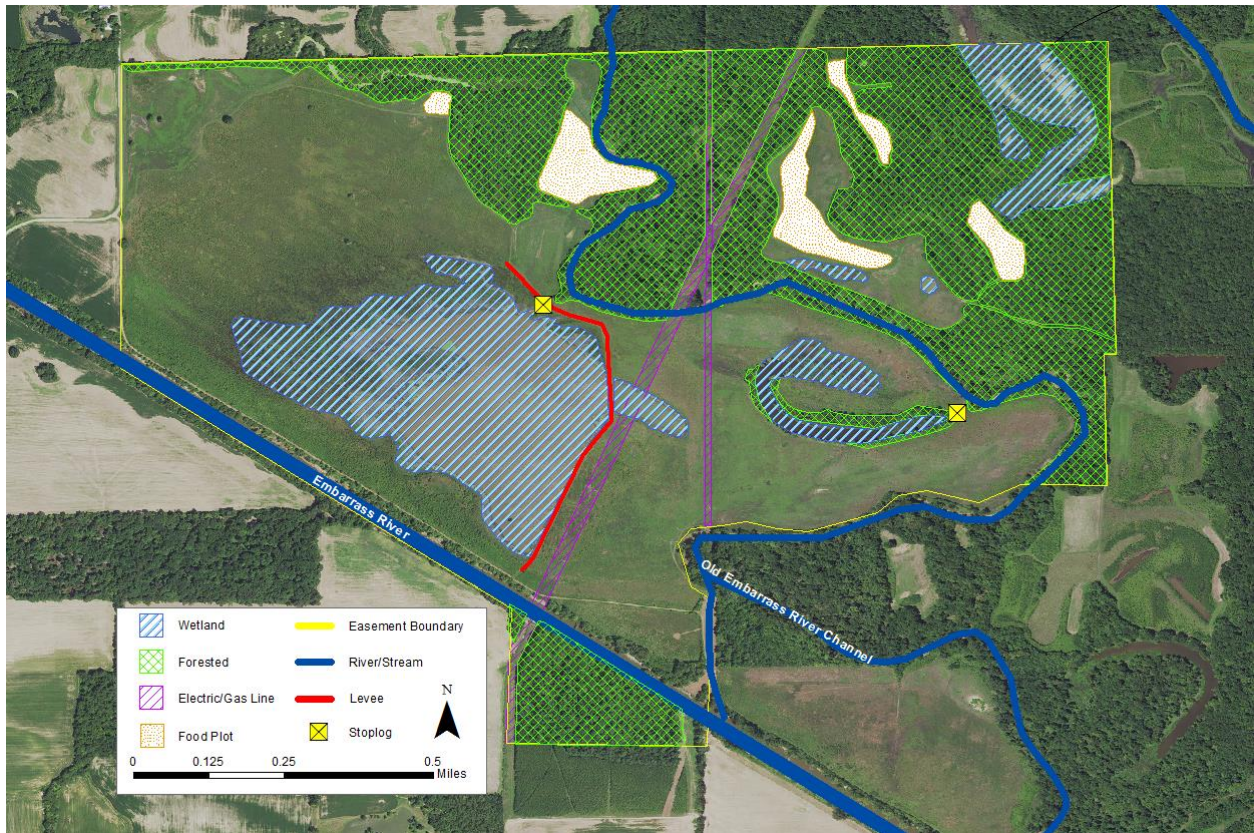


Figure 1: Map of the McCormick easement in relation to the Embarrass River, Lawrence County, Illinois.

McCormick-05SP

N 4290104.23

E 439523.67

1/10/17

View inside the wetland. Shrub cover and a dense layer of smartweed covering all exposed ground.



Photo 1: Scrub-shrub wetland on the northeast corner of the easement.

McCormick-05SP

N 4289877.71

E 438540.08

1/9/17

Stoplog structure on large moist soil unit. All boards are in place, structure has been damaged by equipment.



Photo 2: Cracked structure on the large emergent wetland.



Photo 3: Water control structure on the oxbow lake. Willow growth prevented opening the structure.

McCormick – 665A12000062C

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A12000062C is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 573 acres that consisted of 151 acres of emergent and forested wetlands, 373 forested acres, 38 acres of upland grasses and tree plantings, 9 acres of mowed pipeline and powerline corridors, and 2 acres of food plot. The easement is located east of Birch Creek (Fig. 1), 2 miles north of Lawrenceville, IL. Surrounding land use was comprised of floodplain wetlands, agricultural row crops, and other WRE easements. We visited the easement on 1/4/2017 and 2/26/2017 and assessed conditions relative to the program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement contained 5 wetland impoundments, as well as various oxbow and floodplain forests. Wetted area in the impoundments remained similar in January and February ranging from 50–80% flooded. The wetlands contained varying vegetative communities including emergent vegetation (smartweed [*Polygonum* spp.], sedge [*Carex* sp., *Cyperus* sp.], rice cutgrass [*Leersia oryzoides*], cattail [*Typha* sp.], American lotus [*Nelumbo lutea*], reed canarygrass [*Phalaris arudinaceae*]), scrub shrub (buttonbush [*Cephalanthus occidentalis*] and willow [*Salix* sp.]), and open water. We documented 45 mallards (*Anas platyrhynchos*) using the easement in January and 35 mallards, 30 hooded mergansers (*Lophodytes cucullatus*) and 5 Canada geese (*Branta canadensis*) on the easement in February. The wetland impoundments were in good condition with appropriately sloped levees that were free of woody encroachment. All stoplog structures on the easement were functional and have a pipe on the inlet to prevent beavers (*Castor canadensis*) from plugging them up (Photo 1). Spillways were clear of debris and functional. Trails, levees, and food plots were all mowed before the January easement visit and were suitably vegetated. This easement protects a large area of bottomland forest which provide additional habitat for waterbirds when surface water is present. A power line and petroleum pipeline easement (Photo 2) both span the north parcel from north to south.

- To promote moist-soil plant growth and prevent tree mortality within the wetland cells, we recommend implementing a seasonal drawdown. Dewatering impoundments during

the spring will allow for moist-soil plant growth, which is a desirable forage for waterfowl when flooded in autumn. We recommend leaving water on 1 impoundment during the summer for nesting marshbirds, as well as wood duck (*Aix sponsa*) broods, and should be rotated between impoundments on a yearly basis.

- Power lines were replaced during in February which involved heavy equipment on the easement. Some levees and wetland cells were impacted by the large tracked vehicles (Photo 3). We recommend seeding any bare spots on levees with an appropriate erosion resistant grass, such as switchgrass (*Panicum virgatum*). Additionally, the power line corridor should be inspected for additional damage because heavy equipment crews were still working on the easement during the February visit.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. The easement buffered Birch Creek and its tributaries from agricultural runoff, and attenuated floodwaters. The restored wetlands and protected bottomlands provided feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement was located on the east end of a group of 9 wetland easements that protected 2,242 acres of natural communities in a highly fragmented landscape.

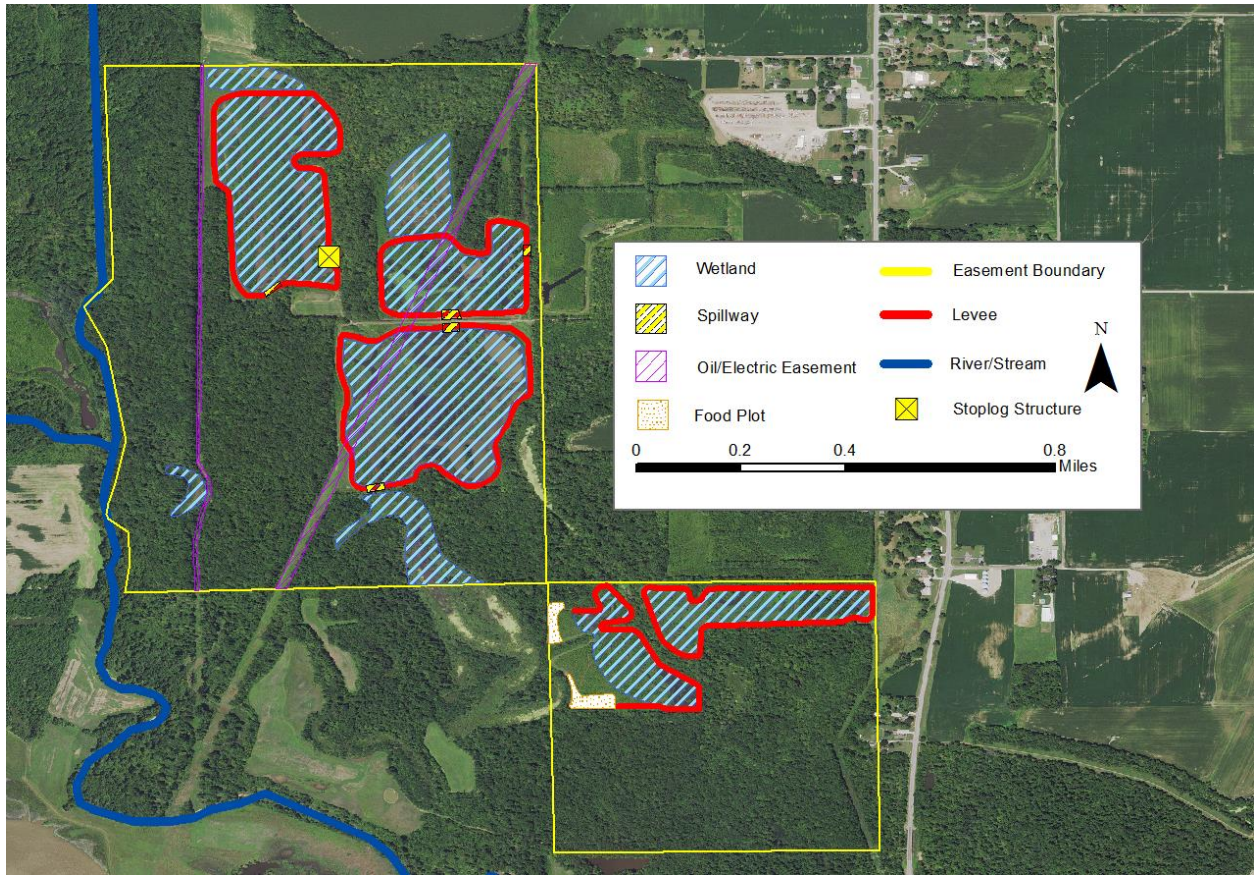


Figure 1. Map of the McCormick easement with Birch Creek bordering the easement to the west, Lawrence County, Illinois.

McCormick-062C

N 4291165.26

E 439688.84

1/4/17

Stoplog structure on middle wetland cell. Structure is operational and impounding water.



Photo 1. Stoplog structure with “beav-away” pipe installed.

McCormick-062C
N 4290833.47
E 438908.69
1/4/17
Pipeline easement looking north.



Photo 2. Northerly view of the mowed petroleum pipeline corridor next to a small oxbow during the January 2017 easement visit.

McCormick-062C

N 4291323.01

E 439399.47

2/26/17

Tracks through the middle
impoundment.



Photo 3. Ruts left on levee and through the wetland by power line crews using large tracked vehicles during the February 2017 easement visit.

Meek – 665A121100YRP

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Tree/Shrub Establishment - Set tree seedlings or cuttings in the soil to establish or reinforce a stand of trees to conserve soil moisture, beautify an area, or protect a watershed.
- (ii) Restoration and Management of Declining Habitats (Native Prairie) – To establish a native prairie for wildlife which may require many years to achieve the biological diversity that approximates a native prairie. Proper management of the restored prairie is essential for the restoration to achieve and maintain the full potential of the site for the desired habitat. As the vegetation matures and goes through succession, changes in management practices including introduction of new species may be required to maintain and enhance the prairie. Habitat conditions should be evaluated on a regular basis to adapt the conservation plan and schedule maintenance to ensure the desired habitat conditions. Management and maintenance activities should be rotated to mimic natural disturbance regimes.
- (iii) Wetland Restoration - Construct or restore the necessary facilities to provide the biological benefits of wetlands.
- (iv) Wetland Wildlife Habitat Management - Retain, create, manage, or improve habitat for wildlife.

Easement 665A121100YRP is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 63 acres consisting of 7 wetland acres, 31 forested acres, 24 upland grass acres, and 1 acre pipeline easement traversing the center of the property. The easement was located 1 mile north of Lawrenceville, IL, and west of a large group of easements along Otter Pond Ditch. Surrounding land use included bottomland forest, agricultural lands, and large flood levee to the north (Fig. 1). An abandoned railroad bed was located on the west border

with drainage ditches on both sides of the raised tracks. We visited the easement on 1/10/2017 and 2/13/2017 and assessed conditions relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement contained 2 excavated wetlands which were <10% inundated during the January visit and >50% inundated in February. The excavations contained a mixture of reed canarygrass (*Phalaris arudinacea*), daisy fleabane (*Erigeron annuus*), cocklebur (*Xanthium strumarium*), rice cutgrass (*Leersia oryzoides*), and cattail (*Typha* sp.) (Photo 1). Waterfowl were absent from the property in January; however, we observed 200 mallards (*Anas platyrhynchos*) 100 American green-winged teal (*Anas crecca*), 30 northern shovelers (*Spatula clypeata*), 10 gadwall (*Mareca strepera*), and 10 northern pintail (*Anas acuta*) using the easement in February. The uplands were free of woody encroachment and covered in broomsedge (*Andropogon virginicus*), yellow foxtail (*Setaria pumila*), reed canarygrass, goldenrod (*Solidago* sp.), and daisy fleabane. Bottomland forest covered the south portion of the easement and contained pockets of water in February (Photo 2). The landowner mowed a trail around the south excavation and maintained a small (<1/2 acre) clover (*Trifolium* sp.) food plot adjacent to the agricultural field.

- The north spoil pile was not constructed as outlined in the conservation plan and was in a large mound west of the wetland. The south spoil berm contained sparse vegetation and was eroding (Photo 3). We recommend constructing the north spoil berm according to the restoration plan and seeding both berms in switchgrass (*Panicum virgatum*) or other erosion resistant prairie plant.
- Native prairie planting was composed of early successional plant species (e.g., broomsedge, foxtail, goldenrod) and contained enough residual vegetation to sustain a burn. To prevent woody encroachment and promote new growth of prairie plants, the conservation plan recommends burning prairie restorations annually for the first 5 years of establishment and every 3 years after that to provide optimal prairie communities.
- The tree planting on the easement either failed or was not completed. The area where the tree planting was supposed be was covered in broomsedge with no woody plants apparent. We recommend either managing the tree planting area as native prairie or replanting with larger tree stock that will not have to compete with 3 ft. tall prairie grasses.
- Adjacent agricultural practices were threatening encroachment. Boundary markers were knocked over and part of the easement had been disked. We recommend replacing signage in hopes that it will discourage further encroachment.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. Seasonal wetlands provided feeding and loafing areas for migratory waterbirds during spring and autumn migration. Native grasses captured runoff from agricultural fields to the east and south. The easement protected and restored native floodplain habitat including bottomland forest and scrub shrub communities on the south end of the easement.



Figure 1: Map of the Meek easement outlining forested and wetland habitats in Lawrence County, IL. The remainder of the easement was covered in upland grasses and forbs.

Meek OYRP
N 4289575.41
E 441412.73
1/10/17
North wetland facing East



Photo 1. Shallowly flooded wetland excavation showing vegetative cover during the January 10th site visit.

Meek OYRP
N 4289060.50
E 441275.50
2/13/17

Facing west at flooded shrub-scrub
habitat.



Photo 2: Flooded bottomland and scrub-shrub habitat on the south portion of the easement.

Meek OYRP
N 4289266.33
E 441401.68
2/13/17

Looking north from spoil pile in center of easement.



Photo 3. View of sparse vegetation on the south spoil berm, and upland grasses to the north.

Merritt – 665A1208005WT

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A1208005WT is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement totaled 130 acres consisting of 3 acres of emergent wetlands, 33 acres of bottomland forest, and 94 acres of upland grasses and tree plantings. The easement was located on the Old Embarrass River Channel (Fig. 1), 3 miles northwest of Lawrenceville, IL. Surrounding land use included agricultural row crops, bottomland forest, and other NRCS wetland easements. We visited the easement on 12/13/2016 and 2/14/2017 and assessed conditions relative to the program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement contained 8 small emergent wetlands, 1 oxbow lake, and several ephemeral streams. The oxbow was the only area holding water in December. In February, 3 of 8 emergent wetlands held water, with the oxbow near 100% inundation. The emergent wetland vegetation included: smartweed (*Polygonum* sp.) rice cutgrass (*Leersia oryzoides*), cocklebur (*Xanthium strumarium*), and reed canarygrass (*Phalaris arundinacea*). The oxbow was mainly open water with some duckweed (*Lemna* sp.) (Photo 1). We saw 10 mallards (*Anas platyrhynchos*), 7 American green-winged teal (*Anas crecca*), and 2 wood ducks (*Aix sponsa*) on the easement in February. Upland areas contained native prairie grasses (e.g., broomsedge [*Andropogon virginicus*], indianguass [*Sorghastrum nutans*], yellow foxtail [*Setaria pumila*]), daisy fleabane (*Erigeron annuus*), goldenrod (*Solidago* sp.) and many small trees (e.g., willow [*Salix* sp.], silver maple [*Acer saccharinum*], cottonwood [*Populus* sp.]). The landowner maintained a system of trails throughout the easement as well as a small (<1 acre) food plot (Photo 2) on the west side of the oxbow lake. Multiple ephemeral streams direct rainwater from surrounding properties to the Old Embarrass River Channel through the easement. A gravel road cuts through the easement on the west end and access is limited to the north parcel of the easement by a wooden bridge with multiple boards removed to prevent trespassing.

- In lieu of a conservation plan with specifics on tree and prairie grass plantings, we recommend managing uplands with prescribed fire to inhibit woody encroachment and promote new growth of desirable grasses and forbes. Burning should be avoided on tree

plantings unless tree plantings have failed and less desirable tree species are dominating the landscape.

- Trespassing has been an issue on the property along with dumping and rutting trails. We recommend decreasing access points on the easement and blocking necessary access points with a gates.

This easement served multiple ecological purposes and achieved many of the ACEP-WRE program objectives. The easement provided emergent and open water wetland habitat for foraging and loafing waterbirds. This easement enhanced water quality by buffering creeks and streams from agricultural land use and attenuating floodwaters from the river. The easement connected directly to the Morecraft (0J0Q) EWPP-FPE easement, comprising 391 acres of contiguous natural vegetation in the Embarrass River floodplain.

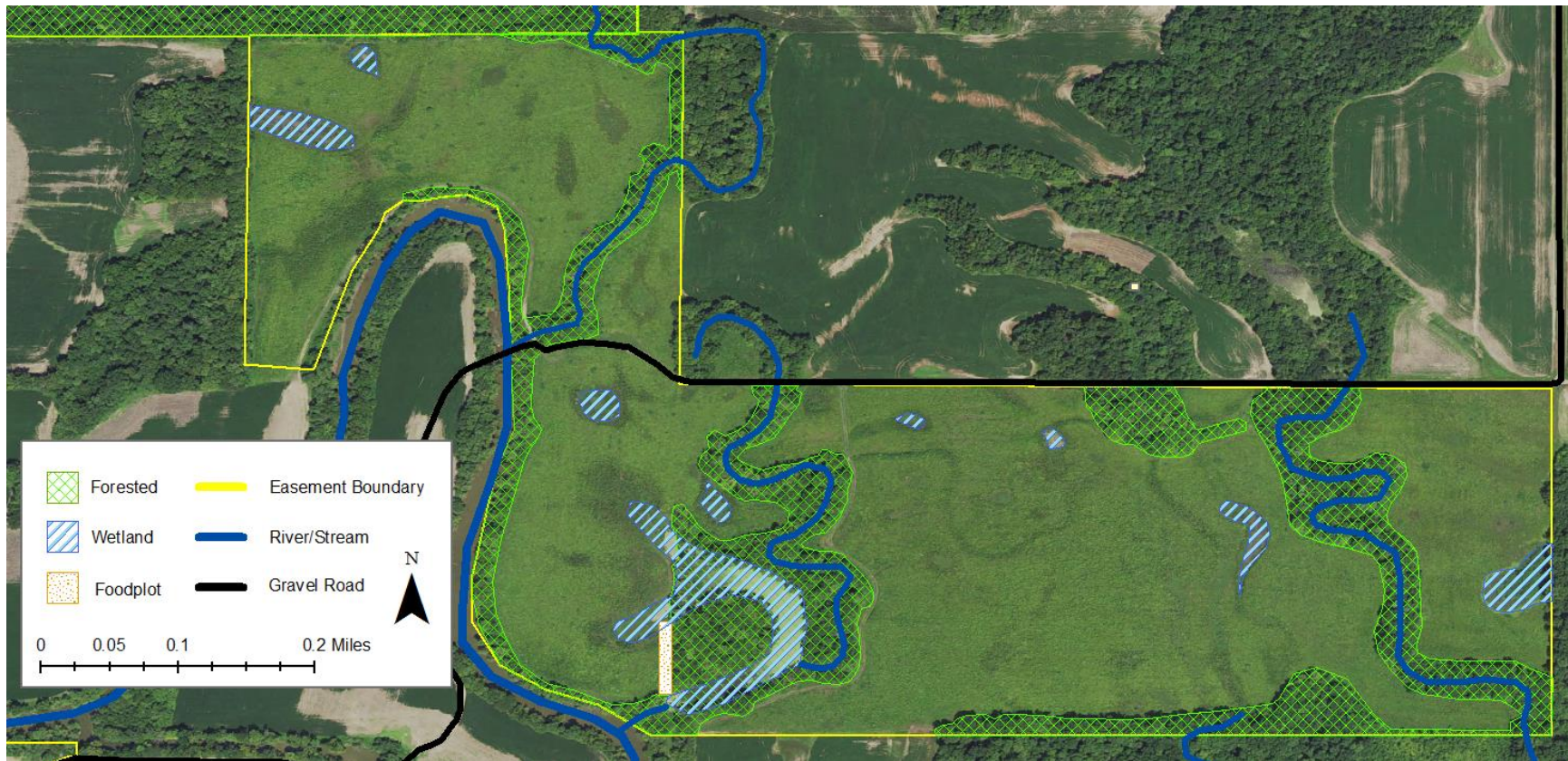


Figure 1. Map of the Merritt Easement depicting emergent wetlands, oxbow wetland, and ephemeral streams in Lawrence County, Illinois.



Photo 1. Oxbow lake covered in duckweed during December easement visit.



Merritt-05WT

N 4292718.23

E 436448.82

12/13/16

Small depressional wetland and food
plot on the west side of oxbow.

Photo 2. Small (<1 acre) food plot and ephemeral wetland on the Merritt Easement during December 2016.

Morecraft – 755A120000J0Q

EWPP-FPE Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration - Dike development, water control structure, and critical area seeding for dikes.
- (ii) Tree Planting - Plant 40 air root-pruned containerized trees per acre on approx. 35 foot centers. Trees should be a fall dormant planting. Tree species should be hydrologically adapted to the frequent flooding and inundation.
- (iii) Conservation Cover - Plant a mixture of 2 tallgrass prairie grasses and 2 forb species per NRCS recommendations. For best results, prairie mixture should be drilled
- (iv) Food plots may be planted on EWP Floodplain Easements with the following restriction. Total acres in food plots cannot exceed 5% of the total easement area.

Easement 755A120000J0Q is a 261-acre Emergency Watershed Protection Program-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement consisted of 17 acres of wetland, 236 forested acres, 3 acres of prairie grasses, and a 4 food plots totaling 5 acres. The easement contained part of Birch Creek on the north border and several ephemeral streams that drained into the old channel of the Embarrass River to the south (Figure 1). We visited the easement on 12/13/16 and 2/14/17 and assessed of wetland condition, inundation, and management practices as stated in NRCS monitoring contract.

This easement contained two managed wetland impoundments and three small (<1 ac.) ephemeral basins. The basins contained a mixture of moist-soil vegetation, persistent emergent vegetation, and open water. All three were surrounded by tree plantings of oaks (*Quercus* sp.) and river birch (*Betula nigra*) which were >15 ft. in height. The impoundments were connected and both contained a levee and functioning stoplog structure. Each impoundment contained flooded bottomland forest. Furthermore, the north impoundment contained a large (6 ac.) area of open water and moist-soil vegetation (Photo 1). All five wetlands were 20–30% inundated

during the December walk and >100% inundated during the February visit. Woodlots on this easement contained several channels and scours from the historic Embarrass River. The landowner maintained a trail system, mowed the three constructed levees, and maintained 4 food plots on the property (Photo 2). It appeared the landowner had not utilized the water-control structures to provide a water source year round for wildlife on the property.

- The levees on the property were covered in reed canarygrass. We recommend spraying affected areas with aquatically labeled glyphosate until eradication.
- Levees contained holes from burrowing mammals and deep cuts (Photo 3) from flowing floodwaters. We recommend filling all holes and cuts and planting these areas with switchgrass. To prevent further levee damage, we recommend the landowner control beaver and muskrat populations on the easement in accordance with IDNR regulations. To minimize levee deterioration, we recommend that stoplog structures be opened during flood events to prevent levee overtopping or rock spillways to avoid repeated levee damage.
- Tree planting areas contained planted species, as well as natural regeneration of some faster growing less desirable trees. Thinning of undesirable tree species (i.e., silver maple, cottonwood) in these areas would provide space for more desirable tree growth.
- Annual drawdowns in the impoundments would promote moist-soil vegetation for waterfowl forage.
- The conservation plan outlined 23 acres of conservation cover in the form of planted prairie grasses and forbs. There was <3 acres of native prairie on the easement that didn't have severe encroachment from woody plants. We recommend burning these areas on a 3-year rotational basis to suppress woody encroachment and promote growth of prairie grasses.

This easement served multiple ecological purposes and achieved many of the ACEP-WRE program objectives. The easement provided forested and emergent wetland habitat for foraging, loafing, and roosting waterbirds. This easement protected water quality by buffering creeks and streams from agricultural land use. The easement connected directly to the Merritt (05WT) WRP easement, which comprising 391 acres of contiguous native habitat in the Embarrass River floodplain.

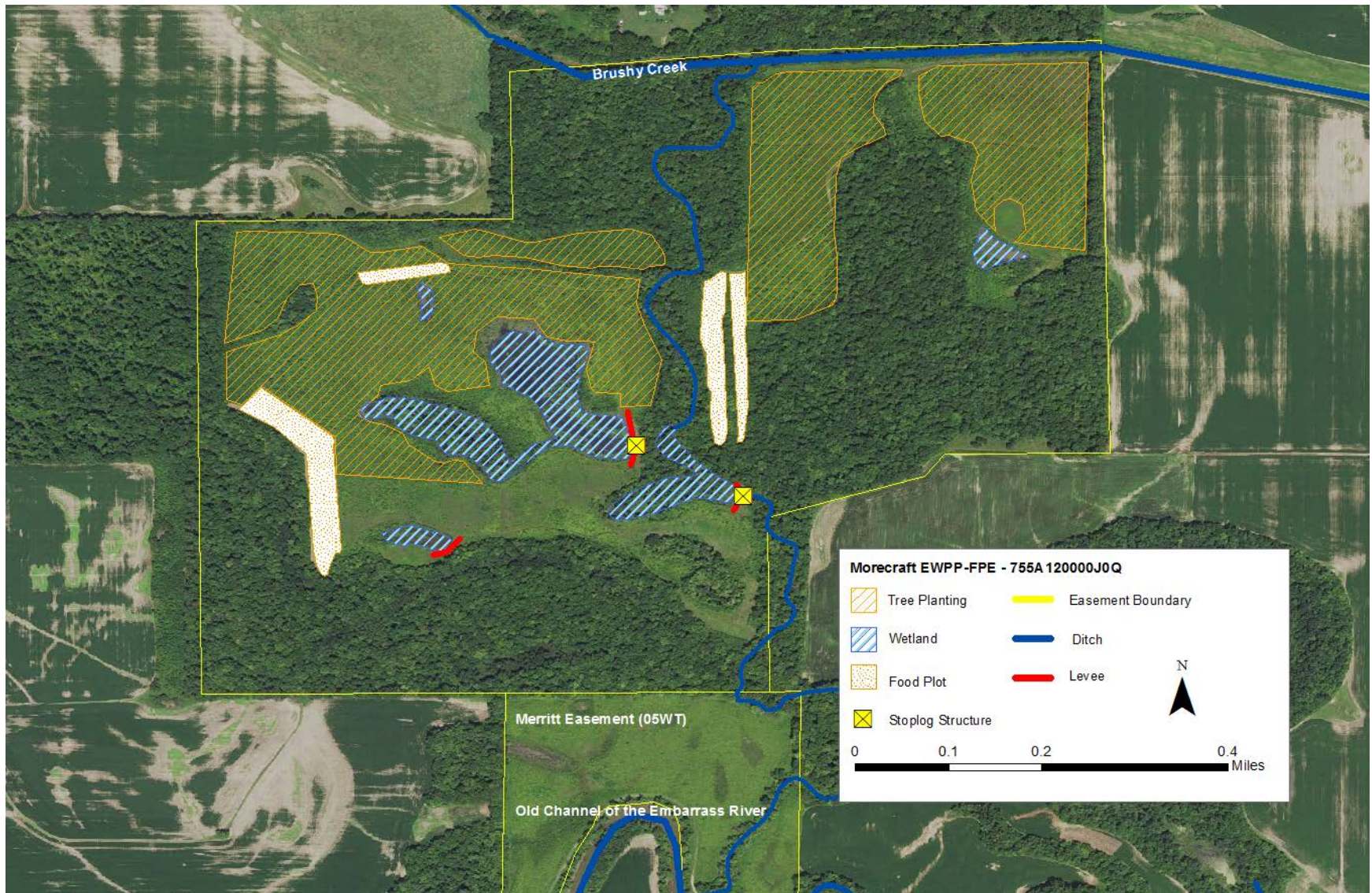


Figure 1: Map of Morecraft EWPP-FPE easement

Morecraft-0J0Q

N 4293914.41

E 436192.59

12/13/16

View of moist soil wetland, facing west.



Photo 1: Moist soil wetland (6 ac.) located within the north impoundment.



Photo 2: One of the four food plots on the easement. Food plot is a mix of beans and clover. A large grain wagon sits in the middle of the plot with a box blind built on top



Morecraft-0J0Q

N 4293726.73

E 436400.01

2/14/17

Cut in levee, levee covered in
reed canary grass.

Photo 3: Cut in levee from high water levels in the impoundment.

Parrott – 665A1208005WL

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A1208005WL is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 20 acres consisting of a small (<1 acre) seasonal wetland, 5 acres of mature bottomland forest, and 19 acres of bottomland tree plantings. The easement was located on Birch Creek (Fig. 1), 5 miles northwest of Lawrenceville, IL. Surrounding land use included agricultural row crops and other NRCS wetland easements. We visited the easement on 1/3/2017 and 2/22/2017 and assessed conditions relative to the program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The small emergent wetland contained smartweed (*Polygonum* sp.), reed canarygrass (*Phalaris arudinacea*), and buttonbush (*Cephalanthus occidentalis*) (Photo 1). The wetland was dry during January and ~50% inundated during February. No waterbirds were documented using the easement during either visit. Tree plantings contained oaks (*Quercus* sp.) that were 15–20 ft. tall. The easement appeared to be relatively undisturbed and contained no trails or marked access points. Birch Creek and the small ditch that crossed the easement were clear of obstructions and beaver (*Castor canadensis*) activity (Photo 2).

- The only issue was a 2 acre patch of reed canarygrass in the center of the easement (Photo 3). The grass was tall (≥ 4 ft) and dense, outcompeting small shrubs and more desirable grass species. We recommend spraying the patch with an appropriately labeled glyphosate product until eradication and planting a more desirable ground cover such as native prairie grass or native tree species.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. The easement buffered Birch Creek from agricultural runoff and attenuated floodwater from the creek. The forested areas provided feeding and loafing areas for migratory waterbirds when inundated. The easement protected valued bottomland floodplain habitat as well as natural upland communities in a highly fragmented landscape.

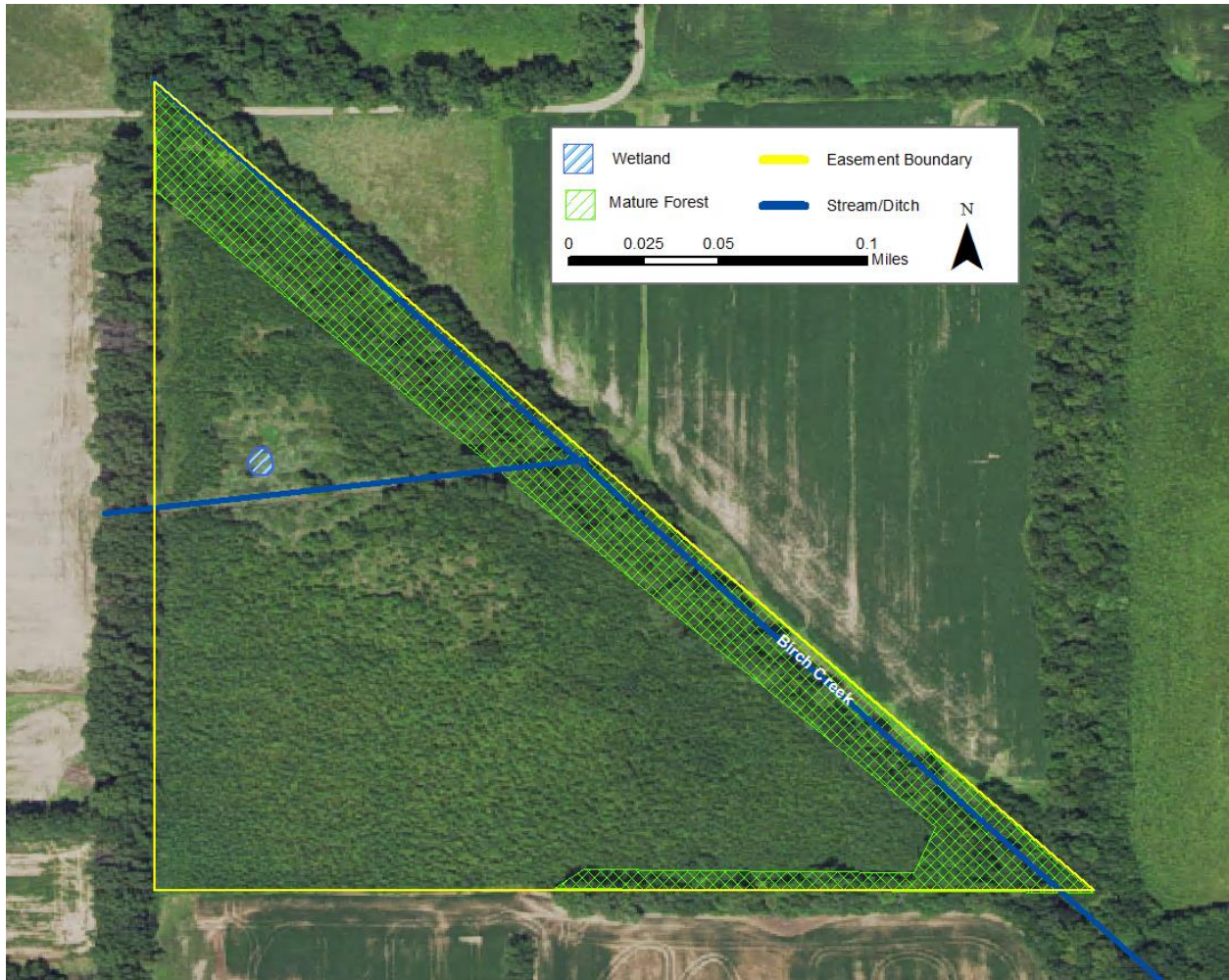


Figure 1. Map of the Parrott Easement in relation to Birch Creek in Lawrence County, IL, during winter 2017.

Parrott Trust-05WL
N 4295658.83
E 434918.36
1/3/17
Small dry wetland
patch containing
Smartweed surrounded
by dense Reed Canary.



Photo 1. Small emergent wetland on the Parrott Easement in Lawrence County, IL, during January 2017.



Photo 2. Birch Creek traversing the Parrot Easement in Lawrence County, IL, during February 2017.

Parrott Trust-05WL

N 4295408.29

E 434998.00

1/3/17

Large area of Reed Canary Grass facing east.



Photo 3. Dense stand of reed canarygrass in the center of the Parrott Easement in Lawrence County, IL, during January 2017.

Satterthwaite – 665A1211014WD

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration - Construct or restore the necessary facilities to provide the biological benefits of a wetland.
- (ii) Tree/Shrub Establishment - Establish trees for the planned purpose to establish or reinforce a stand of trees to conserve soil moisture, beautify an area, and protect a watershed.
- (iii) Restoration and Management of Declining Habitats - To establish a Native Prairie for wildlife.
- (iv) Critical Area Planting - Vegetation will be established on severely eroding areas requiring extra ordinary means to establish vegetation.
- (v) Dike - The dike will be used to control the water level to complete a wetland restoration project.
- (vi) Structure for Water Control - Install a structure in any water management or conveyance system that controls the direction or rate of flow, or maintains a desired water surface elevation.

Easement 665A1211014WD is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement included 52 acres comprised of 6 wetland acres, 22 forested acres, and 24 acres of prairie grasses and tree plantings. The easement was located on the Otter Pond Ditch, 4 miles upstream from its confluence with the Embarrass River (Fig. 1). Surrounding land use included agricultural row crops, other WRP easements, and a gravel road to the south. We visited the easement on 12/14/2016 and 2/25/2017 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement was divided into two separate parcels by the Bach WRP Easement (665A121301C4D). The west parcel contained an excavated open water wetland (Photo 1)

surrounded by cattail (*Typha* sp.), yellow foxtail (*Setaria pumilla*), broomsedge (*Andropogon virginicus*) and daisy fleabane (*Erigeron annuus*). The east parcel contained an excavated open water wetland and an impounded wetland that was inundated with cattail, adjacent prairie grasses, and an area of bottomland forest with 5 acres of surface water. We observed waterfowl at the site in February including: 10 mallards (*Anas platyrhynchos*), 5 Canada geese (*Branta canadensis*), and 2 American green-winged teal (*Anas crecca*). Bottomland forest offered additional waterbird habitat due to the presence of surface water during both site visits.

- The 10 acres of proposed tree plantings were indistinguishable on the landscape and covered in prairie grasses. We recommend managing the areas along with the adjacent prairie tracts with prescribed fire on a 3-yr cycle.
- The integrity of the levee on the east parcel was compromised by burrowing mammals (Photo 2) and lacked vegetative cover in some areas. We recommend filling in the holes in the levee and reseeding unvegetated areas with switchgrass (*Panicum virgatum*) or other erosion resistant grass species. Once proper vegetation is established, levee should be mowed or burned annually to discourage woody encroachment.
- The impounded wetland contained a dense stand of robust emergent vegetation (i.e., cattail) with limited open water (Photo 3). We recommend the establishment of hemi-marsh habitat by spraying patches of cattail annually to achieve a 50:50 interspersion of open water and robust emergent vegetation. Hemi-marsh is a desirable cover type that provides foraging and loafing areas for waterfowl, as well as, secretive marsh-birds.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. The easement buffered Otter Pond Ditch from agricultural runoff, and attenuated floodwater from the ditch. The wetlands provided feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement was connected by the Bach WRP easement providing 80-acres of contiguous natural vegetation in a highly fragmented landscape.

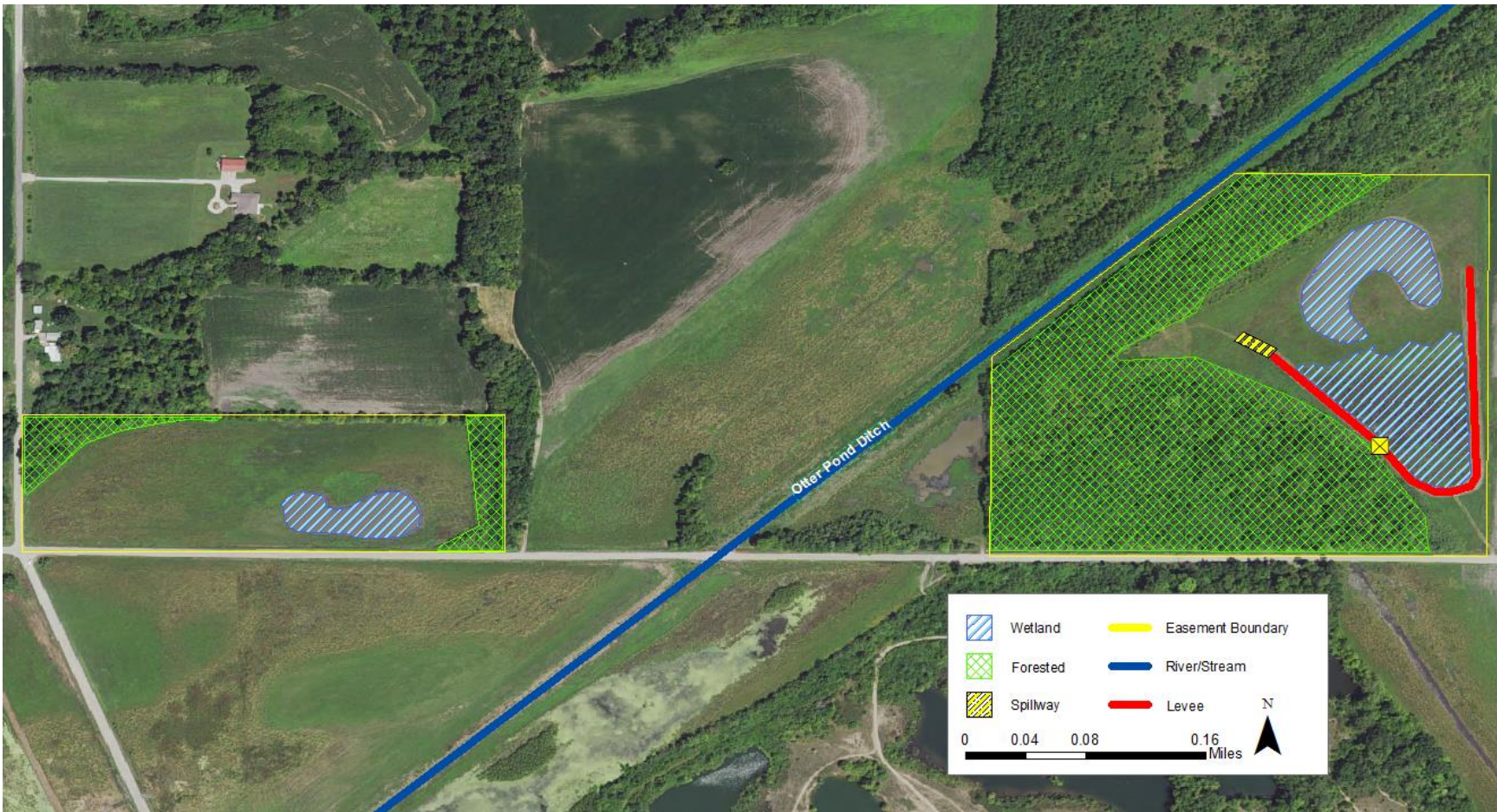


Figure 1. Map of the Satterthwaite Easement in relation to the Otter Pond Ditch in Lawrence County, IL, during February 2017.

Satterthwaite 14WD

N 4292302.96

E 443642.57

12/20/16

Facing NE. Excavated wetland on west parcel of easement (15 ac.)



Photo 1. Northeasterly view of an excavated wetland on the west parcel of the Satterthwaite Easement in Lawrence County, IL, during December 2016.



Photo 2. Damaged levee from burrowing mammals observed during the February 2017 site visit of the Satterthwaite Easement in Lawrence County, IL.

Satterthwaite 14WD

N 4299360.74

E 444585.97

12/20/16

Facing NE. Impounded cattail wetland on East parcel



Photo 3. Northeasterly view of an impounded wetland covered in dense cattail observed during the December 2016 site visit of the Satterthwaite Easement in Lawrence County, IL.

Mike Seitzinger & Steve Paddick – 665A1203005Q6

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration- Hydrologic restoration will be accomplished by constructing a low-level dike and by installing a water control structure. Borrow material for dike will be excavated from within the impound area as identified in the field prior to construction.
- (ii) Wetland Wildlife Habitat Management – The purpose of this practice is to manage vegetation, food plots, shallow water areas, and wooded acreage for the benefit of wetland wildlife.

Easement 665A1203005Q6 is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covers 72-acres consisting of a 26 acre impounded wetland, 32 forested acres, and 14 acres of mowed prairie grasses. The easement is located to the West of the Otter Pond Ditch (Figure 1), 2 miles upstream from its confluence with the Embarrass River. Land use around the easement includes hardwood forest and a Conservation Reserve Program (CRP) easement to the east. We visited the easement on 12/22/16 and 2/13/17 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible use authorizations and uses

The easement contained one impounded wetland that spanned the length of the restoration. The wetland is actively managed for waterfowl through seasonal drawdowns, mowing, disking, and planting of food plots. Water inundation was >70% flooded during both easement visits and vegetation communities within the impoundment included moist-soil vegetation (e.g., smartweed [*Polygonium* sp.], rice cutgrass [*Leersia oryzoides*]), scrub-shrub (e.g., buttonbush [*Cephalanthus occidentalis*] and small willows [*Salix* sp.]), open water, and food plots (e.g., corn [*Zea mays*], sorghum [*Sorghum* sp.]). We observed 40 mallards (*Anas platyrhynchos*), 5 northern pintail (*Anas acuta*), 3 northern shovler (*Anas clypeata*), 2 sandhill cranes (*Grus Canadensis*) and Wilson's snipe (*Galinago delicata*) using the easement in February. Water-

control structures on both ends of the easement allow for seasonal drawdowns, and flooding in the fall when increased water levels in the Otter Pond Ditch exist. The wetland offers a variety of water depths including shallow-water habitats on the south end of the easement and a deep pool on the northeast corner of the easement where levee material was excavated. The landowner mowed all wetland levees and areas of native prairie (Photo 1) to discourage woody encroachment.

- Portions of the levee on the north border of the easement contained cuts and scours from high water levels in the wetland to the north of the easement (Photo 2). We recommend filling in these areas and seeding the length of the levee with switchgrass to prevent future levee degradation. The landowner may also make a plan to remove some riser boards in the water control structures during future flooding events.
- Although the wetland is actively managed, little moist-soil vegetation was present in the wetland cell. We recommend a gradual wetland drawdowns over the course of 3-6 weeks beginning anytime from late April to early June. We also discourage mowing of vegetation within the wetland cell unless it provides no nutritional value to waterfowl (e.g., cocklebur [*Xanthium sp.*]).
- Floodwater has eroded away a rip-rap spillway on the east side of the easement (Photo 3) limiting the amount of water the wetland cell can hold. We recommend replacing the spillway to allow the wetland cell to be completely inundated during fall and spring migrations.
- Carp were present within the wetland cell likely increasing water turbidity and discouraging the establishment of submersed aquatic vegetation and other native wetland plants. Most likely carp were introduced by flooding from the Otter Pond Ditch. Eradication of carp via drawdown could benefit wetland vegetation however all efforts could be wasted with the presence of another flood.
- The current expanse of native prairie was mowed offering no winter cover for white-tailed deer (*Odocoileus virginianus*) or upland bird species (e.g., wild turkey [*Meleagris gallopavo*], bobwhite quail [*Colinus virginianus*]). Implementing a prescribed fire regime on native prairie during the spring will benefit upland wildlife as well as the prairie vegetation currently on the easement.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement offers forage and loafing areas for waterfowl. The easement buffers the Otter Pond Ditch from agricultural agricultural land uses and attenuates floodwater from the ditch. Although not directly connected to other wetland easements, this easement provides native vegetation communities along the Otter Pond Ditch corridor.

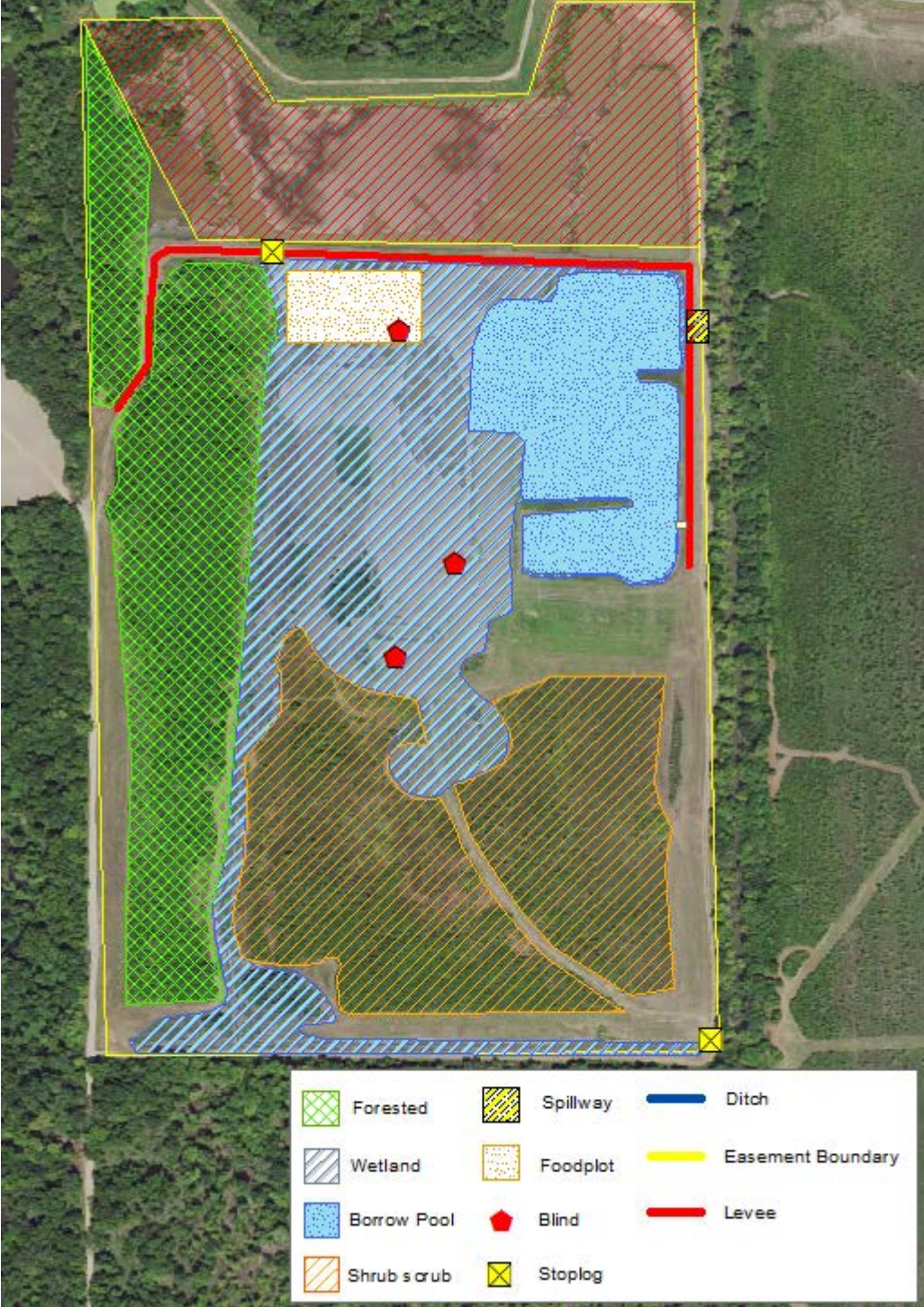


Figure 1: Map of the Seitzinger easement in relation to the Otter Pond Ditch.



Photo 1: Eroded rock spillway site

Seitzinger O5Q6
N 4289563.68
E 442154.78
2/13/17

Small cut in levee, facing north.



Photo 2: Large cut in the north levee of the easement.

Seitzinger O5Q6
N 4289137.22
E 442211.39
2/13/17

Looking north on large mowed area.



Photo 3: Large expanse of mowed prairie grasses.

Seitzinger 665A120900NBZ

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A120900NBZ is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 100 acres consisting of 12 acres of emergent wetlands, 38 forested acres, and 50 acres of upland grasses. The easement was located on Otter Pond Ditch, 3 miles north of its confluence with the Embarrass River (Fig. 1). Surrounding land use included agricultural row crops, forest, and other NRCS wetland easements. We visited the easement on 12/22/2016 and 2/21/2017 and assessed condition relative to the program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement contained 2 wetland basins, both of which were dry in December 2016. In February 2017, the north basin was 75% inundated and the south basin was ~30% inundated with exposed mudflats around the edges of the water. Both wetlands contained similar vegetation including cattail (*Typha* sp.), smartweed (*Polygonum* sp.), Rice cutgrass (*Leersia oryzoides*), and Reed canarygrass (*Phalaris arudinaceae*). We documented 40 mallards (*Anas platyrhynchos*) and 10 American green-winged teal (*Anas crecca*) using the wetlands during the February visit. Uplands contained broomsedge (*Andropogon virginicus*), daisy fleabane (*Erigeron annuus*), and goldenrod (*Solidago* sp.). The stoplog structure on the north wetland was fully functional and impounded water to a depth of 5 ft in the wetland (Photo 1). The easement contained a mowed pipeline corridor running east to west (Photo 2). All levees were mowed and free of woody encroachment. The spillway on the Otter Pond Ditch levee appeared functional and clear of debris.

- Upland tracts contained woody encroachment. We recommend implementing a prescribed burn regime on the easement to promote vigor in the upland grasses and depress woody encroachment. The existing trail system provided fire breaks. The easement should be burned on a 3-year rotation as outlined in NRCS job sheet.
- Beaver (*Castor canadensis*) activity was present on the area with dams built along Otter Pond Ditch (Photo 3) and the small drainage ditch on the south end of the easement. We recommend dam removal where feasible and controlling beaver populations on the easement in accordance with IDNR regulations.

The easement buffered Otter Pond Ditch from agricultural runoff, and attenuated floodwaters from the ditch. The wetlands provided feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement was located next to the McCormick (0S6R) and Seitzinger (0XTC) wetland easements providing 480 acres of contiguous natural vegetation in a highly fragmented landscape.

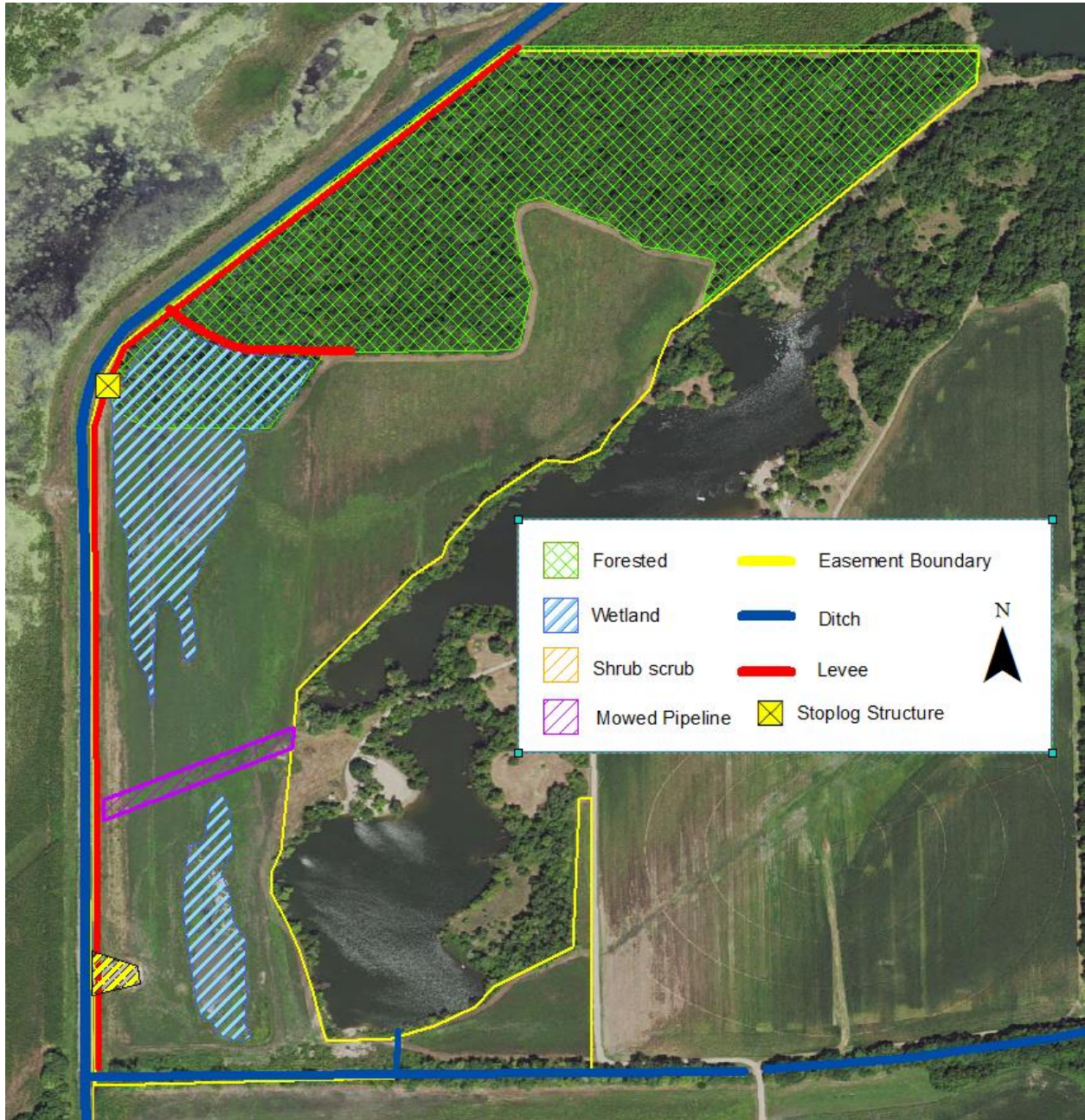


Figure 1. Map of the Seitzinger Easement in Lawrence County, Illinois.



Photo 1. Stoplog structure on the Seitzinger Easement. The structure impounded water on the easement exceeding 5 ft. in depth.

Seitzinger – ONBZ

N 4290340.65

E 442539.20

2/21/17

Mowed pipeline corridor across
easement.



Photo 2. Mowed pipeline easement on the Seitzinger Easement in Lawrence County, IL, during February 2017.

Seitzinger – ONBZ

N 4290577.21

E 442386.64

2/21/17

Beaver dam on the Otter Pond Ditch.

**McCormick (0S6R) easement on the
other side of the ditch.**

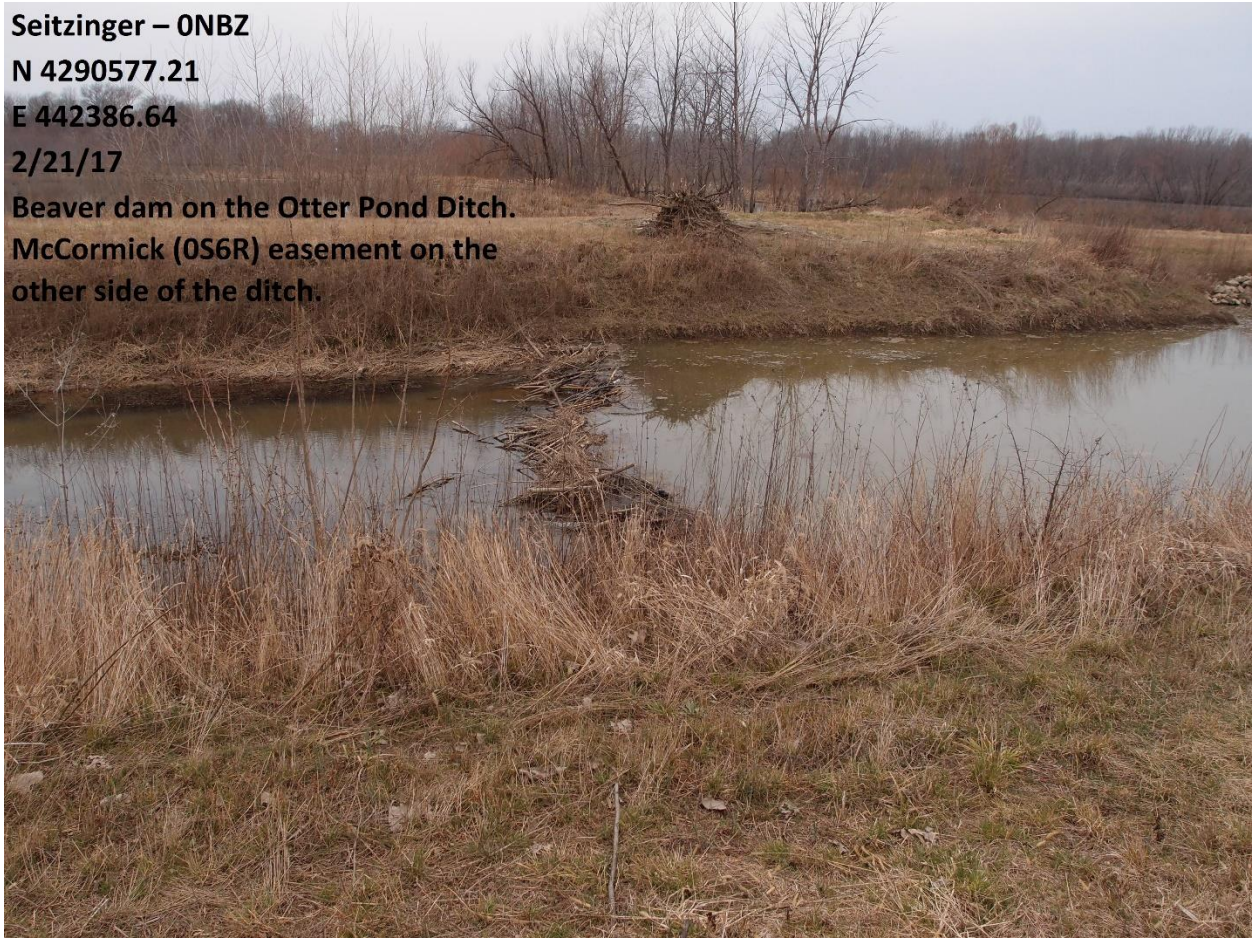


Photo 3. Beaver dam obstructing the flow of water in Otter Pond Ditch in Lawrence County, Illinois, during February 2017.

Seitzinger – 665A121000XTC

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Restoration and Management of Declining Habitats - Restore and conserve rare or declining native vegetated communities and associated wildlife species.
- (ii) Wetland Restoration - Restore a wetland by constructing a low level dike with water control structure and spillway.
- (iii) Stream Habitat Improvement - Install rock in diversion channel to protect against erosion and to enhance and maintain habitat.
- (iv) Critical Area Planting - Critical area planting will be seeded to reduce erosion, increase organic matter, and reduce weed competition.
- (v) Diversion - Construct a channel across the slope with a supporting ridge to divert excess water from area for safe disposal/use in another area.

Easement 665A121000XTC is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 48 acres consisting of 15 acres of emergent wetlands, 2 forested acres, and 31 acres of upland grasses and trees. The easement was located along Otter Pond Ditch, 3 miles north of its confluence with the Embarrass River (Fig. 1). Surrounding land use included forests, wetlands, and other NRCS wetland easements. We visited the easement on 12/20/2016 and 2/21/2017 and assessed conditions relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement contained an impounded wetland as well as seasonal wetlands north of the water control structure. The impounded wetland had a stoplog water-control structure on the northeast end, and extended onto the McCormick (0S6R) Easement and provided >135 acres of surface water. Vegetation communities in the wetlands included cattail (*Typha* sp.), softstem bulrush (*Schoenoplectus tabernaemontani*), smartweed (*Polygonum* sp.), sedges (*Carex* sp., *Cyperus* sp.), and duckweed (*Lemna* sp) (Photo 1). The impounded wetland was fully inundated during both easement visits. Seasonal wetlands were dry during December but ~50% inundated in February due to active management of the impounded wetland. Waterfowl were numerous

during the February visit with more than 200 mallards (*Anas platyrhynchos*), American wigeon (*Mareca americana*), American green-winged teal (*Anas crecca*), northern shoveler (*Spatula clypeata*), and northern pintail (*Anas acuta*) observed. Upland areas contained broomsedge (*Andropogon virginicus*) yellow foxtail (*Setaria pumila*), goldenrod (*Solidago* sp.) and willow saplings (*Salix* sp.). Wetland infrastructure including a stoplog structure and rip-rap spillway were fully functional and free of debris. The landowner maintained the levee and various trails around the easement.

- The levee contained holes from burrowing mammals (Photo 2). We recommend filling of the holes to prevent seepage which could degrade to the levee's integrity. Muskrat (*Ondatra zibethicus*) populations should be controlled following IDNR regulations if burrowing activity persists. Levees should be inspected annually in accordance to the easement's conservation plan.
- Upland tracts of the easement contained some woody encroachment. We recommend implementing a controlled burning plan with burns scheduled every 3 years to promote growth of prairie grasses and discourage woody encroachment.
- Boards were removed from the stoplog structure in February during the peak of spring migration in southeastern Illinois (Photo 3). A better water management option would be to dewater the impoundment in late spring to promote moist-soil plant growth for migratory waterfowl.

The easement buffered Otter Pond Ditch from agricultural runoff and attenuated floodwater from the ditch. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement is located next to the McCormick (0S6R) and Seitzinger (0NBZ) easements providing 480-acres of contiguous native communities in a highly fragmented landscape.

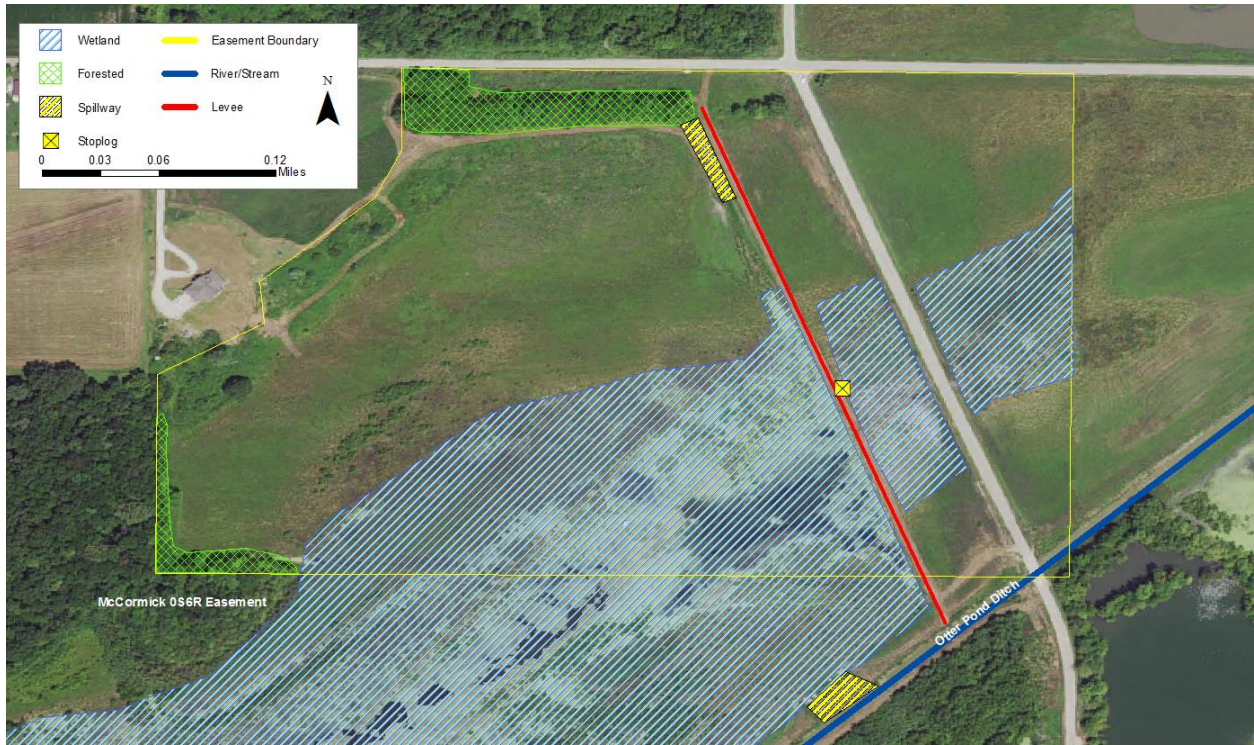


Figure 1: Map of the Seitzinger OXTC Easement outlined in yellow in Lawrence County, Illinois during winter 2017.

Seitzinger OXTC
N 4291867.36
E 443257.23
12/20/16

View of persistent-
emergents in wetland
(cattail, bulrush). View
from property line
looking Northeast.



Photo 1. Northeasterly view of the impounded wetland on the Seitzinger OXTC Easement in Lawrence County, Illinois during December 2016.

Seitzinger – OXTC
N 4292006.87
E 443441.54
2/21/17
Large hole in levee.



Photo 2. Levee damage from burrowing mammals on the Seitzinger OXTC Easement in Lawrence County, Illinois, during February 2017.



Photo 3. Stoplogs were removed from the water control structure on the Seitzinger OXTC Easement prior to spring migration of waterfowl in southeastern Illinois.

Shick- 755A129900JOL

EWPP-FPE Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Tree Planting - Plant 40 air root-pruned containerized trees per acre on approx. 35 foot centers. Trees should be a fall dormant planting. Tree species should be hydrologically adapted to the frequent flooding and inundation.
- (ii) Conservation Cover- Plant a mixture of three native warm season grasses and two forbs.

Easement 755A129900JOL is a Emergency Watershed Protection Plan-Floodplain Easement (EWPP-FPE) in Lawrence County, Illinois. The easement covers 40 acres comprised 2 acres of forested wetland, of 35 forested acres, 3 acres of prairie grasses. The easement is located on the Embarrass River (Figure 1) directly north of the Embarrass River State Habitat Area (ERBSHA) which is a EWPP-FPE easement. Land use around the easement is bottomland floodplain forest with the Embarrass River cutting through the north east corner of the easement. We visited the easement on 1/18/17 and 2/27/17 and assessed condition relative to the conservation plan and program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement is predominantly forested with hickory (*Carya* sp.), maple (*Acer* sp.), willow (*Salix* sp.), oak (*Quercus* sp.), and river birch (*Betula nigra*). A small (<2 ac.) opening in the middle of the easement contained a mowed food plot and prairie grasses (Picture 1). A forested wetland ran parallel with the south border of the easement and held water during the February easement walk. The easement contained a trail system that was used to access the north end of the ERBSHA easement. Trees on the easement show signs of water inundation from frequent flooding of the Embarrass River.

- We have no management recommendations for this easement. Trees will continue to mature and eventually blend in with surrounding bottomland forest. The easements has

achieved its intended restoration task of returning frequently flooded agricultural land to natural riparian habitat.

The easement achieves the both of the objectives outlined in the conservation plan. The easement contains dense stands of trees and a small patch of conservation cover. Frequently flooded agricultural land was returned to the native vegetation of the Embarrass River Floodplain.

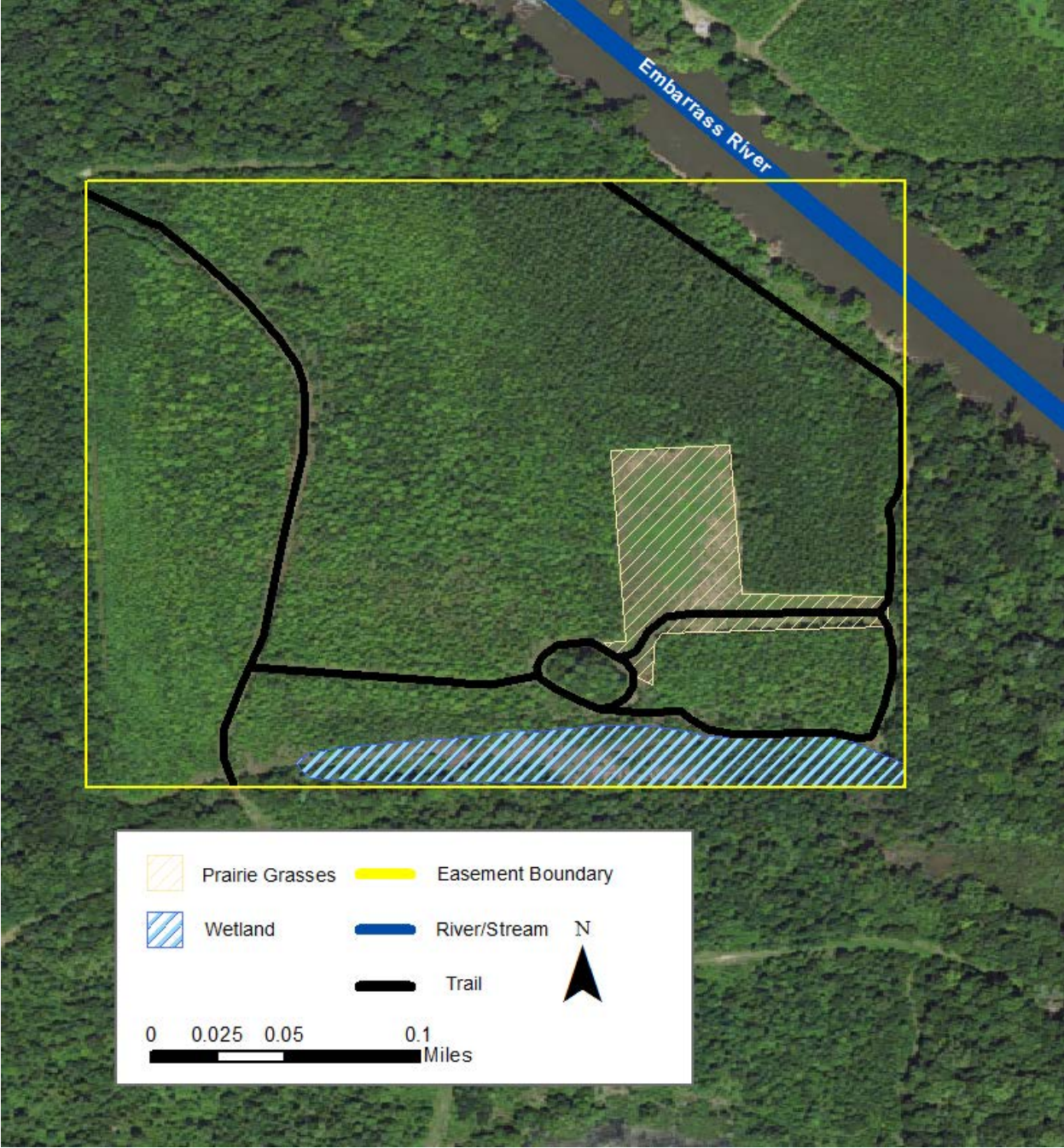


Figure 1: Map of the Shick EWPP-FPE easement in relation to the Embarrass River.

Shick-OJOL
N 4283322.74
E 442470.91
1/18/17

View of small food plot facing north.



Picture 1: Mowed food plot surrounded by prairie grasses.

Shidler - 665A1211011XP

WRP Easement Management Plan 2017

ACEP-WRE Objectives: Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Critical Area Planting - Plant vegetation to stabilize soil, reduce damage from sediment and improve wildlife habitat and visual resources
- (ii) Dike – This dike will be used to control the water level to complete a wetland restoration project
- (iii) Structure for Water Control– to install an auxiliary spillway that conveys large flood flows safely past the earthen embankment.
- (iv) Tree/Shrub Establishment - Set tree seedlings or cuttings in the soil to establish or reinforce a stand of trees to conserve soil moisture, beautify an area, protect watershed, or produce wood crops.
- (v) Restoration and Management of Declining Habitats– To establish a native prairie for wildlife. This restoration project may require many years to achieve the biological diversity that approximates a native prairie. Proper management of the restored prairie is essential for the restoration to achieve and maintain the full potential of the site for the desired habitat. As the vegetation matures, and goes through successional stages, changes in the management practices including introduction of new species may be required to maintain and enhance the prairie. Habitat conditions should be evaluated on a regular basis to adapt the conservation plan and schedule maintenance to ensure the desired habitat condition. Management and maintenance activities should be rotated to mimic natural disturbance regimes.
- (vi) Wetland Restoration – restore, protect, manage, maintain, and enhance the functional values of wetlands and other lands and for the conservation of natural values including fish and wildlife and their habitat, water quality improvement, flood water retention, groundwater recharge, open space, aesthetic values, and environmental education.

Easement 665A1211011XP is a Wetland Reserve Program (WRP) easement in Lawrence County, Illinois. The easement spans 80 acres and is comprised of 32 acres of constructed wetlands, 40 acres of prairie grasses, and 8 acres of bottomland forest. The easement is located on the Old Channel of the Embarrass River which cuts into the East border of the easement (Figure 1). Land use around the easement includes row crop and bottomland forest. We visited the easement on 12/16/16 and 2/24/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained two wetland basins, one semi-permanent impounded wetland and an ephemeral depression below the spillway. The impoundment was more than 70% flooded during both easement visits. The ephemeral was dry during December, and 100% inundated in February. The wetlands held 30 mallards (*Anas platyrhynchos*) and 10 American green-winged teal (*Anas carolinensis*) during the February walk. The large impoundment contained a mixture a persistent emergent cattail (*Typha* sp.), sedges (*Carex* sp.), and open water (Photo 1). The smaller wetland basin contained mostly cocklebur (*Xanthium* sp.). The levee and rip-rap spillway were in excellent condition with the levee covered in a monoculture of switchgrass (*Panicum virgatum*) with the spillway free of debris (Photo 2). Upland prairies were free of woody encroachment and dominant species included broomsedge (*Andropogon virginicus*), yellow foxtail (*Setaria pumila*), switchgrass, and big bluestem (*Andropogon gerardii*).

- Earthen levee was covered in unmowed switchgrass (Photo 3). We recommend annual mowing of levees to promote vegetation growth and discourage woody encroachment.
- Small patches of reed canarygrass (*Phalaris arundinacea*) were present on the easement. We recommend spraying the patches with appropriately labeled glyphosphate till eradication and reseeding with warm season prairie grasses.
- Prairie gasses should be burned annually for the first five years of establishment. Once established we recommend burning or mowing every three years to control noxious weeds, inhibit woody encroachment, and promote new growth.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers the Old Channel of the Embarrass River from agricultural runoff, and attenuates floodwater when the river jumps its bank. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall. The 80 acres of restored wetlands and surrounding terrestrial habitats provide vital native habitat to the Embarrass River Floodplain

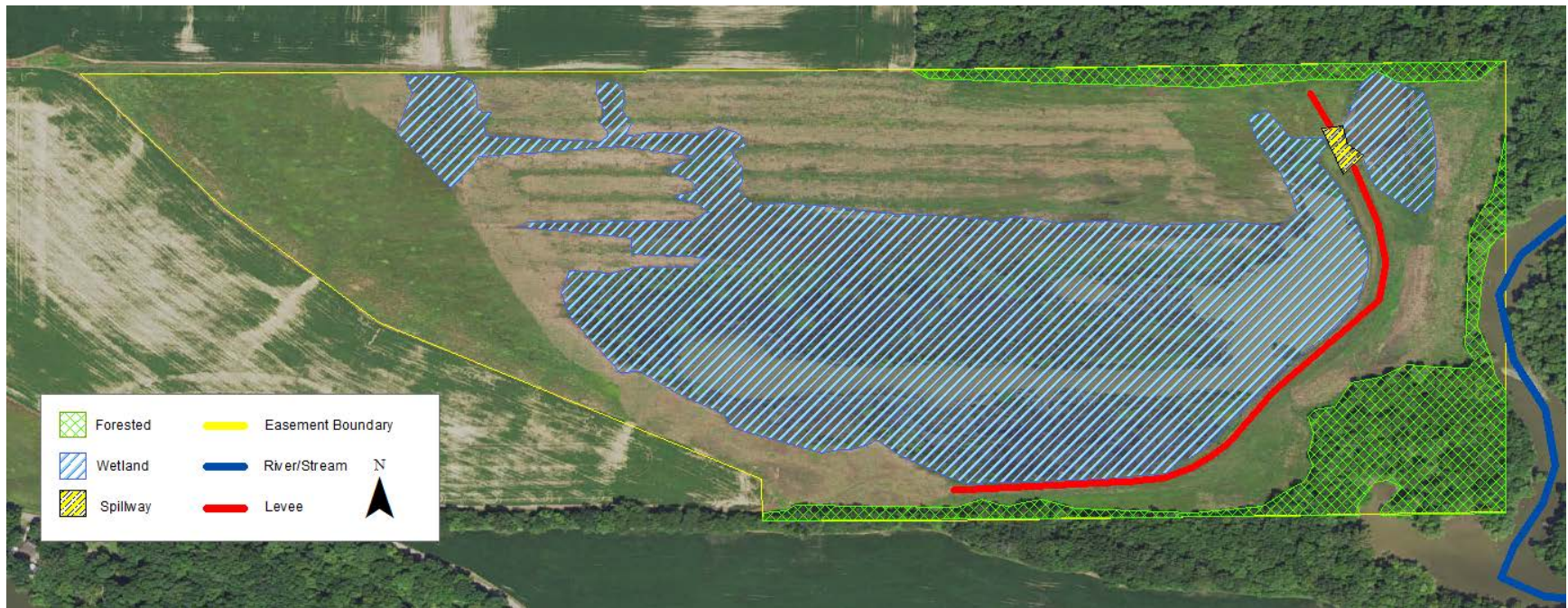


Figure 1: Map of Shidler easement.

Shidler-11XP

N 4291632.10

E 436734.99

2/24/17

View of impounded wetland from spillway.

Wetland is a mixture of cattail and open water.



Photo 1: View of the impounded wetland and described cover types.



Photo 2: View of rip-rap spillway in working condition and free of debris.

Shidler-11XP
N 4291632.10
E 436734.99
2/24/17

View of unmowed levee facing SE,
levee is covered in switchgrass.



Photo 3: View of levee covered in tall switchgrass.

Thompson – 665A1212017NC

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A1212017NC is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 56 acres consisting of 9 acres of wetland, 22 forested acres, 14 acres of row crop, and 11 acres of unvegetated uplands. The easement was located on Allison Ditch, 2.5 miles east of Billet, IL (Fig.1). Land use around the easement included agricultural row crop and forest. We visited the easement on 12/15/2016 and 2/27/2017 and assessed conditions relative to program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement was in the process of being restored. A stoplog structure was in place and dirt work appeared to be completed (Photo 1). A majority of the easement was unvegetated or in row crop with prairie plantings planned for the spring of 2017. The excavated wetland basin was less than 20% inundated during both easement visits. We documented 5 mallards (*Anas platyrhynchos*) and 2 American green-winged teal (*Anas crecca*) using the easement in February. Forested areas on the north side of the easement contained some water inundation as well.

- The landowner appeared to have harvested a crop off the easement during the fall of 2016 (Photo 2). Since the easement was enrolled in the WRP program, it should have been fallow ground since 2014 meaning the easement could be in violation of its contract.
- In lieu of a supplied conservation plan, recommend restoring the upland area of the easement to a native prairie grass community. Wetlands should be managed for moist soil plant growth to benefit waterfowl species. We recommend managing upland grasses with a prescribed fire regime and manipulating water levels in the wetland to maximize habitat potential.

Once restored, this easement will serve multiple ecological purposes and achieve many objectives of the ACEP-WRE program. The easement buffers Allison Ditch from agricultural runoff, and attenuates floodwater. The wetland will provide feeding and loafing areas for migratory waterbirds during the spring and fall. The easement is located on the east side of the large ILDNR (0J0C) wetland easement and will protect and restore natural vegetation communities within the Embarrass and Wabash river floodplains.

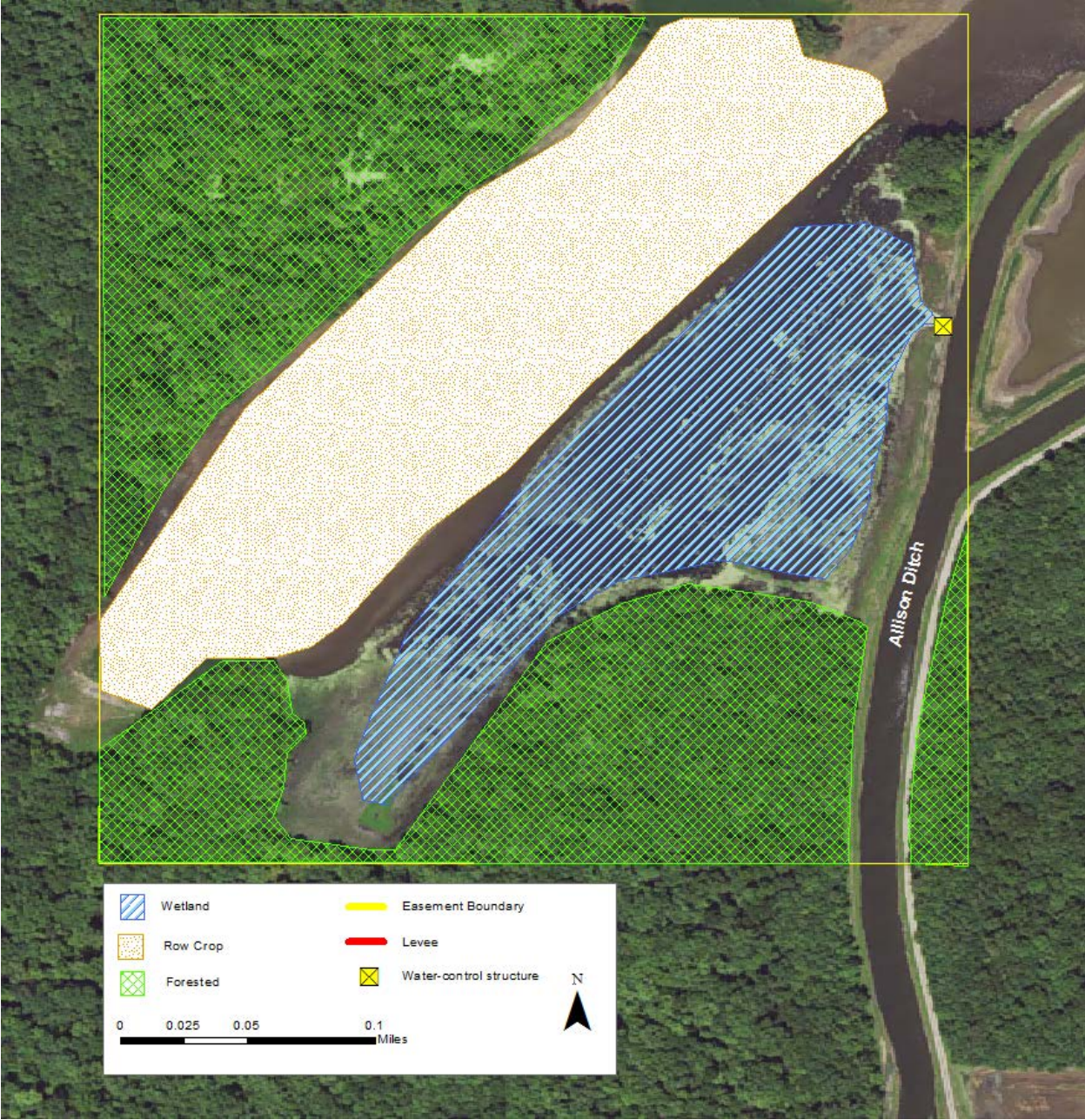


Fig. 1: Map of the Thompson (17NC) easement in relation to Allison Ditch. Easement is located in Lawrence County, Illinois.



Photo 1: Westerly view of a recently installed stoplog structure on the Thompson (17NC) easement in Lawrence County, Illinois during December 2016.



Photo 2: Northerly view of soybean stubble on the Thompson easement during February of 2017 in Lawrence County, Illinois.

Williams – 665A1203005Q5

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain–

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation’s natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Easement 665A1203005Q5 is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 218 acres which consisted of 186 acres of emergent wetlands, 26 acres of tree plantings, and 6 forested acres. The easement was located along Birch Creek (Fig. 1), 4 miles NNW of Lawrenceville, Illinois. Surrounding land use included agricultural row crops and other NRCS wetland easements. We visited the easement on 12/20/2016 and 2/15/2017 and assessed conditions relative to the program objectives, extent of inundation, and management practices consistent with compatible use authorizations.

The easement was divided into 2 parcels; the north parcel contained 3 wetland impoundments, the south parcel had 1 wetland impoundment. A drainage ditch connected all three impoundments on the north parcel, which allowed them to be managed via stoplog structures. Water inundation on the north parcel was ~75% and 100% in December and February, respectively. Vegetation communities included moist soil plants (smartweeds [*Polygonum* spp.], sedges [*Carex* sp., *Cyperus* sp.], rice cutgrass [*Leersia oryzoides*]); persistent emergents (cattail [*Typha* sp.], river bulrush [*Scirpus fluviatilis*]); upland vegetation (e.g., broomsedge [*Andropogon virginicus*] and goldenrod [*Solidago* sp.]) and willows [*Salix* sp.]). The south parcel went from ~10% inundated in December to ~30% inundated in February, and the vegetation community was similar to the north parcel. We documented an impressive amount of waterfowl on the easement in February 2017 including 1,200 mallards (*Anas platyrhynchos*), 1,000 white-fronted geese (*Anser albifrons*), 500 snow geese (*Anser caerulescens*), 400 lesser scaup (*Aythya affinis*), 150 Canada geese (*Branta canadensis*), 100 northern pintail (*Anas acuta*), 50 gadwall (*Mareca strepera*), and 2 whooping cranes (*Grus americana*). The northern most wetland where the whooping cranes were located was intensively managed, with large areas of moist-soil plant growth as well as mowing and discing within the wetland (Photo 1). Small upland areas on both parcels contained tree plantings (>15 ft in height) comprised of oaks (*Quercus* sp.) and river birch (*Betula nigra*).

- The levees on the north parcel all contained scouring and woody plants on the inside slopes of the levees, some trees exceeded 20 ft in height (Photo 2). We recommend

clearing the levees of woody vegetation and debris and filling of scours to prevent further levee damage. Most of the woody vegetation was too large to be cleared with a brush mower and will need to be mechanically manipulated. Following woody plant removal, we recommend seeding patches of bare earth with an erosion resistant grass species such as switchgrass (*Panicum virgatum*).

- Both stoplog structures south of the ditch on the north parcel were plugged with sediment and debris, preventing proper dewatering of impoundments. We recommend clearing the structures of sediment and debris to restore water level control for seasonal drawdowns, maintenance, and to prevent damage to levees during flood events.
- The southernmost impoundment on the north parcel contained a monoculture of dense persistent emergent cattail (Photo 3), which offers little benefit to waterfowl. Prolonged water inundation has created optimal conditions for the cattail development. We recommend dewatering the impoundment and spraying patches of cattail to promote hemi-marsh conditions, which will benefit a wider variety of waterbirds.

This easement served multiple ecological purposes and achieved many objectives of the ACEP-WRE program. The easement buffered Birch Creek from agricultural runoff, and attenuated floodwaters. The wetlands provided feeding and loafing areas for migratory waterbirds during the spring and autumn. The easement was located on the southeast corner of a mosaic of 9 wetland easements that in total protect and enhance 2,242 acres of contiguous natural vegetation communities in a highly fragmented landscape.

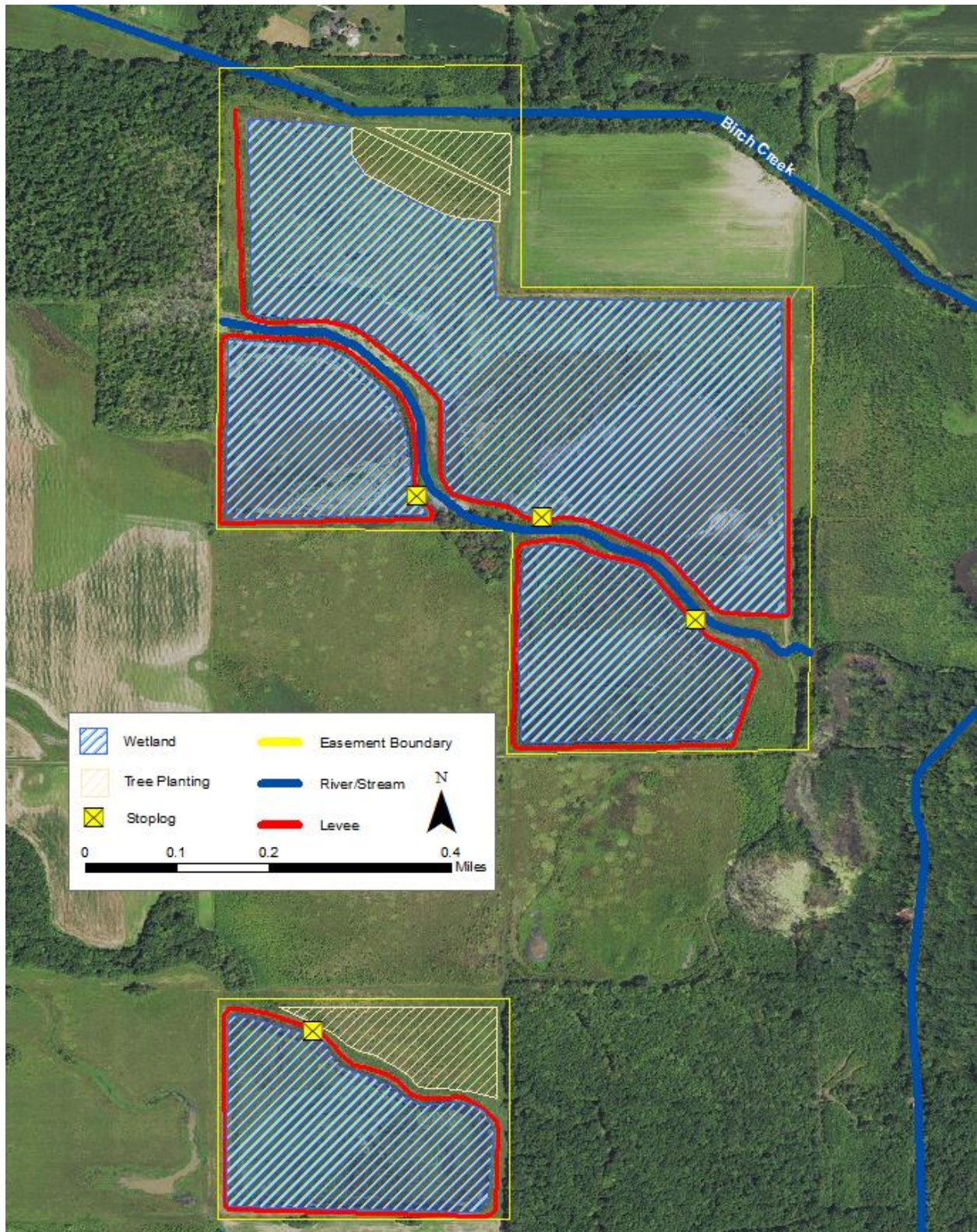


Figure 1. Map of wetlands in the Williams Easement in relation to Birch Creek in Lawrence County, IL, during February 2017.

Williams-05Q5

N 4293473.05

E 438466.93

12/20/16

View of large moist soil unit. Duck blinds are present in wetland.



Photo 1. Moist-soil wetland on the Williams Easement in Lawrence County, Illinois, during December 2016.



Photo 2. Woody vegetation along the inside slope of a north parcel levee of the Williams Easement in Lawrence County, Illinois, during February 2017.

Williams-05Q5

N 4293124.87

E 438427.13

2/15/17

View of the cattail and borrow
area on the south
impoundment.

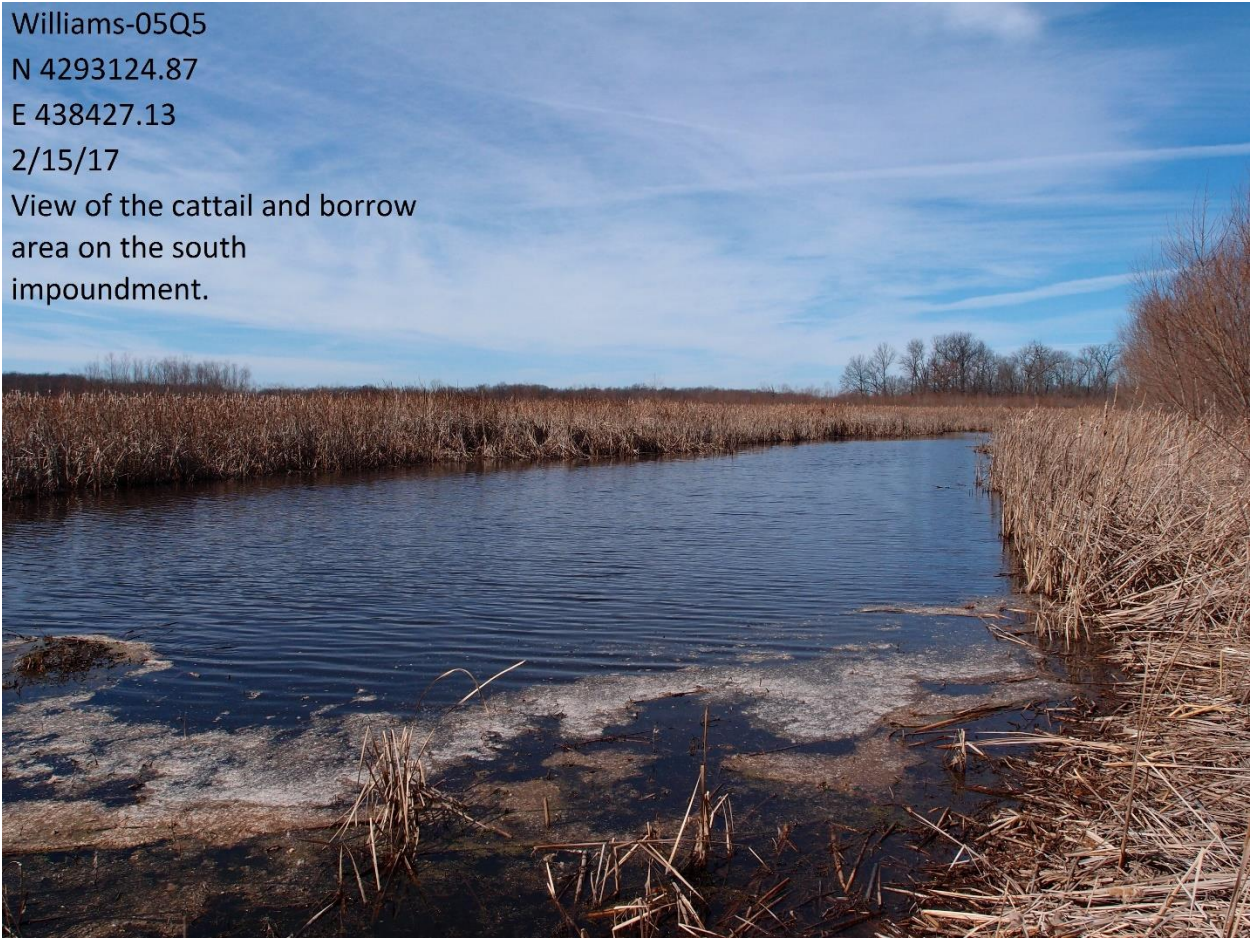


Photo 3. Dense robust emergent vegetation and a small borrow area of the north parcel (southernmost wetland) on the Williams Easement in Lawrence County, Illinois, during February 2017.

Wolkonowski – 665A1204005QZ

WRP Easement Management Plan 2017

ACEP-WRE Objectives:

Protect, restore, and enhance the functions and values of wetland ecosystems to attain—

- (i) Habitat for migratory birds and other wetland-dependent wildlife, including endangered or threatened species and species of concern.
- (ii) Protection and improvement of water quality.
- (iii) Attenuation of floodwater.
- (iv) Recharge of ground water.
- (v) Protection and enhancement of open space and aesthetic quality.
- (vi) Carbon sequestration.
- (vii) Protection of native flora and fauna contributing to the Nation's natural heritage.
- (viii) Contribution to educational and scientific scholarship.

Conservation Plan Objectives:

- (i) Wetland Restoration - Construct or restore the necessary facilities to provide the biological benefits of a wetland.
- (ii) Tree/Shrub Establishment - Establish an area of predominantly trees and/or shrubs.
- (iii) Conservation Cover – Plant a mixture of three native warm season grasses and four forbs.

Easement 665A1204005QZ is a Wetland Reserve Program (WRP) Easement in Lawrence County, Illinois. The easement covered 310 acres comprised of 48 acres of wetlands, 20 acres of prairie grasses, 233 forested acres, and 9 acres of food plot. The easement contained Brushy Creek along the east border and the Old Channel of the Embarrass River meandering through the south end (Figure 1). Land use around the easement includes row crop and other NRCS wetland easements. We visited the easement on 1/11/17 and 3/1/17 and assessed condition relative to the conservation plan and Program objectives, extent of inundation, and management practices consistent with compatible authorizations and uses.

The easement contained two constructed wetlands with levee and water control structures. The north impoundment included open water, emergent vegetation (e.g., smartweeds [*Polygonum* sp.]; rice cutgrass [*Leersia oryzoides*]; reed canarygrass [*Phalaris arundinacea*]; and cattail [*Typha* sp.]), Buttonbush (*Cephalanthus occidentalis*), and some willow trees (*Salix* sp.). The south impoundment contained cocklebur (*Xanthium strumarium*), reed canarygrass, and multiple tree species including willow (*Salix* sp.), river birch (*Betula nigra*) and sycamore (*Plantanus occidentalis*). Wetland inundation was around 20% in January and 70-100% in March. Waterbird use of the easement was limited to the March walk with the wetlands holding 75 mallards (*Anas platyrhynchos*), 50 American green-winged teal (*Anas carolinensis*) and 10 Canada Geese (*Branta canadensis*). The easement contained a large area of floodplain forest to the north and

some naturally regenerated forested areas south of the Old Embarrass River Channel. Native grass plantings included big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), side-oats grama (*Bouteloua curtipendula*), broomsedge (*Andropogon virginicus*), goldenrod (*Aster* sp.) as well as some successional tree species. The easement contained three foodplots which were connected by firebreaks. A tree planting area in the middle of the easement contained oak trees which were 20+ feet tall and looked to be in good condition (Photo 1).

- The levee on the north impoundment contained multiple cuts and scour points from water overtopping the levee during flooding events (Photo 2). The entire length of the levee was rough and hard to traverse with an ATV. We recommend resurfacing the levee, filling in cuts, scours, and rough patches so levee can be inspected and mowed annually.
- Trees have grown up on the slopes of both the north and south impoundments (Photo 3). The south impoundment is impassible due to heavy woody encroachment. We recommend clearing the trees on both levees with a chainsaw or brush mower to prevent further damage to levee integrity.
- Restored tracts of upland grasses contained woody encroachment. We recommend implementing a prescribed fire regime on these areas to discourage woody succession and promote growth of desirable native grass species.
- Beaver activity was present in the north impoundment with multiple trees chewed and a large beaver den in the middle of the impoundment. Although damage is minimal we recommend controlling beaver populations to prevent future problems on the easement in accordance with IDNR regulations.

This easement serves multiple ecological purposes and achieves many objectives of the ACEP-WRE program. The easement buffers the Old Channel of the Embarrass River and Brushy Creek from agricultural runoff, attenuates floodwater, recharges groundwater stores, and stores carbon. The wetlands provide feeding and loafing areas for migratory waterbirds during the spring and fall and provides year round habitat for upland birds and furbearers. The easement is located in the center of a group of 9 NRCS wetland easements that protect 2,242 contiguous acres of native vegetation communities in a highly fragmented landscape.

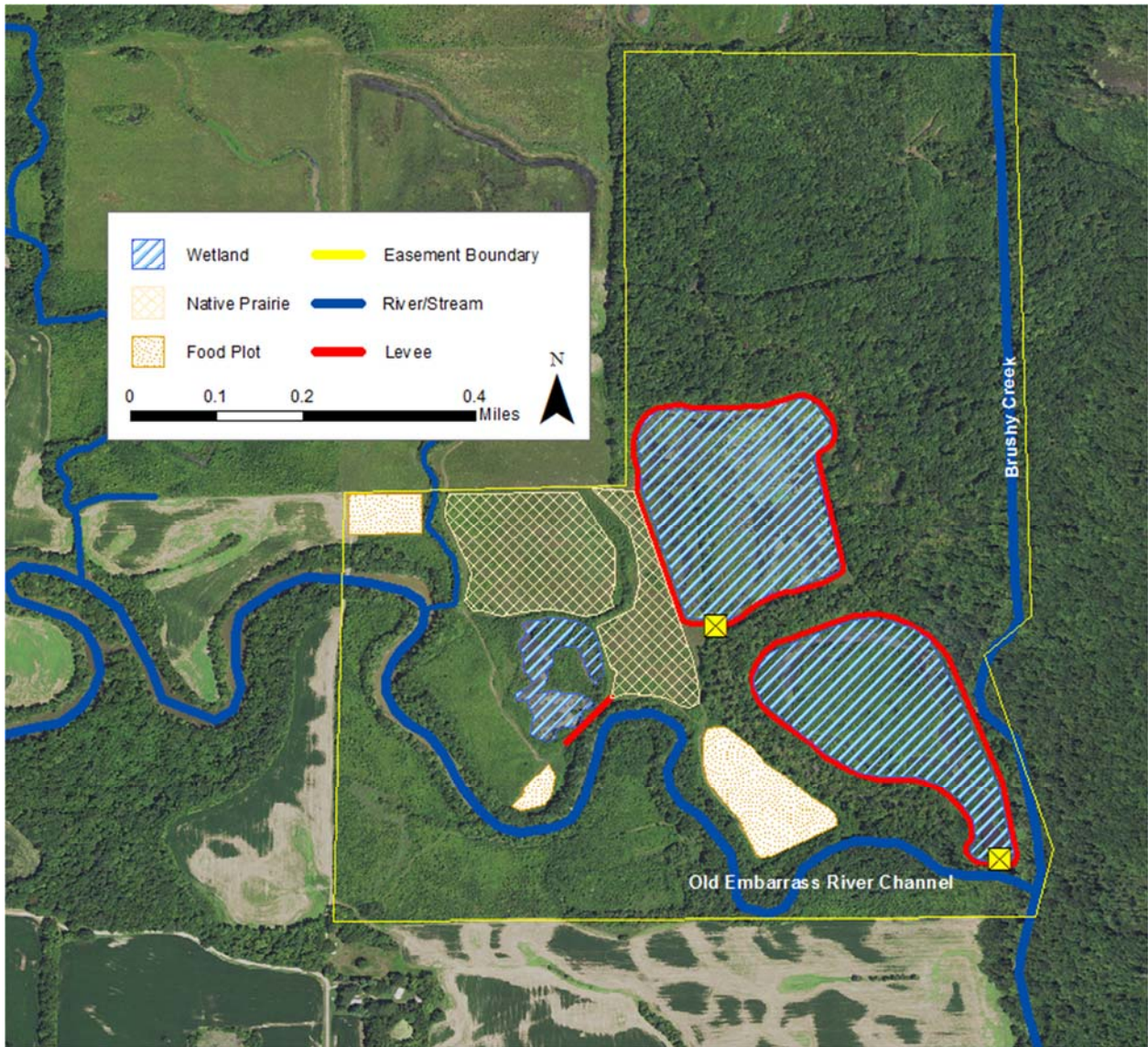


Figure 1: Map of Wolkonowski Easement.



Wolkonowski-05QZ

N 4291743.87

E 438093.04

1/11/17

Successful Oak planting looking
north. Trees are around 20' tall.



Photo 2: Large cut in levee, limiting amount of water wetland can hold.



Photo 3: Woody encroachment on inner slope of levee.

Submitted by:

A handwritten signature in blue ink that reads "Aaron Yetter". The signature is written in a cursive style with a large initial 'A' and a long, sweeping underline.

Aaron P. Yetter, CWB
Waterfowl Ecologist
Forbes Biological Station
Illinois Natural History Survey

Date: 29 September 2017