

Environmental Assessment

Barron County Maple Plain Shooting Range

Prepared by:
Wisconsin Department of Natural Resources

Prepared for:
U.S. Fish and Wildlife Service, Region 3

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Note to reviewers: This Environmental Assessment (EA) has been prepared by the Wisconsin Department of Natural Resources (WDNR) to be consistent with National Environmental Policy Act (NEPA) requirements for environmental review. NEPA requirements are relevant since WDNR is seeking federal Pittman-Robertson (P-R) funds for the project. The US Fish and Wildlife Service administers P-R funds and will ultimately decide if NEPA and other applicable federal regulations have been met before a funding decision is made. This EA evaluates probable environmental effects and will be used to help determine the need for preparation of an Environmental Impact Statement (EIS). The EA includes a description of alternatives and the affected environment.

CHAPTER 1 PROJECT SUMMARY, PURPOSE AND NEED

1.1 PROJECT SUMMARY

The existing Barron County Shooting Range located south of Cumberland, WI lacks appropriate shooting lane protection and berms suitable for safe use. The adjacent land use as a gravel quarry has limited the expansion of the shooting range. Furthermore, the quarry needs to expand its mining operations into the land occupied by the shooting range in order to continue to provide gravel resources for Barron County.

Therefore, it is Barron County's desire to relocate the shooting range to the Barron County owned property in the town of Maple Plain, located approximately 2.6 miles west of US 63 near Barronett, WI. (Lat/long 45.633423, -92.046214). See attachment A Location Map.

The range will consist of four individual shooting lanes: a 50 foot range; a 50 yard range; a 100 yard range; and a 200 yard range. Backstops and separation berms will consist of on-site sand materials. Each berm and backstop will be 15' tall with a top width of 10' and a base (bottom) width of 45' wide. See attachment B site schematic. These appropriate backstops and longitudinal berms will allow multiple users to occupy and use each lane simultaneously. The new site will include a gravel parking area with an ADA compliant pit toilet.

Range construction will be completed by Barron County forces with DNR oversight to assure compliance with site development plans, environmental and grant commitments. Operation and maintenance (O&M) would be handled by Barron County. O&M responsibilities will mainly consist of litter control, berm and shooting lane mowing (if needed), periodic spent (lead) bullets & brass casing recovery/recycling, shooting bench and target support replacement, pit toilet housekeeping, septic pumping, and other activities needed to keep the range in good condition.

1.2 PURPOSE

The purpose of the project is to develop a safe and available public shooting range facility in Barron County. The shooting range will provide a common place for experienced hunters or law enforcement to refine their skills. This range will also provide a place to promote effective training and education for responsible new hunters and their mentors including youth groups and hunter safety courses. The purpose of this EA document is to look at the feasibility and potential for environmental consequences associated with alternatives considered.

1.3 NEED

Promoting hunting, shooting sports and hunter safety is a long standing objective within WDNR. Providing the public with accessible, environmentally friendly and safe public shooting ranges to shoot and sight-in rifles and handguns is one element of this objective. The Milwaukee Journal Sentinel quotes WDNR Secretary Cathy Stepp:

"The best place for someone to learn to shoot and to practice shooting is at a well-managed and maintained range"... "The Shooting Range Grant Program will help range operators and clubs provide high quality shooting opportunities around the state."

With an estimated 800,000 shooters and hunters in Wisconsin and recent strong growth in interest in shooting, providing access to safe places to shoot is a priority for WDNR.

Wisconsin has more than 600 shooting ranges, including 33 on public land (state, county or municipality), according to DNR records. Keith Warnke, DNR hunting and shooting sports coordinator, said one of the most obvious

needs is to increase opportunities for shooters and hunters close to home.

The adage that "practice makes perfect" is particularly important considering the safety risk associated with firearm use.

Barron County's existing shooting range is located in the County's gravel pit south of Cumberland, WI. The mining operations at the pit have progressed to a point where the range will need to be closed and utilized as a source of gravel. Additionally, this range is not constructed correctly. There are no berms and backstops to allow safe use of each individual shooting range simultaneously while others use adjacent shooting lanes. Shooters are interrupted while adjacent shooters are down range checking targets.

Barron County would like to create a new range in the Town of Maple Plain so that service provided by the existing gravel pit range can be maintained.

1.4 BACKGROUND

Outdoor shooting ranges provide recreational facilities for millions of shooting sports enthusiasts in the United States. Ranges are especially important to Wisconsin constituents as demonstrated by Wisconsin range protection legislation. This bill passed the legislature with wide margins, 19 – 13 in the Senate and 65-30 in the House. It was signed into law by Governor Walker on April 9, 2014.

DNR is interested in increasing the number of properly designed shooting ranges in Wisconsin to enhance hunter skills and safety. A side benefit is meeting an increasing demand for shooting practice as a public outdoor recreation pursuit.

Firearm use, while hunting or practicing, carries a high safety risk. Since 1967 DNR has had an established hunter education program that attempts to prevent firearms incidents in order to maintain a safe and successful recreational experience. Over the last 45 years the number of hunting accidents have progressively decreased while the number of hunters has increased.

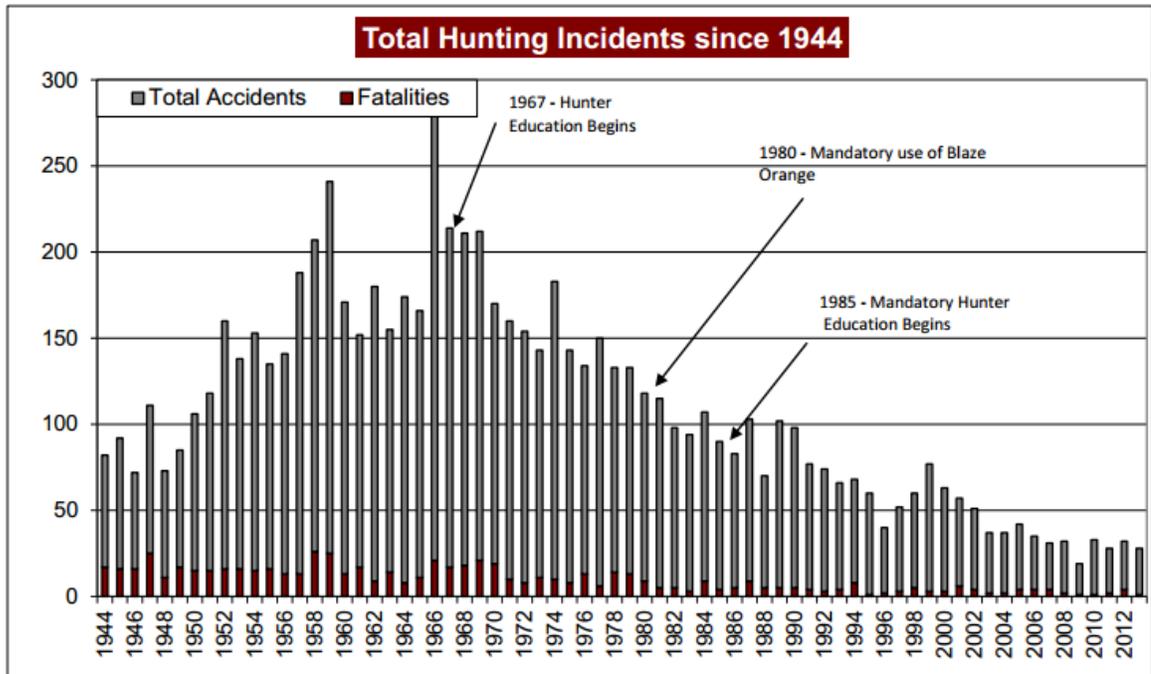


Figure 1

There were 27 total hunting incidents during the 2013 hunting season. One of the 27 incidents was fatal. Thanks to the efforts of Wisconsin hunter education programs, hunting is a safe activity in Wisconsin and is maintaining that safety record. In 2013, Wisconsin finished below the 10-year average of 29 incidents per year. New hunters are now required to complete a Basic Hunter Education course before they can purchase a hunting license.

2013 Hunter Education Program Summary:

- 962 traditional hunter education courses
- 90 online Internet field day courses
- 88 adult test-outs
- 135 archery courses
- About 33,300 students certified
- 26,220 in basic hunter education, 2,007 through the Internet field day,
- 2,762 adults certified and 2,375 students certified in archery.

WDNR currently have more than 4,100 active volunteer hunter education instructors. 500 Internet field day certified instructors, 20 DNR employees who support the adult test-out program. Shooting practice is encouraged

for graduates to continue to gain experience with safe firearm handling and shooting accuracy. **Ranges are an ideal practice training ground.** (Statistics taken from Wisconsin Hunter Education Annual Incident Report-2013).

In addition to a need for statewide shooting ranges, DNR needs local partners to help develop and manage these (new or improved) ranges. Barron County will fill this role.

1.5 DECISIONS THAT NEED TO BE MADE

The US FWS's Regional Director will select one of the alternatives analyzed in detail and will determine whether this EA is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether an Environmental Impact Statement (EIS) will need to be prepared.

CHAPTER 2 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternative location was determined by the evaluation of several factors:

- Minimize the number of residences adjacent to the range (to minimize noise)
- Avoid wetlands or hydric soils or soils with hydric inclusions
- Avoid State Natural Areas
- Avoid archeological sites
- Direct road access is preferred
- Located adjacent to major highways and roads
- Minimize impact on other recreational users
- Minimize impact on blocks of wildlife habitat
- Topography that is supportive of developing a shooting range

2.1 Alternatives Considered but Dismissed from Detailed Analysis

None.

2.2 Alternatives Carried Forward for Detailed Analysis

2.2.1. Alternative A – New Maple Plain Range (Proposed Action)

See Chapter 1, Project Summary.

This proposed action will provide a long term shooting range serving hunters, enthusiasts, and law enforcement. This location can support the appropriate berm heights, individual shooting lanes and a gravel parking lot with ADA accessible pit toilets.

The proposed action will construct a new range to include 50 feet, 50 yard, 100 yard and 200 yard target distances. Each distance will be separated by an earthen berm 15 feet in height. Each berm will have a 10 foot flat top to allow mower access, and the sideslopes will be 1:1. Berms will be finished with topsoil and seeded. The bottom of each shooting lane will be finished with topsoil, seed and hydromulch to establish a turf.

On site construction materials will be used to construct the berms. Each shooting lane will have their own individual shooting benches and target supports.

Best Management Practices will be followed to control construction site erosion. Range construction will be supervised by Barron County forces.

This facility will be a permanent facility. Should Barron County choose to mine gravel from the property, additional measures will be taken to insure the safety of County staff and work would be elsewhere on the property. Mining near this property is not anticipated to begin until 2029.

The facility will be open to the public all year as seasonal weather allows. As this is a new range, Barron County will notify WDNR hunter safety instructors that this range will be available for public use. The range will be unmanned. Range Operation and Maintenance (O&M) will be provided by Barron County forces.

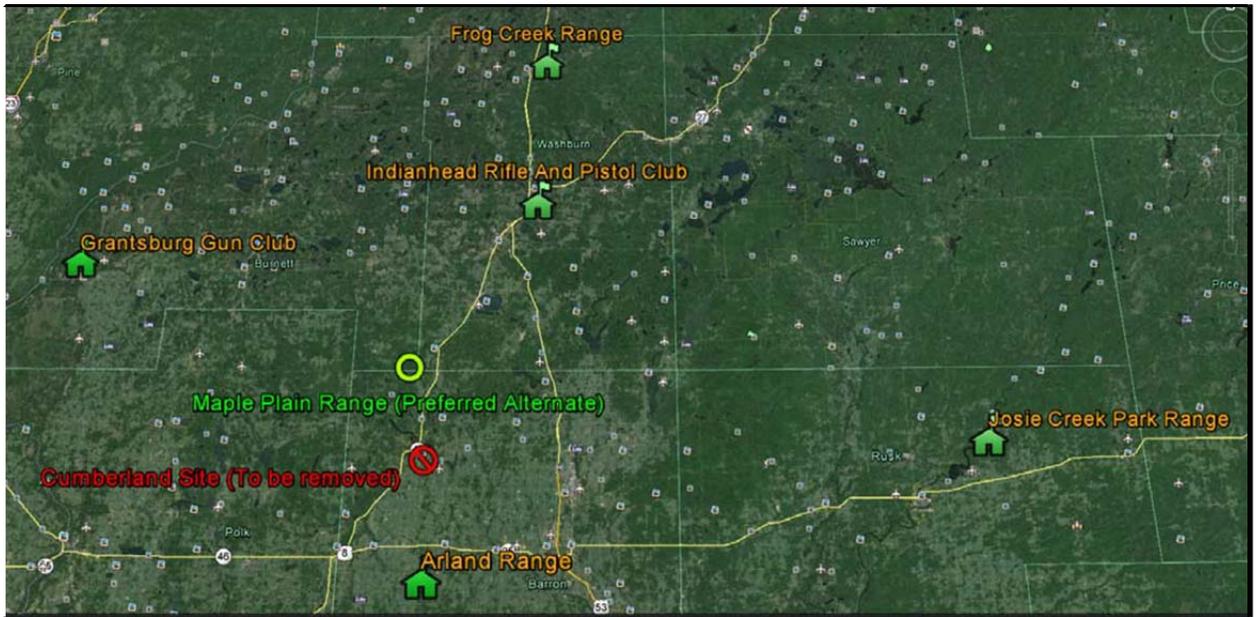


Figure 1 - Location map relative to other sites

As shown in Figure 1, the new range location is more centrally located amongst the other published shooting ranges in the area – providing distributed access to constituents.

2.2.2 Alternative B - No Action.

This alternative would not develop a new range. The existing Cumberland Site would eventually be removed as part of Barron County’s gravel mining operations. Safety, shooter skills, education and range accessibility needs would not be met. There is also concern that the loss of the Cumberland Site range may encourage haphazard target shooting at uncontrolled, random locations.

2.2.3 Alternative C – Enhance the Cumberland Site

This alternative would create ADA compliant access and pit toilets and suitable parking at the range located at the Cumberland Site. This alternative is not desirable because it would not address the lack of space needed to make individual shooting lanes. Although the range has multiple shooting lanes, there are no berms between them. This creates a conflict between users. While other users are maintaining targets or firing at close range, other users must wait until they are clear.

Since the county wishes to make use of the gravel and sand materials under the shooting range, this alternate would be short lived.

2.3 Summary of Alternatives Action Table

Actions	Alternative A (Proposed Action)	Alternative B (no action)	Alternative C (Enhance Cumberland Site)
County Land Ownership	Yes	Yes	Yes
Public Accessibility (ADA)	Yes	No	Yes
Site Development	Yes	No	Some
Disturbance Area	2.5 Acres	N/A	<1 Acre
Utility Conflict	None	N/A	None
Habitat Present	Upland	Upland	Upland
Safety Concerns	No	No	Yes – lack of segregated shooting lanes

CHAPTER 3 AFFECTED ENVIRONMENT

3.1 PHYSICAL CHARACTERISTICS

Alternate A:

Construction activities for the proposed action (A) would mostly be confined to the area shown in Attachment C, Aerial Schematic. A strip of oak and pine trees at the west side of the 200 yard range will be cleared and grubbed to make room for the berm.

On-site topsoil would be temporarily stockpiled and subsequently spread on rough graded shooting lanes/berms for vegetation.

No wetlands or waterways exist at the proposed action, Alternative A. Figure 2 is an overlay of the range area on a WDNR wetland delineation map.

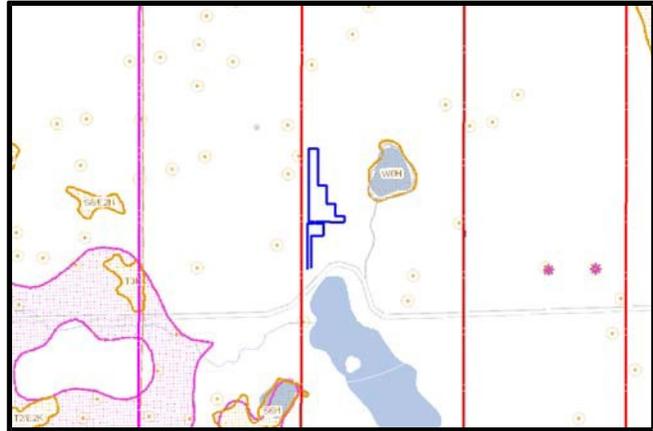


Figure 2 - Wetland Map at Proposed Action

The nearest body of water is south of the rifle range across the town road. The lake is a 13.73 acre Unnamed Lake (T36n R14w S1-9) This lake is managed for fishing and swimming and is currently not considered impaired. Its fish and aquatic life condition is unknown.



Photo of Unnamed Lake (WDNR Database)

Alternate C:

Construction for alternative C would largely remain within the ranges previously disturbed area. No wetlands would be disturbed.

3.2 BIOLOGICAL ENVIRONMENT (HABITAT/VEGETATION)

The proposed range site's topsoil will be windrowed or stockpiled during berm construction. The salvaged topsoil will be placed on the finished berms for vegetative establishment.

3.3 THREATENED/ENDANGERED AND CANDIDATE SPECIES, OTHER WILDLIFE SPECIES

DNR's Natural Heritage Inventory (NHI) was reviewed to determine if any state or federal listed endangered or threatened (E/T) species or other special resources are known to reside at or utilize sites A or C. NHI records indicate a number of state or federally listed E/T species have been observed within each township. (see [Attachment D](#)):

Alternative A – New Maple Plain Range (Proposed Action) Concerned Species - National Heritage Inventory				
Species Scientific Name	Species Common Name	State Status	State Rank	Group
Cygnus buccinator	Trumpeter Swan	Fully Protected	Apparently secure in Wisconsin, with many occurrences.	Bird
Eleocharis robbinsii	Robbins' Spike-rush	Special Concern	Rare or uncommon	Plant
Etheostoma microperca	Least Darter	No laws regulating use, possession, or harvesting	Rare or uncommon	Fish
Haliaeetus leucocephalus	Bald Eagle	Fully protected	Apparently secure in Wisconsin, with many occurrences.	Bird
Potamogeton bicupulatus	Snail-seed Pondweed	Special Concern	Imperiled in Wisconsin because of rarity	Plant
Potamogeton confervoides	Algae-like Pondweed	Threatened	Imperiled in Wisconsin because of rarity	Plant
Schoenoplectus torreyi	Torrey's Bulrush	Special Concern	Imperiled in Wisconsin because of rarity	Plant

Trumpeter Swans are large, white birds with a black bill and wingspan of nearly 8 feet. They are migratory birds that arrive in late April and leave in September shortly before freeze. Ideal habitat for Trumpeters include shallow wetlands 1-3 feet deep in isolated areas away from people. Alternate A does not affect any wetlands or habitats that this bird would use.

The Least Darter is an aquatic species. Alternate A does not affect any bodies of water.

The Bald Eagle is protected by the Bald & Golden Eagle Protection Act. According to WDNR, the eagle prefers large trees in isolated areas in proximity to large areas of surface water, large complexes of deciduous forest, coniferous forest, wetland, and shrub communities. Large lakes and rivers with nearby tall pine trees are preferred for nesting. No bald eagle nests or birds have been observed within the project area.

Snail-seed Pondweed, Algae-like Pondweed, Torrey's Bulrush are all found adjacent to or in shallow lakes, wetlands, or lagoons. The Alternative does not affect any bodies of water.

Alternate C - Enhance the Cumberland Site Concerned Species National Heritage Inventory				
Species Scientific Name	Species Common Name	State Status	State Rank	Group
Etheostoma microperca	Least Darter	No laws regulating use, possession, or harvesting	Rare or uncommon	Fish
Glyptemys insculpta	Wood Turtle	Threatened	Rare or uncommon	Turtle
Haliaeetus leucocephalus	Bald Eagle	Fully protected	Apparently secure in Wisconsin, with many occurrences.	Bird
Plestiodon septentrionalis	Prairie Skink	Take regulated by establishment of open closed seasons (WDNR)	Rare or uncommon	Lizard
Potamogeton vaseyi	Vasey's Pondweed	Special Concern	Rare or uncommon	Plant

The Least Darter is an aquatic species. Alternate does not affect any bodies of water.

Occurrence of wood turtles at this alternate is possible due to its adjacency to the Hay River. Wood turtles prefer deciduous forests and open meadows along moderate to fast flowing streams.

The Bald Eagle is protected by the Bald & Golden Eagle Protection Act. According to WDNR, the eagle prefers large trees in isolated areas in proximity to large areas of surface water, large complexes of deciduous forest, coniferous forest, wetland, and shrub communities. Large lakes and rivers with nearby tall pine trees are preferred for nesting. None of which is present within the vicinity of this alternate.

Prairie skinks prefer sandy soils in bracken grasslands or Pine Barrens. They are also found on open sandy banks along rivers and streams. Their range in Wisconsin is restricted to a small number of counties in the northwestern portion of the state, but are more commonly found west of Wisconsin in the Great Plains. Although it's possible this lizard could be within the vicinity, considering the amount of quarry activity and human use it is unlikely the Prairie Skinks are present.

3.4 LAND USE

Alternate A is a combination Zoned R-1 and unzoned. Barron County applied for a Special Exception through the town of Maple Plain in March 2014. The Decision of Barron County Zoning Board of Adjustment was granted on April 14, 2014.

Adjacent to the proposed range is a trailer owned by Scott Thomas. Mr. Thomas is renting the property from Barron County and resides in the trailer. Mr. Thomas has been notified of the proposed range by letter dated February 13, 2014 (Attachment E). Mr. Thomas discussed the proposed range with the Barron County Highway Department while paying his March rent of February 28, 2014. He said he had no issues with the proposed action.

Alternative C is zoned AG-2 and is permitted through the County for mining.

3.5 CULTURAL/PALEONTOLOGICAL RESOURCES

Barron County hired Florin Cultural Resources to investigate Alternate A for archeologically significant remains, lithic scatter or other items of historic importance. No evidence of historic use was found. Refer to Attachment F for the archaeologists findings.

3.6 LOCAL SOCIO-ECONOMIC CONDITIONS

The project area is rural and sparsely populated. Figure G1 & Figure G2 depict the population density surrounding each Alternate.

Dwellings Within	Alternate A (Proposed Action)	Alternate C
< ¼ Mile	1	6
¼ Mile – ½ Mile	1	11
½ Mile – ¾ Mile	3	10
¾ Mile – 1 Mile	8	32

3.7 ECONOMIC ISSUES

The only economic impact would be the use of federal Pittman-Robertson funds for range development. DNR will be requesting \$200,000 to help complete this work.

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

4.1 IMPACTS COMMON TO ALL ACTION ALTERNATIVES

Endangered/Threatened Species

Refer to Chapter 3.3. Although species are reported within one mile of all alternates, no evidence of endangered/threatened species have been discovered.

Environmental Justice

Any of the build alternatives for this project would have the potential to have a minor positive impact on Environmental Justice by providing a quality, free public shooting facility. The no build Alternative B would potentially have a minor negative effect as constituents would have to travel farther to use an alternate range after the Cumberland range is removed.

Economics

DNR will be using federal Pittman-Robertson funds for any of the listed “build” alternatives. DNR will be requesting \$200,000 to complete this work. Regardless of which alternative was implemented, no major economic impacts are expected. Range users may increase sales at nearby communities such as Baronett, WI.

Controversy - No controversy is anticipated.

4.2 IMPACTS SPECIFIC TO ALTERNATIVES CONSIDERED

4.2.1 Alternative A - Proposed Action

Cultural Resources

Archeological features have been reviewed and indicate no resources present for any of the alternatives considered. See [Attachment F](#).

Habitat Impacts

Minor negative impacts would be expected. The proposed site past use has been agricultural and pasture. Vegetation of shooting range side and back berms may help offset the loss of green habitat value. Minor and temporary fugitive dust and equipment exhaust emissions would be generated during range construction.

Biological Impacts

Minor negative biological impacts would be expected.

Social Conditions

Alternative A would meet user needs, improve year-round public access, be handicapped accessible and improve hunter education opportunities.

Safety

There is a safety risk associated with shooter error, firearm malfunction and intentional shooter vandalism. Alternative A would improve safety over the existing condition at Alternate C in several ways.

Alternative A will have berms separating the shooting ranges reducing the risk of one user injuring another by stray bullets or ricochets when adjusting or checking targets. Construction of side and back berms and single direction shooting lanes would further help prevent stray fire from escaping the site. Alternate C does not have the available room to add berms between shooting lanes.

Range use and shooting practice would help promote/retain firearm safety practices for hunters and other range users.

Intentional vandalism is always a possibility, especially in this case where the site will not be continuously manned and supervised. If vandalism becomes a problem increased surveillance from local law enforcement officials will be requested to discourage such activities.

Noise

Alternative A will cause increased use and an associated increase in shooting noise frequency. The new facility would be open year-round from sunrise to sunset. Winter use is unlikely. Noise would be reduced for areas adjacent to Alternate C as the range will eventually no longer exist. From a population density perspective, there is less impact to adjacent dwellings for Alternate A than Alternate C. Therefore a positive effect can be recognized for Alternate A as the adjacent land is sparsely populated.

Land Use

Because Alternative A is a new location, ground disturbance and topographic changes are necessary. It should be noted that this Barron County property is considered a future gravel/sand quarry site. Disturbance to the site is inevitable if not for a shooting range then as a quarry.

Lead Recovery

Accumulation of spent lead in berms could create a risk of lead contamination to groundwater. This is not known to cause a problem at other Wisconsin land-based shooting ranges. Shooting ranges over water, particularly shotgun ranges, are typically discouraged due to concerns regarding breakdown of lead in water and 1) ingestion by wildlife feeding in such areas and 2) surface or groundwater contamination and associated negative human/biological health

effects.

Soil type at the site is Anigon silt loam with 6-12% slopes, eroded. This soil type is well drained and has a high degree of permeability and low pH (5.6). A soil survey report is attached as [Attachment H](#).

There is an unknown degree of lead contamination risk at this or at any other range site. In response, DNR will encourage and may at some future time require operators to develop and implement a lead recovery and recycling program, including record keeping. Current practice is to encourage periodic recovery and recycling of lead by operators but it is not required.

Barron County plans to install bullet boxes for lead containment. These boxes are made of railroad ties or 4" X 4" rough cut treated lumber. Each box is filled with sand to absorb impact and damage to the back of the box. Industrial belting can be repurposed as a liner for inside the box. Tree stumps salvaged from the clearing and grubbing can be used as a bullet backstop inside the box.



Recreation

The new range under Alternative A would improve opportunity for year round recreational practice shooting for all users. The range will be accessible to all users including minorities and users with disabilities.

Cumulative Impacts

Cumulative impact has been defined in the National Environmental Policy Act as “the impact on the environment which results from the incremental impact of the action (in this case new shooting range development) when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such other action”.

Chapter 1 describes DNR interest in developing new shooting ranges across Wisconsin to promote hunting safety. No criteria have been set as to the demand for new ranges, how many should be built, location of such facilities, etc. Similarly DNR has no regulations regarding safe setback distances from other types of land uses. It is not expected that so many new ranges would be proposed in near proximity to each other that there would be an additive cumulative effect such as for safety or noise.

Alternatives A or C would not set a precedent resulting in substantial increased demand for such facilities elsewhere. But it would create a safer and more accessible facility to meet local and statewide shooting range demand.

No conflicts with local, state or federal plans or policies are expected. Lead deposition and cumulative spent lead build-up in earthen berms is not known in Wisconsin to present a serious risk of groundwater contamination or other environmental risk (see above Lead Recovery discussion). DNR would not support or seek federal funding for any new shooting ranges over water. At some future time DNR may want to consider a mandatory, unified lead recovery program for any ranges they seek to develop to help prevent or minimize lead contamination problems.

One possible cumulative effect is that shooting enthusiasts would become accustomed to the new range location and would frequent it more than random, uncontrolled locations in wooded property, gravel pits or open fields.

Controversy

None. The landowner, Barron County, is making the property available without cost. The range is expected to draw users mostly from within a 15-20 mile radius. The adjacent shooting ranges are all within 30 miles of each other.

The proposed range improvement project has been a Barron County goal for quite some time. No one has voiced concerns or objections. The nearest resident is the tenant that occupies the trailer on the property (Scott Thomas, 530 29 ½ Avenue). He was notified by written correspondence regarding the proposed action. On February 28, 2014, the tenant appeared at the Barron County Highway Department to pay on the lease. The shooting range was discussed and no concerns were expressed.

4.2.2 Alternative B - No Action

Cultural Resources

No known impacts as a result of this action.

Environmental Justice

Negative effect. Range currently is not ADA compliant. People who require ADA accessibility would not have a place to shoot.

Economics

No major impact. Federal funding could be used for other projects.

Habitat Impacts

None. The existing unimproved range will eventually be removed.

Biological Impacts

None. No new disturbance would take place as a result of this action.

Social conditions

Long term adverse effect as there would be no sanctioned range for individual users, social groups or organizations such as hunter's safety training, boy scouts, or law enforcement training & practice.

Safety

In the short term safety would not change. Long term, safety would improve at this location as shooting would no longer take place. It is speculated that safety overall would decrease as current users would shoot in uncontrolled or unimproved areas elsewhere.

Noise

Short term none. Long term improvement as this range will eventually close for gravel operations by Barron County.

Land Use - None.

Lead Recovery

Short term none. Long term Improvement as this range will eventually close for gravel operations by Barron County.

Recreation

Adverse effect as there would be no sanctioned range for individual users, social groups or organizations such as hunter's safety training, boy scouts, or law enforcement training & practice.

Cumulative Impacts

None identified by this action.

Controversy - No change. Long term controversy may ensue by not providing a range suitable for current users of the range.

4.2.3 Alternative C – Rehabilitate the existing range in Cumberland.

Cultural Resources – Same as for Alternative A (no impact expected).

Habitat Impacts - Similar but larger woodland loss than for Alternative A.

Biological Impacts - Similar but greater impact than Alternative A.

Social Conditions - Same as for Alternative A.

Safety - Generally same as for Alternative A depending on exact layout/design of larger, longer or more shooting lanes. Expansion at some future time may increase shooter appreciation of the safe distance (range) and accuracy of their weapons.

Noise - Generally same as for Alternative A.

Land Use - Same as for Alternative A.

Lead Recovery - Same as for Alternative A.

Recreation - Generally same as Alternative A, possible increased loss of other CFL recreation opportunity if lanes are added or extended.

Cumulative Impacts - Same as for Alternative A.

Controversy - Same as for Alternative A.

4.3 Summary Comparison of Environmental Consequences by Alternative

Impact type	Alternative A (Proposed Action)	Alternative B (No Action)	Alternative C (Enhance Cumberland Range)
End./Thr. Species	None	No effect	None
Cultural Resources	None	No effect	None
Envir. Justice	Positive	Negative	Short term positive
Economics	None	No effect	None
Habitat	Minor negative	No effect	Minor negative
Biological	Minor negative	No effect	Minor negative
Social Conditions	Positive	Negative	Short term positive
Safety	Positive	No effect	Short term positive
Noise	Positive	No effect	Short term negative
Land Use	Negative	No effect	Negative
Lead Recovery	Positive	No effect	Negative
Recreation	Positive	Negative	Short term positive
Cumulative	No effect	No effect	No effect
Controversy	None	None	None

CHAPTER 5 LIST OF PREPARER(S)

John Beckfield P.E.
CBS Squared Inc.

CHAPTER 6 CONSULTATION AND COORDINATION WITH THE PUBLIC AND OTHERS

The range site is owned by Barron County and is located in the Town of Maple Plain.

Shooting ranges are a permitted use of County land. The property for the Proposed

Action is currently a combination of R-1 and Unzoned. Barron County had applied for a Variance and Special Exemption from the Town of Maple Plain. Barron County Special Exception through Barron County Zoning Board of Adjustment was granted on April 14, 2014. This process required a Public Notice advertised in the Cumberland Advocate newspaper on March 5th and March 12th (Attachment I).

Mark Servi, Highway Commissioner, prepared schematic plans for range development (Attachment B). Commissioner Servi would supervise project construction if and when the project is approved and funded.

Property Committee, March 11, 2011 directed Administrator Jeff French to work with interested individuals in the Cumberland area for the purpose of moving the shooting range from the County owned pit to another location.

This environmental assessment will be made available as a draft document for public review and comments, further allowing identification of any controversy associated with the project. Per FWS instruction a news release will be sent by DNR to local and statewide media describing the project and requesting comments. If new issues or controversy emerge DNR will attempt to resolve them before forwarding the EA and grant application to FWS. All comments received and a description of any actions taken to resolve them would be forwarded to FWS as part of the final EA. FWS would make a final determination on the need for an EIS and a decision on the grant application.

CHAPTER 7 PUBLIC COMMENT ON DRAFT EA/EIS AND RESPONSE

<<<<Public comment will go here once finished>>>>

CHAPTER 8 REFERENCES CITED

Copies of references cited can be obtained from DNR contact person listed on page 1.

1. National Rifle Association Range Manual, 2012.
2. Natural Heritage Inventory (NHI) database, Wisconsin Dept. of Natural Resources
3. Hunting, Fishing and Trapping 2000 - A Report Addressing Long Term Planning for the Secretary's Issue of Hunting, Fishing and Trapping in Wisconsin, WDNR, 2000.
4. Shooting ranges a big target for funding from DNR; Milwaukee Wisconsin Journal Sentinel.
5. NRCS Web Soil Survey
6. Wisconsin Hunter Education Annual Incident Report-2013, WDNR.
7. Best Management Practices for Lead at Outdoor Shooting Ranges, EPA-902-B-01-001, June 2005, Region 2.

8. Outdoor Shooting Ranges: Best Practices, 2003, State of Minnesota, Department of Natural Resources.

ATTACHMENTS

Attachment A - Location Map

Attachment B - Site Schematic

Attachment C - Aerial Schematic

Attachment D – National Heritage Inventory (NHI)

Attachment E – Property Owner Notification

Attachment F - History/Archaeological Report

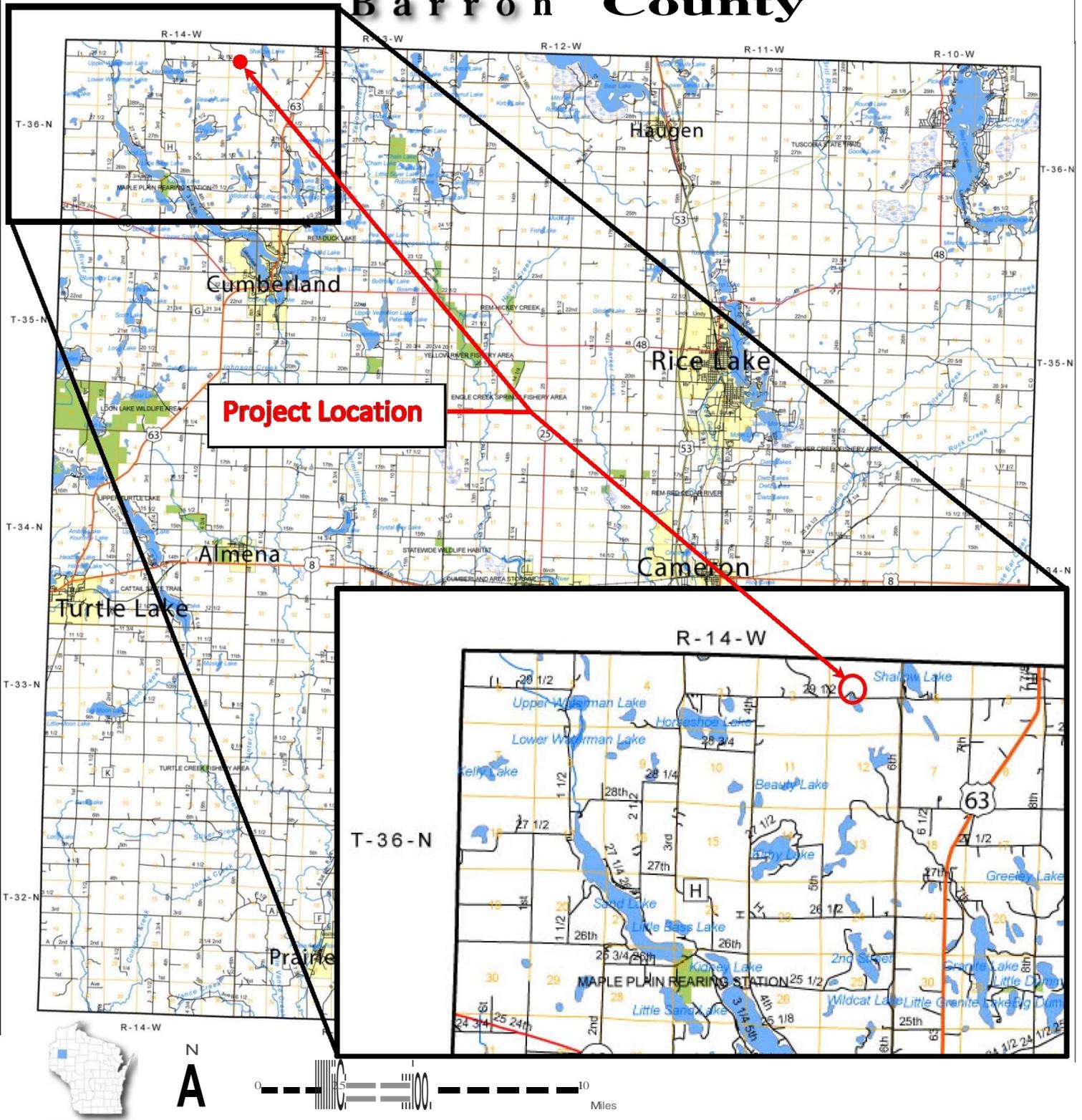
Figure G1 & Figure G2 - Adjacent Dwellings

Attachment H – US Soil Survey Report

Attachment I – Public Notices

Attachment J – Zoning Board of Adjustment Approval

Barron County



MAPLE PLAIN SHOOTING RANGE- BARRONETT, WI

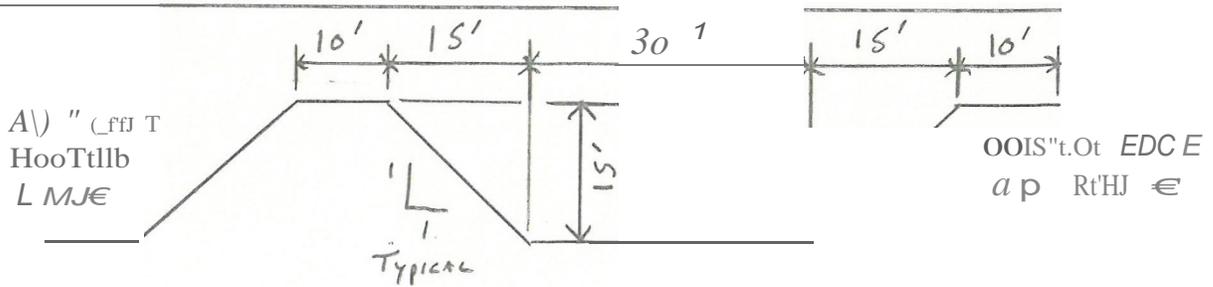
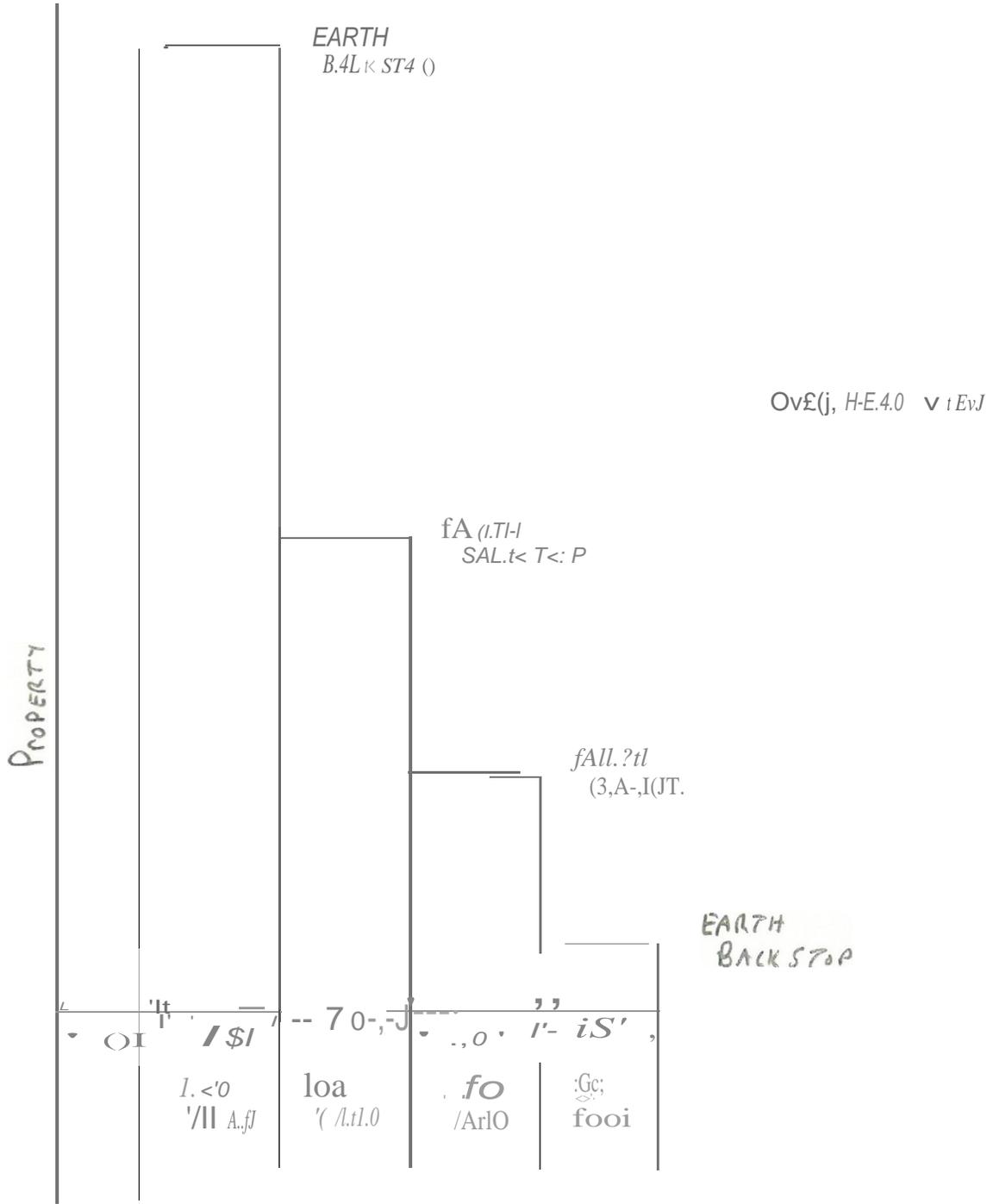
MAPLE RIFLE PLAIN RANGE

SH6D/t O RANGE DGTAI£.

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8/28/13 MKS

42-381 50 SHEETS EYE BASE* 5 SQUARES
42-382 100 SHEETS EYE BASE* 5 SQUARES
42-383 200 SHEETS EYE BASE* 5 SQUARES
National Brand



Elements by Townrange for Barron County

The Natural Heritage Inventory (NHI) database contains recent and historic element (rare species and natural community) observations. A generalized version of the NHI database is provided below as a general reference and should not be used as a substitute for a WI Dept of Natural Resources NHI review of a specific project area. The NHI database is dynamic, records are continually being added and/or updated. The following data are current as of **03/26/2014**:

Town Range

Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	Group Name
<i>Leucophysalis grandiflora</i>	Large-flowered Ground-cherry	SC		S1	G4?	Plant
023N010W						
<i>Lake--shallow, soft, drainage</i>	Lake--Shallow, Soft, Drainage	NA		S3	GNR	Community-
029N011W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
029N012W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
030N011W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
031N011W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
032N010W Alder						
<i>thicket</i>	Alder Thicket	NA		S4	G4	Community-
<i>Emergent marsh</i>	Emergent Marsh	NA		S4	G4	Community-
<i>Etheostoma microperca</i>	Least Darter	SC/N		S3	G5	Fish-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Northern mesic forest</i>	Northern Mesic Forest	NA		S4	G4	Community
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
<i>Sturnella neglecta</i>	Western Meadowlark	SC/M		S2B	G5	Bird
032N011W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
032N013W						
<i>Glyptemys insculpta</i>	Wood Turtle	THR		S3	G3	Turtle-
<i>Notropis nubilus</i>	Ozark Minnow	THR		S2	G5	Fish-
<i>Ophiogomphus smithi</i>	Sioux (Sand) Snaketail	SC/N		S2	G2G3	Dragonfly-
032N014W						
<i>Dry cliff</i>	Dry Cliff	NA		S4	G4G5	Community
<i>Moist cliff</i>	Moist Cliff	NA		S4	GNR	Community
<i>Northern mesic forest</i>	Northern Mesic Forest	NA		S4	G4	Community
033N010W Alder						
<i>thicket</i>	Alder Thicket	NA		S4	G4	Community-
<i>Emergent marsh</i>	Emergent Marsh	NA		S4	G4	Community-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Lake--shallow, soft, drainage</i>	Lake--Shallow, Soft, Drainage	NA		S3	GNR	Community-
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
<i>Northern wet forest</i>	Northern Wet Forest	NA		S4	G4	Community-
033N011W						
<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
<i>Artemisia dracuncululus</i>	Dragon Wormwood	SC		S2	G5	Plant
<i>Asclepias ovalifolia</i>	Dwarf Milkweed	THR		S3	G5?	Plant
<i>Dry-mesic prairie</i>	Dry-mesic Prairie	NA		S2	G3	Community
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
033N012W						
<i>Cygnus buccinator</i>	Trumpeter Swan	SC/M		S4B	G4	Bird-
<i>Ophiogomphus smithi</i>	Sioux (Sand) Snaketail	SC/N		S2	G2G3	Dragonfly-
033N013W						

Town Range	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	Group Name
	<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
033N014W	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
033N015W	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
034N010W	<i>Callitriche hermaphroditica</i>	Autumnal Water-starwort	SC		S2	G5	Plant-
	<i>Glyptemys insculpta</i>	Wood Turtle	THR		S3	G3	Turtle-
	<i>Haploperla orpha</i>	Quadrate Sallfly	SC/N		S2S3	G4	Stonefly-
	<i>Northern dry-mesic forest</i>	Northern Dry-mesic Forest	NA		S3	G4	Community
	<i>Stream--slow, soft, cold</i>	Stream--Slow, Soft, Cold	NA		SU	GNR	Community-
034N011W	<i>Alasmidonta marginata</i>	Elktoe	SC/P		S3	G4	Mussel-
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
	<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
	<i>Northern wet forest</i>	Northern Wet Forest	NA		S4	G4	Community-
	<i>Open bog</i>	Open Bog	NA		S4	G5	Community-
034N012W	<i>Glyptemys insculpta</i>	Wood Turtle	THR		S3	G3	Turtle-
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
	<i>Lythrurus umbratilis</i>	Redfin Shiner	THR		S2	G5	Fish-
	<i>Notropis nubilus</i>	Ozark Minnow	THR		S2	G5	Fish-
	<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
034N013W	<i>Cygnus buccinator</i>	Trumpeter Swan	SC/M		S4B	G4	Bird-
	<i>Etheostoma microperca</i>	Least Darter	SC/N		S3	G5	Fish-
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
	<i>Notropis nubilus</i>	Ozark Minnow	THR		S2	G5	Fish-
	<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
034N014W	<i>Elatine triandra</i>	Longstem Water-wort	SC		S1	G5	Plant-
	<i>robbinsii Haliaeetus</i>	Robbins' Spike-rush	SC		S3	G4G5	Plant-
	<i>leucocephalus Lake--shallow,</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
	<i>soft, seepage Northern dry-</i>	Lake--Shallow, Soft, Seepage	NA		S4	GNR	Community-
	<i>mesic forest Northern mesic</i>	Northern Dry-mesic Forest	NA		S3	G4	Community
	<i>forest Northern sedge</i>	Northern Mesic Forest	NA		S4	G4	Community
	<i>meadow Northern wet forest</i>	Northern Sedge Meadow	NA		S3	G4	Community-
	<i>Potamogeton bicupulatus</i>	Northern Wet Forest	NA		S4	G4	Community-
	<i>Potamogeton diversifolius</i>	Snail-seed Pondweed	SC		S2S3	G4	Plant-
	<i>Potamogeton pulcher</i>	Water-thread Pondweed	SC		S2	G5	Plant-
	<i>Potamogeton vaseyi</i>	Spotted Pondweed	END		S1	G5	Plant-
	<i>Schoenoplectus torreyi</i>	Vasey's Pondweed	SC		S3	G4	Plant-
034N015W		Torrey's Bulrush	SC		S2	G5?	Plant-
	<i>Eleocharis robbinsii</i>						
	<i>Potamogeton diversifolius</i>	Robbins' Spike-rush	SC		S3	G4G5	Plant-
	<i>Potamogeton vaseyi</i>	Water-thread Pondweed	SC		S2	G5	Plant-
035N010W		Vasey's Pondweed	SC		S3	G4	Plant-
	<i>Carex prasina</i>	Drooping Sedge	SC		S3	G4	Plant-
	<i>Glaciere Talus</i>	Glaciere Talus	NA		S2	G2G3	Community
	<i>Lanius ludovicianus</i>	Loggerhead Shrike	END		S1B	G4	Bird
	<i>Ribes oxycanthoides</i>	Canada Gooseberry	THR		S2	G5	Plant

Town Range

Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	Group Name
<i>Stream--slow, soft, cold</i>	Stream--Slow, Soft, Cold	NA		SU	GNR	Community-
<i>Striatura ferrea</i>	Black Striate	SC/N		S2	G5	Snail
<i>Vertigo tridentata</i>	Honey Vertigo	SC/N		S3	G5	Snail
<i>Viburnum edule</i>	Squashberry	END		S2	G5	Plant
035N011W						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
<i>Northern wet forest</i>	Northern Wet Forest	NA		S4	G4	Community-
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
<i>Open bog</i>	Open Bog	NA		S4	G5	Community-
035N012W						
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
035N013W Alternative C						
<i>Etheostoma microperca</i>	Least Darter	SC/N		S3	G5	Fish-
<i>Glyptemys insculpta</i>	Wood Turtle Bald	THR		S3	G3	Turtle-
<i>Haliaeetus leucocephalus</i>	Eagle Hardwood	SC/P		S4B,S4N	G5	Bird-
<i>Hardwood swamp</i>	Swamp Prairie	NA		S3	G4	Community-
<i>Plestiodon septentrionalis</i>	Skink Vasey's	SC/H		S3	G5	Lizard
<i>Potamogeton vaseyi</i>	Pondweed	SC		S3	G4	Plant-
035N014W						
<i>Emydoidea blandingii</i>	Blanding's Turtle	SC/H		S3S4	G4	Turtle-
<i>Ephemeral pond</i>	Ephemeral Pond	NA		SU	GNRQ	Community-
<i>Epiaeschna heros</i>	Swamp Darner	SC/N		S2S3	G5	Dragonfly-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Lake--shallow, soft, seepage</i>	Lake--Shallow, Soft, Seepage	NA		S4	GNR	Community-
<i>Northern dry-mesic forest</i>	Northern Dry-mesic Forest	NA		S3	G4	Community
<i>Northern mesic forest</i>	Northern Mesic Forest	NA		S4	G4	Community
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
<i>Northern wet forest</i>	Northern Wet Forest	NA		S4	G4	Community-
<i>Potamogeton vaseyi</i>	Vasey's Pondweed	SC		S3	G4	Plant-
<i>Southern mesic forest</i>	Southern Mesic Forest	NA		S3	G3?	Community
035N015W						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
036N009W						
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
036N010W						
<i>Black spruce swamp</i>	Black Spruce Swamp	NA		S3?	G5	Community-
<i>Buteo lineatus</i>	Red-shouldered Hawk	THR		S3S4B,S1	G5	Bird-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Lake--soft bog Northern</i>	Lake--Soft Bog Northern	NA		S4	GNR	Community-
<i>mesic forest Northern</i>	Mesic Forest Northern	NA		S4	G4	Community
<i>sedge meadow Northern</i>	Sedge Meadow Northern	NA		S3	G4	Community-
<i>wet forest Notropis</i>	Wet Forest Pugnose	NA		S4	G4	Community-
<i>anogenus Notropis</i>	Shiner	THR		S2	G3	Fish-
<i>nubilus Notropis texanus</i>	Ozark Minnow	THR		S2	G5	Fish- Fish-
<i>Open bog</i>	Weed Shiner	SC/N		S3	G5	Community-
036N011W						
<i>Botrychium minganense</i>	Mingan's Moonwort	SC		S2	G4G5	Plant
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Notropis nubilus</i>	Ozark Minnow	THR		S2	G5	Fish-
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-

Town Range

Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	Group Name
<i>Ophiogomphus smithi</i>	Sioux (Sand) Snaketail	SC/N		S2	G2G3	Dragonfly-
036N012W						
<i>Ammodramus leconteii</i>	Le Conte's Sparrow	SC/M		S2S3B	G4	Bird-
<i>Botaurus lentiginosus</i>	American Bittern	SC/M		S3B	G4	Bird-
<i>Coturnicops noveboracensis</i>	Yellow Rail	THR		S1B	G4	Bird-
<i>Cygnus buccinator</i>	Trumpeter Swan	SC/M		S4B	G4	Bird-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Community-
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	Fish-
<i>Open bog</i>	Open Bog	NA		S4	G5	Community-
<i>Ophiogomphus smithi</i>	Sioux (Sand) Snaketail	SC/N		S2	G2G3	Dragonfly-
<i>Phalaropus tricolor</i>	Wilson's Phalarope	SC/M		S1B	G5	Bird-
<i>Poor fen</i>	Poor Fen	NA		S3	G3G4	Community-
<i>Tamarack (poor) swamp</i>	Tamarack (Poor) Swamp	NA		S3	G4	Community-
036N013W						
<i>Cygnus buccinator Elatine</i>	Trumpeter Swan	SC/M		S4B	G4	Bird-
<i>triandra Eleocharis</i>	Longstem Water-wort	SC SC		S1	G5	Plant-
<i>robbinsii Haliaeetus</i>	Robbins' Spike-rush	SC/P		S3	G4G5	Plant-
<i>leucocephalus Lake--soft bog Potamogeton</i>	Bald Eagle	NA		S4B,S4N	G5	Bird-
<i>bicupulatus</i>	Lake--Soft Bog	SC		S4	GNR	Community-
<i>bicupulatus</i>	Snail-seed Pondweed	SC		S2S3	G4	Plant-
<i>Potamogeton vaseyi</i>	Vasey's Pondweed			S3	G4	Plant-
036N014W Alternative A						
<i>Cygnus buccinator</i>	Trumpeter Swan	SC/M		S4B	G4	Bird-
<i>Eleocharis robbinsii</i>	Robbins' Spike-rush	SC		S3	G4G5	Plant-
<i>Emergent marsh</i>	Emergent Marsh	NA		S4	G4	Community-
<i>Etheostoma microperca</i>	Least Darter	SC/N		S3	G5	Fish-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Lake--shallow, soft, seepage</i>	Lake--Shallow, Soft, Seepage	NA		S4	GNR	Community-
<i>Potamogeton bicupulatus</i>	Snail-seed Pondweed	SC		S2S3	G4	Plant-
<i>Potamogeton confervoides</i>	Algae-like Pondweed	THR		S2	G4	Plant-
<i>Schoenoplectus torreyi</i>	Torrey's Bulrush	SC		S2	G5?	Plant-
<i>Stream--fast, soft, warm</i>	Stream--Fast, Soft, Warm	NA		SU	GNR	Community-
037N010W						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Bird-
<i>Notropis anogenus</i>	Pugnose Shiner	THR		S2	G3	Fish-
037N012W						
<i>Ammodramus leconteii</i>	Le Conte's Sparrow	SC/M		S2S3B	G4	Bird- Bird-
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	Community-
<i>Northern sedge meadow</i>	Northern Sedge Meadow	NA		S3	G4	Fish-
<i>Notropis texanus</i>	Weed Shiner	SC/N		S3	G5	
037N013W						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		S4B,S4N	G5	
037N014W						
<i>Stream--fast, soft, warm</i>	Stream--Fast, Soft, Warm	NA		SU	GNR	Community-

This report lists locations for all elements occurring in Barron County, since many element occurrences cross county boundaries, it may also list townships from additional counties.



**PHASE I ARCHAEOLOGICAL SURVEY FOR A PROPOSED RIFLE RANGE
IN MAPLE PLAIN TOWNSHIP, BARRON COUNTY, WISCONSIN**

by

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Principal Investigator

&

Mike Bradford
Staff Archaeologist

Florin Cultural Resource Services, LLC

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FCRS Report of Investigation # 110

Submitted to:

**Barron County
260 North 7th Street
Barron, WI 54812**

May 2014

ABSTRACT

Barron County retained Florin Cultural Resource Services, LLC (FCRS) to conduct a Phase I archaeological survey for a proposed rifle range in T36N, R14W, NW¹/₄ SE¹/₄ NW¹/₄ and SW¹/₄ SE¹/₄ NW¹/₄ Section 1, Maple Plain Township, Barron County, Wisconsin. The archaeological survey was conducted to fulfill requirements of federal historic preservation laws, as the project will be funded by a grant from the United States Fish and Wildlife Service. The project is permitted by the Wisconsin Department of Natural Resources.

The archaeological survey area was 8.1 acres. Land use included an agricultural field, a pasture, and woods. The archaeological investigation included background research, pedestrian survey, and 33 shovel tests. No archaeological sites were identified during the survey, and no further archaeological work is recommended for this project. There are no historic buildings or structures within the APE. It is the opinion of FCRS that no historic properties eligible for or listed on the NRHP will be affected by this project.

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Appendices

- Appendix A: Archaeological Reports Inventory Form
- Appendix B: OSA Permit to Conduct Field Archaeology

1. INTRODUCTION

Barron County retained Florin Cultural Resource Services, LLC (FCRS) to conduct a Phase I archaeological survey for a proposed rifle range in T36N, R14W, NW¼ SE¼ NW¼ and SW¼ SE¼ NW¼ Section 1, Maple Plain Township, Barron County, Wisconsin (Figures 1 and 2).

The archaeological survey was conducted to fulfill requirements of federal historic preservation laws, as the project will be funded by a grant from the United States Fish and Wildlife Service. The project is permitted by the Wisconsin Department of Natural Resources. The goal of the archaeological survey was to aid the Barron County in complying with Section 106 of the National Historic Preservation Act and 36 CFR 800: Protection of Historic Properties. Mr. Mark Servi, Highway Commissioner, was the point of contact for Barron County.

The archaeological area of potential effect (APE) is 8.1 acres. The archaeological survey encompassed the entire APE. Land use in the APE consists of an agricultural field, a pasture, and woods. The project is bounded by a quarry on the west and pasture and woods on the north. East of the project is a small lake and a mixture of fields and woods. The project is bordered on the south by 29 1/2 Ave. and a small lake. Photos of the project area are presented in Figures 3 to 6.

The UTM coordinates for the approximate center point of the survey area are Zone 15, N5053905, E574390. All of the land in the survey area is owned by Barron County. A permit to conduct the Phase I survey was obtained from the Office of the State Archaeologist prior to conducting fieldwork (Appendix A).

Background research was conducted in April of 2014. Information on previously recorded sites was obtained from the Wisconsin Historic Preservation Database (WHPD) maintained by the Wisconsin Historical Society. No previously recorded sites are located in the project area. There are no extant historic buildings or structures within or adjacent to the APE.

Frank Florin was the principal investigator for the archaeological investigations. Frank Florin, Michael Bradford, Ryan Letterly, James Lindbeck, Robert Thompson, and Jeff Shapiro conducted field work on April 30 and May 1, 2014. The archaeological field investigation included pedestrian survey and 33 shovel tests, which were dug in areas of low surface visibility and on select landscapes. No archaeological sites were identified during the survey, and no further archaeological work is recommended for this project.

This report adheres to the guidelines established for public archaeology in Wisconsin (Kolb 1997). The sections of this report include an abstract, introduction, project goals and research design, environmental setting, archaeological context, field methods, results, recommendations, references, Appendix A: OSA Permit to Conduct Field Archaeology, and Appendix B: Archaeological Reports Inventory Form. All project documentation is on file at the FCRS office in Boyceville, Wisconsin.

Although the archaeological survey conducted for the project meets Wisconsin archaeological guidelines, it is possible that undiscovered cultural resources may be uncovered during construction. If cultural materials/resources are discovered during construction, the Office of the State Archaeologist should be contacted at (608) 264-6495. If human remains are discovered, the Burial Sites Preservation Office should be contacted at (608) 264-6503.

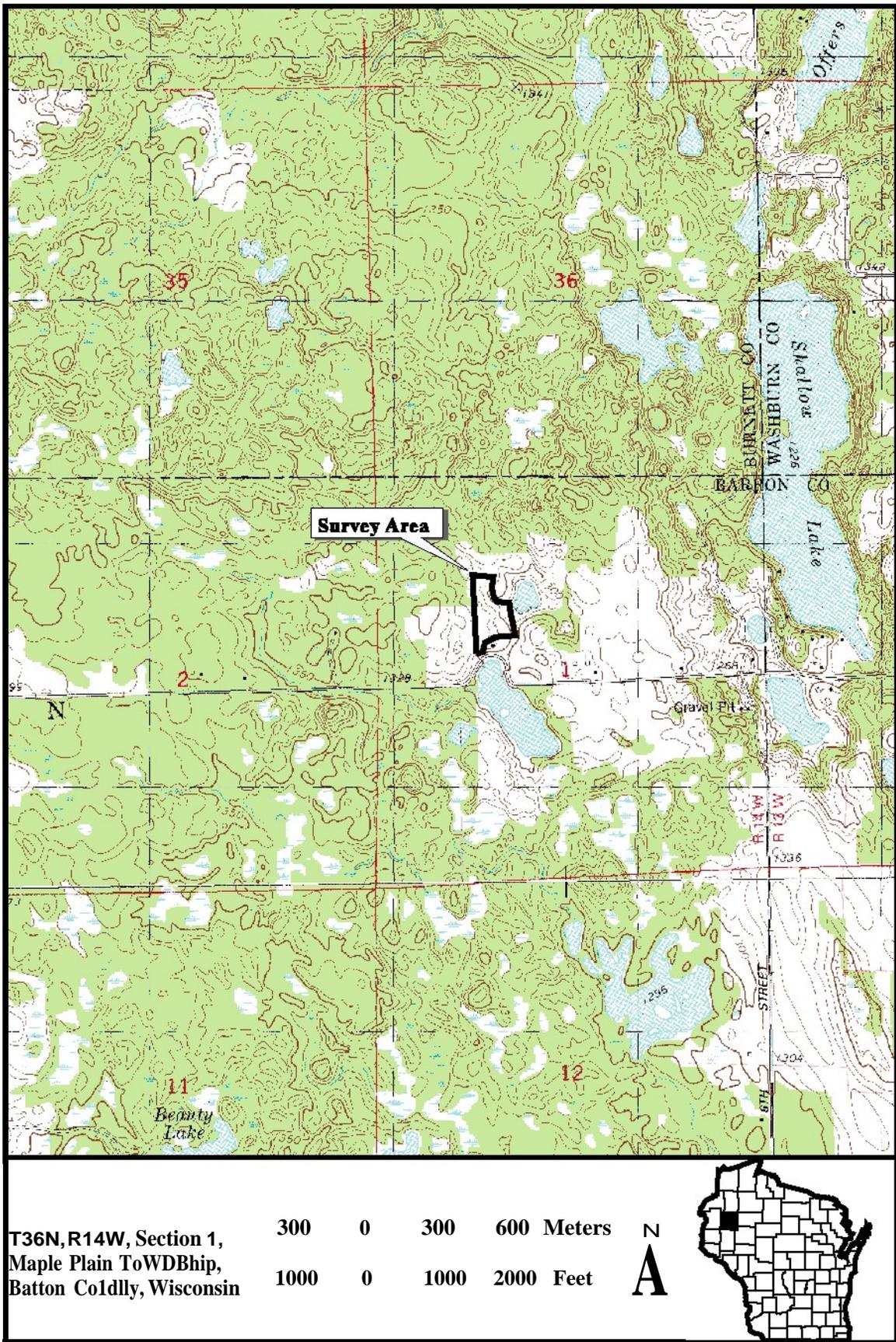


Figure 1. Location of Survey Area on USGS 7.5 Timberland Quad.



Figure 2. Survey Area and Shovel Test Locations on Aerial Imagery (from Google Earth).



Figure 3. Photo of Pasture in North End of Survey Area, Facing South.



Figure 4. Photo of Hill Top and Hay Field in West-Central Portion of Survey Area, Facing East.



Figure 5. Photo of Hay Field and Woods in Western Portion of Survey Area, Facing North.



Figure 6. Photo of Hay Field and Modern Trailer South of Survey Area, Facing East.

2. PROJECT GOALS AND RESEARCH DESIGN

The goal of the project was to aid the Barron County Highway Department in complying with Section 106 of the National Historic Preservation Act and 36 CFR 800: Protection of Historic Properties. The research design was developed to meet historic preservation goals, which concern the identification and protection of important cultural resources. The research design was based on the research and field methods in the *Guidelines for Public Archaeology in Wisconsin* (Kolb 1997) and included background research, fieldwork to identify archaeological sites, and recommendations.

3. ENVIRONMENTAL SETTING

3.1 Field Conditions

The project area is situated approximately six miles north of the city of Cumberland, Wisconsin. There is a modern, single-wide trailer adjacent at the south end of the project. Land use in the project area consists mostly of a hay field, with a pasture at the north end and woods along the northwest margin. Surface visibility in the hay field was fair to good and ranged from 20 to 40 percent, with rocks present on the ground surface. Surface visibility in the pasture and woods was low to none. Soil profiles from the pasture indicate that it had been plowed in the past. Much of the northern and eastern portion of the survey area had slopes that exceeded 15 degrees.

3.2 Landscape

Terrain in the survey area consists of rolling glacial hills mapped as stagnation moraine (http://dnr.wi.gov/topic/landscapes/documents/StateMaps/Map_S12_Surficial_Deposits.pdf). The western portion consists of hill crests and shoulder landforms. The eastern portion consists of side slopes and foot slopes. Small lakes are located east and south of the survey area. A wetland area, which was filled with water at the time of the survey, is present in the woods near the northwest end of the survey area.

The nearest major water source is Shallow Lake, which is located 0.7 mile east of the survey area. The project is mapped within the Forest Transition Ecological Landscape (Wisconsin Department of Natural Resources 2014), which has bedrock consisting of Precambrian volcanic and metamorphic rock. The Forest Transition Landscape is characterized by till plains and moraines deposited during the Wisconsin glaciation. Wisconsin-age loess of varying thickness was deposited by wind in some areas. Presettlement vegetation in the area consisted of northern hardwoods, primarily of a mix of hemlock, sugar maple, and basswood, as well as white pine (Albert 1995).

3.3 Soils

Soils in the project area are mapped primarily as Angion silt loam series (Web Soil Series 2014). Current descriptions of the soils were obtained from the Soil Survey Division, Natural Resources Conservation Service, United States Department of Agriculture – Official Soil Series Descriptions accessed at URL: “<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>” [Accessed April 2014].

The Anigon series consists of very deep, well-drained soils which are moderately deep to sandy outwash. These soils formed primarily in loess or silty alluvium underlain by stratified sandy outwash. Typically these soils are located on outwash plains, valley trains, and stream terraces; however, some are on kames, eskers, glacial lake basins, and moraines. Permeability is moderate in the silty and loamy mantle and rapid or very rapid in the sandy outwash. Slopes range from 0 to 25 percent. A typical pedon consists of A-E-B/E-Bt1-2Bt2-2Bt-3C1-3C2 horizons.

The potential for deeply buried sites (below one meter) is very low to none, based on the glacial age of the landscape. There has been little to no deposition during the Holocene. Sites, if present, are expected to be within the upper 50 cm of soil. Soils in the project area actually appear to have formed mostly in till based on the moderate gravel content.

4. ARCHAEOLOGICAL CONTEXT

4.1 Prehistoric and Historic Background

4.1.1 Prehistoric Period

The project is located in Archaeological Region 1 in northwestern Wisconsin. The following prehistoric cultural history is derived primarily from overviews presented in the Wisconsin Archaeologist Volume 78, Number 1/2. Contact and historic period information was derived from Nesbit (1973), Paul and Paul (1979), Heffner (2000), and the Wisconsin Cartographer's Guild (1998). Because of the lack of extensive and systematic investigations in the region, the cultural history of the project area is poorly documented. Cultural traditions expected to be present in the project area can be inferred from adjacent regions.

Paleoindian

The Paleoindian tradition in Wisconsin has been outlined by Mason (1997). The Paleoindian tradition spans from approximately 10,000 to 6,000 B.C. and is characterized by the use of fluted and lanceolate shaped spear points for hunting large game. Studies of a few regions in the state have been completed (Boszhardt 1991; Dudzik 1991; and Overstreet 1991a and 1991b). Although Paleoindian sites have been identified throughout Wisconsin, the number of recorded sites is low, presumably because of low population densities and a highly mobile lifeway. Most sites are recorded as find spots in cultivated fields. Additionally, geological processes during the Holocene have buried or destroyed many sites. Fluted points represent evidence for the earliest Paleo-Indian occupations, and their presence north of a line between Eau Claire and Green Bay is rare (Stoltman and Workman 1969; Stoltman 1993). A fluted point recently discovered in Barron County was documented by Heffner (2000). Orrin Shane of the Science Museum of Minnesota has reportedly confirmed that the artifact is a Clovis point. Lanceolate point types associated with the Late Paleoindian tradition are more common than fluted points and have been recovered in several locations across northern Wisconsin. Two Late Paleoindian phases have been identified from investigations in Oneida and Vilas Counties in northern Wisconsin (Salzer 1974).

Archaic

The Archaic tradition in Wisconsin has been documented by Stoltman (1986, 1997) and consists of early, middle, and late stages. The Archaic tradition is characterized by the following: 1) a subsistence base that relied on a variety of game animals, collecting of wild plant resources with a total absence of agriculture; 2) the absence of ceramics; and 3) burials on natural knolls or flat

cemeteries with the absence of burial mounds. As a general trend, an increasing number of diverse projectile point styles were used throughout the Archaic period. This trend appears to be related to greater regional variation. Several new technologies were developed, including notched projectile points for use with the atlatl, ground stone tools, copper tools, stone mortars for processing plant material, and ornamental artifacts made from bone and shell.

The Early Archaic stage (ca. 8,000 to 4,000 B.C.) is sparsely represented across the state. Projectile point types are typically corner-notched and include Hardin Barbed, St. Charles, Thebes, and bifurcate base types. During the Middle Archaic stage (ca. 6,000 to 1,000 B.C.), population appears to have significantly increased, and Middle Archaic sites are more numerous. Projectile point types are typically side-notched and include Reigh, Raddatz, and Matanzas types. The use of ground stone tools and native copper working during the Middle Archaic is referred to as the Old Copper complex. Evidence of the Late Archaic stage (ca. 1,500 to 500 B.C.) comes primarily from rock shelters in southwestern Wisconsin. Projectile points are small corner-notched or stemmed varieties, including Preston Notched and Durst types. During the Late Archaic, sites were larger and more numerous, indicating population growth and more extensive occupation of sites. The Archaic tradition in northwestern Wisconsin is poorly understood because of the scarcity of sites (Harrison 1991; Salzer 1974).

Woodland

The Woodland tradition in Wisconsin has been documented by Stevenson et al. (1997) and consists of early, middle, and late stages that date from approximately 100 B.C. to 1500 A.D. The Woodland tradition is characterized by the use of ceramics, the cultivation of plants, and the construction of burial mounds. Large village sites also became established during this period as a result of a more sedentary lifeway. Projectile points include a variety of stemmed and notched types. Triangular points are common in the Late Woodland stage.

The Early Woodland stage (ca. 500 to 100 B.C.) is not represented in northwestern Wisconsin. The Middle Woodland stage (ca. 100 B.C. to 400 AD) in western and northwestern Wisconsin includes the Havana tradition or Havana-related complexes that are defined as the Trempealeau and Red Cedar complexes (Mason 1966). These complexes provide evidence of influence or involvement with the Hopewell interaction sphere that extended to the northeastern United States. Conical mound complexes with elaborate burials, plant cultivation, large campsites, Havana-like ceramics, and evidence of extensive trade networks characterize the Middle Woodland. The Late Woodland stage (ca. 400 AD to contact period) in northern Wisconsin includes several different complexes. Harrison (1990) has documented the Late Woodland stage in northwestern Wisconsin. The project area is located near the northern extent of Oneota settlements and Mississippian influences.

Oneota

The Oneota tradition (1000 to 1650 A.D.) is characterized by distinctive ceramic wares, semi-sedentary village settlements, small triangular points, and farming (Overstreet 1997). There is considerable debate regarding the origins and decline of the Oneota tradition, which extended across the southern two-thirds of Wisconsin. Several horizons within the Oneota tradition have been delineated, and several distinct historical Native American groups have been linked to the Oneota.

4.1.2 Contact and Historic Period

Native American

Prior to the arrival of Europeans in Wisconsin, Native American tribes were directly affected by European activities occurring in the eastern United States, as trade goods, diseases, and displaced tribes from the east made their way westwards into Wisconsin. The Dakota occupied much of northern Wisconsin at the time of the earliest recorded European contact in the early 1600s. By the mid-1600s several tribes from the eastern Great Lakes, including the Odawa (Ottawa), Huron, Petun, Sauk, Meskwaki (Fox), Kickapoo, Miami, Mascouten, and Illinois fled to Wisconsin as a result of the Iroquois Wars. An Ottawa village, dating to 1660, has been reported from Lac Courte Oreilles northeast of the project area. As a result of conflicts with tribes already living in Wisconsin and relocation by the United States government, most of these tribes were eventually displaced to areas outside of Wisconsin.

The Ojibwe migrated eastwards in the 1600s and gained control of much of northern Wisconsin through battles with the Dakota in the 1700s. The French explored along the Chippewa, Fox, Wisconsin, St. Croix, Brule, and Mississippi rivers in the mid and late 1600s. The French constructed several forts and posts along strategic river locations during the fur-trade era (1634 to 1763), and native groups participated in the fur trade and aided the French in battles against the British. Battles between the Ojibwe and Dakota have been reported in local histories of the region, and a major battle is reported to have occurred at St. Croix Falls. In 1837 the Ojibwe ceded their lands in the area to the United States and attempts were made to move them onto reservations. They were eventually forced onto reservations in 1880s. The fur trade continued as the British gained control of the region (1763 to 1815). After the war of 1812, the United States gained control of the area and constructed posts along major rivers.

Wisconsin achieved statehood in 1848, and logging became a dominant activity throughout much of Wisconsin by the mid 1800s. The region yielded vast stands of pine and hardwoods. Agricultural activities in the southern two-thirds of the state quickly followed the clearing of the land. Settlement began in the southern portion of the state in the early 1800s and spread northwards through the mid and late 1800s.

4.2 Previously Recorded Sites

Information on previous archaeological investigations and recorded sites was obtained from the WHPD through the regional archaeological center at the University of Wisconsin - La Crosse. The WHPD review indicates that there are no previously recorded sites located within one mile of the project area.

The Charles E. Brown site records were also examined for information on previously recorded sites (Brown 1906, 1908, 1923, and 1925). These records were compiled during the late 1800s and early 1900s from information reported to Brown during his tenure as Secretary of the Wisconsin Archaeological Society and as an employee of the State Historical Society of Wisconsin. Many of the sites reported to Brown have not been verified, and their precise locations and cultural contexts have not been determined. There are no sites listed in the Charles E. Brown site records within one mile of the project.

4.3 Historic Map Research Results

Historic plat maps reviewed for the project included maps from 1853, 1888, 1914, 1930, 1942, 1956, and 1966 (U.S. General Land Office 1853; Foote and Hood 1888; Webb Publishing 1914; Hixson 1930; Barron County 1942; Nelson 1956; Title Atlas Company 1966). No historic properties are located within or adjacent to the project area on these maps. No previously recorded sites are located in the project area.

5. FIELD METHODS AND RESULTS

5.1 Field Documentation

A record of daily activity was recorded in a log that documented fieldwork and relevant information on the survey area. Project maps were provided by Barron County, and the project perimeter was staked prior to survey. Photographs were taken at several locations throughout the project area. A record of the photographs was maintained in a project photo log.

The survey perimeter and shovel test locations were recorded with a Trimble Geo XH 6000 unit, which provided a position accuracy of less than 50 cm. The collected data were corrected and exported to ArcView and Google Earth to create project maps.

5.2 Pedestrian Survey

Pedestrian survey was conducted in 5-meter-interval transects within the entire survey area. The goal of the pedestrian survey was to identify and record archaeological sites that could be observed on the ground surface. Pedestrian survey was a practical method for identifying certain types of potential archaeological resources such as artifact scatters, pits, earthworks, or historical foundations. The portion of the project in the hay field had surface visibility ranging from 20 to 40 percent, which is sufficient for the identification of precontact and historic artifact scatters. No artifacts or cultural resources were found during pedestrian survey.

5.3 Shovel Testing

Shovel testing was conducted in the pasture and woods, which had less than 20 percent visibility. Tests were not dug on slopes greater than 20 degrees or in the wet area in the northwestern portion of the project. Tests were also dug on the knoll tops and a side slope in the hay field to characterize the soils on various landforms. A total of 33 shovel tests were dug at 15-meter intervals. No artifacts were found in any of the shovel tests.

Shovel tests were 35 centimeters in diameter and were dug about 30 cm into the B horizon, typically to a depth of 50 to 60 cm below surface. Soil was screened through 0.25-inch hardware cloth. All excavated soil was returned to each test upon completion.

A typical soil profile in the woods consisted of a very dark gray (10YR 3/1) silt loam from 0 to 20 cm below surface (cmbs) (A horizon) and a yellowish brown (10YR 5/4) silt loam from 20 to 50 cmbs (B horizon). Soils in the pasture and hay field were similar to those in the woods, but some of these areas were eroded and had slightly lighter Ap horizons. Gravel and cobbles were present in moderate quantities throughout the soil profile.

6. SUMMARY AND RECOMMENDATIONS

The archaeological survey for the proposed Barron County Rifle Range has been completed. No archaeological sites were identified, and no further archaeological work is recommended. There are no historic buildings or structures within the APE. It is the opinion of FCRS that no historic properties eligible for or listed on the NRHP will be affected by this project.

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APPENDIX A: Archaeological Reports Inventory Form

ARCHAEOLOGICAL REPORTS INVENTORY FORM

WHS PROJECT #

COUNTY

AUTHORS:

REPORT TITLE:

DATE OF REPORT (MONTH AND YEAR):

SERIES/NUMBER:

PLACE OF PUBLICATION:

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]

U.S.G.S. QUAD MAP(S):

SITE(S) INVESTIGATED:

ACRES INVESTIGATED:

AGENCY #

INVESTIGATION TECHNIQUES COMPLETED (Check all that apply.)

- | | | |
|---|--|---|
| <input type="checkbox"/> Avocational Survey | <input type="checkbox"/> Chance Encounter | <input type="checkbox"/> Historical Research |
| <input type="checkbox"/> Faunal Analysis | <input type="checkbox"/> Floral Analysis | <input type="checkbox"/> Interview/Informant |
| <input type="checkbox"/> Literature Background Research | <input type="checkbox"/> Major Excavation/Phase III | <input type="checkbox"/> Mechanical Stripping |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Osteological Analysis | <input type="checkbox"/> Geomorphology |
| <input type="checkbox"/> Records/Background | <input type="checkbox"/> Surface Survey | <input type="checkbox"/> Soil Core |
| <input type="checkbox"/> Remote Sensing | <input type="checkbox"/> Shovel Testing/Probing Test | |
| <input type="checkbox"/> Excavation/Phase II | <input type="checkbox"/> Traditional Knowledge | |
| <input type="checkbox"/> Underwater | <input type="checkbox"/> Walk Over/Visual Inspection | |

ABSTRACT: Included in report Written in space below

APPENDIX B: OSA Permit to Conduct Field Archaeology

WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT, 2014
 REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS.STAT.§ 44.47
 Wisconsin Historical Society

Name/Organization/Contact Florin Cultural Resource Services, LLC Telephone 715-544-3291

Address N12902 273rd Street City Boyceville State WI Zip Code 54725

E-mail Address florin@pressenter.com FAX# _____

Institutional Affiliation Florin Cultural Resource Service occupation: Archaeologist

Location of work:

Highway: Hwy/Rd _____ County _____

Project Begin: _____ Project End: _____

Other Projects: County Barron Civil Town Maple Plain Town 36N Range 14 W Section 14

Quarter Sections (minimum 3) NW SE NW and SW SE NW

Name of Park, Wildlife Area, _____ Site Name: _____ Site Number _____

Type of fieldwork: Phase I/Survey Phase II/Testing _____ Phase III/Excavation _____ Other _____

Purpose of the fieldwork: Federal Compliance _____ State Compliance _____ Education _____ Other _____

Period of field work beginning on 4/5/14 and ending on 5/15/14

What institution will curate recovered artifacts, notes, and records? MVAC
 (Curation agreement must be on file with WHS)

Signature of Archaeologist _____ Date _____

Print name Frank Florin continuation sheet or see attachments

Maps and/or Letters of explanation can accompany this application

Landowner or custodian name (print) B(t b/l CotJ,,J MiJrk ' Phone 11.5-103-7- 37.55

Signature of Landowner ll / ll ' l-l •r4w.,, c<Hijil !lt<JN<-""Date /sLIA

DO NOT WRITE BELOW THIS LINE

Permit **Approved** _____ Date _____

John H. Broihahn
 State Archaeologist
 Wisconsin Historical Society
 FAX: 608-264-6504/ PH 608-264-6496
 Email: john.broihahn@wisconsinhistory.org

PLP#14- _____

Conditions:

- 1) Two copies of the final report must be submitted to the Division of Historic Preservation-Public History.
- 2) All artifacts, notes and records must be curated in an appropriate facility that is staffed by trained personnel.

Additional authorization or permitting is necessary to conduct work within the boundaries of uncataloged and cataloged human burial sites under Wis. Stat. § 157.70.
 For additional information please see: <http://preiew.wisconsinhistory.org/Content.aspx?dsNav=N:1205>
 or contact Sherman Banker at (608) 264-6507 or sberman.banker@wisconsinhistory.org

FILE NAME : P:\BARRON\1001 Sporting Range\005\Map\adjacent\map11.jpg.ctb

PLOT DATE : 5/19/2014



e DWELLINGLOCAnQN

cbs² Engineers - Architects
 515 W. Prairie View Road
 Chicago, IL 60654
 www.cbssquaredinc.com

DESIGNED BY:	DATE:	REVISIONS
CHECKED BY:	DATE:	REVISIONS
PROJECT NAME:	DATE:	REVISIONS
PROJECT NO.:	DATE:	REVISIONS

MAPLE PLAIN SH007JNG RANGE EA
BARRON COUNTY, M

RGUREG2
 ADJACENT to LINGO
 MAPLE PLAIN RIFLE RANGE SITE

PAGE 30

Draft Report for WDNR.com
6/18/2014

for: dougfield CBS Squared
beckfield@cbssquaredinc.com
715-861-5226

FILE NAME : P:\BARND\14001 SH007JNG Range EA\landuse\landuse11.dwg.dwt

PLOT DATE : 5/19/2014



e DWELLINGLOCAnQN

cbs² Engineers - Architects
 515 W. Prairie View Road
 Chicago, IL 60659
 www.cbssquaredinc.com

DESIGNED BY:	DATE:	REVISIONS
CHECKED BY:	DATE:	REMOVED BY:
PROJECT NO.:	SCALE:	DATE:
PROJECT NO. BARND14001		

IIAPLETLAIN SH007JNG RANGE EA
 BARRON COUNTY, WI

FIGURE X
ADJACENT DWELLINGS
CUMBERLAND SITE

John Beckfield, CBS Squared
 jbeckfield@cbssquaredinc.com
 715-861-5226

PAGE 20

Custom Soil Resource Report for **Barron County, Wisconsin**

Maple Plain Rifle Range



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

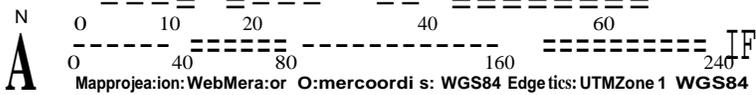
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

custom soil Resource Report
Soil Map



Map Scale: 1:855 fprin12don Apot1'<it(a5" n 11"sheet.



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MAP LEGEND

- Area of Interest (AOI)**
 -  Area of Interest (AOI)
- Soils**
 -  Soil Map Unit Polygons
 -  Soil Map Unit Lines
 -  Soil Map Unit Points
- Special Point Features**
 -  Blowout
 -  Borrow Pit
 -  Clay Spot
 -  Closed Depression
 -  Gravel Pit
 -  Gravelly Spot
 -  Landfill
 -  Lava Flow
 -  Marsh or swamp
 -  Mine or Quarry
 -  Miscellaneous Water
 -  Perennial Water
 -  Rock Outcrop
 -  Saline Spot
 -  Sandy Spot
 -  Severely Eroded Spot
 -  Sinkhole
 -  Slide or Slip
 -  Sodic Spot
- Water Features**
 -  Spoil Area
 -  Stony Spot
 -  Very Stony Spot
 -  Wet Spot
 -  Other
 -  Special Line Features
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barron County, Wisconsin
 Survey Area Data: Version 12, Dec 23, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 17, 2011—Sep 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Barron County, Wisconsin (WI005)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AnC2	Anigon silt loam, 6 to 12 percent slopes, eroded	2.3	100.0%
Totals for Area of Interest		2.3	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Barron County, Wisconsin

AnC2—Anigon silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting

Elevation: 800 to 1,950 feet

Mean annual precipitation: 28 to 33 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 120 to 135 days

Map Unit Composition

Anigon and similar soils: 100 percent

Description of Anigon

Setting

Landform: Outwash plains

Landform position (two-dimensional): Shoulder, backslope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Silty alluvium and/or loess over loamy alluvium over sandy and gravelly outwash

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 7.8 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability classification (irrigated): 3e

Land capability (nonirrigated): 3e

Hydrologic Soil Group: B

Other vegetative classification: Acer saccharum/Athyrium (AAt), Acer saccharum/
Caulophyllum-Circaea (ACaCi), Unnamed (G090AY008WI)

Typical profile

0 to 5 inches: Silt loam

5 to 12 inches: Silt loam

12 to 33 inches: Silt loam

33 to 37 inches: Sandy loam

37 to 60 inches: Very gravelly coarse sand

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Appeal #3640

NOTICE OF PUBLIC HEARING

STATE OF WISCONSIN SS

COUNTY OF BARRON

TO WHOM IT MAY CONCERN:

PUBLIC NOTICE is hereby given to all persons in the County of Barron, Wisconsin, that a public hearing will be held on Monday, April 14, 2014, at 9:20a.m. in Room 2106 of the Barron County Government Center, Barron, Wisconsin, relative to a proposal for a special exception to the terms of the Banon County Land Use Ordinance as follows:

Requests a special exception to establish a tourist rooming house in a Recreation-Residential district, property described as Plat 1-3, part of the NE-NE (Sec 18) and part of Lot 8 Taft's Point (Sec 7) shown as Lot 1 CSM 37/119, consisting of 1.1 acres, located in Sections 7 and 18, T33N, R10W, town of Chetek, Barron County, Wisconsin.

The Board of Adjustment reserves the right to view the property and may convene in executive session prior to rendering a decision.

Property owner: Patricia A. Langford
Agents: Richard Lohmar & Robert Hartman
Property address: 2481 9th Avenue, Chetek, Wisconsin

All persons interested are invited to attend said hearing.

Dated at Barron, Wisconsin, this 26th day of March, 2014.

Barron County Board of Adjustment
Jon Sleik, Chairman

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NOTICE
PUBLIC HEARING
STATE OF WISCONSIN
COUNTY OF BARRON
TO WHOM IT MAY
CONCERN:

PUBLIC NOTICE is hereby given to all persons in the County of Barron, Wisconsin, that a public hearing will be held on Monday, March 24, 2014, at 9:00 a.m. in Room 2106 of the Barron County Government Center, Barron, Wisconsin, relative to a proposal for a special exception to the terms of the Barron County Land Use Ordinance as follows:

Requests a special exception to establish a shooting range in Agricultural-1 and Residential-1 districts, property described as the NE-NW and Plat 8-1, the SE-NW including parcel A CSM 517 except part in Lot 1 C\$4 32/71 and excluding 33/62 and town road fW't, consisting of 81/6 c@- located in Section 1, R14W, Town of Main, Barron County, Wisconsin.

AFFIDAVIT OF PUBLICATION

STATE OF WISCONSIN }
COUNTY OF BARRON } SS

PAUL A. BUCHER being first duly sworn, says: That he is the editor of the Cumberland Advocate, which is a weekly newspaper of general circulation, printed and published at the city of Cumberland, in said county and state; that a notice of which the annexed is a printed copy taken from said newspaper, was printed and published in the full regular edition of said newspaper on:

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Draft Report for WDNR Comment
6/18/2014

John Beckfield, CBS Squared
jbeckfield@cbssquaredinc.com

DECISION OF BARRON COUNTY
ZONING BOARD OF ADJUSTMENT

File # G -030-0100-10-000

Appeal # 3637

FINDINGS OF FACT- Having heard the testimony and considered the evidence presented, the Board determines the facts of this appeal to be:

1. The application was filed on February 12, 2014 and the hearing date was March 24, 2014.
2. The notice was properly posted in accordance with the Wisconsin Open Meeting Law and an affidavit of publication is on file.
3. The owner is: Barron County Highway Department of 260 North 7th Street, Barron WI 54812.
4. The applicant is: Barron County Highway Department of 260 North 7th Street, Barron WI 54812.
5. The applicant is the owner of the following described property which is the subject of this appeal: as the NE-NW and Plat 8-1, the SE-NW including parcel A CSM 5/57 except part in Lot 1 CSM 32171 and excluding CSM 3362 and town road ROW, consisting of 81.6 acres, located in Section 1, T36N, R14W, town of Maple Plain, Barron County, Wisconsin.
6. The property is currently used as a residence and farm/recreational fields.
7. The property includes the following non-conforming structures: ola.
8. The property has been the subject of the following prior conditional use/variance: #1 131 & 2394.
9. The applicant's request is to establish a shooting range in Agricultural- and Residential- districts.
10. The applicant requests a special exception under Section 17.73(6) of the Barron County Land Use Ordinance.

The features of the proposed construction and property that relate to the grant or denial of the appeal are:

- I. The property meets the requirements for a shooting range as outlined in the ordinance.

Special Exception - The application for a special exception permit does qualify under the criteria of Section 17.73(6) of the Barron County Land Use Ordinance because:

1. The request will not violate the spirit and intent of the Ordinance because the range will be located on the Agricultural- portion of the property and is a special exception use in this zoning district.
2. The request will not be contrary to the public health, safety, or general welfare or be substantially adverse to property values in the neighborhood affected because the property owner has designed the range to follow NRA and DNR standards.
3. The request will not constitute a nuisance by reason of noise, dust, smoke or other similar factors because it is a use similar to other properties in the area.

ORDER AND DETERMINATION

On the basis of the above findings of fact, conclusions of law and record in the matter, the Board orders:

The requested special exception is granted subject to the following conditions:

The Zoning Administrator is directed to issue a zoning permit incorporating these conditions and certifying by the applicant's signature that he or she understands and accepts the conditions.

Expiration of Permit - Any privilege granted by this decision must be exercised within 12 months of the date of this decision after obtaining the necessary land use, building, zoning and other permits for the proposed request. This period will be extended if this decision is stayed by the order of any court or operation of law.

Revocation - This order may be revoked by the Board after notice and opportunity to be heard for violation of any of the conditions imposed.

- This decision may be appealed by a person aggrieved by this decision or by any officer, department, board or bureau of Barron County by filing an action in certiorari in the Circuit Court for Barron County within 30 days after the date of filing of this decision. Barron County assumes no liability for and makes no warranty as to reliance on this decision if construction is commenced prior to the expiration of this 30 day period. State- statute 59.694(10) given to owner/applicant at 9:11 a.m. on March 24, 2014.

Voting Member Present - J. Sleik T. Henck S. Frolik G. Nelson W. Organ

Dated at Barron, Wisconsin this 14th day of April, on a roll call vote with Sleik, Frolik, Nelson and Organ in favor, none opposed and Henck abstaining.

Barron County Zoning Board of Adjustment



Assistant Secretary

(The Board Chair signature verifies the action taken by the Committee.)

cc: Jeanie Jenkins- clerk

March 14 2014