



Interim Forest Management Plan

Property Identifiers

Property Name: **Big Spring Creek Fishery Area and Pompey Pillar Fishery Area**

Property Designation or Type: **Fishery Area(s)**

DNR Property Code(s) (DNR Prop Code Number): **2507 (Big Spring FA) and 2512 (Pompey Pillar FA)**

Forestry Property Code(s): **2507 and 2512**

Property Location - Counties: **Iowa and Grant (Big Spring) and Iowa (Pompey Pillar)**

Property Acreage: **458 total acres (Big Spring – 375 acres / Pompey Pillar – 83 acres)**

Master Plan Date: None

Property Manager: **Justin Haglund – WDNR Fisheries Biologist (Dodgeville)**

Property Assessment

A. Ecological Landscape description and property context

Big Spring Fishery Area combined with Pompey Pillar Fishery Area comprise 458 acres of land in north-western Iowa County along with some land located in eastern Grant County (some acreage within the Big Spring FA). These lands are located specifically in Highland Township (Iowa County) and Castle Rock Township (Grant County). Within the Big Spring FA lies Big Spring Branch and its tributaries, spring's and seeps. Within the Pompey Pillar FA lies Pompey Pillar Creek and its springs and seeps. Big Spring Branch is considered class 1 trout water while Pompey Pillar contains both class 1 and class 2 trout waters. Both Big Spring FA and Pompey Pillar FA lie within the Western Coulee and Ridges Ecological Landscape.

The Western Coulee and Ridges Ecological Landscape is the largest of the 16 Ecological Landscapes. It is located in southwestern and west central Wisconsin within the Driftless Area, a region that escaped glaciation during the last glacial period. The Driftless Area is noted for its steeply dissected terrain, extensive network of streams, and lack of glacial deposits (although glacial outwash materials do occur in river valleys). Several large rivers including the Wisconsin, Mississippi, Chippewa, Kickapoo and Black flow through or border this Ecological Landscape. Historical vegetation consisted of southern hardwood forest, oak savanna, and prairie, along with wetlands (forested and open) along rivers and streams. With Euro-American settlement, most of the level land on ridgetops and in valley bottoms was cleared for agriculture. The untillable steep slopes between valley bottom and ridgetop either remained in forest or grew up into oak-dominated forests when early wildfire-suppression policies were instituted. The early vegetation of Wisconsin was mapped by Robert Finley and published in 1976, and was based on notes and maps for the original public land surveys. Finley's map indicates that Big Spring and Pompey Pillar Fishery's Areas were dominated by oak opening, surveyors described the terrain as uneven, rolling, and even "exceedingly hilly, "and described the vegetation as thinly timbered". All



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of this information points towards prairie, oak savanna and oak woodland as the dominant cover types. Current vegetation of the Western Coulee and Ridges Ecological Landscape is a mix of forest (40% of total cover), agriculture, and grassland, with wetlands mostly restricted to the river valleys. The primary forest cover is oak-hickory, while maple-basswood forests are common in cooler, moister areas. Bottomland hardwoods occur in the valley bottoms of major rivers. Relict conifer stands are rare and are associated with steep-faced outcrops with cool microclimates. This Ecological Landscape has few natural lakes, though oxbows and ponds may be found with large river floodplains. Impoundments have been installed on a number of rivers to create man-made lakes.

B. General property description – management, adjacent land uses, topography, soils, etc.

Big Spring and Pompey Pillar Fishery's Areas comprise 458 acres managed primarily for fishing and hunting opportunities. Big Spring and Pompey Pillar and several tributaries/springs/seeps are located on the property's and contain both class 1 and class 2 trout waters codified as exceptional resource waters. Hunting opportunities on the property include; deer, wild turkey, and small game. The topography varies from gently rolling to extremely steep. Wooded uplands comprise nearly 81% of the area, while grass and herbaceous cover accounts for the remaining 19% of the land. Much of the upland habitat is managed for woodland or savanna species, however the planted prairies/grasslands and remnant prairies are managed to maintain that habitat type. Prescribed fire is a major land management tool for prairie restoration and maintenance, as well as herbicide use and mowing.

Most soils in the study area are deep, well-drained silt loams. Limestone and sometimes sandstone bedrock lie close to the surface in scattered locations throughout both sites, however, resulting in shallow soils and exposed bedrock (sometimes in the form of cliffs or outcrops). Alluvial deposits occur along stream and river bottoms, yielding poorly-drained soils.

C. Current forest types, size classes and successional stages

Most of the forest cover types on both Big Spring FA and Pompey Pillar FA are upland associated species and comprise about 80% of the land area. The non-forested areas consist mostly of upland grass and herbaceous cover.

Forested Cover types total 369 acres or 81% of the recon acres.

Oak: 183 acres (50% of the forested acres) 37% of the oak resource is younger than 20 years old (significant planting was done on agricultural fields 15 years ago), with all the remaining acreage older than 80 years (51% in the 78 - 90 year class, and 13% older than 140 years).

Central Hardwoods: 90 acres (24% of the forested acres). 65% of the central hardwood type is from 20-55 years old. A small percentage of this type is older than 125 years (7%).

Black Walnut: 60 acres is classified as black walnut cover type (16% of the forested acres). Nearly all 60 acres is older than 50 years and younger than 90 years.

Northern Hardwoods: 29 acres is classified as bottom land hardwoods (5% of the forested acres).

Other tree species: There are 7 acres of miscellaneous minor forest cover types; including aspen and white spruce.

D. NHI: Endangered, threatened, Special Concern species, Species of Greatest Conservation Need (SGCN)



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The Natural Heritage Inventory (NHI) reports 6 elements that occur on or near Big Spring and Pompey Pillar Fishery Areas. This list includes 2 birds, 1 plant, 2 herptiles, and 1 tracked "Animal Assemblage".

E. Wildlife Action Plan Conservation Opportunity Areas (COA)

According to the Wisconsin Wildlife Action Plan (WI WAP), Big Spring Fishery Area lies within the larger "Snow Bottom" COA, identified as having continental significance. The COA includes Driftless Area natural communities over loess and sandstone influenced soils including a continuum of Dry Prairie, Dry-Mesic Prairie, Oak Opening, Oak Woodland, Southern Dry Forest, Southern Dry-Mesic Forest, Southern Mesic Forest, Shrub Carr, Dry Cliffs, and Moist Cliffs.

The WAP also describes Priority Conservation Actions that make effective use of limited resources and address multiple species with each action. Implementing these actions and avoiding activities that may preclude successful implementation of these actions in the future would greatly benefit the SGCN at Big Spring and Pompey Pillar FA. Priority Conservation Actions identified in the Wisconsin Wildlife Action Plan (WDNR 2006b) for the Western Coulees & Ridges Ecological Landscapes that apply to Big Spring Fishery Area include:

- Grassland bird and wildlife management.
- Restoration and protection of spring-fed cold water streams.
- Preservation of cliff communities, along with cave and bat hibernacula.
- Restoration of rare grassland and oak savanna communities.

F. Significant cultural or archeological features

Located within the Big Spring Creek Fishery Area and the Pompey Pillar Fishery Area was one documented historical site. The general locations of this site is described below.

All management activities within these specific parcels must be discussed with the State Archeologist and approved prior to initiation.

T07N R01E Section 18 SWSE

G. Invasive species

There are many nonnative invasive species present at Trout Creek Fishery Area. Garlic mustard, wild parsnip, Eurasian bush honeysuckle, autumn olive, multiflora rose, common buckthorn, barberry, and reed canary grass are the most abundant. Efforts have been made to control many of these species with herbicide and cutting. Ongoing efforts continue throughout the property during all management activities.

H. Existing State Natural Areas (SNA) designations/natural community types limited in the landscape

None.

Exceptional Characteristics and Opportunities

Rare Animals and Plants. Big Spring/Pompey Pillar Fishery Area supports several rare species (see section D above), including 2 State Threatened species, and 3 Special Concern species.

Oak Savanna Restoration. Oak savannas were historically common in Wisconsin but are now rare throughout the state, thus their restoration is critical to the survival of many rare plants and



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animals that depend on them. Opportunities exist at Big Spring/Pompey Pillar Fishery Areas to restore Oak Opening, Oak Woodland, and Oak Barrens within a matrix of other habitats.

Older Forest Conservation. Older forests (greater than 100-120 years old) in Wisconsin are rare and declining, largely due to timber harvesting and conversion to other land uses.

Herptile Conservation. The variety of aquatic, wetland, and upland habitats of Big Spring and Pompey Pillar Fishery's Areas are well-suited to a number of herptile species. The pickerel frog has been documented in association with springs and spring-fed creeks.

I. Primary public uses (recreation)

Hunting and fishing are the primary recreational uses of the property. Hunting for deer, turkey and small game throughout the uplands and lowlands is most popular. Fishing is also an important use of the streams present on the property. Trout fishing is popular on both Big Spring Creek and Pompey Pillar Creek and their tributaries/springs. Other activities practiced on these lands include trapping, bird watching and hiking, berry and mushroom picking, snowshoeing, and cross country skiing.

J. Biotic Inventory Status

A Rapid Ecological Assessment of the property was completed in June 2012. This document is available on the Department's website <http://dnr.wi.gov/topic/nhi/nhireports.asp> under DNR Publication PUB-ER-834-2012: https://dnr.wi.gov/files/PDF/pubs/er/ER0836_ext.pdf

Big Spring was surveyed for Natural Communities, Plants, Breeding Birds, Herptiles, Small Mammals, Aquatic Invertebrates, and Terrestrial Snails as part of this assessment in 2010-2011. Pompey Pillar was surveyed for Plants, Breeding Birds, Aquatic Invertebrates, Terrestrial Snails, and Terrestrial Insects as part of this assessment in 2010-2011.

K. Deferral/Consultation area designations

Big Spring FA contains a Consultation site, "Big Spring Creek DAS13" from the Rapid Ecological Assessment for Driftless Area Study Streams (WDNR, 2012). See attached map and description. Cross program consultation has occurred as part of this IFMP process.

IFMP components

Management Objectives: (Outline primary forest management objectives):

1. Manage and maintain oak cover types wherever feasible. The oak cover type will slowly and naturally convert to shade tolerant central and northern hardwood species without active management. The creation of younger forest ages classes via timber sales supported with natural and artificial regeneration will attempt to maintain a significant oak component on the landscape. There are significant younger oak plantings that can be maintained for future oak stands.
2. Central Hardwood type will be managed using even age management techniques with a focus on oak and black walnut whenever possible. The promotion of younger age class



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oak within the central hardwood type will be a priority when feasible. Black walnut regeneration will be a focus when dominant.

3. Northern Hardwood type will be managed using both even age and uneven age management techniques when applicable. Even age management will be utilized when it may be possible to establish a component of young oak within the northern hardwood type.
4. There is not a significant acreage of aspen, but there are many stands with aspen as a component with smaller clones. Maintain aspen stands and clones within larger cover types through coppice regeneration where appropriate, considering habitat context and adjacent stand management.
5. Restore oak savanna habitat, including oak woodland, where feasible.
6. Restore habitat for reptiles and other Species of Greatest Conservation Need.

Property Prescriptions (Identify specific and pertinent prescriptions by area or forest type, including passive management areas, extended rotation, and other information that will help achieve the objectives).

1. Oak: Aggressively attempt to manage the oak resource that is present on the property when possible and where feasible. Work towards establishing more young oak stands. Utilize even age oak management techniques as patch clearcutting, the shelterwood method, clearcutting and overstory removal to regenerate older oak stands. The establishment of patch clearcuts, shelterwoods, clearcuts and overstory removals ranging in size from at least one acre to much larger will be necessary to achieve oak regeneration success. Utilize all potential tools in the effort to regenerate older oak stands, including mechanical/chemical site prep, prescribed fire, tree planting and timber stand improvement practices.
2. Central Hardwoods: Some central hardwood stands have minimal oak presence and/or would be very difficult to regenerate into oak stands. Maintain the large oak in these central hardwood stands as long as possible. Maintain a component of scattered oak overstory within these harvest areas for wildlife. Utilize silvicultural techniques that emphasize establishing patch clear-cuts from 1 acre to 5 acres in size when feasible to encourage as much of an oak component as possible. Augment central hardwood natural regeneration with oak planting (400-800 seedlings per acre) to establish an oak component within these areas going forward.
3. Northern Hardwoods: Utilize group selection and patch selection harvesting techniques when completing management activities in these areas. Group and patch size can vary in these areas from 0.25 acres to 5 acres. Augment northern hardwood regeneration with oak seedlings where feasible (400-800 seedlings per acre). Maintain a component of scattered oak overstory within these harvest areas for wildlife.
4. Black Walnut: Black walnut is valuable and a component of central hardwood stands, oak stands and northern hardwood stands across this property. Individual trees within these areas will be included in the standard management prescriptions. In areas dominated by black walnut, trees will be allowed to grow into the larger size classes (24" dbh and larger). When harvesting these larger trees, regeneration must be addressed by requiring patch clear-cuts, overstory removals or seed tree harvests at least 1 acre in size and larger.



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6. Red and White Pine: Commercially thin the red and white pine plantations to rotation age and allow conversion to hardwoods. Red pine that has stagnated due to unsuitable soils will be salvaged with natural conversion to hardwoods. Pine relict areas will have no forest management performed.
7. Aspen: The aspen will be managed through coppice regeneration.
8. Oak Woodlands: Control non-oak woody species by commercial and non-commercial means. Control invasive species. Use frequent prescribed fire to restore structure, composition, and function.
9. Reptiles: Restore open habitat, focused on critical habitat features, as needed. Control woody species by any means and promote open or savanna habitats in priority areas.
10. All Stands: The Wildlife Action Plan describes Priority Conservation Actions that make effective use of limited resources and address multiple species with each action. Implementing these actions and avoiding activities that may preclude successful implementation of these actions in the future would greatly benefit SGCNs at Big Spring Fishery Area. All proposed forestry prescriptions will reference Priority Conservation Actions, Wildlife Action Plan priorities, property objectives and be based on individual stand level needs.



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Summary of Public Involvement and Comments Received

No public input was received during the public comment period, which ran from October 14 to 30, 2019.

Maps (Optional)

- a. Big Spring FA Forest Primary Type Map
- b. Pompey Pillar FA Forest Primary Type Map
- c. Big Spring Creek Consultation Site Map and Description

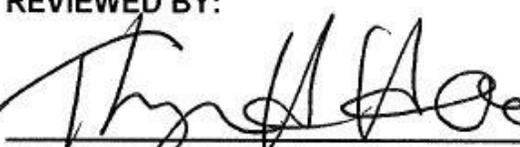
PREPARED BY:



Property Manager 11/14/19
Date

APPROVED:

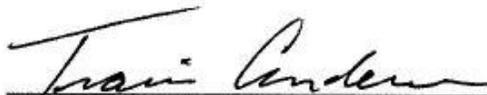

Area Program Supervisor 11/14/19
Date

REVIEWED BY:


Forester 11/12/19
Date

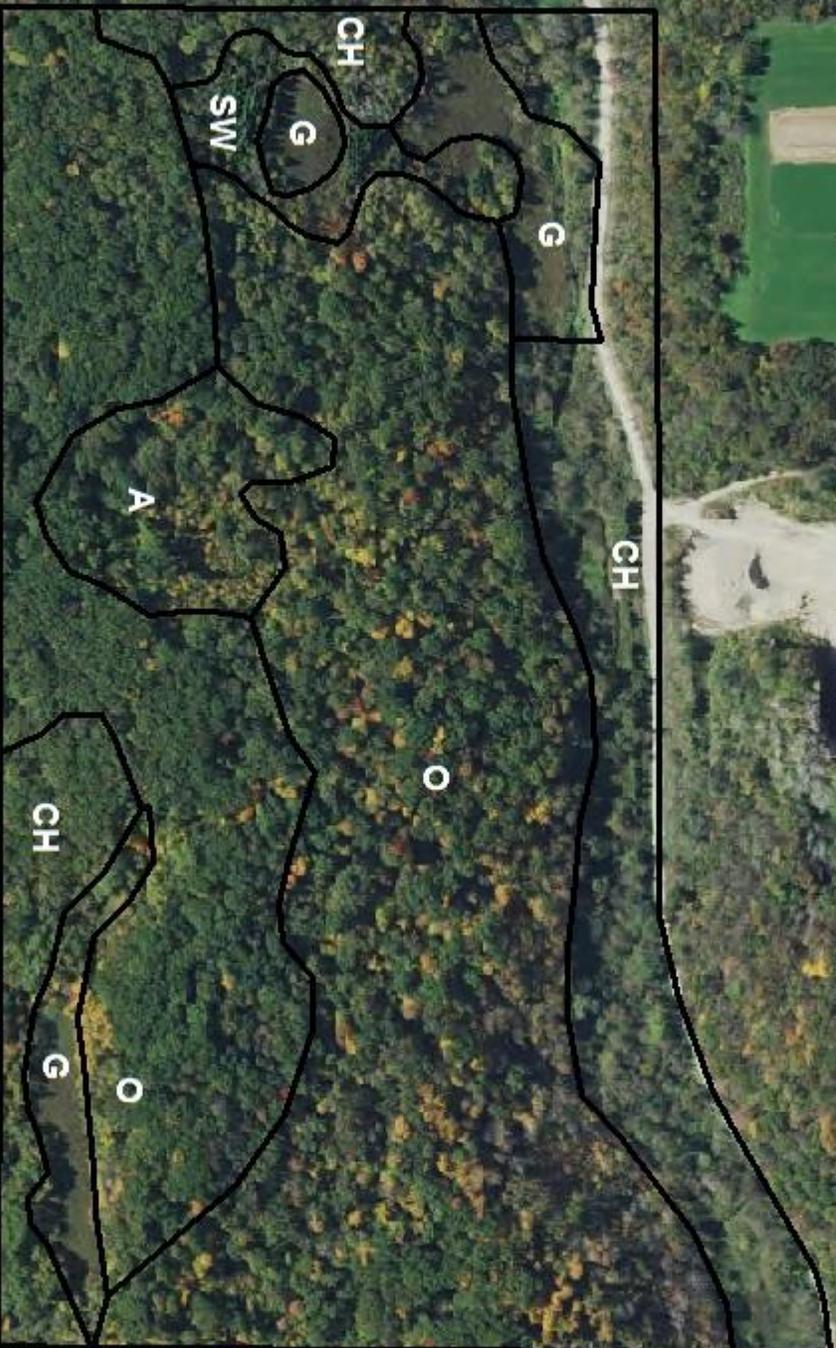


District Ecologist 11/4/19
Date



Wildlife Biologist 11/12/19
Date

Pompey Pillar Fishery Area Forest Primary Types



DAS13. BIG SPRING CREEK

Location

Properties:	Big Spring Fishery Area
County:	Iowa
Landtype Association:	Hills and Valleys - Wisconsin River Drainage (222Lc18)
Approximate Size (acres):	39

Description of Site

A small but good-quality Oak Woodland on south- and southwest-facing slopes is dominated by 24-28-inch dbh red oak, bur oak, white oak, and black oak, often with savanna limb architecture. The subcanopy is composed of red maple, shagbark hickory, yellowbud hickory, American elm, hop-hornbeam, and bigtooth aspen. Common ground layer species include arrow-leaved aster (*Aster sagittifolius*), wild geranium, eastern star sedge (*Carex radiata*), white avens (*Geum canadense*), and Virginia creeper (*Parthenocissus quinquefolia*). A unique geological feature of the site is Big Spring, aptly named with a flow of hundreds of gallons per minute. The spring is located mid-slope on a south-facing, forested hillside, and feeds the cool-water Big Spring Branch below.

Significance of Site

This site presents an important opportunity to restore Oak Woodland, a rare savanna type in Wisconsin. The cliff and oak savanna areas of this site provide important habitat for snakes, including some that are rare. Timber rattlesnakes are known from this site along with a herp hibernaculum; gray ratsnake and North American racer (*Coluber constrictor*) could also find the habitat suitable here. None of these species were observed during surveys in 2010-11. Habitat degradation in the form of woody plant invasion threatens these rare reptiles by eliminating open habitat areas needed for thermoregulation and female gestation.

The spring and creek were sampled for aquatic invertebrates in 2011 and were found to have excellent water quality. Two State Special Concern and one SGCN were collected (*Hydroporus pseudovilis*, *Lepidostoma libum*, and *Sperchopsis tessellates*).

Management Considerations

Restoring and maintaining oak savanna habitat is a high priority for this site. Such activities would directly benefit many plants and animals that rely on this type of habitat, especially rare snakes. Diligent monitoring and control of non-native invasive plants are vital activities here. Garlic mustard and multiflora rose are present but sparse.

Protecting the spring and creek is also a high priority for this site. Limitation of nonpoint pollution runoff, groundwater withdrawal, and extensive timber harvests, along with restoration of native plant cover at and around the springs, will help protect the spring (WDNR in prep.) and maintain water quality of the creek.

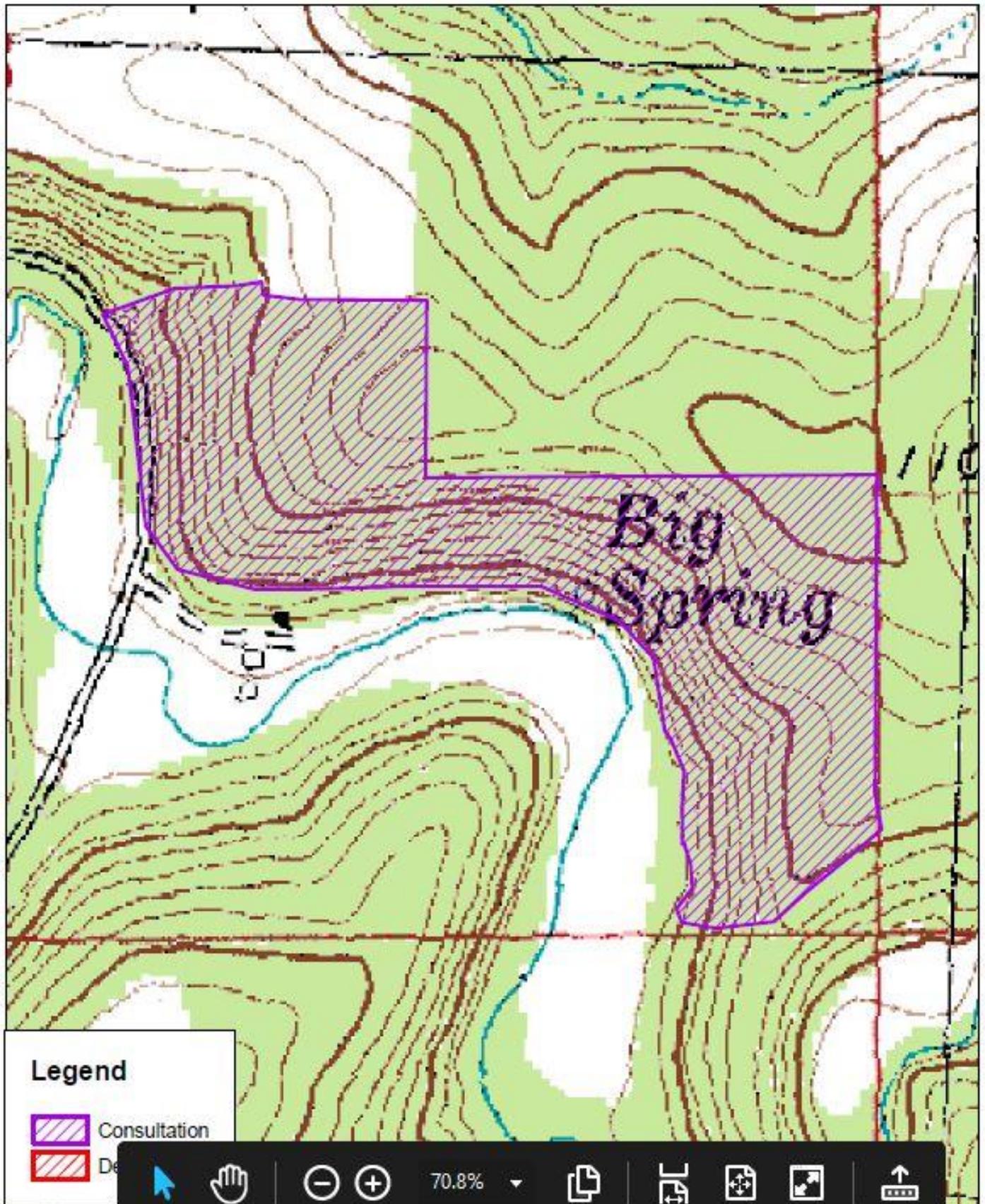
FINAL Deferral / Consultation Site

Planning Group: Driftless Area Streams

Property: Big Spring Fishery Area

Site: Big Spring Creek (DAS13)

Status: Consultation



Legend

-  Consultation
-  Deferral

