

Solon Springs Sharptail Barrens State Natural Area in Douglas County



Northwest Sands ecological landscape

Attributes and Characteristics

Running in a northeast-southwest orientation, this landscape is characterized by its sandy soils, numerous lakes, and extensive open and overgrown barrens dominated by jack pine, northern pin oak and prairie species. The Northwest Sands area was formed along the convergence of the Superior and Chippewa glacial lobes. The resulting outwash plain consists of two distinctly different landforms: flat plains or terraces (formed from sediments of glacial meltwater rivers) and hummocky sediments (deposited by glacial meltwater rivers on masses of stagnant glacial ice). The hummocky collapsed “outwash” is lower in elevation than the nearby uncollapsed plains.

The highly porous soils act like a sponge to rapidly absorb, store, and later discharge groundwater to surrounding rivers, streams

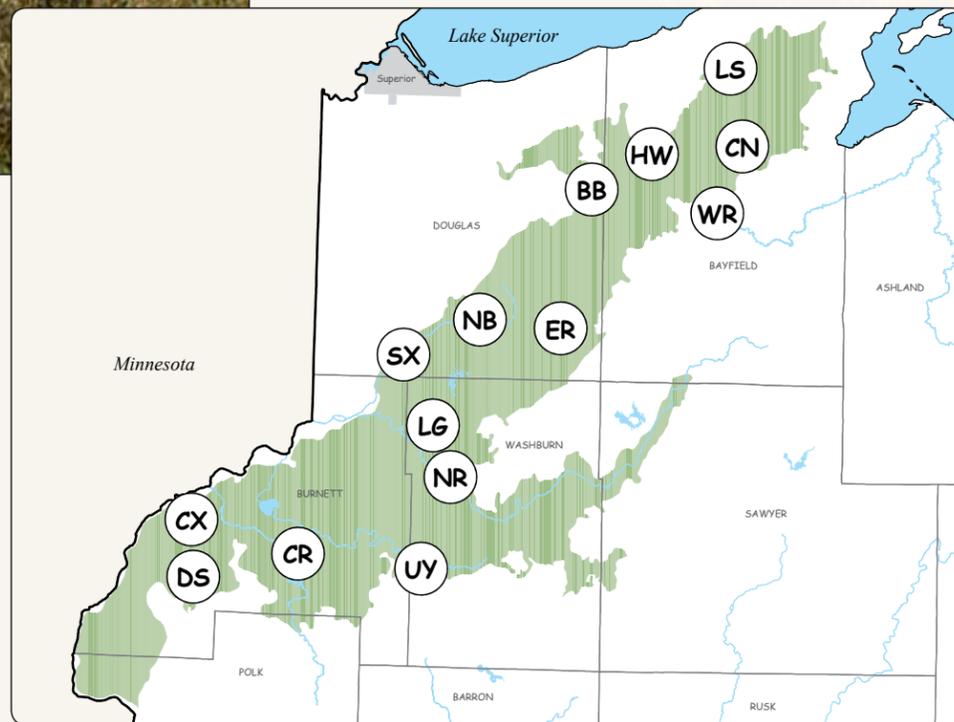
and seepage lakes. Groundwater, in the form of springs and seeps, contributes significant flow to the St. Croix, Bois Brule, White, Onion, and Namekagon Rivers. Major land uses of the area include forestry for pulp production, recreation, tourism, and some agriculture. The numerous lakes have long attracted tourists and recently have experienced significant growth in second home developments.

Conservation Needs and Opportunities

Northwestern and northeastern Wisconsin represent two of the best opportunities in North America to restore pine-oak barrens. Pine-oak barrens are characterized by scattered jack pines, or less commonly red pines, mixed with scrubby Hill’s and bur oaks. Interspersed within the patches of trees are openings of varying scales

Legacy Places

- BB Bois Brule River
- CN Chequamegon-Nicolet National Forests
- CR Clam River
- CX Crex Meadows
- DS Danbury to Sterling Corridor
- ER Eau Claire River
- HW Highway 2 Grasslands
- LS Lake Superior South Shore Streams
- LG Lower Totagatic River
- NB Namekagon-Brule Barrens
- NR Namekagon River
- SX St. Croix River
- UY Upper Yellow River
- WR White River



Key characteristics:

- » One of state’s best opportunities to protect and restore large pine-oak barrens
- » Extensive jack pine forests
- » Large, open wetlands, predominantly sedge meadows
- » Headwaters of Brule, St. Croix, and Namekagon Rivers
- » Concentration of natural lakes
- » Sandy soils derived from glacial outwash
- » Pothole lakes

Size:

- » 1,970 square miles
- » 1,262,100 acres (3.5% of Wisconsin)

Population:

- » 53,000 (1.0% of Wisconsin’s population)

Notable species:

- » Sharp-tailed grouse
- » Timber wolf
- » Karner blue butterfly
- » Kirtland’s warbler
- » Grassland birds
- » Waterfowl
- » Trumpeter swan
- » Connecticut warbler
- » Bluegill
- » Northern pike
- » Brook trout
- » Longnose dace
- » Wild rice
- » Dwarf milkweed
- » Richardson sedge

Natural communities:

(See Appendix B for descriptions)

- » Emergent aquatic
- » Inland beach
- » Northern dry forest
- » Northern dry-mesic forest
- » Northern sedge meadow
- » Northern wet forest
- » Open bog
- » Pine barrens
- » Submergent aquatic

Figure 51: Legacy Places and public conservation lands of the Northwest Sands

Legacy Places and public conservation lands Northwest Sands

- Legacy Places**
- BB Bois Brule River
 - CN Chequamegon-Nicolet National Forests
 - CR Clam River
 - CX Crex Meadows
 - DS Danbury to Sterling Corridor
 - ER Eau Claire River
 - HW Highway 2 Grasslands
 - LS Lake Superior South Shore Streams
 - LG Lower Totagatic River
 - NB Namekagon-Brule Barrens
 - NR Namekagon River
 - SX St. Croix River
 - UY Upper Yellow River
 - WR White River

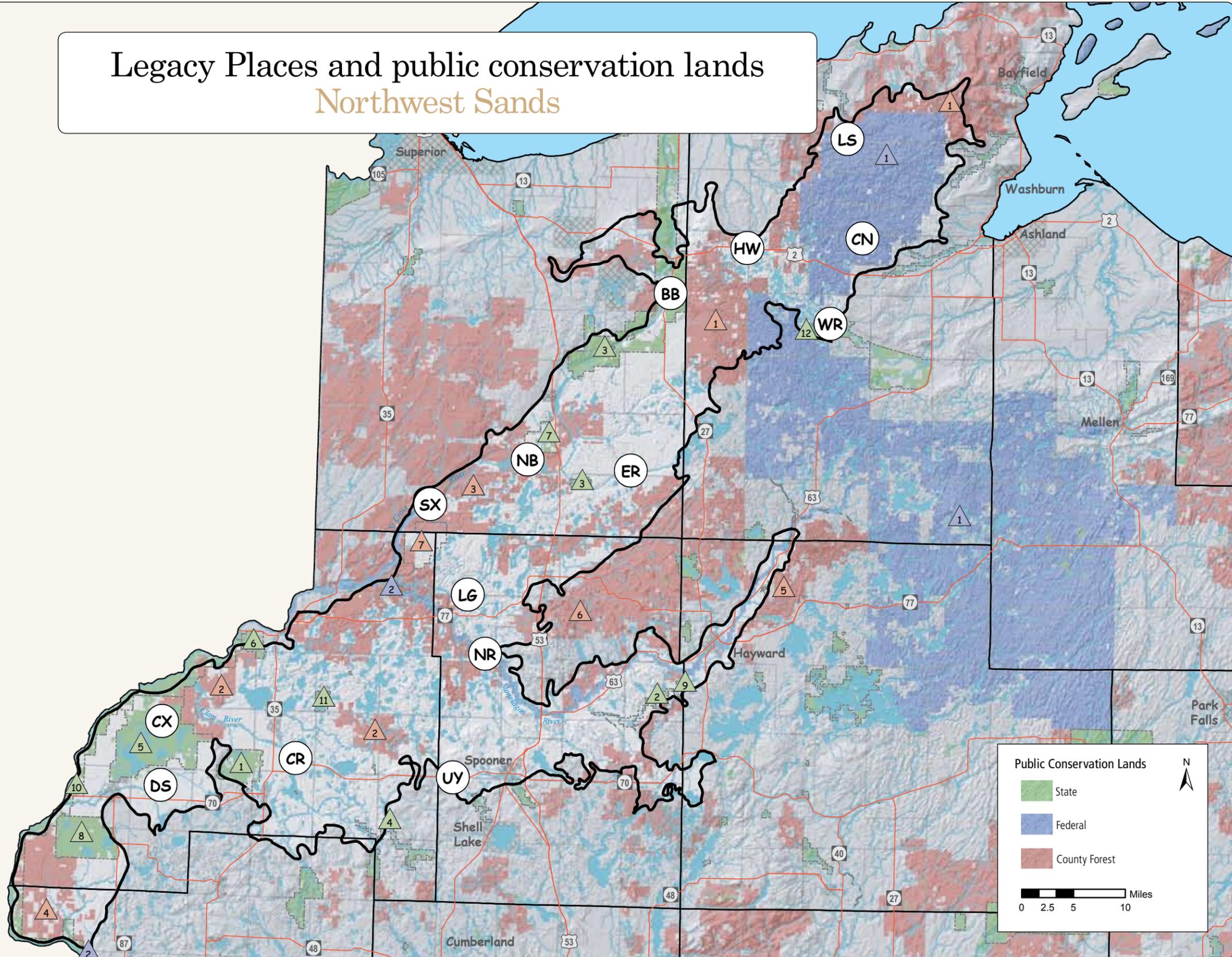
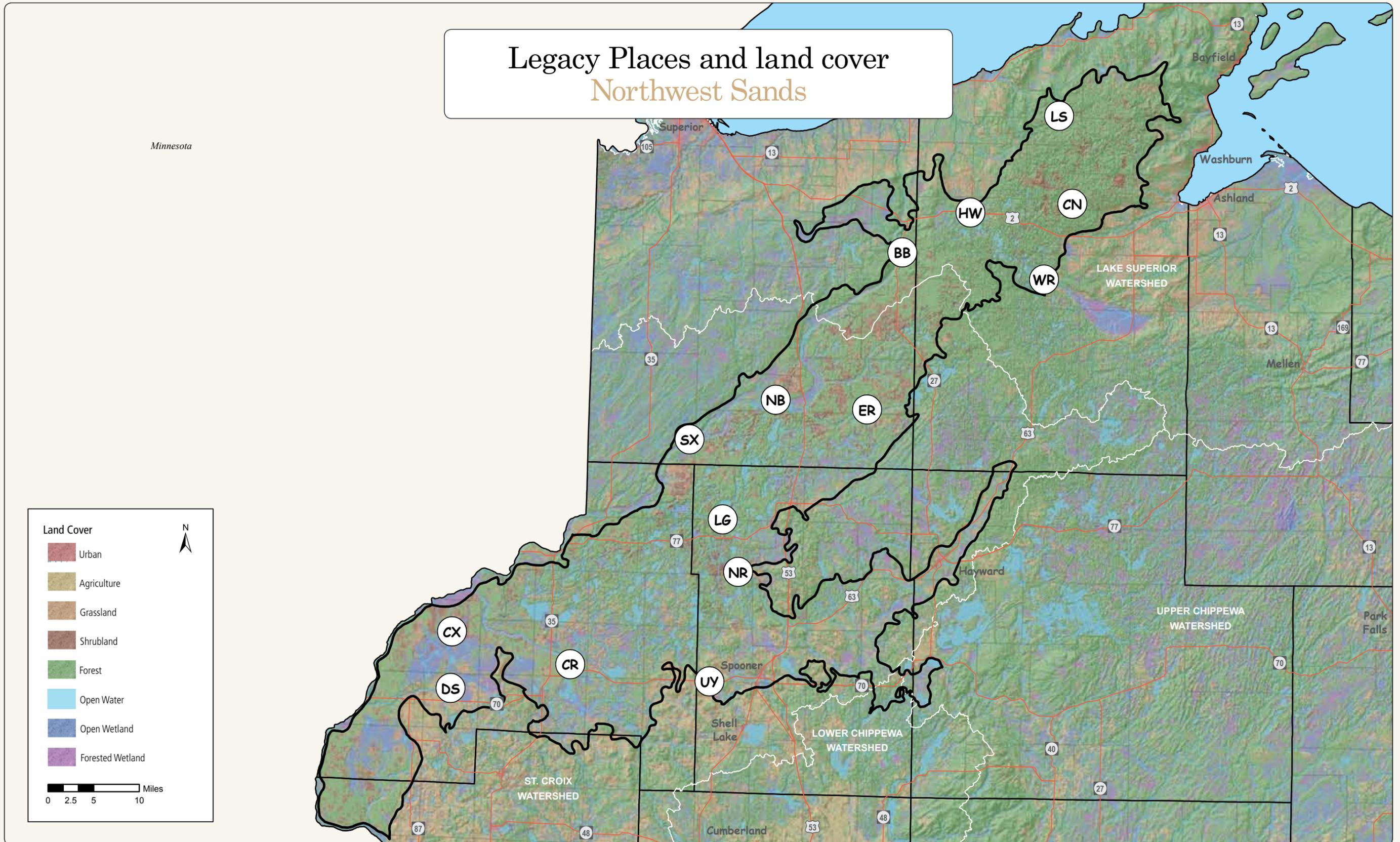


Figure 52: Legacy Places and land cover of the Northwest Sands



Northwest Sands ecological landscape

Public Conservation Lands

Map#	Property Name	Size (acres) ¹
State		
1	Amsterdam Sloughs State Wildlife Area	5,750
2	Bean Brook State Fishery Area ²	1,330
3	Brule River State Forest ²	24,500
4	Clam River State Fishery Area ²	420
5	Crex Meadows State Wildlife Area	27,360
6	Danbury State Wildlife Area ²	900
7	Douglas County State Wildlife Area	980
8	Fish Lake State Wildlife Area ²	13,100
9	Flat Creek State Wildlife Area	370
10	Governor Knowles State Forest ²	9,710
11	Kiezer Lake State Wildlife Area	1,385
12	White River State Fishery Area ²	1,580
	Miscellaneous Lands ³	3,320
Federal		
1	Chequamegon-Nicolet National Forest ²	120,820
2	St. Croix National Scenic Riverway ²	30,790
County Forest⁴		
1	Bayfield County Forest ²	66,590
2	Burnett County Forest ²	80,300
3	Douglas County Forest ²	73,500
4	Polk County Forest ²	10,280
5	Sawyer County Forest ²	720
6	Washburn County Forest ²	50,310
7	Namekagon Barrens Wildlife Area	5,000
Total		529,015

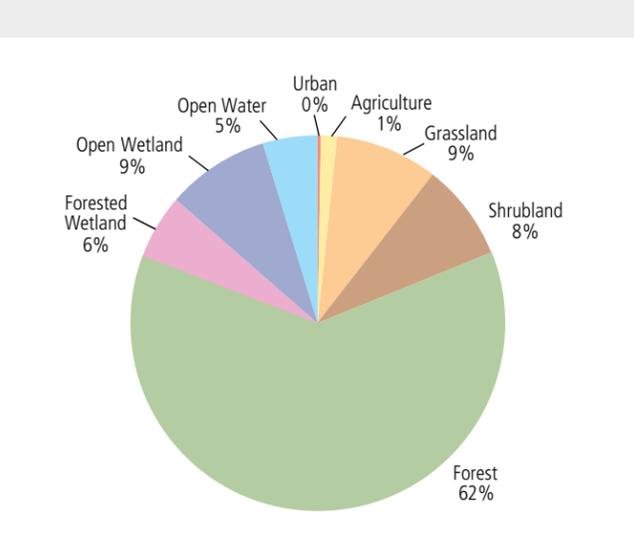
¹ Actual acres owned in this Ecological Landscape.

² This property also falls within adjacent Ecological Landscape(s).

³ Includes public access sites, fish hatcheries, fire towers, streambank and non-point easements, lands acquired under statewide wildlife, fishery, forestry, and natural area programs, small properties under 100 acres, and properties with fewer than 100 acres within this Ecological Landscape.

⁴ Locations and sizes of county owned parcels enrolled in the Forest Crop Law are presented here. Information on locations and sizes of other county and local parks in this Ecological Landscape is not readily available and is not included here, except for some very large properties.

Figure 53: Land cover of the Northwest Sands

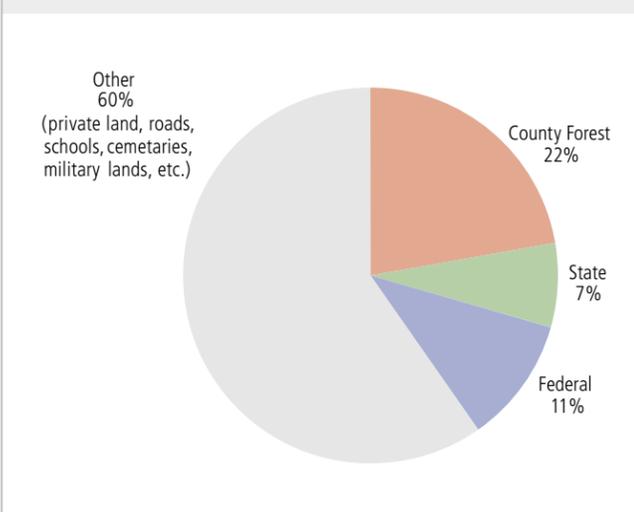


dominated by herbs and shrubs, such as hazelnut and prairie willow. The flora often contains species characteristic of “heaths” such as blueberry and sweet fern. Also present are dry sand prairie species such as june grass, little bluestem, asters, and lupine. Pines may be infrequent, even absent, in some stands because of past logging, altered fire regimes, and an absence of seed source.

Given their rarity, it is not surprising that remnant and restored pine-oak barrens often host a variety of rare species. Of notable interest are the sharp-tailed grouse, Karner blue butterfly, several Neotropical migrant birds including the Kirtland’s warbler and clay-colored sparrow, and many plant species. Several of these species require large expanses of habitat, in various successional stages, to maintain minimum viable populations. To effectively meet the ecological needs of these species, it is likely that tens of thousands of acres would need to be managed here in a mosaic of barrens, grasslands, wetlands and forests.

Some significant barrens restoration work is already underway on several large public properties including the Douglas County,

Figure 54: Public conservation and other land ownership in the Northwest Sands



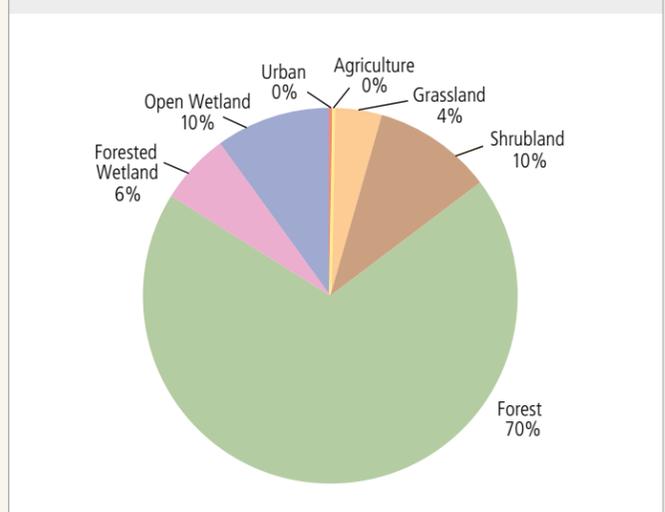
Namekagon Barrens and Crex Meadows State Wildlife Areas, and the Brule River State Forest. From both a conservation and recreation perspective, there are many opportunities in this ecological landscape to make key connections between existing protected properties.

Recreation Uses and Opportunities

Although remote from the state’s largest population centers, this area still receives considerable recreation use. Boating, paddling, and fishing in the area’s many lakes and rivers are extraordinarily popular, with the Brule, Namekagon, and St. Croix Rivers estimated to draw over 100,000 visitors a year. With almost 40% of this ecological landscape in public ownership, hunting, day hiking, and wildlife watching opportunities abound in the area. Crex Meadows is one of the Midwest’s most popular wildlife watching destinations. Winter sports, snowmobiling in particular, are popular here.

Given the amount of public recreation land in the area, long distance trails are a possibility in the Northwest Sands, particularly if some critical gaps are filled. A portion of the North Country Trail runs across this ecological landscape.

Figure 55: Land cover of public conservation lands in the Northwest Sands



Legacy Places



Crex Meadows State Wildlife Area in Burnett County

BB Bois Brule River

Size Large
Protection Initiated Substantial
Protection Remaining Limited
Conservation Significance ★★★★★
Recreation Potential ★★★★★

The Bois Brule is one of the best known rivers east of the Mississippi for fishing, paddling, and beautiful scenery. The Brule contains resident brook, brown and rainbow trout. Lake, brown, and rainbow (steelhead) trout, along with coho and chinook salmon, migrate up the Brule annually from Lake Superior. Native Americans and early Euro-American settlers used the Brule, with a portage to the St. Croix River, as a critical travel link between Lake Superior and the Mississippi River.

The river itself has two distinct personalities. The upper river (the southern portion, and the part within this ecological landscape) flows through miles of coniferous bog of mature white cedar, balsam fir, and spruce. The conifer swamp remains in near pre-settlement condition and the ground layer is rich, with many ferns, mosses and several species of orchids present. The swamp floor is not level but occupies a seepage slope with a noticeable gradient from the uplands to the river. This seepage slope discouraged development of logging roads and trails. The sandy uplands absorb precipitation, which is stored in the organic soils of the bog and seeps into the Brule, producing stable summer flows. Bird life in this area is exceptionally varied with such uncommon species as olive-sided flycatcher, golden-crowned kinglet, Lincoln's sparrow, saw-whet owl, and black-backed woodpecker regularly nesting here.

The Brule River State Forest, a long, narrow band of public land centered upon the river, harbors a greater diversity of birds and mammals than any other northern Wisconsin area of similar size. The forest has many distinct landscapes that allow for a wide range of species such as deer, ruffed grouse, geese, bald eagles, osprey and songbirds. Hunting, camping, hiking, cross-country skiing and snowmobiling are all popular activities on the State Forest. The southern part of the State Forest, along with the large tracts of industrial forest lands south of the boundary, could play a very important part in maintaining a mosaic of working forest and barrens at a scale large enough to support significant acreage at a variety of ecological stages.

CN Chequamegon-Nicolet National Forests

Size Large
Protection Initiated Substantial
Protection Remaining Limited
Conservation Significance ★★★★★
Recreation Potential ★★★★★

The Washburn District of the Chequamegon National Forest occurs on about 120,000 acres in the northern portion of the Northwest Sands ecological landscape. Its size and public ownership give it a large importance for both conservation and recreation uses. The area makes up only about 8% of the total land area of the Chequamegon-Nicolet National Forests, but has high importance ecologically. It occurs on a sandy outwash plain that supports jack pine forest, scrub oak, and barrens, while the rest of the National Forests are predominantly northern hardwoods. Extensive pine barrens restoration activities have taken place at Moquah Barrens, a 7,000 acre wildlife management area. The barrens provide important habitat for sharp-tailed grouse, upland sandpiper, Connecticut warbler, and several plant and insect species of concern.

Aspen forests elsewhere in the Washburn District provide habitat for early-successional wildlife species, and offer opportunities for ruffed grouse and woodcock hunting. Off road vehicle use has been high in the District; guidelines are currently being revised as part of the National Forest planning process.

CR Clam River

Size Medium
Protection Initiated Moderate
Protection Remaining Substantial
Conservation Significance ★★★★★
Recreation Potential ★★★★★

The Clam River is a lightly developed, 55-mile long river, originating in Polk County and flowing northwesterly through Burnett County before entering the St. Croix River. The river corridor is heavily forested with bottomland hardwoods along part of its course. Adjacent uplands along the upper half of the river consist of mixed farmland, forest, and bedrock glade, while the lower half winds through sand country characterized by dry jack pine-Hill's oak forests and remnant barrens.



Exploring the bottom of the Bois Brule River

The river's headwaters and tributaries are high quality trout water known especially for their excellent brown trout fishing. Downstream the river contains spawning areas for lake sturgeon, walleye, smallmouth bass, buffalo and carsuckers. Several lakes and impoundments along the mid to lower stretches contain wild rice stands and provide excellent lake fishing and waterfowl hunting. The area has high recreation potential and currently receives considerable fishing pressure in the upper reaches and is a popular canoeing river in the lower reaches. The State currently manages three projects in the headwaters area (Sand Creek and Clam River Fisheries Areas and McKenzie Creek Wildlife Area). Most of the Clam River is located within a 1½ hour drive of the Twin Cities.

CX Crex Meadows

Size Medium
Protection Initiated Substantial
Protection Remaining Limited
Conservation Significance ★★★★★
Recreation Potential ★★★★★

Since its inception in 1946, Crex Meadows State Wildlife Area has evolved into one of the premier wildlife viewing sites in the Midwest. It is one of the largest and most heavily used wildlife areas in Wisconsin with more than 100,000 people visiting each year. Its popularity is due to its large size, unobstructed vistas, wide range of habitats, diversity and abundance of wildlife, and abundant opportunities to view wildlife.

Northwest Sands *ecological landscape*

Wetlands, primarily sedge marshes, comprise approximately half of the area. Extensive diking of these sedge marshes has resulted in the creation of 6,000 acres of deep-water marsh. Upland vegetation includes 7,000 acres of restored brush-prairie and 6,000 acres of oak, jack pine, and aspen forests. These different habitat types are interspersed over the flat to gently rolling terrain. More than 200 species of birds as well as numerous mammals, reptiles, and amphibians can be seen on the property.

DS Danbury to Sterling Corridor

Size Large
 Protection Initiated Substantial
 Protection Remaining Moderate
 Conservation Significance ★★★★★
 Recreation Potential ★★★

The Danbury to Sterling corridor is located on sandy glacial outwash. Historically, the area was a fire dependent, open mosaic of prairie, brush land, and savanna, with occasional stands of coniferous, deciduous, or mixed forest. Currently, many lands are being managed predominantly for jack pine pulpwood. The resulting mosaic of cut-over, standing timber, and young forests provides excellent habitat for white-tailed deer, wild turkey and ruffed grouse.



Whitewater rafting

Danbury, Crex Meadows (written up separately), Amsterdam Sloughs, and Fish Lake State Wildlife Areas, as well as Burnett and Polk County Forests, are within this corridor and provide a variety of exceptional wildlife habitats and recreation opportunities. Waterfowl and shorebirds, in particular, are attracted to the large, high quality wetlands. The St. Croix National Scenic Riverway and Governor Knowles State Forest lie on the west edge of the area. Providing ecological links between these public properties would enable them to meet the needs of species that require very large amounts of habitat. In particular, sharp-tailed grouse are believed to need thousands, if not tens of thousands, of acres of habitat to support a population that can remain viable over a long period of time. This corridor has the opportunity to support such a large population (Crex Meadows already harbors the largest population east of the Mississippi River). The Danbury to Sterling Corridor is also a prime area for recovery of the federally-Endangered Karner blue butterfly.

ER Eau Claire River

Size Small
 Protection Initiated Limited
 Protection Remaining Moderate
 Conservation Significance ★★★
 Recreation Potential ★★

The Eau Claire River drains the Eau Claire Lakes chain, flowing roughly 13 miles before entering the St. Croix River near the town of Gordon. For about eight miles below the lakes, the river harbors trout. In other reaches there is a mixed warmwater fishery, including walleye, muskellunge, northern pike, smallmouth bass, panfish, and suckers. Lake sturgeon once ranged throughout this system before dams were constructed. A small hydroelectric dam near the lower end of the river, no longer in operation, impounds the Eau Claire River Flowage. The lower portion of the river flows through part of the Brule River State Forest. Several small, high quality lakes occur near the river and could be an important part of an overall protection strategy.

HW Highway 2 Grasslands

See *Superior Coastal Plains ecological landscape*.



Sharp-tailed Grouse (*Tympanuchus phasianellus*) at Namekagon Barrens

LS Lake Superior South Shore Streams

See *Superior Coastal Plains ecological landscape*.

LG Lower Totogatic River

Size Medium
 Protection Initiated Moderate
 Protection Remaining Moderate
 Conservation Significance ★★★
 Recreation Potential ★★

The Totogatic River, from the Totogatic Flowage in eastern Washburn County to the Namekagon River, is a high quality, warmwater river containing a variety of substrates ranging from sand and silt to rubble, boulders and bedrock. The shoreline is primarily undeveloped except for portions of two impoundments on the river: the Colton and Minong Flowages. Shoreland habitat types consist mainly of lowland and upland hardwoods with significant portions of marshes and bog habitat as well as oxbow ponds. Numerous warm and cold water streams and wetlands drain into the Totogatic, enhancing its diversity. Many large, high quality forest blocks occur in the valley.

NB Namekagon - Brule Barrens

Size Large
 Protection Initiated Moderate
 Protection Remaining Moderate
 Conservation Significance ★★★★★
 Recreation Potential ★★★

Running from the west central Bayfield County to northwest Polk County, this swath of land represents one of the best places to combine large scale pine barrens restoration with active forestry practices. Namekagon Barrens and Douglas County State Wildlife Areas, large public properties where significant barrens habitat has been restored, are located here. Unfortunately, it appears these properties are too small and isolated to maintain viable populations of several of the species that characterize this landscape. Of particular management concern are sharp-tailed grouse, Connecticut warbler and upland sandpiper. If existing public properties were expanded or linked with a protected mosaic of farm fields, forest, barrens, and grassland habitat, this corridor could enable critical movement of species as well as more effective land management strategies.

Northwest Sands ecological landscape



Buckley Creek and Barrens State Natural Area in Douglas County

A considerable portion of the area is owned by industrial forest companies and managed primarily for red pine. Much of the rest of the area is currently a mix of woodlands consisting of jack pine, red pine and oak, grassland, small lakes, wetland, and farmland. Nearly all of the lakes in the area that are not within either public or industrial forest ownership are heavily developed. Although some plantation-type forestry in the area would not conflict with maintaining functioning pine barrens habitat, extensive single species-even aged forests can dramatically reduce plant and animal diversity for the entire region. Commercial forestry has played, and can continue to play, an important role as one part of an over-all management regime to perpetuate a functioning barrens ecosystem.

In addition to the ecological benefits of connecting existing public properties, many recreation opportunities exist in this area that would benefit from linking public lands. Of particular interest may be sharp-tailed grouse hunting, bird watching trails, and watchable wildlife auto trails.

NR Namekagon River

SizeLarge
Protection InitiatedSubstantial
Protection RemainingLimited
Conservation Significance★★★★★
Recreation Potential★★★★★

The Namekagon River is part of the National Park Service's St. Croix National Scenic Riverway. It begins as a narrow, cool trout stream flowing through the marshes, mixed hardwoods and pine forests that lie within a broad valley sculpted by the glaciers. The lower reaches of the river pass through many high, sandy banks and sharp turns. Four flowages occur over its 98-mile length. The river is very popular for canoeing and fishing. The Namekagon forms an important ecological link between the St. Croix/Mississippi River system and the Chequamegon National Forest and surrounding County Forests.

SX St. Croix River

SizeLarge
Protection InitiatedSubstantial
Protection RemainingLimited
Conservation Significance★★★★★
Recreation Potential★★★★★

Flowing out of the spring-fed Upper St. Croix Lake, the river begins as a shallow, narrow, relatively fast waterway. Here in its upper reaches, the river flows through stands of cedar, spruce, and tamarack in the Douglas County Forest. The area harbors a variety of nesting birds and rare plants. Near the Namekagon Barrens, the St. Croix is joined by the Namekagon River and enters the Northwest Lowlands ecological landscape. The river continues to the southwest and forms the boundary of this ecological landscape. As such, the rivers that flow off the Northwest Sands to the west—including the Totagatic, Yellow, and Clam—play critical roles in the St. Croix River's water quality and quantity.

The St. Croix valley forms an important ecological connection between the Mississippi River and the Great Lakes, via the Brule River State Forest. In this upper stretch, the St. Croix receives light recreational pressure, mostly fishing and canoeing.

UY Upper Yellow River

SizeSmall
Protection InitiatedModerate
Protection RemainingModerate
Conservation Significance★★★
Recreation Potential★★★

Upstream of Yellow Lake, the Yellow River winds its way through one of the largest forested swamps in the Northwest Sands ecological landscape. Many bogs, groves of red pine, and nutrient-poor fens occur here. The river corridor supports a wide diversity of bird species and is important habitat for many Neotropical migrant birds. With its riffles, rapids and steep terrace walls, the river is a popular paddling destination.

WR White River

See *Superior Coastal Plains ecological landscape*.



Killdeer (*Charadrius vociferus*)

Other Areas of Interest

Buckley Creek (Douglas County)

Originating in Deer Lake, Buckley Creek flows through a variety of wetland habitats before entering the St. Croix River. The small watershed includes pine, fir, pine-oak barrens and aspen habitats and connects significant blocks of Douglas County Forest and lands within the State Natural Area program. The creek supports a good trout fishery.

Crystal Brook (Washburn County)

Crystal Brook, a high quality stream containing impressive populations of native brook and brown trout, flows into Spooner Lake. Existing wetlands along the brook provide abundant waterfowl nesting and furbearing habitat. The State owns 64 acres that are used as a boat access site for Spooner Lake. Protecting this stream corridor would help maintain water quality in Spooner Lake.

Stuntz Brook (Washburn County)

The Stuntz Brook corridor is fairly remote and undeveloped, providing diverse habitat for whitetail deer, black bear, upland grouse, and timber wolves. Timber types include aspen, oak and other northern hardwoods, and white pine. Wetlands adjacent to Stuntz Brook provide excellent habitat for furbearing mammals.