

TOTOGATIC WILDLIFE AREA

Master Plan and Environmental Analysis



Wisconsin Department of Natural Resources
Approved by the Natural Resources Board May 2018
Publication # LF 103 (2016)



WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Daniel L. Meyer, Secretary

Natural Resources Board

Terry N. Hilgenberg, Chair

Dr. Frederick Prehn, Vice-Chair

Julie Anderson, Secretary

William Bruins

Preston D. Cole

Gregory Kazmierski

Gary Zimmer



101. S Webster Street, P.O. Box 7921
Madison, WI 53707-7921

Publication # LF 103 (2016)

This publication is available on the Internet at <http://dnr.wi.gov/>, keyword search “master planning”.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan. If you have any questions, please write to the Equal Opportunity Office, Department of the Interior, Washington D.C. 20240. This publication is available in alternative formats (large print, Braille, audio tape, etc.) upon request. Please contact the Wisconsin Department of Natural Resources, Bureau of Facilities and Lands at 608-266-2135 for more information.

Cover photos: Upper left, Totogatic River; upper right, view of property from the viewing area off Highway 27; lower left, view of alder and emergent vegetation on the property; lower right, Marsh Marigold native wildflower. All photos Shelley Warwick 2016, 2017.

Master Plan Team Members

Plan Acceptance Team

Sanjay Olson, Administrator, Fish, Wildlife and Parks
Douglas Haag, Administrator, Internal Services
Eric Lobner, Director, Bureau of Wildlife Management
Terry Bay, Director, Bureau of Facilities and Lands
Drew Feldkirchner, Director, Bureau of Natural Heritage Conservation
Ben Bergey, Director, Bureau of Parks and Recreation
Justine Hasz, Director, Bureau of Fisheries Management
Trent Marty, Director, Bureau of Forestry Field Operations

Sponsor Team

Patrick Beringer, Area Wildlife Supervisor
Diane Brusoe, Property Planning Section Chief

Core Team

Shelley Warwick, Planner
Mike Bulgrin, Wildlife Technician
Max Wolter, Fisheries Biologist
James Kujala, Forester

GIS Analysis/Map Production

Kathryn Godding

Additional Contributors

Tom Watkins, Planner
Jason Fleener, Wetland Specialist
Daniel Schneider, Real Estate
Craig Roberts, Fisheries Biologist
Yoyi Steele, Planner
Beth Kienbaum, Planner
Ann Freiwald, Planner
Brent Binder, Water Resources Engineer
Kathy Bartilson, NR Program Manager
Pete Engman, Deputy Director of Wildlife Management

TABLE OF CONTENTS

TABLE OF CONTENTS.....	iv
LIST OF ACRONYMS.....	vi
CHAPTER ONE: INTRODUCTION AND OVERVIEW	1
Property Overview and Significance	1
Property Purpose, Management Authority, and Need for Action.....	1
Plan Overview	2
Habitat and Wildlife.....	2
Recreation.....	2
Tribal Resources in Ceded Territory	2
Property Boundary Changes	3
CHAPTER TWO: MANAGEMENT, DEVELOPMENT, AND USE	4
Introduction.....	4
Vision and Goals	4
Land Management Classification.....	4
Resource Management	5
General Habitat Management Objectives.....	5
General Prescriptions.....	5
Management Objectives and Prescriptions by Habitat Type.....	5
Upland Forested Habitats.....	5
Wetland Habitats	7
Authorized Management Activities and Tools.....	9
Public Use Management and Development	10
General Recreation Management and Uses	10
Hunting and Trapping.....	11
Fishing, Paddling, Wildlife Watching and Other Recreational Pursuits.....	11
Road Management.....	11
Project Boundary and Acreage Goal Modification.....	12
General Administration Management Policies and Provisions	12
State and Federal Approvals Required.....	12
General Real Estate Management	14
Public Outreach	15
WDNR Contacts	16

CHAPTER THREE: BACKGROUND AND SUPPORTING INFORMATION	17
Overview	17
Federal Funding	18
Physical Environment.....	18
Geology, Soils and Water Resources.....	18
Ecological Landscape and Natural Communities	19
Vegetative Cover	20
Forest Habitat.....	20
Fisheries	22
Wildlife and Habitat.....	22
Open Water and Emergent Vegetation Habitat.....	23
Deep Water Habitat	23
Upland and Lowland Brush Habitat.....	23
Cultural Resources	23
Recreation.....	23
Public Use and Opportunities and Needs.....	24
Significant Property Management Issues	24
WORK CITED	27

LIST OF ACRONYMS

ADA	Americans with Disabilities Act
BMPs	Best Management Practices
CTH	County Highway
EL	Ecological Landscape
HMA	Habitat Management Area
RPA	Regional and Property Analysis
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SGCN	Species of Greatest Conservation Need
WA	Wildlife Area
WDNR	Wisconsin Department of Natural Resources
WisFIRS	Wisconsin Forest Inventory and Reporting System
TWA	Totogatic Wildlife Area

CHAPTER ONE: INTRODUCTION AND OVERVIEW

Property Overview and Significance

The Totogatic Wildlife Area is a 2,658-acre property located approximately 10 miles northwest of the city of Hayward, Wisconsin in Sawyer and Washburn counties. See Map A. It is in a regional landscape of extensive forest cover with an abundance of diverse wetlands, scenic and wild rivers and a variety of lakes/impoundments with abundant public land and opportunities for outdoor recreation. Of note, the Totogatic River (outside of the wildlife area) is a designated state wild river upstream of the Nelson Lake dam and 500 feet downstream of the Totogatic dam.

The wildlife area is mostly forested uplands and marsh with lesser amounts of open water. The flowage, formed by the Wozny Road dam, supports about 1,150 acres of wetland and up to 400 acres of open water; but only about 100 to 200 acres are present during the growing season. The wetlands are dominated by dense cattails. Open water covers about 10% (276 acres) of the property. Combined, these habitats host a variety of game and common wildlife species and while waterfowl nesting is limited, the open water areas are used extensively in the spring and fall by migrating waterfowl. The upland habitat comprised of a mix of northern hardwoods and aspen with wildlife openings, provides habitat for white tailed deer and wild turkey.

Game fish in the flowage include a variety of panfish, northern pike, and largemouth bass. However, shallow water conditions limit the fishery; the flowage has experienced winter fish kills and low dissolved oxygen levels. The flowage is maintained by the aging, 64-year-old Wozny Road dam. The dam is in a deteriorating condition and must be repaired, rebuilt, or removed.

While the wildlife area lies in a region of abundant public recreation land and waters, most of the lakes in the area have developed shores; the wildlife area's natural, undeveloped shoreline aesthetics are a special attraction. The wildlife area offers a variety of nature-based outdoor activities. Particularly, visitors come to fish, hunt, trap, watch birds and wildlife, hike, and paddle the quiet waters of the flowage.

Property Purpose, Management Authority, and Need for Action

Property master planning is a process that determines how a property will be managed and developed. The development of master plans is governed by Chapter NR 44, Wisconsin Administrative Code, the master plan rule. This rule defines master planning, sets forth its purposes, and specifies the general planning process and content of a master plan. This rule also establishes a uniform land management classification system to be applied in the master plan. By administrative code, the master plan is the controlling authority for all actions and uses on a property. The scope of management and use of state property depends upon its official designation.

Wildlife Areas (WAs) are acquired and managed under the authority of Section 23.09(2)(d)3, Wisconsin Statutes, and Chapter NR 1.51, Wisconsin Administrative Code. They are designated to provide places where people can hunt, trap, and fish. WAs also are open for traditional outdoor uses of walking, skiing, snow shoeing, nature study, berry picking, and other low-impact recreational activities. The master planning process and management, development and public use of the property is consistent with Chapter NR 1.

The Totogatic Wildlife Area (TWA) project was established in the late 1940s and early 1950s for waterfowl habitat. The current master plan is over 36 years old and needs revision, as conditions on the property have changed over time and the current plan does not meet the newer NR 44 requirements for property master plans.

Plan Overview

The master plan describes how this property will be managed, used, and developed. The plan focuses on maintenance and enhancement of forests and wetlands for an array of associated wildlife species through habitat management and protection of riparian wetland communities. Recreation management emphasizes the traditional outdoor activities of hunting and trapping, as well as other nature-based recreational pursuits such as fishing and wildlife viewing.

The plan also recognizes the importance of working with external partners, including other government agencies (local, state, and federal) and nonprofit conservation groups, to achieve common goals.

Habitat and Wildlife

The plan emphasizes habitat management of northern hardwoods which includes stands of aspen, basswood, ash, red oak and red maple. There are also small areas of swamp conifer and swamp hardwoods present. These habitats support a wide variety of game and non-game wildlife species, including ruffed grouse, American woodcock, wild turkey, white-tailed deer, furbearers, black bear, gray wolf, and a variety of songbirds. Recommendations for the management of water resources and wetlands will support a healthy aquatic ecosystem converting from a flowage/lake environment reverting to a riverine environment with the eventual removal of the dam on the property.

Recreation

The Totogatic Wildlife Area is in a region of abundant public recreation land and waterbodies. With most of the lakes in the area having developed shores, the wildlife area's natural, undeveloped aesthetics are a special attraction.

The wildlife area offers a variety of nature-based outdoor activities particularly visitors come to fish, hunt, trap, watch birds and wildlife, hike, and paddle the quiet waters on the property. The Totogatic River is popular with local anglers. Hunting and fishing are the primary recreational use of the TWA, and the focus of recreation management in the master plan. Uses of the property with the dam removed will continue to be similar with wildlife habitat management for hunting, fishing and trapping opportunities.

Tribal Resources in Ceded Territory

The Totogatic Wildlife Area lies within the Ceded Territory of the state. See Figure 1. Native American tribes are independent, sovereign nations, as they were prior to the arrival of Europeans in North America. The Ojibwa Tribes ceded lands in the northern one-third of Wisconsin to the United States government in the Treaties of 1837 and 1842. In those Treaties, they reserved their rights to hunt, trap, fish and gather within various publicly-owned lands. Treaty rights are currently being exercised and implemented by the Ojibwa Tribes within the Ceded Territory.

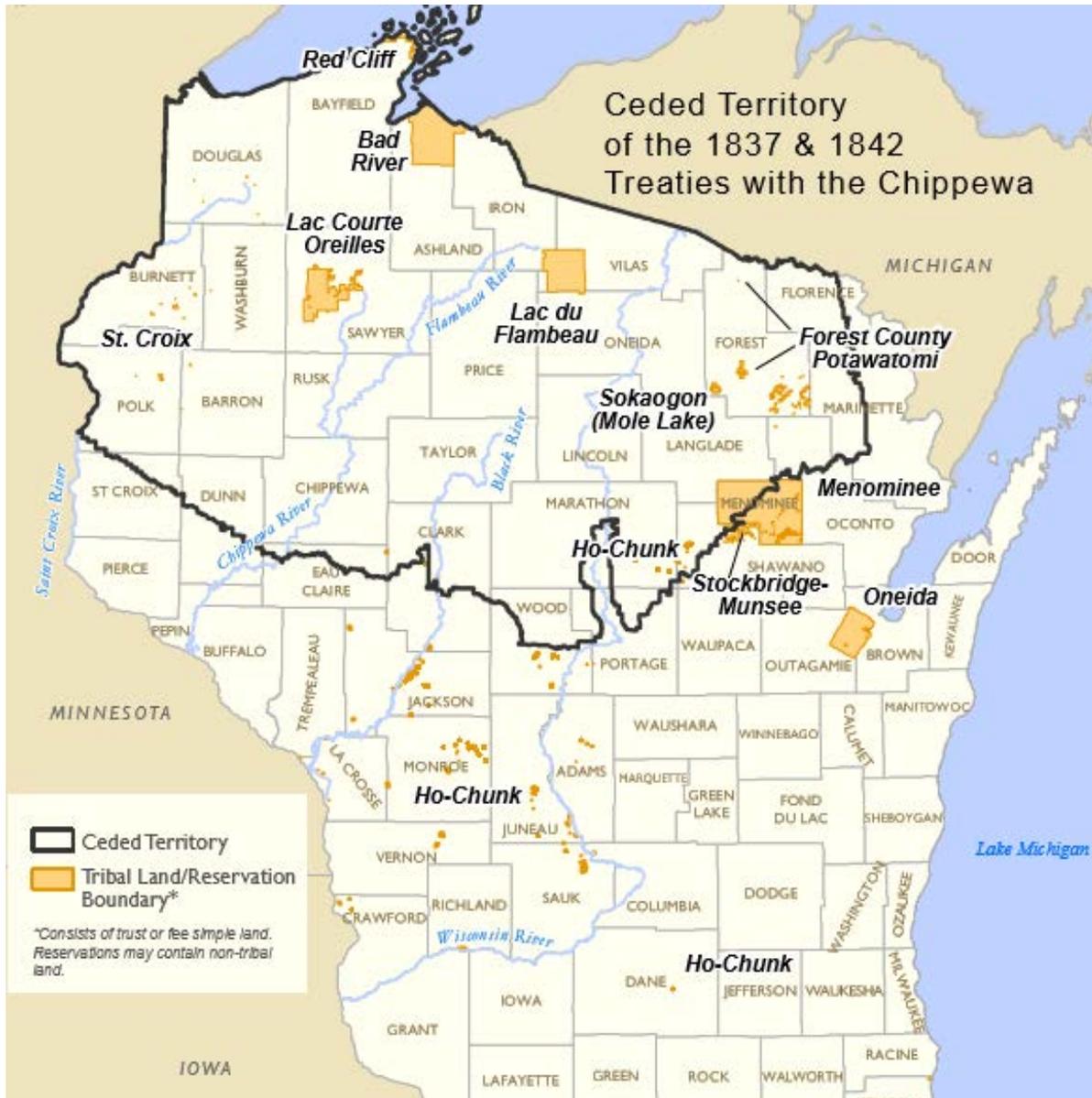


Figure 1: Map of the ceded territory in Wisconsin, WDNR 2017.

Property Boundary Changes

Property acquisition increases are not included in this plan. One housekeeping property boundary change will be made to expand the project boundary by 40 acres to include an adjacent department-owned parcel that has long been managed as part of the wildlife area. See Map B-9.

CHAPTER TWO: MANAGEMENT, DEVELOPMENT, AND USE

Introduction

This chapter details the management, development and use of the TWA needed to achieve the property's long-range vision and goals. The property is planned and managed to optimize its own inherent capabilities, yet at the same time to realize its importance as a component of the larger landscape mosaic of public and private properties. Chapter Two is organized into three main parts: the **Introduction** contains an overview of the benefits of public land protection and the Vision and Goals that guide the overall project; **Section One** contains a property description as well as both general and specific management objectives and prescriptions for the TWA; and **Section Two** describes general property administration and management policies and provisions that apply to all state managed lands.

Vision and Goals

The Totogatic Wildlife Area will provide high-quality habitats for diverse wildlife and fish species and high-quality outdoor, nature-based recreational opportunities in lightly developed settings for current and future users. These opportunities will be provided within a matrix of wetland and upland communities, including emergent marshes, rivers and streams, and upland hardwood forests. Natural communities will be managed sustainably for ecological benefit and user enjoyment in a manner consistent with their statutory designations and ecological capabilities. Management of these properties will be directed at maintaining the ecological integrity of the diverse ecosystems.

We will accomplish this vision by working on 5 major goals:

Goal 1: Provide recreational opportunities for hunting, fishing, trapping, paddling, bird watching, wildlife viewing, nature study or enjoyment, and other compatible nature-based outdoor pursuits.

Goal 2: Promote quality habitat for game and non-game species.

Goal 3: Maintain and enhance connectivity between terrestrial and aquatic communities and habitats.

Goal 4: Ensure quality angling opportunities exist.

Goal 5: Maintain and enhance, where possible, wild rice habitat.

Land Management Classification

All the TWA is classified as a Habitat Management Area. See Map B-8. A Habitat Management Area is managed to provide or enhance habitat, whether upland, wetland or aquatic, to support specific species of plants and animals. A management classification generally describes the primary management objective for a property or areas within a property. The land management classification system is further defined in Chapter NR 44.06 and 44.07 of the Wisconsin Administrative Code.

Resource Management

General Habitat Management Objectives

- Maintain and enhance the quality of forest habitats with an emphasis on uneven aged northern hardwood management.
- Provide a diversity of size and age classes and structural features that enhance wildlife habitat value across the forest types on the property.
- Promote forest health by managing forest types to discourage invasion by, and reduce loss from, invasive species and forest diseases such as oak wilt, gypsy moth, forest tent caterpillar, two-lined chestnut borer, and annosum root-rot.

General Prescriptions

- Retain snags and coarse woody habitat whenever their retention does not conflict with other management objectives or pose a danger to the public.
- Leave long-lived reserve trees as individuals or in groups to provide timber, wildlife, and aesthetic value whenever their retention does not conflict with regeneration and other forest management objectives.
- Require loggers to utilize established best management practices for all aspects of conducting timber harvest and removal, and require logging equipment to be cleaned prior to entry to and exit of state lands to prevent the spread of invasive plants.
- Monitor and control populations of invasive species and eradicate them where feasible. Control invasive species using appropriate techniques including, but not limited to, prescribed fire, mechanical means (e.g., mowing, cutting), hand-pulling and herbicide use according to label directions.

Management Objectives and Prescriptions by Habitat Type

Upland Forested Habitats

Northern Hardwoods

The existing 545 acres of Northern Hardwood upland forested areas cover 21 percent of the Totogatic Wildlife Area and are comprised of an even distribution of younger regenerated sugar maple, basswood, aspen, white and yellow birch. The northern hardwood areas of the property are young enough that they are functioning from a habitat standpoint similar to an uneven-aged aspen stand. This upland forest habitat is diverse and healthy with little woody invasives like honeysuckle or buckthorn. Game species utilizing this habitat include black bear, grouse, deer, turkey, beaver, otter, muskrat, and woodcock. Osprey, bald eagle, songbirds and small mammals like porcupine and opossum also use these forested areas.

Objectives

- Maintain the existing stands of diverse uneven aged northern hardwoods (generally ratio of 64% overall upland forested habitat on the property).
- Provide a variety of age classes and stand sizes across the landscape for wildlife habitat benefits, ecological diversity, and aesthetic value.
- Encourage the expansion of the aspen percentages (up to 5%) within the northern hardwoods stands.
- Continue managing upland forest for current wildlife types.
- Maintain wildlife opening areas.
- Increase suitable habitat for woodcock.

Prescriptions

- Use timber sales as a management tool for forest management. Harvest portions of larger stands at staggered intervals of 40-65 years of age.
- Evaluate hardwood stands that contain a remnant aspen component and determine if they may be converted to aspen/birch. Convert to aspen where the potential exists.
- Whenever possible, leave cavity trees (living and dead).
- Plant and maintain grasses and forbes in wildlife openings. Mow and or burn on a 3-5-year rotation to control potential invasives and woody species encroachment.

Aspen-Dominated Mixed Forest

Aspen dominated forest covers 322 acres (12 percent) of Totogatic Wildlife Area. Aspen forests are a premier wildlife cover type in the uplands. Young aspen forests provide feeding and hiding cover for a host of game species and non-game species. New research is indicating that young aspen stands, particularly those containing large scattered oaks, may provide important breeding habitat for golden-winged warblers, especially if adjacent to mature forest for the post-fledging period. White pine, another component of these stands, can increase once sunlight reaches the young trees in the understory. Trees retained may wind throw and become coarse woody debris on the forest floor. Creating and maintaining greater age class diversity of aspen on the property is a major goal. This will enhance the opportunity to accommodate a variety of wildlife species.

Objectives

- Maintain current extent of uneven aged aspen stand coverage; and create and maintain a greater age class diversity of aspen on the property overall.
- Increase suitable habitat for woodcock.

Prescriptions

- Regenerate aspen primarily through coppice (i.e., root sprouts) cutting with a management emphasis on its habitat value for ruffed grouse and woodcock populations.
- Where feasible and appropriate, regenerate aspen within Riparian Management Zones (RMZs) to provide critical habitat for woodcock. This prescription will be implemented where the practice will not compromise important ecological characteristics and water quality that BMPs are intended to protect.
- Provide a variety of age classes and stand sizes across the landscape for wildlife habitat benefits, ecological diversity, and aesthetic value, harvest smaller blocks of aspen cuts to diversify habitat. Use green tree practices where appropriate.
- Retain individual longer-lived species such as oak, white pine, hemlock, and red pine, as well as older individual aspen. These reserve trees can improve stand structure, diversity, wildlife habitat, and aesthetic beauty as well as promoting wildlife travel corridors. To maintain vigorous aspen growth, 20% crown closure is typically ideal; however, crown closure may be slightly higher or lower depending on site conditions.
- Whenever possible, leave cavity trees (living and dead).

Forest management activities follow the Wisconsin Forest Management Guidelines (PUB-FR-226-2011) as well as the WDNR Silviculture and Forest Aesthetics Handbook (2431.5), the Public Forest Lands Handbook (2460.5), the Timber Sale Handbook (2461), and the Forestry Best Management Practices (BMPs) for water quality and invasives species. Consult these resources for additional details and management considerations.

Wetland Habitats

Forested Wetlands

Forested wetland areas on the property contain stands of swamp hardwood and swamp conifer. Swamp hardwood stands are dominated by black ash and make up most the forested wetland habitat, with 230 acres (9%) of the property cover. The extent of swamp conifer, which includes black spruce, tamarack, white cedar, and associated species, are very limited, being only 29 acres (1%). Changes may occur in the overall acreage or lowland forest following extended drawdowns and removal of the dam.

Objectives

- Maintain existing acreage of uneven aged lowland forested wetlands.
- Control invasives species (as practical), if an infestation occurs.

Prescriptions

- Management activities will be passive and minimal within wetlands. Utilize timber sales to manage uneven aged lowland forested wetland species. Access for timber management will be during frozen or very dry conditions to minimize wetland impacts. Harvesting techniques and equipment should minimize rutting and other negative impact to the wetland hydrology.
- Productive stands of tamarack and black spruce will be regenerated using strip clear-cut and/or seed tree method following guidelines in the Silviculture Handbook.
- Retain all white cedar. Exceptions to this will be where management opportunities provide for encouraging regeneration of this species. Cedar trees damaged by wind, ice, fire, insects and disease will not be salvaged unless there is a public safety issue with not doing so.

Alder (Shrub) Wetlands

Alder (speckled alder or “tag alder”) is small but important habitat type on this property. It typically occurs along the margins between forest and riparian zones, lakes, wetlands, or muskegs. These alder stands traditionally have not been managed and have subsequently matured. When alder stands become old and decadent, stem density decreases substantially and understories are overtaken by grasses and other ground covers. Regenerating alder by cutting or shearing will create a diversity of age class benefits to game species such as the American woodcock, ruffed grouse, cotton-tailed rabbits, and snowshoe hares as well as a variety of songbirds including the golden-winged warbler. Alder is not considered an important browse species for deer, but provides excellent cover for travel, bedding, escape, and fawning. For all these reasons, creating and maintaining greater age class diversity of alder on the property is an important goal. Like aspen, alder sprouts vigorously when cut, although most alder sprouting is directly from the stump, not from roots. Alder will grow naturally from seed.

Objectives

- Maximize age class diversity of brush habitat for wildlife especially grouse and woodcock.
- Control invasive species (as practical), if an infestation occurs.

Prescriptions

- Regenerate alder by cutting, mowing, or shearing with a management emphasis on its habitat value for woodcock, golden-winged warblers, and a variety of other species dependent on early–successional habitat.
- Harvest portions of larger stands of mature decadent alder at staggered intervals. To determine the suitability of the age, stand of the alder, observe growth form of alder stems: when old, alder frequently grows horizontally instead of vertically. Alder stands with horizontal growth are good candidates for regeneration.
- Where suitable and appropriate, cut strips of alder that are 50-100 feet wide through the alder stand. Position strips so that an adjacent strip can be cut every five years, thus ensuring that all alder strips will

be revisited once every 20 years. As with aspen, the percentage of the area cut is accelerated in decadent stands with substantial horizontal growth.

- Conduct any work when the ground is dry or frozen to minimize potential impacts to wetlands.
- Alder stands with standing water, saturated soil throughout the year, or heavy sedge growth are likely too wet to provide benefits for target species under normal circumstances and are not suitable for this kind of management work.
- Where alder stands are interspersed with trees or other species, retain widely spaced over story trees with a DBH >9 inches, particularly deciduous species, as this structure is beneficial for the golden-winged warbler.
- Utilize manual cutting and/or herbicide treatments for invasive vegetation species management. If in wetland, ensure proper herbicide is labeled for partial aquatic environment.

Emergent Wetlands

Currently there are about 1,000 acres of emergent wetlands making up about 41% of the property's cover. However, most this acreage is dominated by monotypic narrow-leaved cattail (*Typha latifolia*) with limited wildlife habitat values. To a small degree, waterfowl may use these emergent wetland areas for cover, breeding and as a food source.

Objectives

- Manage for high quality open water, emergent wetland habitats and wet meadow wetlands.
- Control invasive plants (as practical) if an infestation occurs. Monitor and manage invasive species colonization during the drawdown, dam removal and mudflat revegetation timeframe.
- Ensure native species revegetation in the exposed mudflat areas from the drawdown and dam removal.

Prescriptions

- Utilize manual cutting and/or herbicide treatments for invasive vegetation species management. If in wetland or adjacent to a water resource, ensure proper herbicide is labeled for partial aquatic environment and all necessary safety precautions are taken.
- Utilize vegetation management techniques and planting of natives as resources allow to reestablish a diverse wetland community as much as feasible.

Open Water

Currently a state-owned dam exists on the Totogatic River at Wozny Road on the TWA property. This structure impounds approximately 100-400 acres of water. Water levels on the flowage are shallow averaging 3-feet deep with some 10-foot deep areas near the dam. Wildlife that uses the open water flowage habitat are primarily geese, swan, duck (for migration habitat), songbirds, game and non-game fish. Formal safety inspections in 2010 and 2012 alerted the department to the deteriorating conditions of the dam. Inspection reports note that repair, replacement or removal of the dam is recommended to occur to eliminate the public safety risk with a dam failure. Taking into consideration short-term and long-term costs, funds available, potential return on the dollar and environmental impacts, this plan includes the recommendation to complete a drawdown of the flowage and eventually to remove the dam. The department's recommendation, based on its cost-benefit analysis, is to remove the dam.

Should alternative or additional funding become available that would cover repair or replacement and maintenance, the plan may allow the dam to remain. Any repair or replacement must include design, construction, operation and maintenance plans to the satisfaction of the department.

The department retains management authority to determine any future management actions related to the dam including those necessary for the protection of life, health, safety and property.

Objectives

- Manage the portion of the Totogatic River that flows through the TWA property for optimal water quality and as a natural riverine habitat.
- Minimize potential sediment movement downstream during the drawdown and dam removal.
- Drawdown the impoundment in a staged, slow manner to limit downstream movement of sediment as much as practical.
- Minimize ecological impacts as much as possible to the land and water surrounding the dam during the drawdown and dam removal.

Prescriptions

- Remove all stop logs remaining in the dam structure. Stage the removal of stoplogs to be gradual to help control/minimize as much as possible sediment movement downstream. Leave concrete portions of the dam structure and earthen embankment in place until funding for removal is secured.
- Apply for and receive any state, federal, county or local municipality permits needed for work on the property before removal of structure and earthen embankment.
- Remove all portions of the dam structure and earthen embankment on Wozny Road when funding becomes available.
- During the structure removal from the river channel, consider flow diversion pumping (partial) around active in-water construction areas to minimize turbidity and protect water quality. Also, consider diverting fisheries from the portions of the project that have active construction as much as possible.
- Utilize appropriate Best Management Practices for erosion control and site stabilization during the drawdown and removal of the dam and earthen embankment. Utilize silt curtains to isolate instream construction work for the concrete removal in the channel.
- Monitor fisheries community in the former flowage area post-dam removal as resources allow, but preferably once every four years. Monitor fish species diversity, and species age structure.

Authorized Management Activities and Tools

All activities listed above in the management prescriptions and those listed below are authorized on the property as may be appropriate.

- Chemical Application
- Mechanical/mowing or shearing
- Hand cutting (chainsaw & girdling)
- Prescribed burning
- Timber sales
- Construction activities related to dam and dike removal and site restoration
- Bio-fuel harvest
- Seeding grass cover and wild rice
- Installing best management practices to control erosion and sediment movement during construction projects
- Control of invasive species via chemical application or approved biocontrol
- Placement of nest boxes, platforms or similar devices to enhance reproduction of desired wildlife species

Public Use Management and Development

General Recreation Management and Uses

The entire TWA property is open to traditional outdoor recreational uses including hunting, fishing and trapping. These activities are primary recreational uses of the property. Other activities allowed on these lands include wildlife viewing, photography, hiking, biking, paddling, cross-country skiing, and snowshoeing.

Existing recreational facilities include five designated parking areas, a concrete boat ramp for small water craft use and several hunter access trails. There is also a nearby county-owned boat launch immediately downstream of the Nelson Lake dam. See Map B-4.

Motorized vehicle access is available on designated public access roads and parking lots. Snowmobiles and ATVs are allowed only on trails designated for their use. There are allowances for individuals with mobility impairment under the power-driven mobility device regulations of the Americans with Disabilities Act. For more information on these allowances, please contact the property manager.

Edible fruits and nuts, wild mushrooms, and wild asparagus may be removed by hand without a permit for personal consumption by the collector. Cutting of willow branches is allowed with a permit from the property manager. Collection of seeds, roots, or other plant parts is prohibited.

Information on rules governing public use of department-owned lands is found in Chapter NR 45, Wisconsin Administrative Code.



Existing Totogatic Wildlife Area signage near wildlife viewing area off State Highway 27. Warwick 2017.

Hunting and Trapping

Hunting and trapping opportunities are abundant and are major recreational activities on the TWA properties, with opportunities to pursue white-tailed deer, turkeys, grouse, woodcock, snipe, American black bear, North American river otter, waterfowl (raccoon, gray squirrel, snowshoe hare, and cottontail rabbits). Deer, grouse and turkey frequent this property and hunters here are provided some of the best opportunities in northern Wisconsin.

Objective

- Maintain and enhance habitat that offers abundant hunting and trapping opportunities for big and small game.

Prescriptions

- Manage upland forest habitat for a variety of age classes and stand sizes across the landscape for wildlife habitat benefits.
- Within the upland hardwoods upland forest, manage for up to 5% more uneven aged aspen to benefit grouse, woodcock, turkey and deer.
- Maintain wildlife opening areas as grassland/foraging food source for small and large mammals.
- Selectively strip shear lowland and upland shrub (alder) transitional areas for habitat to benefit turkey, waterfowl, and woodcock.

Fishing, Paddling, Wildlife Watching and Other Recreational Pursuits

Objectives

- Support non-hunting related nature-based recreational activities, such as fishing, paddling, photography, and wildlife viewing.
- Improve accessibility for mobility-impaired individuals where feasible.
- Provide shore fishing opportunities.
- Improve and maintain watercraft launch facilities on the property, particularly for paddle craft use.
- Provide and maintain a system of access trails for use by hunters, hikers and other property users.

Prescriptions

- Maintain existing parking areas, access roads and signage consistent with department rules and policies.
- Periodically mow and otherwise maintain as necessary the existing closed primitive roads for walking access by hunters, hikers and other property users. Improve signage at access points to expand public awareness of the hunter/hiker walking trail system.
- Develop accessible pathways/boardwalks to the river to increase shore fishing opportunities.
- Create/refurbish wildlife viewing area along Highway 27. Add paved entrance and roadway; ensure at least four parking stalls and an ADA compliant path to viewing/photography vista.
- Improve watercraft accessibility near the former Wozny Road dam site post-dam removal. Provide at least eight parking stalls and a safe area to launch canoes, kayaks and shallow draft watercraft. (Upstream, near STH 27, parking for putting watercraft in the Totogatic exists at the Nelson Lake launch.)
- Integrate accessibility into development and construction of new or upgraded infrastructure. Gate replacement for ADA accessibility is an option for improvements on hunter walking paths.

Road Management

The TWA has a network of roads and parking lots that are used for management purposes and public access, shown on Map B-3. Except for the short parking lot access roads, all other roads on the TWA are closed to public

vehicles. Closed roads are gated or signed. These management roads also provide foot access ways for hunters, hikers and other property users.

The following management and maintenance prescriptions apply to department managed roads and parking lots:

- Maintain the current level of public and department management vehicle access roads.
- Maintain permanent management roads and public access roads in sustainable condition per Wisconsin's Forestry Best Management Practices for Water Quality.
- Regularly inspect active roads especially after heavy storm events. Clear debris as needed from the road surfaces, culverts and ditches to decrease unsafe conditions and prevent damage.
- Maintain stable road surfaces to facilitate proper road drainage and reduce degradation from traffic.
- Ensure public access roads are clearly marked and signed.
- Monitor soil disturbance and take measures to protect excessive damage.
- Restore roads used in timber harvest to non-erosive conditions, in accordance with Wisconsin Forestry's Best Management Practices for Water Quality.

Project Boundary and Acreage Goal Modification

This plan recommends remedying an apparent previous real estate recording oversight. A state-owned 40-acre parcel along the TWA's northern boundary was excluded in the real estate records. This parcel is contiguous with the TWA property boundary and has been consistently managed as a part of the TWA. The boundary will be expanded to include this parcel and the ownership goal be increased by 40 acres. The revised acreage goal and ownership total will be 2,799.05 acres.

General Administration Management Policies and Provisions

The following section describes the general property administration and management policies and provisions that apply to the TWA.

State and Federal Approvals Required

Waterway or wetland approvals are required from the department, Army Corps of Engineers or county zoning office for actions that involve work in navigable waters (ch 30, Wis. Stats.), wetlands (s. 281.36 Wis. Stats.) or dam alterations (ch 31, Wis. Stats.). The permits that are anticipated to be needed for the actions proposed in the plan include:

- WDNR permit through Chapters 30 and 31 Wisconsin State Statutes for alterations to waterways and water control structures
- WDNR Stormwater Notice of Intent permit under NR 216
- Local Municipal approvals for Construction, Erosion Control
- USACOE permit for waterway/wetland alterations
- WDNR Aquatic herbicide use permit under NR 107
- WPDES permit coverage for pit trench dewatering or landspreading of sediment

Research

Research projects that support or are consistent with the TWA goals, objectives, or management prescriptions may be authorized and conducted on the TWA.

Facility Management Authority

The TWA manager may relocate or temporarily close road or trail segments or other public use facilities.

Cultural Resource Protection

All requirements for the protection of archeological sites and historic structures will be complied with. Federal Section 106 (commonly called SHPO) and state cultural resources law (s. 44.40) and requires review of actions

that may impact significant (eligible for listing in the National Register of Historic Places) cultural resources regardless of whether there are any recorded in the area. Surveys to search for unreported sites may be required. Section E, Part 2, [Manual Code 1810.1 \[PDF 287KB\]](#) contains a list of items that must comply with historic preservation laws for activities on department lands using Sport Fish Restoration funds, and for fisheries lands, access sites and wildlife areas.

Public Health and Safety

All facilities will comply with federal, state, and local health and sanitation codes. The TWA manager has the authority to close areas or facilities to access if necessary due to health, safety, or environmental damage concerns. In designated public use areas, such as designated parking lots and designated trails, trees or other natural elements that are deemed public hazards will be removed.

Refuse Management

Visitors are required to carry out any refuse they bring in because no designated refuse or recycling receptacles are available. Burying of refuse is not allowed anywhere on the property.

Disabled Accessibility

All new construction and renovation of infrastructure will follow guidelines set forth within the Americans with Disabilities Act. Following standard department protocol, the TWA manager has the authority to make reasonable accommodations, including motorized vehicle access, for people with disabilities.

Funding Constraints

Implementation of the master plan is dependent upon staffing and funding allocations that are set by a process outside of the master plan. Operational funding for the department is established by the state legislature. Development projects also follow an administrative funding and approval process outside of the master plan. Many of the initiatives contained within the plan are dependent upon additional funding and staffing support. Therefore, several legislative and administrative processes outside of the master plan will determine the rate this master plan will be implemented.

Management Restrictions - Federal Funding Related

Some of these lands were purchased with Pittman-Robertson Wildlife Restoration Act funds through the U.S. Fish and Wildlife Service and are protected by statutes and federal regulations (50 CFR Part 80, 2 CFR Part 200) that prohibit a state fish and wildlife agency from allowing recreational activities and related facilities that would interfere with the purpose for which the State acquired, developed, or is managing the land. Prior to engaging in any major land management activity or development it is important to determine whether the proposal conflicts with federal post-grant funding regulations. Review and approval of the U.S. Fish and Wildlife Service may be required.

Activities undertaken on lands purchased with Federal funds or utilizing Federal dollars on development projects (and other land management activities that disturb the intact soils) require property managers to complete Federal compliance requirements. The requirements are addressed during project submission for work planning. In all cases, the requirements listed below, if applicable, must be completed before the activity or construction commences.

Endangered, Threatened and Species of Special Concern Protection

Implementation of all management prescriptions in the master plan will be carried out with consideration of the needs of endangered, threatened, and species of special concern and the potential impacts to the species and their habitat. Management actions planned during plan implementation will be checked against a database of listed species to assure that no department actions result in the direct taking of any known endangered or threatened resource.

Best Management Practices for Water Quality

All forest management activities will comply with the most recent version of the guidelines in the Wisconsin Forestry's Best Management Practices for Water Quality (BMPs).

Pest Control

Wisconsin Statute 26.30 states; "It is the public policy of the state to control forest pests on or threatening forests of the state..." Any significant forest pest events will be evaluated with consideration given to the property management goals and the potential threat of the pest to other landowners. Infestations of the non-native gypsy moth caterpillar will be managed per the Forest's Gypsy Moth Management Plan. Responses to significant infestations from other forest pests may include timber salvage or pesticide treatments. Any response to a significant pest outbreak will be evaluated by an interdisciplinary team of scientists and communicated through press releases and notices to interested parties.

Control of Invasive Species

Invasive plants will be regularly monitored and controlled using appropriate and effective methods, including but not limited to the use of bio-control, herbicides, cutting, hand removal, or fire. Control methods may be restricted in certain sensitive management areas.

Chemical Use

Herbicides and pesticides may be used for various purposes such as the control of invasive plants or to control plant competition in vegetation regeneration areas and insect control except as restricted in the management prescriptions in this master plan. All department procedures and herbicide and pesticides label requirements will be followed.

Fire Suppression

As stated in Wisconsin Statutes 26.11, "The department is vested with power, authority and jurisdiction in all matters relating to the prevention, detection and suppression of forest fires outside the limits of incorporated villages and cities in the state except as provided in sub (2), and to do all things necessary in the exercise of such power, authority and jurisdiction." Forest fire suppression actions will consider the property management goals and the threats of the fire to life and property. Appropriate techniques will be used in each event to provide effective fire suppression while minimizing resource damage.

Authorized Response to Catastrophic Events

Wildfires, timber diseases and insect infestations are natural occurrences but shall be controlled to the degree appropriate to protect the values of the property. Necessary emergency actions may be taken to protect public health and safety. Appropriate management responses to catastrophic events are determined on a case-by-case basis, and action will be taken as appropriate.

Non-Metallic Mining

The department may use sand, gravel, fill dirt, or other fill material from department-owned lands for department use.

General Real Estate Management

Aides in Lieu of Taxes

For all state properties purchased after 1992, the department makes an annual payment in lieu of property taxes to replace property taxes that would have been paid if the property had remained in private ownership. More detailed information on how the department pays property taxes may be found in a publication titled, Public Land Property Taxes, PUB-LF-001 and can also be found at: <http://dnr.wi.gov/org/land/facilities/realestate/pilt.html>.

Easements, Access Permits, and Land Use Agreements

Easements, access permits, land use agreements, and leases provide access across state property for utilities, public roads, snowmobile trails, or other public-benefit infrastructure, access to private ownership within a property boundary, and provide for a variety of temporary uses on a department property. Such arrangements require consultation and joint action by the affected program and the Bureau of Facilities and Lands, Real Estate Program staff. While such situations may serve a public purpose (e.g., a utility corridor or a road) they may adversely affect a management unit by:

- Restricting the department's future management options;
- Limiting the public's full use and enjoyment of a property;
- Preventing natural succession of cover types;
- Introducing exotic and invasive species to the property;
- Introducing additional herbicides and other contaminants to the property; and
- Creating liability concerns.

The conveyance of easements and other agreements is subject to sections NR 1.48 and NR 1.485, Wis. Adm. Code. Before any rights are conveyed, the Bureau of Facilities and Lands Real Estate staff must determine if federal funds were used to acquire the land and, if so, obtain the appropriate approvals.

Public Outreach

The public and other governments may be provided opportunities to have on-going involvement in the implementation of this master plan. This communication plan describes how the public will be periodically informed about activities and developing issues on the TWA and it provides information on how the public will be notified of opportunities for involvement when significant, new issues related to management of the property arises. Annually the department will issue a [monitoring] report that summarizes the following items.

- For the past year, the primary management and development activities that were completed and other significant issues that were addressed.
- For the up-coming year, outline any planned management and development activities and any changing management actions or approaches.

The annual report may also include other information of interest to the public on various topics related to management and use of the properties. Some of the additional types of information that may be included from time to time are: the status of forest insect or disease problems, storm damage, new information on endangered or threatened species, recreational management problems or new opportunities, and any significant recreational use changes or trends on the property. The annual report will be available on the DNR internet web site.

The department will meet annually, or more frequently as deemed appropriate, with local tribes and local government officials to discuss mutual issues related to management of the TWA.

In the event the department considers a change to the master plan (via a plan variance or amendment) the public will be informed of the proposal and the review and comment process. As appropriate, news releases will be used to announce master plan amendment/variance proposals and review procedures. The department will also maintain a contact list of persons, groups, and governments who have requested to be notified of potential plan changes.

WDNR Contacts

The following department staff may be contacted regarding questions about the TWA or the master plan. At the time of this publication, the contact information is:

Mike Bulgrin, Wildlife Technician and Property Manager
10220 State Highway 27 South
Hayward, WI 54843
(715) 634-7431
Michael.Bulgrin@wisconsin.gov

Shelley Warwick, Property Planner
101 South Webster Street
Madison, WI 53707
(608)266-2698
Shelley.Warwick@wisconsin.gov

CHAPTER THREE: BACKGROUND AND SUPPORTING INFORMATION

The data in this chapter is drawn from the Regional and Property Analysis, Totogatic Wildlife Area (DNR 2016). More information on the regional context of the TWA may be found in this document.

Overview

The Totogatic Wildlife Area is a 2,719-acre property with approximately 1,050 acres of wetland habitat and up to 400 acres of standing water. On average, there is currently between 100-200 acres of open water during the growing season. The local landscape is dominated by forested uplands with a significant component of both forested and non-forested wetlands. The property is in an area with large tracts of county forest in four different counties, although nearby Nelson Lake has a developed shoreline in private ownership. The Totogatic River flows through Nelson Lake then through the wildlife area, and eventually drains northwest and westerly to the Namekagon River in Burnett County.

The acquisition of Totogatic Wildlife Area was proposed by the Hayward Rod and Gun Club in 1941 and was completed in 1951. This project was funded through the Pittman-Robertson Wildlife Restoration Act as a waterfowl

restoration area. Pittman Robertson funds are used to acquire land for the purposes of restoration, conservation, management and enhancement of wild birds and mammals and their habitat. It was originally felt that this area offered an unusual opportunity for waterfowl habitat because of the grass marsh biota present. It was believed that most the marsh land in the northern forested areas were too acid to produce good aquatic habitat (WDNR, 1954).

A 600-foot dike and 70- foot dam was completed in 1953 which flooded approximately 1,000 acres with about 400 acres of open water. Fifteen miles of roads were constructed on the property to improve access and provide fire breaks. Boat landings were built at both ends of the flowage to provide public access. The dam was modified in 1960 to add one tier of stop logs. Minor repairs were made to the dam in 1973.



Figure 2: Map of the Totogatic Wildlife Area, WDNR, 2016



Totogatic Dam at Wozny Road, MSA 2012.

The Totogatic Wildlife Area had a property master plan concept element approved in 1981 and subsequently in 1983 a property Implementation Element was approved. The goal for this property was to “manage a state-owned area for the benefit of fish and wildlife-based recreation, protection of endangered species and to provide compatible recreational opportunities (WDNR, 1981).” The original recommended management and development plan included the maintenance of fisheries and public access, management of uplands for forest game, the enhancement of wood duck habitat, and there have not been any variances, amendments or any other master plan updates since these plans were approved in 1981 and 1984.

Federal Funding

Funding for much of the acquisition of land in Totogatic Wildlife Area came from the Pittman-Robertson Wildlife Restoration Act Program administered through the Fish and Wildlife Service Wildlife and Sport Restoration Program. These lands are protected by statutes and federal regulations that prohibit a state fish and wildlife agency from allowing recreational activities and related facilities that would interfere with the purpose for which the State acquired, developed, or are managing the land.

Physical Environment

Geology, Soils and Water Resources

The Totogatic Wildlife Area is underlain by igneous and metamorphic rock, generally covered by 5 to 100 feet of glacial drift deposits. Nearby landforms are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions are widespread and steep; bedrock-controlled ridges are found in the northern portion of the North Central Forest.

There are an estimated 14 soil units found in the Totogatic Wildlife Area. Most fall within three classifications: 1. Lupton Cathro and Tawas soils which are an inundated, very poorly drained, deep organic muck over sandy loam soils. 2. Frogcreek silt loam and 3. Stanberry sandy loam. The Frogcreek and Stanberry series are similar due to that they are characteristic of ground and end moraines. Both are also very stony soils and moderately well drained (NRCS, 2016).

The Totogatic River (generally pronounced To-TA-ga-tik) is an 80.0-mile long tributary of the Namekagon River in northwestern Wisconsin in the United States. Via the Namekagon and St. Croix rivers, it is part of the watershed of the Mississippi River. Its name is derived from the Ojibwa language Dootoogaatigo-ziibi meaning "River of Boggy Riverway" due to its course through wetlands. The Totogatic is formed by the confluence of its east and west forks in southwestern Bayfield County, and flows generally westward through Sawyer, Washburn, Douglas and Burnett counties, passing through several lakes. It joins the Namekagon River in Burnett County, 45 miles (72 km) south of the city of Superior (Wikipedia, 2016). The Totogatic River flows through the property and is impounded by the Wozny Road Dam. The Totogatic River is listed as both an Outstanding Water Resource and as a state-designated Wild River at its free-flowing locations (the four flowages Nelson Lake, Totogatic, Colton, and the Minong excluded). The river provides rich habitat for diverse aquatic and terrestrial species, has excellent water quality, beautiful scenery, and great fishing and paddling opportunities.

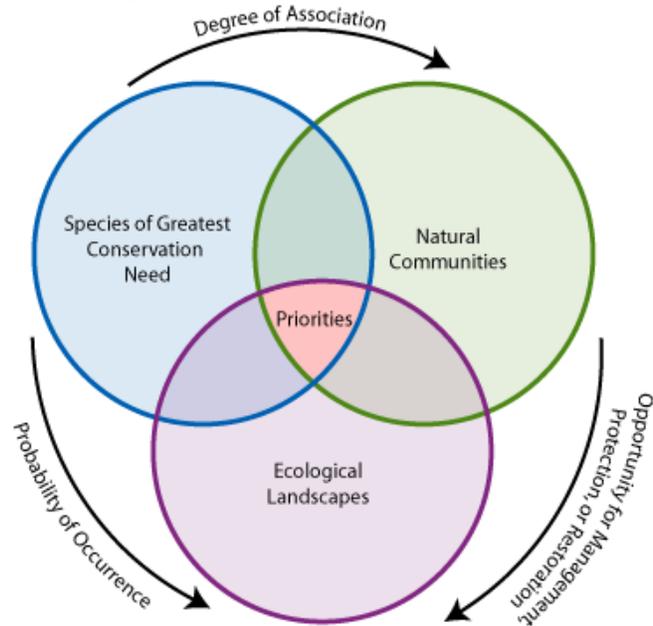


Figure 3. Illustrates the process used for identifying Ecological Priorities in the Wisconsin Wildlife Action Plan.

The Totogatic Flowage is located entirely within the wildlife area varies from 100-200 acres of open water depending on water levels and time of year. Average depths range between ½ a foot to three feet with select areas of 3-6 foot depths. The 64- year old impoundment is becoming shallower and filled with soft sediment as it ages. Winter fish kills and dissolved oxygen variability will continue to be a water quality challenge with the flowage as increased soft sediment accumulates.

Ecological Landscape and Natural Communities

The Totogatic Wildlife Area is located within the North Central Forest Ecological Landscape. This ecological landscape encompasses 9,543 square miles (6,107,516 acres), representing 17% of the area of the state of Wisconsin. Forests cover approximately 75% of the North Central Forest. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or eastern white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white-cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), and non-forested acid peat lands (bogs, fens, and muskegs). Other relatively common wetland communities here are alder thicket, sedge meadow, and marsh including wild rice (WDNR 2016).

The Totogatic Wildlife Area is managed primarily for an un-even aged northern hardwood forest which is also the dominant vegetation type in the upland forested portion of the property with sugar maple, basswood, ash, red

oak and red maple. A variety of other natural community and vegetation types also are represented on the property. There are numerous small stands of early successional forest, swamp conifer and swamp hardwoods throughout the property. The emergent wetland areas are dominated by broad leaved cattail.

The Wisconsin Wildlife Action Plan (WDNR 2006b) identified the best ecological landscapes in the state for sustaining various natural communities. The North Central Forest Ecological presents “major” or “important” opportunities for sustaining 57 different natural communities. Of these, seven occur in the Totogatic Wildlife Area:

- Riverine Impoundment - Reservoirs
- Warm water river
- Northern Hardwood Swamp
- Northern Mesic Forest
- Aspen-Birch
- Riverine Mud Flat
- Emergent Marsh
-

See WDNR (2006b) for more detailed descriptions of these natural communities.

Vegetative Cover

Most of the Totogatic Wildlife Area is split between two habitat types: marsh and forested upland. Emergent marsh is the most prevalent cover type in the property currently. These areas comprise approximately 41% of the vegetative cover in the TWA. Emergent wetland areas adjacent to the current flowage have large stands of monotypic cattails. The presence of wild rice is limited to single stalks in very small areas of the flowage and varies from year to year (Smith, WDNR 2016.) Swamp hardwoods and swamp conifers are a smaller area of the property with about 10% of total cover. Upland forested areas of northern hardwoods, aspen stands and upland

conifers and are approximately 34% of the Totogatic Wildlife Area vegetative cover. A detailed breakdown of generalized cover types for the Totogatic Wildlife Area based on the Wisconsin Forest Inventory and Reporting System (WisFIRS) is given in Table 1. Land cover types are shown in Map B-6 and B-7.



White Trillium (trillium grandiflorum) found near a road edge and upland forested area in the TWA, Warwick 2017.

Forest Habitat

According to the current WisFIRS data, there are 1,165 forested acres in the Totogatic Wildlife Area accounting for 44% of the total property acreage. Figure 4 illustrates the cover types by type and acreage.

Aspen stands are comprised of either bigtooth aspen (*Populus grandidentata*) or trembling aspen (*P. tremuloides*). Aspen is a pioneer successional species which relies on a frequent disturbance regime to regenerate and maintain itself as the dominant timber type. Aspen is generally grown to a rotation age of roughly 50 years and regenerated with a coppice harvest. Aspen provides valuable habitat to a variety of wildlife species throughout its lifecycle, but is very important during its seedling and saplings stage which provides browse and cover.

Northern Hardwood stands within the Totogatic Wildlife Area are made up of a combination of sugar maple (*Acer saccharum*), basswood (*Tilia americana*), white ash (*Fraxinus americana*), yellow birch (*Betula alleghaniensis*), red oak (*Quercus rubra*) and red maple (*Acer rubrum*). The northern hardwoods timber type is a late successional cover type primarily made up of shade tolerant tree species. This timber type relies on the absence of major disturbance events and instead maintains itself through gaps created in the canopy due to timber harvests or natural dieback of the canopy. Due to some old growth characteristics, this timber type is very important to animals which use cavity trees for nesting or overwintering.

Swamp Conifer stands are made up of Northern white cedar (*Tsuga Canadensis*), black spruce (*Picea mariana*), or tamarack (*Larix laricina*). These stands are located on poorly drained soils, typically adjacent to or contained within wetlands. These even aged stands are typically grown out to rotation age and regenerated using seed tree harvests or strip clear cuts.

Swamp Hardwoods stands are comprised of a combination of black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), red maple (*Acer rubrum*), and elms (*Ulmus spp.*) These stands are located on poorly drained soils, typically adjacent to or contained within wetlands. These even aged stands are typically grown out to rotation age and regenerated using seed tree harvests or strip clear cuts.

Table 1: Current and Projected Land Cover for the Totogatic Wildlife Area

Cover Type	Acreage	Total Percentage of Land Cover	Projected Acreage	Projected Cover Type Percentage
Emergent Vegetation	1063	41%	1211	46%
Upland (Northern) Hardwood	545	21%	545	21%
Aspen	322	12%	319	12%
Water	275	11%	21	0.80%
Swamp Hardwood	230	9%	196	7.5%
Swamp Conifer	29	1%	29	1%
Grassland	48	0.4%	65	2.5%
Upland/Lowland Shrub	100	4%	226	9%
Upland Conifer	1	0.04%	1	0.04%
Developed	1	0.04%	1	0.04%
Total	2614	100%	2614	100%

Source: WDNR WisFIRS 2016

Totogatic Wildlife Area Forestry Cover (percent coverage)

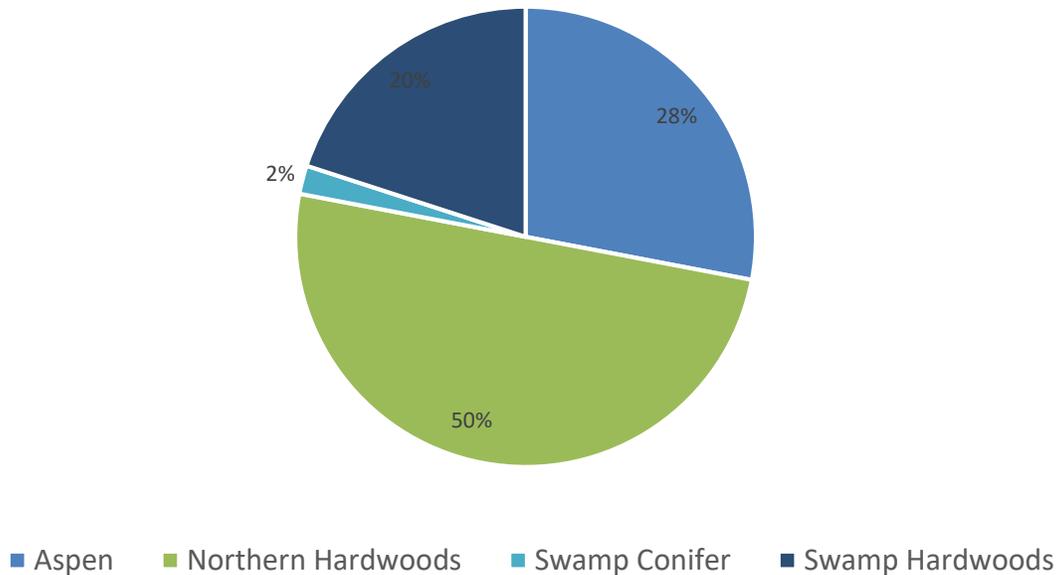


Figure 4: Forest Cover in the Totogatic Wildlife Area. Source: WDNR WisFIRS, 2016

Fisheries

Species present in the Totogatic Flowage in the 1970s include bluegill, black crappie, pumpkinseed, yellow perch, northern pike, black bullhead, walleye, brown bullhead and largemouth bass with the most abundant species being bluegill, pumpkinseed and northern pike. In the 1980s, WDNR survey data showed northern pike were less abundant. Bluegill and largemouth bass were the most common species at that time. Recent fish shocking surveys from 2014 show similar results indicating a low-density Northern Pike population, and abundant panfish.

The fish species composition and abundance of the Totogatic Flowage appears to be regulated by additions of fish coming from Nelson Lake. Loss of fish in the flowage is primarily due to overwinter mortality and to a lesser extent entrainment over the Wozny Road Dam. While some water areas around the Wozny Road Dam on the Totogatic and Nelson Lake dam stay open for much of the winter, there are very few areas that might have suitable wintering conditions for fish in this small shallow flowage. Increasing sedimentation in the flowage will continue this shallow water trend. The species composition reflects this with low dissolved oxygen tolerant pumpkinseed being a dominant panfish, and northern pike being a dominant predator. It seems likely that most of the bass, crappie, and walleye in the Totogatic Flowage are present because of influence of Nelson Lake, although based on the 2014 survey, that cannot be determined conclusively. None of the species surveyed in 2014 on the Totogatic Flowage had exceptional size or abundance. Although it should be noted that reliable angler reports and previous surveys indicate that the flowage can hold large Northern Pike.

Wildlife and Habitat

The Totogatic Wildlife Area is a diverse habitat area for several small and large mammals, birds, and aquatic organisms. The Bald Eagle is a species of Special Concern and has been known to nest on the property. The

property is dominated by four primary wildlife habitat groupings: forested (as detailed in a previous section), open water/emergent vegetation, deep water, and upland/lowland brush habitat.

Open Water and Emergent Vegetation Habitat

The Totogatic Wildlife Area was acquired originally for creating waterfowl habitat for improved hunting opportunities. As the flowage, has aged over the last 60 years and broad-leaved cattails have taken over the emergent vegetation fringe, habitat has not been as ideal as hoped. Marginal duck nesting habitat surrounds the flowage with poor to marginal waterfowl brood habitat quality. Waterfowl mostly use the flowage now for feeding and loafing during migration. Other wildlife that utilizes this area includes heron, otter, muskrat, turtle and frog species.

Deep Water Habitat

The deep-water habitat in select areas on the flowage contains mainly pond and water lily, water shield, and coontail, but the overall submergent community is diverse with 16 species cataloged during summer of 2016 plant surveys. Floating leaf and submergent leaf plants can be used for food sources, cover and reproductive lifecycle fulfillment by amphibians, macroinvertebrates, microscopic zooplankton, and the various fish species that inhabit the flowage.

Upland and Lowland Brush Habitat

The shrubby, alder dominated wetland - upland transitional areas have the potential for providing habitat for some waterfowl, small and large mammals such as deer, turkey, bobcat, lynx, raccoon, opossum, grey wolf, grey fox, black bear, birds like nuthatches, waxwings, warblers, grouse, owls, bald eagles, hawk and osprey. Similar wildlife species can be expected in the forested portions of the Totogatic Wildlife Area.



Existing boat launch upstream of the Wozny Road dam, Warwick 2017.

Cultural Resources

There are no known historical or archaeological sites in the Totogatic Wildlife Area; however, there has been very little survey work in Sawyer County to identify such resources. The State Historical Society has stated that the probability of archaeological material being found on or near this property is high given the topography and location. Land disturbing activities on the property could encounter archaeological resources (WDNR, 2016).

Recreation

The flowage is now used more heavily for fishing than waterfowl hunting and is a popular place in spring and fall for viewing migrating waterfowl. Osprey nesting platforms have been placed on the property. Currently hunting, trapping, fishing, snowshoeing, bird watching, and canoeing are the main recreational activities. Cross country skiing occurs as well, although there are no groomed trails. Snowmobiles and ATVs are allowed only on designated county routes. Boat launches on the upper and lower end allow for public access to the flowage. The shallow water depths in the flowage limit the use of motorized boats, but canoeing and kayaking are popular recreational uses.

Public Use and Opportunities and Needs

The Totogatic Wildlife Area is in a region of abundant public recreation land and waterbodies. With most of the lakes in the area having developed shores, the wildlife area's natural, undeveloped shoreline aesthetics are a special attraction. In contrast, Nelson Lake, approximately 2,700 acres, lies immediately upstream and is developed with cottages and has motorized use.

The wildlife area offers a variety of nature-based outdoor activities particularly visitors come to fish, hunt, trap, watch birds and wildlife, hike, and paddle the quiet waters of the flowage. The flowage is popular with local anglers, especially for northern pike. Two boat launches provide access to the flowage, but shallow water limits motor use in several areas. The trend for decreasing water depths will continue in the Totogatic Flowage with likely challenges for recreational access, water quality and waterfowl usage.

The Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP) for this area indicated that survey respondents were looking to have an increase in hiking trails, silent sports, birdwatching, and kayaking opportunities. Other than formal designated hiking trails or a designated wildlife viewing area, this property meets all the desired public uses in its current state. With the aging population, there is a demand for increased access for less able persons. An issue that should be reviewed and opportunities assessed.

Significant Property Management Issues

Wozny Road Dam

The Totogatic Wildlife Area flowage is formed by a state-owned dam at Wozny Road. This 64-year-old dam is nearing the end of useful life and recent third-party inspections have indicated that the concrete dam is deteriorating and there is seepage in several areas of the adjacent earthen dike. As the owner of the dam, WDNR must repair, replace or abandon the structure. Considering cost, future maintenance costs and staffing, available funding sources, environmental impacts (specifically water quality) and wildlife habitat, this plan includes the recommendation to remove the concrete structure and earthen dike. This will result in the aquatic resources on the property converting from a shallow flowage environment to a riverine environment. Upland forest communities, adjacent wetlands, and the nearby Nelson Lake impoundment not change holistically after the Wozny Road dam is removed.

During the summer of 2017, the Wisconsin Department of Transportation reconstructed portions of Wozny Road and created a clear span bridge crossing over the Totogatic River.



Crumbling concrete on right abutment of dam, taken at dam inspection MSA 2012.



Splintered wooden stop logs on the Totogatic dam prior to drawdown in 2014, MSA, 2012.

Table 2: Dam Management Alternatives

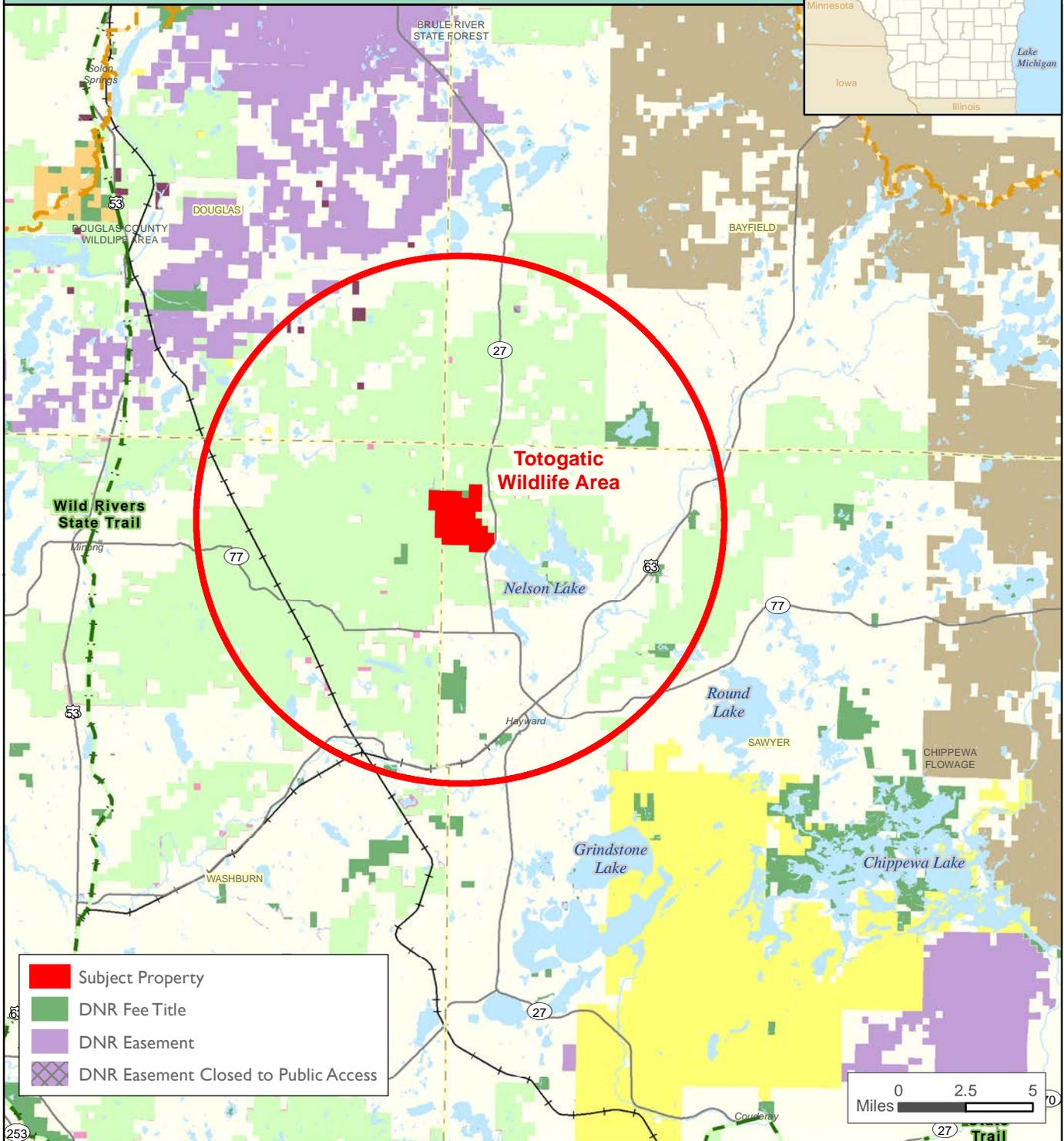
Option	Replace dam with lift gates – allows water level manipulation	Replace dam with fixed-crest structure--water levels cannot be fluctuated.	Repair dam with concrete structure and deck patching, embankment repair, lift gate added.	Dam Removal <i>(option selected)</i>
Cost	\$1,275,000	\$1,232,000	\$510,000	\$100,000-300,000
Pros	-Vegetation could be managed more actively to diversify habitat for waterfowl.	-Limited waterfowl habitat, but habitat will exist similar to what currently exists	-Vegetation could be managed more actively to diversify habitat for waterfowl	-Water quality improvements and gain of 4 miles of the Totogatic River. -Short term cost of dam removal is the lowest cost option and long term maintenance costs are eliminated. -Low risk of fish kills -Improved habitat for small mouth bass and woodcock. -Fishing opportunities will remain similar
Cons	-Flowage will continue to build up sediment and become shallower. Dissolved Oxygen/fish kill issues will continue and worsen over time. -Cost of new structure is high. No funds available. -Long term maintenance cost of structure.	-Will not be able to manage vegetation for better habitat. -Flowage will continue to build up sediment and become shallower. Dissolved Oxygen/fish kill issues will continue and worsen over time. -Cost of new structure is high. No funds available. -Long term maintenance cost of structure.	-Band-Aid approach. Only extends life of dam for 10 years. -Maintenance, staffing costs continue into future, with low return. -Flowage will continue to build up sediment and become shallower. Dissolved Oxygen/fish kill issues will continue and worsen over time.	-Waterfowl usage of the property will change -Motorized boats use (which is already limited) would be more limited.

WORK CITED

- APL. 2010. *Regional Profile: Region 1*. Applied Population Laboratory, Department of Community and Moe, Nathaniel. 2015. Aerial photograph. Retrieved January 30, 2017 from <http://newcenturycharterschool.org/auction/one-week-cabin-north-nelson-lake>
- MSA 2012. MSA Professional Services Consulting. Dam inspection, December 2012. <http://www.msa-ps.com/Home.aspx>
- Totogatic Wildlife Area. In Wikipedia. Retrieved January 3, 2017 from https://en.wikipedia.org/wiki/Totogatic_River
- Voigtlander, Arthur L. 2006. Soil Survey of Sawyer County, Wisconsin. Natural Resources Conservation Service, Ladysmith, Wisconsin. https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/wisconsin/WI113/0/Sawyer_WI.pdf
- Wisconsin Council on Forestry. (2007). *Wisconsin's Forest Sustainability Framework*. Madison: Wisconsin Department of Resources.
- WDNR. 1954. *Totogatic Conservation Area*. Wisconsin Department of Natural Resources.
- WDNR. 1981. Totogatic Wildlife Area Master Plan, Concept Element. Madison, WI.
- WDNR. 1984. Totogatic Wildlife Area Master Plan, Implementation Element. Madison, WI.
- WDNR. 2006a. *The 2005–2010 Wisconsin Statewide Comprehensive Outdoor Recreation Plan*. Wisconsin Department of Natural Resources, Madison, WI. http://dnr.wi.gov/topic/parks/planning/scorp/pdfs/WIS_2005-10_SCORP_COMPLETE.pdf
- WDNR. 2006b. *Wisconsin's Strategy for Wildlife Species of Greatest Conservation Need*. Wisconsin Department of Natural Resources, Madison, WI. <http://dnr.wi.gov>, key work search "wildlife action plan".
- WDNR. (2010). *Wisconsin's Statewide Forest Assessment*. Madison, WI : Wisconsin DNR.
- WDNR. 2015. *The Ecological Landscapes of Wisconsin: an Assessment of Ecological Resources and a Guide to Planning Sustainable Management*. Wisconsin Department of Natural Resources, PUB-SS-1131 2015, Madison.
- WDNR WisFIRS, 2016. Forestry Database search to determine vegetation cover types.
- WDNR. 2016a. Smith, Alex. Personal communication on aquatic plant communities.
- WDNR, 2016b. Wolter, Max. Personal communication on fisheries surveys.
- WDNR. 2017. Kujala, James. Personal communication on forest cover and habitat.

REGIONAL LOCATOR

Totogatic Wildlife Area



	Subject Property
	DNR Fee Title
	DNR Easement
	DNR Easement Closed to Public Access

	Stewardship Grant Land (Open to Public Access)		County Forest		North Country National Scenic Trail
	National Forest		Municipal Land		State Recreation Trail
	Tribal Land		County Boundary		
	Board of Commissioners of Public Lands				

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Facilities and Lands
Jan 06, 2017

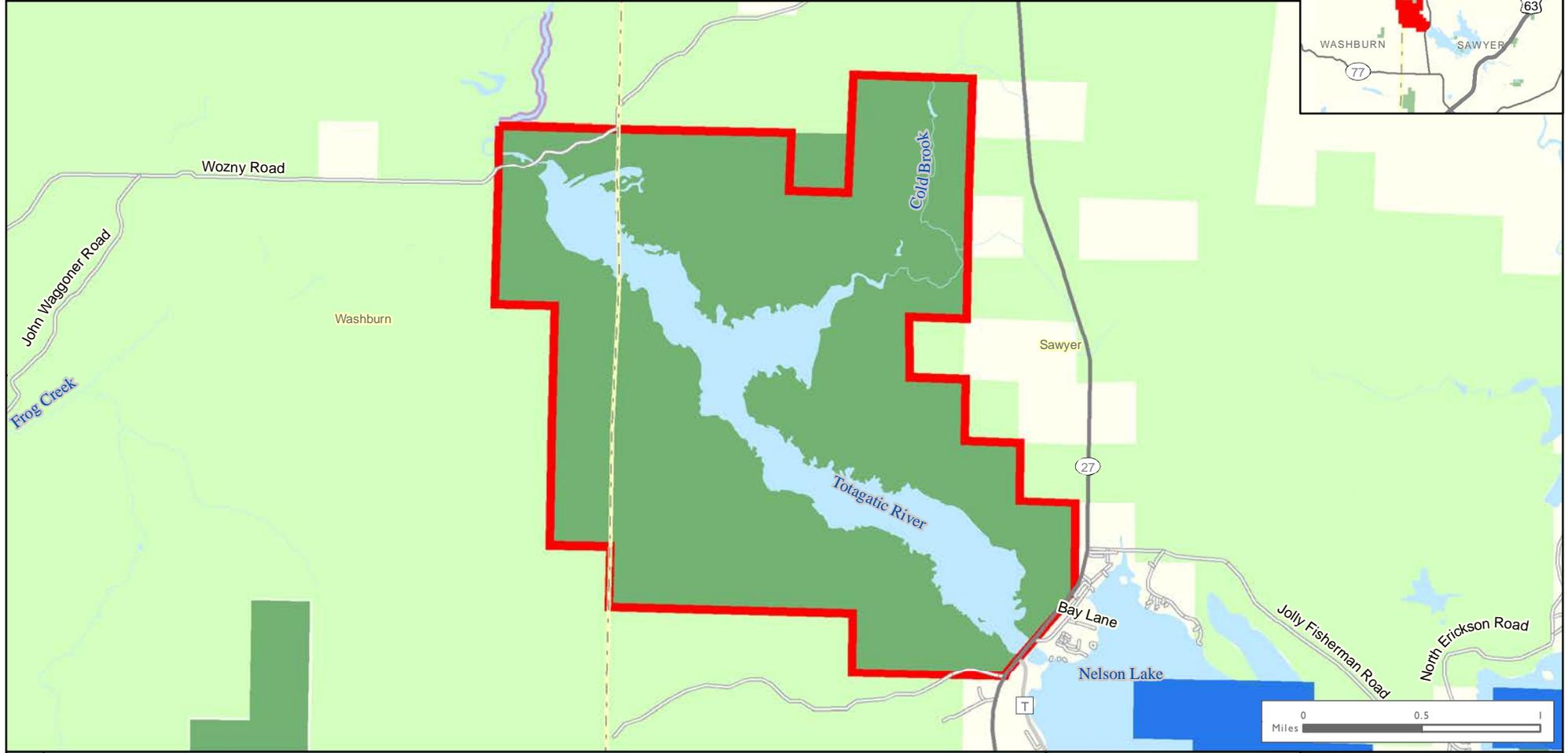
WM-TWA-MP-8690-A keg

MAP A

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

DNR & OTHER LANDS



MAP B-1	DNR Fee Title	County Boundary
	DNR Easement	
	County Forest	
	Board of Commissioners of Public Lands	

Project Boundary

Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Facilities and Lands

Nov 09, 2017

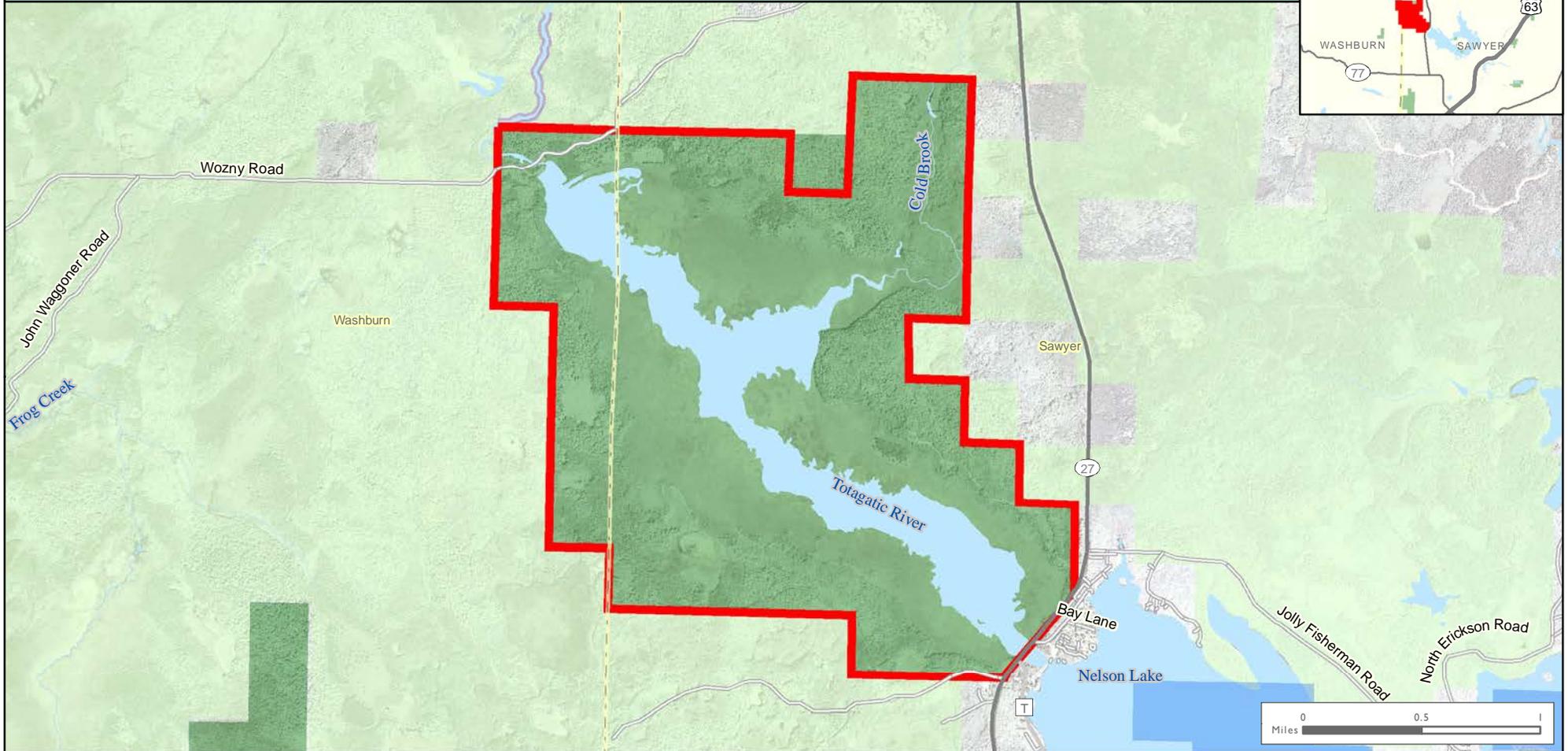
WM-TWA-MP-8690-B-1 keg

MAP B-1

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

DNR & OTHER LANDS AERIAL VIEW



MAP - B - 2

- DNR Fee Title
- DNR Easement
- County Forest
- Board of Commissioners of Public Lands

County Boundary

Digital Orthophoto Source: NAIP 2010

Project Boundary

- Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Facilities and Lands

Nov 09, 2017

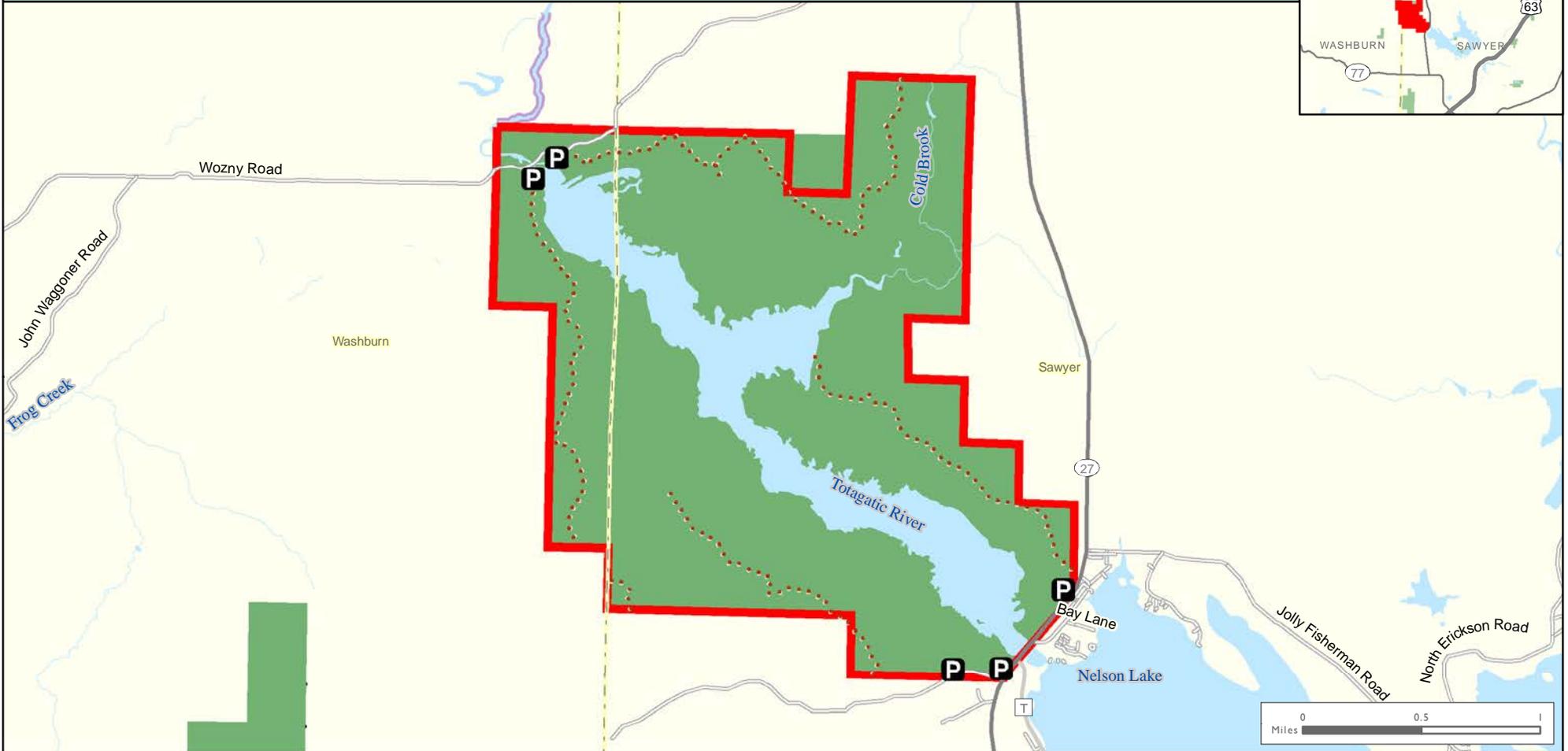
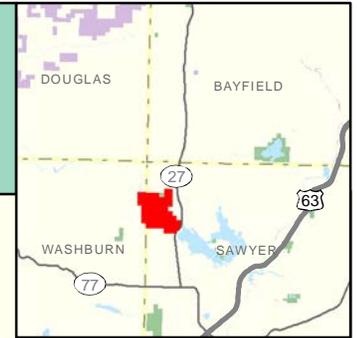
WM-TWA-MP-8690-B-2 keg

MAP B-2

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

EXISTING ROAD INFRASTRUCTURE



MAP - B - 3

- DNR Fee Title
- DNR Easement

- P Parking Lot
- County Boundary

DNR Roads Key

- NR44 Road Classification**
- Primitive Road

- Motorized Public Use**
- Closed = **Cherry**

Project Boundary

- Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Facilities and Lands
 Nov 09, 2017
 WM-TWA-MP-8690-B-3 keg

MAP B-3

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

EXISTING RECREATION INFRASTRUCTURE



MAP - B-4

DNR Fee Title	Parking Lot	Sign	Native Dike
DNR Easement	Boat Landing	Water Control Structure	Snowmobile Trail
	County Owned Boat Landing		ATV Trail

Project Boundary

Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Facilities and Lands

Nov 09, 2017

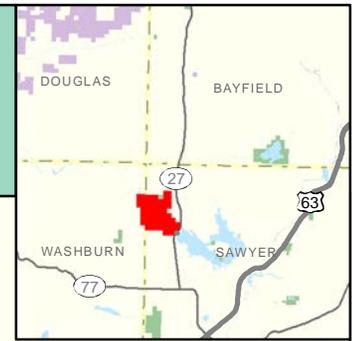
WM-TWA-MP-8690-B-4 keg

MAP B-4

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

PLANNED RECREATION INFRASTRUCTURE



MAP - B-5	DNR Fee Title	Parking	Water Control Structure Planned to be Abandoned	Snowmobile Trail
	DNR Easement	Sign	Native Dike Planned to be Abandoned	ATV Trail
	Boat Landing			
	County Boat Landing			

Project Boundary

Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Facilities and Lands

May 30, 2018

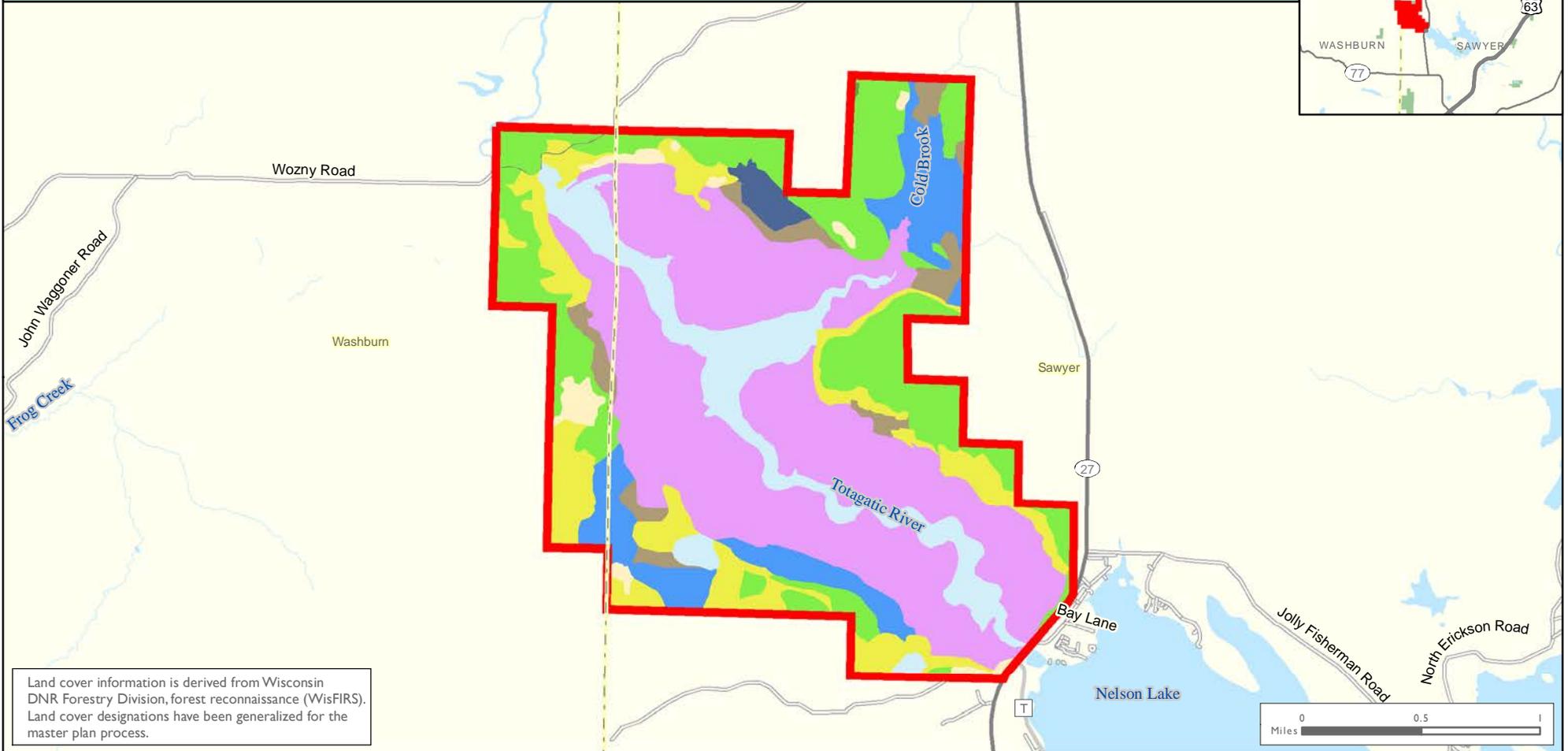
WM-TWA-MP-8690-B-5 keg

MAP B-5

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

EXISTING LAND COVER



Land cover information is derived from Wisconsin DNR Forestry Division, forest reconnaissance (WisFIRS). Land cover designations have been generalized for the master plan process.



MAP - B-6

- | | | | |
|---------------------|-------|----------------|-----------|
| Emergent Vegetation | Water | Swamp Conifer | Developed |
| Upland Hardwood | Aspen | Grassland | |
| Swamp Hardwoods | Shrub | Upland Conifer | |

Project Boundary



WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Facilities and Lands
May 30, 2018

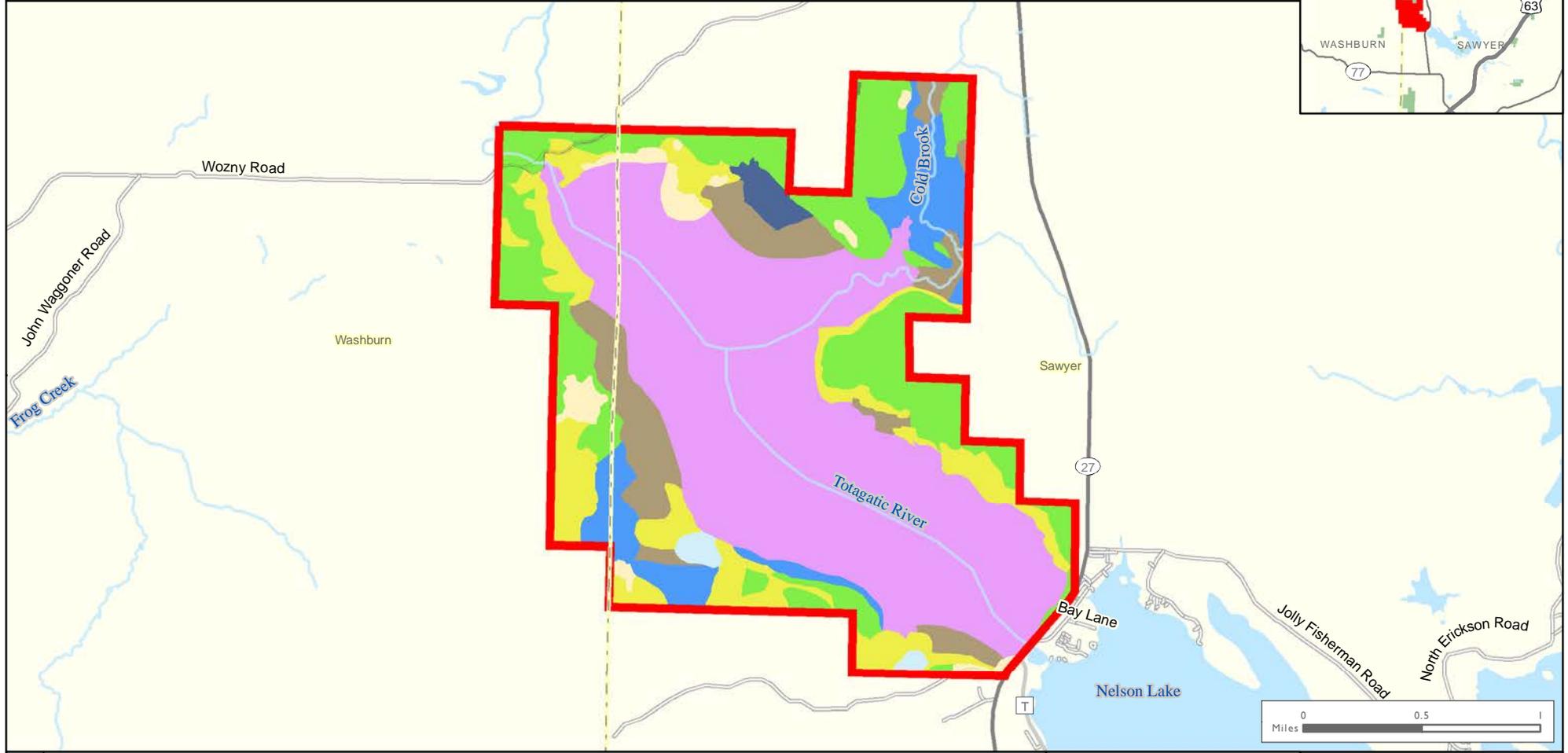
WM-TWA-MP-8690-B-6 keg

MAP B-6

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

PLANNED LAND COVER



MAP - B-7	Emergent Vegetation	Swamp Hardwoods	Swamp Conifer	Developed
	Upland Hardwood	Shrub	Water	Upland Conifer
	Aspen	Grassland		

Project Boundary

Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Bureau of Facilities and Lands

Nov 09, 2017

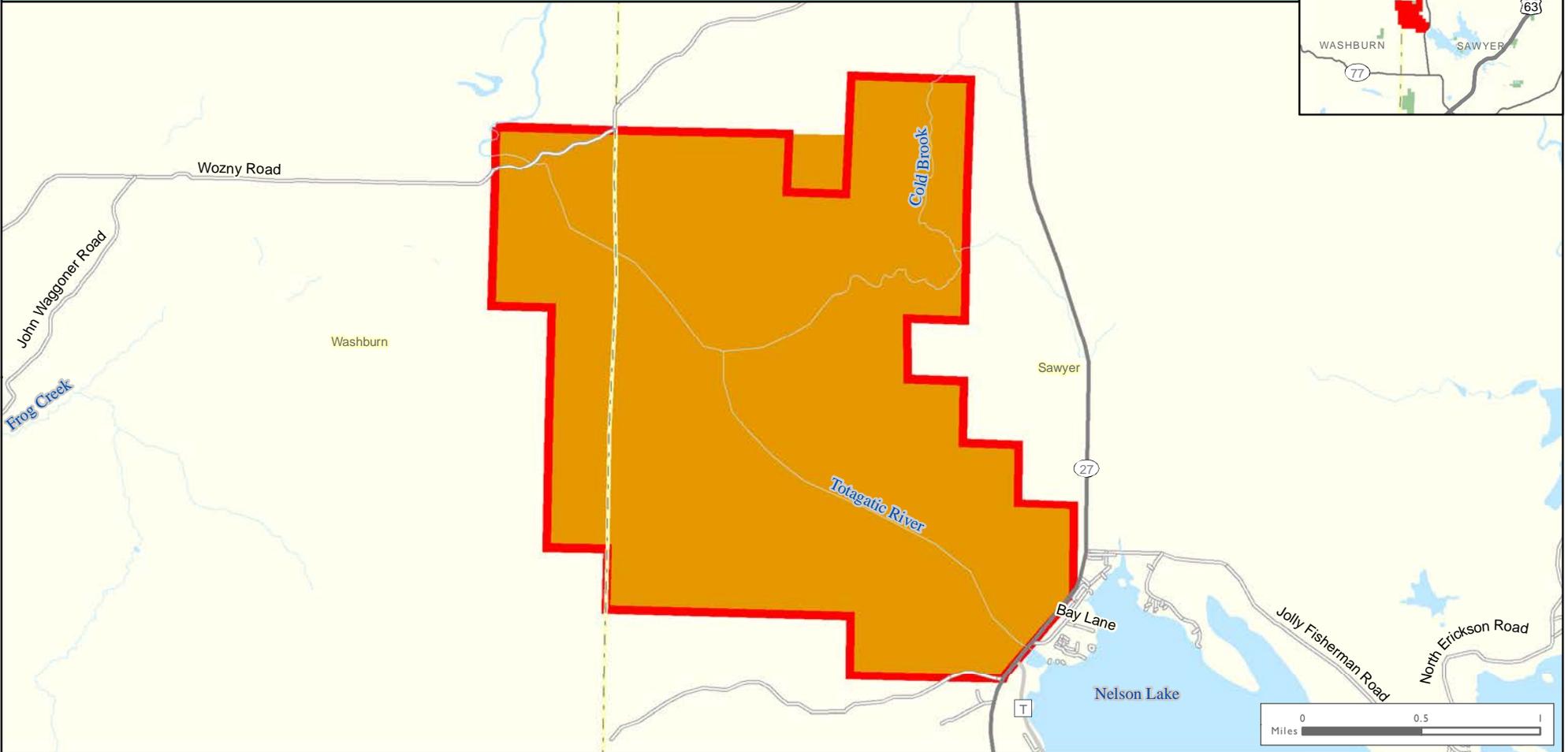
WM-TWA-MP-8690-B-7 keg

MAP B-7

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

LAND MANAGEMENT CLASSIFICATIONS



MAP
-B-8

 Habitat Management Area

Project Boundary

 Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Facilities and Lands
Nov 09, 2017

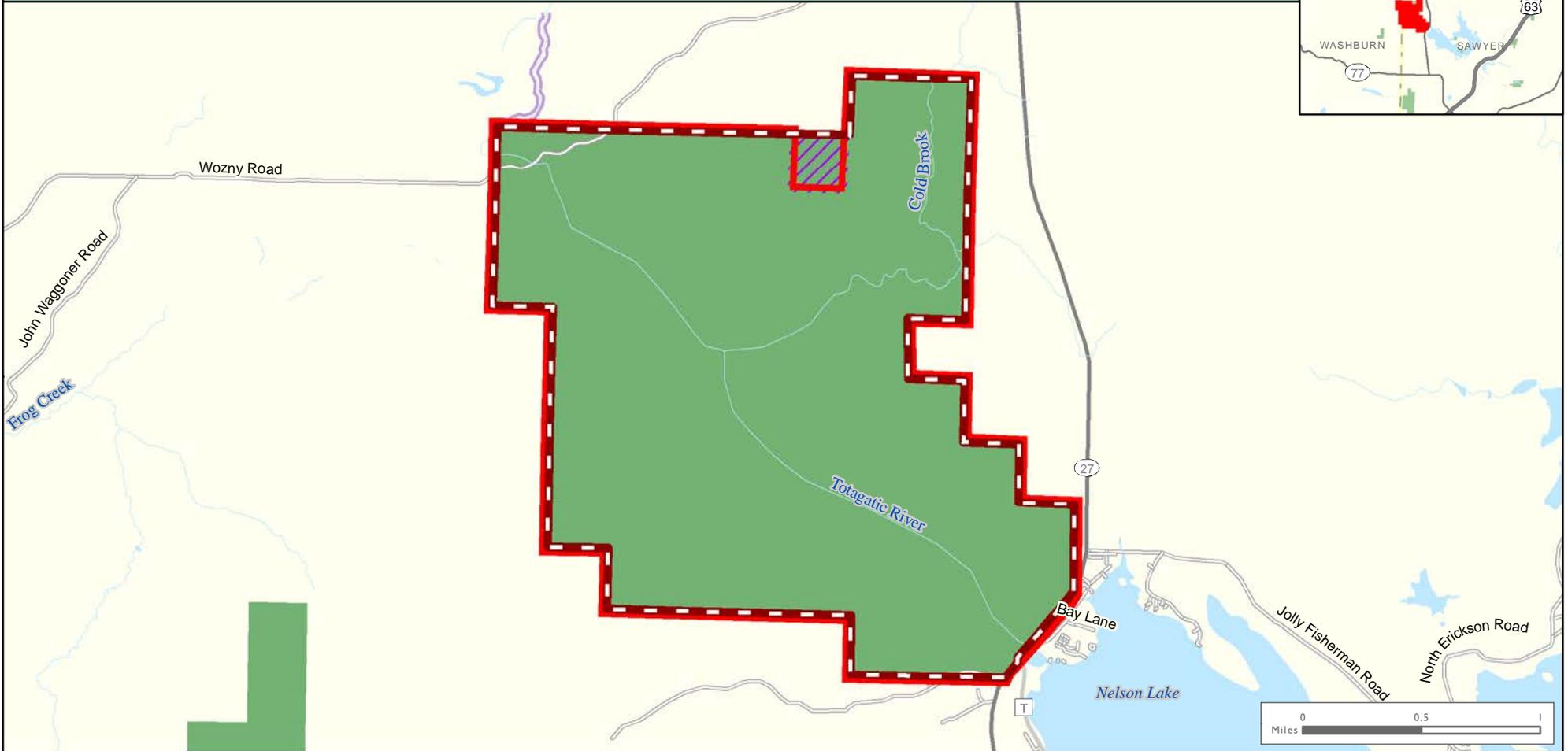
WM-TWA-MP-8690-B-8 keg

MAP B-8

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Totogatic Wildlife Area

REAL ESTATE ACTION ITEMS



MAP - B-9

-  DNR Fee Title
-  DNR Easement

-  Planned Project Boundary
-  Planned Project Boundary Expansion

Project Boundary

-  Totogatic Wildlife Area

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



Bureau of Facilities and Lands
Nov 09, 2017

WM-TWA-MP-8690-B-9 keg

MAP B-9

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.