

Chapter 2. Long Lake National Wildlife Refuge Complex

Establishment, Acquisition, and Management History

The complex oversees management of three national wildlife refuges: Long Lake National Wildlife Refuge (NWR), Slade NWR, Florence Lake NWR, and a three-county wetland management district (WMD or district) that consists of 79 waterfowl production areas (WPAs) in Burleigh, Emmons, and Kidder counties in the south-central portion of the State, as well as conservation easements which protect approximately 147,000 acres. The wetland management districts continue to grow with the acquisition of additional easements annually.

Long Lake NWR was established on February 25, 1932, by President Herbert Hoover through EO No. 5808 "... as a refuge and breeding ground for migratory birds and wild animals" and "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (Migratory Bird Conservation Act.)

The refuge is located in the south-central part of the State in an area famous for its wealth of waterfowl-producing prairie potholes. Long Lake NWR is 22,310 acres in size and consists of approximately 15,000 acres of brackish to saline marsh and lake, 1,000 acres of other wetlands, and about 6,000 acres of tame- and native grassland, woodland, and cropland (see figures 3 and 4, location map and Long Lake National Wildlife Refuge base map). The refuge serves as an important staging area for migrating sandhill cranes, Canada geese and other waterfowl, shorebirds, and other migratory birds. Endangered whooping cranes often utilize refuge marshes during spring and fall migration periods.

A primary resource goal is to prevent or at least manage avian botulism (hereafter, botulism), which has, on occasion, devastated migratory bird resources found in the complex. Throughout the history of the refuge outbreaks have been sporadic and have ranged from mild to severe.

The refuge provides a variety of habitats for resident wildlife and supports populations of white-

tailed deer, sharp-tailed grouse, and ring-necked pheasants during the fall and winter.

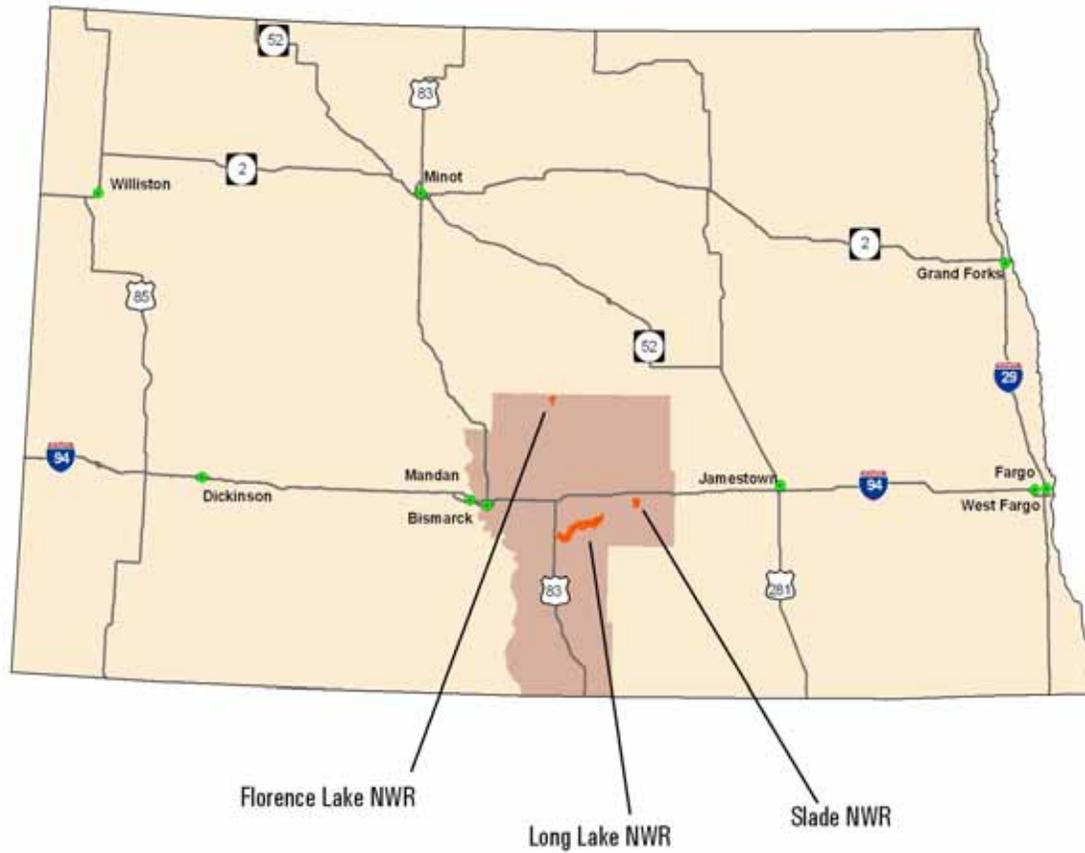
Slade NWR was established through donation by Northern Pacific Railroad executive G.T. Slade, who originally began acquiring the area around Harker Lake in 1924 for the establishment of a private shooting club. It is located in south-central Kidder County, approximately 20 miles northeast of the complex's headquarters and is adjacent to Lake Isabel Recreational Area. The refuge consists of 3,000 acres of gently rolling prairie dotted by lakes and marshes, which were formed by glacial action. Habitat centers around five semi-permanent and permanent wetlands and numerous other prairie potholes, which altogether total more than 900 wetland acres (see figure 5, Slade National Wildlife Refuge base map). Much of the upland acreage had been farmed prior to the donation. Current management targets restoring native grasses and forbs that are characteristic to this area.

Florence Lake NWR was established on May 10, 1939, by President Franklin D. Roosevelt through EO No. 8119 "... as a refuge and breeding ground for migratory birds and other wildlife" and "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (Migratory Bird Conservation Act.)

It is located in northern Burleigh County approximately 45 miles northwest of Long Lake NWR. The refuge consists of 1,468 acres of fee title and 420 acres of easement (132 acres of which is meandered lake). The fee portion of the refuge consists of 977 acres of native grassland, 202 acres of tamegrass, 111 acres of seeded native grass, 163 acres of wetland and 16 acres of woodland. The refuge serves as an important migratory bird production and migration area.

Long Lake Wetland Management District

The wetland management district was started as part of the Small Wetlands Acquisition Program



Region 6 - Mountain Prairie Region



Legend

- National Wildlife Refuge
- Long Lake Wetland Management District

Figure 3: Location Map

(SWAP) in the 1950s to save wetlands from various threats, particularly drainage. The passage of Public Law 85-585 in August 1958 amended the Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp Act) of 1934, allowing for the acquisition of WPAs and easements for waterfowl production.

The Long Lake WMD contains 1,036 perpetual wetland easement contracts which protect 102,646 acres; 93 perpetual grassland contracts which protect 41,181 acres; 16 Farmers Home Administration (FmHA) perpetual easements which protect 669 wetland acres, and 2,759 acres of upland; one wildlife development area (WDA; Garrison diversion unit mitigation tract) totaling 794 acres; and 78 WPAs totaling 21,789 acres (see figures 6 and 7, Long Lake WMD fee title and easement land maps). Easement restrictions generally prohibit wetland drainage, grassland conversion and development, and require a special-use permit issued by the U.S. Fish and Wildlife Service (Service) for vegetative manipulation. The lands remain in private ownership. There continues to be an active acquisition program in the Long Lake WMD, which currently focuses on acquiring grassland and wetland easements.

Long Lake National Wildlife Refuge Complex Purposes

Long Lake National Wildlife Refuge was established "...as a refuge and breeding ground for migratory birds and wild animals..." (EO No. 5808, February 25, 1932) and "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (Migratory Bird Conservation Act.)

Florence Lake NWR was established "...as a refuge and breeding ground for migratory birds and wild animals..." EO No. 8119, May 10, 1939, "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (Migratory Bird Conservation Act.)

Slade NWR was established through a donation to the Service in 1940 under the authority of the Migratory Bird Conservation Act "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds."

Long Lake WMD was established "...to assure the long-term viability of the breeding waterfowl population and production through the acquisition and management of waterfowl production areas,

while considering the needs of other migratory birds, threatened and endangered species and other wildlife." (The purpose statement was developed for all Region 6 WMDs in June 2004.)

Migratory Bird Hunting Stamp Act 16 U.S.C. 718(c) "...as Waterfowl Production Areas subject to all provisions of the Migratory Bird Conservation Act ...except the inviolate sanctuary provisions..."

Migratory Bird Conservation Act 16 U.S.C. 715d "...for any other management purposes, for migratory birds."

Consolidated Farm and Rural Development Act 7 U.S.C. 1924 "... for conservation purposes."

Consolidated Farm and Rural Development Act 7 U.S.C. 2002 "...for conservation purposes"

Vision and Goals

Vision for the Long Lake National Wildlife Refuge

The echo of the sandhill cranes though the rolling prairie hills of Long Lake invites today's visitors to follow in the footsteps of the plains Indians. The refuge lies along the west-central boundary of the PPR where the Missouri Coteau meets the Coteau Slope. An abundance of migratory birds and other wildlife flourish in the native mixed-grass prairie and a mosaic of wetlands. The mixed hues and textures of wildflowers, grasses, mudflats, and water please the eye and soothe the soul. Refuge stewards work collaboratively to understand, restore, and protect biological communities. Expanded wildlife-compatible recreation and environmental education opportunities foster a greater understanding and appreciation of the mixed-grass prairie ecosystem and the mission of the Refuge System.

Vision of Florence Lake National Wildlife Refuge

A classic prairie-pothole landscape, Florence Lake NWR provides a unique perspective of pre-settlement prairie conditions. At this visual oasis of the prairie ecosystem, visitors enjoy solitude and excellent grassland bird viewing opportunities in a peaceful, protected environment that supports a wealth of migratory birds and other wildlife. Florence Lake serves as a reference area for northern prairie ecosystems with ongoing restoration, monitoring, and research.

Vision of Slade National Wildlife Refuge

Located within the central flyway, Slade NWR historically served as a foundation for the restoration of the nearly extirpated giant Canada

goose population. Management strives to restore mixed-grass prairie and continues to provide quality migratory stopover and breeding habitat for Birds of Conservation Concern. Enhanced wildlife-dependent recreation opportunities and interpretation foster a greater understanding and appreciation of conservation and restoration within an agricultural landscape.

Vision of Long Lake Wetland Management District WPAs and all conservation easements provide a network of wetland and grassland habitats that preserve the integrity of the historic and vital nesting and breeding grounds of North America's migratory waterfowl resource. These conservation and management efforts support populations of nesting ducks and geese at or above historic levels. New and expanded habitats are provided for trust species including nongame migratory birds, threatened and endangered species, and resident wildlife. The public recognizes these wetlands and uplands as a beneficial and important component of a diverse, healthy, and productive prairie landscape. There is consumptive and nonconsumptive compatible recreational use of public lands. Landowners, sportsmen/sportswomen, conservationists, and others actively support and encourage the complex's habitat conservation programs. There are a wide variety of partners assisting the Service's efforts to educate the public on the value of habitat conservation and the benefit to current and future generations. These partnerships join us financially and physically to ensure a broad base of support, so that the Service conserves high-quality habitats.

Goals of the Long Lake National Wildlife Refuge Complex

1. Wildlife and Habitat Management

Conserve, restore, and enhance the ecological diversity of the mixed-grass prairie ecosystem (including wetlands, grasslands, and native trees and shrubs) for migratory birds with an emphasis on waterfowl and other grassland- and wetland-dependent species.

2. Research, Inventory, and Monitoring

Use sound science, monitoring and applied research to advance the understanding of natural resource functions and management within the mixed-grass prairie pothole ecosystem.

3. Public Use, Education, and Interpretation

Provide a safe environment for visitors of all abilities to enjoy wildlife-compatible recreation while increasing their knowledge and appreciation of the mixed-grass prairie ecosystem and the mission of the Refuge System.

4. Cultural Resources

Identify, value, and preserve the cultural resources and history of the complex to connect staff, visitors, and the community to the area's past.

5. Refuge Operations

Through effective communication and innovative technology, secure and efficiently utilize funding, staffing partnerships, and volunteer programs for the benefit of all natural resources in support of the Refuge System mission.

6. Partnerships

Engage a wide array of partners to support outreach, research and management, promote awareness, and foster an appreciation of the mixed-grass prairie pothole ecosystem.

Special Values

The planning team and public identified special values and qualities that make the complex valuable for wildlife and for the American people. The complex has the following attributes:

- It comprises a diverse natural environment of mixed-grass prairie with an abundance of paulestrine and alkali wetlands.
- The complex staff operates in cooperation with landowners and partners to acquire easements (wetland and grassland) and establish WPAs to protect and manage lands for wildlife.
- It is home to, and attracts, a wide diversity of birds. Multiple areas within its boundaries have been designated as globally significant.
- Wildlife is abundant and highly visible because of varied habitat types and relatively low disturbance levels.
- Visitors can still find wide-open spaces that remain relatively undisturbed.

Planning Issues

Prior to writing the draft CCP, complex staff and other planning team members met to identify significant issues that should be addressed in the plan. The team hosted five public open houses, issued news releases in the local and regional press, as well as an announcement in the *Federal Register*,

and conducted numerous mailings to find out what issues were important to the public. The following are the most significant issues the team identified.

Upland Habitat Management

The complex's primary purpose is to provide optimal habitat conditions for the needs of a suite of migratory birds, and, to a lesser extent native, resident wildlife. To achieve goals and objectives, aggressive upland habitat management must be conducted. The complex include uplands, which were previously farmed and have since been restored to various mixes of tame and native grasses interspersed with native uplands, the bulk of which have the native vegetation character but are compromised by invading species. For the purpose of this CCP, native upland habitat is considered previously unbroken (virgin) sod. Soil composition is generally intact, although the vegetative community is often altered substantially due to a host of environmental factors. Vegetation typically has a native component, but often has become invaded by nonnative plant species.

Primary invasive weed species include leafy spurge, Canada thistle, and absenth wormwood. Kentucky bluegrass and smooth brome are primary invasive grass species. Western snowberry and silverberry are native shrubs which have greatly expanded their coverage in some areas where natural regimes of fire and grazing have been altered.

These nonnative grasses and forbs and potentially invasive native woody species substantially diminish the quality and suitability of upland habitat for many native wildlife species. Invasives have been an issue throughout the complex for many years. A large portion of the refuge's resources are directed at control of leafy spurge and other invasive species. Integrated pest management (IPM) strategies currently used include: prescribed burning, grazing, mowing, herbicides, insects, interseeding, and farming in combination to provide control.

New invasive species (i.e., salt cedar or purple loosestrife) pose additional threats to complex lands. Generally, an immediate control response to new invasive species is most effective in the long-term; however, due to the scattered nature of land holdings in the complex, early detection is a primary issue but is often unachievable.

Tamegrass (i.e., nonnative grass species) fields persist, providing sources of seed that invade and

degrade adjacent native uplands. These fields need to be restored to native grass.

Public Use

Hunting, fishing, wildlife observation and photography, and environmental education and interpretation are all uses currently authorized on lands administered by the complex. A growing demand for public recreation in the area makes the six priority public uses a primary issue of interest.

Water Management

A small number of the complex's wetlands are impounded by earthen dams, many with water control structures (WCSs) that can be used to either create deep and stable water levels or mimic natural wet and dry cycles.

The water management capability at Long Lake NWR is limited and primarily targets single-issue management (i.e., managing water levels to deter botulism outbreaks). The limitations are exacerbated by the "hard sill" elevation of the outlet which limits drawdown capability and subjects water management to interpool regulation of water levels only when nature allows.

Wildlife Disease

The complex administers migratory bird programs and has the lead role in addressing wildlife and in particular avian disease issues. There are 21 sites in the wetland management district that have a history of botulism outbreaks.

Success in combating botulism, especially on Long Lake NWR occurs at the expense of other resources. There exists an ongoing issue of striking a balance between providing optimal habitat, maintaining other complex programs, and managing botulism.

Severe disease years consume substantial staff time, reducing the complex's capacity to attain other goals and objectives.

Disease issues are increasing. Historically, the only disease issue was botulism; however, recently Newcastle, West Nile virus, chronic-wasting disease, chlymidiosis, and avian influenza have created additional issues and concerns.

Long Lake Hydrology and Water Quality

Development of dikes and water control structures to manage waters at increased levels in order to combat botulism has altered the hydrology of Long

Lake and its associated marshes. During the era of refuge development, the area was experiencing severe drought conditions and development of water management facilities focused on conservation of water. This strategy failed to recognize a need to periodically lower and de-water refuge units and thus the capability to do so was never developed. This has severely limited the refuge's ability to manage water effectively.

There are questions regarding the altered hydrology and long-term ability of Long Lake NWR to provide beneficial wildlife habitat. The developments have reduced the ability to "flush" the system and have created hypotheses that this situation has accelerated salinification of refuge wetlands, reducing the sustainability of wetland habitats. This creates an obvious need to examine historical data related to past water-quality parameters and to develop a monitoring program to compare and track Long Lake NWR waters in order to prescribe viable alternatives to address and avoid potential productivity declines of refuge marshes and/or catastrophic collapse of the system.

Predator Management

Despite substantial investment in land protection and habitat management, recruitment rates which are not high enough to sustain and/or increase populations of bird trust species have been documented on Service areas within the complex. Predation rates, which are unacceptable, must be addressed through management of predator populations.

Additionally, protection provided by refuges in the complex allow predators which hunt domestic livestock (i.e., coyotes) adjacent to the refuges to continue to grow unchecked, perpetuating depredation problems and economic losses to refuge neighbors in localized areas surrounding the refuges.

Lake Isabel Recreation Area

The Lake Isabel Recreation Area, which is adjacent to Slade NWR, provides the only public access for Lake Isabel. The recreation area has been managed over the years by Kidder County and while most of the nontraditional uses occur off-refuge, facilities on the refuge promote the uses, which are not allowed on refuge lands (e.g., swimming, jet-skiing). Recently the facilities have been minimized and converted to promote more traditional and acceptable refuge public uses (fishing).

Habitat Protection and Acquisition

Urbanization, development, and conversion of native uplands for agricultural crop production continue to threaten native grassland habitat and the support capability for native wildlife. The Service needs to protect additional grassland and wetland habitat in order to achieve its goals and objectives.

The majority of the wetlands on complex fee lands are natural prairie potholes, which function through dynamic prairie weather cycles. Wetlands continue to be lost annually to agricultural drainage and impacts of development.

Over 60 percent of native grassland in the complex remains intact; however, it is in degraded condition due to annual use for livestock production. Native grasslands are also continuously threatened by development and other uses.

While various regulations and programs have provided some temporary relief from broad-scale destruction, the only permanent protection for grassland and wetland habitat is afforded through purchase of perpetual easements by the Service. While these programs afford protection of the habitats, additional issues persist as economic pressure on these private lands provides less than optimum habitat for trust resources, especially those with narrow habitat requirements (e.g., marbled godwit, chestnut collared longspur).

Budget and Staffing

Budget and staffing is not sufficient to fulfill the purposes and goals of the complex. Identifying priorities and directing resources efficiently will always be an issue for the complex. Service staff needs to identify and articulate unfunded needs so that they will be able to compete effectively for additional funds from both within The Service and from partners and other sources.

Monitoring

Monitoring wildlife populations is an essential element in achieving the primary goals and objectives of the complex. Basic data related to recruitment, mortality, and habitat use for a representative group of species must be collected and analyzed on a regular basis in order to make appropriate decisions that will affect the habitats upon which these species depend. Decision making in the absence of resource information is a primary issue for the complex.

Threatened and Endangered Species

Breeding piping plovers occur in small numbers on numerous alkali wetlands, which are characteristic to the complex.

The complex holds habitat, which when enhanced, or restored may be suitable for Dakota skippers (a candidate species). Small, isolated populations may exist on certain WPAs, which retain remnant native prairie vegetation. Surveys are planned to determine the status of this species in these areas.

Endangered whooping cranes are regularly observed on the marshes of Long Lake NWR. Throughout the complex several observations are documented during each spring and fall migration.

The primary issues related to these and other species of concern center on: monitoring their populations; monitoring habitat use; identifying, securing, and maintaining essential habitat; and developing habitat conditions in areas which hold potential for these species and which will promote increased recruitment or population protection to secure and increase their populations.

Threatened and Endangered Species

The Biological Integrity, Diversity, and Environmental Health Policy (published January 16, 2001, effective April 16, 2001) (<http://policy.fws.gov/library/01fr3809.pdf>) guides Refuge System personnel in maintaining the “biological integrity, diversity, and environmental health” of the Refuge System. This policy further guides the Service to consider restoring lost or severely degraded components of the system “where appropriate and in concert with refuge purposes and the Refuge System mission.”

The complex staff reviewed all threatened and endangered species with historical ranges on or near the refuge to determine if additional actions could be taken to restore or enhance habitat for endangered species. Only the piping plover was determined to be appropriate for restoration actions.

Although the status of the Dakota skipper has not warranted listing, the complex staff has consulted with ecological services staff and evaluated habitats as to their present and future potential to support this species. The complex has adopted interim guidelines targeting management for Dakota skippers resulting from those consultations.

Predators

Predators on the complex are diverse, ranging from coyotes and short-tailed weasels to bald eagles and American kestrels. This array of predators helps maintain the “biological integrity, diversity, and environmental health” of Service lands. Several species, including red fox, coyotes, striped skunks, Franklin’s ground squirrels, mink, badger, and raccoons, are found at higher than historical levels due to modifications of habitat and other factors. These species can impact migratory bird populations and reduce the likelihood of reaching wildlife population goals and objectives outlined for the complex, primarily by preying upon the nests of numerous grassland-nesting bird species.

Prioritization of Complex Lands

The complex staff is charged with managing habitat and protecting trust resources (i.e., migratory birds, threatened and endangered species) on 82 different tracts of fee-title land that is scattered throughout a three-county area that spans 7,490 square miles. Limited staff, budgets, and other resources require that lands are prioritized and those with the greatest management potential and/or most vulnerable resources are recognized. Therefore, complex staff used a number of important criteria to classify all fee-title lands in the complex as either HIGH, MODERATE, or LOW priority. The criteria include 1.) breeding duck pair density, with a minimum upland acreage, 2.) total tract size, with a minimum upland acreage, 3.) native prairie acreage, 4.) proximity to Grassland Bird Conservation Areas (Type I), with a minimum upland acreage, and resource of special concern designation (e.g., Piping Plover Critical Habitat). Based on these criteria, high priority tracts may be classified as such based on their management potential (e.g., native prairie) or their habitat support potential for priority wildlife populations (e.g., Dakota skippers). Based on the above criteria, all three fee-title refuges qualify as high priority, along with 36 WPAs. Twenty WPAs are classified as moderate priority and 23 WPAs are classified as low priority. Appendix F lists, by priority class, all fee-title lands and their qualifying criteria.

Additionally, due to the high visibility and attraction of the three fee-title Refuges to the public, these lands receive staff attention, which extends beyond managing habitat and protecting trust resources, with increased focus on these lands for compatible uses described in the Improvement Act (e.g., hunting, wildlife photography,

environmental education). Similar priority public use opportunities may be used in the future to help prioritize WPAs because of their location (e.g., close proximity to cities/towns and/or Interstate 94) and

ability to provide enhanced opportunities for priority public uses, irrespective of an overall tract rating based on habitat or wildlife management potential and/or priority resource criteria.

Long Lake National Wildlife Refuge

Burleigh and Kidder Counties, North Dakota

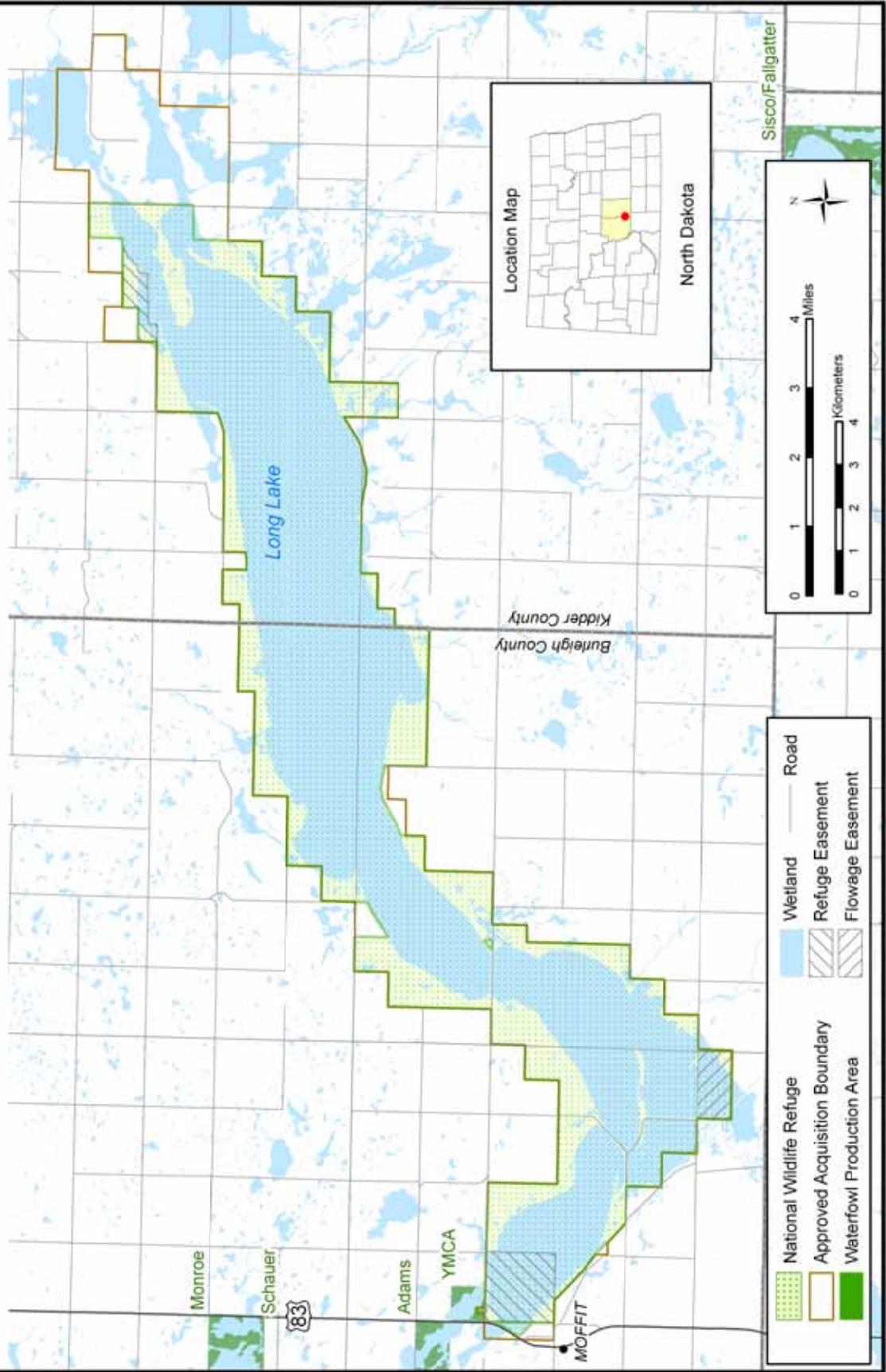


Figure 4:

Slade National Wildlife Refuge

Kidder County, North Dakota

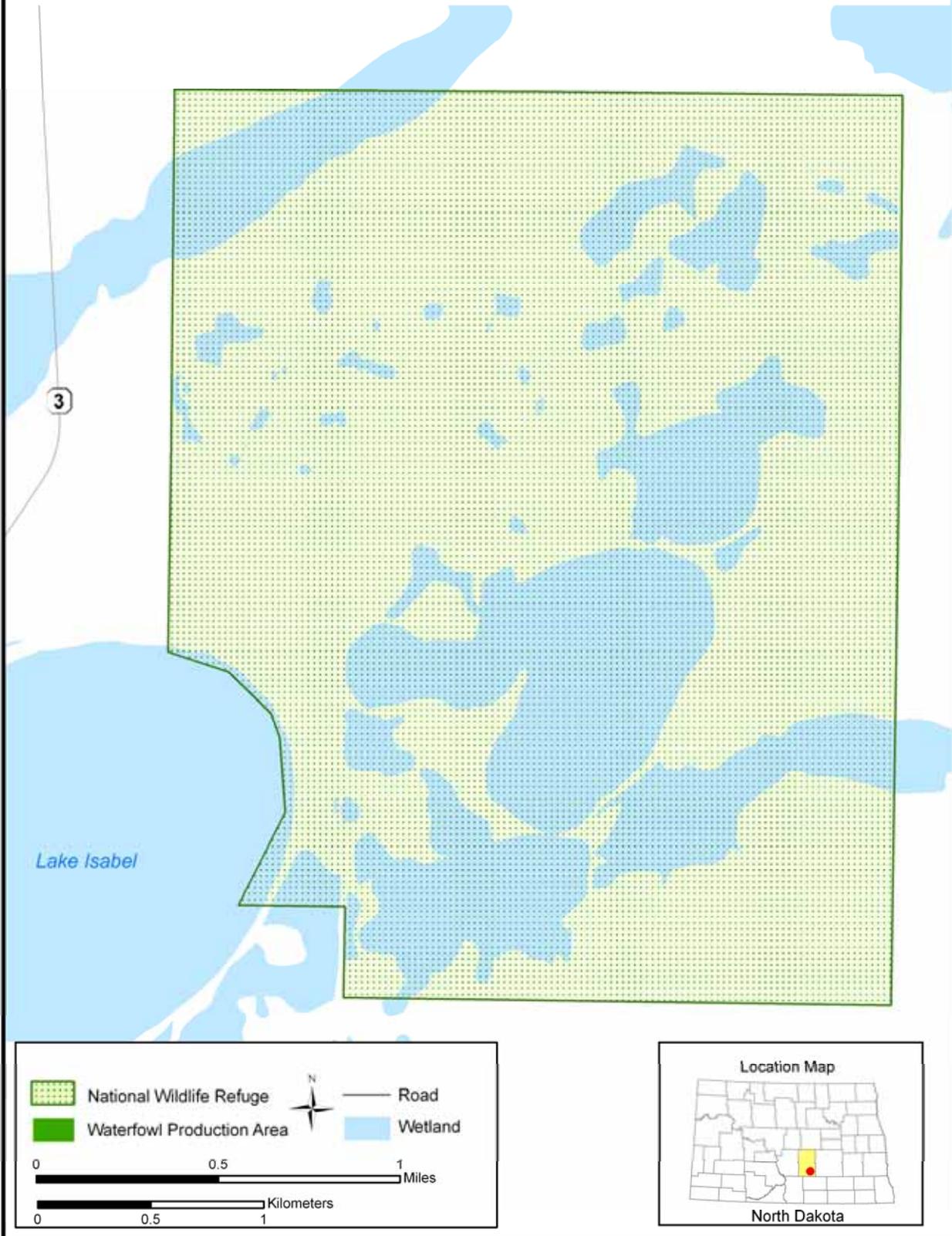


Figure 5: Slade National Wildlife Refuge Base Map

Long Lake Wetland Management District

Burleigh, Emmons, Kidder Counties, North Dakota

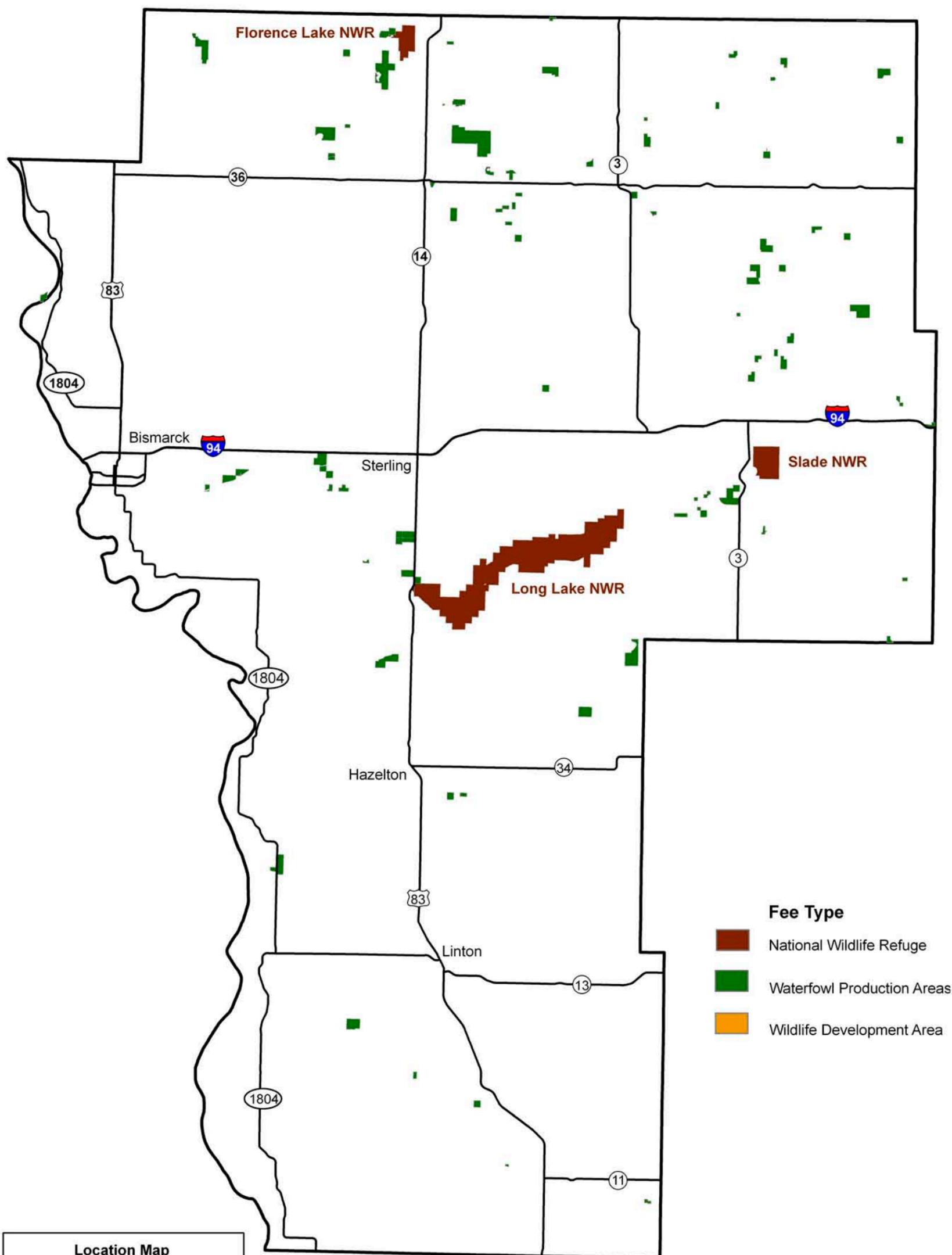


Figure 6: Long Lake Wetland Management District Fee Title Lands

Long Lake Wetland Management District

Burleigh, Emmons, Kidder Counties, North Dakota

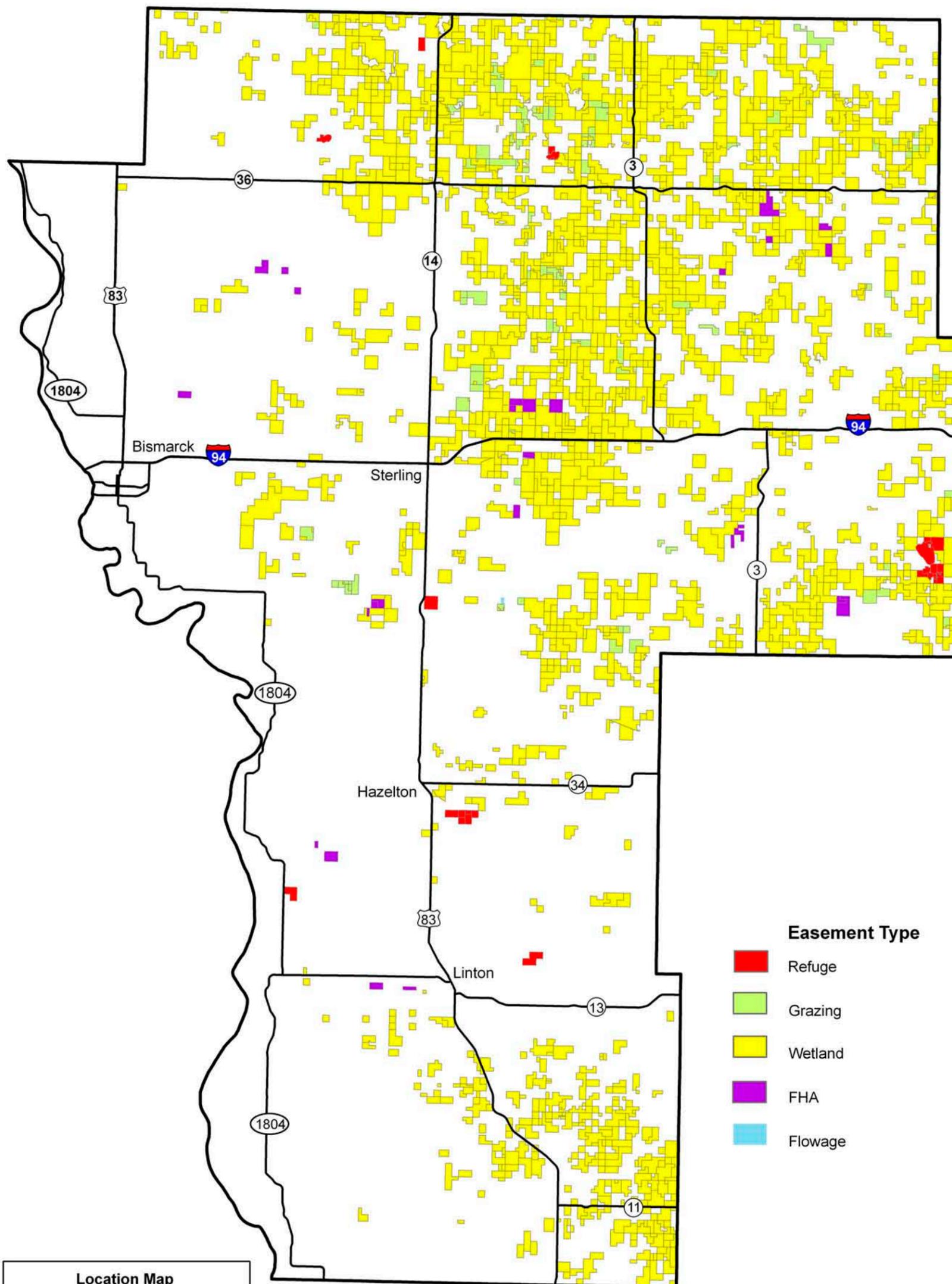


Figure 7: Long Lake Wetland Management District Easement Lands

