

City of Morris

University of Minnesota - Morris Campus

Stevens County



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Community Resilience Building Workshop

Summary of Findings

March 2022

Community Resilience Building Workshop

Summary of Findings

Overview

The need for municipalities, academic institutions, counties, states, and federal agencies to increase resilience to extreme weather events and a changing climate is strikingly evident amongst the communities across the state of Minnesota. Recent events such as severe thunderstorms and hailstorms, tornados, and extreme winter storms and blizzards have reinforced this urgency and compelled leading communities like the City of Morris, University of Minnesota's Morris Campus, and Stevens County to proactively collaborate on planning and develop actions that mitigating risks. Ultimately, this type of leadership is to be commended because it will reduce the vulnerability and reinforce the strengths of people, infrastructure, and ecosystems and serve as a model for other communities in Minnesota and across the Nation.

Recently, the City of Morris, University of Minnesota's Morris Campus, and Stevens County (referred to herein as the "Morris Community") agreed to partner with The Nature Conservancy and Second Nature to collaboratively launch a community-based process to assess extreme weather and climate change impacts and generate and prioritized solutions to improve resilience and sustainability. In March 2022, the Morris Community Core Team hosted a workshop as part of the Community Resilience Building process which was facilitated by The Nature Conservancy and Second Nature. The core directive of this effort was the engagement with and between community members to define strengths and vulnerabilities and the development of priority resilience actions for the greater Morris Community.

The Morris Community Resilience Building Workshop's central objectives were to:

- Define top local, natural, and climate-related hazards of concern;
- Identify existing and future strengths and vulnerabilities;
- Identify and prioritize actions for the community;
- Identify opportunities to collaboratively advance actions to increase resilience alongside residents and organizations from across the community, and beyond.

The Community benefited from a unique “anywhere at any scale”, community-driven process called Community Resilience Building (CRB) (www.CommunityResilienceBuilding.org). The CRB’s tools, other relevant planning documents, and local maps were integrated into the workshop process to provide both decision-support and visualization around shared issues and existing priorities across the City, Campus, and County. The Stevens County Multi-hazard Mitigation Plan (2021), City of Morris Comprehensive Plan (1999), and the University of Minnesota-Morris Campus Master Plan (2008) were particularly instructive. Using the CRB process, rich with information, experience, and dialogue, the participants produced the findings presented in this summary report including an overview of the top hazards, current concerns and challenges, existing strengths, and proposed actions to improve resilience to hazards and climate change today and in the future.

The summary of findings transcribed in this report, like any that concern the evolving nature of risk assessment and associated action, are proffered for comments, corrections and updates from workshop attendees and other stakeholders alike. The leadership displayed by the Morris Community on community resilience building will benefit from the continuous and expanding participation of all those concerned.

Summary of Findings

Top Hazards and Vulnerable Areas for the Community

Prior to the CRB Workshop, the Morris Community CRB Core Team identified their top hazards. The hazards of greatest concern included 1) severe winter weather including blizzards, ice storms, and hailstorms, 2) tornados and windstorms, and 3) extreme precipitation events resulting in flooding. Additional hazards discussed during the workshop included more intense and longer duration droughts and spring freeze/thaw cycles. These hazards have direct and increasing impacts on the infrastructure, residents, and environment including neighborhoods, natural areas (rivers, wetlands, forests, parks), roads, bridges, businesses, agricultural facilities and operations, municipal facilities, churches, schools, social support services and other critical infrastructure and community assets.

Current Concerns and Challenges Presented by Hazards

The Morris Community has several concerns and faces multiple challenges related to the impacts of natural hazards and climate change. In recent years, the City, Campus, and County have experienced a series of highly disruptive and damaging weather events including flash flooding (June 2013), severe thunderstorms and hailstorms (June 2017), thunderstorms and high wind events (July & August 2020), and winter storms/blizzards (March 2021) as well as other less impactful, but more frequent events (see Stevens County Multi-Hazard Mitigation Plan (2021)). Impacts from these events have included rain-induced, localized flooding, wind and hail damage, and excessive snow and ice deposition that have knocked out power, isolated residents, closed roads, and damaged property. The magnitude and intensity of these events and others across Stevens County and the state of Minnesota have increased awareness of natural hazards and climate change, while motivating communities such as Morris to proactively and comprehensively improve their resilience.

This series of extreme weather events highlights that the impacts from hazards are diverse: ranging from riverine flooding of critical infrastructure, bridges, roads, and low-lying areas; localized flooding from stormwater runoff during intense storms and heavy precipitation events; road closures due to high winds and downed trees; and property damage from trees, wind, snow, hail, and ice. Longer periods of elevated heat, particularly in July and August, have raised concerns about vulnerable segments of the population including elderly, disabled, and/or isolated residents. The combination of these issues presents a challenge to preparedness and mitigation priorities and requires comprehensive, yet tailored actions for particular locations and/or areas across Stevens County, City of Morris, and the University of Minnesota's Morris Campus.

The workshop participants were generally in agreement that Stevens County is experiencing more intense and frequent weather events. Additionally, there was a general concern about the increasing challenges of being prepared for the worst case scenarios (i.e. major disasters, winter storms, tornados) throughout the year, but particularly in the fall/winter months due to more intense snow and ice storms as well as in the summer months with severe thunderstorms and wind events. The impact of the current Covid-19 pandemic was raised several times by workshop participants.



(Credit: morrisfire.com)



(Credit: UNM-Morris)



(Credit: morrischamber.org)

Specific Categories of Concerns and Challenges

As in any community, Morris is not uniformly vulnerable to hazards and climate change, and certain locations, assets, and populations have and will be affected to a greater degree than others. Workshop participants identified the following items as their community's key areas of concern and challenges across three broad categories - Infrastructure, Societal, and Environmental.

Infrastructure Concerns and Challenges

Roads, Bridges, Road Networks, & Stormwater Infrastructure:

- Increasing impact on infrastructure (roads, bridges, culverts, power lines) across Stevens County due to changing and unpredictable "shoulder" season weather in the fall and spring.
- Limited ability of existing stormwater infrastructure including culverts, pipes, and ditch and drainage systems in agricultural areas to safely convey the growing intensity and magnitude of precipitation events. Agricultural ditches and drainage systems designed to accommodate major precipitation events at the beginning of the 20th century.
- Over dependence on state and federal funds to advance solutions to rectify inadequate or undersized infrastructure and other critical resources.
- Impacts to road surfaces and bedding due to extreme cold and more prolonged and intense spring freezing/thaw cycles.

Emergency Management & Preparedness:

- Lack of access to and egress from certain areas of the City and County during major events (e.g. blizzards, high wind events/road closures) that increases isolation of vulnerable populations such as elderly in aging housing stock without air conditioning.
- Regular and routine flooding along northwest side of Morris with long-term response plan contingent upon future funding.
- Increasing presence and changing outbreak patterns of Lyme disease and West Nile virus amongst residents.
- Large and growing immigrant community, both in schools (24% Latino) and connected with agricultural operations, that are not currently represented in community discussions and do not have experience with climate/weather-related hazards such as black ice, tornados, and microbursts, among others.
- Tenants typically have limited capital to prepare home for emergencies and are often not in control of the units rented in the event property improvements are warranted (i.e. dependence on landlord for improve housing resilience).
- Mobile home park and campground vulnerable to extreme weather including tornados and extended periods of extreme cold and heat waves. Mobile home park in Morris and campground lacks tornado safe rooms.

Specific Categories of Concerns and Challenges (cont'd)

- Limited back-up power generation at water treatment plant as well as for the public alert sirens across the City.
- Limited availability of multi-lingual materials and information for all residents in the workplace and at municipal facilities.
- Relatively high percentage of population in rental properties (40%) which make it harder to connect with residents during emergencies due to higher turnover versus residents in owner occupied properties.

Critical Facilities:

- Lack of a dedicated community center that is free and open to public in order to help bring residents together as a community as well as support needs during crises.

Societal Concerns and Challenges

Vulnerable Populations:

- Aging population with a growing number of elderly that presents unique challenges and increased risk of complications due to isolation, lack of mobility, and medical needs during and after major weather events and disasters.
- Reliance on electric grid to power private drinking water wells and water-related agricultural operations.
- Poor heating infrastructure in older housing stock that prevents owners from being safe during long, cold winters (“energy poverty”).
- Many community members living on low incomes with limited support and means to recover and rebound after disasters.
- Tenuous social safety nets in place to ensure residents in need receive adequate food resources, routinely.
- Large portion of community consist of low wage earners and/or elderly and recent immigrants that are living at or below poverty levels.
- Concerns about the economic challenges placed on farming community members coupled with increased pressure due to extreme weather and shifts in climate.
- Issues of impacts on health due to grain dust associated with select agricultural practices.
- Closure of the senior citizen center coupled with a rapidly aging community increases level of isolation and social disconnectedness amongst elderly across City.

Specific Categories of Concerns and Challenges (cont'd)

Societal Concerns and Challenges

Development:

- Impacts of hail storms on infrastructure including residential and commercial roofs resulting in costly repairs.
- Presence of dilapidated building in several well-known location in the City.
- Limited number of basements in new residential construction that provide places of refuge or safe rooms during tornado and high wind events.
- Large number of homes in the County owned by seniors without the financial resources needed to conduct routine upkeep resulting in an overall decline in available and well-maintained housing stock for current and future home buyers.
- Old wastewater system that will have to be updated in the near future to deal with shifts in weather and climate.

Businesses:

- Business community is vulnerable to natural disasters and major events such as tornadoes with direct impacts to structures as well as longer term disruption of commerce and revenue due to closure during recovery phases.
- Agriculture-related supply chain challenges due to dependence on outside distributors for seed and fertilizer which are at historically high prices.

Community Engagement & Services:

- General inability or inadequacy of resources available for response to the mental health needs encountered by law enforcement and in the correctional system.
- Difficulties experienced by residents in navigating available social safety nets focused on food and shelter.
- Inadequate mechanisms and opportunities to pass along knowledge and expertise from current staff and community members, who are aging and retiring, to the next generation of leaders and practitioners.
- Fragility of informal volunteer-based networks that support key processes and pathways to resilience such as the Morris Model.
- Lack of local, critical medical care facilities to manage severe cases requiring transport to hospitals in St. Cloud (90 miles) or Twin Cities (150 miles).
- Available workforce concerns with critical positions within the municipality (e.g. police department) and local businesses such as childcare services currently unfilled which places a strain on commerce and community cohesiveness.
- Lack of high paying and quality positions to help keep young professionals working and living within the community.
- Declining number of community volunteers due to need for families to be “two-income” earners in order to meet household financial requirements.

Specific Categories of Concerns and Challenges (cont'd)

Environmental Concerns and Challenges

Open Space, Trees, Watersheds, & Waterways:

- Growing impact on elm and ash trees due to increases in pest and pathogens.
- Concerns about high nitrate concentrations in stormwater runoff associated with agricultural operations.
- High level of arsenic in some private wells across Stevens County.
- Ongoing impacts of trees taking down power lines and causing power outages.
- Ongoing decline of last remaining native prairie across Stevens County.
- Declining condition of aging tree canopy across City and Campus.
- Loss of trees due to major weather factor like a tornados or windstorms.
- Spread of Emerald Ash Borer via recreational firewood distribution has serious implications for 40% of the existing urban tree canopy across the City and Campus.
- Tree removal and limited tree planting by landlords at rental properties due to the risk to structures and supporting power lines (i.e. 2013 wind storm) without full appreciation for benefits of intact and healthy tree canopy to properties and tenants.

Agriculture:

- Current large-scale, monoculture-focused, agricultural management results in increased soil erosion, impacts to water quality, and declines in soil condition/quality due to pressure to produce immediate higher yields (economic priorities) versus longer-term sustainable/conservation practices.
- Less snow accumulation and distribution throughout the winter months exacerbates soil erosion.
- Exposure of large livestock facilities (10,000+ cows and pigs) in Morris to unanticipated and ill-timed natural disasters.
- Changing precipitation patterns resulting in need to find ways to store water during the winter to ensure resources during crop harvest season.
- Ongoing and increasing loss of top soil critical for successful management of agricultural lands.
- Limited use of winter cover crops to help minimize erosion and runoff.



(Credit: City of Morris)

Current Strengths and Assets

Just as certain locations, assets, and populations across the Morris Community stand out as particularly vulnerable to the impacts of hazards and climate change, other features are notably assets for Morris Community resilience building. Workshop participants identified the following items as their community's key strengths and expressed interest in using them as the core of future resilience building actions.

- Clearly, the responsive and committed engagement exhibited by leaderships, staff, faculty, students, and residents is a very appreciated strength within and across the City, Campus, and County. Ongoing collaboration between municipal staff, committee/commission volunteers, academic institutions, business community, faith-based organizations, NGOs, adjoining municipalities, and various state-level organizations, among others, on priorities identified herein will help advance comprehensive, cost-effective, community resilience building actions.
- Deep experience and knowledge of community challenges and opportunities amongst staff with ongoing coordination across various departments including leadership, Emergency Management, Police, Fire, and Ambulance was cited as a highly valued community strength.
- Strong tradition of volunteerism with deep partnerships in place between municipality, campus, residents, county, and local non-profit organizations.
- Leadership and associated partnership are comprised of community members that are action orientated and interested in working collaboratively.
- Highly prepared and coordinated disaster response between City and County.
- Strong and diverse business community including involvement of organizations such as Stevens Community Medical Center (i.e. rural hospital), small business, restaurants, and larger, long-standing businesses.
- Highly skilled workforce able to adapt and apply their knowledge and expertise to disaster response and recovery of their community including the use of power tools and machinery to help clear roads and gain access to isolated neighbors and families.
- Remarkably quick response times from power companies (i.e. Otter Tail Power) and Fire Department during times of crisis.
- Backup generation and redundancy in transmission and distribution of the power system across the City and Campus.

Current Strengths and Assets (cont'd)

- Community has multiple, large, community gathering sites that are designated in the Stevens County Multi-Hazard Mitigation Plan as emergency evacuation sites including several on Campus (i.e. Campus Fieldhouse).
- Community has a high rate of vaccination against Covid-19 which is indicative of public acceptance science-based guidance and willingness of residents to act for their own personal health and safety and that of their neighbors.
- Stevens Community Medical Center is an invaluable regional health care asset located in the City that services surrounding rural communities.
- Ongoing and expanding community networking and exchange group at the City level with full support from City manager and leadership.
- Strong support and focus by City on protecting local watersheds such as Pomme de Terre River as well as remaining examples of native prairie across the community.
- Growing emphasis amongst County leadership to reach out and strengthen understanding of the needs of different populations within Steven County (i.e. Hispanic workers on large dairy farms).
- University of Minnesota – Morris Campus has been a leader in climate action as well as a model for the surrounding community and region on large infrastructure projects involving wind, water heating, and waste management.
- Establishment of a joint partnership between and with the City, Campus, County, and local businesses to advance a County Organics Program.
- Otter Tail Power Company has built redundancy in their power transmission to help increase continuity of power during major events.
- Active municipal-based Tree Board with a recently completed comprehensive plan and mapping project for tree canopy maintenance alongside ongoing attention placed on awareness and preparedness for impacts of pests and pathogens.
- Extensive network of green spaces and parks across the City and Campus available to residents with proactive management by municipal staff and engagement by public health institutions.
- Deep understanding of the land via multi-generational farming families and community.

Current Strengths and Assets (cont'd)

- University students are considered by many an asset to the larger community, both economically and culturally, with students remaining in the community after graduation.
- Morris Campus is working on energy storage and renewable energy options that are providing a model to help educate students and as well as municipal staff/leadership and other community members.
- Recent increases in residential solar via work by Solar Cooperative in collaboration with various City Departments and Zoning Board.
- Ongoing collaborative working relationship between County and Minnesota Department of Transportation with Otter Tail Power Company (in partnership with Edison Electric Institution) to keep lines and roads clear during and after major storm events.
- Proactive installation of reverse osmosis system at the Morris Water Treatment Plant to remove as much magnesium carbonate as possible and minimize additions of chloride before drinking water goes out to the customers.
- Rich and diverse informal network helping to propel and sustain the Morris Model, which is viewed as an important approach and framework for other communities across Minnesota and beyond.
- Community education system provides opportunities for families from birth to senior citizens.
- Attraction as a tourism destination for hunting, fishing, snowmobiling, agriculture, sustainability via active marketing of Morris and Stevens County.
- Presence of a railroad system through the City of Morris that is currently underutilized but represents a potential future community asset.
- Culture of innovation and relatively early adoption of new approaches and technologies such as wind turbines, biomass, and electric buses with emphasis on co-creation of solutions to issues.
- Community is well educated, and the Campus provides a relatively large educational institution for a rural community.
- Campus able to provide resources to the encompassing City via dining hall to feed people and housing to shelter people during emergency situations.

Current Strengths and Assets (cont'd)

- Presence of a municipal Tree Board and City of Morris Urban Forest Management Plan (September 2021) that is a significant advancement to help maintain a viable tree canopy across the City and Campus and to help educate the public and leadership about the important benefits provided by trees for residents (i.e. reduce storm water runoff, lower energy costs, improved air quality, wind breaks for structures, etc.).
- Active and engaged small businesses such as local restaurants and construction companies that are able and willing to assist with recovery post disaster.
- Campus comprised of solid buildings constructed of brick that can withstand most severe weather conditions.
- City of Morris Transit provide an invaluable service that gets residents where they need to go including children, elderly, residents without vehicles, and disabled community members and helps to foster a higher level of autonomy and self-resilience amongst riders.
- Stevens County and the Campus have created interest and drawn state and national attention with respect to renewable energy that has resulted in additional funding for projects and research (i.e. green ammonia as liquid battery).
- Grocery store delivers food and goods county-wide which improves accessibility for more geographically and physically isolated community members.
- Well respected local radio and newspaper help the community stay connects and educated on many issues including hazard preparedness.
- Public Library provide vital and well received programming with leadership that is open to including new programs focused on increasing the resilience of residents.
- Existing municipal facility that could be converted to a community center (i.e. old senior citizen center).
- The educational and technical capabilities available to help the agricultural community reduce carbon footprints via the West Central Research and Outreach Center associated with the University of Minnesota – Morris Campus.
- Local campground available to accommodate families and visitors during disasters.
- Natural assets such as trees, rivers, and wetlands within the Pomme de Terre River Watershed.

Current Strengths and Assets (cont'd)

- Due to ongoing leadership on Campus, the community is adept at accommodating the needs and concerns of large groups of diverse students with constant turn over and influx every academic year.
- Due to the influence of the Campus, the City has vibrant and growing arts, poetry, and culture opportunities and events for residents and visitors.
- Ethanol plants send waste and biproducts to local farms for further use.
- Large number of community members welcome opportunity to help plan for projects and programs intended to improve the condition of the City and Campus.
- Commitment by municipal staff to design and implement projects that incorporate nature-based solutions such as green stormwater infrastructure which help reduce risk from hazards and increase the livability of the community.
- Good working relationships with the University, City, and Stevens County as well as the with the federal lab (USDA, U.S. Fish and Wildlife – Morris Wetlands), and Otter Tail Power Company.
- Engaged farm commodity groups (cattle, corn) that promote the community and serve food raised/grown locally to community members.
- Solid environmental organizations such as Pheasant Forever and Ducks Unlimited, hunting groups, and government agencies (FWS, DNR) that are engaged in a collaboratively manner to promote opportunities and conservation of natural resources.
- Diverse and intrigue faith-based community that provides critical community-based activities, support, and resources.
- Farming community with a focus on ensuring the environment is managed in a sustainable manner for future generations.
- High speed internet in the County enables greater connectivity amongst rural municipalities.

Recommendations to Improve Resilience

A common theme among workshop participants was the need to continue community-based planning efforts focused on developing adaptive measures to reduce community vulnerability to extreme weather, climate change and other common concerns raised. To that end, the workshop participants helped to identify several priority topics requiring more immediate and/or ongoing attention including:

- **Long-term vision and growth** (i.e. development, conservation, transportation, diverse demographics, renewable energy, affordable housing, volunteerism, inclusion);
- **Infrastructure improvements** (i.e. road network, stormwater management systems, critical facilities improvements, power grid, transportation system);
- **Quality of life improvements** (i.e. housing, affordability, mobility, sustainability, health equity, connectivity, food security, demographic diversity);
- **Emergency management** (i.e. communications, outreach, education, continuation of services, business recovery, sheltering, vulnerable populations).

In direct response, the workshop participants developed the following priority and additional action list. Mitigation/adaptation actions from the Stevens County Multi-Hazard Mitigation Plan (2021) are provided in Appendix A for cross reference.

Priority Actions

- Continue to increase opportunities for greater inclusiveness in governmental and campus decision making processes and activities more accessible via broader community outreach and communication.
- Look to further establish the Morris Model within the community by establishing a more formal network of participants.
- Conduct additional outreach by municipality to residents to better understand housing, food security, and transportation needs and issues.
- Develop plan to actively manage municipal conservation zone areas with an emphasis on conserving remaining native prairie, river banks, and wetlands.
- Commit to creating a forward-looking transportation plan that incorporates electrification using energy generated from renewables.

Priority Actions (cont'd)

- Shift considerable attention by municipal leadership and staff towards better address waste generation and management from procurement and supply chain to composting to landfill reduction.
- Identify and strengthen connections between regional food producers and local communities in City of Morris and Steven County as part of a overarching food security strategy.
- Strive to update building and zoning codes to ensure future development and redevelopment are incorporating the most progressive approaches and regulations to ensure resilience and sustainability are systemically integrated.
- Commit to creating a long-term tree planting and management plan for the City and Campus that includes consideration of future climate and equity-based tree canopy improvement opportunities.
- Translate into Spanish all community-focused outreach, alerts, and forms provided and used by the City to assist the large and growing bilingual community – particularly materials used to prepare citizens for hazards.
- Continue to conduct education training, and workshop including periodic Community Resilience Building workshops to strengthen relationships and priority actions for the community.
- Work to secure back-up energy generation options for all critical facilities as well as key public amenities such as restaurants and gas stations during recovery phases of disasters.
- Work with property managers to construct a tornado safe room for mobile home park and campground.
- Work to increase the transition and exchange of knowledge and expertise from retiring staff and community members to the next generation of community leaders, Morris Model advocates, and engaged residents and students.
- Develop systems and procedures to increase the health and stability of the supply chain for the local agricultural and manufacturing sections including bringing supplies closer via local productions and processing facilities.
- Seek ways to establish at least one licensed day-care provider within the City.

Priority Actions (cont'd)

- Identify ways to strengthen existing infrastructure necessary to sustain critical systems such as water supply and waste/sewer collection, and transportation.
- Look to create a county-wide forum for the few large and many small farms to develop alternative approaches to strengthening the supply chain through local production and processing.
- Identify locations for installation of water storage facilities as well as enhancing the health and ability of soils to hold and retain water to ultimately help ameliorate the impacts of prolonged heat wave in late summer.
- Ensure that any community outreach includes multiple languages to increase inclusion and participation of non-English speakers residing in the community.
- Preserve and nurture tree canopy and secure funding to increase resilience and ensure environmental benefits through extensive engagement with the public and property owners.
- Increase communications about the current state, history, and ongoing impact of the Morris Model to the larger community as well as elsewhere in the state.



(Credit: ci.morris.mn.us)



(Credit: cleanenergyresourceteams.org)



(Credit: reddit.com)

Additional Actions

- Provide training for municipal staff on approaches and methods to increase inclusivity in projects and programs that benefit residents.
- Explore the likely types and implications of people moving into Stevens County and Minnesota due to climatic changes (“climate refugees”).
- Seek to create and promote public information channels (public radio, newspapers, etc.) that are affordable and accessible to a larger number of community members (particularly elderly) including broadcasts, signs, and alerts in Spanish in partnership with Conexiones.
- Look to engage with organizations such as Conexiones and potential student-based groups on Campus to better understand and support the needs of non-English speaking communities associated with dairy farms within the County.
- Seek out ways to increase participation of immigrant community members in discussions about resilience and sustainability.
- Conduct hazard education and awareness amongst immigrant communities with initial focus on tornados and microbursts.
- Build on recent housing stock study work to increase energy efficiency of residential homes through better marketing and education about available incentives and programs.
- Work with residential homeowners to secure upfront capital to bring energy efficiency and home weatherization incentives to more homes in Morris with emphasis on older housing stock.
- Explore different financing methods to help generate the capital needed to advance priority projects within the community (i.e. MinnPACE models, tax-based assessments).
- Advance workforce programs that do out-reach with veterans and recent immigrants and refugees to area.
- Provide a forum to help increase understanding between business community and the current regulatory environment.
- Look to develop a long-term plan to provide complete mental and health care to residents rather than relying on larger, urban hospitals outside of Stevens County.
- Look to initiate a community-wide potluck or series of events to help bring various components of the community together more frequently (i.e. students, renters, low income community, senior citizens, commissions and boards).

Additional Actions (cont'd)

- Update and reopen the former senior center as a community center.
- Start succession planning sooner with city, university, transportation, and county staff to ensure consistency after a transition so institutional knowledge is maintained and passed down to next generation of leaders.
- Look for approaches and methods (e.g. asphalt types) that will protect road infrastructure from freezing and thawing cycles, to the extent possible.
- Continue to support business like Otter Tail Power Company's commitment to renewables in hopes of building further momentum in the business sector as well as stimulate more focus on ESG.
- Engage the Chamber of Commerce to work more directly with local businesses and manufacturers to create efficiencies within the supply chain that reduce waste and associated costs to consumers.
- Secure funding to update emergency management radio system via a potential state funding mechanism currently being considered in state legislature.
- Work to strengthen and deepen connections and relationships between rural and urban communities within the County to serve as a model for elsewhere in Minnesota.
- Seek out opportunities and create forums to bring the artistic community together to help communicate to the public the implications of the challenges and solutions to climate change on the local city and/or campus scale.
- Consider updating and strengthen building codes to enable and/or require greater integration and inclusion of energy efficiency design and risk reduction building practices.
- Create, establish, and coordinate a community volunteer program to support clean-up activities during the recovery phase after disasters across the City and Campus in coordination with Stevens County Emergency Management.
- Increase collaboration between municipal departments and supportive organizations with City Planning Commission to explore options for new housing stock and social service needs for an aging population.
- Explore options and partnerships to hire a consultant to draft a native prairie management/strategic plan that includes all current owners of parcels with prairie (Municipality, University, TNC, U.S. Fish & Wildlife).

Additional Actions (cont'd)

- Look to implement river bank restoration and wetland management within the Pomme de Terre Watershed per the watershed report (2011).
- Create a Community Solar project on the closed landfill in partnership with Otter Tail Power Company.
- Establish and/or reinforce programs that link current UNM students and grads with farming community in hopes of providing real world experience and potentially jobs particularly on smaller more progressive farms that are focused on more sustainable production practices.
- Initiate a city-wide forum focused on how to retain people in the community as well as increase the level of volunteerism. Forum should include students, faculty, and staff from Campus.
- Improve the condition of sidewalks in the City to help increase pedestrian accessibility and safety.
- Set up a neighbor-helping-neighbor program focused on ensuring elderly residents and their properties are well cared for via actions like snow shoveling and yard clean-ups.



(Credit: City of Morris)

CRB Workshop Participants: Department/Organization

City of Morris - City Council
City of Morris - City Managers Office
City of Morris - Planning Commission
University of Minnesota - Morris Campus Sustainability
Stevens County - Commission Member
Stevens County - Emergency Management
Stevens County - SWCD
City of Morris - Fire Department
University of Minnesota - Sustainability Education
University of Minnesota - Morris Campus - Finance and Facilities
City of Morris - Green Corps
Stevens County - Economic Improvement Commission
Stevens County - Composting
City of Morris - Morris Area School District School Board
Pomme de Terre River Watershed Coordinators Office
West Coast Initiative
Horizon Public Health
West Central Climate Network
Otter Tail Power Company
Runeston Electric
DENCO II - Ethanol Plant Representation
Riverview Dairy
University of Minnesota - West Central Clean Energy Resources Team
University of Minnesota - Crookston Sustainability Office
Coexiones
State of Minnesota - State Hazard Mitigation Officer
USDA Soils Laboratory

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The Nature Conservancy - Drew Goldsman (Small Group Facilitator)

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Appendix A

Stevens County Natural Hazard Mitigation Plan (2021)

Mitigation Strategies and Actions

Mitigation Strategies and Actions

Table 31. Stevens County Mitigation Action Chart (2021–2026)

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
1	All-Hazards	Education & Awareness Programs	Encourage all county residents to sign-up for the county's CodeRED emergency notification alert system.	Existing High Ongoing	Stevens County Emergency Management (SCEM)	A link for the CodeRED emergency notification system is located on the Stevens County website. SCEM also utilizes our Emergency Management Facebook page, Sheriff's Office Facebook page and local news media to encourage residents to sign up. Registration forms are also available in the county courthouse and each city office for individuals who may not have internet access. Paper forms are entered into the registration system by the county emergency management department. Local jurisdictions are encouraged to promote sign up for local residents by directing them to the county website.	County
2	All-Hazards	Mitigation Preparedness & Response Support	Ensure the Stevens County Emergency Operations Plan (EOP) is updated and addresses policies & procedures needed to support EM functions prior to, during, and following a disaster.	Existing Moderate Ongoing	SCEM	SCEM has an Emergency Operations Plan that is updated on a regular basis which helps the county be ready to respond to disasters across a range of EM functions. This includes plans in place for Sheltering and Pet Sheltering in the event that people are displaced from their homes following a disaster.	County
3	All-Hazards	Mitigation Preparedness & Response Support	Ensure designated facilities are in place and prepared for providing mass care sheltering and county staff are trained in sheltering operations.	Existing Moderate Ongoing	SCEM, Horizon Public Health Dept (HPHD)	SCEM and HPHD partner with the American Red Cross to establish MOU's with facilities in the county to serve as official shelter locations that meet ARC shelter requirements for space and accessibility. SCEM and HPHD work with the Red Cross on shelter management training. Stevens County will continue to work to ensure that all designated shelters are prepared with backup generators where needed.	County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
4	Severe Winter & Summer Storms & Extreme Temps	Education & Awareness Programs	Provide education and outreach to residents on personal preparedness for severe weather events, extreme temperatures, and extended power outages.	Existing High Ongoing	SCEM in coord with HPHD and Local Gov't	SCEM utilizes our Emergency Management Facebook page, Sheriff's Office Facebook page and local news media to communicate with residents and visitors on emergency preparedness. A link for the CodeRED emergency notification system is located on the Stevens County website. SCEM participates in and promotes the NWS Severe Weather Awareness Weeks in spring and fall each year. We also promote residents to be prepared for emergencies, to have NOAA weather radios, and to sign up for the county's CodeRED system and social media to receive emergency notifications and other information. SCEM and HPHD promote public awareness of personal safety measures to take during periods of extreme cold or extreme heat.	County
5	Severe Winter & Summer Storms	Structure & Infrastructure Systems	Work with municipal & rural electric coops to encourage them to address burying powerlines or strengthening power poles to avoid power outages from high wind events and storms.	Existing High Ongoing	SCEM in coord with Local Gov't and Rural & Municipal Utility Coops	Otter Tail Power Company and Agralite Electric Co-op continue to address where power lines can be strengthened or buried underground. SCEM will assist as needed with applications to FEMA for eligible project measures that help to eliminate or reduce risk of power outages by these coops.	Electric Coops, FEMA HMA grant
6	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase & install permanent backup generators for Stevens County critical facilities where they are needed.	Existing High TBD	SCEM in coord with other county depts.	Generator backup power is needed for designated shelter facilities and may be needed for other county-owned facilities (remote shop in Chokio and the Lee Community Center in Morris). Generators will be purchased as funding allows.	County
7	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Work with local jurisdictions to acquire generator backup power to support critical infrastructure and delivery of essential services during an extended power outage due to storms.	Existing Moderate Ongoing	SCEM in coord with Local Gov't	There is a need in each city for portable generators to provide backup power for siren hook-up and fire hall functions that may be required during severe weather events. SCEM will continue to provide assistance to communities to acquire portable generators. In some cases, this may include helping to identify where used portable generators may be obtained or helping to prepare a funding application.	County, Local Gov't

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
8	Severe Winter & Summer Storms	Natural Systems Protection	Conduct vegetation management along county-owned roads to reduce the risk of downed trees and branches resulting from severe storms.	Existing Moderate Ongoing	SC Hwy. Dept, Utility Providers & Local Gov't's	SC Highway Dept. and local utility providers actively maintain and clear their right of ways of trees, vegetation, and debris to prevent the creation of additional hazards or blocking road/site access. Townships & cities are encouraged to do the same for roads under their authority.	County, Utilities, Local Gov't
9	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Encourage schools and long-term facilities that house senior citizens or other vulnerable populations to have emergency plans and generators in place to deal with severe weather, extreme temperatures, and power outages.	Existing High Ongoing	SCEM & HPHD in coord with Schools & Other Facilities, and Local Gov't's	SCEM & HPHD continue to work with schools and other long-term care facilities across the county and will encourage them to have plans in place for when the need arises. SCEM encourages local jurisdictions to work directly with facilities in their community to be prepared. Schools are encouraged to practice tornado drills each year.	County, Local Facilities
10	Severe Summer Storms	Mitigation Preparedness & Response Support	Ensure there is a network of trained Storm Spotters throughout the county.	Existing Moderate Ongoing	SCEM in coord with NWS & Local Gov't	SCEM works with the NWS to provide SKYWARN storm spotter training on an annual basis to local law enforcement, fire departments, and local residents who wish to participate. Storm Spotters help to support situational awareness of and public notification for dangerous storms such as severe thunderstorms and tornadoes.	County, NWS
11	Severe Winter Storms	Natural Systems Protection	Work with the Stevens County SWCD on the planting of living snow fences along high-drift road corridors.	New Moderate TBD	SCEM, SC Highway Dept. in coord with SC SWCD	This falls under the SWCD's Continuous Conservation Reserve Program (CCRP), which helps farmers to install shelter belts and windbreaks.	County, SWCD
12	Severe Summer Storms	Education & Awareness Programs	Conduct public outreach & education during tornado season to inform the public on what is a tornado watch/warning and what to do when warning sirens are activated.	Existing High Ongoing	SCEM	SCEM provides information on tornado awareness and safety on the SCEM Facebook page, and also posts information during tornado season and during the NWS Severe Weather Awareness Week in April each year.	County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
13	Severe Summer Storms	Local Planning & Regulations	Work with owners of mobile home parks (MHP's) to ensure they are in compliance with the Minnesota Department of Health (MDH) requirements for evacuation plans and storm shelters.	Existing High Ongoing	HPHD in coord with Local Gov't and MHP's	HPHD works with the owners of manufactured home parks within the county and the municipalities where they are located to ensure that they are meeting MDH requirements for storm shelters and evacuation plans.	County, MHP Owners
14	Severe Summer Storms	Local Planning & Regulations / Structure & Infrastructure Projects	Provide assistance to local jurisdictions that require purchase & installation of new outdoor warning sirens and ensure they are connected to the county's remote activation system.	Existing High Ongoing	SCEM in coord with Local Gov't	If any cities require a warning siren upgrade due to damage or age, SCEM will assist as needed with applying for funding to the USDA Community Facilities Grant Program which is a source for funding outdoor warning sirens. All new sirens in the county will be connected to the county's remote activation system. SCEM will also evaluate where it may be feasible and effective to install outdoor warning sirens in township areas.	County, Local Gov't, USDA CF Grant Program
15	Severe Summer Storms	Structure & Infrastructure Projects	Address the need for the construction of storm shelters or tornado safe rooms in Stevens County parks and local community locations where people are vulnerable to high wind or tornadic events.	Existing High Ongoing	SCEM in coord with Local Gov't	Stevens County will assess and prioritize the construction of new storm shelters or tornado safe rooms at county-owned parks and campgrounds. The cities of Chokio and Morris have each identified a need for either a storm shelter or tornado safe room to help protect residents/visitors that are vulnerable to high wind events (i.e., mobile home parks, campgrounds). SCEM will provide assistance as requested to these municipalities to help assess need, possible construction options, and development of potential grant applications as needed (i.e., FEMA HMA safe room grant).	County, FEMA HMA, Other (TBD)
16	Flooding	Local Planning & Regulations	Participate in the National Flood Insurance Program and enforce policies that address development in high-risk flood areas.	Existing Moderate Ongoing	SC Envir. Services Dept.	Stevens County participates in the National Flood Insurance Program (NFIP). The Stevens County Environmental Services Department maintains the flood rate insurance maps and floodplain ordinance for the county.	County

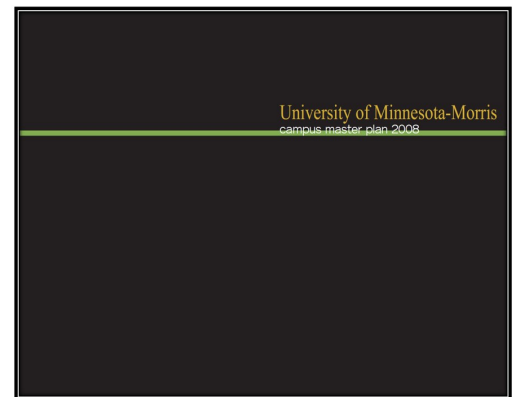
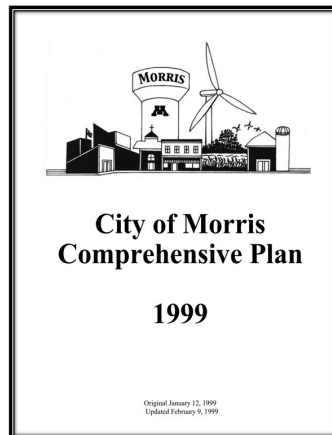
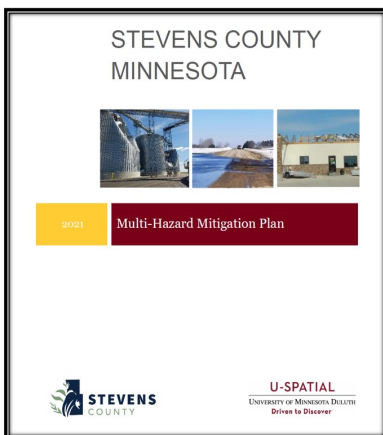
#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
17	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Address road improvements, ditch maintenance, and bank stabilization projects needed to mitigate against high rain events.	Existing High Ongoing	SC Hwy. Dept. in coord with Local Gov'ts	SC Hwy. Dept. maintains an annual Transportation Improvement Plan (TIP) that identifies and schedules road improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding. The current Stevens County TIP is in place for 2019-2023. The Hwy. Dept. oversees that annual bridge inspections are performed annually in accordance with State and Federal Standards. The Hwy. Dept. works regularly with township governments to address mitigation measures for rural roads and culverts impacted by high rain and flooding events.	County, State, Federal
18	Flooding	Local Planning & Regulations	Enforce county policies that regulate zoning for new development, setbacks in shoreline areas, and stormwater management.	Existing Moderate Ongoing	SC Envir. Services Dept. in coord with SWCD	The Stevens County Zoning Ordinance addresses Stormwater Management, Sediment and Erosion Control for the unincorporated areas of the County. Stevens County enforces MPCA stormwater standards for new development and requires that a Stormwater Pollution Prevention Plan be submitted before the county approves the platting process. The SWCD also enforces Minnesota's Buffer Law, which requires perennial vegetative buffers of up to 50 feet along lakes, rivers, and streams and buffers of 16.5 feet along ditches.	County, SWCD
19	Flooding	Education & Awareness Programs	Provide planning support and technical assistance to cities and townships to update stormwater management plans and implement projects that protect critical infrastructure from future flood events and improve drainage.	Existing Moderate Ongoing	SC Hwy. Dept. in coord with Local Gov't's	SC Highway Dept. continues to work with our city and townships to plan for and implement local stormwater management improvements in order to better handle future high rain events. We also assist with issues related to ditch maintenance and drainage.	County, Local Gov't
20	Flooding	Mitigation Preparedness & Response Support	Be prepared for future flood events with flood fight plans, evacuation & sheltering plans, and access to water pumps and sandbags.	Existing High Ongoing	SCEM in coord with SC Hwy. Dept. & Local Gov't's	This is an ongoing effort of SCEM emergency response planning for flood disasters in coordination with our local jurisdictions and our neighboring jurisdictions in HSEM Region 4.	County

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
21	Flooding	Local Planning & Regulations	Work in partnership with the Stevens County SWCD and area watershed districts to coordinate planning and project efforts that address flooding and erosion concerns.	Existing Moderate Ongoing	SCEM & SC Envir. Services Dept. in coord with SC SWCD and Watershed Districts	Stevens County works closely with the Stevens County SWCD and the three Watershed Districts (Boise De Sioux, the Pomme de Terre and the Chippewa River) within the county on flood & erosion control and drainage projects that reduce damages to public & private property. In addition, the Stevens County Multi-Purpose Drainage Management Plan was developed to supplement drainage projects with methods aimed at reducing peak flows and erosion, trapping sediment, reducing nutrient loading, and improving water quality throughout the watersheds in the county.	County, SWCD Cost Share Grant Program
22	Flooding	Local Planning & Regulations	Manage the system of county ditches to reduce over-the-road flooding resulting from high rain events.	Existing Moderate Ongoing	SC Highway Dept.	The SC Hwy. department ensures that annual ditch inspections are performed on a regular basis according to 103E Drainage Statutes. Other duties include ditch cleaning and maintenance, beaver dam removal and other issues, culvert repair and removal, and erosion & sloughing.	County
23	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Conduct property buyouts to acquire homes affected by repetitive flooding and physically relocate or remove those homes to eliminate future flood damages.	Existing Low Ongoing	SCEM, SC Envir. Services Dept.	There are currently no projects slated for conducting property buyouts by the county or local jurisdictions; however, Stevens County will continue to evaluate and assist municipalities with any future property acquisition projects and application to FEMA or MN DNR for grant funding to conduct buyouts.	County, MN DNR, FEMA HMA, Local Gov't
24	Flooding	Natural Systems Protection	Conduct soil stabilization and slope management projects in unstable areas for sediment and erosion control resulting from high rain events.	New High Ongoing	Stevens SWCD & Bois de Sioux Watershed District (BDSWD)	The Stevens SWCD and the BDSWD each work to design, construct, and maintain erosion prevention projects that stabilize banks by proper sloping and grading techniques, planting vegetation, terracing hillsides, installing riprap boulders, geotextile fabric and/or concrete mats. Twelvemile Creek and its tributaries are an area of focus.	SWCD & Watershed Districts
25	Flooding	Natural Systems Protection	Conduct floodplain and stream corridor restoration in areas that are impacted by high rain events.	New High Ongoing	Stevens SWCD & BDSWD	The Stevens SWCD and the BDSWD each work to design, construct, and maintain floodplain and stream restoration projects mitigate erosion and flood risk by reestablishing the structure and function of ecosystems and floodplains to as close to possible natural conditions prior to development influences. The BDSWD 10-Year Bois de Sioux – Mustinka River Joint Comprehensive Watershed Management Plan (January 27, 2021) incorporates many projects related to this work.	SWCD & Watershed Districts

#	Hazard	Mitigation Strategy	Mitigation Action	Status Priority Timeframe	Responsibility	Comments on Implementation & Integration	Possible Funding
26	Flooding	Natural Systems Protection	Acquire and use conservation easements to prevent development in known flood hazard areas.	New Moderate Ongoing	Stevens SWCD & BDSWD District (BDSWD)	The Stevens SWCD and the BDSWD play a role in helping to acquire conservation easements to protect areas sensitive to flooding.	SWCD & Watershed Districts
27	Flooding	Natural Systems Protection	Construct flood diversion and storage projects where identified as needed to reduce the impacts of high rain events on streams, rivers, or drainage systems which may result in localized or downstream flooding.	New High Ongoing	Stevens SWCD & BDSWD	The Stevens SWCD and the BDSWD each work to design, construct, and maintain projects diverting floodwaters from a stream, river, or drainage system into a wetland, floodplain, canal, pipe, other conduit and storing them in reservoirs, floodplains, wetlands, impoundments, or other storage facilities. This allows for a controlled baseflow release and tempers peak flows, stages, and velocities to mitigate flooding.	SWCD & Watershed Districts

Appendix B

Morris Community Community Resilience Building Workshop Map Resource Packet* Used During Workshop



***Gathered from Stevens County Multi-Hazard Mitigation Plan (2021), City of Morris Comprehensive Plan (1999), and University of Minnesota-Morris Campus Master Plan (2008).**

City of Morris

Official Zoning Map

October 1, 2018

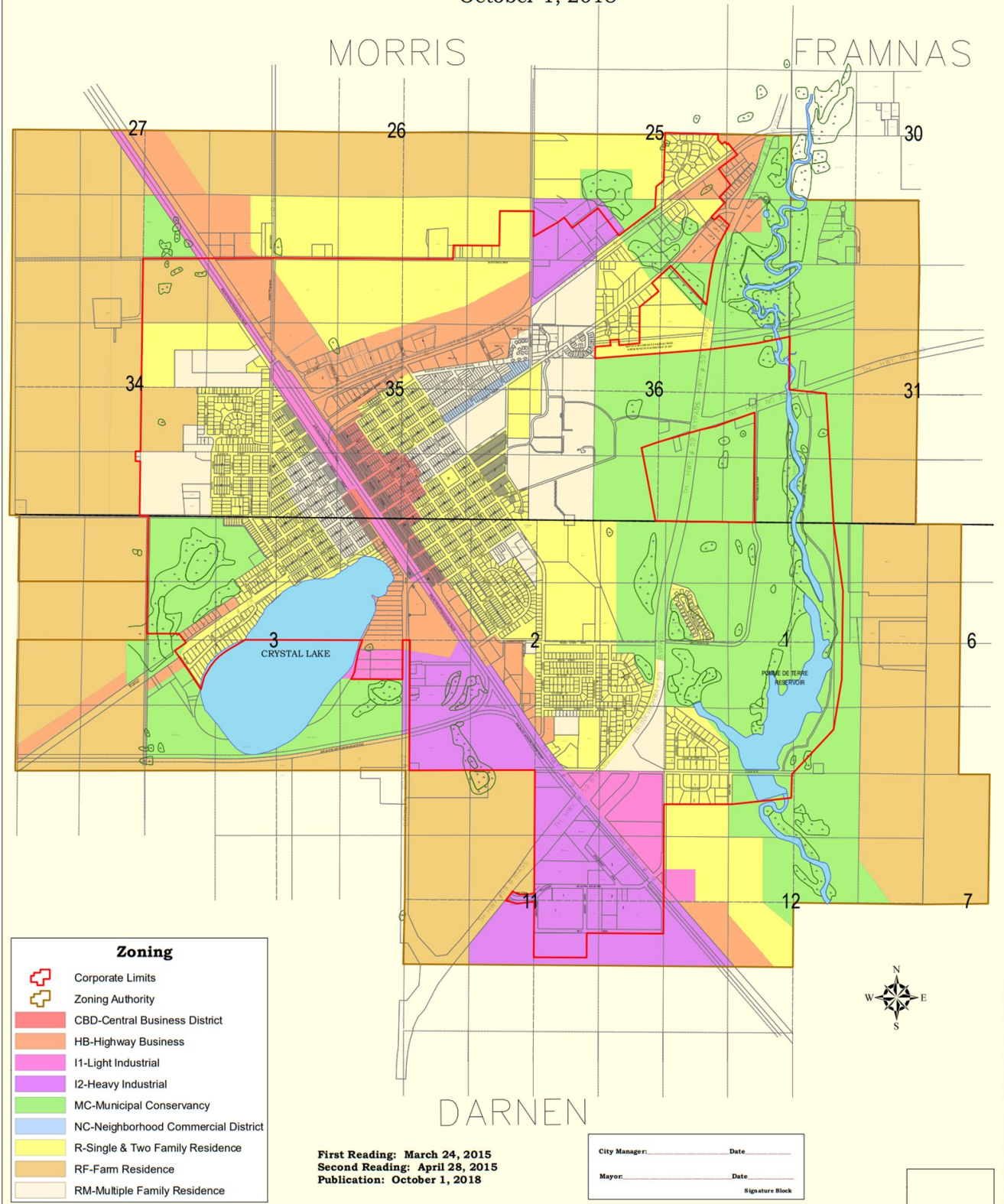
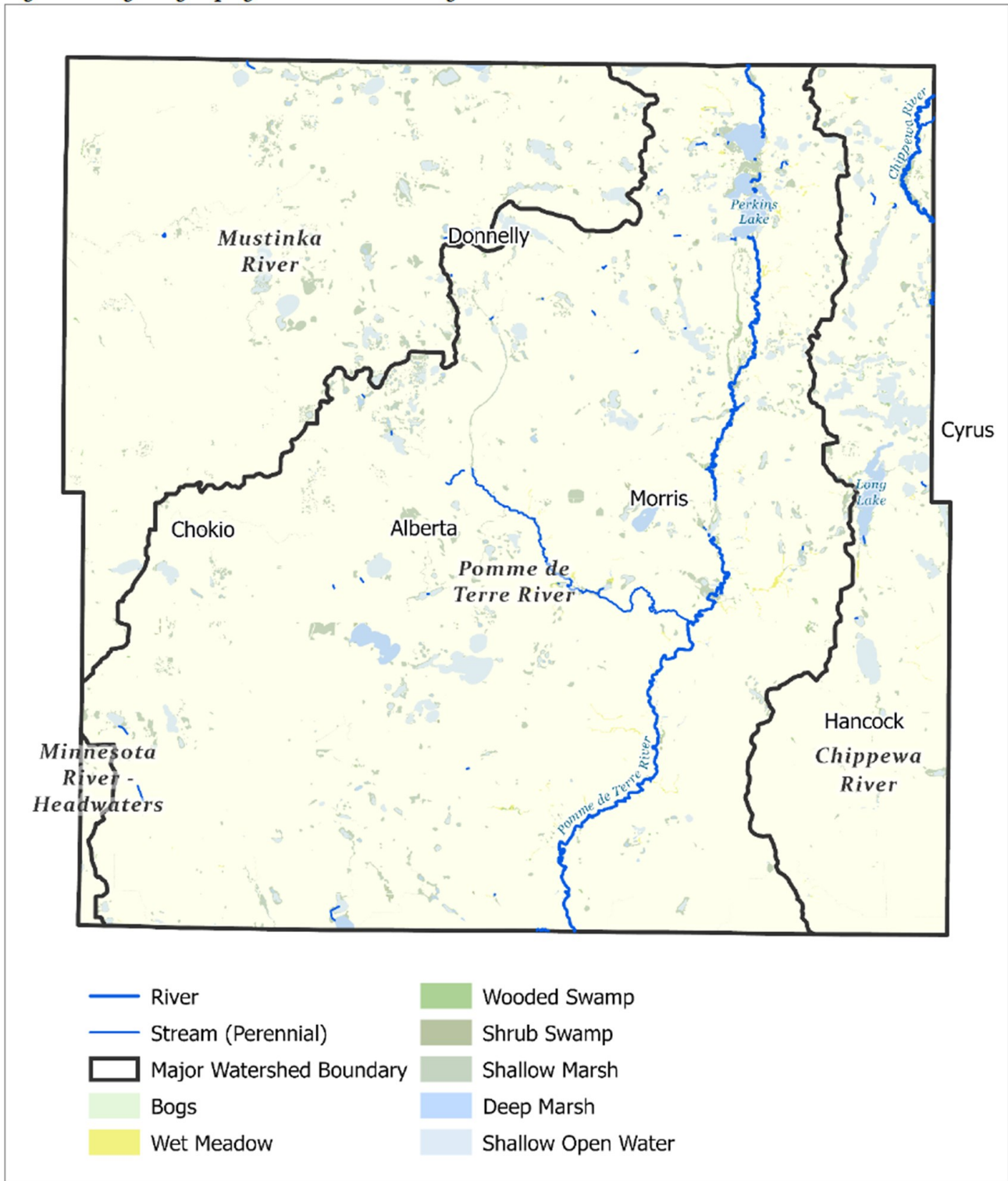
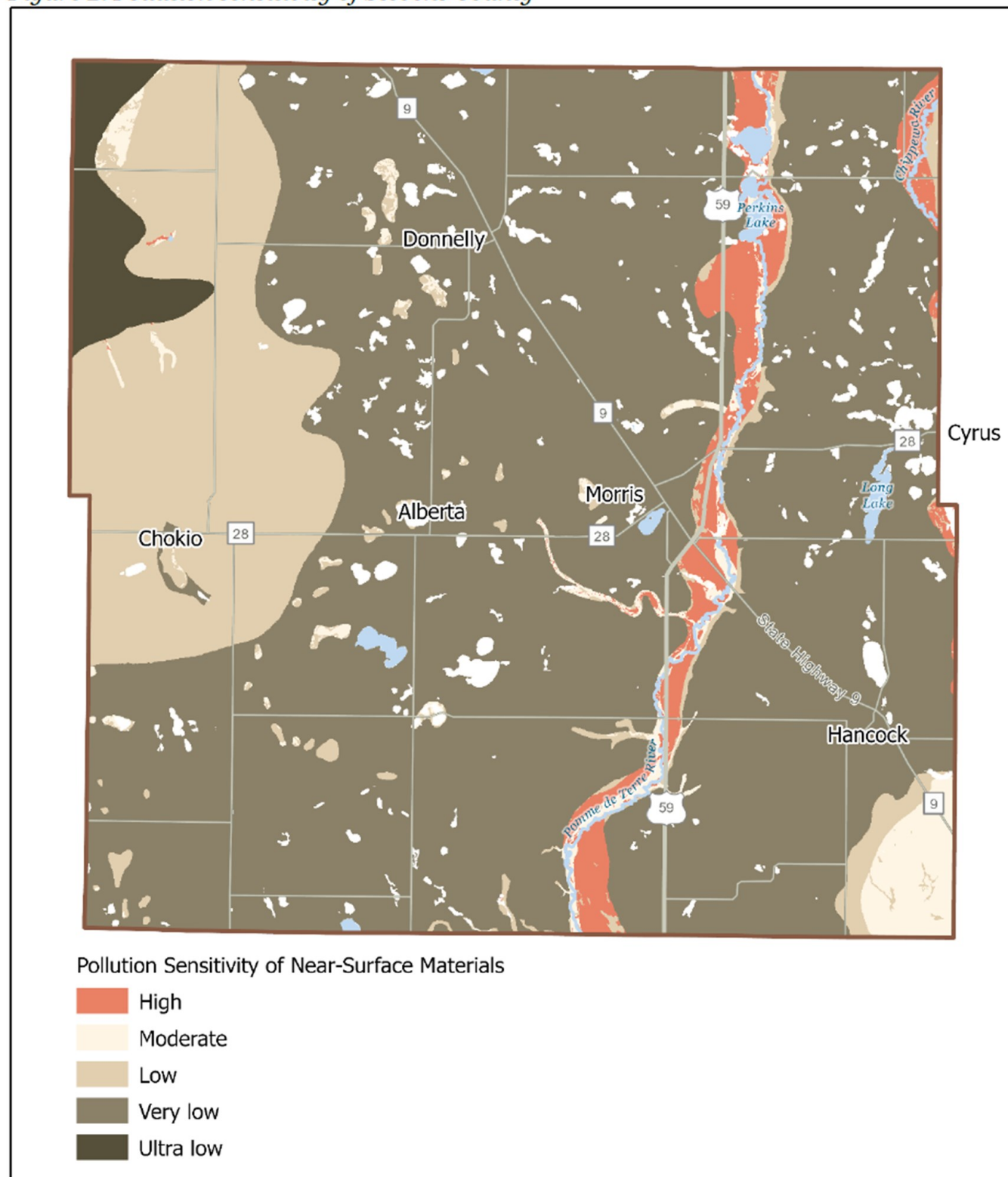


Figure 1. Hydrography in Stevens County



SOURCE: (MN DNR, 2013, 2019C, 2021C)

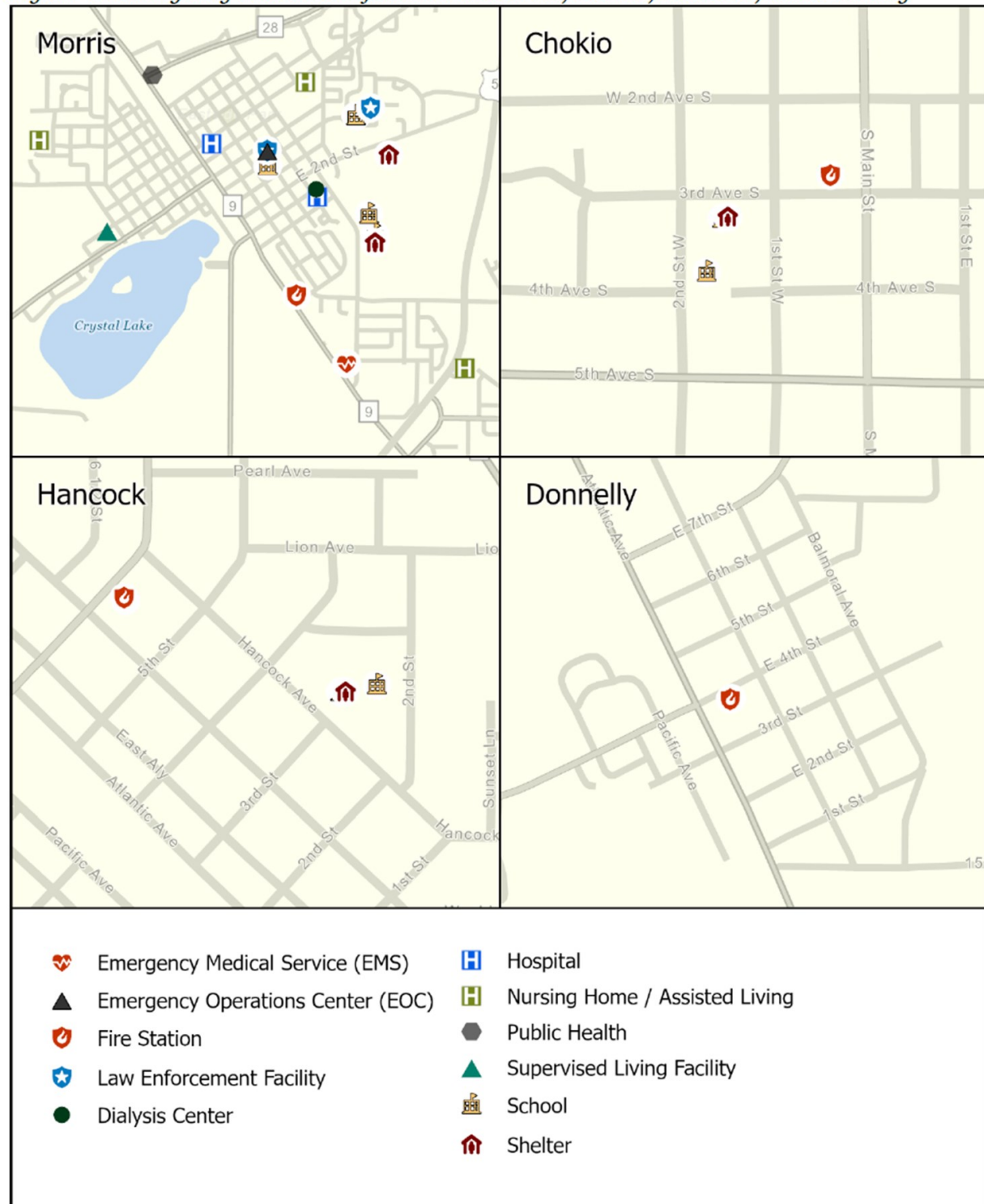
Figure 2. Pollution sensitivity of Stevens County



SOURCE: (MPCA, 2018A)

Figure 6 shows the emergency and shelter facilities in representative communities with concentrated facilities.

Figure 6. Emergency and shelter facilities in Morris, Chokio, Hancock, and Donnelly



SOURCE: (HIFLD, 2021; MDH, 2021A; STEVENS COUNTY)

Figure 6. Emergency and shelter facilities in 2011

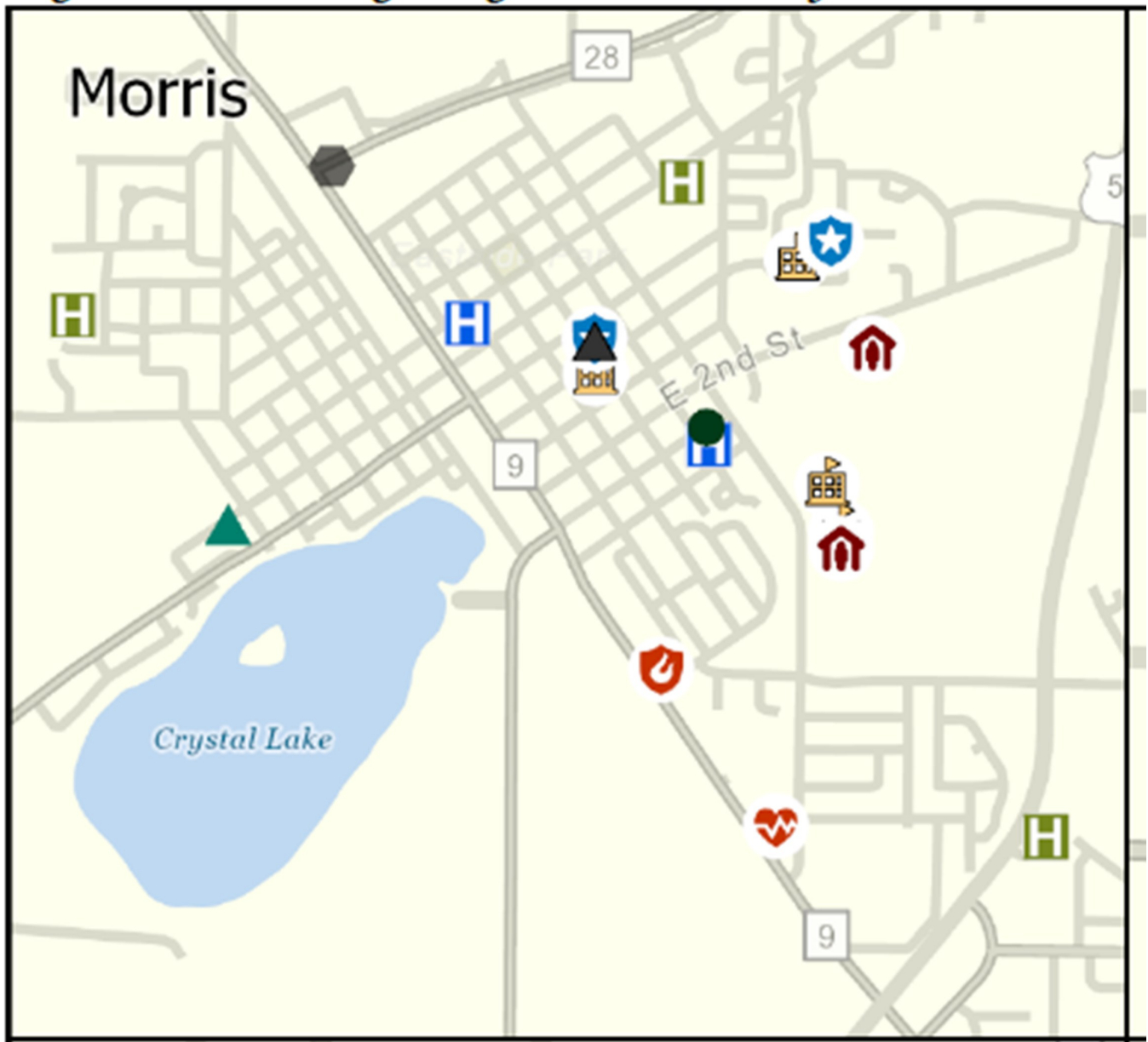
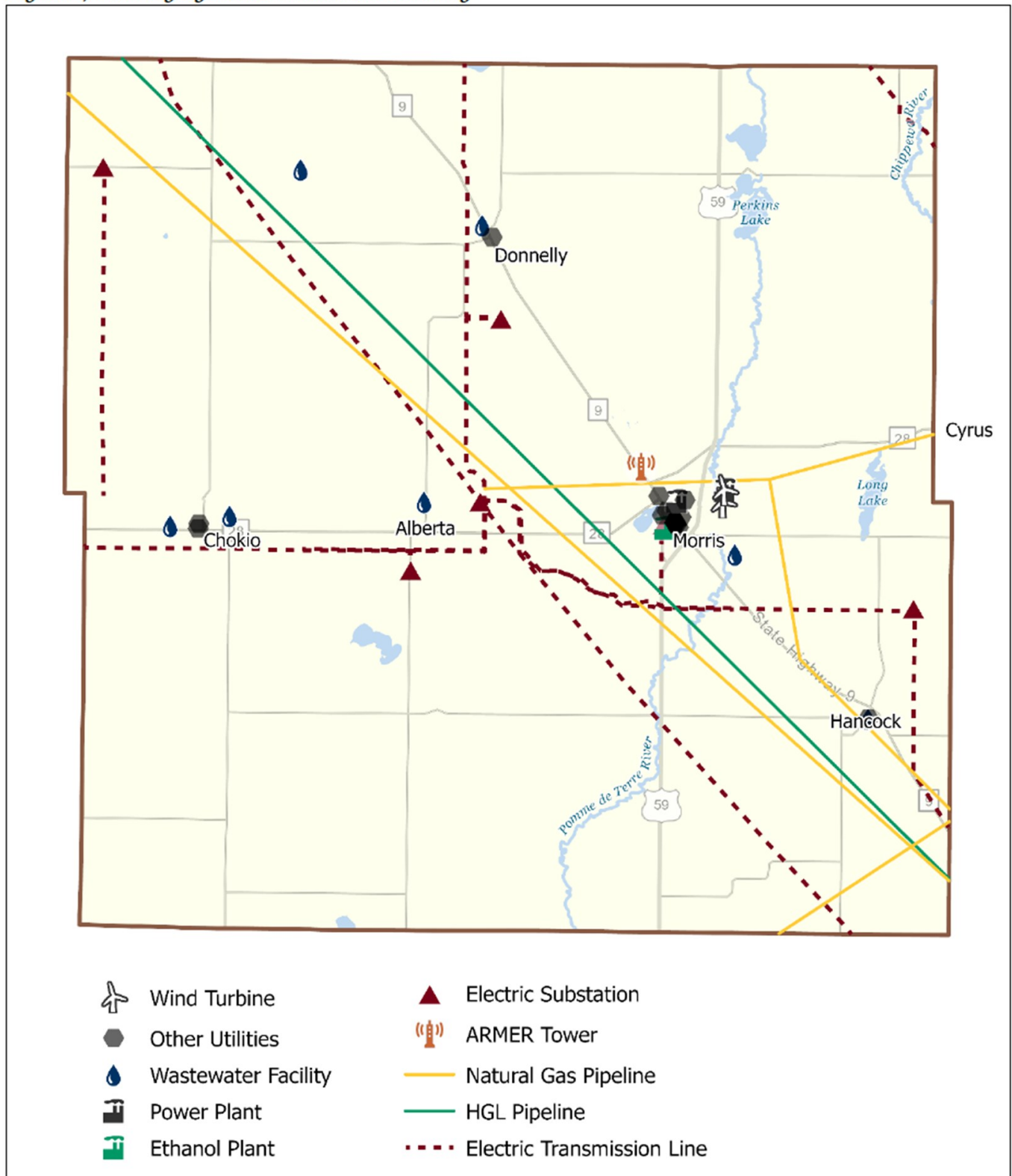
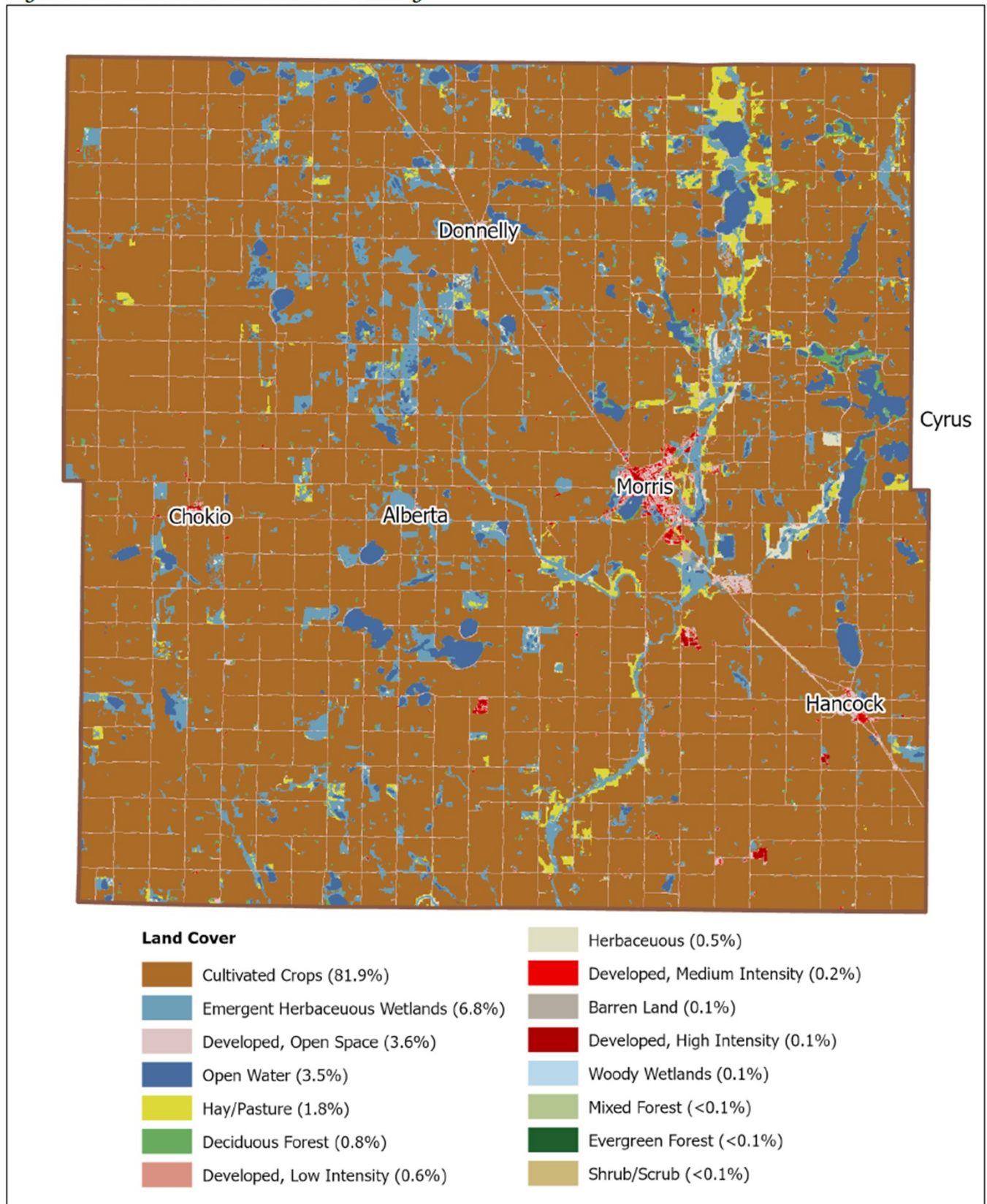


Figure 7. Utility systems in Stevens County



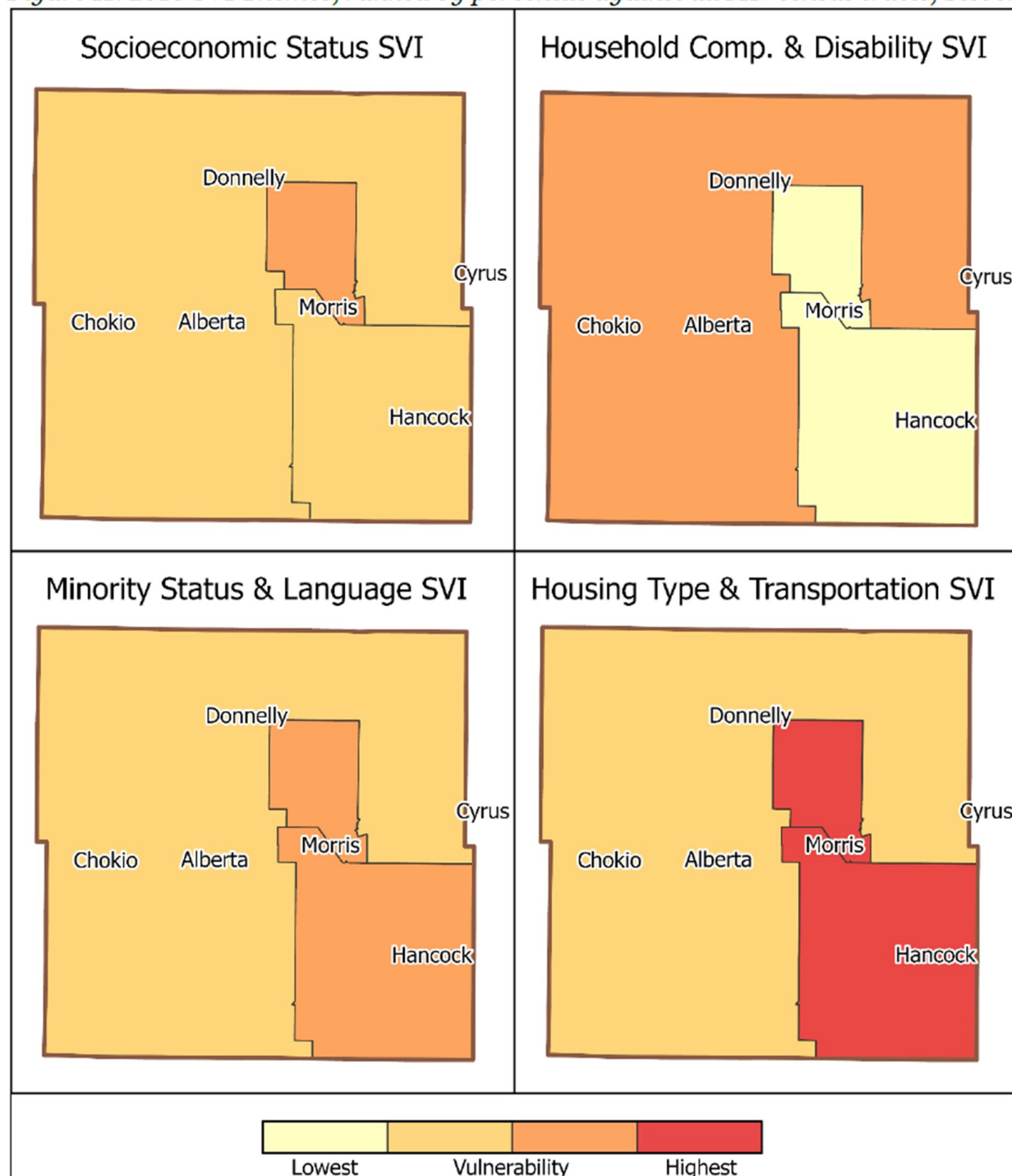
SOURCE: (MN GIO, 2016; MPCA, 2018B; US EIA, 2020)

Figure 8. Land cover in Stevens County



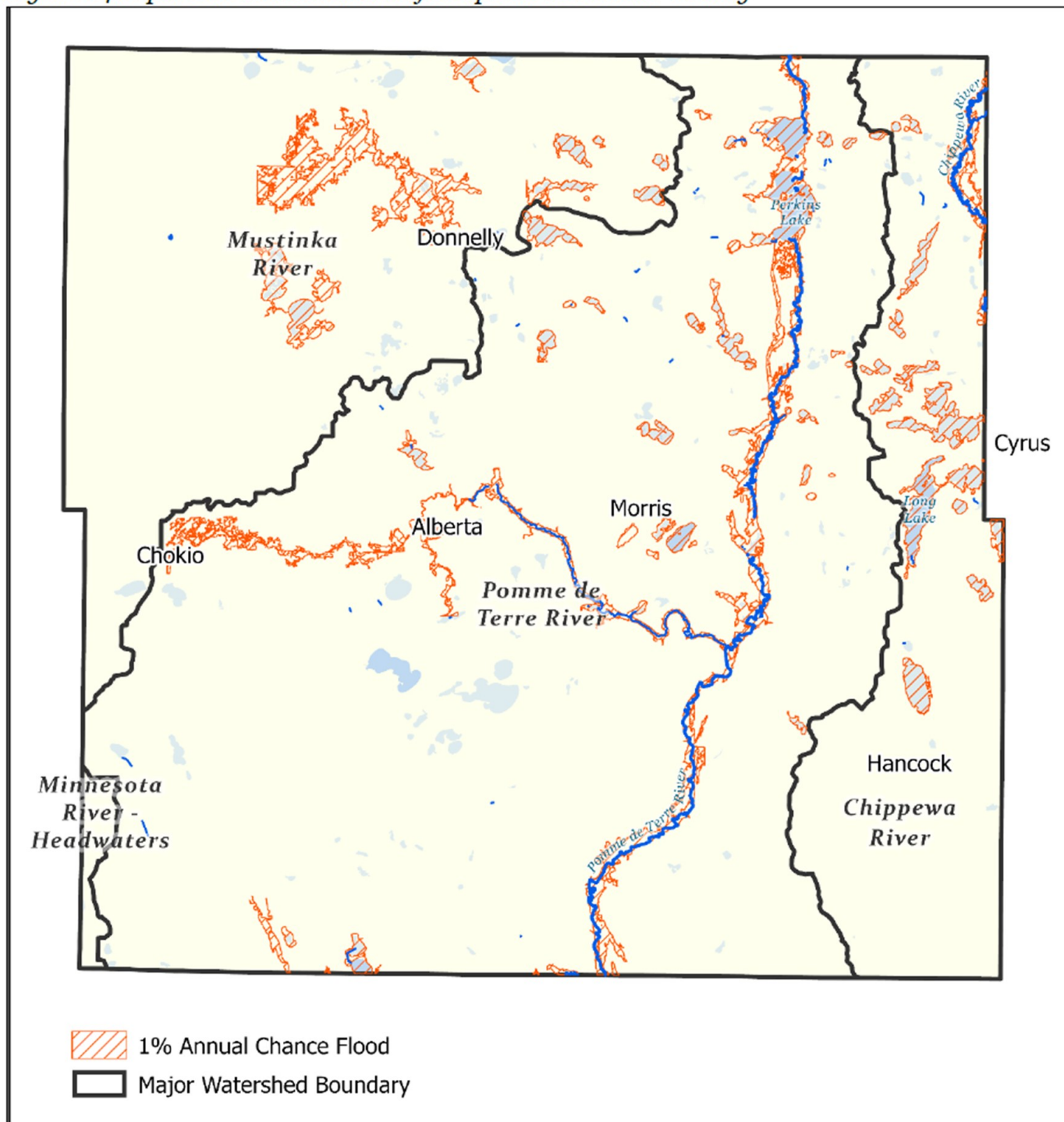
SOURCE:(USGS, 2016)

Figure 11. 2018 SVI Themes, ranked by percentile against all MN census tracts, Stevens County



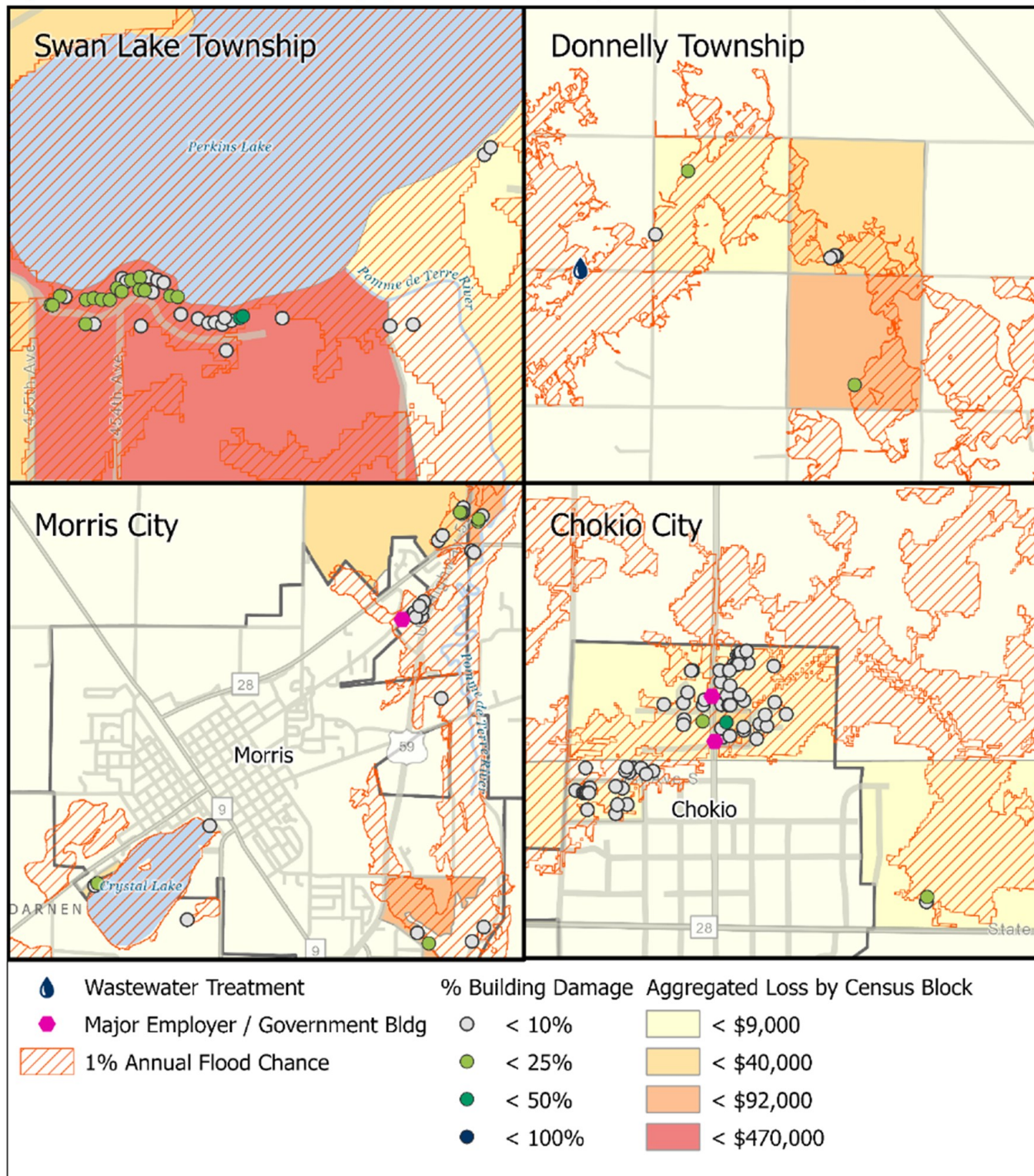
SOURCE: (ATSDR, 2020)

Figure 14. 1-percent annual chance floodplain in Stevens County



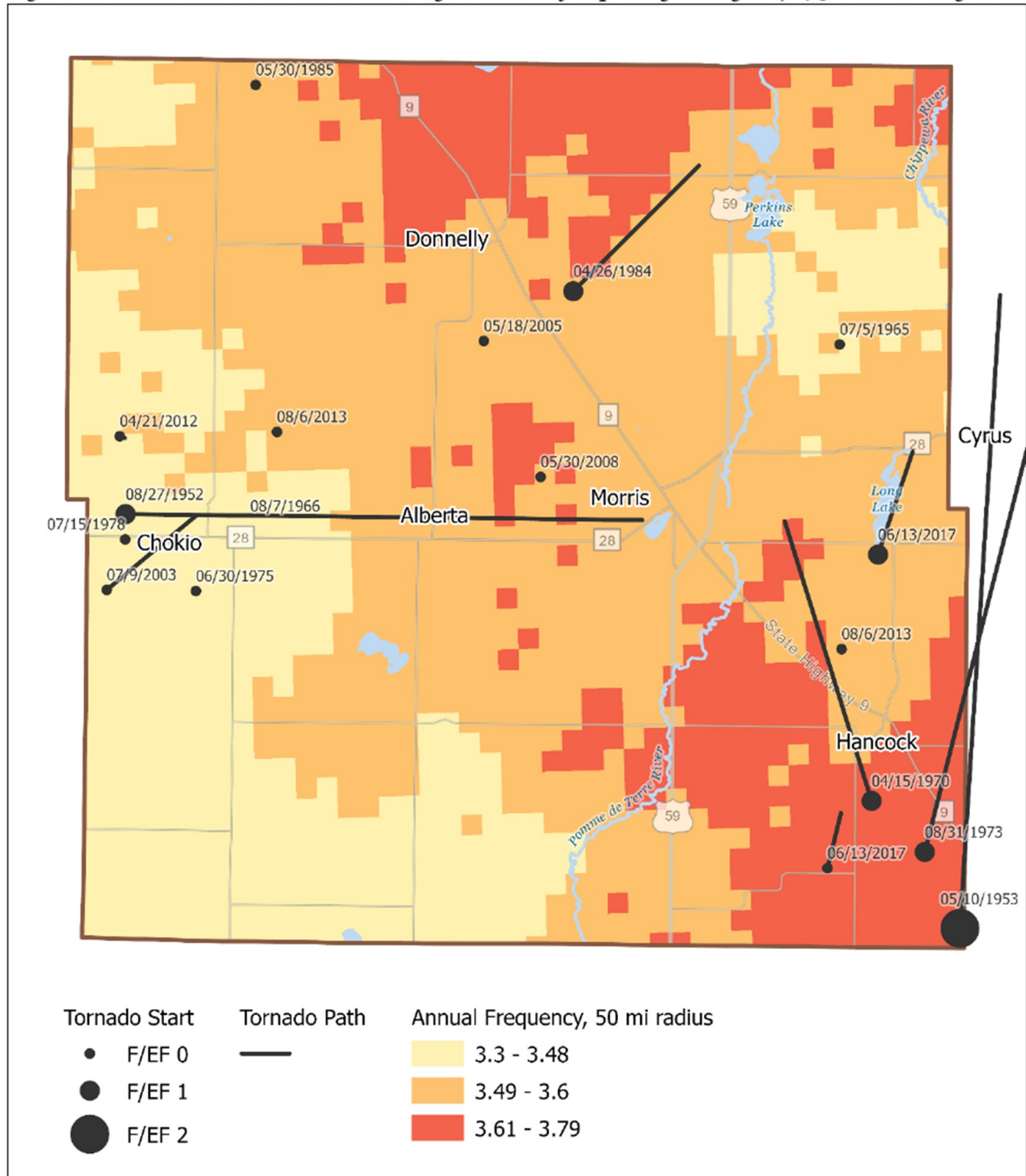
SOURCE: (MN DNR, 2021A)

Figure 16. Communities with significant estimated 1-percent annual chance flood loss



SOURCE: (FEMA, 2021C)

Figure 18. Tornadoes in Stevens County & annual frequency in region, 1950–February 2020



SOURCES: (MN DNR, 2019b; NCEI, 2021)

2008 CAMPUS PLAN



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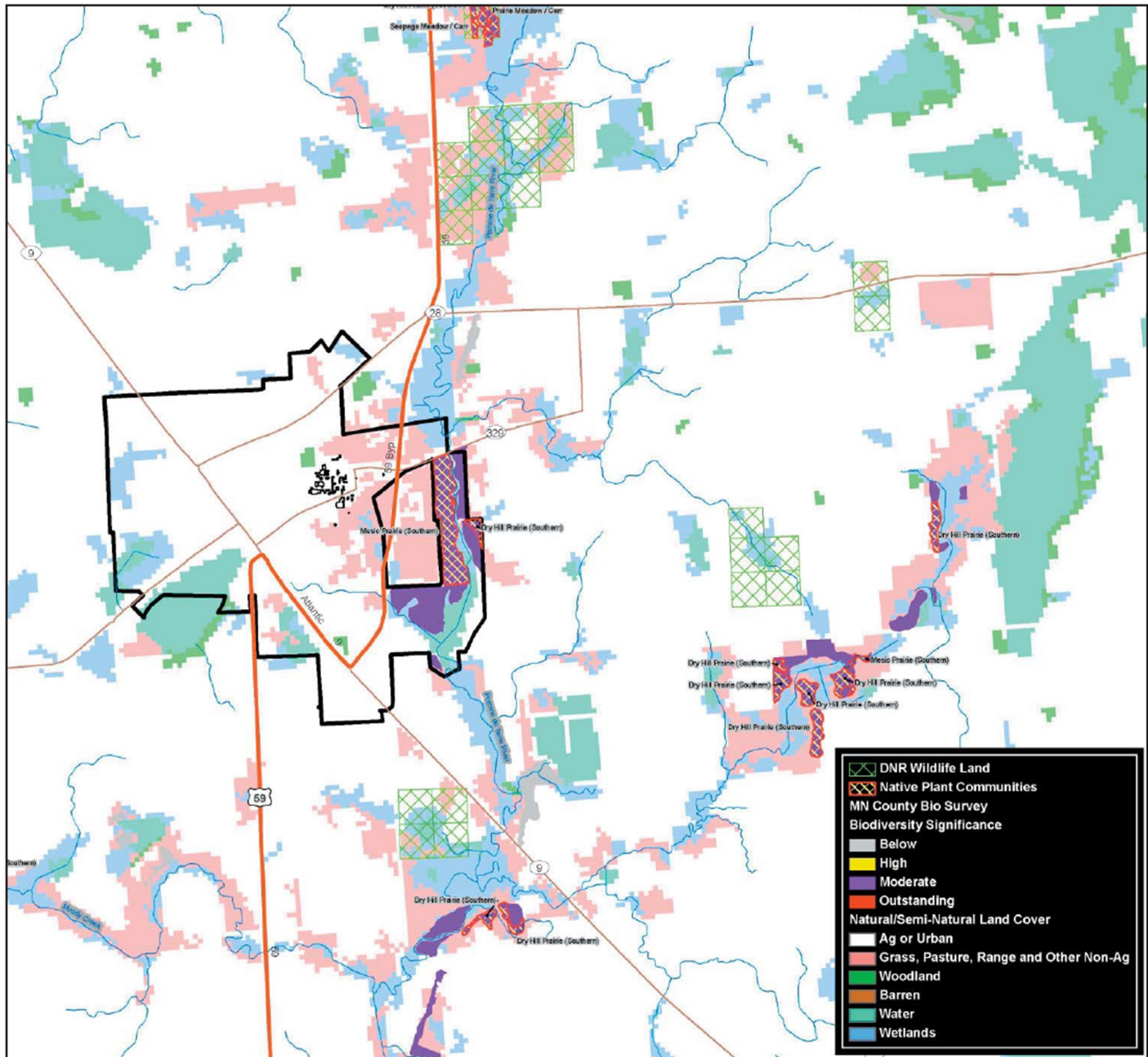


Figure 4.2b: Important Habitat Areas and Natural or Semi-Natural Land Covers in the Morris Region.

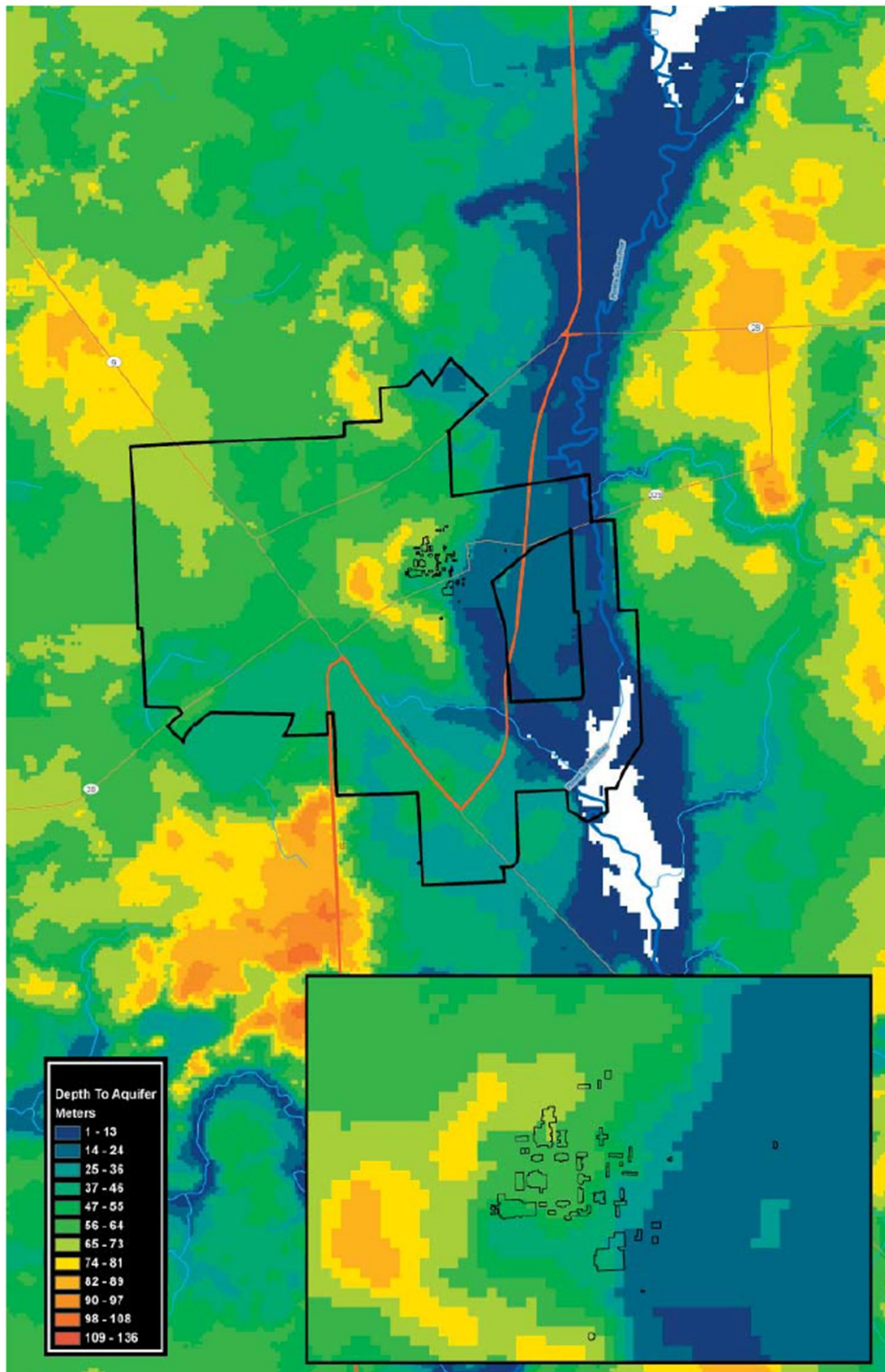


Figure 4.3b: Depth to Surficial Aquifer in the Morris Region



UNIVERSITY OF MINNESOTA MORRIS

Founded: 1960
 Undergraduate Students: 1690
 Graduate Students: 0
 Total Student Population: 1690
 Faculty/Staff Population: 390
 Total Campus Population: 2080
 Buildings: 33
 Gross Square Footage of Land: 164 acres/7,200,000 square feet

Parking Spaces: 1280
 Parking Acreage: 11.1 acres
 Parking Spaces/Person: 0.62
 Average Sq. ft. per Person: 3462

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