DRAFT
ONEIDA NATION
PRE-DISASTER MITIGATION PLAN
2020-2025

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PRE-DISASTER MITIGATION PLAN 2020-2025

ADOPTED

(INSERT DATE)

EMERGENCY MANAGEMENT CONTACT

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STEERING COMMITTEE

Name	Division/Department
Dana McLester	Comprehensive Housing
Deborah Thundercloud	General Manager
Debra Danforth	Comprehensive Health
Eric Boulanger	Police
Jacque Boyle	Public Works
Joel Maxam	Police
Justine Hill	Comprehensive Housing
Kaylynn Gresham	Emergency Management
Michelle Myers	Public Health
Patrick Pelky	Environmental Health, Safety, Land and Agriculture
Richard Figueroa	Emergency Management
Robert Keck	Risk Management
Tina Jorgensen	Governmental Services
Troy Parr	Planning, Zoning and Engineering
Victoria Flowers	Environmental Health, Safety, Land and Agriculture

RESOLUTION OF ADOPTION

(RESERVED FOR RESOLUTION OF ADOPTION)

FEMA APPROVAL LETTER

(RESERVED FOR FEMA APPROVAL LETTER)

PLAN CONTENTS

TABLES, FIGURES, AND MAPS

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

FOREWORD

The Oneida Nation strives to be a disaster resilient Tribal community by undertaking hazard mitigation planning and activities in an effort to reduce the costs and minimize the impact of disasters on its Tribal members and community.

Oneida Emergency Management is the lead department focusing on the needs of the Oneida Nation and the Oneida community in preparation for, mitigation from, response to, and recovery from emergencies or disaster that can affect the reservation. The Oneida Nation Pre-Disaster Mitigation Plan is an important component in the preparation and mitigation of disaster impacts. The original Pre-Disaster Mitigation Plan was developed to identify Oneida's major hazards, assess the risk and vulnerability of the Oneida Nation to those hazards, and recommend actions to reduce vulnerabilities. In this five-year plan update, all sections of the plan were reviewed and revised, as needed, and where applicable include updated data and demographics, risk assessments, mitigation goals, strategies, and action items.

The Oneida Nation Pre-Disaster Mitigation Plan is organized following the planning requirements found in 44 CFR Part 201.7 (*Tribal Mitigation Plans*).

Chapter 1 serves as an introduction to the Plan. It includes the purpose of the plan and identifies the regulations and assurances. It documents the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Chapter 2 describes and details background information on the Oneida Nation, including a historical summary, demographic information, land area and use, and critical facilities and infrastructure.

Chapter 3, the Risk Assessment, provides an identification of the type, location, and extent of hazards that can impact the Oneida Nation, and an assessment of the Oneida Nation's vulnerability to each hazard. The hazards were revised in this 2020 plan update to include human-caused hazards.

Chapter 4, the Mitigation Strategy, identifies the Oneida Nation's prioritized strategy for reducing the losses identified in the risk assessment. The chapter identifies the Oneida Nation's mitigation goals to guide the selection of activities to mitigate and reduce losses. These goals were reviewed and revised in this 2020 plan update to account for the addition of human-caused hazards to the risk assessment. This chapter also describes the Oneida Nation's capabilities, resources, and available funding to implement the identified mitigation strategies.

Chapter 5 describes the process for plan adoption and maintenance, and includes the method and schedule for monitoring, evaluating, and updating the plan. This chapter also describes the coordination efforts of the plan.

PLAN UPDATE SUMMARY

The Oneida Nation Pre-Disaster Mitigation Plan is primarily a natural hazard mitigation plan that has evolved since the first version was developed in 2009. However, this update now adds human-caused hazards in the risk assessment, including cybersecurity threats, hazard spills, and manure spills. This update builds upon the Risk Assessment and Mitigation Strategy sections that were developed in 2009 and updated in 2014. In addition, other plan elements were updated, as needed, to incorporate new

information about hazards that impact the Oneida Nation as well as internal changes to Tribal divisions and departments that address hazards or elements of hazards.

The following is a summary of the changes made to each chapter of the previous version of the *Oneida Nation Pre-Disaster Mitigation Plan.*

- Chapter 1 - Introduction: Updated information on regulations, assurances, the plan development timeframe, planning process participants, and public review information.
- Chapter 2 - Oneida Nation Background Information: Updated demographic information regarding enrollments and member households, land area and use data, and critical facilities and infrastructure data.
- Chapter 3 - Risk Assessment: Hazard occurrences were updated and hazard risk rankings were reassessed by the steering committee based on previous hazard occurrences and consensus. Disaster declaration information was updated. Critical facilities and infrastructure were reevaluated and updated. All hazard profiles, occurrences, and probabilities were updated. Hazard occurrences were updated to include all from January 1, 2000 to December 31, 2019. Hazard probabilities were updated based on updated occurrences. Three human-caused hazards – cybersecurity threats, hazardous spills, and manure spills – were added to the hazard profiles. The vulnerability assessment and assessment of potential losses were updated.
- Chapter 4 - Mitigation Strategy: The plan goals were updated to reflect the addition of human-caused hazards. The mitigation strategies were updated to account for completed projects, updated timetables, new project additions, and some revisions. Table A (below) lists the updates made to the identified mitigation strategies.
- Chapter 5 - Plan Adoption, Maintenance, and Coordination: Updated the plan maintenance process, the plan update schedule, and coordination information.

It would be remiss to not address the fact that this plan was updated during the COVID-19 pandemic. Recent events from COVID-19 have significantly challenged and altered day-to-day lives and Tribal operations for the Oneida Nation. Necessary changes to Tribal departments and staff have impacted normal operations and will make hazard response and mitigation implementation more challenging. It may take many years or decades for the Oneida Nation to return to the same level of capacity. With that in mind, a number of mitigation strategies have been updated to reflect the current state of affairs.

Table A: Mitigation Strategy Updates from Previous Plan

Hazard	Description of Updates
All Hazards	
Provide resources for pet care during natural hazard events.	Removed, no longer applicable
Continue to maintain and test sirens.	Removed, no longer applicable
Add a siren near Oneida Lake area for campers.	Revised date from 2016-2017 to 2020-2022. Added DPW to Responsible Entities.
Increase Emergency Management staff (including LTE, early-to-work and interns) to assist with community outreach.	Removed, no longer relevent. Coordinate with other depts.

Table A (cont'd): Mitigation Strategy Updates from Previous Plan

Hazard	Description of Updates
All Hazards (cont'd)	
Develop mass evacuation plan.	Addition
Develop pandemic/infectious disease plan.	Addition
Assess capability to provide food during sheltering.	Addition
Develop Continuity of Operations Plan.	Addition
Improve GIS data accessibility, quality, and interoperability.	Addition
Develop real-time dashboard of employed resources, response time, and emergency status.	Addition
Acquire stand-alone digital system for communications.	Addition
Evaluate communication tools and methods to improve interoperability efficiency and effectiveness.	Addition
Coordinate with support agencies through the implementation of the Oneida Nation Emergency Response Plan.	Revised priority from High to Medium
Maintain power lines through proper maintenance and efficient response to fallen power lines.	Added ATC to Responsible Entities.
Increase Emergency Management staff (including LTE, early-to-work and interns) to assist with community outreach.	Revised priority from High to Low
Winter Storm	
Ensure plowing and salting equipment is operational and available to handle potential emergencies.	Added Aging and Disability Services to Responsible Entities.
Utilization of snow fences or "living snow fences" (row of trees or other vegetation) to limit blowing and drifing of snow of critical roadway segments.	Added WisDOT to Responsible Entities.
Tornado and Strong Wind	
Improve access to shelter in Green Earth mobile home park (increase size and provide more reliable access).	Changed Priority from Medium to High. Updated timeline from 2016-2021 to 2020-2025. Changed Responsible Entities from Land Management to DPW and Environmental.
Establish procedures for dealing with the collection and disposal of large volumes of after-storm solid waste debris.	Updated timeline from 2016-2021 to 2020-2023. Changed Priority from High to Medium.
Inventory Oneida-owned homes that do not have basements.	Changed Priority from Medium to Low. Updated timeline from 2016-2021 to 2020-2025.
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Added Division of Public Works and Neighboring Fire Depts to Responsible Entities.

Table A (cont'd): Mitigation Strategy Updates from Previous Plan

Hazard	Description of Updates
Flood	
Routinely monitor and record the conditions of dams/impoundments and their water levels to ensure impoundments are maintained and functioning properly.	No longer relevent since one dam has been removed and the other has been remediated.
Ensure the residents located within a flood zone have information on emergency procedures if the dam/impoundment is compromised.	No longer relevent since one dam has been removed and the other has been remediated.
Continue reviewing physical engineering inspection and verification of Fort Howard Sludge Facility impoundment.	Revised priority from High to Medium, updated the timeline from 2016-2021 to Ongoing, and revised Responsible Entities to remove DATCP and add Environmental Safety, Land, and Agriculture.
Develop a storm drain maintenance program.	Updated timeline from 2016-2021 to 2020-2025
Inventory floodfighting equipment supplies (sandbags, pumps, etc.).	Added Division of Public Works; and Environmental Safety, Land, and Agriculture Division to Responsible Entities.
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Addition.
Excessive Heat	
Maintain programs to check on the elders and functional needs residents during excessive heat events.	Changed priority from Low to Medium.
Hail	
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Added Division of Public Works to Responsible Entities.
Dense Fog	
Provide information to area news media in order to broadcast emergency information that addresses safety precautions, including the need to avoid certain corridors or to slow down while traveling during a fog event.	Revised Responsible Entities to add NWS and media, and remove Emergency Management; and Communications Dept.
Drought	
Review code of ordinance to determine the emergency water conservation provisions in place for each water utility.	No longer relevent - has been replace with better defined strategy.

Table A (cont'd): Mitigation Strategy Updates from Previous Plan

Hazard	Description of Updates
Wildland Fires	
Review water sample results in private wells and recommend filtration as needed.	Addition.
Enact water restrictions and monitor water quality, when needed.	Addition.
Ensure mutual aid fire protection agreements are in place and they include provisions for wildfires.	Responsible Entities updated to add Emergency Management, and remove Environmental Safety, Land, and Agriculture Division.
Continue outreach efforts regarding open burning and fireworks laws.	Updated Responsible Entities to add Emergency Management; Green Bay Fire; Ashwaubenon Fire; and Tri-County Fire.
Cybersecurity Threats	**Added as a Human-caused Hazard.**
Develop a plan to address cybersecurity threats.	Addition.
Hazardous Spills	**Added as a Human-caused Hazard.**
Maintain staff capacity, certification, training to address issues.	Addition.
Continue to respond to and manage spills coming through the notification system.	Addition.
Manure Spills	**Added as a Human-caused Hazard.**
Continue to respond to and manage spills coming through the notification system.	Addition.
Continue water quality monitoring (including pre- and post-monitoring).	Addition.
Maintain staff capacity, certification, training to address issues.	Addition.

CHAPTER 1 - INTRODUCTION

Disasters occurrences are increasing steadily over time, and the last decade has seen the most disasters on record. These events have a significant economic and operational impact on Tribal governments, businesses, and individuals. To reduce vulnerabilities from hazard impacts and decrease the financial burden from recovery response, the Oneida Nation is working to minimize disaster losses through the implementation of mitigation projects and activities. Hazard mitigation activities are sustained actions taken to eliminate or reduce the long-term risk to human life and property from natural and human-caused hazards.

PURPOSE OF THE PLAN UPDATE

The *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* was developed to update the Oneida Nation's potential for exposure to natural and human-caused hazards and to identify mitigation strategies aimed at reducing the impact of hazards. The plan conforms to Federal Emergency Management Agency (FEMA) requirements for hazards mitigation planning consistent with the Code of Federal Regulations (44 CFR Part 201.7) and provides information on risk areas, risk magnitude, and strategies to reduce hazard impacts. In this plan, the Oneida Nation addressed issues related to the protection of lives and property from hazards, the protection of critical facilities, and to reduce costs associated with disaster relief and rescue efforts. Completion and approval of this plan maintains the Oneida Nation's eligibility for certain FEMA assistance, such as Public Assistance and Hazard Mitigation Assistance (HMA) grants. Tribal hazard mitigation plans are approved for 5-year periods and must be updated to maintain grant eligibility. Furthermore, having a hazard mitigation plan better prepares the Oneida Nation before a disaster, and positions them for a quicker recovery after a disaster, because the hazards, capabilities, and mitigation actions are documented and ready to be acted on.

REGULATIONS

Hazard mitigation planning is conducted in accordance with the Disaster Mitigation Act of 2000 (DMA2K). DMA2K was signed into law in October 2000 to attempt to stem the losses from disasters, reduce future public and private expenditures, and speed up response and recovery from disasters. DMA2K encourages mitigation planning to address hazards proactively to avoid and reduce negative impacts. DMA2K requires a Tribal nation to have an approved hazard mitigation plan in order to be eligible to apply for grant funding through the federal hazard mitigation grants programs. If a disaster strikes an area without an approved plan, a plan must be prepared within one year in order to receive funding.

Section 322 of the Disaster Mitigation Act of 2000 requires the development and submittal for approval of a Tribal hazard mitigation plan in order for a Tribe to be eligible for federal mitigation funds and certain other disaster assistance.

This Plan meets the requirements for a Tribal Plan under 44 CFR Part 201.7. Meeting the planning requirements of these regulations maintains the Oneida Nation's eligibility for obtaining the maximum federal disaster assistance available including the hazard mitigation grants available through the Stafford Act.

On January 29, 2013, President Obama signed the Sandy Recovery Improvement Act of 2013, which amended the Stafford Act. The 2013 Act included a provision to provide federally-recognized American Indian and Alaskan Tribal Governments the option to request a Presidential emergency or major disaster declaration independent of a state. Tribal governments may still choose to seek assistance under a state declaration request.

ASSURANCES

The Oneida Nation will comply with all applicable Federal statutes and regulations in effect with respect to the periods in which it receives grant funding, including 2 CFR Parts 200 and 3002. The *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* will be amended according to the process described in Chapter 5: Plan Adoption and Maintenance whenever necessary to reflect changes in Tribal or Federal laws and statutes.

PLAN DEVELOPMENT TIMEFRAME

The *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* was developed over an 18-month time period beginning in December 2019. Plan development concluded with the adoption of the plan by the Oneida Nation Business Committee on (reserved for date).

ACKNOWLEDGEMENTS

Oneida Emergency Management would like to acknowledge and thank the members of the Oneida Nation Pre-Disaster Mitigation Plan Steering Committee for their commitment to the development of the *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025*. The process was a multi-department effort with Oneida Emergency Management serving as the lead agency for the planning process and Community Assistance Planning LLC providing facilitation, and plan development assistance.

PRE-DISASTER MITIGATION PLAN STEERING COMMITTEE

The Oneida Nation established a steering committee to guide the development of the hazard mitigation plan (Table 1.1). The steering committee, comprised of Oneida Nation department representatives, provided valuable input to the plan throughout the planning process.

The steering committee held nine meetings from February 2020 to February 2021. Additional plan review occurred outside of these meetings via e-mail.

Table 1.1: Pre-Disaster Mitigation Plan Steering Committee

Name	Division/Department
Dana McLester	Comprehensive Housing
Deborah Thundercloud	General Manager
Debra Danforth	Comprehensive Health
Eric Boulanger	Police
Jacque Boyle	Public Works
Joel Maxam	Police
Justine Hill	Comprehensive Housing
Kaylynn Gresham	Emergency Management
Michelle Myers	Public Health
Patrick Pelky	Environmental Health, Safety, Land and Agriculture
Richard Figueroa	Emergency Management
Robert Keck	Risk Management
Tina Jorgensen	Governmental Services
Troy Parr	Planning, Zoning and Engineering
Victoria Flowers	Environmental Health, Safety, Land and Agriculture

PUBLIC PARTICIPATION

The public, represented as the General Tribal Council (GTC), is the governing body of the Oneida Nation and consists of all enrolled Oneida Tribal members who are 18 years of age or older who are present at a duly called GTC meeting. The GTC meets in January and July of each year, and may meet when the Oneida Business Committee Chairperson calls a special GTC meeting as needed or as requested through a GTC petition signed by at least 50 qualified GTC members. Since the adoption of the Oneida Constitution in 1936, the GTC has delegated much of its authority to the Oneida Business Committee.

The GTC was informed and involved with the process and adoption of the Oneida Nation 2020-2025 Pre-Disaster Mitigation Plan through communications and virtual public meetings.

Information about the Oneida Nation 2020-2025 Pre-Disaster Mitigation Plan was provided on the Oneida Nation website and virtual meetings were held for employees and the public.

PUBLIC INFORMATIONAL MEETING

Information about the Oneida Nation 2020-2025 Pre-Disaster Mitigation Plan was provided to employees during a virtual meeting held on (reserved for date). The same information was provided to the public at a virtual meeting held on (reserved for date). The overview information, the critical facilities map, and the mitigation action plan were explained at the meetings. The plan was available on the Oneida Nation website for review and comment.

PARTICIPATION BY OVERLAPPING JURISDICTIONS

A draft of the *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* was provided to Brown and Outagamie counties for their review and comment. No comments were received.

CHAPTER 2 - ONEIDA NATION BACKGROUND INFORMATION

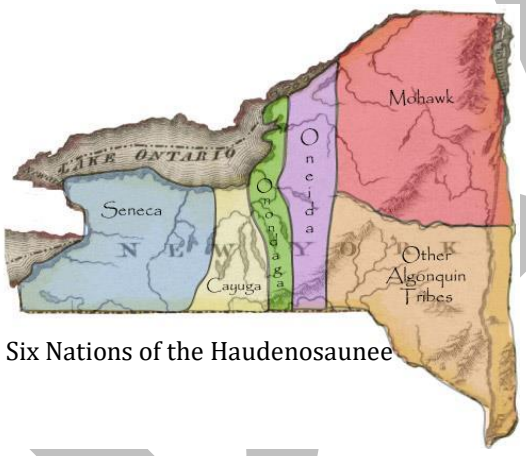
The Oneida Nation Reservation is located in northeast Wisconsin (Map 2.1), overlapping the boundaries of eastern Outagamie County and western Brown County. The Oneida Nation has a land area of 65,442 acres (Table 2.1).

The Town of Oneida in Outagamie County and the Village of Hobart in Brown County are entirely within the federal boundaries of the Oneida Nation Reservation. Three other Brown County communities lie partially within the boundaries of the Oneida Nation Reservation including the Village of Ashwaubenon, the City of Green Bay, and a small corner of the Town of Pittsfield in Brown County (Map 2.2).

The following provides information about Oneida's history, demographics, land use, and critical facilities.

HISTORICAL SUMMARY

The Oneida Nation is a sovereign Tribe with a long and proud history of self-government. With homelands in central New York State, it was one of the five original nations of the Haudenosaunee (People of the Longhouse, a.k.a. Iroquois Confederacy). These nations, the Mohawk, Oneida, Seneca, Cayuga, and Onondaga, were joined by the Tuscarora Tribe early in the 1700s to form the Six Nations of the Haudenosaunee (Oneida Nation Brochure, *Purple Book*, 1991).



Six Nations of the Haudenosaunee

In 1821, the Oneidas, along with a delegation of the Six Nations, met with representatives from the Menominee and Winnebago Nations to negotiate for fertile and open lands along the western Great Lakes. In an early 1822 Treaty, the Oneidas purchased joint use of five million acres of land with the Menominees and Winnebagos for a total sum of $5,000. The purchase was sanctioned by President Monroe in 1823. The area included lands along both sides of the Fox River, within a territory that would eventually become the state of Wisconsin in 1848.

Not long after Oneidas began arriving in Wisconsin, land started to be taken unfairly and unwillingly from them. Four years after President Monroe sanctioned the Oneidas' purchase of joint use of over five million acres, the Oneidas were defrauded much of this land when the United States and the Menominees signed the Treaty at Butt des Morts, without Oneida participation. Oneida lands were further reduced to an area of approximately 65,000 acres by the 1838 Treaty with the Oneidas. The boundaries designated by this treaty established what today is still recognized as the original Oneida Reservation.

At the close of the 19th century, Oneida lands once again fell prey to United States expansion. In 1887, Congress passed the Indian Allotment Act (also known as the Dawes Act), which allocated land to individuals. Through the next several years, reservation lands continued to dwindle. Since the concept of taxation was so new and not understood by the Oneida people, many Oneidas lost their lands by failing to pay their taxes. Many also lost their lands due to fraudulent methods of ruthless land companies and

the invasion of non-natives who desired their fertile lands. By 1924, all but a few hundred acres remained.

Reorganization of the government and stopping the loss of land came with the Indian Reorganization Act (IRA) of 1934. It provided the foundation for drafting and adopting the Oneida Constitution. In 1936, the Oneida Constitution transformed the Tribal government to an elected system with four members serving on a Tribal council known as the Executive Committee, later amendments to the Constitution expanded and renamed the Executive Committee to the Oneida Business Committee.

When Congress passed the Indian Gaming Regulatory Act in 1988, Congress provided a statutory framework for Tribes to conduct various classes of gaming on their reservations. In 1991, the Oneida Nation became the first Tribal government in Wisconsin history to enter into a gaming compact with the state. Within this Gaming Compact, and subsequent amendments, the Oneida Nation and the State of Wisconsin have attained major accomplishments for both parties, regarding economic impacts and stability, employment, and programs and services.

DEMOGRAPHIC INFORMATION

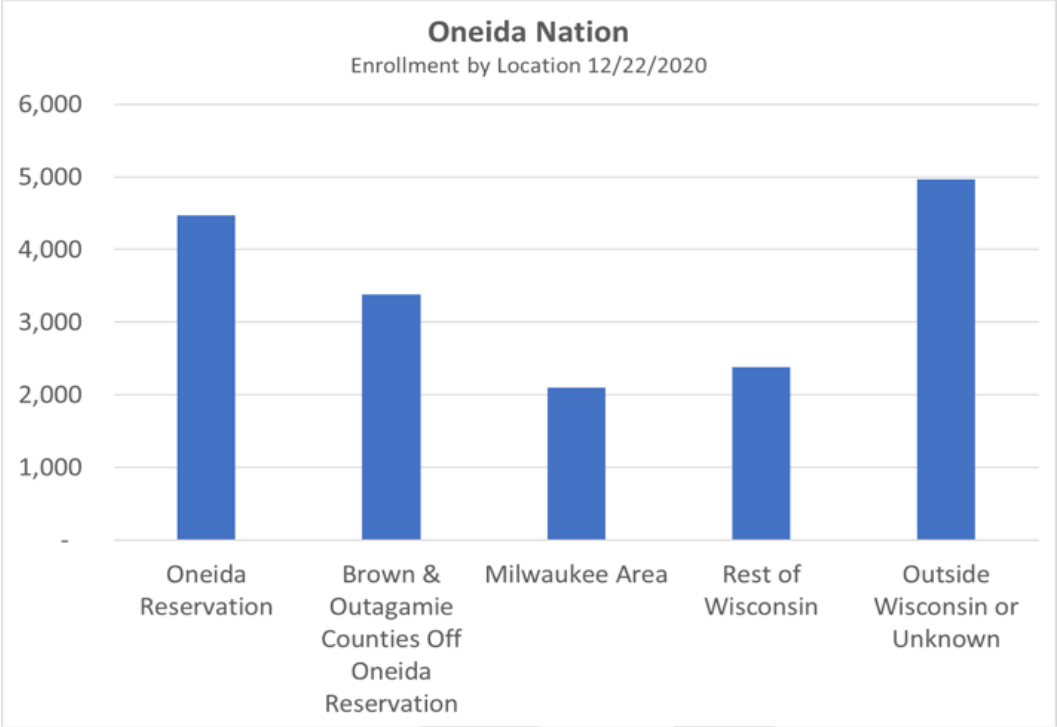
In order to plan for potential hazards, it is important to gain an understanding of the population and housing characteristics for the community. The Enrollments Office of the Oneida Nation is responsible for keeping Oneida enrollment information up-to-date and is the best source for demographic information related to Oneida members both within and outside the Reservation boundaries. Other demographic sources, such as U.S. Census Bureau, American Community Survey, provide data on the Reservation population; however, the data is not specific to Oneida members and includes nonmembers residing within the Tribal boundaries. The demographic information in this section of the plan was developed by the Oneida Nation Planning Department with data from the Enrollments Office.

ENROLLMENT

As of December 22, 2020, there were 17,308 Oneida enrolled members. Of these enrolled members, 4,471 (26%) live on the Oneida Reservation in Wisconsin, and 3,385 (20%) live in Brown and Outagamie Counties in Wisconsin but not within the Oneida Reservation boundaries. The rest of Oneida enrolled members (55%) live elsewhere (Figure 2.1).

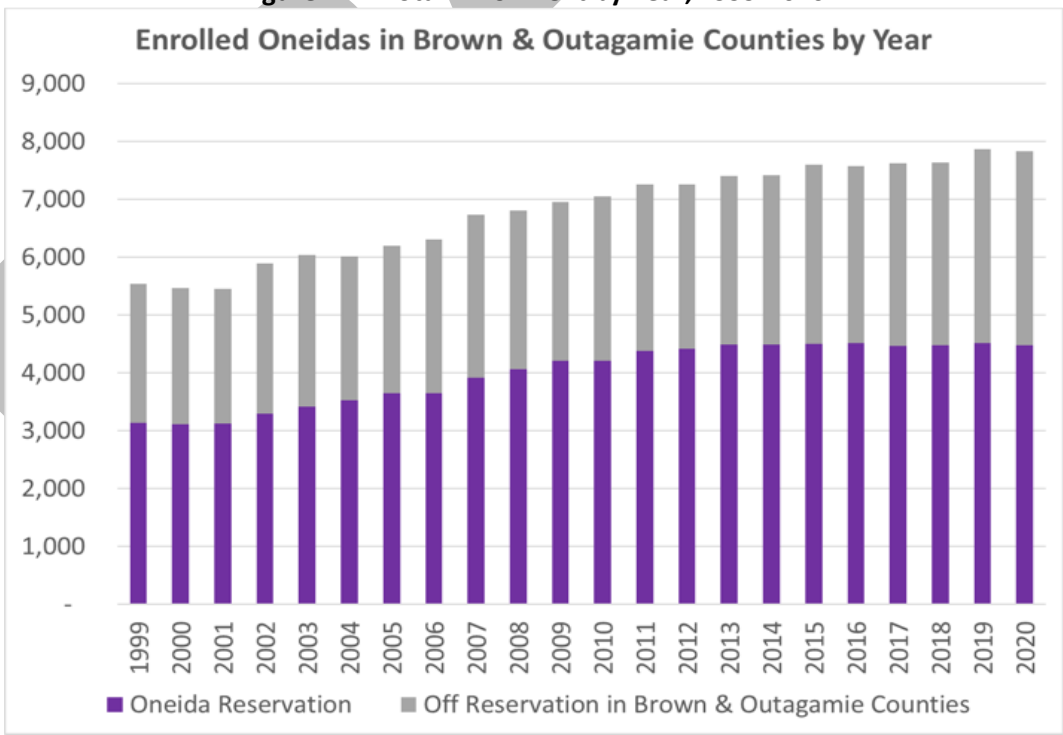
Of the Oneida members who live in Brown and Outagamie Counties, 1,691 (22%) are under 18 years old; 4,220 (54%) are aged 18-54; and 1,945 (25%) are 55 and older. Just over half of the Oneida members who live in Brown and Outagamie Counties (51%) are female. Figure 2.2 displays the growth of Oneida membership in Brown and Outagamie Counties since 1999.

Figure 2.1: Total Enrollment by Location, 2020



Source: Oneida Nation Enrollments Office, Oneida Nation Planning Department, 12/22/2020.

Figure 2.2: Total Enrollment by Year, 1999-2020



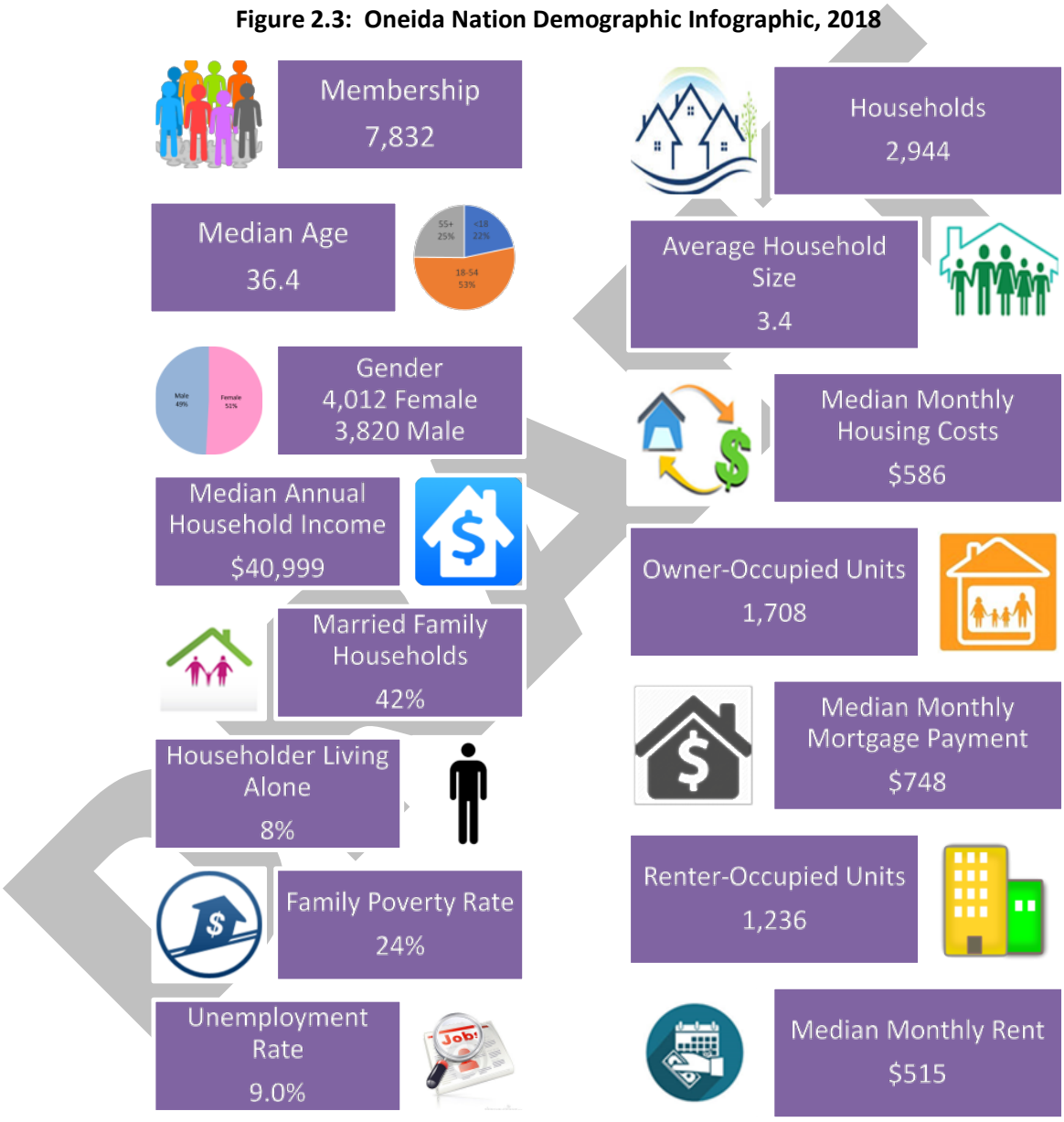
Source: Oneida Nation Enrollments Office, Oneida Nation Planning Department, 2020.

HOUSING

According to Oneida Enrollment records as of August 17, 2020, there were 2,944 enrolled Oneida households in Brown and Outagamie Counties.

Figure 2.3 details the demographics of Oneida members and their households (includes both on-reservation and Brown and Outagamie County off-reservation members).

Figure 2.3: Oneida Nation Demographic Infographic, 2018



Source: Oneida Nation Enrollments Office, Oneida Nation 2018 Quality of Life Survey.

LAND AREA AND USE

The Oneida Reservation has a land area of 65,442 acres (Table 2.1). The predominate land use type is agriculture (57%), followed by residential (14%) and forestry (14%).

Of the total acres, almost 60% is in the Town of Oneida (Outagamie County); about 33% is in the Village of Hobart (Brown County); 6% is in the City of Green Bay (Brown County); and <1% each in the Village of Ashwaubenon (Brown County) and the Town of Pittsfield (Brown County).

Table 2.1: Land Use, 2019

Land Use Type	Acres	% of Total
Agricultural	37,366.34	57%
Residential	9,456.67	14%
Forestry	9,319.67	14%
Grassland	2,399.59	4%
Transportation/Communications/Utilities	1,481.00	2%
Wetlands	1,442.70	2%
Commercial	1,129.56	2%
Industrial	1,058.16	2%
Recreational Acres	744.01	1%
Hydrology	645.46	1%
Quarry & Gravel Pit	398.76	1%
Total	**65,441.92**	**100%**

Source: Oneida GIS Department, 2019.

CRITICAL FACILITIES AND INFRASTRUCTURE

Critical facilities and infrastructure are buildings, structures, or systems that are relied upon during a hazard event, and if destroyed would present an immediate threat to life, public health, and/or safety. The Oneida Nation determined the criticality of their facilities and infrastructure based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions.

The Oneida Nation's critical facilities and infrastructure have been categorized to further define their functions, risk, and vulnerability. The designations include: essential facilities, hazardous materials facilities, lifeline utility systems, transportation systems, vulnerable facilities, Tribal services facilities, Tribal housing sites, and Tribal owned facilities. The critical facilities list is not exhaustive and a facility will only appear under one category even though some could be listed under more than one category. The definition of each critical facility designation was developed by the steering committee with guidance from the FEMA Hazards U.S. Database (HAZUS) and is as follows.

- **Essential Facilities** (Table 2.2): Facilities that are critical to the health and welfare of the entire population and are essential following hazard events, including emergency response facilities (police, fire, and emergency government), medical care facility, schools, and shelters.
- **Lifeline Utility Systems** (Table 2.3): Facilities/infrastructure that provide essential lifelines including potable water, wastewater, electric, and communications systems.
- **Vulnerable Facilities** (Table 2.4): Facilities that house vulnerable populations and require special attention before, during, and after hazard events.
- **Transportation Systems** (Table 2.5): Facilities/infrastructure that if compromised could impact movement through the reservation or evacuations. Includes highways, bridges, transit, and a small dam.
- **Hazardous Materials Facilities** (Table 2.6)**:** Facilities that may present or intensify a threat if impacted by hazards. Includes underground and aboveground storage tanks with flammable or combustible materials.
- **Tribal Services Facilities** (Table 2.7): Facilities where direct services are provided to Tribal members.
- **Tribal Housing Sites** (Table 2.8): Housing sites owned by the Oneida Nation.
- **Tribal Owned Facilities** (Table 2.9): Facilities owned by the Oneida Nation.

ONEIDA NATION CRITICAL FACILITIES AND INFRASTRUCTURE

The Oneida Nation and the Pre-Disaster Mitigation Plan Steering Committee identified structures, significant sites, and infrastructure owned by the Oneida Nation as critical. Because the Oneida Nation provides most of its own services to the people of the Oneida Nation, it was determined that all facilities and infrastructure are vital to that mission. Identified critical facilities and infrastructure for the Oneida Nation includes:

- Child care services facilities
- Schools
- Senior service facilities
- Food production sites
- Banks
- Warehouses
- Tribal service facilities
- Cultural heritage sites/museums
- Police department
- Manufacturing facilities
- Health care centers
- Community services
- Religious service facilities
- Wastewater treatment facilities
- Food processing sites
- Commercial sites
- Dams
- Water supply facilities
- Shelters

Table 2.2: Oneida Nation Essential Facilities/Infrastructure

Facility Name
Civic Center (**Assembly Area/Shelter**)
County H Recreation (**Assembly Area/Shelter**)
DPW and Groundskeeping (incl. warehouse units and storage)
Law Enforcement Center
Library at Green Earth Manufactured Housing Site (Tornado Shelter)
Lift Station #1
MIS Radio Building – Water Tower
Norbert Hill Center/High School/BC
Oneida Community Health Center
Oneida Food Distribution/Oneida Pantry Building
Skenandoah Complex - Oneida Administration Building
Social Services & 4 Cottages (incl. garage) (**Assembly Area/Shelter**)
Oneida Nation Elementary School (**Assembly Area/Shelter**)
Wastewater Treatment Facility

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.3: Oneida Nation Lifeline Facilities/Infrastructure

Facility/Infrastructure Name
Pump Houses (4)
Cell Towers (3)
Oneida Utilities and Storage
Water Towers (2)
Natural Gas Line
Technology infrastructure

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.4: Oneida Nation Vulnerable Facilities/Infrastructure

Facility Name
Airport Road Child Care Center
Lee McLester Complex (Anna John Residential Health, Elder Apts)
Main Casino/Radisson
Mason Street Casino
Three Sisters Head Start

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.5: Oneida Nation Transportation Facilities/Infrastructure

Facility Name
Dam (Finger Lake)
Ridgeview Plaza/Oneida Transit

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.6: Oneida Nation Hazardous Materials Facilities/Infrastructure

Facility Name
Four Paths Gas Station
Highway 54 One Stop
One-Stop EE
One-Stop Westwind
Oneida Market & One-Stop
Oneida Nation Farm
Oneida Travel Center
Packerland One Stop
Thornberry Creek at Oneida Golf Course (incl. clubhouse)
Tsyunhehkwa (incl. barns, shed, and warehouse)

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.7: Oneida Nation Tribal Services Facilities

Facility Name
Apple Orchard
Archiquette Building (incl. Library, Trust/Enfollments)
Barbershop on Packerland
Casino Warehouse
Centralized Accounting
Community Education Center
Comprehensive Housing Office
Conservation (Field Office) (incl. storage, garage, barn)
Cultural Heritage (incl. in SSB Cottage and former Language House)
Cultural Heritage Barn and Storage Warehouse
Elder Services (incl. garage and storage)
Employee Health Nursing
Employee Services
Former Woodland Church
Four Paths Tenant Building & Carwash
Gaming (incl. Training Center and Radisson parking structure)
Judicial
Land Management (incl. garages and maintenance building)
Little Bear Development/GIS
Norbert Hill Garages
Oneida Housing Warehouse
Oneida Lake Beach house
Oneida Police Department Evidence Storage
Oneida Printing
Post Office
Recreation Centers (incl. Site II and Three Sisters)
SEOTS Community Center
Veterans of Foreign Wars (VFW) Building
Veterans Services Building/Office
West Mason 4-Office Suite
West Mason Mall
Yukwatsistaya

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.8: Oneida Nation Tribal Housing Sites

Housing Site
Aliskwet Court
Cora House Housing
Corenelius Circle
Daniel Court
Elder Village
Flying Leaf Subdivision (Site II)
Green Earth Manufactured Housing Community
Green Valley
Hillside Housing
Joshua Heights
Legacy Lane
Manders Court
Ridgeland Housing
Rolling Hills Housing
Sand Hill Circle Housing
Site I
Standing Stone
Tall Feather Way
Three Sisters
Turtle Where It Ends
Uskah Village

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Table 2.9: Oneida Nation Tribal-Owned Facilities

Facility Name
Bay Bank – Mason St.
Bay Bank – Packerland Dr.
Former ONE Building – Schneider-leased
Irene Moore Activity Center
Log Homes 1-5
Macco's Floor Covering Building (Larsen Road)
Mini Mall
Oneida Car Wash
Oneida Mall
Oneida Nation Museum
Parish Hall (aka Episcopal Parish Hall)
Wingate

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee; 2020.

Map 2.1: Oneida Nation, Wisconsin

(RESERVED FOR MAP)

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

Map 2.2: Land Use

(RESERVED FOR MAP)

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

CHAPTER 3 - RISK ASSESSMENT

To provide a means to effectively evaluate potential hazard mitigation measures, a risk assessment has been developed for the Oneida Nation. The risk assessment helps in developing strategies to mitigate the identified hazards. The risk assessment identifies the hazards that impact the Oneida Nation, profiles the extent and severity of past hazard occurrences, and assesses the Oneida Nation's vulnerability to each hazard.

HAZARD IDENTIFICATION

The natural hazards addressed in this plan were based on the hazards addressed in the previous hazard mitigation plan as the natural hazards that impact the Oneida Nation. The steering committee also included a risk assessment for three human-caused hazards of greatest concern for the Oneida Nation, including cybersecurity, hazardous spills, and manure spills.

HAZARD PRIORITIZATON

Using a consensus-based prioritization exercise, the steering committee ranked the risk of each identified hazard. The steering committee made their determination on the ranking based on the number and frequency of hazard occurrences, the number of recorded injuries and deaths, the estimated reported damage costs, and the perceived impacts to the Oneida Nation based on the experiences of the steering committee members. Table 3.1 shows the hazard risk assessment ranking for the natural and human-caused hazards addressed in this plan. Hazard rankings are listed from highest perceived risk (#1) to lowest.

Although earthquakes were identified and addressed in the State of Wisconsin hazard mitigation plan, they have a minimal likelihood of occurring within the Oneida Nation Reservation. Therefore, a full risk assessment for earthquakes has not been included.

Table 3.1: Hazard Risk Ranking

Natural Hazards	Ranking
Winter storm	1
Tornado/Strong wind	2
Flood	3
Extreme cold	4
Excessive heat	5
Hail	6
Dense fog	7
Drought	8
Wildland fire	9

Human-caused Hazards	Ranking
Cybersecurity	1
Hazardous Spills	2
Manure Spills	3

Source: Oneida Nation Pre-Disaster Mitigation Plan Steering Committee, 2020.

HISTORY OF HAZARD OCCURRENCES

Natural Hazards

The National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC) maintains an online database of occurrences of past hazardous weather and the resulting deaths, injuries, and damages associated with each of these events. Event occurrence data can be queried for a local, county, or regional level, depending on the area covered by the hazard event. Data gathering for the Oneida Nation involved a compilation of occurrences for Brown and Outagamie counties, which required a manual removal of duplicate occurrences in the cases where single events impacted both counties. A query of historical natural hazard events from January 1, 2000 through December 31, 2019 resulted in 246 events (Table 3.2).

The data from the NCDC shows that of the 246 natural hazard events, the hazards occurring most frequently within the Oneida Nation Reservation from 2000 to 2020 include: winter storm (99 events), tornado/strong wind (77 events), flood (20 events), and extreme cold (18 events).

Some of the recorded hazard events may not have been specific to the Oneida Nation, as they may have been recorded for a larger regional area, or statewide. Additionally, some of the common hazard events, such as dense fog or hail may only get reported to the NCDC if it was an extreme event that caused injury, death, or significant property damage.

There have been five deaths and 16 injuries in the last 20 years as a result of natural hazards within the Oneida Nation Reservation. Four deaths resulted from extreme cold events, and one death resulted from a winter storm event. Eleven injuries occurred from winter storms, three from excessive heat, and two from tornado/strong wind. The costliest hazard events for the Oneida Nation in terms of property damage (not including crop or private damages) since 2000 has been winter storms ($669,700), flooding ($557,000), and tornado/strong wind ($419,100).

Table 3.2: Natural Hazard Occurrences Data, Oneida Nation 2000-2019

Natural Hazard (Listed in Ranked Order)	2020 Rank	# of Events[1]	Average #/Year	Deaths	Injuries	Reported Property Damage[2]	Risk[3]
Winter storm	1	99	5	1	11	$669,700	High
Tornado/Strong wind	2	77	4	0	2	$419,100	High
Flood	3	20	1	0	0	$557,000	Moderate
Extreme cold	4	18	1	4	0	$158,000	Moderate
Excessive heat	5	10	1	0	3	$0	Moderate
Hail	6	17	1	0	0	$0	Moderate
Dense fog	7	4	<1	0	0	$0	Low
Drought	8	1	<1	0	0	$0	Low
Wildland fire[4]	9	ND	ND	ND	ND	ND	Low
Total Events		**246**		**5**	**16**	**$1,803,800**	

1. January 1, 2000 to December 31, 2019 (20 years).
2. Does not include crop damages or private losses as no data was available.
3. Risk based on occurrences: High = >3 events/yr; Moderate = 1-3 events/yr; Low = <1 event/yr.
4. No data available (ND) since the area has a low wildfire risk according to WDNR.

Source: NOAA NCDC Storms Database, 2000-2020.

Human-caused Hazards

The steering committee identified the need to address cybersecurity threats, hazardous spills, and manure spills for the Oneida Nation. These human-caused hazards were determined to have the biggest impact on the Oneida Nation. The event occurrence information displayed in Table 3.3 was provided from local data sources. The cybersecurity information was provided by Oneida Nation Risk Management, and the information on spills, both hazardous and manure spills, was provided by the Oneida Nation Environmental, Health, Safety, Land and Agriculture Division using data queried from the Wisconsin DNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) online database.

A cybersecurity threat includes malicious attempts to damage or disrupt a computer network or system including the attempt to access files and infiltrate or steal data. Hazardous spills include the release of not only hazardous substances, but also non-hazardous substances that in significant quantities may cause damage to land and water resources. Manure spills occur when manure is released to the environment in a manner that exceeds the rate of nutrient uptake by plants or applied in a manner that is not identified in a nutrient management plan – an agricultural producer's plan for using the manure produced by their animals.

Of the 409 events displayed in Table 3.3, the human-caused hazard occurring most frequently within the Oneida Nation Reservation from 2010 to 2020 was by far hazardous spills (335 events). During the same time period, there were 71 manure spill events and 3 significant cybersecurity threats. There have been no human-caused events during this time period that resulted in any deaths or injuries, and there is no data on property damages associated with these events.

Table 3.3: Human-caused Hazard Occurrences Data, Oneida Nation 2010-2020

Man-made Hazard (Listed in Ranked Order)	2020 Rank	# of Events[1]	Average #/Year	Deaths	Injuries	Risk[2]
Cybersecurity Threats	1	3	<1	0	0	Low
Hazardous Spills	2	335	34	0	0	High
Manure Spills	3	71	7	0	0	High
Total Events		**409**		**0**	**0**	

1. January 1, 2010 to December 31, 2019 (10 years).
2. Risk based on occurrences: High = >3 events/yr; Moderate = 1-3 events/yr; Low = <1 event/yr.
Note: No data available on property damage.

Source: Oneida Nation Risk Management (for cybersecurity threats), WDNR BRRTS database (for spills); 2000-2020.

DISASTER DECLARATION HISTORY

There have been 13 major disaster declarations issued for Wisconsin since 2010. The Oneida Nation was included in two of the declarations. The major disaster declarations that included the Oneida Nation occurred in 2019 (DR-4459-WI) for severe storms, tornadoes, straight-line winds, and flooding; and in 2020 (DR-4520-WI) for the Covid-19 Pandemic.

VULNERABILITY ASSESSMENT

The vulnerability assessment describes the frequency, severity, and probability of future occurrences of hazards that could impact the planning area. The hazard profiles describe the characteristics of each hazard and how it has affected the Oneida Nation, and the potential future risk to people and property. An assessment of potential losses describes Oneida Nation's economic vulnerabilities.

ASSESSMENT OF POTENTIAL LOSSES

The Oneida Nation's assessment of potential losses is based on the value of the identified critical facilities (i.e. its assets). An assessment of potential losses of assets is ideally calculated for each hazard; however, only the flood hazard has a defined risk area, so it is the only hazard for which an estimation of potential losses can be derived.

Value of Assets/Estimation of Potential Losses

The Oneida Nation has identified 102 primary critical facilities within the Reservation boundaries. The Oneida Nation owns all of its critical facilities. According to Risk Management, the total structural value of the critical facility assets is $13,118,529 (including contents). Therefore, the potential dollar loss to assets for the Oneida Nation is over $13.1 million in a "worst case scenario" of total damage of all buildings in the planning area.

An estimation of potential losses was derived for flooding hazard since the hazard area can be defined as the 100-year floodplains and properties within the hazard area can be identified. All other hazards can occur anywhere within the Oneida Nation Reservation and have no defined hazard area in which to determine vulnerable properties. Some hazards (such as winter storms and tornadoes) have the potential to impact the entire planning area and it can be assumed that all assets in the planning area are equally at risk. Therefore, all identified critical facilities are potentially at risk from natural hazards within the Oneida Nation Reservation.

Since there is no reliable building height data for Oneida Nation buildings within flood hazard areas, a "worst case scenario" of total structural damage for buildings in all of the flood zones of the planning area was assumed in estimating potential dollar losses to vulnerable structures.

All potential loss information was obtained from the Oneida Nation Risk Management department. The parcel maps and the FEMA 100-year floodplains were merged using GIS to determine at-risk structures in the planning area.

NATURAL HAZARD PROFILES

Each natural hazard that has been identified as impacting the Oneida Nation has been profiled in this section. The hazard profile describes the characteristics of past natural hazards, and their impacts, frequency, and probability of future hazards that could impact the Oneida Nation.

Hazard risk probabilities are represented as high, moderate, and low. High risk probability hazards are defined as hazards that occur an average of more than three times per year; moderate risk probability

hazards are those that occur an average of one to three times per year; and low risk probability hazards occur less frequently than one time per year.

The natural hazards profiled in this section includes Winter storm, Tornado/Strong wind, Flood, Extreme cold, Excessive heat, Hail, Dense fog, Drought, and Wildland fire.

Note: Human-caused hazards have been assessed following the natural hazards.

Climate Change Impacts

The evaluation and assessment of natural hazards in this plan and the determination of the Oneida Nation's vulnerability to natural hazards is based on the occurrence of past natural hazards. However, climate change may make past trends an unreliable resource for predicting future impacts, frequency, and vulnerabilities. According to a climate change report by Wisconsin scientists (*Wisconsin Initiative on Climate Change Impacts (WICCI)*, 2011[1]), climate change has and will continue to impact average annual temperatures causing increased frequency in heat waves; increased frequency and intensity of severe rainstorms; shorter, warmer winters with decreased lake ice cover; increased drought frequency, and other impacts.

Based on the WICCI report, the Oneida Nation, along with most of Wisconsin, is likely to become somewhat wetter, with a modest increase in total precipitation and the number of intense rainfall events. Climate change impacts vary by season, with winter experiencing the greatest warming and most likely increase in precipitation.

Information about climate change impacts for each natural hazard has been included within the applicable section based on calculated predictions from the WICCI report.

WINTER STORM

Winter storms can vary in size and strength, and can include heavy snowstorms, blizzards, freezing rain, sleet, and ice storms. The aftermath of a winter storm can impact a community or region for weeks, and even months.

Winter storms can occur as a single event or they can occur in combination, which can make an event more severe. A variety of weather phenomena and conditions can occur during winter storms. For purposes of classification, the following are National Weather Service descriptions of winter storm elements:

Heavy Snowfall – the accumulation of six or more inches of snow in a 12-hour period, or eight or more inches in a 24-hour period.

Winter Storm – the occurrence of heavy snowfall accompanied by significant blowing snow, low wind chills, sleet or freezing rain.

[1] Wisconsin's Changing Climate: Impacts and Adaptation. 2011. Wisconsin Initiative on Climate Change Impacts. Nelson Institute for Environmental Studies, University of Wisconsin-Madison and the Wisconsin Department of Natural Resources, Madison, Wisconsin. https://wicci.wisc.edu/wisconsin-climate-change-impacts-adaptation/

Blizzard – the occurrence of sustained wind speeds in excess of 35 miles per hour accompanied by heavy snowfall or large amounts of blowing or drifting snow.

Ice Storm – an occurrence where rain falls from warmer upper layers of the atmosphere to the colder ground, freezing upon contact with the ground and exposed objects near the ground.

Freezing drizzle/freezing rain – the effect of drizzle or rain freezing upon impact on objects that have a temperature of 32 degrees Fahrenheit or below.

Sleet – solid grains or pellets of ice formed by the freezing of raindrops or the refreezing of largely melted snowflakes. This ice does not cling to surfaces.

Much of the snowfall in Wisconsin occurs in small amounts of between one and three inches per occurrence. Heavy snowfalls (producing at least eight to ten inches of accumulation) happen on the average about five times per season. True blizzards are rare in Wisconsin, but are more likely to occur in northwestern Wisconsin. All of Wisconsin experiences blizzard-like conditions during heavy snowstorms when gusty winds cause severe blowing and drifting snow.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 99 significant winter storm events in the last 20 years from January 1, 2000 to December 31, 2019 (including blizzards and heavy snow). Many of these hazard events may not have been specific to the Oneida Nation, and may have been recorded for a larger regional area.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately five significant winter storm events per year.

Climate Change Impacts

The combination of warmer temperatures and changing precipitation patterns suggests that we will see a significant increase in the amount of winter precipitation falling as rain rather than snow and that freezing rain is more likely to occur. Potential winter storm impacts from climate change include an increase in winter precipitation events (from heavy rain or snow) resulting in an increase in flooding, damage from ice breakup and jams on waterways, and transportation impacts from unsafe travel conditions. Additionally, warmer winter low temperatures will enable over-wintering of pests leading to crop yield loss and increased remediation costs.

Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **very high** probability of experiencing a winter storm event in any given year.

Winter storms tend to be a regional phenomenon in that they affect much of east central Wisconsin on nearly all of the occasions in which they affect the Oneida Nation.

Winter storms have no defined hazard area within the planning area. Past events have been relatively uniform across the planning area or the larger regional area.

Impacts

Death and Injury

One death, and 11 injuries have been reported from significant winter storm events for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019 according to NCDC data.

The one death occurred during a winter storm event on January 11, 2008 and the 11 injuries occurred during one winter storm event on December 23, 2008.

Critical Facilities

Critical facilities are not greatly impacted by winter storms; however, personnel associated with the critical facilities face greater workload burdens. Street and road crews have an increased burden of snow removal (and salting in the case of ice storms) during and after winter storms. In some cases, winter storms can be so severe that these crews have to be called off the road for a period of time.

Hospitals and clinics may see increased patient loads for frostbite, pedestrian and vehicular accident injuries, and heart conditions resulting from the shoveling of heavy snow during and following winter storms. Sometimes, hospitals and clinics have difficulty getting their own staff to report to work because of the storm, which increases the workload for present staff (double shifts, etc.).

Police personnel respond to more accidents during winter storms. Utility and telephone companies respond to downed electrical and telephone lines, especially in the case of ice storms. Rescue services can receive more calls because of accidents or health related circumstances. Schools may need to have early dismissal or cancel classes altogether. Shelters may take in additional persons during winter storms. Airports face flight delays or cancellations.

Economic Impacts

Loss of power during or after winter storms often forces businesses and manufacturing facilities to close down until power is restored. Loss of access due to snow- or ice-covered roads can have a similar effect, especially when trucks cannot travel on major thoroughfares to make “just in time” deliveries to business and industry in the planning area. The effects are particularly difficult when the storm is widespread.

Based on previous damages reported by the NCDC, there has been $669,700 in property damages from winter storms over the past 20 years.

TORNADO AND STRONG WIND

Tornadoes are violently rotating columns of air that extend from a thunderstorm to the ground. They look like funnels and can occur any time, bring intense wind, and can happen anywhere. Most tornadoes have wind speeds less than 110 miles per hour, are about 250 feet across, and travel a few miles before dissipating. Tornadoes can destroy buildings, flip cars, and create deadly flying debris. Figure 3.1 shows the Enhanced Fujita Scale (EF Scale), which is recognized as the acceptable tornado magnitude measurement rating.

The United States is divided geographically into four zones for the occurrence and strength of extreme wind. Wisconsin lies along the northern edge of Zone IV, the nation’s maximum frequency zone for tornadoes (commonly known as “tornado alley”), which extends northeastward from Oklahoma into

Iowa and then across to Michigan and Ohio. Zone IV includes most of the southern two-thirds of Wisconsin and has experienced the strongest tornado activity that has affected the entire U.S., with wind speeds of up to 250 miles per hour being recorded. This zone includes the Oneida Nation Reservation.

Wisconsin's tornado season runs from the beginning of April through September, but tornadoes have occurred in Wisconsin in every month except February. The most severe tornadoes statewide typically occur during the months of April, May, and June.

Strong winds, including downburst winds, strong/high winds, and thunderstorms can often be just as damaging as a tornado. Downburst winds are strong, concentrated, straight-line winds created by falling rain and sinking air that can reach speeds of 125 miles per hour. Strong or high winds are high speed winds that can be as damaging as a tornado, but remain nearly straight line and are not the rotating column of air that is characteristic of a tornado. A severe thunderstorm has winds that exceed 58 miles per hour, produces a tornado, or drops surface hail at least 0.75 inch in diameter.

Figure 3.1: Tornado Magnitude Measurement, EF Scale

Enhanced Fujita Scale damage and windspeed estimates						
Damage	Little Damage	Minor Damage	Roof Gone	Walls Collapse	Blown Down	Blown Away
EF5	X	X	X	X	X	X
EF4	X	X	X	X	X	
EF3	X	X	X	X		
EF2	X	X	X			
EF1	X	X				
EF0	X					
Estimated windspeed (mph)	65-85	86-110	111-135	136-165	166-200	200+

Source: U.S. Air Force graphic/Senior Airman Thomas Trower.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 77 significant tornado and strong wind events (including thunderstorm wind, high wind, and strong wind) in the last 20 years from January 1, 2000 to December 31, 2019. Almost all of these events were strong wind events and just two were classified as tornadoes.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately four significant tornado and strong wind events per year.

Climate Change Impacts

A predicted increase in stronger and more frequent storms than in the past increases the risk for deaths, injuries, and property damage from tornado and strong wind events.

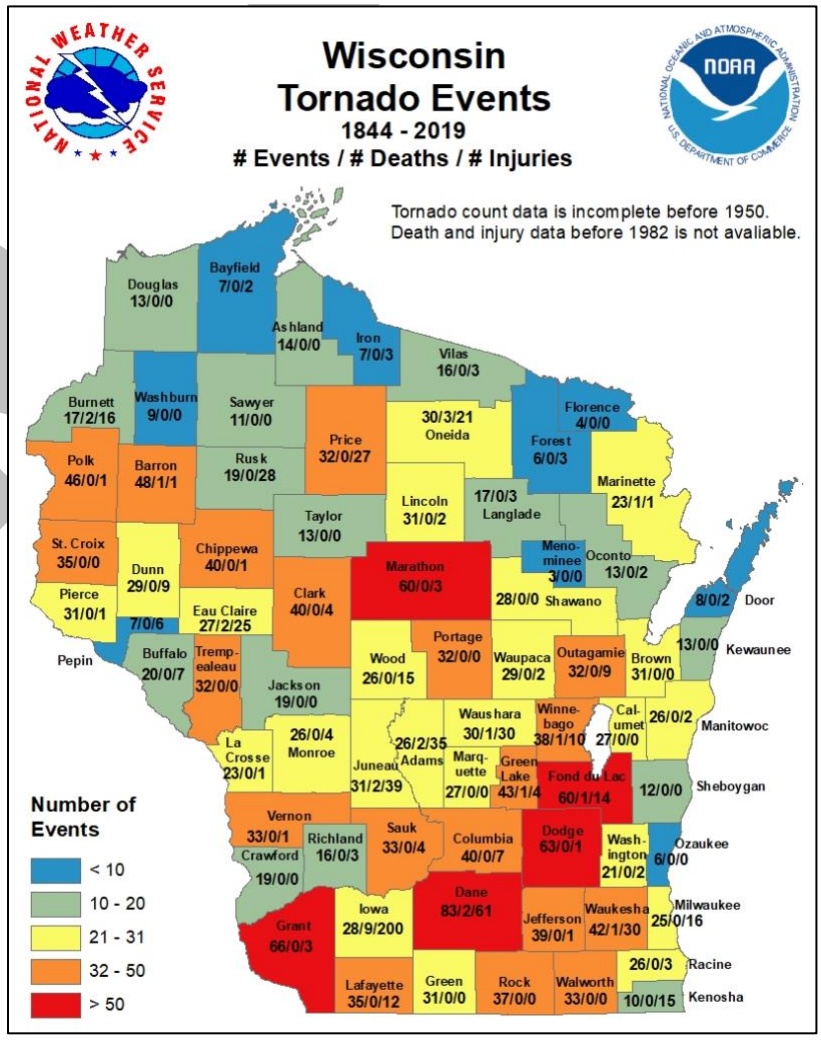
Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **very high** probability of experiencing a tornado or strong wind event in any given year.

Tornadoes have no specific defined hazard area within the Oneida Nation Reservation. Past events have been relatively uniform across the planning area; however, manufactured home residents are often most vulnerable to death, injury, and property damage from tornadoes as these homes often lack foundations, tie-downs, and/or basements. Therefore, for the Oneida Nation, the Green Earth manufactured housing community off of Highway H is at greatest risk from this hazard.

To compare the impact of tornado events to Wisconsin, see Figure 3.2 and note that the Oneida Nation has experienced approximately 27 tornadoes from 1844-2019 with no resulting deaths or injuries.

Figure 3.2: Wisconsin Tornado Events, 1844-2019



Impacts

Death and Injury

No deaths, but two injuries have been reported from tornado and strong wind events for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019, according to NCDC data.

Critical Facilities

Hospitals can see increases in patient load following tornadoes. Schools can sustain damage, and if they do not sustain damage, they often function as temporary shelters in the aftermath of tornadoes. Police and fire departments often see an increased workload during and after tornadoes. Power lines and communication towers are at risk of being blown down.

Any critical facility in the planning area may be impacted by a tornado; however, schools and manufactured home communities are of particular concern during

tornadoes. Schools are a primary concern during tornadoes for three reasons: (1) they have large numbers of people present, either during school or as a storm shelter; (2) they have large span areas, such as gyms and theaters; and (3) they house a vulnerable population during the day time for most of the year.

The National Weather Service has found that unanchored manufactured homes start to fail due to wind speed and wind stress at lower wind gusts/wind speeds than permanent homes. Therefore, manufactured home communities are a primary concern during tornadoes. The use of anchoring systems and foundations can help reduce damage to manufactured homes caused by tornadoes and strong winds.

Economic Impacts

A tornado can have a significant economic impact to a local economy due to irrecoverable businesses and infrastructure damages. A heavily damaged business often never reopens after the event.

Infrastructure damage is usually limited to above ground utilities, such as power lines. Damage to utility lines can usually be repaired or replaced relatively quickly. Damage to roads and to railroads is also localized; if these facilities cannot be repaired promptly, alternate transportation routes must be established.

Public expenditures include search and rescue, shelters, and emergency protection measures. The greatest public expenditures for a community result from repairs to public facilities, and cleanup and disposal of debris. Cleanup and disposal can be an issue, especially if there is limited landfill capacity near the damage site.

Since manufactured homes are especially vulnerable to tornadoes, a "worst case scenario" for this hazard would involve the total destruction of the manufactured homes within the Oneida Nation Reservation.

Reported property damage from significant tornadoes and strong wind events for the Oneida Nation has totaled $419,100 over the last 20 years, according to the NCDC.

FLOODING

A flood is a rising and overflowing of a body of water especially onto normally dry land. FEMA defines a flood as a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waters, unusual and rapid accumulation or runoff of surface waters from any source, or mudflow.

The type of flooding that can impact the Oneida Nation includes riverine, stormwater, and dam failure flooding. An additional flooding concern for Oneida Nation is the threat of overflow of liquid manure in holding pits and lagoons from large-scale farms.

Riverine Flooding

Riverine flooding occurs when water draining from a watershed, whether from rainfall or melting snow, exceeds the capacity of the river or stream channel to hold it. Water overflows onto the nearby low-lying lands (floodplains). In hilly and mountainous areas flooding is likely to be rapid, deep, and

dangerous. In relatively flat floodplains, land may stay covered with shallow, slow moving water for days or even weeks.

Stormwater Flooding

Flooding often occurs in urban areas due to stormwater management issues. Stormwater drainage systems have been designed to manage most storms. However, larger storms that occur in a short time period are of such intensity that the drains cannot handle all the stormwater and flooding results. Localized stormwater flooding can also occur if storm drains in the area are blocked. It is important to keep the drainage system clear of litter and debris.

Newly built property developments incorporate stormwater management measures such as stormwater detention and retention basins that provide greater flood protection. Detention basins slow the flow of stormwater being carried in the drainage system by storing it for a time, while retention basins (i.e. ponds) hold water during most of the year. Detention basins often double as parks and playing fields.

Dam Failure Flooding

Flooding can result from a dam failure. A dam is an artificial barrier, together with its appurtenant works, constructed in or across a waterway for the primary purpose of impounding or diverting water. Dam failure can occur for a number of reasons, including overtopping caused by floods that exceed the capacity of the dam, deliberate acts of sabotage, structural failure of materials used in dam construction, movement and/or failure of the foundation supporting the dam, settlement and cracking of concrete or embankment dams, piping and internal erosion of soil in embankment dams, or inadequate maintenance and upkeep.

According to the Environmental, Health, Safety, Land and Agriculture Division, there is one dam remaining within the Oneida Nation Reservation, which has been modified to become a very low threat dam.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 20 significant flooding events (including flood, flash flood, heavy rain, and stormwater flooding) in the last 20 years from January 1, 2000 to December 31, 2019. Some of these reported occurrences may not have been specific to the Oneida Nation, and may have been recorded for a larger regional area.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately one significant flooding event every year.

Climate Change Impacts

An increase in total precipitation and in the number of intense rainfall events – as predicted by Wisconsin climatologists, will result in an increased risk of flooding. With more intense and frequent flooding events comes greater risks to public safety, property damage, rising threats to drinking and wastewater systems, more stress on the durability of roads and buildings, an increase in shoreline flooding and erosion, overwhelmed stormwater management infrastructure, dam failures, and crop losses.

Vulnerability

FEMA uses the “base” flood as the basis for its regulatory requirements and flood insurance ratings. The hazards mitigation plan also uses the base flood for planning purposes. The base flood is the one

percent chance flood, or the flood that has a one percent (one out of 100) chance of occurring in any given year. The one percent chance flood is commonly referred to as the "100-year flood."

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a moderate probability of sustaining a 100-year flood in any given year.

The areas at greatest risk from flooding include the "100-year floodplain" areas of the Oneida Nation Reservation. FEMA Flood Insurance Rate Maps also call this the Special Flood Hazard Area, or "A Zone." The base floodplains for the planning area are shown in Map 3.1. Properties that potentially lie within the floodplain and would be affected by the 100-year flood are shown in Map 3.2.

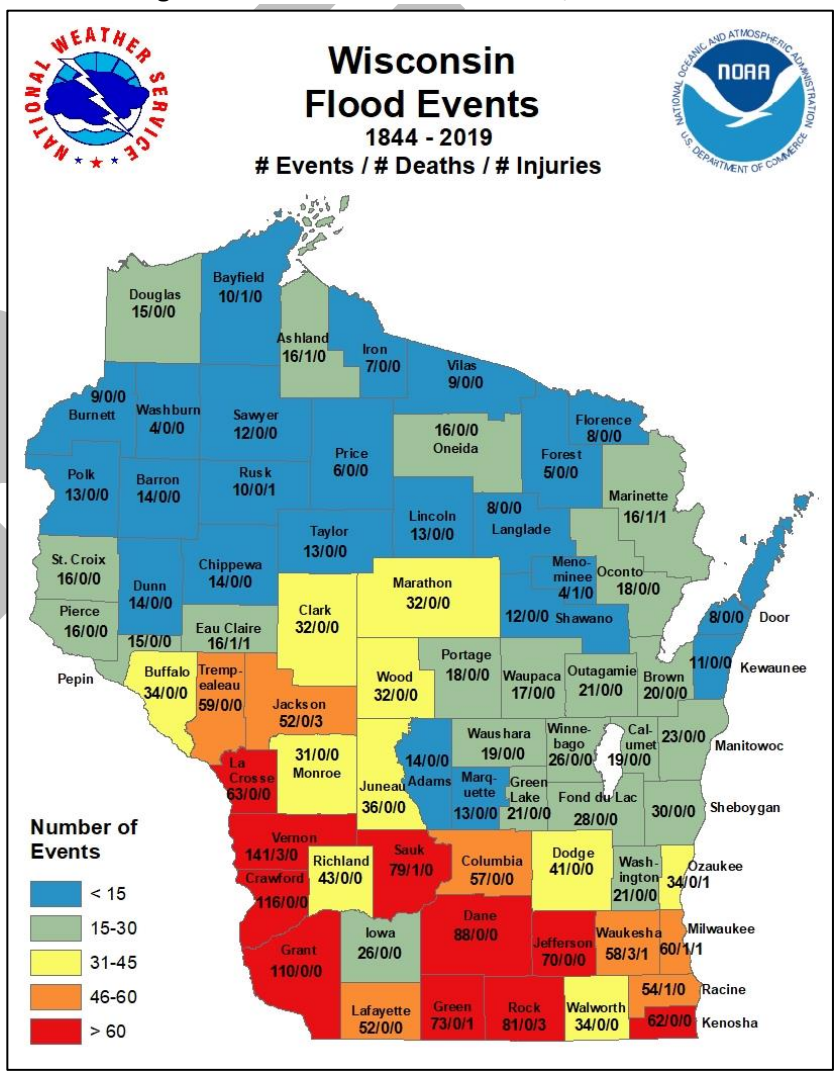
To compare the impact of flood events to Wisconsin, see Figure 3.3 and note that the Oneida Nation has experienced approximately 17 flood events from 1844-2019 with no resulting deaths or injuries.

Repetitive Loss Properties

According to FEMA records, there are no repetitive loss properties within the Oneida Nation Reservation.

Repetitive loss structure is a term that is usually associated with the National Flood Insurance Program (NFIP) to describe a structure, covered by a contract of flood insurance under the NFIP, that has suffered flood damage on two or more occasions over a 10-year period ending on the date when a second claim is made, in which the cost to repair the flood damage, on average, equals or exceeds 25 percent of the market-value of the structure at the time of each flood loss event. For the Community Rating System (CRS) of the NFIP, a repetitive loss property is any property, which the NFIP has paid two or more flood claims of $1,000 or more in any given 10-year period since 1978. A repetitive loss structure is important to the NFIP, since structures that flood frequently put a strain on the flood insurance fund. It should also be important to a community because residents' lives are disrupted and may be threatened by the continual flooding.

Figure 3.3: Wisconsin Flood Events, 1844-2019



Impacts

Death and Injury

No deaths or injuries from flooding have been reported for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019, according to the NCDC.

Critical Facilities

Some critical facilities located in or near floodplains could be impacted during flooding making the facility inaccessible, or the services unavailable. Vulnerable populations could require relocating during flooding events.

Economic Impacts

Flooding can have significant economic impact to a local economy from resulting damage to businesses and infrastructure. During floods, property and belongings may be destroyed and people may become homeless. Public expenditures will include police, fire, and emergency management personnel and shelters, and may also include search and rescue. Great public expenditures result from repairs to public facilities and cleanup. It often takes years for affected communities and businesses to rebuild and return to normalcy.

Loss of road access is a major flood impact that affects all residents and businesses, not just those who own property in the floodplain. Sometimes, the loss is temporary, such as during a flood. However, on some occasions, the loss of transportation lasts well after the disaster. When a flood washes out roads, bridges, or railroads, it can be weeks or months before they are repaired and reusable. A key evacuation and safety concern arises when flood water rise above roads and bridges. Generally, the larger the road, the less likely it is to flood, but this is not always the case.

Vulnerable structures are structures located in the 100-year flood hazard area identified in Map 3.1. Since there is no building height data for buildings in these flood hazard areas, a “worst case scenario” of total structural damage for buildings in all of the flood zones of the planning area was assumed in estimating potential dollar losses to vulnerable structures.

According to Oneida Risk Management, it is estimated that over $13,118,529 in losses would occur with a flood resulting in a “worst case scenario” of total structural damage for all buildings within flood zones within the Oneida Nation Reservation.

Property value information was obtained from the Oneida Nation Risk Management department. Estimates only include damage to structures themselves, and may not account for damage to personal property inside or adjacent to vulnerable structures. In addition, there may be areas outside the 100-year flood zones that will flood during an event of that magnitude (or even of lesser magnitude).

Through zoning, development in floodplains and shoreland areas is kept to a minimum. The Oneida Nation has shoreland and floodplain zoning. These ordinances are a useful tool in keeping inappropriate development out of flood hazard zones within the Oneida Nation Reservation.

Reported property damage from flooding within the Oneida Nation Reservation has totaled $557,000 over the last 20 years, according to NCDC data.

EXTREME COLD

Exposure to extreme cold can cause frostbite or hypothermia and become life threatening. What constitutes extreme cold varies in different parts of the country. In Wisconsin, extreme cold means temperatures well below zero with wind chill. Wind chill is the term used to describe the rate of heat loss from the human body resulting from the combined effect of low temperature and wind. As winds increase, heat is carried away from the body at a faster rate, driving down both the skin temperature and eventually the internal body temperature.

Extreme cold is a dangerous situation that can cause health emergencies for susceptible people, such as children, the elderly, those without shelter, those who are stranded outdoors or in a disabled car, or those who live in a home that is poorly insulated or without heat.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 18 significant extreme cold events in the last 20 years from January 1, 2000 to December 31, 2019.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately one significant extreme cold event every year.

Climate Change Impacts

Wisconsin climatologists predict that winters will continue to shift toward fewer extreme cold events. Daily low temperatures below 0° F are projected to be much less common, with 22 fewer subzero events each year projected for the northern half of the state.

Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **moderate** probability of experiencing an extreme cold event in any given year.

Extreme cold events have no defined hazard area within the planning area. Past events have been relatively uniform across the planning area.

Impacts from Hazard

Death and Injury

Four deaths were reported from a significant extreme cold event for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019 according to NCDC data.

Critical Facilities

All heated facilities have greater heating expenses during an extreme cold event, and increased demand will affect electric and natural gas utilities. There is also increased stress on infrastructure during extreme cold events and water line breaks often occur. Hospitals and clinics may experience an increase in patients exposed to the extreme cold conditions. Emergency shelters may take in additional individuals during the extreme cold event. Area schools may cancel classes or call for early dismissal in

extreme cold events. Local fire departments and rescue services may also deal with direct or indirect consequences of the extreme cold event.

Economic Impacts

Municipalities and water utilities may need to repair damaged water mains caused by the extreme cold. If area school districts need to call off school early on extremely cold days, there may be expenses involved with early busing and with paying staff for a full day while only having the benefit of a partial day of instruction.

Reported property damage from significant extreme cold events for the Oneida Nation has totaled approximately $158,000 in public property damages over the last 20 years, according to the NCDC.

EXCESSIVE HEAT

A combination of high heat and humidity can lead to heat related illness, including heat cramps, heat exhaustion, and heat stroke. Heat-related illness can occur when the ability of the body to cool itself is challenged, or when there are insufficient levels of fluid or salt in the body due to sweating or dehydration. Heat-related illnesses increase as the combination of temperature and relative humidity increase, but there are other factors involved as well. The elderly, disabled, and other vulnerable populations are especially susceptible to excessive heat. A heat wave occurs during a period of abnormally and uncomfortably hot and unusually humid weather. Typically, a heat wave lasts two or more days.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 10 significant excessive heat events in the last 20 years from January 1, 2000 to December 31, 2019.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately one significant excessive heat event every year.

Climate Change Impacts

Wisconsin climatologists predict that by 2050, the frequency of very hot days will likely more than double in the north half of the state, which translates to about one more week each year with daily high temperatures topping 90° F. Increasing frequency of excessive heat events or heat waves (prolonged periods of stagnant air with temperatures over 90° F) will have direct impacts on human health. A substantial number of deaths and illnesses can occur, especially among the youngest and oldest in the population, when excessive heat conditions continue for several consecutive days with little to no relief. Additionally, excessive heat can negatively impact agriculture from heat stress on livestock and crops. Parks that provide recreational water facilities are likely to experience increased usage during times of excessive as well.

Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **moderate** probability of experiencing an excessive heat event in any given year.

Excessive heat events have no defined hazard area within the planning area. Past events have been relatively uniform across the planning area.

Impacts from Hazard

Death and Injury

No deaths, but three injuries have been reported from significant excessive heat events for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019 according to NCDC data.

Critical Facilities

Utilities may see peak demand for electricity during excessive heat event. Hospitals and clinics will likely experience an increased demand due to heat related illnesses during an excessive heat event. In some cases, rescue services will experience an increased demand due to heat related illnesses. If school is in session during the excessive heat event, area school districts may dismiss classes early in the day, at least in older schools without air conditioning. Emergency shelters will experience higher demand during the excessive heat, with some emergency shelters being set up specifically in response.

Economic Impacts

Economic impacts of an excessive heat event may include higher electrical consumption and increased demands for medical treatment. Local governments may need to incur expenses when repairing streets and highways in the planning area that have been damaged due to buckling. Excessive heat can also negatively impact agriculture in the surrounding area when combined with drought.

HAIL

Hail is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into balls of ice. Hailstone size is a direct function of the severity and size of the storm. Hail can be deadly to livestock and people, and can damage homes, cars, and aircraft.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced 17 significant hail events in the last 20 years from January 1, 2000 to December 31, 2019.

Based on previous hazard occurrences, the Oneida Nation experiences approximately one significant hail event per year.

Climate Change Impacts

A predicted increase in stronger and more frequent storms than in the past increases the risk from hail events including deaths, injuries, property damage, crop damage, increased runoff, and significant soil erosion.

Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **moderate** probability of experiencing a significant hail event in any given year.

Hailstorms have no defined hazard area within the planning area. Past events have been relatively uniform across the planning area or the larger regional area.

Impacts from Hazard

Death and Injury

No death or injuries have been reported from hail events within the Oneida Nation Reservation over the last 20 years from January 1, 2000 to December 31, 2019, according to NCDC data.

Critical Facilities

Hail can inflict severe damage to roofs, windows, and siding of critical facilities, depending on hailstone size and winds.

Economic Impacts

Hail can damage or destroy crops, and cause costly damage to roofs, windows, siding, trees, and vehicles.

DENSE FOG

Fog is a collection of liquid water droplets or ice crystals suspended in the air at or near the ground. Fog can be considered a type of low-lying cloud, usually resembling stratus, and is heavily influenced by nearby bodies of water, topography, and wind conditions. Dense fog creates a hazardous situation mainly because of reduced visibility. To alert travelers to potentially dangerous conditions, the National Weather Service forecasts fog and issues dense fog advisories when visibility is decreased to less than one quarter of a mile.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced four significant dense fog events in the last 20 years from January 1, 2000 to December 31, 2019.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately one significant dense fog events every year.

Climate Change Impacts

A predicted increase in wet weather events will likely increase the occurrence of fog events and the resulting potential for traffic related deaths, injuries, and property damage.

Vulnerability

Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **low** probability of experiencing a significant dense fog event in any given year.

Low lying areas along waterways and wetlands are at greatest risk for developing dense fog under certain meteorological conditions. However, no portion of the planning area is free of the possibility of experiencing fog events.

Impacts from Hazard

Death and Injury

No deaths or injuries have been reported from significant fog events for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019, according to NCDC data.

Critical Facilities

Law enforcement and rescue services may need to respond to an increased number of accidents during dense fog events. Airports can experience flight delays and cancellations during certain fog events.

Economic Impacts

Vehicular accidents from dense fog events can result in property damage. Airline delays due to fog have economic impacts for travelers and airlines.

DROUGHT

A drought is an extended period of below-average precipitation in a given region resulting in prolonged shortages in the water supply (including surface or groundwater). A drought can last for months or years.

Droughts in Wisconsin often have the greatest impact on agriculture by reducing crop growth and yields. More substantial drought occurrences can devastate crops resulting in a total loss. Droughts can also cause dry conditions increasing the risk of wildland fires.

Past Occurrences

According to the NCDC, the Oneida Nation has experienced one significant drought event in the last 20 years from January 1, 2000 to December 31, 2019.

Based on previous hazard occurrences as reported by the NCDC, the Oneida Nation experiences approximately one significant drought every year.

Climate Change Impacts

With Wisconsin climatologists predicting more dry days, coupled with higher summer temperatures and increased evapotranspiration, an increase in drought events is likely. Increased droughts could result in further water level declines in lakes and wetlands, wildlife habitat impacts, urban tree and forest stress, agricultural crop losses, increased irrigation demands at times during the growing season, aquifer stress, and a greater likelihood for wildland fire.

Vulnerability

The future incidence of drought is highly unpredictable, as its occurrence is based on weather patterns, making it difficult to determine probability with any accuracy. Based on the hazard frequency and the effects of climate change, the Oneida Nation is considered to have a **low** probability of experiencing a drought event in any given year.

Droughts have no defined hazard area within the planning area. Past events have been relatively uniform across the planning area, as they tend to be a regional phenomenon. However, agricultural croplands are most vulnerable to losses from drought events. According to land use data (Map 2.2), the Oneida Nation Reservation contains 37,366 acres of agricultural lands.

Impacts from Hazard

Death and Injury

No deaths or injuries have been reported from significant drought events for the Oneida Nation over the last 20 years from January 1, 2000 to December 31, 2019, according to NCDC data.

Critical Facilities

In extreme, prolonged drought conditions, water shortages may occur and affect the amount of water available for human consumption, and hospitals could see an increase in individuals suffering from dehydration.

Economic Impacts

Drought can significantly reduce crop growth and yields, which adversely affects farm income. Substantial drought events can lead to complete crop loss. Livestock may also be adversely affected by droughts.

As agricultural croplands are most vulnerable to losses from drought events, a “worst case scenario” would involve the total destruction of all 37,366 acres of agricultural lands within the Oneida Nation Reservation resulting in a loss of over $336.4 million. This calculation is based on data from a 2019 land values analysis conducted by the Farm Management Division of the University of Wisconsin Extension Service, which calculated the average value of agricultural land within the Oneida Nation Reservation at $9,002 per acre (Nantel, 2020; https://farms.extension.wisc.edu/articles/wisconsin-agricultural-land-prices/).

WILDLAND FIRE

A wildland fire is an unintentional burning in forests, brush, grasslands, or open lands, typically caused by lightning, human carelessness, or arson. According to the current land use on the Oneida Nation Reservation (Table 2.1), 14 percent of the Oneida Nation Reservation is forest and 4 percent is grasslands, which are potentially susceptible to wildland fires. Generally, fires are more likely when vegetation is dry.

Past Occurrences

There have been no significant wildland fires on record for the Oneida Nation, so the hazard frequency cannot be determined.

Climate Change Impacts

With Wisconsin climatologists predicting more dry days, coupled with higher summer temperatures and increased evapotranspiration, an increase in drought events is likely. Increased droughts could result a greater a likelihood for wildland fire.

Vulnerability

According to the U.S. Forest Service Wildland Fire Assessment System, the Oneida Nation Reservation regularly falls within a low to moderate fire danger class. A low rating indicates that fuels do not ignite readily from small firebrands, while a moderate rating means that fires will likely start from most accidental causes.

The Oneida Nation Reservation contains approximately 9,320 acres of forestry lands and 2,400 acres of grasslands (based on current land use data). Of these, few contain timbers that are very susceptible to significant burning.

As the Oneida Nation Reservation is not contiguously forested and does not contain the hazards and risks necessary to warrant intensive or extensive fire protection, the Wisconsin DNR designates Brown and Outagamie counties, which encompass the Oneida Nation Reservation, a “Cooperative Fire Protection Area.” Therefore, no DNR ranger stations or suppression resources are located within the Oneida Nation Reservation or the surrounding areas of Brown and Outagamie counties.

The likelihood that any wildland fire within the Oneida Nation Reservation would be catastrophic is **low** as most susceptible areas lack enough acreage to allow for continuous burning.

Impacts from Hazard

Death and Injury

No data on deaths or injuries is available for significant wildland fire events for the Oneida Nation.

Critical Facilities

All critical facilities located in the path of a wildland fire can be affected structurally and functionally if evacuation is deemed necessary. Fire, emergency response, and police personnel are most affected by

wildland fires due to the dangers of helping to save people and extinguish fires, and the increased workloads during and after occurrences. Hospitals can see increases in patient load resulting from burn related injuries and individuals suffering from the effects of smoke inhalation.

Economic Impacts

Fires can have an impact on the economy of an affected area by causing property damages. Major direct costs associated with wildland fires are incurred to extinguish the fire, to salvage and remove damaged debris, restore the burned area, and reconstruction. Wildland fires can also have a significant impact on local agriculture.

HUMAN-CAUSED HAZARD PROFILES

Each human-caused hazard that has been identified as a significant impact to the Oneida Nation has been profiled in this section. The hazard profile describes the characteristics of past human-caused hazards, and their impacts, frequency, and probability of future hazards that could impact the Oneida Nation.

Hazard risk probabilities are represented as high, moderate, and low. High risk probability hazards are defined as hazards that occur an average of more than three times per year; moderate risk probability hazards are those that occur an average of one to three times per year; and low risk probability hazards occur less frequently than one time per year.

The human-caused hazards profiled in this section include Cybersecurity Threats, Hazardous Spills, and Manure Spills.

CYBERSECURITY THREATS

Cybersecurity threats are those that present a risk to digital systems, networks, and programs from outside attacks. These threats are usually aimed at accessing, changing, or destroying sensitive information; extorting money from users; or interrupting normal business processes.

Implementing effective cybersecurity measures are challenging as there are more devices than people, and attackers continue to develop new tactics.

Past Occurrences

Detailed information on cybersecurity threat occurrences is only shared with the Oneida Nation's insurance carrier. The Oneida Nation Information Security, recalls three cybersecurity threat incidents over the last several years; however, this information is not based on any system security information. Fortunately, the three incidents were minor and had very little impact to the Oneida Nation.

Based on Information Security recollections of previous hazard occurrences, the Oneida Nation experiences 0-1 one cybersecurity threat per year.

Vulnerability

As with all organizations, cybersecurity threats are a constant reality for the Oneida Nation. Cybersecurity threats are difficult to plan for, as they can occur in a variety of ways, and from any number of sources, including employee errors or carelessness. The type of incidents we hear about most often are the exposure to personal identifying information or personal health information. An organization may be significantly impacted when a breach exposes personal information. Many other types of cybersecurity threats can impact the Oneida Nation, such as systems being shut down by a hacker for ransom or a diversion of an electronic funds transfers. This is not an all-inclusive mention of the types of cyber threats faced every day.

The best defense for the Oneida Nation is through the work of the Information Security staff. Information Security oversees the system designed to detect threats and stop them. However, with the myriad of avenues in cyberspace, even their best efforts may not prevent a system back door left open or employee errors.

The likelihood that any cybersecurity threat to the Oneida Nation would be catastrophic is **low**, but continued commitment and attentiveness from Information Security is imperative.

TYPES OF CYBERSECRUITY THREATS

- ADVANCED PERSISTENT THREATS
- PHISHING
- TROJANS
- BOTNETS
- RANSOMWARE
- DISTRIBUTED DENIAL OF SERVICE (DDOS)
- WIPER ATTACKS
- INTELLECTUAL PROPERTY THEFT
- THEFT OF MONEY
- DATA MANIPULATION
- DATA DESTRUCTION
- SPYWARE/MALWARE
- MAN IN THE MIDDLE (MITM)
- ADVANCED PERSISTENT THREATS
- DRIVE-BY DOWNLOADS
- MALVERTISING
- ROGUE SOFTWARE
- UNPATCHED SOFTWARE

SOURCE: SECUREWORKS, HTTPS://WWW.SECUREWORKS.COM /BLOG/CYBER-THREAT-BASICS, MAY 12, 2017.

Impacts from Hazard

Death and Injury

No incidents of death or injuries have been reported for cybersecurity threats for the Oneida Nation, nor is such an impact anticipated from this hazard.

Critical Facilities

All critical facilities that rely on digital data or information systems are at risk from cybersecurity threats. Cybersecurity threats combined with an on-going natural hazard event could have a significant impact on critical facilities and the people that rely on them.

Economic Impacts

The economic impact of cybersecurity threats may include internal and external resources to stop the attack, correct the vulnerability, notify affected individuals, and offer identification or other protection. Additional costs may include the interruption in business, and loss of revenue for uninsured costs. There can also be the unmeasurable cost of losing the trust of the public, employees, or stakeholders – and the costs in efforts to regain trust.

HAZARDOUS SPILLS

A spill is a discharge (i.e., spilling, leaking, pumping, pouring, emitting, emptying, dumping, etc., to land, air or water) that is typically a one-time event or occurrence, and usually inadvertent. A hazardous spill is a discharge of a substance that can cause harm to human health and safety, or the environment, because of where it is spilled, the amount spilled, its toxicity or its concentration. Even common products such as milk, butter, corn, etc., may be considered a hazardous substance if discharged to a sensitive area.

Wis. Stat. 292.11(2) and Wis. Admin. NR 706.05 require individuals and entities that possess or control a hazardous substance, or that cause the discharge of a hazardous substance to the environment, to notify the Wisconsin DNR immediately about the discharge. Wis. Stat. 292.99 authorizes penalties up to $5,000 for each violation of the notification requirement.

Past Occurrences

According to the Wisconsin DNR's online Bureau for Remediation and Redevelopment Tracking System (BRRTS) database, the Oneida Nation has experienced 335 hazardous spill events in the last 10 years from 2010 to 2020. This total does not include manure spills as they are addressed as a separate human-caused hazard.

Most spills were the result of vehicle accidents and were immediately cleaned up. There were also a few that were the result of accidents involving non-PCB transformers being hit. Hazardous spills include all substance spills as well as reported spills of a negligible quantity or those having minimal impact.

Based on previous hazard occurrences as reported in BRRTS, the Oneida Nation experiences approximately 34 hazardous spill events per year.

Vulnerability

The Oneida Nation is vulnerable to hazardous spills via transportation corridors, particularly highways that traverse the area, and the significant amount of agricultural activity (57% of the land use) within the Oneida Nation Reservation. Risks are present from spills of agricultural products including fertilizers, pesticides and anhydrous ammonia; and any number of other hazardous substances being transported through the Oneida Nation Reservation via highways. Additionally, a review of BRRTS shows that there are incidents in neighboring areas involving large dairy farms and/or other food processing facilities that have the potential to cause damage to Oneida Nation resources. Sanamax, a rendering plant just outside the northeast corner of the Oneida Reservation, frequently reports road spillages from vehicles transporting into and out of the facility.

Based on the hazard frequency of past occurrences, the Oneida Nation is considered to have a **high** probability of experiencing a hazardous spill in any given year.

Impacts from Hazard

Death and Injury

No incidents of death or injuries have been reported for hazardous spills for the Oneida Nation.

Critical Facilities

No critical facilities are particularly vulnerable to hazardous spills. However, additional response will likely be required from a number of the Oneida Nation services during an event, including Environmental Safety, Land, and Agriculture Division; Emergency Management; Risk Management; Division of Public Works; and the Communications Dept.; as well as Wisconsin DNR and EPA. Depending on the severity of the spill, hospitals and fire departments could be impacted from response and care of victims.

Economic Impacts

The cost of response and cleanup of a hazardous spill depends heavily on what product is spilled and where it occurs. A few gallons of paint spilled on a flat parking lot would require minimal effort and cost to cleanup. In contrast, the cost of cleaning up a tractor trailer that spilled hundreds of gallons of ethylene glycol into a waterway could easily reach over $100,000. Costs will be incurred for the staff resources for various departments and agencies that need to respond to, document, and report the incident. There will also be costs incurred for staff time, supplies, and equipment needed to protect human health and the environment, and to clean up the substance as efficiently and effectively as possible.

MANURE SPILLS

A manure spill is a subset of a hazardous spill; however, due to the significant impact and frequency of occurrence within the Oneida Nation, it has been added as a separate human-caused hazard.

A manure spill is a discharge of animal waste into the environment in a manner that exceeds the rate of nutrient uptake by plants or applied in a manner that is not identified in the "Nutrient Management Plan." Manure spills may occur during manure storage, transportation, and land application.

Past Occurrences

According to the Wisconsin DNR's online Bureau for Remediation and Redevelopment Tracking System (BRRTS) database, the Oneida Nation has experienced 71 manure spill events in the last 10 years from 2010 to 2020.

Most were the result of vehicle accidents and were immediately cleaned up. Two events, the Meadowview Dairy spill and the Robertson spill were significant. The Meadowview dairy spill sent approximately three million gallons of liquid manure into Coyote Run in 2014. The Robertson spill sent 300,000 gallons of liquid manure into Silver Creek in 2018.

Based on previous hazard occurrences as reported in BRRTS, the Oneida Nation experiences approximately seven manure spills per year.

Vulnerability

With 37,366 acres of the Oneida Nation Reservation in agriculture (57% of land use), there is a significant vulnerability to the threat of manure spills during storage, transportation, and land application. Additionally, there are large dairy farms on neighboring lands that present additional risk for manure spills during transportation.

Based on the hazard frequency of past occurrences, the Oneida Nation is considered to have a **high** probability of experiencing a manure spill in any given year.

Impacts from Hazard

Death and Injury

No incidents of death or injuries have been reported for manure spills for the Oneida Nation.

Critical Facilities

No critical facilities are particularly vulnerable to manure spills. However, additional response will likely be required from a number of Oneida Nation services during an event, including Environmental Safety, Land, and Agriculture Division; Emergency Management; Risk Management; Division of Public Works; and the Communications Dept.; as well as Wisconsin DNR and EPA.

Economic Impacts

The cost of response and cleanup of a manure spill depends heavily on the quantity that is spilled and where it occurs. Costs will be incurred for the staff resources for various departments and agencies that need to respond to, document, and report the incident. There will also be costs incurred for staff time, supplies, and equipment needed to the environment, and to clean up the substance as efficiently and effectively as possible.

Map 3.1: 100-Year Floodplains

(RESERVED FOR MAP)

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

Map 3.2: Properties Potentially in the Base Floodplains

(RESERVED FOR MAP)

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

Map 3.3: Critical Facilities

(RESERVED FOR MAP)

Maps have been excluded in this public review version of the plan to reduce online exposure of identified critical facilities and vulnerable areas. If you would like to review the maps, please contact Kaylynn Gresham, Oneida Nation Emergency Management Director, at 920-859-6650, to make arrangements.

CHAPTER 4 - MITIGATION STRATEGY

The mitigation strategy outlines the activities that the Oneida Nation would like to implement in order to reduce their risk from hazards. The mitigation strategy is made up of the mitigation goals, mitigation actions, and a strategy for implementation. These components provide a framework to identify, prioritize, and implement actions to reduce risk to people and property from hazards.

This chapter also identifies the mitigation strategies the have been completed for the Oneida Nation and resources available for mitigation.

PLAN GOALS

The following mitigation goals have been developed for the Oneida Nation Pre-disaster Mitigation Plan. They offer overarching guidance aimed at mitigating hazards within the Oneida Nation Reservation.

Goal 1. Minimize human, economic, and environmental disruption from hazards.

Goal 2. Implement policies and programs designed to reduce or eliminate the impacts of hazards on people and property.

Goal 3. Enhance public education, training, and outreach about disaster resiliency and expand public awareness of hazards and their impact.

Goal 4. Enhance intergovernmental cooperation with surrounding counties and communities in hazard mitigation efforts and response to hazards and disasters.

Goal 5. Promote and enhance the use of natural resource protection measures as a means to reduce the impacts of hazards on people and property.

COMPLETED MITIGATION STRATEGIES

Five mitigation actions have been completed since the preparation of the previous pre-disaster mitigation plan for the Oneida Nation. The completed mitigation strategies include a determination of which sirens do not have surge protection; the acquisition of surge protection on sirens, where needed; an investigation of the options, technologies, and feasibility of adding sirens or boosters; the acquisition of battery backups on sirens to prevent outages; and the acquisition of adequate coverage of both in-car and portable police radio communications.

MITIGATION RESOURCES

The Oneida Nation has a number of divisions and departments that enforce policies, execute programs, and provide resources that support the mitigation strategy for reducing potential losses identified in the risk assessment. These authorities have been identified under the responsible parties in the mitigation strategy tables.

OPTIONS FOR FUNDING MITIGATION

Hazard mitigation programs and projects can be funded in a variety of ways with funding from Tribal, public, and private programs, including local budgets, grants, or loans. The following is a list of a number of potential funding programs available to fund mitigation strategies identified in this plan, along with a weblink to additional information.

Federal Funding Programs:

- EDA Public Works and Development Facilities (https://www.eda.gov/programs/eda-programs/)
- FEMA Assistance to Firefighters Grant (https://www.fema.gov/grants/preparedness/firefighters)
- FEMA Building Resilient Infrastructure and Communities (BRIC) (https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities)
- FEMA Flood Mitigation Assistance Program (https://www.fema.gov/grants/mitigation/floods)
- FEMA Hazard Mitigation Grant Program (HMGP) (https://www.fema.gov/grants/mitigation/hazard-mitigation)
- U.S. DOT Hazardous Materials Emergency Preparedness (https://www.phmsa.dot.gov/grants/hazmat/hazardous-materials-emergency-preparedness-hmep-grant)
- U.S. Department of Education Readiness and Emergency Management for Schools (https://www2.ed.gov/programs/dvpemergencyresponse/index.html)

State Funding Programs:

- Wisconsin Department of Administration Emergency Solutions Grant, Housing Assistance Program (https://doa.wi.gov/Pages/LocalGovtsGrants/Emergency-Solutions-Grant-Transitional-Housing-Program-Homelessness-Prevention-Program-ETH.aspx)
- Wisconsin DNR Forest Fire Protection (FFP) Grant Program (https://dnr.wisconsin.gov/aid/ForestFireProtection.html)
- Wisconsin DNR Municipal Flood Control Grant Program (https://dnr.wisconsin.gov/aid/MunFloodControl.html)
- Wisconsin DNR Surface Water Grant Program (https://dnr.wisconsin.gov/aid/SurfaceWater.html)

HAZARD MITIGATION STRATEGIES

Tables 4.1-4.13 list the mitigation strategies that Oneida Nation has identified to reduce the impact of natural and human-caused hazards. Each table lists mitigation strategies for a specific hazard, the project prioritization, the estimated project timeline, and responsible parties.

The Oneida Nation Emergency Management will monitor the implementation of mitigation actions. Completed or revised projects will be documented in future five-year updates of the Oneida Nation pre-disaster mitigation plan.

A cost-benefit analysis was not prepared for any identified mitigation strategy, but will be undertaken as needed when the project is pursued.

STRATEGY PRIORITIZATION

As part of the mitigation strategy, each project was prioritized by the steering committee. By consensus, the steering committee assigning a prioritization rank of "high," "medium" or "low" to each strategy based on need, potential funding, and anticipated support for the project. The following tables include the identified mitigation strategies for both natural and human-caused hazards for each hazard type.

Table 4.1: All Hazards Mitigation Strategies

All Hazards				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Add a siren near Oneida Lake area for campers.	High	2020-2022	Division of Public Works; and Emergency Management	Campgrounds will be completed in summer 2021.
Develop a mass evacuation plan.	High	2020-2025	Brown and Outagamie Counties (coordinated activity); Planning, Zoning and Engineering Division; Emergency Management; Public Health	
Develop pandemic/infectious disease plan.	High	2020-2025	Public Health	
Develop Continuity of Operations Plan.	High	2020-2025	Emergency Management	
Improve GIS data accessibility, quality, and interoperability.	High	2020-2025	Planning, Zoning and Engineering Division; Environmental Safety, Land, and Agriculture Division	
Develop real-time dashboard of employed resources, response time, and emergency status.	High	2020-2025	Communications Department; Planning, Zoning and Engineering Division	
Acquire stand-alone digital system for communications.	High	2020-2025	Police; Management Information System	Currently relying on Brown County's digital system.
Promote the use of weather radios in all schools and in all homes, and provide education on use.	High	Ongoing	Emergency Management; Brown and Outagamie counties Emergency Management; local TV stations	

Table 4.1 (cont'd): All Hazards Mitigation Strategies

All Hazards (cont'd)				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Evaluate communication tools and methods to improve interoperability efficiency and effectiveness.	High	Ongoing	Police Department (coordinating entity); Communications Department; Emergency Management; all divisions	
Assess capability to provide food during sheltering.	High	2020-2025	Government Services; and Schools	
Coordinate with support agencies through the implementation of the Oneida Nation Emergency Response Plan.	Medium	Ongoing	All departments; American Red Cross	Emergency Response Plan updated 2020.
Continue public education and outreach regarding emergency preparedness.	Medium	Ongoing	Emergency Management; American Red Cross; Police Department; Community Health Services; Environmental Safety, Land, and Agriculture Division; Planning, Zoning and Engineering Division; Employee Health Nursing	
Maintain power lines through proper maintenance and efficient response to fallen power lines.	Low	Ongoing	WEC Energy Group; ATC	Utilities have a program to maintain powerlines based on utility-defined needs/priorities.
Coordinate with Amateur Radio Emergency Services (ARES)/Radio Amateur Civil Emergency Service (RACES).	Low	Ongoing	Emergency Management; ARES/RACES	Effective process already in place using area radio and television stations, but more local spotters are need in the area.
Establish a calendar of upcoming outreach activities.	Low	Ongoing	Emergency Management	
Ensure registration and provide updates under the Brown and Outagamie counties 211 Information System.	Low	Review Annually	Emergency Management	

Table 4.1 (cont'd): All Hazards Mitigation Strategies

All Hazards (cont'd)				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain public shelter designation in order to provide centers with proper shelter amenities and transportation availability.	Low	Review Annually	Emergency Management; American Red Cross; Planning, Zoning and Engineering Division	Shelters are listed in Emergency Response Plan. American Red Cross is a partner with Oneida Nation on this effort.
Review and update the Oneida Emergency Response Plan.	Low	Review Annually	Emergency Management	

Table 4.2: Winter Storm Mitigation Strategies

Winter Storm				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Ensure plowing and salting equipment is operational and available to handle potential emergencies.	Low	Ongoing	Division of Public Works; Aging and Disability Services	
Maintain tree trimming program.	Low	Ongoing	Environmental Safety, Land, and Agriculture Division; WEC Energy Group	On tribal roads.
Utilize snow fences or "living snow fences" (row of trees or other vegetation) to limit blowing and drifing of snow on critical roadway segments.	Low	Ongoing	Division of Public Works; Planning, Zoning and Engineering Division; Environmental Safety, Land, and Agriculture Division; WisDOT	Also in Integrated Forest Management Plan.

Table 4.3: Tornado and Strong Wind Mitigation Strategies

Tornado and Strong Wind				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Improve access to shelter in Green Earth mobile home park (increase size and provide more reliable access).	Medium	2020-2025	Environmental Safety, Land, and Agriculture Division; and Division of Public Works	Some residents have a key to provide emergency access to the library for after hours sheltering.
Establish procedures for dealing with the collection and disposal of large volumes of after-storm solid waste debris.	High	2020-2023	Environmental Safety, Land, and Agriculture Division; Emergency Management; Division of Public Works; Land Management	Develop Debris Management and Removal Plan.

Table 4.3 (cont'd): Tornado and Strong Wind Mitigation Strategies

Tornado and Strong Wind (cont'd)				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Inventory Oneida-owned homes that do not have basements.	Low	2020-2025	Housing; Planning, Zoning and Engineering Division	
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Low	Ongoing	Environmental Safety, Land, and Agriculture Division; Police Department; Division of Public Works; Neighboring Fire Depts	Have cooperative agreements with most surrounding municipalities.
Ensure that there are emergency/safety plans for each occupied facility.	Low	Ongoing	Management from each occupied Oneida faclity	

Table 4.4: Flood Mitigation Strategies

Flood				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Utilize floodplain mapping to update existing flood maps and data sources to better determine areas and facilities susceptible to recurring flooding.	Medium	Ongoing, next update in 2023.	Planning, Zoning and Engineering Division	
Maintain a stormwater management plan that includes such remediation techniques as surface detention basins, in-street detention units, and rain gardens.	Medium	Ongoing	Environmental Safety, Land, and Agriculture Division; Division of Public Works	
Continue reviewing physical engineering inspection and verification of Fort Howard Sludge Facility impoundment.	Medium	Ongoing	Environmental Safety, Land, and Agriculture; Wisconsin DNR; EPA	Environmental Safety, Land, and Agriculture coordinates with EPA and WDNR.
Develop a storm drain maintenance program.	Low	2020-2025	Division of Public Works; Environmental Safety, Land, and Agriculture Division	
Inventory floodfighting equipment supplies (sandbags, pumps, etc.).	Low	Ongoing	Emergency Management; Division of Public Works; Environmental Safety, Land, and Agriculture Division	Available sand pits within the Oneida Nation to fill bags.

Table 4.4 (cont'd): Flood Mitigation Strategies

Flood (cont'd)				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Provide community outreach about floodproofing techniques such as elevation, relocation, barrier construction, and wet floodproofing for residents and businesses.	Low	Ongoing	Emergency Management; Division of Public Works; Environmental Safety, Land, and Agriculture Division	
Abide by proper land use policy framework through the Oneida Nation comprehensive plan.	Low	Ongoing	All departments	The Oneida Nation comprehensive plan was last approved April 17, 2014, and is being updated.
Implement rural drainage improvements and maintenance for ditches, bridges, and culverts.	Low	Ongoing	Planning, Zoning and Engineering Division; Environmental Safety, Land, and Agriculture Division	Continue focus on bigger picture to address flooding, beyond water quality.
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Low	Ongoing	Police Department; Division of Public Works; Environmental Safety, Land, and Agriculture Division	

Table 4.5: Extreme Cold Mitigation Strategies

Extreme Cold				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain programs to check on the elders and functional needs residents during extreme cold events.	Medium	Ongoing	Aging and Disability Services; Community Health Services; local hospital programs	
Maintain mapping of elders and functional needs residences and other populations vulnerable to extreme cold.	Low	Review Annually	Aging and Disability Services; Planning, Zoning and Engineering Division	

Table 4.6: Excessive Heat Mitigation Strategies

Excessive Heat				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain programs to check on the elders and functional needs residents during excessive heat events.	Medium	Ongoing	Aging and Disability Services; Community Health Services	
Maintain mapping of elderly and special needs residences and other populations vulnerable to excessive heat.	Low	Review Annually	Aging and Disability Services; Community Health Services	

Table 4.7: Hail Mitigation Strategies

Hail				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain a process to check for downed trees and other necessary clean-up after a storm.	Low	Ongoing	Police Department; Division of Public Works; Environmental Safety, Land, and Agriculture Division	

Table 4.8: Dense Fog Mitigation Strategies

Dense Fog				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Inform the county highway departments and Wisconsin DOT of areas lacking signage, damaged signs, or fading paint on roads.	Low	Ongoing	Planning, Zoning and Engineering Division	
Provide information to area news media in order to broadcast emergency information that addresses safety precautions, including the need to avoid certain corridors or to slow down while traveling during a fog event.	Low	Ongoing	Police Department; NWS; media	

Table 4.9: Drought Mitigation Strategies

Drought				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain burn ban communications.	Low	Ongoing	Brown and Outagamie counties; Wisconsin DNR	Oneida Nation maintains a fire management plan.
Review water sample results in private wells and recommend filtration, as needed	Low	Ongoing	Division of Public Works (community wells and septic program)	
Enact water restrictions and monitor water quality, when needed.	Low	Ongoing	Utilities	Oneida Nation is covered by four water districts: Oneida Nation, Village of Hobart Water Utility; Ashwubenon Water and Sewer, and Green Bay Water.

Table 4.10: Wildland Fire Mitigation Strategies

Wildland Fire				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Ensure mutual aid fire protection agreements are in place and they include provisions for wildfires.	Medium	Ongoing	Village of Hobart Fire; Town of Oneida Fire; Tri-County Fire; Ashwaubenon Fire; Green Bay Fire; Emergency Management	MABAS is maintained annually and agreements are on Oneida Nation website.
Maintain and upgrade roads to allow for adequate access by emergency vehicles and fire equipment.	Low	Ongoing	Division of Public Works; Brown and Outagamie counties; municipalities	Oneida Nation maintains a fire management plan. Driveway costs are the responsibility of the property owner.
Continue outreach efforts regarding open burning and fireworks laws.	Low	Ongoing	Environmental Safety, Land, and Agriculture Division; Emergency Management; Village of Hobart Fire; Town of Oneida Fire; Green Bay Fire; Ashwaubenon Fire; Tri-County Fire	
Coordinate with the Wisconsin Department of Natural Resources to disseminate information to the public on preventing fires and providing notification on burning restrictions.	Low	Ongoing	Emergency Management; Wisconsin DNR; Environmental Safety, Land, and Agriculture Division	

Table 4.11: Cybersecurity Threats Mitigation Strategies

Cybersecurity Threats				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Develop a plan to address cybersecurity threats.	High	2020-2025	Risk Management; Management of Information Systems	Oneida Nation Incident Response Plan is under development

Table 4.12: Hazardous Spills Mitigation Strategies

Hazardous Spills				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Maintain staff capacity, certification, and training to address issues.	High	Ongoing	Environmental Safety, Land, and Agriculture Division	
Continue to respond to and manage spills coming through the notification system.	Medium	Ongoing	Environmental Safety, Land, and Agriculture Division; Emergency Management; Risk Management; Division of Public Works; Communications Dept.; Wisconsin DNR; EPA	

Table 4.13: Manure Spills Mitigation Strategies

Manure Spills				
Mitigation Measures	**Priority**	**Timeline**	**Responsible Dept/Entities**	**Comments**
Continue to respond to, and manage spills coming through the notification system.	Medium	Ongoing	Environmental Safety, Land, and Agriculture Division; Emergency Management; Risk Management; Division of Public Works; Communications Dept.; Wisconsin DNR; EPA	
Continue water quality monitoring (including pre- and post-monitoring).	Medium	Ongoing	Environmental Safety, Land, and Agriculture Division	
Maintain staff capacity, certification, and training to address issues.	High	Ongoing	Environmental Safety, Land, and Agriculture Division	

CHAPTER 5 - PLAN ADOPTION, MAINTENANCE, AND COORDINATION

The Oneida Nation hazard mitigation plan was adopted in accordance with the Federal Disaster Mitigation Act of 2000, and follows the FEMA guidelines for local hazard mitigation plans with respect to maintaining the plan.

PLAN ADOPTION

The *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* was adopted by resolution by the Oneida Nation Business Committee on (reserved for date). Both WEM and FEMA reviewed a final draft of the Oneida Nation's hazard mitigation plan prior to adoption by the Oneida Nation Business Committee. Comments received from WEM and FEMA were reviewed by Emergency Management and necessary revisions were made. After the Oneida Nation Business Committee adopted the plan, it was approved by WEM and FEMA. The adopting resolution and approval letters can be found at the front of this plan.

PLAN MAINTENANCE

The *Oneida Nation Pre-Disaster Mitigation Plan 2020-2025* will be evaluated and updated at least every five years. The five-year plan maintenance schedule meets the requirements of the Federal Disaster Mitigation Act of 2000 and maintains the Oneida Nation's eligibility for disaster assistance. All data in the plan will be updated along with the development of new mitigation strategies and an implementation plan, and will incorporate opportunities for public involvement to meet the requirements of 44 CFR Part 201.7 and/or any applicable requirements or regulations developed over the next five years. The Oneida Nation Emergency Management Director will coordinate the five-year plan update with relevant departments and organizations, and the Oneida Nation Business Committee will adopt the plan.

The plan will also be evaluated and monitored by the Oneida Nation Emergency Management Director on an annual basis or after a significant event (as deemed by the Oneida Nation Emergency Management Director). At this time, the Oneida Nation Emergency Management Director will track the implementation of mitigation actions and assess the effectiveness of the hazard mitigation plan at achieving goals and objectives. The monitoring process will ensure that identified mitigation actions are being implemented, it will provide a process for proposed project timelines to be reviewed and revised, and will ensure that mitigation projects are properly closed out.

Continued stakeholder involvement will be achieved by inviting the members of the Steering Committee, as well as potential new members, to assist during the semi-annual review process for the plan. Partnership efforts are planned for future training and information sharing, and agreements are in place for cooperative disaster assistance efforts.

A special post-disaster review will involve Emergency Management, law enforcement, fire departments, disaster response personnel, Wisconsin Emergency Management staff, FEMA staff, affected citizens, and any other pertinent entities. Public meetings will be included with the special post-disaster review.

Oneida Emergency Management will document progress on all mitigation projects and include this information in plan updates. Newly identified mitigation needs will be addressed through the development of additional goals, objectives, and strategies.

PLAN COORDINATION

To maximize coordination with other related plans for the Oneida Nation, mitigation strategies recommended in this plan have been, and should continue to be considered when developing capital improvement plans, stormwater management plans, or flood mitigation plans.

A number of plans, reports, and technical data were referenced and incorporated into the Oneida Nation Pre-Disaster Mitigation Plan. The following is a list of the primary data and reports that were utilized in plan development.

- Oneida Nation of Wisconsin 2015-2020 Pre-Disaster Mitigation Plan (2016)
- Oneida Nation Emergency Response Plan (2010)
- State of Wisconsin Hazard Mitigation Enhanced Plan (Amended 2017);
- Population, housing, and employment data from the Bureau of the Census (2010);
- Land use inventory data (2010, Bay-Lake and East Central Wisconsin Regional Planning Commissions);
- FEMA Tribal Mitigation Review Guide (2018) and Planning Handbook (2019);
- Past natural hazard occurrences were obtained from National Oceanic and Atmospheric Administration (NOAA) – National Climatic Data Center – severe weather event data (January 2000 – December 2019);
- FEMA Flood Insurance studies and FEMA Flood Insurance Rate Maps (FIRMs) were used to map floodplain areas;
- Parcel data from the Oneida Nation GIS; and
- Assessed valuation data from the Oneida Nation;

The identified mitigation strategies (provided in Chapter 4) are tied to related plans and policies. The Oneida Nation Emergency Management will encourage and support incorporation of this plan with upcoming comprehensive plan updates.

The goals and objectives, and mitigation strategies identified in the Oneida Nation Pre-Disaster Mitigation Plan have been or will be incorporated into other planning mechanisms where opportunities are present for complementary work. The following plans share supporting information or have been identified to better integrate data from the pre-disaster mitigation plan.

- Oneida Emergency Response Plan
- Oneida Nation Comprehensive Plan Update
- Oneida Capital Improvements Plan
- Oneida department plans and budgets

Oneida Emergency Management will continue to work with the Oneida Business Committee and other departments to further incorporate and assimilate the pre-disaster mitigation plan into zoning and building codes, subdivision regulations, site review, permitting, staff training, and other appropriate planning tools.