

CHAPTER ELEVEN

HAZARDS



Audubon County, and its five cities adopted the Audubon County Multi-Jurisdictional Hazard Mitigation Plan in 2019. The planning process was guided by the Federal Emergency Management Agency (FEMA) to prepare communities for potential hazards and disasters. The Audubon County Hazard Mitigation Plan is a county-wide plan which includes the cities and school districts. FEMA requires all communities be covered by an approved hazard mitigation plan before it makes certain funding available. Each hazard mitigation plan is valid for five years before an update is required. During the planning process, each city was met with individually to ensure accuracy of each section, and the county supervisors were also met with to determine the county’s path and accuracy.

The hazard mitigation planning process includes three basic steps:

- Critical Infrastructure- identify what needs to be protected and what could potentially cause a hazard or disaster
- Risk Assessment- consider what hazards could happen, how frequently they could occur, and what the damage would be
- Goals and Action Steps- what can be done to prepare and protect the community from hazards and disasters

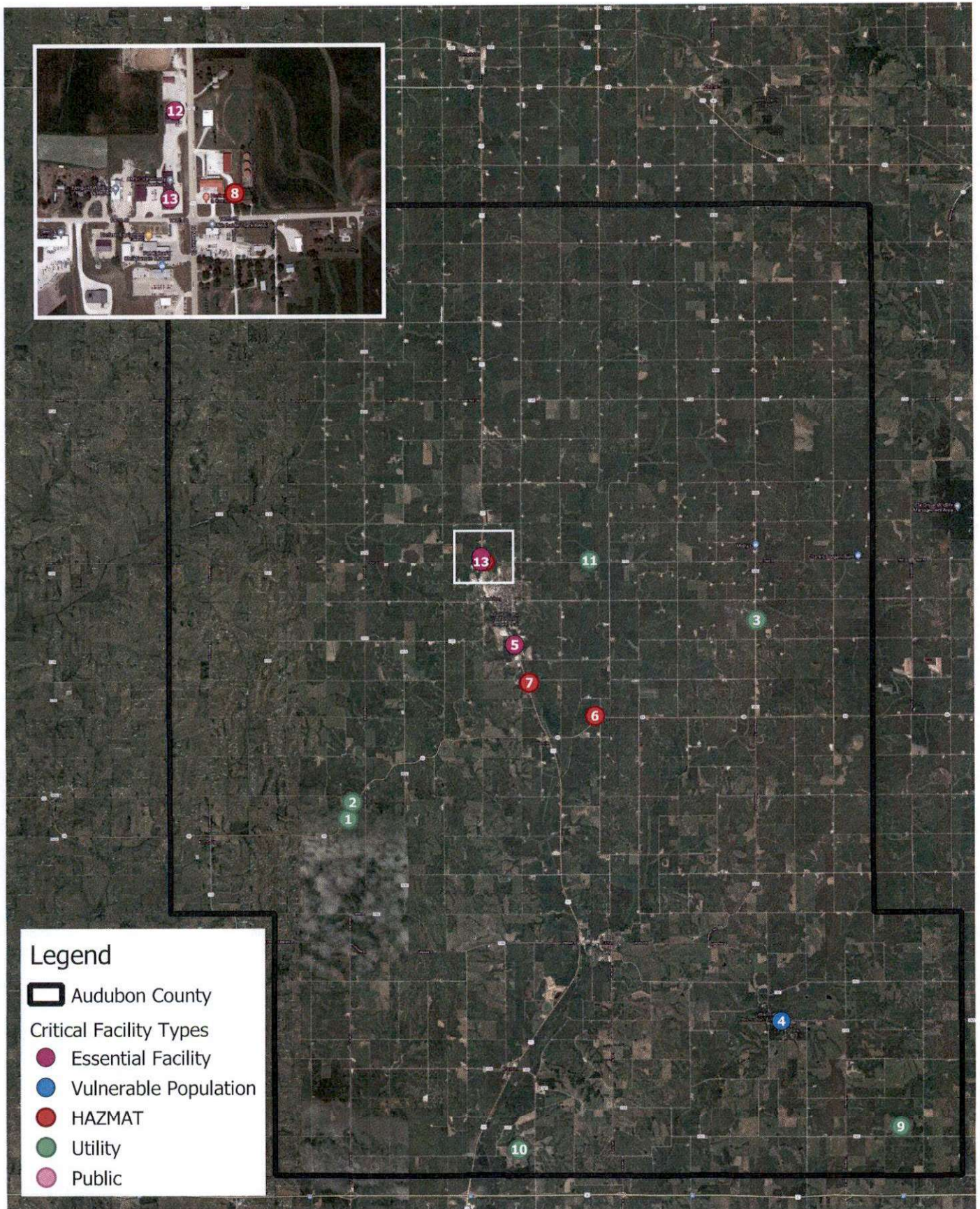
CRITICAL INFRASTRUCTURE

The critical infrastructure identification was completed during the hazard mitigation planning process. The list includes infrastructure vital to the county. City inventories were also completed which listed infrastructure vital to the community, facilities that could be used to shelter residents from harm, as well as facilities that could pose a hazard. Table 11.1 names the critical infrastructure within the county and categorizes them into facility types. These facilities are then mapped in Map 11.1.

Table 11.1: Audubon County Critical Infrastructure

Number on Map	Name	Location	Type
1	WCIRW Water Tower	IA Highway 44	Utility
2	Cell Tower	Various	Utility
3	Heartland Divide Wind Farm	2053 Pheasant Avenue	Utility
4	Littlefield Recreation Area	3108 Pheasant Place	Vulnerable Population
5	Audubon County Airport	2110 US-71	Essential Facility
6	Landus Cooperative	2287 Lark Ave	HAZMAT
7	Agriland FS Audubon	1914 220th St	HAZMAT
8	Herbers Seed	1898 Highway 71	HAZMAT
9	Eclipse Wind Farm	Southeast Audubon County	Utility
10	Power Facility	W of Brayton	Utility
11	City of Audubon Water Plant	270 190th Street, Audubon	Utility
12	AMVC Warehouse	N of Vet Clinic, Hwy 71	Essential Facility
13	AMVC Vet Clinic	1797 190th Street, Audubon	Essential Facility

Map 11.1: Audubon County Critical Infrastructure



RISK ASSESSMENT

The county’s hazard mitigation steering committee completed a risk assessment to rank the hazards which was then used to determine what types of projects the city should pursue. The hazards were separated into natural and human-caused hazards. Table 11.2 takes each individual risk to Audubon County and ranks them according to their hazard score which is based on if the event has happened before, if the county is likely to experience the event, the probability of the threat happening, the magnitude of the event, how much warning time would be given before the event would happen, and how long the threat would last. Table 11.3 shows the possible scores and describes the criteria used to score each hazard.

Table 11.2: Audubon County Risk Assessment

Hazard	Previous Occurrence?	Likely to Experience?	Probability	Magnitude/ Severity	Warning Time	Duration	Hazard Score
Windstorm	Yes	Yes	3	3	3	3	3.00
Severe Winter Storm	Yes	Yes	3	3	2	3	2.85
Extreme Heat	Yes	Yes	3	2	2	3	2.55
River Flooding	Yes	Yes	3	2	2	3	2.55
Thunderstorm/ Lightning/ Hail	Yes	Yes	3	2	3	1	2.50
Drought	Yes	Yes	2	3	1	4	2.35
HAZMAT Incident	Yes	Yes	2	2	4	2	2.30
Flash Flood	Yes	Yes	2	2	3	3	2.25
Infrastructure Failure	Yes	Yes	2	2	3	3	2.25
Tornado	Yes	Yes	2	2	4	1	2.20
Transportation Incident	Yes	Yes	2	2	4	1	2.20
Human Disease	Yes	Yes	2	2	2	3	2.10
Animal/Plant/Crop Disease	Yes	Yes	2	2	1	4	2.05
Grass/ Wildland Fire	Yes	Yes	1	2	4	2	1.85
Earthquake	No	No	1	2	4	1	1.75
Landslide	Yes	Yes	1	2	4	1	1.75
Levee/ Dam Failure	Yes	Yes	1	2	3	2	1.70
Expansive Soils	Yes	Yes	1	2	2	2	1.55

Audubon County’s highest ranking hazard is windstorms with a hazard score of 3.0. The next highest hazard is severe winter storms with a hazard score of 2.85. Both of these hazard scores have high probabilities and severity. The lowest ranking evaluated hazard was expansive soils as Audubon County is located in an area where expansive soils are not prominent.

The goals laid out in the multi-jurisdictional plan for Audubon County are to minimize damage to critical facilities, infrastructure, and other community assets from the effects of hazards; Minimize to the greatest possible extent the vulnerability of the people of Audubon County to the impacts of all identified hazards;

Table 11.3: Risk Assessment Criteria

Probability: Likelihood of the hazard occurring again in the future considering both the hazard's historical occurrence and the projected likelihood of the hazard occurring in any given year		
Score	Description	
4	Highly Likely	Event is probable within the calendar year. History of events is greater than 33% likely per year.
3	Likely	Event is probable within the next three years. History of events is at least 20% but less than or equal to 33% likely per year.
2	Occasional	Event is probable within the next five years. History of events is at least 10% but less than or equal to 20% likely per year.
1	Unlikely	Event is possible within the next 10 years. History of events is less than 10% likely per year.
Magnitude/Severity: Assessment of severity in terms of injuries and fatalities, person property and infrastructure and the degree and extent with which the hazard affects the area		
Score	Description	
4	Catastrophic	More than 50% of property severely damaged Shutdown of facilities and services for more than 30 days Multiple deaths
3	Critical	25% to 50% of property severely damaged Shutdown of facilities and services for at least 2 weeks Injuries/illnesses that result in permanent disability
2	Limited	10% to 25% of property severely damaged Shutdown of facilities and services for more than a week Injuries/illnesses that do not result in permanent disability
1	Negligible	Less than 10% of property severely damaged Shutdown of facilities and services for less than 24 hours Injuries/illnesses treatable with first aid
Warning Time: Rating of the potential (average) amount of warning time before the hazard occurs		
Score	Description	
4	Less than 6 hours	
3	6 to 12 hours	
2	12 to 24 hours	
1	More than 24 hours	
Duration: A measure of the duration of time that the hazard will affect the area Ex. a snowstorm will likely last several hours, whereas a lightning strike would last less than a second		
Score	Description	
4	More than 1 week	
3	Less than 1 week	
2	Less than 1 day	
1	Less than 6 hours	

Improve coordination, communication, and response operations with other relevant organizations; and improve public communication, education, and awareness of hazards and their risks in Audubon County. These goals will help steer the county with hazard planning as well as comprehensive planning as these goals affect the safety of all residents and visitors to Audubon County.

GOALS

Minimize damage to critical facilities, infrastructure, and other community assets from the effects of hazards

Being able to minimize the damage to the critical facilities, infrastructure, and other assets will reduce the amount of clean-up and financial assistance necessary post-hazard event. This will help with reducing utility outages. It will also help protect structure which house important records of the County and its cities.

- Action Items:**
- Encourage regular inspection of critical facilities
 - Maintain a 24/7 directory of critical facility contacts
 - Participate in buy-out projects when available

Minimize to the greatest possible extent the vulnerability of the people of Audubon County to the impacts of all identified hazards

Protection of the lives of the residents of Audubon County is the most important goal. Ensuring that all residents of the county are protected to the fullest extent possible during a hazard event is the primary goal, and there are a number of ways that the county can assist in the protection of its people.

- Action Items:**
- Establish a list of homebound/special needs population
 - Community drills
 - Build a saferoom at Littlefield
 - Train/coordinate surrounding communities for confined space extrication
 - Obtain/purchase needed supplies/equipment for confined space extrication
 - Alert system for Littlefield Recreation Area
 - Update the wireless radio system and dispatcher room
 - Implement reverse 911
 - Train general public where to go for information

Improve coordination, communication, and response operations with other relevant organizations

Working together in the event of a hazard can allow organizations to spread out and cover a larger area, protecting more people, infrastructure, and assets from damage. Working to improve the communication and coordination between relevant organizations will allow for a quicker, more unified response.

- Action Items:**
- Develop HAZMAT resource contacts within the county and with other counties
 - Write down county's action in case of emergency (what is the county doing and what should the others do)
 - Public safety radio for conservation officer
 - Encourage joint training exercises
 - Coordinate flood control efforts with landowners and county road departments
 - Update emergency communication equipment
 - Develop/educate on bomb threat response protocol and ensure school staff, county staff, Sheriff and all other applicable parties understand the response chain and protocols
 - Join a HAZMAT group to improve response time and reliability

Improve public communication, education, and awareness of hazards and their risks in Audubon County

Informing the public about the hazards they are susceptible to will allow them to create their own plans to respond in the event of a hazard. Having a more prepared public will help minimize the effects hazards have on the county.

- Action Items:**
- Instruct homebound people to develop a plan for severe weather events
 - Acquire NOAA weather radios for selected businesses and residents
 - Acquire additional radios when funding is available

Complete structural projects that will prevent and improve the response to hazards

Structural projects can be utilized in a number of ways. Certain projects can reduce the effects that hazards will have on a community (ex- floodwalls), others create a location for communities to gather in response to a hazard (saferoom). These projects can help a community recover quicker from a hazard event.

- Action Items:**
- Create a Emergency Operations Center for the county and response committee to operate out of after a hazard event
 - Replace high priority levees/dams

