CHAPTER 1
INVENTORY

The inventory of existing conditions is the initial step in the preparation of the Sawyer County Airport (HYR) Master Plan. The inventory will serve as an overview of the airport's physical and operational features, including facilities, users, and activity levels, as well as specific information related to the airspace, air traffic activity, and role of the airport. Additionally, a summary of socioeconomic characteristics and a review of existing environmental conditions on and adjacent to the airport are detailed, which will provide further input into the study process.

Information provided in this chapter serves as the historical baseline for the remainder of the master plan, which is compiled using a wide variety of resources, including: applicable planning documents; on-site visits; interviews with airport staff, tenants, and users; aerial and ground photography; federal, state, and local publications; and project record drawings. Specific sources are listed below and environmental resources are detailed at the end of this chapter.

Inventory Source Documents:

- Sawyer County Airport Layout Plan Updates (2007)
- Sawyer County's Website
- Sawyer County's Comprehensive Plan (2021)
- Sawyer County Airport Federal Aviation Administration (FAA) Form 5010, *Airport Master Record*

AIRPORT CHARACTERISTICS

SETTING

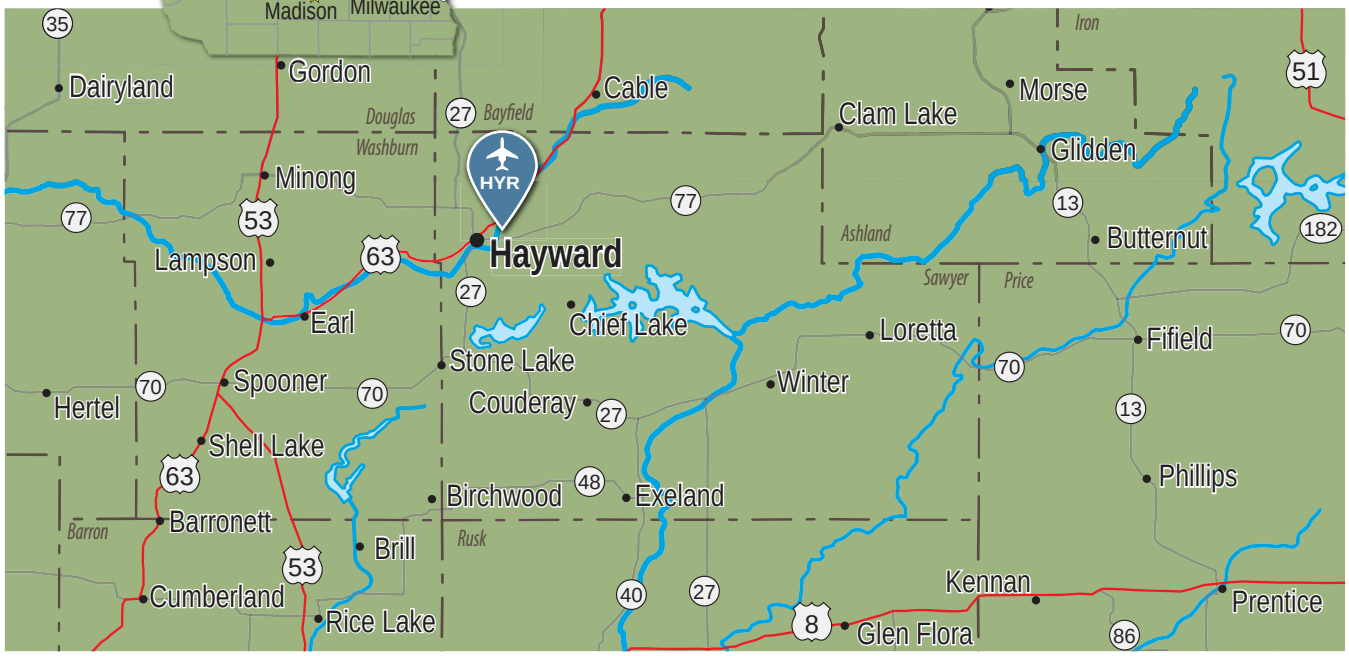
Sawyer County Airport is a general aviation airport located in the Town of Hayward in northwestern Wisconsin. The airport is two miles northeast of the City of Hayward, which is the Sawyer County seat. An estimated 18,295 people reside within Sawyer County's 16 towns, four villages, one city, and Lac Courte Oreille Tribal Nation (U.S. Census Bureau, 2021 estimate). Sawyer County is bordered by Bayfield and Ashland Counties to the north, Washburn County to the west, Rusk County to the south, and Price County to the east. Major industries in the county include leisure and hospitality; education and health services; and trade, transportation, and utilities. Sawyer County is a popular destination for outdoor recreation in the Wisconsin north woods region. It is home to some of the state's most well-known fishing and hunting destinations, including almost 500 lakes and 117,000 acres of county-owned land. In the spring, summer, and fall, Sawyer County hosts fishing events, bike races, and the world-famous Lumberjack World Championships. In the winter, Sawyer County is best known for its snowmobiling and cross-country skiing trail system, which hosts the largest cross-country skiing event in North America, the American Birkebeiner. **Exhibit 1A** depicts the regional setting.

The airport property is located at an elevation of 1,216 feet above mean sea level (MSL) and includes 471 acres of land bordered by natural features and private and public land. The wooded eastern side of the property is adjacent to Sawyer County Forest land, Hatchery Creek, and private landowners. The southern side is adjacent to private landowners and Hatchery Creek. The western side of the property is bounded by Airport Road and the Namekagon River. Additional private landowners border the property along the northern edge.

HYR is well situated for local vehicle access from main highways in the county. Users may access the nearby highway infrastructure via Airport Road and West Hospital Road. West Hospital Road connects travelers to U.S. Highway 63 less than a mile away, which generally runs northeast-southwest. Airport Road connects travelers to the east-west highway WI-77, only 1.2 miles to the south. The nearest commercial service airports are Chippewa Valley Regional Airport, located 106 miles south in Eau Claire; Rhinelander-Oneida County Airport, located 123 miles east; Duluth International Airport, located 81 miles northwest; and Minneapolis-St. Paul International Airport, located 152 miles southwest.

Sawyer County Airport Terminal Building


Superior
HYR
Hayward
Sawyer Co.
Eau Claire
Green Bay
WISCONSIN
Oshkosh
Madison
Milwaukee


35
Dairyland
Gordon
Douglas
Washburn
27
Bayfield
Cable
HYR
Hayward
Minong
77
53
Lampson
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Earl
27
Chief Lake
Stone Lake
Spooner
70
70
Hertel
Couderay
27
Shell Lake
63
Birchwood
48
Exeland
Barron
Barronett
Rusk
Brill
53
Cumberland
Rice Lake
40
27
8
Glen Flora
Kennan
Prentice
86
Iron
51
Morse
Clam Lake
Glidden
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Ashland
Butternut
182
Sawyer
Price
Loretta
Fifield
70
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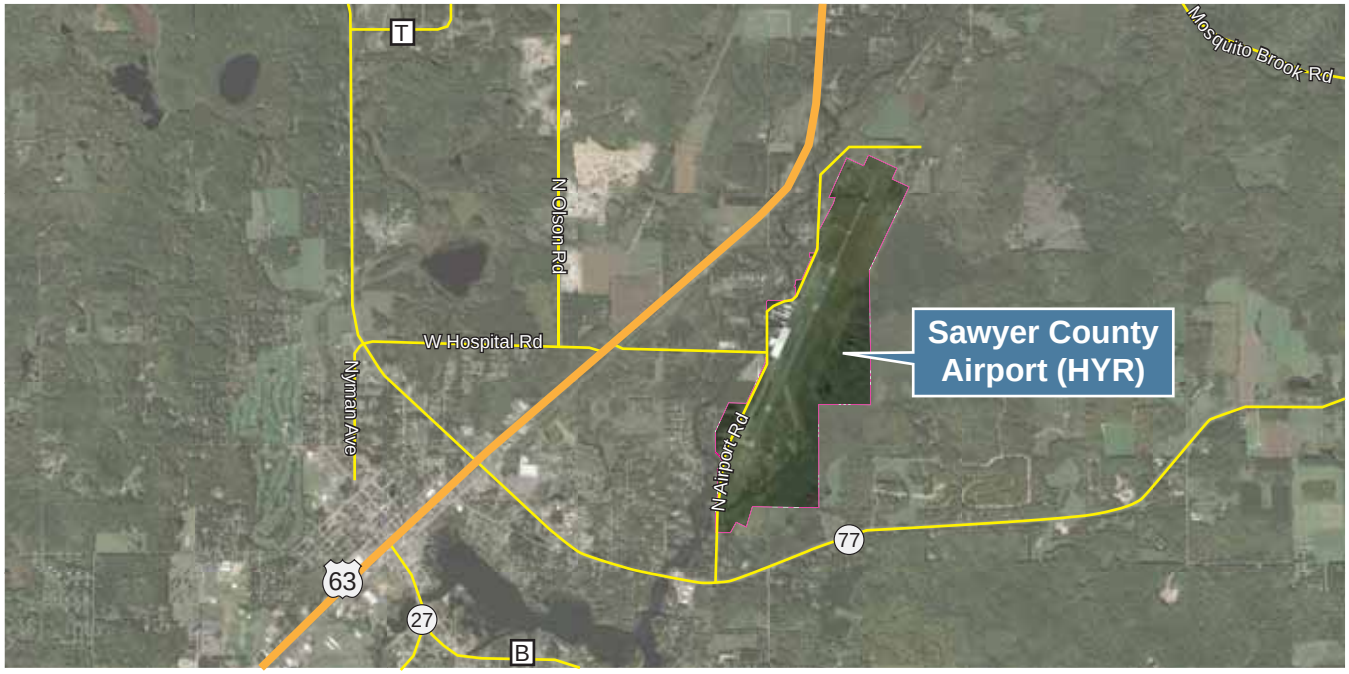
Winter
13
Phillips


T
Mosquito Brook Rd
N Olson Rd
W Hospital Rd
Nyman Ave
Sawyer County Airport (HYR)
N Airport Rd
77
63
27
B

AIRPORT ADMINISTRATION

HYR is owned and operated by Sawyer County. A contracted airport manager – also the airport's fixed-base operator (FBO) – is responsible for the day-to-day operations, oversight, and management of the airport. The airport is staffed Monday through Friday from 8:00 a.m. to 6:00 p.m. from May to October and 8:00 a.m. to 5:00 p.m. from November to April. A Sawyer County public works subcommittee oversees the airport manager and coordinates airport-related matters that need county board approval.

CLIMATE AND WEATHER CONDITIONS

Weather conditions are important to the planning and development of an airport due to the impact weather has on aircraft performance and the usability of the airport during adverse conditions. Temperature is an essential factor in determining runway length requirements, while wind direction and speed are used to determine optimum runway orientation. The need for navigational aids and lighting is determined by the percentage of time that visibility is impaired due to cloud coverage or other conditions.

The climate of Hayward, Wisconsin, is categorized as humid continental, meaning the weather is typically humid with severe winters, no dry season, and generally warm summers. The average annual high temperature is 52 degrees Fahrenheit (°F); the average annual low temperature is about 31°F. Weather data in **Exhibit 1B** are provided by the National Oceanic and Atmospheric Administration (NOAA) via the on-airport Automated Surface Observation System (ASOS). July is the hottest month of the year, with average highs reaching 80°F, and January is the coldest month, with average lows dropping to 4°F. Precipitation amounts are highest during the summer, with average monthly rainfall over four inches during the months of June, July, and August. November through March is much drier, averaging less than two inches monthly. Hayward receives approximately 61 inches of snow each winter.

Table 1A presents data from the airport's ASOS. The data indicate that visual meteorological conditions (VMC) occur 88.37 percent of the time. When under VMC conditions, pilots can operate using visual flight rules (VFR) and are responsible for maintaining proper separation from objects and other aircraft. Instrument meteorological conditions (IMC) account for all weather conditions less than VMC conditions that still allow for aircraft to safely operate under instrument flight rules (IFR). Under IFR, pilots rely on instruments in aircraft to accomplish navigation. IMC conditions occur 8.33 percent of the time. Less than IMC, or poor visibility conditions (PVC), are present 3.45 percent of the time. PVC weather conditions are lower than published instrument approach minimums, thereby making the airport inaccessible to air traffic during those periods.

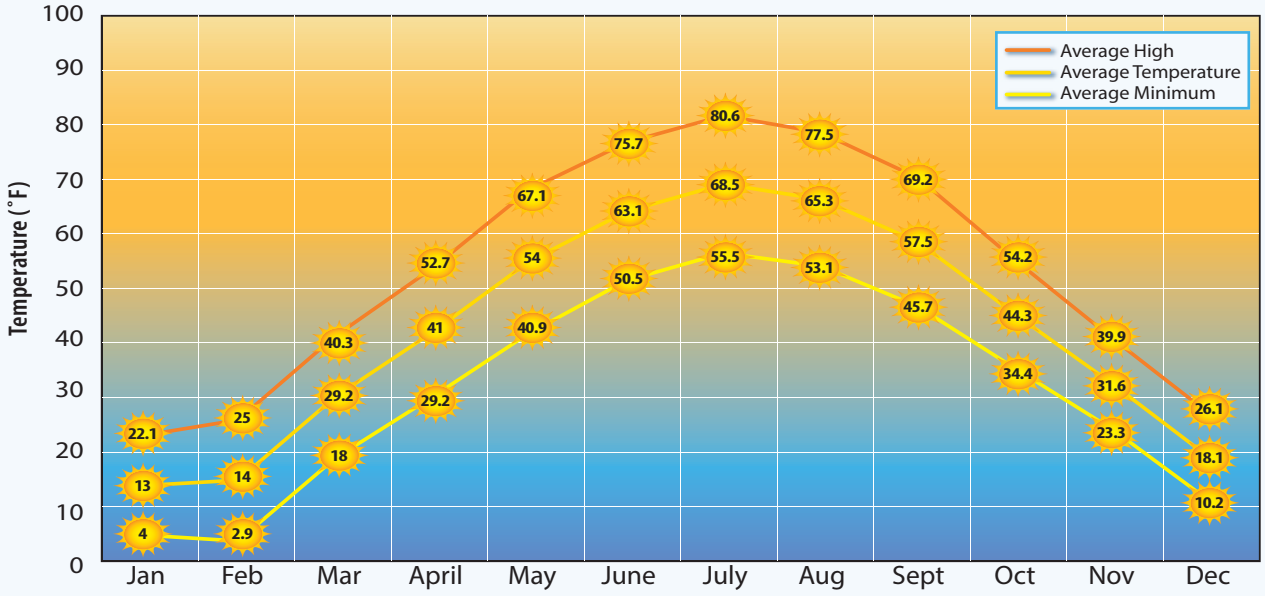
TABLE 1A | Weather Observations Breakdown

Condition	Cloud Ceiling	Visibility	Percentage
VMC	≥ 1,000' AGL	≥ 3 statute miles	88.37%
IMC	≥ 500' AGL and < 1,000' AGL	≥ 1 to < 3 statute miles	8.33%
PVC	<500' AGL	< 1 statute mile	3.45%

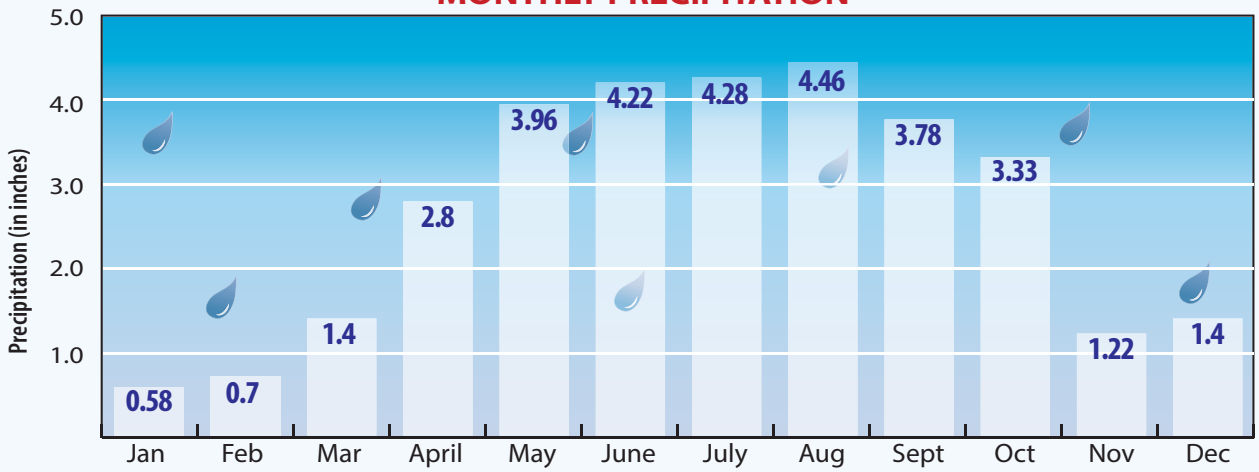
VMC = visual meteorological conditions; IMC = instrument meteorological conditions; PVC = poor visibility conditions; AGL = above ground level

Source: Hayward Municipal Airport Weather Observations, ASOS 1/1/13 - 12/31/22. Site: 72650894973

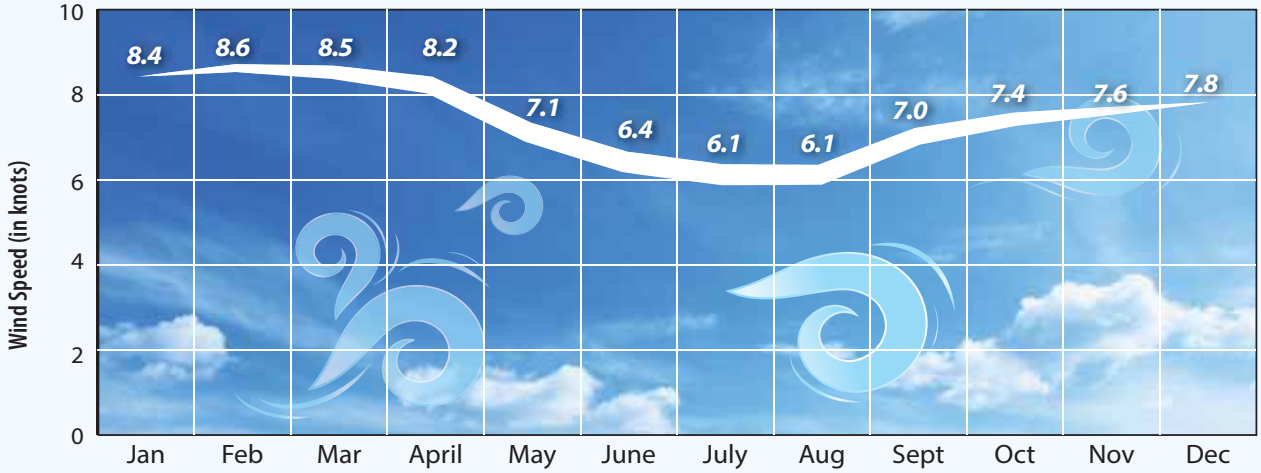
MONTHLY TEMPERATURES



MONTHLY PRECIPITATION



AVERAGE WIND SPEED BY MONTH



Source: Hayward Municipal Airport, GHCND: USW00094973, NOAA 2006-2020

CAPITAL IMPROVEMENT PROGRAM

Similar to the maintenance, repair, rehabilitation, and expansion of highway systems, airports also undergo infrastructure projects to prolong pavement life, increase safety, and update geometry to new standards and demand. Infrastructure projects are critical to an airport's safety and success and require significant funding, planning, and resources. Airport projects are primarily funded by federal aid administered by the FAA through the Airport Improvement Program (AIP). Depending on the airport's classification and location, AIP projects in Wisconsin are 90 percent federally funded, five percent state-funded, and five percent airport sponsor-funded. The Wisconsin Department of Transportation (WisDOT) Bureau of Aeronautics (BOA) is a participant in the State Block Grant Program, which gives the BOA the responsibility to administer AIP grants to airports in the state which are classified as other than primary. **Table 1B** summarizes approximately $12,799,000 in grant-aided capital improvement projects at HYR since 2013, including funding for a variety of projects related to airfield safety; drainage; pavement construction and rehabilitation; and airport planning.

TABLE 1B | Airport Capital Improvement Project History

Program Year	Project Number	Project Description	Total Amount
2013	HYR0996 2	Construct ILS; install MALSR; Trout Stream relocation; construction engineering for ILS	$2,368,883
2013	HYR0996 A1 - AIP 04	Land acquisition; wetland mitigation; apron expansion; relocate airport road, construct parallel taxiway; obstruction lighting; tree clearing; ALP update; ASOS relocation	$6,935,348
2015	HYR0997 - AIP 06	Purchase snow removal equipment and attachments	$135,511
2016	HYR0998 - AIP 05	Design fence; hangar taxilane culvert and culvert for NAVAID; deer fence; reconstruct hangar taxilane culvert	$1,038,777
2017	HYR1000	Purchase commercial mower	$14,797
2017	HYR1001 - AIP 07	Crack fill: Runway 3/21	$50,000
2019	HYR1003 SAP 58	ILS improvement: glideslope ground plane expansion	$700,000
2021	HYR1002 - AIP 08	Design apron and taxiway reconstruction; repair concrete apron; replace rotating beacon and tower; reconstruct apron and adjoining parallel taxiway; reconstruct hangar taxilanes; crack fill and seal coat airfield pavements	$880,396
2022	HYR1005 - AIP 10	Design rehabilitation of Runway 3/21	$310,881
2022	HYR1006 - AIP 11	Conduct airport master plan	$364,841
Total FY 2013 - 2022			**$12,799,434**

Source: Wisconsin BOA Airport Project Funding Report 2013-2023

AIRPORT SYSTEM ROLE

Airport planning occurs on multiple levels: national, state, and local. Each level has a different emphasis and purpose. On the national level, Sawyer County Airport is included in the *National Plan of Integrated Airport Systems* (NPIAS). At the state level, the airport is included in the *Wisconsin State Airport System Plan 2030*. The local planning level includes the last Airport Master Plan and Airport Layout Plan (ALP) update from 1996.

FEDERAL AIRPORT PLANNING

Many of the nation's existing airports were either initially constructed by the federal government, or their development and maintenance was partially funded through various federal grant-in-aid programs to local communities. The system of airports that exists today is largely due to federal policy that promotes the development of civil aviation. As part of a continuing effort to develop a national airport system, U.S. Congress has maintained a national plan for the development and maintenance of airports.

The FAA maintains a database of public-use airports that are eligible for AIP funding, called the *National Plan of Integrated Airport Systems* (NPIAS). The NPIAS is published and used by the FAA in administering the AIP, which is the source of federal funds for airport improvement projects across the country. The AIP is funded exclusively by user fees and user taxes, such as those on fuel and airline tickets. An airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP. FAA airport classifications are listed in **Table 1C** along with regional examples.

TABLE 1C | FAA Airport Classifications

Airport Category	Regional Example
PRIMARY COMMERCIAL SERVICE	
Large Hub	Minneapolis-St. Paul International Airport (MSP)
Medium Hub	General Mitchell International Airport (MKE)
Small Hub	Appleton International Airport (ATW)
Nonhub	Duluth International Airport (DLH)
NONPRIMARY COMMERCIAL SERVICE	
	Falls International Airport/Einarson Field (INL)
RELIEVER	
	Lawrence J. Timmerman Airport (MWC)
GENERAL AVIATION	
National	Waukesha County Airport (UES)
Regional	Wausau Downtown Airport (AUW)
Local	**Sawyer County Airport (HYR)**
Basic	Cable Union Airport (3CU)
Unclassified	Crivitz Municipal Airport (3D1)

Source: FAA NPIAS (2023-2027)

There are 87 airports in Wisconsin that are included in the NPIAS. General aviation (GA) airport role descriptions are listed in **Table 1D**. According to the NPIAS, the FAA projects an estimated development cost of $9.65 million over the next five years for necessary improvements at Sawyer County Airport.

TABLE 1D | FAA General Aviation Airport Categories

Classification	Role Description
National	National GA airports support the national airport system by providing communities with access to national and international markets in multiple states throughout the United States. National airports have very high levels of aviation activity, with many jets and multi-engine propeller aircraft.
Regional	Regional GA airports support regional economies by connecting communities to regional and national markets. Generally located in metropolitan areas and serve relatively large populations. Regional airports have high levels of activity, with some jets and multi-engine propeller aircraft. The metropolitan areas in which regional airports are located can be metropolitan statistical areas with a core urban population of at least 50,000 or micropolitan statistical areas with a core urban population between 10,000 and 50,000.
Local	Local GA airports supplement local communities by providing access to markets within a state or immediate region. Local airports are most often located near larger population centers, but not necessarily in metropolitan or micropolitan areas. Most of the flying at local airports is by piston aircraft in support of business and personal needs. These airports typically accommodate flight training, emergency services, and charter passenger service.
Basic	Basic GA airports link their communities with the national airport system and support general aviation activities, such as emergency response, air ambulance service, flight training, and personal flying. Most of the flying at basic airports is self-piloted for business and personal reasons using propeller-driven aircraft. They often fulfill their role with a single runway or helipad and minimal infrastructure.
Unclassified	Currently in the NPIAS but with limited activity.

Source: FAA NPIAS (2023-2027)

STATE AIRPORT PLANNING

At the state level, Sawyer County Airport is included in the *Wisconsin State Airport System Plan* (SASP) *2030*, adopted February 19, 2015. The report assigned state roles to and evaluated all 98 public-use airports in the state based on level of activity, economic impact, facilities, and accessibility. Sawyer County airport was assigned the existing role of medium general aviation airport. Wisconsin State airport classifications are defined in **Table 1E**.

TABLE 1E | Wisconsin SASP Classifications

Classification	Role Description	Example
Commercial Service	Commercial service airports support regularly scheduled year-round commercial airline service and support the full range of GA activity to domestic and international destinations.	Austin Straubel International Airport (GRB)
Large GA	Large GA airports support all GA aircraft, including daily operations of all types of business jets. These airports generally serve as domestic transportation centers and may support international business activity.	Waukesha County Airport (UES) **Future - Sawyer County Airport (HYR)**
Medium GA	Medium GA airports support most single- and multi-engine GA aircraft, including those commonly used by businesses. These airports support regional and in-state air transportation needs.	**Current - Sawyer County Airport (HYR)**
Small GA	Small GA airports primarily support single-engine GA aircraft but may also accommodate small twin-engine GA aircraft and occasional business aircraft activity.	Cable Union Airport (3CU)

Source: Wisconsin State Airport System Plan 2030

The SASP analysis of future system roles identified Sawyer County Airport as a recommended airport for upgrading to the future role of large GA airport. This recommendation was due to the projection of increased population growth rates for Sawyer County and economic growth requiring facilities and services to meet growing demand.

LOCAL AIRPORT PLANNING

2007 Airport Layout Plan | An airport layout plan (ALP) for Sawyer County Airport was developed in 2007. The future conditions of the airport were shown to include the now-constructed Taxiway A extension and connectors A1 and A2 to both ends of Runway 3-21; GA apron expansion; and the ILS system, comprised of a glideslope and MALSR approach lighting system.

AIRPORT FACILITIES AND SERVICES

There are three broad categories of facilities and services at the airport: airside, landside, and support.

- **Airside Facilities:** Facilities directly associated with aircraft operations, including runways, taxiways, lighting, markings, navigational aids, and weather reporting.
- **Landside Facilities:** Facilities necessary to provide a safe transition from surface to air transportation and which support aircraft parking, servicing, storage, maintenance, and operational safety.
- **Support Facilities:** Serve as a critical link to provide the necessary efficiency to aircraft ground operations, such as fuel storage, airport maintenance, firefighting, and fencing.

AIRSIDE FACILITIES

RUNWAYS

Sawyer County Airport provides airport users with two runways, as depicted on **Exhibit 1C**. Primary Runway 3-21 is 5,002 feet long by 100 feet wide and is constructed of asphalt. Runway 16-34 is a turf runway that is 1,088 feet long by 120 feet wide and is operational only during the warmer months. Runway 16-34 is located east of primary Runway 3-21; it is oriented at an angle and does not intersect. The information below provides additional details regarding each runway.

Runway 3-21 | Runway 3-21 serves as the airport's primary runway. It is generally oriented northeast-southwest and is constructed of asphalt. The runway was last reconstructed in 2001 and underwent a project in 2014 to upgrade its pavement markings and navigation system for precision approaches. This runway currently features an ILS system on the Runway 21 end, with precision pavement markings noted to be in good condition. Both ends and sides of the runway pavement transition directly to turf and do not feature paved blast pads or shoulders.

Runway 21

The runway has a weight-bearing capacity of 40,000 pounds for single wheel loading (S), 65,000 pounds for dual wheel loading (D), and 82,000 pounds for single tandem wheel loading (2S) aircraft. The runway generally slopes down from the Runway 21 end by a gradient of 0.15 percent.

Runway 16-34 | Runway 16-34 is a turf runway positioned on the southeast side of the airport property and is generally oriented northwest-southeast. It is maintained for operation in the warmer months and closes from December 1 to April 15 because it is unusable during winter weather conditions. This runway's edges are marked with orange steel A-frame boundary markers to delineate the usable landing area. No paved taxiways connect to this runway.

TAXIWAYS

Sawyer County Airport features full-length parallel Taxiway A, as well as four taxiway connectors providing aircraft access to both ends of Runway 3-21 and the FBO and hangar aprons. The north and south ends of the parallel taxiway were constructed in 2013 and feature two connectors at the runway ends: A1 at the Runway 21 end and A2 at the Runway 3 end. Two additional taxiway connectors, Taxiways C and B, are located midfield and provide access to the FBO and hangar aprons. The center portion of the parallel taxiway section is integrated with the FBO and hangar aprons. Taxiways A, A1, A2, and B are 35 feet wide, while taxiway C is 50 feet wide. The south section of Taxiway A has 300-foot separation from

Runway Data Table

	Runway 3-21		Runway 16-34	
Runway Feature	**3 End**	**21 End**	**16 End**	**34 End**
Length (feet)	5,002'		1,088'	
Width (feet)	100'		120'	
Runway End Elevation (MSL)	1,208.6'	1,216.0'	1,211.8'	1,209.6'
Gradient	+0.15	-0.15	-.20	+.20
Runway Magnetic Heading	025	205	163	343
Runway Design Code (RDC)	B-II	B-II	A-I(S)	A-I(S)
Pavement Surface Material	Asphalt		Turf	
Pavement Condtion	Fair		Fair	
Pavement Markings	Non-Precision	Precision	RWY Edge Marked with Orange Steel A-Frames	
Pavement Marking Conditions	Good	Good	NA	NA
Traffic Pattern Direction	Left	Left	Left	Left
Pavement Load Bearing Strength				
Single Wheel Loading (S)	40,000		Not Reported	
Dual Wheel Loading (D)	65,000		Not Reported	
Single Tandem Wheel Loading (2S)	82,000		Not Reported	
Visual and Instrument Approach Aids				
Visual Slope Indicator	PAPI-4 on Left	PAPI-4 on Right	None	None
Visual Glide Angle	3.00 Degrees	3.00 Degrees	Not Reported	Not Reported
Approach Lighting	None	MALSR	None	None
Edge Lighting	MIRL	MIRL	None	None
Runway End Identifier Lights (REILs)	Yes	None	None	None
Instrument Approach Aids	None	ILS/DME	None	None

LEGEND

- Airport Property Line
- A — Taxiway Designation

KEY

ASOS - Automated Surface Observation System
ILS - Instrument Landing System
MALSR - Medium Intensity Approach Light System with Runway Alignment Indicator Lights
PAPI - Precision Approach Path Indicator
REILs - Runway End Identifier Lights

W Hospital Rd
63
Namekagon River
Rotating Beacon
ILS Hold Position
Risberg Rd
Holding Bay
Terminal Building
ILS Antenna and ASOS
MASLR
Windcone
Holding Bay
N Airport Rd
PAPI-4R
REILs
PAPI-4L
ILS Localizer
A2
A
C
B
A
A1
Runway 3-21 (5,002 x 100')
Runway 16-34 (1,088 x 120')
Hayward DME
77
N
0
800
SCALE IN FEET
Photo: Google Earth 6/2021

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Runway 3-21 (centerline to centerline) while the north section of the taxiway has 400-foot separation. The bend in the taxiway is located just south of the main aircraft apron. Both north and south ends of the parallel taxiway include a holding bay area for aircraft to queue and perform engine runup checks while awaiting departure. The hold aprons also allow aircraft to pass one another. The Runway 3 end holding bay is located at the south end of the south taxiway and the Runway 21 holding bay is located prior to the ILS holding position, approximately 1,000 feet from the runway end. Taxiway features are depicted on **Exhibit 1C**.

AIRFIELD PAVEMENT CONDITION

Airfield pavement includes runway, taxiways, and aprons. Pavement condition management and improvement is highly important due to the hazard poor pavement can pose to aircraft operational safety. Cracked and broken pavement may damage aircraft tires, landing gear, or become dislodged due to prop and jet wash, creating dangerous foreign object debris (FOD) on the airfield. The WisDOT BOA has a pavement management program (PMP) in place for the airport which evaluates airfield pavement and provides a plan for the replacement and repair of pavement surfaces in poor condition. Pavement conditions are analyzed by calculating a pavement condition index (PCI) for areas of pavement with similar properties (type, dimensions, and construction date). The PCI uses a scale from 0 to 100 to identify the pavement condition, where 0 indicates a failed pavement and 100 is a newly constructed pavement. These ratings consider distress type, quantity, and severity to calculate a single PCI value.

A pavement management report for Sawyer County was completed in 2020 and the reported PCI map is included in **Exhibit 1D.** The average area-weighted condition of Sawyer County Airport pavement is 75, with conditions ranging from 41 to 100. The runway and taxiways have PCI values above 71 and fall into the preventative maintenance category for repairs. The hangar apron and taxilanes were noted to have PCI values between 41 and 44 and fell under the major rehabilitation category for repair; these areas have since been repaired, with new asphalt pavement constructed around the hangars and north portion of the apron in 2023.

AIRFIELD LIGHTING

Airfield lighting systems give pilots enhanced visual cues for airport elements such as taxiways and runways, and provide guidance during night operations and periods of poor visibility. A variety of lighting systems are installed at Sawyer County Airport for this purpose and are categorized below by function.

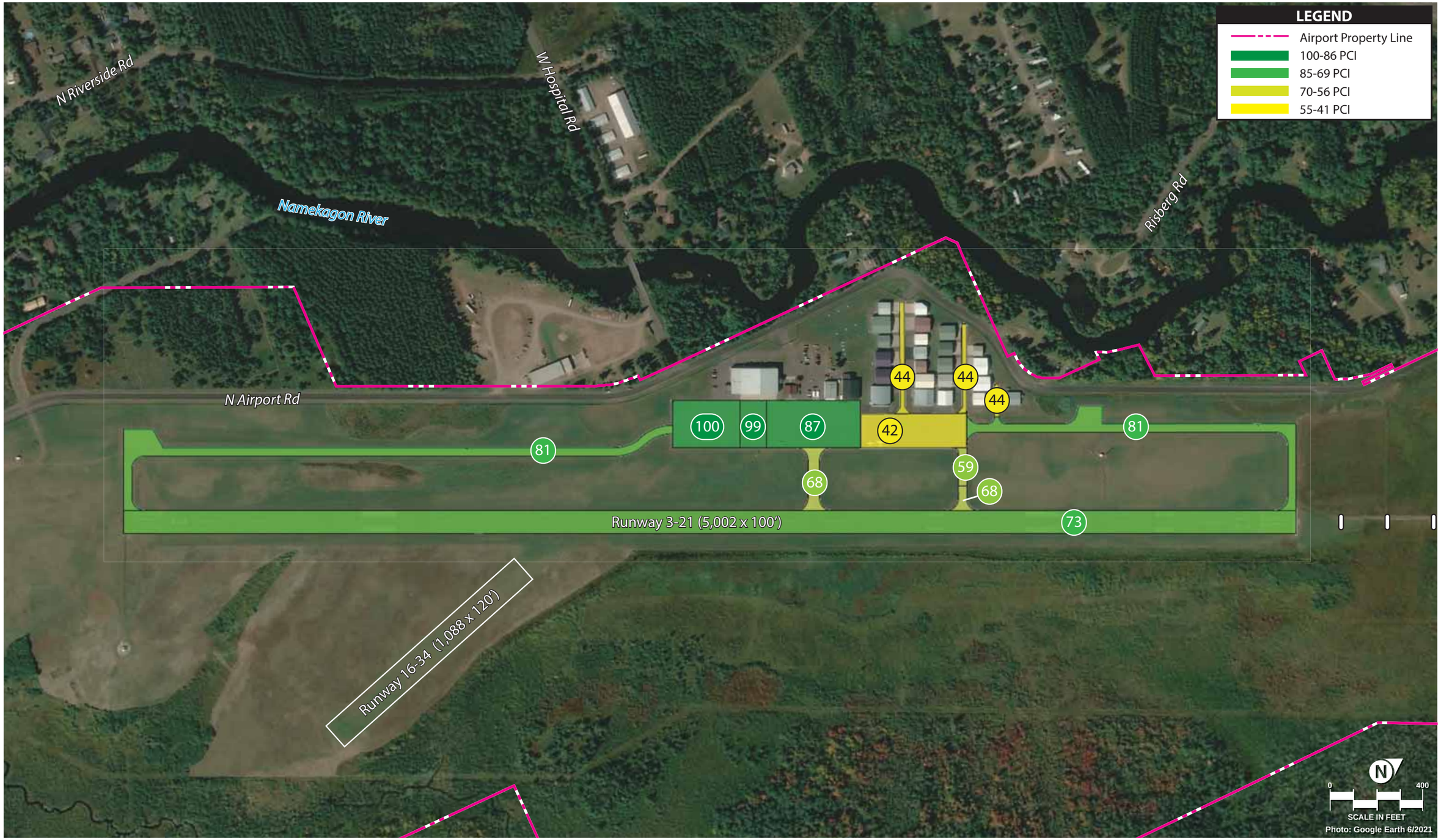
Airport Identification Lighting | The location of the airport is universally identified by a rotating beacon at night and during low-visibility weather. The beacon projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon at Sawyer County Airport is located on top of a pole structure on the west side of the airfield.

Rotating Beacon

Pavement and Edge Lighting | Pavement edge lighting utilizes light fixtures placed near the edge of the pavement to define the lateral limits of the pavement. This lighting is essential for safe operations at night and during times of low visibility in order to maintain safe and efficient access to and from the runway and aircraft parking areas. Different colored edge lights identify different pavement uses: runway edge lights are white and taxiway edge lights are blue. Sawyer County Airport's runways are equipped with a medium intensity runway lighting (MIRL) system. Each runway end is equipped with threshold lights which emit green light outward from the runway and emit red light toward the runway. Green lights indicate the landing threshold to arriving aircraft and red lights indicate the end of the runway for departing aircraft. The taxiways at the airport are equipped with medium intensity taxiway lighting (MITL). All edge lights are mounted approximately 30 inches off the ground.

Taxiway A Edge Lights

Visual Approach Lighting | Visual approach aids have been installed at HYR to assist pilots in determining the correct descent path to the runways during an approach. Precision approach path indicator (PAPI) lighting provides visual information that helps pilots determine if they are below, above, or on the specified glide angle. A PAPI is made up of either two lights (PAPI-2) or four lights (PAPI-4) and is located on either the right (PAPI-4R) or left (PAPI-4L) side of the runway. The system emits two-color light beams (white and red) and is specifically designed to display either color depending on an aircraft's position relative to the glide angle. PAPIs have an effective visual range of five miles during the day and 20 miles at night. Sawyer County Airport has a PAPI-4 located on the right side of Runway 21 (PAPI-4R) and a PAPI-4 located on the left side of Runway 3 (PAPI-4L).



Source: 2020 Wisconsin Pavement Management Report - Sawyer County Airport

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PAPI-4R Serving Runway 21

PAPI-4L Serving Runway 3

Approach Lighting Systems | Approach lighting systems (ALS) provide enhanced runway approach lights to supplement instrument approaches to a runway. There are two types of systems: high intensity, which is used for Category II and III approaches, and medium intensity, which is used for Category I approaches. Sawyer County Airport is served by a medium intensity approach lighting system with runway alignment indicator lights (MALSR). This lighting system includes green lights at the runway threshold, seven light bars, and five sequenced flashers which sequence toward the threshold.

Runway End Identifier Lights (REILs) | REILs provide a visual identification of the runway end for landing aircraft. The REILs consist of two synchronized flashing white lights which are located laterally on each side of the runway end, facing the approaching aircraft. These flashing lights can be seen day or night for a distance up to 20 miles, depending on visibility conditions. Runway 3 has a REIL system installed at its threshold. The REILS are owned and maintained by Sawyer County.

Pilot-Controlled Lighting | During nighttime hours or during times of low visibility, pilots can utilize the pilot-controlled lighting system to activate certain airfield lights from their aircraft. A pilot can turn on and change the intensity of the lighting system by clicking their radio transmitter microphone a certain number of times in series while tuned into the common traffic advisory frequency (CTAF) of 122.8 megahertz (MHz).

Obstruction Lighting Along Airport Road

Obstruction Lighting | Obstruction lighting was added to mark the locations of trees and structures adjacent to the airport when the ILS was implemented on Runway 21. Obstructions along airport road and along the tree line east of the airfield have been lit with double-bulb red obstruction lights on steel poles ranging in height from 35 to 75 feet from the ground.

AIRFIELD SIGNAGE

The airport has a runway and taxiway signage system that assists pilots in identifying their location on the airfield and directing them to their desired location. The presence of runway and taxiway signage is an essential component of a surface movement guidance control system and is necessary for the safe and efficient operation of the airport. The signage system installed at Sawyer County Airport includes lighted runway and taxiway designations, ILS holding positions, routing/directional information, and runway exits.

Taxiway A2 and Runway 3 Designator

AIRPORT PAVEMENT MARKINGS

Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. Sawyer County Airport provides and maintains a pavement marking system in accordance with FAA Advisory Circular (AC) 150/5340-1, *Standards for Airport Markings*. The runway pavement markings at HYR are noted to be in good condition.

Specific configurations of pavement markings are used on different runways to identify and aid in the types of operations those runways may have. Runway 21 has precision pavement markings due to its precision instrument approach and Runway 3 has non-precision pavement markings. Taxiway and taxilane centerline markings are provided to assist pilots in maintaining proper clearance from pavement edges and objects near the taxiways.

Taxiway markings also include hold position markings to enhance pilots' awareness when nearing a runway. Hold position markings are used on a taxiway prior to runway/taxiway intersections to alert taxiing aircraft that they are about to enter an active runway. The hold position markings function to keep aircraft from entering the runway environment until it is safe to do so. Hold position markings are located 250 feet from the runway centerline.

NAVIGATIONAL AIDS

Navigational aids (NAVAIDS) are electronic devices that transmit radio frequencies which pilots in properly equipped aircraft can translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to and from HYR include an instrument landing system (ILS), distance measuring equipment (DME), and global positioning system (GPS). ILS and DME systems require ground-based facilities to emit the radio frequency information received by aircraft equipment. GPS utilizes satellites in the earth's orbit to provide navigational information to aircraft without the need for a ground-based facility.

Runway 21 features an ILS with glideslope and localizer antennas, as well as the aforementioned MALSR. The full ILS provides for the published precision instrument approach for aircraft operations during low visibility or while flying on an instrument flight plan. The system was installed in 2013 along with the MALSR and parallel Taxiway A. The ILS system includes three main components: the localizer, glideslope, and approach lighting system (ALS). The localizer is placed approximately 540 feet off the departure end of Runway 21 and provides final approach azimuth navigation, which helps pilots determine the position of their aircraft either left or right of centerline. The glideslope emits signals for vertical navigation as either above or below a set glide path of three degrees to the horizon. Finally, the ALS offers positive visual lighting clues for runway alignment and location. All of the NAVAIDS at Sawyer County Airport are owned by the FAA, except for the REILs.

Glideslope Equipment

Localizer Equipment

A DME is located at Sawyer County Airport on the southeast corner of the airfield, approximately 500 feet east of the Runway 3 threshold. The DME was previously a part of the VOR-DME; however, the VOR (very high frequency omnidirectional range system) has been decommissioned by the FAA. Now, the nearest VOR facility is the Duluth International Airport (DLH) VOR in Duluth, Minnesota, located approximately 58 nautical miles (nm) northwest of Sawyer County Airport.

The GPS differs from the systems described above because it does not use ground-based facilities for navigation. Instead, satellites placed in orbit around the earth transmit electronic radio signals which pilots of properly equipped aircraft use to determine altitude, speed, and other navigational information. With GPS, pilots can navigate directly to any airport in the country and are not required to navigate using a specific navigation facility.

These various NAVAID systems are necessary for aircraft operating into and out of the airport via flight procedures. Flight procedures are a set of predetermined aircraft guidance maneuvers established by the FAA, using electronic or visual NAVAIDS that assist pilots in locating and landing or departing from an airport. Sawyer County Airport has three published instrument approach procedures.

Instrument approach procedures assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions. They are defined as either precision, approach with vertical guidance (APV), or non-precision. Precision instrument approach aids provide an exact course alignment and vertical descent path for an aircraft on final approach to a runway with height above threshold (HAT) lower than 250 feet and visibility lower than ¾ mile. APVs also provide course alignment and vertical descent path guidance and have HATs of 200 feet or more and visibility minimums of ½ mile or greater. Non-precision instrument approach aids provide only course alignment information with no vertical component.

Instrument approach procedure capabilities are defined by visibility and cloud ceiling minimums. Visibility minimums define the horizontal distance a pilot must be able to see to complete the approach, while cloud ceilings define the lowest level a cloud layer (defined in feet above ground) can be situated for the pilot to complete the approach. If the observed visibility or cloud ceilings are below the minimums prescribed for the approach, the pilot cannot complete the instrument approach. **Table 1G** details the instrument approach procedure weather minimums at HYR.

TABLE 1G | Instrument Approach Weather Minimums by Aircraft Category

Instrument Approach	Category A	Category B	Category C	Category D
ILS or LOC - RWY 21				
S-ILS 21	1518' - 3/4 mile	1518' - 3/4 mile	1518' - 3/4 mile	1518' - 3/4 mile
S-LOC 21	1600' - 3/4 mile	1600' - 3/4 mile	1600' - 3/4 mile	1600' - 3/4 mile
Circling	1,860' - 1 mile	2,060' - 1-1/4 mile	2,120' - 2-3/4 mile	2,120'-3 mile
RNAV (GPS) - RWY 3				
LPV DA	1,514' - 1 mile	1,514' - 1 mile	1,514' - 1 mile	1,514' - 1 mile
LNAV/VNAV DA	1916' - 2-1/2 mile	1916' - 2-1/2 mile	1916' - 2-1/2 mile	1916' - 2-1/2 mile
LNAV MDA	1,780' - 1 mile	1,780' - 1 mile	1,780' - 1-1/2 mile	1,780' - 1-3/4 mile
Circling	1,860' - 1 mile	2,060' - 1-1/4 mile	2,120' - 2-3/4 mile	2,120' - 3 mile
RNAV (GPS) - RWY 21				
LPV DA	1,518' - 3/4 mile	1,518' - 3/4 mile	1,518' - 3/4 mile	1,518' - 3/4 mile
LNAV/VNAV DA	1,560' - 3/4 mile	1,560' - 3/4 mile	1,560' - 3/4 mile	1,560' - 3/4 mile
LNAV MDA	1,640' - 3/4 mile	1,640' - 3/4 mile	1,640' - 3/4 mile	1,640' - 3/4 mile
Circling	1,860' - 1 mile	2,060' - 1-1/4 mile	2,120' - 2-3/4 mile	2,120' - 3 mile

(xxxx'/x mile) = decision height in MSL/visibility minimum
Aircraft categories are based on the approach speed of aircraft, which is determined as 1.3 times the stall speed in landing configuration, as follows:
- Category A: 0-90 knots (e.g., Cessna 172)
- Category B: 91-120 knots (e.g., Beechcraft KingAir)
- Category C: 121-140 knots (e.g., Bombardier Challenger 350)
- Category D: 141-166 knots (e.g., Gulfstream G500)
- Category E: Greater than 166 knots (e.g., military jets)

Source: FAA Airport Data and Information Portal (ADIP)

WEATHER AND COMMUNICATION

Pilots are required to gather all available weather information prior to conducting a flight under IFR or when conducting a flight not in the vicinity of an airport. This means that flights coming in from other airports or flights departing HYR on an instrument flight plan must gather weather information provided by the weather reporting station located at the airport. On-airport weather reporting stations provide pilots with the best available weather information for the terminal area they represent. At Sawyer County Airport, time-sensitive weather information is provided by an automated surface observation system (ASOS) and is communicated to pilots via a radio

ASOS Equipment

frequency of 118.4 MHz. ASOS systems have multiple sensors and climate recording devices that measure and report cloud coverage; visibility; wind speed and direction; temperature; dew point; precipitation; and barometric pressure. The ASOS is located next to the ILS antenna between the north portion of Taxiway A and Runway 3-21. HYR also has a lighted wind cone located adjacent to the FBO ramp west of Runway 3-21, as identified on **Exhibit 1C**. The wind cone informs pilots of the wind direction and speed.

Lighted Wind Cone

LANDSIDE FACILITIES

Landside facilities are necessary to provide a safe transition from surface to air transportation and support aircraft parking, servicing, storage, maintenance, and operational safety. These facilities are shown on **Exhibit 1E**.

TERMINAL AND FIXED-BASE OPERATOR

Sawyer County Airport's terminal building is approximately 2,200 square feet and was constructed in 1973 and renovated in 2023. It is located midfield, west of Runway 3-21, and provides a lobby area, front desk, kitchen, restrooms, pilot lounge, outdoor aircraft viewing yard, and offices for airport management and the FBO.

Terminal Building as Seen from the Aircraft Apron

Hayward Aviation LLC provides FBO services for Sawyer County Airport. Some of the FBO services include aircraft refueling, aircraft parking, aircraft supplies, car rentals, and catering. Hayward Aviation leases office space in the terminal building and owns two hangars: one maintenance equipment hangar and one aircraft storage hangar.

AIRCRAFT HANGAR FACILITIES

Aircraft storage at HYR is comprised of one (1) conventional hangar and 25 executive hangars. The executive hangars are located north and west of the main apron and are served by three taxilanes which provide tenant vehicle access and aircraft access to the GA hangar apron. The hangars provide 21,600 sf of conventional hangar area, and 94,300 sf of executive hangar space for private aircraft storage. All hangars are occupied by tenants, leaving no vacancies for new or prospective tenants.

Left to Right: Conventional Hangar, Terminal/FBO Building, Fuel Farm, Three Executive Hangars

Row of GA Executive Hangars

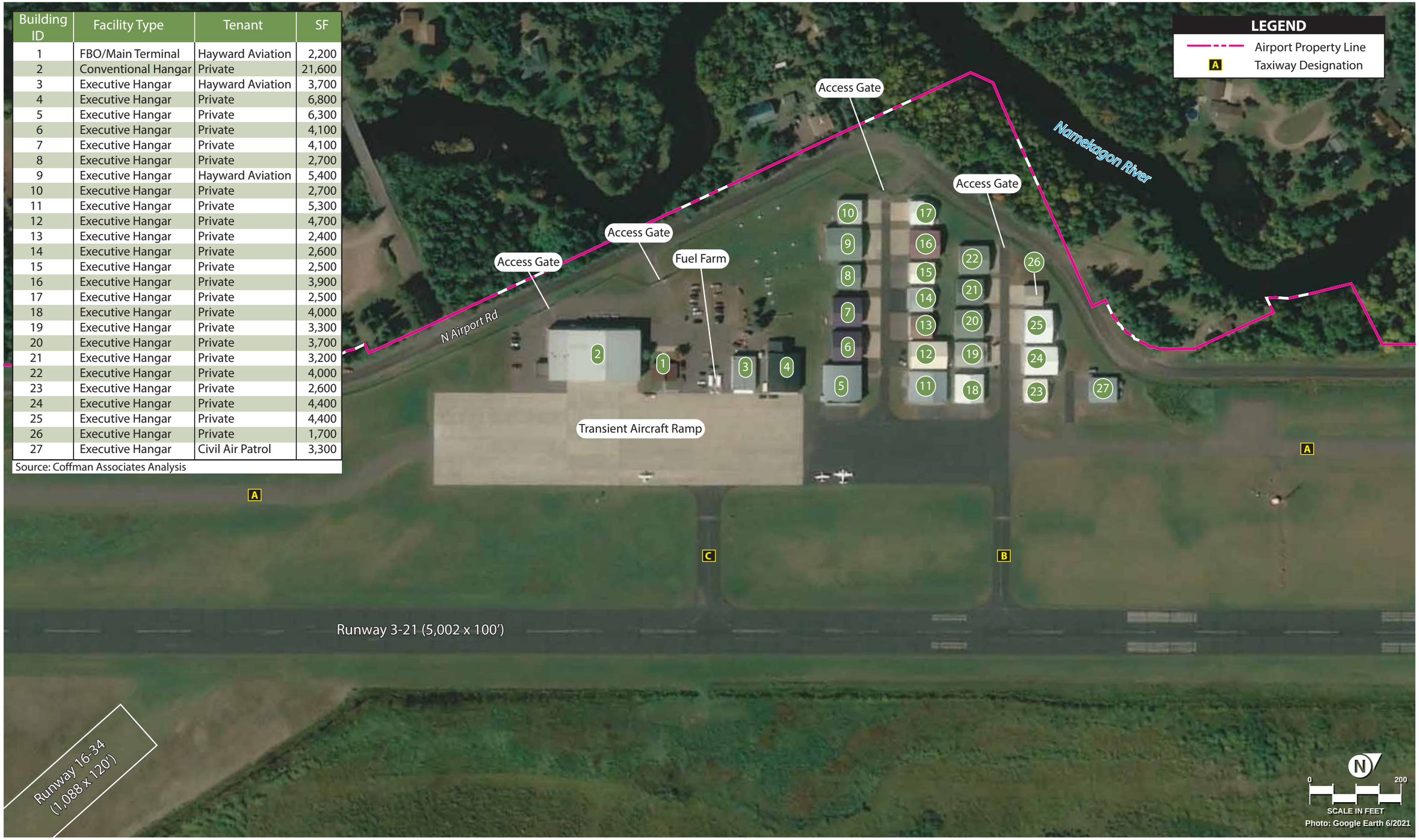
AIRCRAFT PARKING APRONS

Aircraft tie-down parking is available on the FBO and GA hangar aprons. The FBO apron covers an area of approximately 17,800 square yards (sy) and is constructed from concrete. The GA hangar apron provides an additional 7,600 sy of parking space and is constructed from asphalt. There are 27 tie-downs available between the two aprons.

Aircraft Tiedowns on the GA Apron

Building ID	Facility Type	Tenant	SF
1	FBO/Main Terminal	Hayward Aviation	2,200
2	Conventional Hangar	Private	21,600
3	Executive Hangar	Hayward Aviation	3,700
4	Executive Hangar	Private	6,800
5	Executive Hangar	Private	6,300
6	Executive Hangar	Private	4,100
7	Executive Hangar	Private	4,100
8	Executive Hangar	Private	2,700
9	Executive Hangar	Hayward Aviation	5,400
10	Executive Hangar	Private	2,700
11	Executive Hangar	Private	5,300
12	Executive Hangar	Private	4,700
13	Executive Hangar	Private	2,400
14	Executive Hangar	Private	2,600
15	Executive Hangar	Private	2,500
16	Executive Hangar	Private	3,900
17	Executive Hangar	Private	2,500
18	Executive Hangar	Private	4,000
19	Executive Hangar	Private	3,300
20	Executive Hangar	Private	3,700
21	Executive Hangar	Private	3,200
22	Executive Hangar	Private	4,000
23	Executive Hangar	Private	2,600
24	Executive Hangar	Private	4,400
25	Executive Hangar	Private	4,400
26	Executive Hangar	Private	1,700
27	Executive Hangar	Civil Air Patrol	3,300

Source: Coffman Associates Analysis



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VEHICLE PARKING

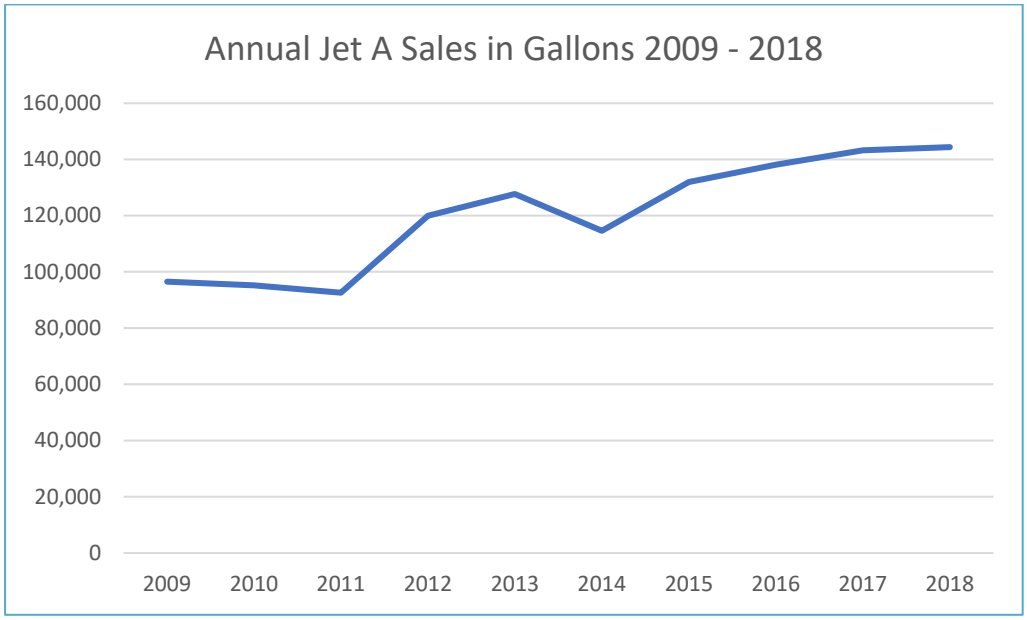
Public parking is available at the terminal building and is accessed from North Airport Road. There are seven parking spaces directly in front of the terminal building and 16 additional parking spaces in the adjacent lot next to the fuel farm. Overflow vehicle parking is on the grass west of the main parking lot.

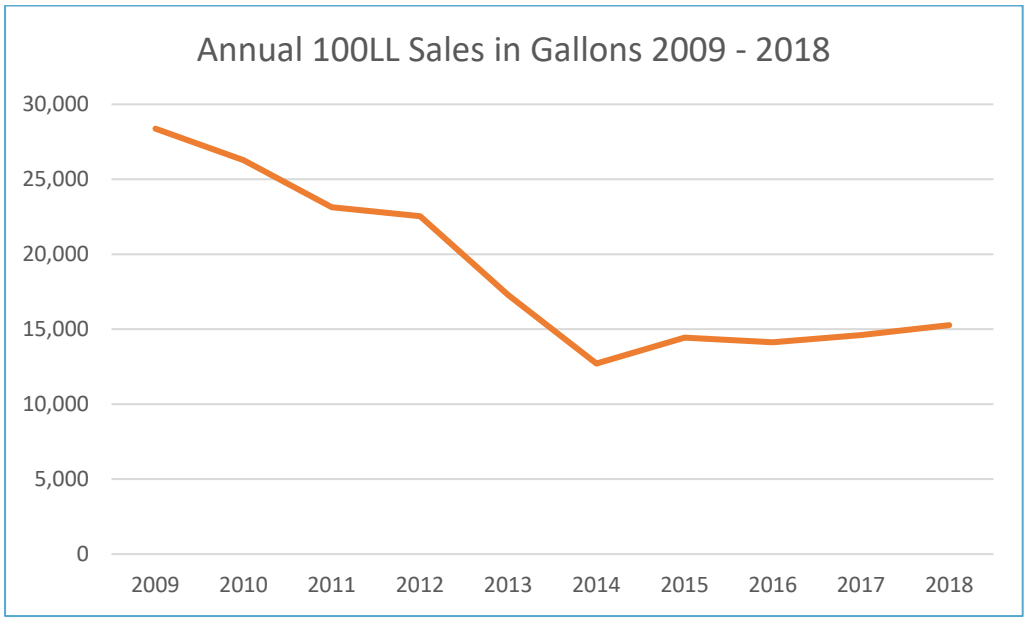
Vehicle Parking Lot

FUEL FACILITIES

Full-service fuel is provided by Hayward Aviation. The fuel farm is located between the terminal building and FBO-owned maintenance equipment hangar. It is owned by Hayward Aviation and is made up of one 10,000-gallon tank of Jet A fuel and one 10,000-gallon tank of 100LL fuel. Additionally, Hayward Aviation owns a 3,000-gallon Jet A fuel truck to bring fuel service directly to aircraft.

Fuel Farm





VEHICLE AIRFIELD ACCESS AND PERIMETER FENCING

Vehicles may access the airport property via four gates located along North Airport Road, west of the airport. The southernmost gate provides access to the parking lot associated with the conventional hangar. The middle gate provides access to the airport terminal. The two northernmost gates provide access to the GA hangars. The powered access gates automatically open as a vehicle approaches and automatically close after the vehicle passes through the gate.

Vehicle Access Gate from North Airport Road to the Terminal Parking Lot

UTILITIES AND MAINTENANCE

Power, water, communications, and sanitary sewer utilities are provided to the airport property. The electrical vault is located adjacent to the fuel farm and does not have an emergency generator. Sawyer County owns a Caterpillar 928G front loader with blower and blade attachments for clearing snow from the runway, taxiways, and apron. The county also owns a zero turn mower, which is used to maintain the grass on the airport property.

Snow Removal Equipment

AIRSPACE

The *FAA Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the U.S. The FAA has established the National Airspace System (NAS) to protect persons and property on the ground, in addition to establishing a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; and personnel and material. The system also includes components shared jointly with the military.

AIRSPACE STRUCTURE

Airspace within the U.S. is broadly classified as either controlled or uncontrolled. The difference between controlled and uncontrolled airspace primarily relates to requirements for pilot qualifications; ground-to-air communications; navigation and air traffic services; and weather conditions. Six classes of airspace have been designated in the U.S., as shown on **Exhibit 1F**. Airspace designated as Class A, B, C, D, or E is considered controlled airspace. Aircraft operating within controlled airspace are subject to varying requirements for positive air traffic control. The airspace surrounding HYR is depicted on **Exhibit 1G**.

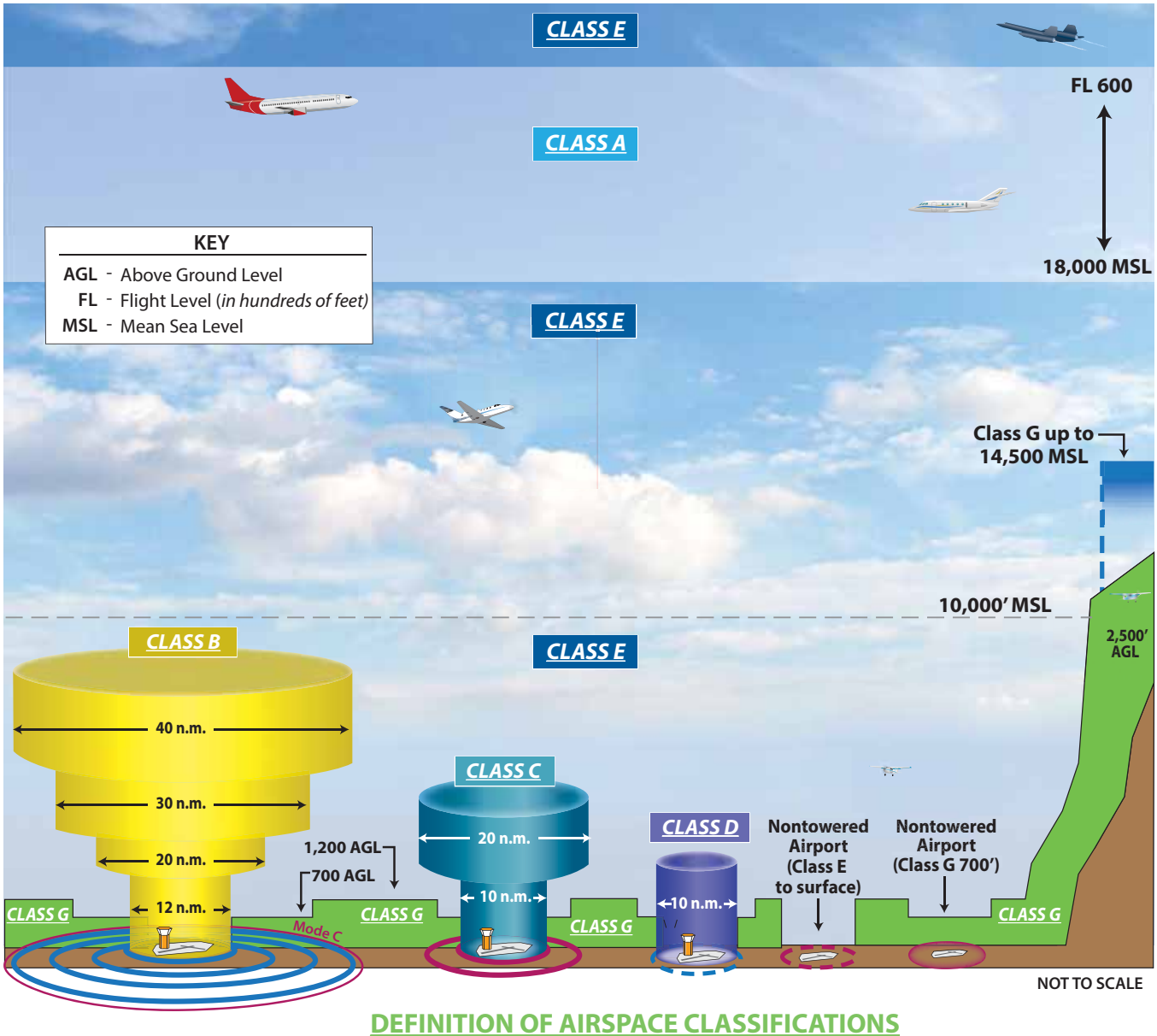
Class A Airspace | Class A airspace includes all airspace from 18,000 feet MSL to flight level (FL) 600 (approximately 60,000 MSL) over the contiguous 48 states and Alaska. This airspace is designated in Federal Aviation Regulation (FAR) Part 71.33 for positive control of aircraft. All aircraft must be on an IFR clearance to operate within Class A airspace.

Class B Airspace | Class B airspace has been designated around some of the country's major airports – such as Minneapolis-St. Paul International Airport (MSP) – to separate all aircraft within a specified radius of the primary airport. Each Class B airspace is specifically tailored for its primary airport. All aircraft operating within Class B airspace must have air traffic control (ATC) clearance. Certain minimum aircraft equipment and pilot certification requirements must also be met. This airspace is the most restrictive controlled airspace routinely encountered by pilots operating under VFR.

Class C Airspace | The FAA has established Class C airspace at approximately 120 airports around the country which have significant levels of IFR traffic. Class C airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high-performance passenger-carrying aircraft at major airports. To fly inside Class C airspace, an aircraft must have a two-way radio and an encoding transponder and must have established communication with the ATC facility. Aircraft may fly below the floor of the Class C airspace or above the Class C airspace ceiling without establishing communication with ATC.

Class D Airspace | Class D airspace is controlled airspace surrounding an airport with an airport traffic control tower (ATCT). The Class D airspace typically constitutes a cylinder with a horizontal radius of four or five nm from the airport, extending from the surface up to a designated vertical limit, which is typically set approximately 2,500 feet above the airport elevation. Pilots planning to operate within Class D airspace are required to contact ATC prior to entering or departing the airspace and must remain in contact while within the controlled airspace.

Class E Airspace | Class E airspace consists of controlled airspace designed to contain IFR operations near an airport and while aircraft are transitioning between the airport and enroute environments. Class E airspace vertical dimensions may vary depending on how it is depicted on the sectional chart. Class E airspace may begin at the surface, 700 feet above ground level (AGL), 1,200 feet AGL, or 14,500 feet MSL, and will typically continue up to 17,999 feet MSL or other overlying airspace. Only aircraft operating under IFR are required to be in contact with ATC when operating in Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio contact with ATC facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist. Class E airspace starting from 700 feet AGL is present directly above the airport to control IFR arrivals and departures.



DEFINITION OF AIRSPACE CLASSIFICATIONS

CLASS A Think A - Altitude. Airspace above 18,000 feet MSL up to and including FL 600. Instrument Flight Rule (IFR) flights only, ADS-B 1090 ES transponder required, ATC clearance required.

CLASS B Think B - Busy. Multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports. ADS-B 1090 ES transponder required, ATC clearance required.

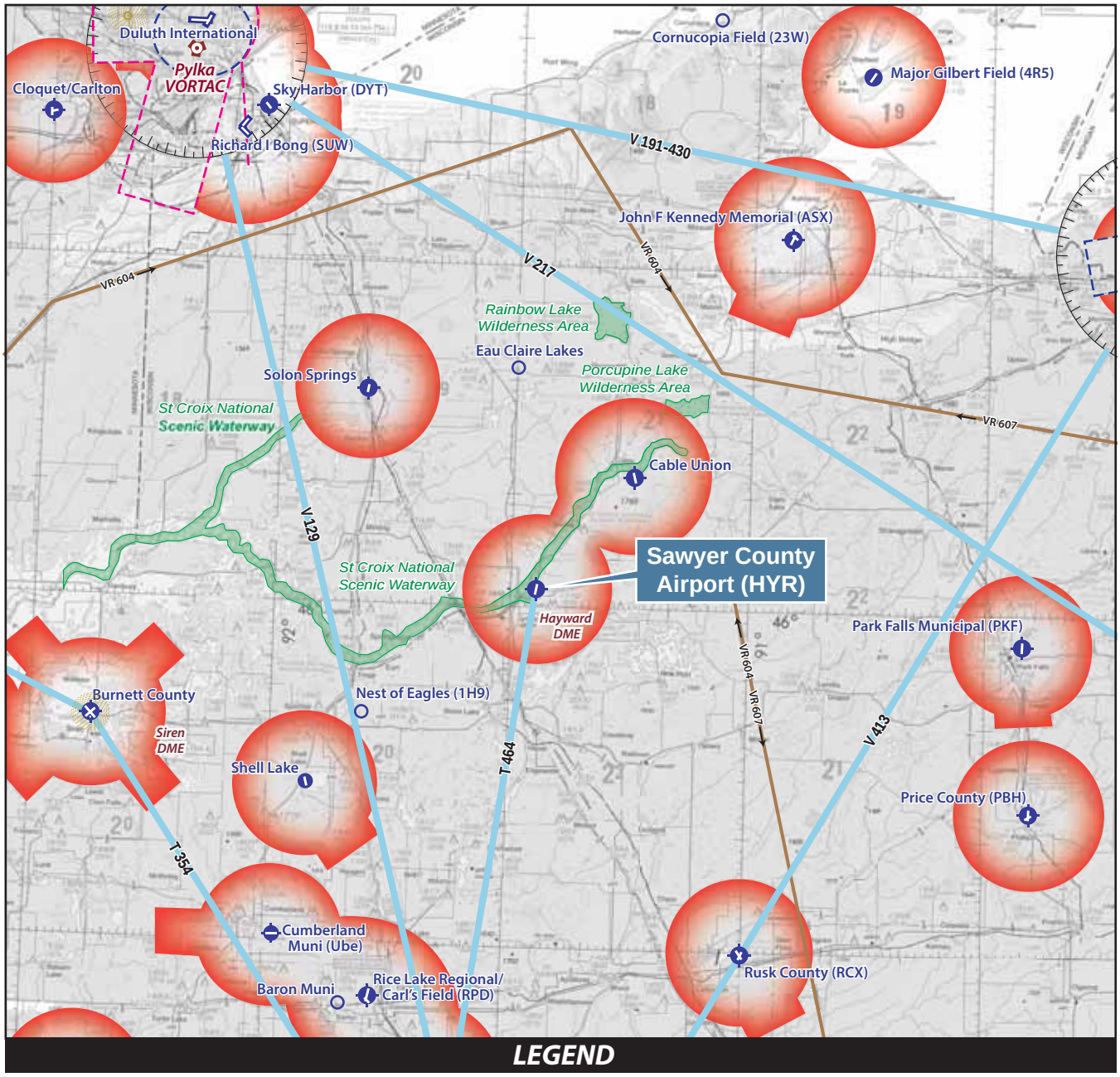
CLASS C Think C - Mode C. Mode C transponder required. ATC communication required. Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.

CLASS D Think D - Dialogue. Pilot must establish dialogue with tower. Generally airspace from the surface to minimum 2,500 feet AGL surrounding towered airports.

CLASS E Think E - Everywhere. Controlled airspace that is not designated as any other Class of airspace.

CLASS G Think G - Ground. Uncontrolled airspace. From surface to a 1,200 AGL (in mountainous areas 2,500 AGL) Exceptions: near airports it lowers to 700' AGL; some airports have Class E to the surface. Visual Flight Rules (VFR) minimums apply.

Source: www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/media/15_phak_ch15.pdf



LEGEND

- Airport with other than hard-surfaced runway
- Airport with hard-surfaced runways 1,500' to 8,069' in length
- Airports with hard-surfaced runways greater than 8,069' or some multiple runways less than 8,069'
- Compass Rose
- Class D Airspace
- Class E Airspace
- Non-directional Radio Beacon (NDB) - DME
- Class E (sfc) Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E airspace
- Military Training Routes
- Victor Airways
- Wildlife Refuge

Source:
Green Bay Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, December 29, 2022

Class G Airspace | Airspace not designated as Class A, B, C, D, or E is considered uncontrolled, or Class G, airspace. Air traffic control does not have the authority or responsibility to exercise control over air traffic within this airspace. Class G airspace lies between the surface and the overlying Class E airspace (700 to 1,200 feet AGL).

While aircraft may technically operate within Class G airspace without any contact with ATC, it is unlikely that many aircraft will operate this low to the ground unless departing or arriving to an uncontrolled airport like HYR. Furthermore, federal regulations specify minimum altitudes for flight. FAR Part 19.119, *Minimum Safe Altitudes*, generally states that – except when necessary for takeoff or landing – pilots must not operate aircraft over any congested area of a city, town, or settlement, or over any open-air assembly of persons, at an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

Over less congested areas, pilots must maintain an altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure. Helicopters may be operated at less than the minimums prescribed above if the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the FAA.

Special Conservation Areas | National scenic riverways – as well as other charted wildlife refuges, parks, waters, and forest service areas administered by the National Park Service, U.S. Fish and Wildlife Service, or U.S. Forest Service – are identified on VFR aeronautical charts. Pilots are requested to maintain a minimum of 2,000 feet above the surface of the charted area. The Namekagon River, which is adjacent to Sawyer County Airport, is charted as part of the St. Croix National Scenic Riverway.

Airspace Control | Sawyer County Airport is a Class G airport (non-towered airspace), meaning there is no ATCT on the airfield. When in the vicinity of the airport, pilots will give position reports to all other air traffic monitoring the common traffic advisory frequency (CTAF). The Minneapolis Center Air Route Traffic Control Center (ARTCC) can provide aircraft operating to/from Sawyer County Airport with separation clearance within the overlying Class E airspace.

LOCAL OPERATING PROCEDURES

Sawyer County Airport maintains a traffic pattern that provides the safest and most efficient use of the airspace surrounding the airport. Both runways operate standard left-hand traffic patterns at a traffic pattern altitude (TPA) of 500 feet AGL for rotorcraft; between 800 feet and 1,000 feet AGL for piston aircraft; and 1,500 feet AGL for turbine aircraft.

HEIGHT AND HAZARD ORDINANCE / MITIGATION MEASURES

Airport safety regulations are included in Sawyer County's zoning ordinances. Height limitations and use restrictions apply to structures within the *Height Limitation Map*, which was developed in 2014 and

identifies locations, height limitations, and regulation explanations. Use restrictions also specify that activities in any zone may not: create electrical interference with radio communications between the airport and aircraft; make it difficult for pilots to distinguish airport lights and others; result in glare of the pilots using the airport; or otherwise endanger the landing, taking off, or maneuvering of aircraft.

VICINITY AIRPORTS

A review of public-use airports within 50 nm of HYR was conducted to identify and distinguish the types of air service provided in the region. It is important to consider the capabilities and limitations of these airports when planning for future changes or improvements at HYR. **Exhibit 1H** provides basic level information on six public-use airports within the vicinity of HYR.

LAND USE AND ZONING

Area land use surrounding the airport can have a significant impact on operations and growth. Understanding the land uses and zoning designations surrounding the airport will assist in making appropriate recommendations for the future sustainability of Sawyer County Airport in terms of economic development and environmental compatibility.

EXISTING LAND USE

As stated previously, Sawyer County Airport is located on 471 acres in the Town of Hayward. The surrounding parcels include a mix of land uses, such as county forest land, commercial use land, and residential land.

ZONING

Sawyer County Zoning Ordinance includes an airport zone with a defined Height Limitation Zoning Map. The land adjacent to the airport property is depicted in **Exhibit 1J**. The airport property is zoned as industrial. Land to the north and south is zoned as RR-2, residential/recreational-2. Land to the west is zoned as R-1, residential, while land to the east is zoned as F-1, forestry.

CABLE UNION (3CU)

Airport NPIAS Classification ..... General Aviation - Basic
Airspace Classification..... Class G
Location from HYR ..... 13 nm NE
Elevation ..... 1,360' MSL
Weather Reporting..... None
ATCT ..... No
Annual Operations (2021) 5,510
Based Aircraft (2021) 9
Enplaned Passengers (2021)..... 0

Runways	08-26 (2,194' x 150') - Turf 17-35 (3,709' x 75') - Asphalt
Lighting (highest intensity)	MIRL
Marking (highest precision)	Non-Precision
Approach Aids	None
Instrument Approaches	RNAV (GPS)

Services Provided: Fuel (100LL)

SOLON SPRINGS MUNICIPAL (OLG)

Airport NPIAS Classification ..... General Aviation - Basic
Airspace Classification..... Class G
Location from HYR ..... 23.3 nm NW
Elevation ..... 1,102' MSL
Weather Reporting..... ASOS-3
ATCT ..... No
Annual Operations (2021) 4,525
Based Aircraft (2023) 15
Enplaned Passengers (2021)..... 0

Runway	01-19 (3,099' x 60') - Asphalt
Lighting (highest intensity)	MIRL
Marking (highest precision)	Non-Precision
Approach Aids	PAPI-2L, REILs
Instrument Approaches	RNAV (GPS)

Services Provided: Fuel (100LL), Instruction

SHELL LAKE MUNICIPAL (SSQ)

Airport NPIAS Classification ..... General Aviation - Basic
Airspace Classification..... Class G
Location from HYR ..... 26.6 nm SW
Elevation ..... 1,233' MSL
Weather Reporting..... None
ATCT ..... No
Annual Operations (2021) 12,600
Based Aircraft (2023) 10
Enplaned Passengers (2021)..... 0

Runway	14-32 (3,711' x 75') - Asphalt
Lighting (highest intensity)	MIRL
Marking (highest precision)	Non-Precision
Approach Aids	PAPI-2L, REILs
Instrument Approaches	RNAV (GPS)

Services Provided: None

KEY

AWOS	|	Automated Weather Observation System
ASOS	|	Automated Surface Observation System
NPIAS	|	National Plan of Integrated Airport Systems
ATCT	|	Airport Traffic Control Tower
HIRL	|	High Intensity Runway Lighting
MIRL	|	Medium Intensity Runway Lighting
PAPI	|	Precision Approach Path Indicator
REIL	|	Runway End Identification Lights
MALS	|	Medium Intensity Approach Lighting System
MALSF	|	Medium Intensity Approach Lighting System with Sequenced Flashing Lights
ILS	|	Instrument Landing System
LOC	|	Localizer
RNAV	|	Area Navigation
GPS	|	Global Positioning System
RNP	|	Required Navigation Performance
VOR	|	Very High Frequency Omnidirectional Range
DME	|	Distance Measuring Equipment
nm	|	Nautical Miles

JOHN F KENNEDY MEMORIAL (ASX)

Airport NPIAS Classification ..... General Aviation - Local
Airspace Classification..... Class G
Location from HYR ..... 38.3 nm NE
Elevation ..... 827' MSL
Weather Reporting..... ASOS
ATCT ..... No
Annual Operations (2022) 10,525
Based Aircraft (2021) 25
Enplaned Passengers (2021)..... 0

Runways	02-20 (5,197' x 100') - Asphalt 13-31 (3,498' x 75') - Asphalt
Lighting (highest intensity)	MIRL
Marking (highest precision)	Non-Precision
Approach Aids	PAPI-4L, REILs
Instrument Approaches	ILS/LOC, RNAV (GPS)

Services Provided: Fuel (100LL & JetA)

RICE LAKE REGIONAL / CARL'S FIELD (RPD)

Airport NPIAS Classification ..... General Aviation - Local
Airspace Classification..... Class G
Location from HYR ..... 38.9 nm SW
Elevation ..... 1,109' MSL
Weather Reporting..... AWOS-3
ATCT ..... No
Annual Operations (2021) 27,650
Based Aircraft (2020) 34
Enplaned Passengers (2021)..... 0

Runways	01-19 (6,700' x 100') Asphalt 13-31 (3,500' x 75') Asphalt
Lighting (highest intensity)	HIRL, MALSR
Marking (highest precision)	Precision
Approach Aids	PAPI-4L, REILs
Instrument Approaches	ILS/LOC, RNAV (GPS)

Services Provided: Fuel (100LL & JetA), Charter, Instruction, Rental, Sales

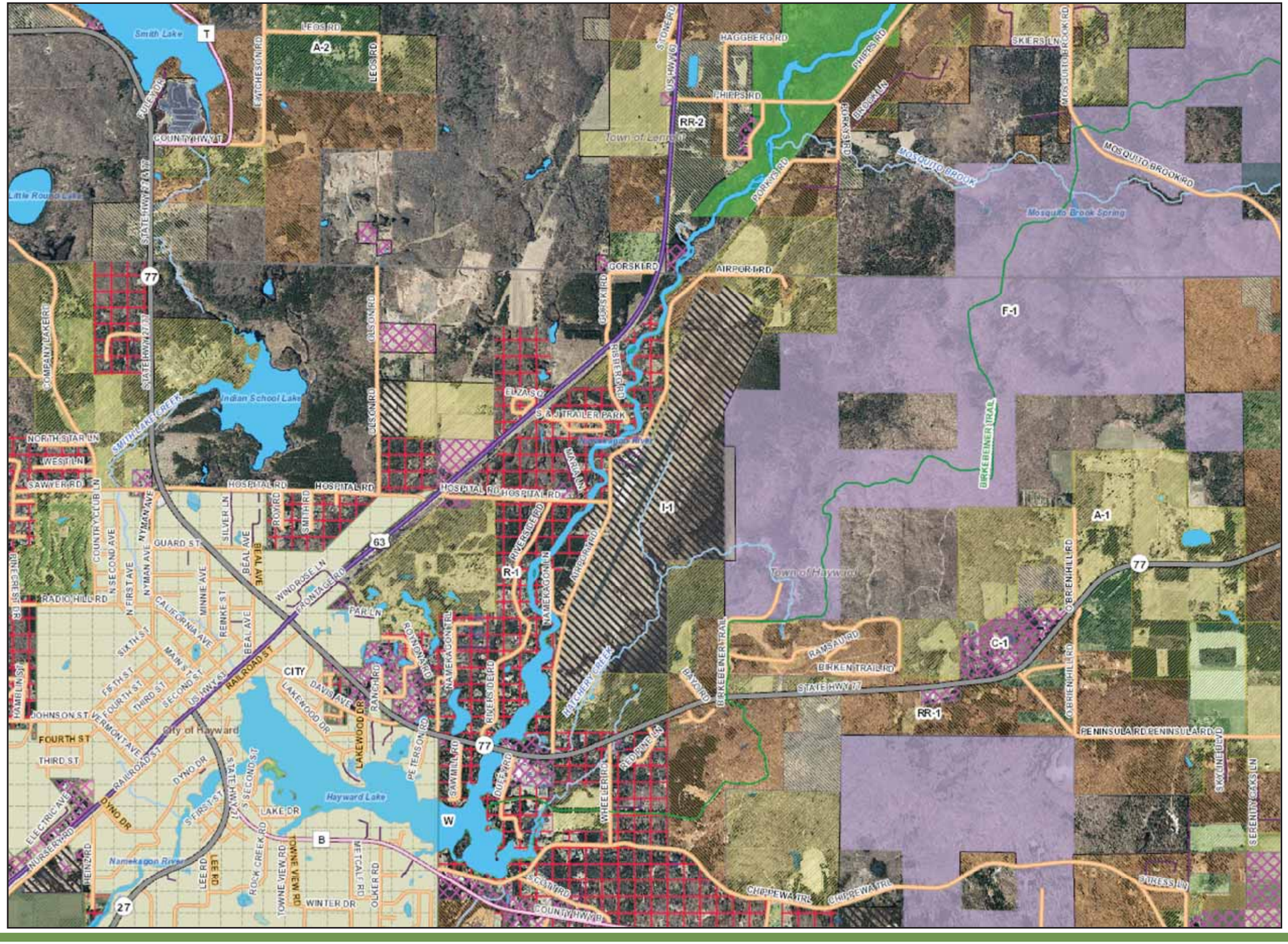
RICHARD I BONG (SUW)

Airport NPIAS Classification ..... General Aviation - Local
Airspace Classification..... Class G
Location from HYR ..... 48.2 nm NW
Elevation ..... 674' MSL
Weather Reporting..... AWOS-3
ATCT ..... No
Annual Operations (2022) 19,250
Based Aircraft (2023) 50
Enplaned Passengers (2021)..... 0

Runways	04-22 (5,100' x 75') - Asphalt 14-32 (4,001' x 75') - Asphalt
Lighting (highest intensity)	MIRL
Marking (highest precision)	Non-Precision
Approach Aids	PAPI-4L, REILs
Instrument Approaches	RNAV (GPS)

Services Provided: Fuel (100LL & JetA), Parachute Jumping, Instruction, Rental

Sawyer County, WI



LEGEND

Zoning Districts

- A-1 Agriculture 1
- A-2 Agriculture 2
- C-1 Commercial
- City
- F-1 Forestry
- I-1 Industrial
- PUD Planned Urban Dev
- R-1 Residential
- Right of Way
- RR-1 Residential/Recreational 1
- RR-2 Residential/Recreational 2
- Village
- Water
- W-1 Wetland

Source: Sawyer County GIS

N

0 1000 2000 3000ft

DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

Author:

Date Printed: 10/16/23 1:32 PM

Sources:

SOCIOECONOMICS

The socioeconomic characteristics of an airport's surrounding area can provide valuable information to derive an understanding of the dynamics of growth near an airport. This information is crucial in determining aviation demand level requirements, as most aviation demand is directly related to the socioeconomic conditions of the surrounding region. Statistical analyses of population, employment, and income trends outline the economic strength of a region and can help determine the ability of the area to sustain a strong economy in the future. The forecast chapter of this master plan will be used to provide a better understanding of the roles socioeconomic factors play, while the information in the following sections will serve as an introduction to socioeconomic trends in the study area. A summary of socioeconomic elements is depicted on **Exhibit 1K**.

POPULATION

Population is a key socioeconomic factor to consider when planning for future airport needs. Historical and forecast population trends provide an indication of the potential of the region to sustain growth in aviation activity. Population data for the Town of Hayward, City of Hayward, Sawyer County, and State of Wisconsin are discussed to provide past and present population metrics of the region the airport serves. The population in Hayward and Sawyer County has increased over the last 20 years and is expected to increase over the next forecasted 20 years. From 1980 to 2020, Sawyer County's population has increased 40.7 percent, more than any of its neighboring counties. In 2023, the population of Sawyer County is estimated to be 18,587 people, according to Woods and Poole Economics, Inc. Sawyer County's population is projected to grow to 19,158 residents by 2043.

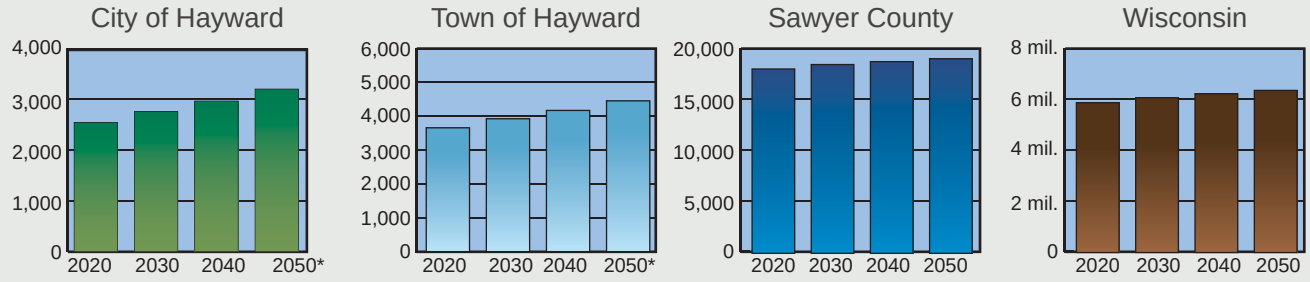
EMPLOYMENT

Sawyer County's largest employer industries in 2019 were local government, education, and restaurants. The county is home to various other industries that support the local economy, including retail, accommodation, healthcare, manufacturing, construction, and real estate. In 2023, the total employment of Sawyer County is estimated to be 10,341 employed citizens, according to Woods and Poole Economics. Employment is forecast to grow to 11,107 employed citizens by 2043.

INCOME

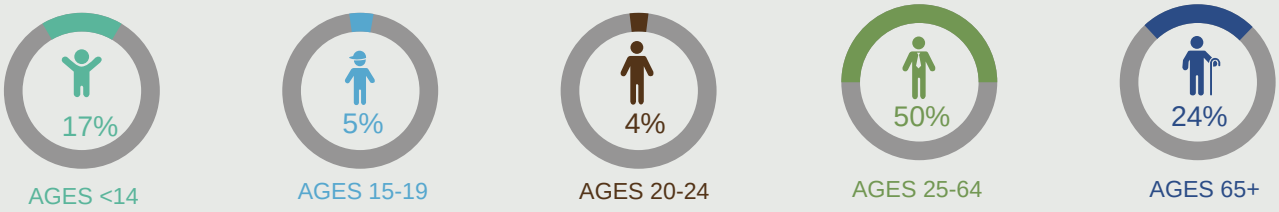
According to Woods and Poole Economics, Sawyer County has a per capita personal income (PCPI) of $53,561 and a gross regional product (GRP) estimated for the entire county at $695 million. In 2043, total PCPI in today's dollars is projected to be $132,107 with a forecasted GRP of over $857 million.

POPULATION

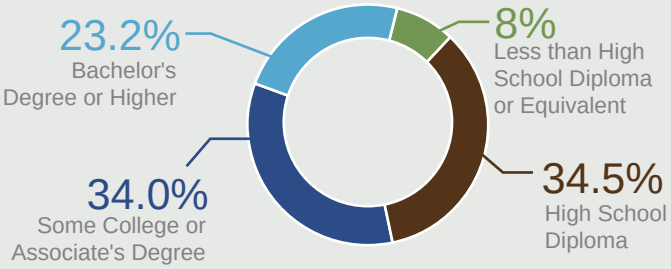


*Extrapolated from Sawyer Comprehensive Plan Estimates

POPULATION BY AGE



EDUCATION



HOUSEHOLDS

MAJOR EMPLOYERS

- Sevenwinds Casino Lodge
- LCO Child Support Program
- Grindstone Creek Casino
- Walmart Supercenter
- Louisiana Pacific Corp
- Hayward Area Memorial Hospital

EMPLOYMENT BY SECTOR

Sources: Sawyer County Comprehensive Plan 2021-2041, Woods & Poole 2022, U.S. Census Bureau (2020 Decennial Census & 2021: ACS 5-Year Estimates)

ENVIRONMENTAL INVENTORY

This environmental inventory identifies potential environmental sensitivities, based on the 14 environmental impact categories outlined in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* that should be considered when planning future improvements at the airport:

- Air Quality
- Biological Resources (including fish, wildlife, and plants)
- Climate
- Coastal Resources
- *Department of Transportation Act*, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects (including light emissions)
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

AIR QUALITY

The concentration of various pollutants in the atmosphere describes the local air quality. The significance of a pollutant's concentration is determined by comparing it to the state and federal air quality standards. In 1971, the U.S. Environmental Protection Agency (EPA) established standards that specify the maximum permissible short- and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for criteria pollutants: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb).

Based on federal air quality standards, a specific geographic area can be classified as an attainment, maintenance, or nonattainment area for each pollutant. The threshold for nonattainment designation varies by pollutant.

The airport is in Sawyer County, Wisconsin, two miles northeast of the central business district of the City of Hayward. The portion of Sawyer County that contains the airport is in attainment for all federal criteria pollutants.[1]

[1] Wisconsin Nonattainment / Maintenance Status for Each County by Year for All Criteria Pollutants, January 31, 2023 (https://www3.epa.gov/airquality/greenbook/anayo_wi.html)

BIOLOGICAL RESOURCES

Biotic resources include the various types of plants and animals that are present in an area. The term also applies to rivers, lakes, wetlands, forests, and other habitat types that support plants and animals.

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements contained within Section 7 of the *Endangered Species Act* (ESA). The ESA provides a framework to conserve and protect animal and plant species whose populations are threatened by human activities. The FAA and USFWS review projects to determine if a significant impact to a protected species will result from the implementation of a proposed project. Significant impacts occur when a proposed action could jeopardize the continued existence of a protected species or would result in the destruction or adverse modification of federally designated critical habitat in the area. The USFWS's *Information for Planning and Consultation* (IPaC) resource list describes species and habitat protected under the ESA within the vicinity of the airport (**Table 1H**).

In addition, the State of Wisconsin passed a state endangered species law in 1972. This law is established and defined in Chapter NR 29.604 of the *Wisconsin Administrative Code* under the Wisconsin Department of Natural Resources, the state-outlined rules and regulations that identify which species are protected under the state's endangered species law.

Section 3 of the ESA is used to protect critical habitat areas. Designated critical habitat areas are geographically defined and have been determined to be essential to the recovery of a specific species. There is no federally designated critical habitat at the airport.

In addition to the ESA, the *Migratory Bird Treaty Act* (MBTA) is also applicable at the airport, as much of the study area constitutes habitat for birds protected under this act. The IPaC report lists 10 bird species that may be present at the airport.

Birds protected under the MBTA, including those protected under the ESA, may nest, winter, or migrate throughout the area. Under the requirements of the MBTA, all project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. Migratory birds with potential to occur in the study area are listed in **Table 1H**.

TABLE 1H | Species Protected Under ESA Section 7 with Potential to Occur at the Airport

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
MAMMALS			
Canada lynx (*Lynx canadensis*)	Threatened	This species is likely to inhabit areas that are characterized by deep snow and dense horizontal forest cover and support adequate densities of snowshoe hares. Canada lynx occur across most of Canada and Alaska; in forests with boreal features that extend south into the contiguous U.S. in the boreal/hardwood ecotone in northern New England and the western Great Lakes region; and the subalpine forests along the North Cascade and Rocky Mountain ranges in the western U.S.	**May occur.** The airport is surrounded by dense vegetation that could provide suitable habitat for this species.

(Continues)

TABLE 1H | Species Protected Under ESA Section 7 with Potential to Occur at the Airport (continued)

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
gray wolf (*Canis lupus*)	Endangered	This species can inhabit and thrive in a wide range of habitats, including temperate forests, mountains, tundra, taiga, grasslands, and deserts. Gray wolves have populations in Alaska, northern Michigan, northern Wisconsin, western Montana, northern Idaho, northeast Oregon, and the Yellowstone area of Wyoming.	**May occur.** The airport is surrounded by dense vegetation that could provide suitable habitat for this species.
northern long-eared bat (*Myotis septentrionalis*)	Endangered	Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They can be found in areas with various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, this species has been spotted hibernating most often in small crevices or cracks. During the summer and portions of the fall and spring, northern long-eared bats may be found roosting singly, in colonies underneath bark, or in cavities/crevices of both live trees and snags, or dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. Though less commonly, this species can also be found roosting in structures, such as barns and sheds. This species uses forested areas not only for roosting, but also for foraging and commuting between summer and winter habitat. The northern long-eared bat can be found in the eastern and midwestern regions of the U.S.	**May occur.** The airport is surrounded by dense vegetation that could provide roosting habitat for this species.
tricolored bat (*Perimyotis subflavus*)	Proposed Endangered	Tricolored bats spend the winter hibernating in caves and mines, although in the southern U.S., where caves are sparse, tricolored bats often hibernate in road-associated culverts and sometimes in tree cavities and abandoned water wells. During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will also roost in Spanish moss (*Tillandsia usneoides*) and lichen (*Usnea trichodea*). Additionally, tricolored bats have been observed roosting during summer among pine needles and in eastern red cedar; within artificial roosts, like barns; beneath porch roofs, bridges, concrete bunkers; and (rarely) within caves. This species can be found in the eastern, southern, and midwestern portions of the U.S.	**May occur.** The airport is surrounded by dense vegetation that could provide roosting habitat for this species.
BIRDS			
whooping crane (*Grus americana*)	Non-Essential Experimental	A migratory species that can be found in habitats that include coastal marshes and estuaries; lakes; open ponds; shallow bays; salt marsh; and sand or tidal flats.	**May occur.** The airport is devoid of ponds but is near freshwater emergent wetlands (i.e., marshes) that can be used for foraging and breeding.

(Continues)

TABLE 1H | Species Protected Under ESA Section 7 with Potential to Occur at the Airport (continued)

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
INSECTS			
monarch butterfly (*Danaus plexippus*)	Candidate	A migratory species found in a variety of habitats. Monarch butterfly requires milkweed (*Asclepias* spp.) for breeding.	Unlikely to occur. The airport is mostly devoid of flowering plants; thus, the species is not likely to use the project area for foraging or breeding.

USFWS Status Definitions:

Candidate: a species for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list as endangered or threatened under the ESA; however, these proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

Threatened: an animal or plant species that is in danger of extinction throughout all or a significant portion of its habitat range.

Endangered: an animal or plant species that is in danger of extinction throughout all or a significant portion of its habitat range. Endangered species are protected by the take prohibitions of Section 9 under the ESA.

Proposed Endangered: any species that is in danger of extinction throughout all or a significant portion of its range; however, proposed endangered species are not protected by the take prohibitions of Section 9 of the ESA.

Non-Essential Experimental: a population that has been established within its historical range under Section 10(j) to aid in recovery of the species; however, the population is a non-essential population as it is not needed for the continued existence of the species.

Sources: USFWS IPaC (https://ipac.ecosphere.fws.gov/); USFWS (https://www.fws.gov/species/); The National Wildlife Federation (https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Gray-Wolf)

CLIMATE

Increasing concentrations of greenhouse gases (GHGs) can affect global climate by trapping heat in the earth's atmosphere. Scientific measurements have shown that the earth's climate is warming with concurrent impacts, including warmer air temperatures, rising sea levels, increased storm activity, and greater intensity in precipitation events. Climate change is a global phenomenon that can also have local impacts. GHGs – such as water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and O_3 – are both naturally occurring and anthropogenic (human-made). Research has established a direct correlation between fuel combustion and GHG emissions. GHGs from anthropogenic sources include CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). CO_2 is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years.

The U.S. EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2021* shows that total U.S. emissions have decreased by two percent from 1990 to 2021, down from a high 15.8 percent above 1990 levels in 2007. From 2020 to 2021, the U.S. saw an increase in economic activity driven by businesses

and persons rebounding after the COVID-19 pandemic. This resulted in an increase in total U.S. GHG emissions, of which CO_2 emissions accounted for the majority.

In 2021, the transportation sector and power generation accounted for 79.5 percent of total CO_2 emissions; however, the overall aviation industry has shown a decrease in CO_2 emissions by 12 percent between 1990 and 2021.[2] Commercial aircraft emissions decreased by 17 percent between 1990 and 2021 and are anticipated to remain the same between 2020 and 2021. Overall, net emissions in the U.S. increased 6.8 percent from 2020 to 2021 but decreased 16.3 percent from 2005 levels.

Information regarding the climate for the airport and surrounding environments – including wind, temperature, and precipitation –is found earlier in this airport master plan.

The State of Wisconsin released a *Governor's Task Force on Climate Change Report* in December 2020. The plan includes policy recommendations to help the state meet its goals of reducing GHG emissions 26 to 28 percent below 2005 levels by 2025 and achieving 100 percent carbon-free electricity by 2050. Key aspects of the plan include creating the Office of Environmental Justice; expanding Focus on Energy program funding; supporting electric vehicle infrastructure; and avoiding all new fossil fuel infrastructure. Prior to the 2020 climate change report, Wisconsin released a climate action plan in 2008.[3]

COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the *Coastal Barriers Resource Act*, the *Coastal Zone Management Act*, and Executive Order (E.O.) 13089, *Coral Reef Protection*.

The airport is not located within a coastal zone. The closest National Marine Sanctuary is the Thunder Bay National Marine Sanctuary, located 189 miles away.[4]

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the *Department of Transportation Act,* which was recodified and renumbered as Section 303(c) of 49 United States Code, provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly or privately owned historic sites, public parks or recreation areas, or waterfowl and wildlife refuges of national, state, regional, or local importance unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use.[5]

There are no National Register of Historic Places (NRHP)-listed resources within one mile of the airport.

[2] U.S. EPA, Inventory of U.S. Greenhouse Gasses: Chapter 3 Energy (https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021)
[3] U.S. State Action Plans – Center for Climate and Energy Solutions (https://www.c2es.org/document/climate-action-plans/)
[4] Google Earth Aerial Imagery (February 2023)
[5] 49 U.S. Code § 303 – Policy on lands, wildlife and waterfowl refuges, and historic sites

There are no waterfowl and wildlife refuges within one mile of the airport. The nearest wilderness and national recreation areas are listed below:

- Nearest wilderness area: Porcupine Lake Wilderness (20 miles from airport)
- Nearest national recreation area: Mississippi National River and Recreation Area (106 miles from airport)

Thus, there are no Section 4(f) resources located within one mile of the airport.

FARMLANDS

Under the *Farmland Protection Policy Act* (FPPA), federal agencies are directed to identify and consider the adverse effects of federal programs on the preservation of farmland; to consider appropriate alternative actions that could lessen adverse effects; and to assure that such federal programs are, to the extent practicable, compatible with state or local government programs and policies to protect farmland. The FPPA guidelines, developed by the U.S. Department of Agriculture (USDA), apply to farmland classified as prime, unique, or of state or local importance, as determined by the appropriate government agency with concurrence by the Secretary of Agriculture.

The USDA Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows the types of soils and their farmland classification on and adjacent to the airport. The airport is not within urbanized area boundaries[6]; however, the entire airport is classified as "Not prime farmland" (**Exhibit 1L**). **Table 1J** describes the farmland classification based on the soil underlying the airport.

TABLE 1J| Farmland Classification – Summary by Map Unit, Sawyer County, Wisconsin (WI113)

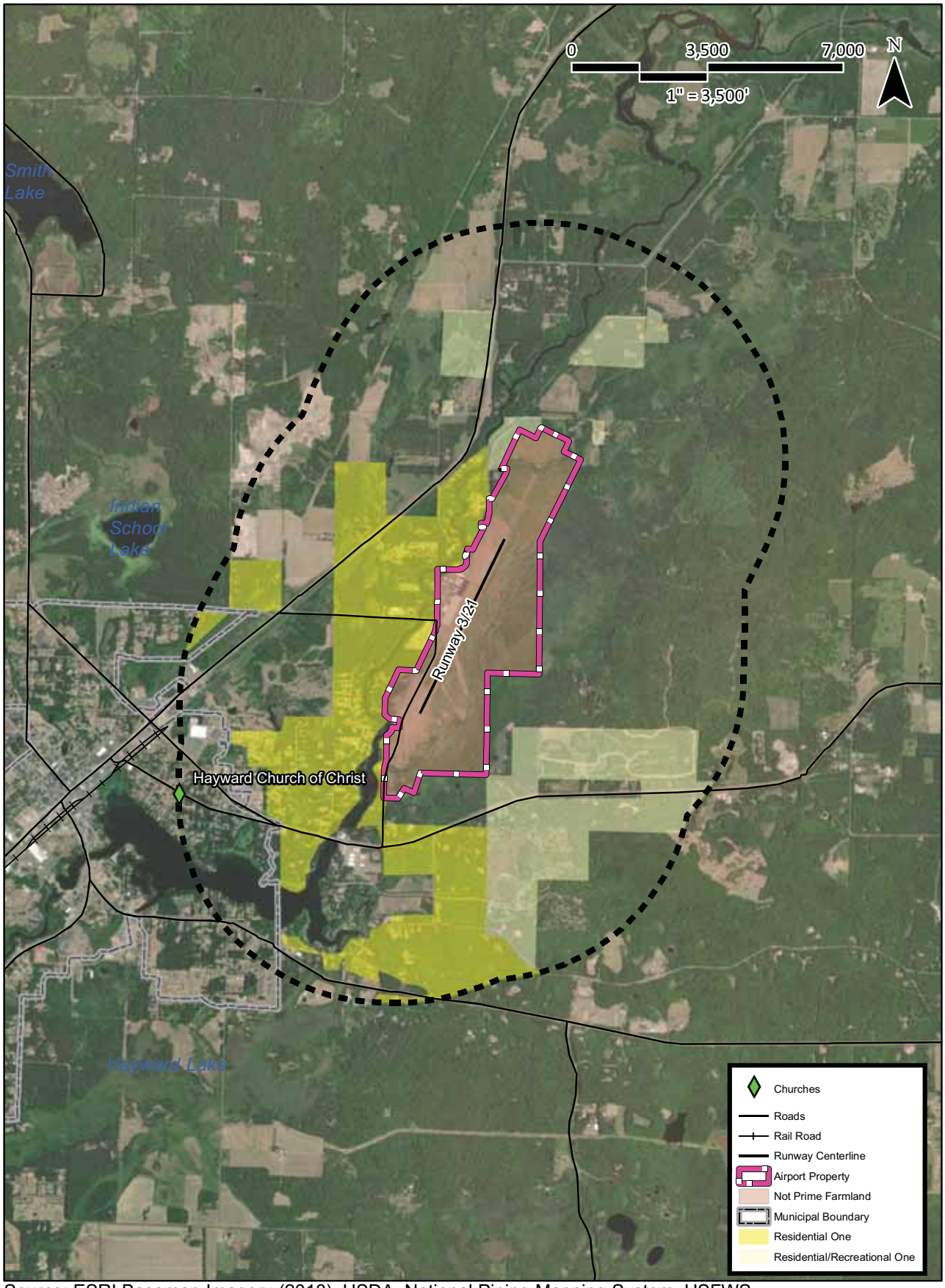
Web Soil Survey Symbol	Soil Type	Farmland Rating
383B	Mahtomedi loamy sand, 0 to 6 percent slopes	Not prime farmland
407A	Seelyeville and Markey soils, 0 to 1 percent slopes	Not prime farmland
771A	Lenroot loamy sand, 0 to 3 percent slopes	Not prime farmland
3125A	Meehan loamy sand, 0 to 2 percent slopes	Not prime farmland
3446A	Newson muck, 0 to 2 percent slopes	Not prime farmland

Source: USDA-NRCS Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Federal, state, and local laws regulate hazardous materials use, storage, transport, and disposal. These laws may extend to past and future landowners of properties containing these materials. In addition, disrupting sites containing hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources. According to the U.S. EPA's *EJScreen* online tool, there are no Superfund or brownfield sites within one mile of the airport.

[6] EPA EJScreen (https://ejscreen.epa.gov/mapper/) (February 2023)



Source: ESRI Basemap Imagery (2018), USDA, National Piping Mapping System, USFWS

The closest recycling center is Hayward Recycling, Inc., located more than two miles south of airport property boundaries on the eastern side of U.S. Highway 63. The closest landfill is Hayward Garbage Transfer Station, located two miles southeast of airport property boundaries.[7]

National Pollutant Discharge Elimination System (NPDES) permits outline the regulatory requirements of municipal stormwater management programs and establish requirements to help protect the beneficial uses of the receiving waters. The program requires permittees to develop and implement best management practices (BMPs) to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable (MEP). The NPDES program manages wastewater, construction, stormwater, and pretreatment.

In Wisconsin, the Wisconsin Department of Natural Resources (DNR) regulates the discharge of pollutants to waters of the state through the Wisconsin Pollutant Discharge Elimination System (WPDES) program. WPDES general permits are issued by the DNR for specific categories of industrial, municipal, and other wastewater discharges. Permits are issued for five-year terms.[8]

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Determination of a project's environmental impact to historic and cultural resources is made under guidance in the *National Historic Preservation Act* (NHPA) *of 1966*, as amended; the *Archaeological and Historic Preservation Act* (AHPA) *of 1974*; the *Archaeological Resources Protection Act* (ARPA); and the *Native American Graves Protection and Repatriation Act* (NAGPRA) *of 1990*. In addition, the *Antiquities Act of 1906*, the *Historic Sites Act of 1935*, and the *American Indian Religious Freedom Act of 1978* also protect historical, architectural, archaeological, and cultural resources. Impacts may occur when a proposed project causes an adverse effect on a resource which has been identified (or is unearthed during construction and identified) as having historical, architectural, archaeological, or cultural significance.

The nearest tribal lands to Sawyer County Airport are the Lac Courte Oreilles Reservation, located more than nine miles southeast of the airport. As mentioned above, there are no NRHP resources within one mile of the airport.

LAND USE

Land use regulations near airports are achieved through local government codes, city policies, and plans that include airport districts and planning areas. Regulations are used to avoid land use compatibility conflict around airports.

According to the *Sawyer County Comprehensive Plan 2021-2041 Land Use Map*, airport property is zoned as transportation land use for the Town of Hayward. The land directly north, south, west, and east of the airport is zoned as pasture/open space. Land further east of the airport past the pasture/open

[7] Google Earth Pro (accessed February 2023)
[8] Wisconsin Department of Natural Resources – Wastewater (https://dnr.wisconsin.gov/topic/Wastewater/Permits.html)

space is zoned as wooded lands and observed wetlands. Additionally, a small portion on the western boundary of the airport abuts land use zoned as commercial.[9] Most of the surrounding development occurs on the western and southern portions of the airport, with the most common land use development zoning being a combination of mobile home and commercial land use.

NATURAL RESOURCES AND ENERGY SUPPLY

Natural resources and energy supply provide an evaluation of a project's consumption of natural resources. It is the policy of FAA Order 1053.1C, *Energy and Water Management Program for FAA Buildings and Facilities*, to encourage the development of facilities that exemplify the highest standards of design, including principles of sustainability.

The Wisconsin DNR is the state level environmental organization. Its main purpose is to preserve and enhance the natural resources of Wisconsin. In partnership with individuals and outside organizations, DNR staff manage fish, wildlife, forests, parks, air, and water resources while promoting a healthy, sustainable environment and a full range of outdoor opportunities.[10]

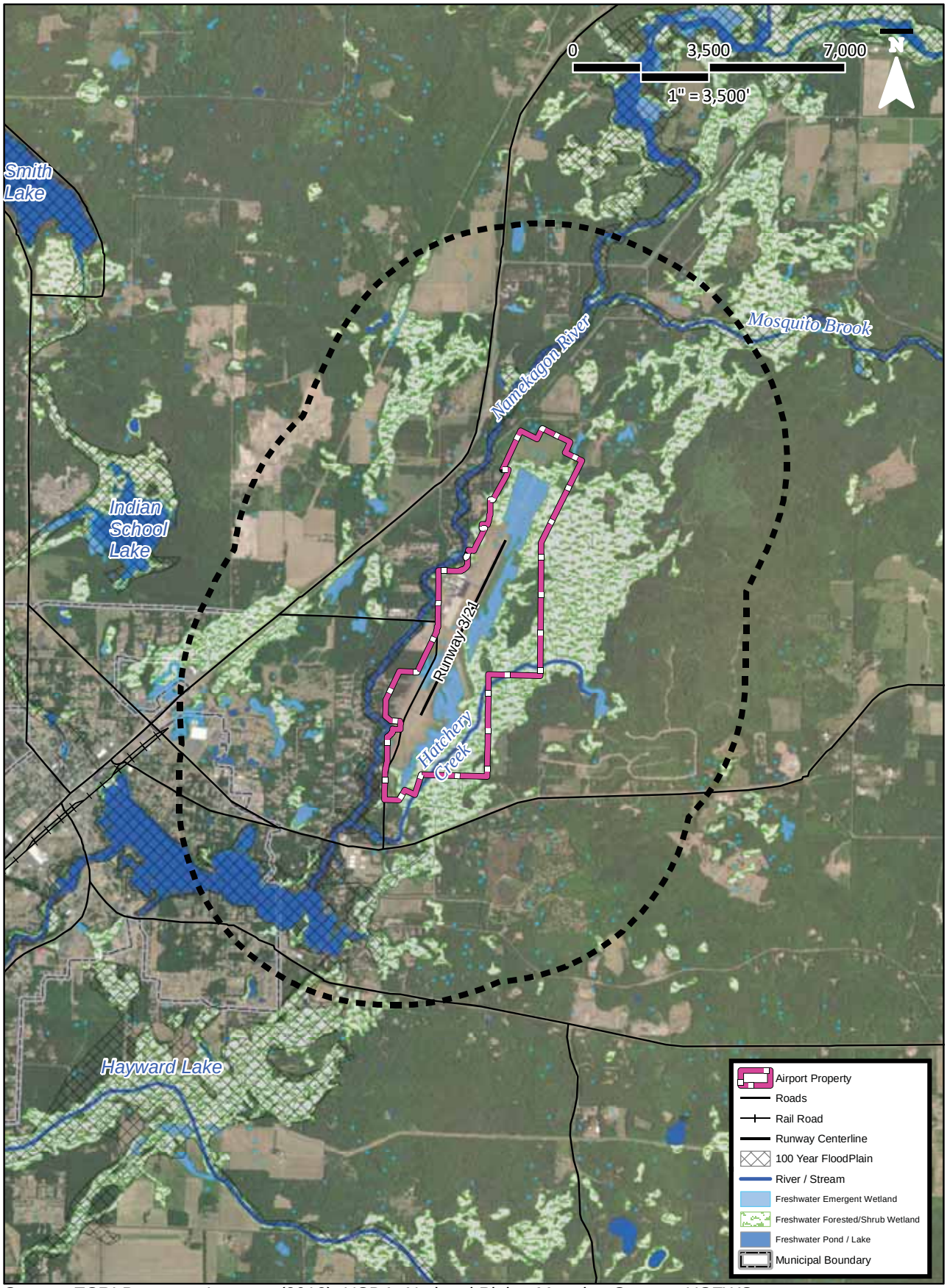
Natural resources located within one mile of the airport include the Namekagon River, freshwater emergent wetlands, and freshwater forested/shrub wetlands.

NOISE AND NOISE COMPATIBLE LAND USE

Federal land use compatibility guidelines are established under Title 14 Code of Federal Regulations (14 CFR) Part 150, *Airport Noise Compatibility Planning*. According to 14 CFR Part 150, residential land and schools are noise-sensitive land uses that are not considered compatible with a 65 decibel (dB) day-night average sound level (Ldn or DNL).[11] Other noise-sensitive land uses, such as religious facilities, hospitals, or nursing homes – if located within a 65 dB DNL contour – are generally compatible when an interior noise level reduction of 25 dB is incorporated into the design and construction of the structure. Special consideration should also be given to noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in 14 CFR Part 150 do not account for the value, significance, and enjoyment of the area in question.[12]

Table 1K below identifies noise-sensitive land uses within one mile of the airport. These land uses are also shown on **Exhibit 1M**. The closest residential areas are located west and adjacent 0.20 miles away from the airport property boundary and across Earhart Parkway to the west of North Airport Road. There are no healthcare facilities or schools located within one mile of the airport.

[9] Sawyer County Comprehensive Plan 2021-2041
[10] Wisconsin Department of Natural Resources (https://dnr.wisconsin.gov/)
[11] DNL accounts for the increased sensitivity to noise at night (10:00 p.m. to 7:00 a.m.) and is the metric preferred by the FAA, the U.S. EPA, and the U.S. Department of Housing and Urban Development as an appropriate measure of cumulative noise exposure.
[12] 49 U.S. Code § 47141 – Compatible land use planning and projects by state and local governments



Source: ESRI Basemap Imagery (2018), USDA, National Piping Mapping System, USFWS

TABLE 1K | Noise-Sensitive Land Uses Within One Mile of the Airport

Facility	Location	Distance from Airport (Miles)	Direction from Airport
PLACES OF WORSHIP			
Hayward Church of Christ	10545 Morningside Drive	1.00	Southwest

Sources: EPA EJScreen (https://ejscreen.epa.gov/mapper/); Google Earth Aerial Imagery (February 2023)

SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomics | *Socioeconomics* is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment – such as population, employment, housing, and public services – might be affected by the proposed action and alternative(s).

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* specifically requires that a federal action causing disproportionate impacts to an environmental justice population (i.e., a low-income or minority population) be considered, as well as an evaluation of environmental health and safety risks to children. The FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts:

Would the proposed action...

- Induce substantial economic growth in an area, either directly or indirectly;
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community business that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base?

Environmental Justice | *Environmental justice* is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

Meaningful involvement ensures that:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;

- Their concerns will be considered in the decision-making process; and
- The decision-makers seek out and facilitate the involvement of those potentially affected.[13]

The closest residential areas are located west and adjacent 0.20 miles away from the airport property boundary and across Earhart Parkway to the west of North Airport Road. According to the *5-Year 2016-2020 American Community Survey* (ACS) estimates, the population within one mile of the airport is 626 persons; 44 percent of this population is considered low-income and 15 percent are people of color. Indicated in **Table 1L**, approximately seven percent of the population has identified as Hispanic or Latino.

TABLE 1L | Population Characteristics Within One Mile of the Airport

Characteristic	
Total Population	626
Population by Race[1]	
White	85%
Black	0%
American Indian	9%
Asian	0%
Pacific Islander	0%
Some Other Race	0%
Population Reporting Two or More Races	5%
Total Hispanic Population **(of any race)**	2%

[1] Percentages do not add up to 100 percent. Hispanic or Latino is treated by the U.S. Census as a question separate from Race.

Source: U.S. EPA EJScreen ACS Summary Report (5-Year 2016-2022) (https://ejscreen.epa.gov/mapper/)

Children's Environmental Health and Safety | Per E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, federal agencies are directed to make it a high priority to identify and assess environmental health and safety risks that may disproportionately impact children. Such risks include those that are attributable to products or substances that a child is likely to encounter or ingest (i.e., air, food, water – including drinking water) or to which they may be exposed.

According to the 2016-2020 ACS estimates, 22 percent of the population within one mile of the airport is age 17 or under, which equates to 136 persons.

VISUAL EFFECTS

Visual effects deal broadly with the extent to which a proposed action or alternative(s) would either (1) produce light emissions that create an annoyance or interfere with activities; or (2) contrast with or detract from the visual resources and/or the visual character of the existing environment. Each jurisdiction will typically address outdoor lighting, scenic vistas, and scenic corridors in its zoning ordinances and general plan.

[13] U.S. EPA website – Environmental Justice (https://www.epa.gov/environmentaljustice)

Light Emissions | These impacts typically relate to the extent to which any light or glare results from a source that could create an annoyance for people or would interfere with normal activities. Generally, local jurisdictions will include ordinances in their local codes addressing outdoor illumination to reduce the impact of light on surrounding properties.

Airfield lighting at the airport includes a rotating beacon; medium intensity runway lighting (MIRL) at Runway 3-21; two (2) four-light precision approach path indicator (PAPI) systems; runway threshold lights; and a runway end identifier (REIL) at each runway end. The airfield lights utilize pilot-controlled lighting (PCL); thus, the airfield lights are only lit when activated by pilots using the airport. For further information, see the discussion of the types of airfield lighting and visual approach aids earlier in the inventory.

Visual Resources and Visual Character | *Visual character* refers to the overall visual makeup of the existing environment where a proposed action or its alternative(s) would be located. For example, areas near densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, deserts, etc.

Visual resources include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternative(s).

Although the airport environment is not within an urban area, it is visually characterized not only by trees and vegetated open areas, but by both buildings and streets. Views of the airport are not readily accessible from surrounding roadways due to the dense grouping of mature vegetation. In addition, long-range views are not readily available due to the relatively flat topography of the airport environs. Directly to the north and east of the airport property boundaries lies open space. Near the west and south portions of the airport property boundaries are spread-out residential communities.

There are a total of two national scenic byways in Wisconsin: Great River Road and Wisconsin Lake Superior Scenic Byway[14]; however, there are no routes within the City of Hayward, and therefore, no federal or national scenic byways near the airport.

WATER RESOURCES

Wetlands | The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the *Clean Water Act* (CWA). Wetlands are defined in E.O. 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does

[14] U.S. Department of Transportation – National Scenic Byways & All-American Roads (https://fhwaapps.fhwa.dot.gov/bywaysp/byway/81528/map)

or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction." Wetlands can include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mudflats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: the soil is inundated or saturated to the surface at some point during the growing season (hydrology); it has a population of plants that are able to tolerate various degrees of flooding or frequent saturation (hydrophytes); and the soils are saturated enough to develop anaerobic (absent of air or oxygen) conditions during the growing season (hydric).

The USFWS manages the National Wetlands Inventory on behalf of all federal agencies. The National Wetlands Inventory identifies surface waters and wetlands in the nation. There are freshwater emergent wetlands within airport boundaries, and Namekagon River is adjacent to the western airport boundaries. South of the airport, Namekagon River's mouth empties into Hayward Lake. Near the eastern boundary of the airport is freshwater forested/shrub wetland and Hatchery Creek (**Exhibit 1M**).[15]

It is important to note that these areas were identified as wetlands based on a review of aerial photography dated 1985 and may no longer be present; however, based on information from the NRCS Web Soil Survey, there are hydric soils present on airport property.

Floodplains | E.O. 11988, *Floodplain Management*, directs federal agencies to take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by the floodplains. U.S. Department of Transportation (DOT) Order 5650.2, *Floodplain Management and Protection*, implements the guidelines contained in E.O. 11988.

E.O. 14030, *Climate-Related Financial Risk*, was established on May 25, 2021. Section 5(e) of E.O. 14030 reinstates E.O. 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (originally set forth on January 30, 2015). E.O. 13690 amends E.O. 11988 and mandates that a Federal Flood Risk Management Standard (FFRMS) be created. One of the primary purposes of the FFRMS is to expand the management of floodplains from a base flood evaluation to include a higher vertical elevation (and the corresponding floodplain) in order to protect against future flood risk for federally funded projects.

Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical[16] or non-critical federally funded actions:

- Climate-Informed Science Approach (CISA) – the elevation and flood hazard area (i.e., 100-year floodplain) using data that integrate climate science with an emphasis on possible future effects on critical actions
- Freeboard Value Approach – the elevation and flood hazard area and an additional two or three feet above the base flood elevation, depending on whether the proposed federal action is critical or non-critical

[15] National Wetlands Inventory (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/)
[16] A critical action is defined in E.O. 13690 and 2015 Guidelines for Implementing E.O. 11988 as any activity for which even a slight change of flooding is too great.

- 500-Year Floodplain Approach – all area subject to the 0.2 percent annual chance flood
- Other methods resulting from updates to the FFRMS

Of the four approaches listed above, federal departments and agencies should use the CISA approach when data to support such an analysis are available.

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel numbers 5505910025B and 5505910100B (effective September 14, 1990) indicates that the airport is in Zone X, an area of minimal flood hazard.[17] The airport is not located within a 100-year or 500-year floodplain.

Surface Waters | The CWA establishes water quality standards; controls discharges; develops waste treatment management plans and practices; prevents or minimizes the loss of wetlands; and regulates other issues concerning water quality. Water quality concerns related to airport development most often relate to the potential for surface runoff and soil erosion, as well as the storage and handling of fuel, petroleum products, solvents, etc. Additionally, Congress has mandated the NPDES under the CWA.

Sawyer County Airport is in the Hayward Lake-Namekagon River watershed. There are no impaired waters within this watershed; however, there are twenty waterbodies, thirteen of which are in uknown condition.[18] There are no impaired waterbodies near the airport.

Groundwater | Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as wells, springs, and other water sources. Examples of direct impacts to groundwater could include withdrawal of groundwater for operational purposes, or reduction of infiltration or recharge area due to new impervious surfaces.[19]

According to the Wisconsin DNR, there are 676 active well locations in Sawyer County within the Hayward Lake-Namekagon River watershed.[20]

The U.S. EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the *Safe Drinking Water Act* (SDWA). Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. It has increased public awareness of the vulnerability of groundwater resources. The SSA program is authorized by Section 1424(e) of the SDWA (Public Law 93-523, 42 U.S.C. 300 et. seq), which states:

> *"If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated,*

[17] FEMA Flood Map (https://msc.fema.gov/portal/search?AddressQuery=#searchresultsanchor)
[18] U.S. EPA – How's My Waterway (https://mywaterway.epa.gov/community/Sawyer%20County%20Airport/overview)
[19] United States Geological Survey – What is Groundwater? (https://www.usgs.gov/faqs/what-groundwater)
[20] Wisconsin Department of Natural Resources – DNR Groundwater Retrieval Network (https://dnr.wi.gov/GRNext/WellInventory/List)

would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register."[21]

According to the U.S. EPA Sole Source Aquifer for Drinking Water website, there are no sole source aquifers located within airport boundaries. The nearest sole source aquifer is the Miles Lacs Sole Source Aquifer more than 93 miles away from the airport.[22]

Wild and Scenic Rivers | The *National Wild and Scenic Rivers Act* was established to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

The Nationwide River Inventory (NRI) is a list of over 3,400 rivers or river segments that appear to meet the minimum *Wild and Scenic Rivers Act* eligibility requirements based on their free-flowing status and resource values. The development of the NRI resulted from Section 5(d)(1) in the *Wild and Scenic Rivers Act*, directing federal agencies to consider potential wild and scenic rivers in the comprehensive planning process.

The closest designated National Wild and Scenic River identified is the Saint Croix Riverway, located 0 miles from the airport.[23] The nearest National River Inventory feature is Totagetic River, located eight miles from the airport.[24]

[21] U.S. EPA – Overview of the Drinking Water Sole Source Aquifer Program (https://www.epa.gov/dwssa/overview-drinking-water-sole-source-aquifer-program#Authority)
[22] Sole Source Aquifers (https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b)
[23] National Wild and Scenic River System in the U.S. (https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e9502d5ac#)
[24] Nationwide River Inventory (https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977)