Wildlife Hazard Site Visit Report (WHSV)

Tri-County Regional Airport
E2525 County HWY JJ
Spring Green, WI 53588

April 16th – May 5th, 2021

Prepared By:

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Introduction

A WHSV was conducted by USDA-WS at Tri-County Regional Airport (KLNR-Lone Rock) between April 16th, 2021 – May 5th, 2021. The request to conduct the WHSV was from the Wisconsin Department of Transportation (WisDOT), Bureau of Aeronautics (BOA). The purpose of the WHSV was to gather data and analyze the current wildlife populations, wildlife land use patterns, and wildlife attractants on and in the vicinity of KLNR following several years of increased rainfall. Identification and management of specific wildlife attractants can be used to mitigate wildlife hazards present on and near the airfield.

KLNR is a general aviation airfield located in the southwestern portion of Sauk County in the Town of Spring Green, WI. Annually, KLNR averages approximately 16,000 aircraft operations. Aircraft operations are mostly small single-engine aircraft with occasional business jet and military helicopter operations.

KLNR has two runways (RWY's), 09/27 and 18/36. RWY 09/27 is 5,000' x 75' and RWY 18/36 is 1,850' x 60'. KLNR has only one (1) employee, the airfield manager. The airfield manager is responsible for complete management of the airfield including managing all airfield vegetation, and wildlife hazing/harassment. KLNR does not currently have a perimeter fence to prevent wildlife from accessing the airfield.

Background of WHSV Justification

KLNR has recorded increasing annual rainfall amounts dating back to 1993. Starting in 1993, the rainfall began ponding small pockets of ephemeral water (**Figure 1**). In 2008, KLNR received the "first-ever" flood of the entire airfield's RWY'S and taxiways (TWY's) (Figure 1). Again, in the fall of 2019, the entire airfield of KLNR flooded and closed for all of October and 2 weeks into November (**Figure 2**). Flooding that resulted from the 2019 storms can still be observed both North and South within fifty (50) feet of RWY 09/27.

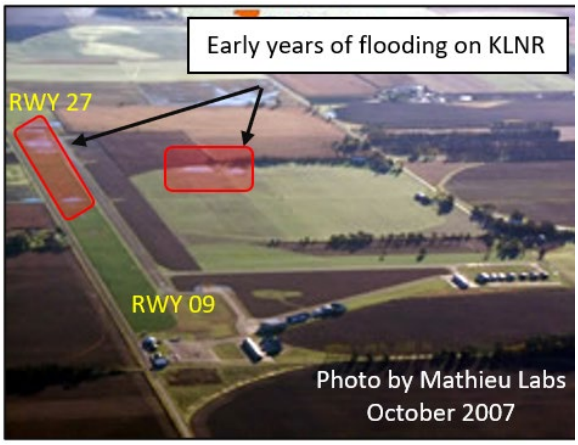


Figure 1. Areas of ponding North and South of RWY 09/27 at KLNR in 2007.

Wildlife Hazard Management Plan

Tri-County Regional Airport does not currently operate under a formal wildlife hazard management plan (WHMP). The airport last possessed a United States Fish and Wildlife Service (USFWS) Depredation Permit to alleviate wildlife threats to aviation human health and safety

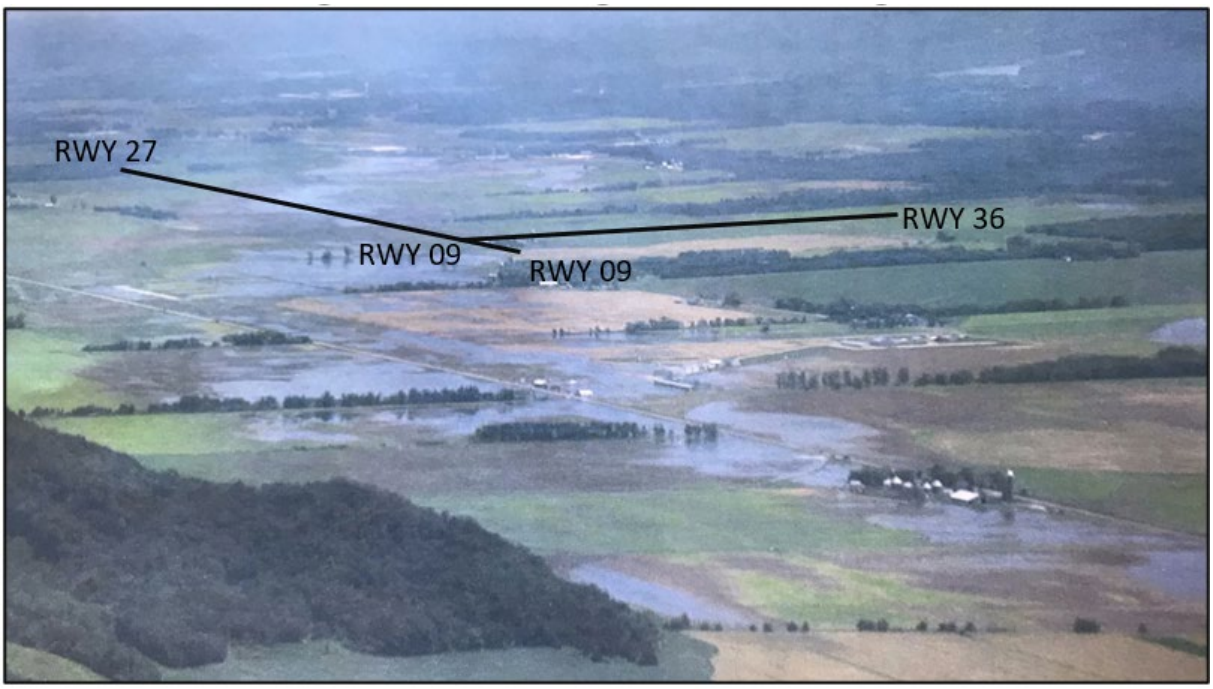


Figure 2. KLNR flooding resulting from the Fall of 2019 storms.

from migratory birds in 2020. That USFWS Depredation Permit has expired and has not been renewed. Additionally, KLNR does not possess any WI Department of Natural Resources (DNR) Depredation Permits to alleviate wildlife threats to aviation safety threats from managed state species.

Wildlife Strikes History

USDA-WS was informed of one (1) unreported bird strike with a Mallard duck (*Anus platyrhychos*) and one (1) damaging strike with a Sandhill crane (*Grus canadensis*). The Sandhill crane strike resulted in an aircraft excursion from the RWY and wing damage. Numerous times, pilots have reported "swerving" to miss wildlife when conducting landing/take-off operations. In an effort prevent wildlife strikes, pilots "back-taxi" on the RWY to disperse wildlife prior to departures.

Methods

USDA-WS established nine (9) evenly spaced survey points for this WHSV (**Figure 3**). At each survey point observations were recorded for all species present including species abundance, activity, and habitat type used during morning, midday, afternoon/evening, and night survey periods, in accordance with **FAA Advisory Circular** 150/5200-38. Surveys were conducted using point-count protocol recording observations at each survey point location for five (5) minutes. Nighttime surveys were conducted using the same survey protocol as the daytime surveys but with the assistance of Forward Looking Infrared (FLIR) to identify wildlife.

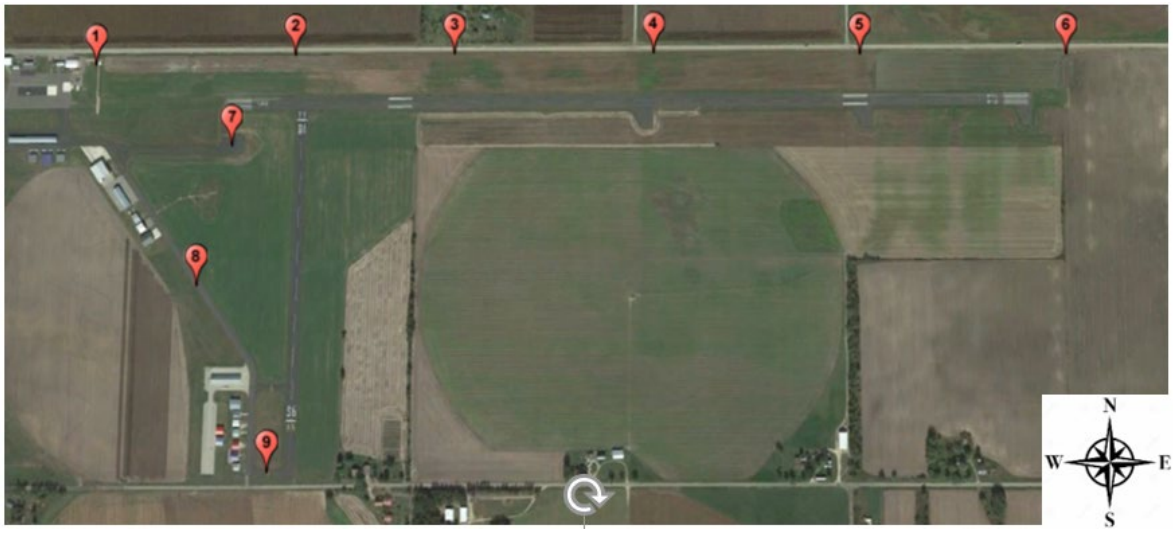


Figure 3. Tri-County Regional Airport survey points used during the WHSV.

Results

USDA-WS observed thirty-eight (38) species of wildlife (35 avian and 3 mammalian) totaling 1,373 individuals during the WHSV (**Table 1**). Red-winged blackbirds (*Agelaius phoeniceus*) were the most frequently observed bird followed by the Mallard duck. Observations of wildlife were consistently high throughout the entire day; Morning = 27.8%, Midday = 35.9%, Afternoon = 35.6%, and Night = .70%. However, not all survey locations yielded high wildlife observations (**Table 2**). Survey point 5 (**29.5%**) and Survey point 6 (**35.8%**) accounted for nearly 65% of all wildlife observed on Tri-County Regional Airport. None of the species observed during the WHSV are currently listed as Federal or State Threatened or Endangered.

Table 1: Species list observed during the 2021 Spring WHSV at KLNR.

Species	Total	% of Total Observations
Red-winged blackbird	362	26.3%
Mallard duck	186	13.5%
Cliff swallow	134	9.7%
Blue-winged teal	132	9.6%
Short-billed dowitcher	120	8.7%
Brown-headed cowbird	65	4.7%
Barn swallow	49	3.6%
Sandhill crane	35	2.5%
Greater-yellowleg	35	2.5%
Lesser-yellowleg	33	2.4%
Northern shoveler	32	2.3%
European starling	23	1.7%
Green-winged teal	20	1.5%

Killdeer	17	1.2%
American crow	17	1.2%
Bonaparte's gull	16	1.2%
House sparrow	15	1.1%
Turkey vulture	14	1.0%
Horned lark	14	1.0%
Canada goose	13	0.9%
Song sparrow	7	0.5%
Wood duck	6	0.4%
Savannah sparrow	5	0.4%
Bald eagle	5	0.4%
Pectoral sandpiper	3	0.2%
Red-tailed hawk	3	0.2%
Striped skunk	2	0.1%
Rock dove	2	0.1%
Sora	2	0.1%
Raccoon	2	0.1%
American robin	1	0.1%
Swamp sparrow	1	0.1%
Common raven	1	0.1%
Common merganser	1	0.1%
Mink	1	0.1%
Short-eared owl	1	0.1%
Wilson's snipe	1	0.1%
Woodcock	1	0.1%

Table 2: Percent of wildlife observations by survey point during KLNR WHSV.

Survey Point 1	*3.8%*
Survey Point 2	*5.8%*
Survey Point 3	*5.4%*
Survey Point 4	*9.0%*
Survey Point 5	*29.5%*
Survey Point 6	*35.8%*
Survey Point 7	*2.3%*
Survey Point 8	*6.8%*
Survey Point 9	*1.5%*

Marsh/Pond Habitat

Due to the recent flooding events and increasing annual rainfall since 1993, marsh habitat has been created North & South of RWY 09/27 and East of RWY 18. The newly created marsh habitat at KLNR, has increased the attractiveness to ducks, geese, shorebirds, and wading birds. Survey point 5 and Survey point 6 were areas with the largest areas of ponding observed.

USDA-WS believes, areas of ponding and marsh habitat are associated with the high wildlife observations during this WHSV (**Figure 4**).

Figure 4. Shorebirds/ducks feeding at Survey point 6 during the WHSV.

Historically dry locations on the airfield have now become marsh habitat inhibiting airfield maintenance's (MX) ability to manage airfield vegetation heights. Airfield vegetation can only be managed by maintenance equipment approximately 20' off the hard surface of RWY 09/27 because of presence of water. Common cattails (*Typha latifolia*) were growing to heights of ≥40" off the edge of the RWY surface (**Figure 5**). Tall Common cattail vegetation provides food, shelter, and nesting habitat for the most frequently observed species of wildlife during the WHSV, Red-winged blackbirds. Red-winged blackbirds were observed in abundance throughout all marsh habitat on Tri-County Regional Airport.

Figure 5. Common cattails growing along North side of RWY 09/27.

Mammal Observations

USDA-WS observed very low mammal activity during surveys at KLNR. Mink (*Neovison vison*), Striped skunks (*Mephitis mephitis*), and Raccoons (*Procyon lotor*) were the only mammals observed. Survey point 1 was the survey point with the most diverse mammal observations, USDA-WS observed two (2) Striped skunks and one (1) Mink running across the TWY.

USDA-WS did not observe any Coyotes (*Canis latrans*) or White-tailed deer (*Odocoileus virginianus*) during the WHSV. However, White-tailed deer tracks were observed in the mud flat and Coyote scat was observed on RWY 09 at Survey point 3.

Threatened or Endangered Species During WHSV

USDA-WS did not observe any Federal or State Threatened or Endangered species.

Agriculture Land Practices on KLNR Property

Survey points 1, 2, 7, 8, and 9 all contained areas where agriculture crops were grown on KLNR owned property (**Figure 6**). USDA-WS was informed that soybeans are the only agriculture crop KLNR allows to be planted on airfield owned property. In accordance with **FAA Advisory Circular** 150/5200-33C, agriculture crops can attract hazardous wildlife and should be avoided when airfields are financially able. Although KLNR currently leases airfield property for agriculture use, soybeans are not as attractive as other species of grain producing crops. In addition, soybeans do not typically grow to heights that would create an obstruction for pilots or individuals tasked with managing wildlife.

Figure 6. Yellow Areas represent locations of agriculture land practices on KLNR property.

Near Airfield Wildlife Attractants

Bakken's Pond

Bakken's Pond is located 2.75 miles southeast of KLNR. USDA-WS observed numerous species of waterfowl and gulls utilizing Bakken's Pond during the WHSV (**Figure 7**). Observations included: Blue-winged teal (*Spatula discors*), Bonaparte's gull (*Chroicocephalus philadelphia*), Canada geese (*Branta canadensis*), Mallard ducks, Sandhill cranes, Trumpeter swans (*Cygnus buccinator*), and Wood ducks (*Aix sponsa*).

Figure 7. Bakken's Pond located 2.75 miles SE of KLNR.

Wisconsin River

The Wisconsin River is located 3-3.75 south of KLNR. USDA-WS did not observe any species of wildlife along the Wisconsin River during the WHSV. However, USDA-WS believes seasonal influxes of migratory birds may be observed utilizing the river during both spring/fall migration and potential winter roosting habitat.

Wildlife Strike Reporting

Efforts should be made to identify and report all species involved in aircraft collisions. Management recommendations cannot be made on unknown species; therefore, it is extremely important to identify the exact species struck so proper techniques to alleviate the hazard can be recommended and implemented. FAA Advisory Circular 150/5200-32B describes, in detail, when and how to report a wildlife strike https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_150_5200-32B.pdf. Tri-County Regional Airport should follow the procedures outlined in this advisory each time a wildlife strike has occurred. A wildlife strike should be reported when:

a. A strike between wildlife and aircraft has been witnessed.
b. Evidence or damage from a strike has been identified on an aircraft.
c. Bird or other wildlife remains, whether in whole or in part, are found:
   (1) Within 250 feet of a runway centerline or within 1,000 feet of a runway end unless another reason for the animal's death is identified or suspected.
   (2) On a taxiway or anywhere else on or off the airport that you have reason to believe was the result of a strike with an aircraft. Examples might be:
      (i) A bird found in pieces from a prop strike on a taxiway.

(ii) A carcass retrieved within 1 mile of an airport on the final approach or departure path after someone reported the bird falling out of the sky and a report of a probable wildlife strike.

Strikes should be reported in the same manner by all personnel to maintain consistency and accuracy. Every effort must be made to identify the species of wildlife involved in aircraft collisions. Wildlife strike data, when complete, can provide vital information for making wildlife management decisions on the airport. If staff or pilots are unable to identify species involved in a strike, feathers and remains (if available) should be sent to the Smithsonian National Museum of Natural History for identification. Remains along with a copy of the corresponding FAA Form 5200-7 or a printed copy of the online submitted strike report should be sent to the following address for identification:

Regular Shipment:

Smithsonian Institution
Feather Identification Lab
E600, MRC 116
P.O. Box 37012
Washington, DC 20013-7012

Overnight / Priority Shipment:

Smithsonian Institution
Feather Identification Lab
E600, MRC 116
10th & Constitution Ave., NW
Washington, DC 20560

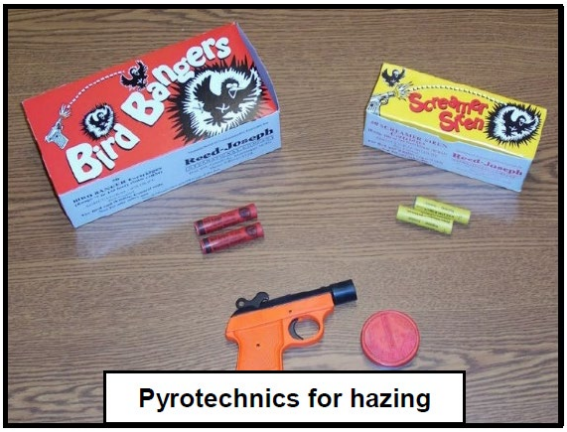
Wildlife Management Tools and Documentation

It is recommended that vehicles regularly operating on the airfield (including airport maintenance equipment) be equipped with a pyrotechnic launcher and an accompanying supply of bird bangers/bombs and screamers/whistlers. Proper safety equipment (eye and ear protection) should be on hand as well. This will enable all trained airfield personnel to quickly haze wildlife they may encounter while conducting routine duties. At a minimum, KLNR should have on hand the following:

- 15 mm pyrotechnic pistol launchers and blanks (one/vehicle and two spares)
- Bird bangers/bombs (100/vehicle and 200 in storage)
- Screamers/whistlers (100/vehicle and 200 in storage)
- 12-gauge shotgun and ammunition (one/authorized vehicle or as determined necessary)
- Rifle between .243 to .308 caliber to remove deer, coyotes, Sandhill cranes, or other wildlife outside of effective shotgun range (with appropriate permits in place)
- Binoculars (one/vehicle)
- Bird and mammal field identification books (one each/vehicle and one each in office) or a field identification app on smart phone for birds and mammals
- Eye and hearing protection (two each/vehicle and extras in storage)
- Propane cannons/exploders with tanks (2-4 in storage for immediate use)

Due to security issues, firearms may need to be more closely regulated by management. It should be noted, all pyrotechnics, including those with fuses, are regulated by state and local laws and by stringent Federal oversight. A "firework" permit from the township may be necessary to use pyrotechnics. Check with local police or fire to determine if permits are necessary. The Bureau of Alcohol, Tobacco, and Firearms and Explosives (ATF) also has storage requirements for storing pyrotechnics. Proper storage of pyrotechnics can be viewed at the following website: https://www.atf.gov/explosives/explosives-pest-control-device-requirements.

Additional supplies such as distress calls, bird and/or mammal traps, hand-held spotlights, rotating beacons, and sirens may be necessary as specific situations arise. It is the responsibility of Tri-County Regional Airport to ensure these items can be procured in a timely manner. Safety procedures should always be followed while using these supplies. Serious accidents have resulted from the misuse of equipment (e.g., loss of vehicles from the unsafe practice of firing pyrotechnics from inside vehicles).



Pyrotechnics for hazing

Detailed records of wildlife harassment and management efforts also should be maintained. Keeping these records will provide a useful index of wildlife abundance and use of the airfield over time. The information gained also will determine the effectiveness of harassment activities. The minimum amount of information recorded should include the person conducting the action, the date, time, wildlife species, number of animals, location on airfield, and management method used. It also would be useful to document the animal's response to the management action (i.e., abandon airfield, moved to another location on airfield, etc.). A standardized form makes it quick and easy to log an action or observation. An observation sheet can be created and used to record this information and should be kept in each airport vehicle. The Airport Director should also maintain these records on a computer database because the data can be more easily extracted or sorted into a presentable report and provided to the FAA or WisDOT, BOA when requested.

WS Assistance

USDA-WS is available to provide technical assistance, bird/wildlife strike identification, on-site wildlife management, and/or training to airport staff in wildlife hazard management. USDA-WS also can assist the airport with providing recommendations on any proposed land use changes, construction projects, or other changes within 5 miles of the airport that may increase the presence of hazardous wildlife in the area, increasing the wildlife strike risk to aircraft using KLNR. The USDA-WS Waupun District Office can be reached at (920) 324-4514.

Recommendations

USDA-WS believes most of the wildlife observed were both directly and indirectly associated with the presence of water on KLNR. Twenty-two (22) of the thirty-eight (38) species of wildlife observed could potentially be reduced or dispersed completely from KLNR with improved water management. Proper drainage that leads to the elimination of standing water has potential to alleviate attractiveness to ducks, geese, shorebirds, and wading birds. If proper drainage is established, USDA-WS recommends implementing a vegetation management plan that maintains airfield vegetation height between 7"–14". Proper vegetation management between 7"-14" has the potential to greatly reduce the abundance of many species of wildlife especially the most frequently observed species, Red-winged blackbirds.

Although there were low mammal observations during the KLNR WHSV, USDA-WS did observe scat/tracks of multiple mammal species that are hazardous to aviation safety. USDA-WS recommends the construction of a perimeter fence that is at least eight feet (8') tall at KLNR to prevent White-tailed deer and Coyotes from accessing the airfield. In addition, USDA-WS recommends constructing the fence with "skirting" to deter Coyotes and Red fox (*Vulpes vulpes*) from digging under the fence to enter the airfield. "Skirting" is the term for burying approximately two – three feet (2'-3') of chain link fence horizontally underground outside of the perimeter fence. "Skirting" is an effective method at also preventing other small mammals (i.e., Striped skunks, Woodchucks [*Marmota monax*], Rabbits/Hares [*Lagomorphs*], and other species) from accessing the airfield.

Finally, KLNR currently allows crop farming practices on airfield property as supplemental income. In recent years, only soybeans have been planted. USDA-WS recommends finding alternative land use practices (i.e., solar farm) to reduce attraction of hazardous species of wildlife while generating income for the airport. Furthermore, USDA-WS does not recommend planting of wheat, oats, corn, or any other grain that is attractive to wildlife. Current farming practices should include discing of fields immediately (within 48 hours) post-harvest to bury any grains that may have spilled during harvest.