# Public Facilities Committee

## Beaufort County, SC

Executive Conference Room, Administration Building Beaufort County Government Robert Smalls Complex 100 Ribaut Road, Beaufort

**Monday, March 17, 2025**
**4:00 PM**
***OR AT THE CONCLUSION OF THE FINANCE, ADMINISTRATION, & ECONOMIC DEVELOPMENT COMMITTEE MEETING NO SOONER THAN 3:00PM***

## AGENDA

**COMMITTEE MEMBERS:**

| | |
|---|---|
| **LOGAN CUNNINGHAM, CHAIRMAN** | **DAVID P. BARTHOLOMEW, VICE-CHAIR** |
| **PAULA BROWN** | **MARK LAWSON** |
| **THOMAS REITZ** | **ALICE HOWARD, EX-OFFICIO** |

1. CALL TO ORDER: Logan Cunningham, Committee Chair
2. PLEDGE OF ALLEGIANCE: Logan Cunningham, Committee Chair
3. STATEMENT OF COMPLIANCE WITH FOIA: Logan Cunningham, Committee Chair
4. APPROVAL OF AGENDA
5. APPROVAL OF MINUTES - *January 27, 2025 and February 18, 2025*
6. PUBLIC COMMENT PERIOD - 15 MINUTES TOTAL
7. ASSISTANT COUNTY ADMINISTRATOR REPORT

**Airports**

8. A RESOLUTION TO ADOPT THE AIRPORT'S WILDLIFE MANAGEMENT POLICY. ***(Fiscal Impact: None)***. - *Jon Rembold, Airports Director*
9. A RESOLUTION AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A NON-TENANT COMMERCIAL OPERATING AGREEMENT BETWEEN BEAUFORT COUNTY AND PALMETTO ACES FLYING CLUB. ***(Fiscal Impact: Airport receives 3% of gross revenue)*** - *Jon Rembold, Airports Director*

**Capital Projects**

10. AN INTERGOVERNMENTAL AGREEMENT WITH THE TOWN OF PORT ROYAL TO ALLOW FOR THE FUNDING, CONSTRUCTION, AND DONATION OF A SPLASH PAD ON THE COUNTY OWNED PARK SITE AT THE BRUCE EDGERLY FIELD AND PORT ROYAL CENTER ADJACENT TO THE NEW ACCESSIBLE PLAYGROUND ***(Fiscal Impact: No cost up front, TBD cost will be through maintenance and operation going forward)*** - *Hank*

*Amundson, Special Assistant to the County Administrator, Eric Brown, Parks and Rec Director, & Brooke Plank-Bucolla with the Town of Port Royal*

**Public Works Division**

11. AN ORDINANCE AUTHORIZING THE ABANDONMENT OF A DRAINAGE EASEMENT RECORDED IN DEED BOOK 3044 AT PAGE 2170 ***(Fiscal Impact: None)*** - *Bradley Harriot, Public Works Director*

12. AN ORDINANCE AUTHORIZING THE ABANDONMENT OF AN EASEMENT ENCUMBERING PROPERTY IDENTIFIED AS TMS NO. R300 035 00A 0004 0000 AND R300 035 00A 0004 0000. ***(Fiscal Impact: None)*** - *Bradley Harriot, Public Works Director*

**Stormwater Division**

13. APPROVAL OF CONTRACT TO SEAMON WHITESIDE FOR THE ALLJOY DRAINAGE STUDY PROJECT ($275,000.00). ***(Fiscal Impact: The project costs is $250,000. Staff recommends a 10% contingency of $25,000, bringing the total project value to $275,000. This project is funded by an RIA grant for $187,500, account code 2555-90-0000-43770ALLJO and by $87,000 ($62,500 grant match + $25,000 (10%) contingency coming from the Stormwater Utility Fund, account code 5025-90-9020-54420, available balance: $1,671,495.87).*** - *Taylor Brewer, Stormwater Manager*

**Engineering Division**

14. APPROVAL TO ABANDON MAINTENANCE ACTIVITIES TO A SECTION OF SWEET GRASS DRIVE AND RETURN A PORTION OF THE ROAD TO BE CLASSIFIED AS PRIVATE ***(Fiscal Impact: None)*** - *Bryan Bauer, Engineering Director*

**Agencies, Boards and Commissions**

15. THE REAPPOINTMENT OF LAWRENCE BRYAN TO THE SOLID WASTE AND RECYCLING BOARD WITH THE EXPIRATION DATE OF FEBRUARY 2029.

16. THE REAPPOINTMENTS OF CLARENCE DANIELS AND JAMES BACKER TO THE BEAUFORT COUNTY TRANSPORTATION COMMITTEE FOR A FOUR-YEAR TERM WITH EXPIRATION DATE OF FEBRUARY 2029.

17. ADJOURNMENT

**TO WATCH COMMITTEE OR COUNTY COUNCIL MEETINGS OR FOR A COMPLETE LIST OF AGENDAS AND BACKUP PACKAGES, PLEASE VISIT:**
**https://beaufortcountysc.gov/council/council-committee-meetings/index.html**

# Public Facilities Committee

## Beaufort County, SC

Hilton Head Library, 11 Beach City Road, Hilton Head, SC 29926

**Monday, January 27, 2025**
**3:30 PM**

**MINUTES**

***Watch the video stream available on the County's website to hear the Council's discussion of a specific topic or the complete meeting. https://beaufortcountysc.new.swagit.com/videos/326880***

**COMMITTEE MEMBERS:**

| | |
|---|---|
| **LOGAN CUNNINGHAM, CHAIRMAN** | **DAVID P. BARTHOLOMEW, VICE-CHAIR** |
| **PAULA BROWN** | **MARK LAWSON** |
| **THOMAS REITZ** | **ALICE HOWARD, EX-OFFICIO** |

1. **CALL TO ORDER**

Committee Vice-Chairman Bartholomew called the meeting to order at 3:50pm.

**PRESENT**

Committee Chairman Logan Cunningham

Committee Vice-Chairman David Bartholomew

Committee Member Paula Brown

Committee Member Mark Lawson

Committee Member Thomas Reitz

Ex-Officio Alice Howard

Council Member Gerald Dawson

Council Member Joseph Passiment

Council Member Anna Maria Tabernik

**ABSENT**

Council Member York Glover

Council Member Lawrence McElynn

DRAFT

2. **PLEDGE OF ALLEGIANCE**

Committee Vice-Chairman led the Pledge of Allegiance.

3. **FOIA**

Committee Vice-Chairman noted this meeting has been published, posted, and distributed in compliance with the South Carolina Freedom of Information Act.

4. **APPROVAL OF AGENDA**

**Motion**: It was moved by Committee Member Lawson, Seconded by Committee Member Brown to approve the agenda.

**Vote**: Motion was approved without objection.

5. **APPROVAL OF MINUTES** - *November 18, 2024*

**Motion**: It was moved by Council Member Tabernik, Seconded by Ex-Officio Officer Howard to approve the minutes of November 18, 2024.

**Vote**: Motion was approved without objection.

**6. CITIZEN COMMENTS PERIOD**

There were no citizen comments.

## AGENDA ITEMS

7. **An Ordinance Authorizing the County Administrator to execute any and all necessary documents for the acceptance of S-859 located at SC 462 and SC 170 which is to be abandoned by SCDOT**

Motion: It was moved by Committee Member Lawson, Seconded by Committee Member Brown to approve an Ordinance Authorizing the County Administrator to execute any and all necessary documents for the acceptance of S-859 located at SC 462 and SC 170 which is to be abandoned by SCDOT.

**Vote**: Motion was approved without objection.

8. **A RESOLUTION TO ACCEPT FUNDING PURSUANT TO SOUTH CAROLINA ACT 226 FY 2024-2025 STATE APPROPRIATIONS ACT IN THE AMOUNT OF $1,200,000 FOR THE ALLJOY BOAT LANDING IMPROVEMENT PROJECT**

Motion: It was moved by Committee Member Lawson, Seconded by Committee Member Brown to approve a Resolution to accept funding pursuant to South Carolina Act 226 FY 2024-2025 STATE APPROPRIATIONS ACT IN THE AMOUNT OF $1,200,000 FOR THE ALLJOY BOAT LANDING IMPROVEMENT PROJECT.

**Vote**: Motion was approved without objection

9. **A RESOLUTION FOR THE ALLJOY BOAT LANDING IMPROVEMENTS**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Brown to approve a Resolution for the Alljoy Boat Landing improvements.

**Voting Yea**: Chairman Cunningham, Vice-Chairman Bartholomew, Committee Member Lawson, Committee Member Reitz, Ex-Officio Officer Howard, Council Member Dawson, Council Member Passiment, Council Member Tabernik

**Voting Nay**: Committee Member Brown

**Vote**: Motion was approved with one objection.

10. **An Ordinance Authorizing the County Administrator to execute any and all necessary documents for the transfer of Right of Way back to property owners of parcel R110 008 000 0653 0000 or tract 13, parcel R110 008 000 0654 0000 or tract 12, parcel R110 008 000 0656 0000 or tract 10, and parcel R110 008 000 0658 0000 or tract 8 as shown on Exhibit" A" Pages 1-4 associated with Ribaut Road Sidewalk project in Port Royal**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Committee Member Lawson to approve An Ordinance authorizing the County Administrator to execute any and all necessary documents for the transfer of Right of Way back to property owners of parcel R110 008 000 0653 0000 or tract 13, parcel R110 008 000 0654 0000 or tract 12, parcel R110 008 000 0656 0000 or tract 10, and parcel R110 008 000 0658 0000 or tract 8 as shown on Exhibit" A" Pages 1-4 associated with Ribaut Road Sidewalk project in Port Royal.

**Vote**: Motion was approved without objection.

11. **A RESOLUTION TO ADOPT THE LOWCOUNTRY COUNCIL OF GOVERNMENTS (LCOG) SAFETY ACTION PLAN AND TARGET ZERO POLICY**

**Motion**: It was moved by Council Member Tabernik, Seconded by Ex-Officio Officer Howard to approve a Resolution to adopt the Lowcountry Council of Governments (LCOG) Safety Action Plan and Target Zero Policy.

**Vote**: Motion was approved without objection.

12. **Traffic Calming Improvements in the Shell Point Neighborhood**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Council Member Tabernik to approve Traffic Calming Improvements in the Shell Point Neighborhood.

**Vote**: Motion was approved without objection.

13. **AUTHORIZE THE ADMINISTRATOR TO EXECUTE A MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN BEAUFORT COUNTY AND THE PALMETTO CLEAN FUELS COALITION**

**Motion**: It was moved by Committee Member Brown, Seconded by Committee Member Lawson to approve to authorize the Administrator to execute a Memorandum of Understanding (MOU) between Beaufort County and The Palmetto Clean Fuels Coalition.

**Vote**: Motion was approved without objection.

14. **Sole Source Contract award to Pavement Technology Inc. for year 8 Rejuvenator**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Brown to approve a Sole Source Contract award to Pavement Technology Inc. for year 8 Rejuvenator.

**Vote**: Motion was approved without objection.

15. **APPROVAL OF A TASK ORDER TO J.H. HIERS, INC OF BEAUFORT, SC FOR HICKORY HILL DRAINAGE IMPROVEMENTS PROJECT**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Reitz to approve a task order to J.H. Hiers, Inc of Beaufort, SC for Hickory Hill drainage improvements project

**Vote**: Motion was approved without objection.

16. **APPROVAL OF A TASK ORDER TO J.H. HIERS, INC OF BEAUFORT, SC FOR TUXEDO PARK DETENTION POND REHABILITATION PROJECT**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Council Member Tabernik to approve a task order to J.H. Hiers, Inc of Beaufort, SC for Tuxedo Park Detention Pond Rehabilitation project.

**Vote**: Motion was approved without objection.

17. **Airport Capital Improvement Program list for Beaufort Executive Airport**

Motion: It was moved by Committee Member Lawson, Seconded by Committee Member Reitz to open discussion on Airport Capital Improvement Program list for Beaufort Executive Airport.

Vote: This was an update and no action was taken.

18. **Airport Capital Improvement Program list for Hilton Head Island Airport**

Motion: It was moved by Committee Member Reitz, Seconded by Committee Member Lawson to open discussion on Airport Capital Improvement Program list for Hilton Head Island Airport

Vote: This was an update and no action was taken.

19. **APPROVAL OF A TASK ORDER TO J.H. HEIRS CONSTRUCTION FOR CONSTRUCTION SERVICES TO REPAIR THE DRAINAGE SYSTEM AT THE CHARLES LIND BROWN COMMUNITY CENTER**

**Motion**: It was moved by Council Member Tabernik, Seconded by Ex-Officio Officer Howard to approve a task order to J.H. Heirs Construction for construction services to repair the drainage system at the Charles Lind Brown Community Center.

**Vote**: Motion approved without objection.

20. **CONTRACT AWARD TO SCOTT EQUIPMENT & SURFACING FOR IFB #112124 CHARLES LIND BROWN CENTER GYMNASIUM UPFIT- BASKETBALL GOALS, SCOREBOARDS AND BLEACHERS**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Committee Member Brown to approve a Contract Award to Scott Equipment & Surfacing for IFB #112124 Charles Lind Brown Center gymnasium upfit- basketball goals, scoreboards and bleachers.

**Vote**: Motion was approved without objection.

21. **Contract Award to Mitchell Brothers Inc for IFB # 111924 Construction / Renovation of the Administration Building and County Council Chambers**

DRAFT

**Motion**: It was moved by Committee Member Brown, Seconded by Council Member Tabernik to approve a Contract Award to Mitchell Brothers Inc for IFB # 111924 Construction / Renovation of the Administration Building and County Council Chambers

**Vote**: Motion was approved without objection.

22. **CONTRACT AWARD TO BEAUFORT CONSTRUCTION OF SC, LLC FOR IFB# 101824 BLUFFTON COMMUNITY CENTER RENOVATION**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Lawson to approve a Contract Award to Beaufort Construction of SC, LLC for IFB# 101824 Bluffton Community Center renovation.

**Vote**: Motion was approved without objection.

23. **CONTRACT AWARD TO MITCHELL BROTHERS CONSTRUCTION, INC FOR IFB #101724, BOOKER T. WASHINGTON COMMUNITY CENTER RENOVATION**

**Motion**: It was moved by Committee Member Lawson, Seconded by Ex-Officio Officer Howard to approve a contract award to Mitchell Brothers Construction, Inc for IFB #101724, Booker T. Washington Community Center renovation.

**Vote**: motion was approved without objection.

24. **CONTRACT AWARD TO FRASER CONSTRUCTION AND COURT ATKINS GROUP FOR IFB #061824 STATION 39 FOR THE DESIGN PORTION OF THIS DESIGN/BUILD PROJECT**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Lawson to approve a Contract Award to Fraser Construction and Court Atkins Group for IFB #061824 station 39 for the design portion of this design/build project.

**Vote**: Motion was approved without objection.

25. **CONTRACT AWARD TO C.E. BOURNE & CO INC FOR IFB #050824- DETENTION CENTER STUCCO REPAIR AND PAINTING**

**Motion**: It was moved by Committee Member Lawson, Seconded by Council Member Tabernik to approve a Contract Award to C.E. Bourne & CO Inc for IFB #050824- Detention Center Stucco repair and painting.

**Vote**: Motion was approved without objection

26. **ADJOURNMENT**

Committee Vice-Chairman adjourned the meeting at 5:08pm.

**Ratified:**

DRAFT

# Public Facilities Committee

## Beaufort County, SC

Executive Conference Room, Administration Building Beaufort County Government Robert Smalls Complex 100 Ribaut Road, Beaufort

**Tuesday, February 18, 2025**
**4:00 PM**

**MINUTES**

***Watch the video stream available on the County's website to hear the Council's discussion of a specific topic or the complete meeting. https://beaufortcountysc.new.swagit.com/videos/335111***

**COMMITTEE MEMBERS:**

| | |
|---|---|
| **LOGAN CUNNINGHAM, CHAIRMAN** | **DAVID P. BARTHOLOMEW, VICE-CHAIR** |
| **PAULA BROWN** | **MARK LAWSON** |
| **THOMAS REITZ** | **ALICE HOWARD, EX-OFFICIO** |

1. **CALL TO ORDER**

Committee Chairman Cunningham called the meeting to order at 4:02pm.

**PRESENT**

Committee Chairman Logan Cunningham

Committee Vice-Chairman David Bartholomew

Committee Member Paula Brown

Committee Member Mark Lawson

Committee Member Thomas Reitz

Ex-Officio Alice Howard

Council Member York Glover

Council Member Joseph Passiment

Council Member Anna Maria Tabernik

**ABSENT**

Council Member Gerald Dawson

Council Member Lawrence McElynn

2. **PLEDGE OF ALLEGIANCE**

DRAFT

Committee Chairman led the Pledge of Allegiance.

3. **STATEMENT OF COMPLIANCE WITH FOIA:**

Committee Chairman noted the public notification of the meeting has been published, posted, and distributed in the compliance with the South Carolina Freedom of Information Act.

4. **APPROVAL OF AGENDA**

**Motion**: It was moved by Council Member Tabernik, Seconded by Committee Member Lawson to approve the agenda.

**Vote**: Motion was approved without objection.

**5. CITIZEN COMMENTS PERIOD**

1. Dan Riedel

**6. Assistant County Administrator Report**

Please watch the video stream to view the full report.

https://beaufortcountysc.new.swagit.com/videos/335111?ts=279

## AGENDA ITEMS

7. **2018 ONE-CENT TRANSPORTATION SALES TAX UPDATE**

Please watch the video stream to view the full update.

https://beaufortcountysc.new.swagit.com/videos/335111?ts=1224

8. **SOLID WASTE AND RECYCLING PROGRAM UPDATE**

Please watch the video stream to view the full update.

https://beaufortcountysc.new.swagit.com/videos/335111?ts=3897

9. **A RESOLUTION TO ACCEPT PALMETTO PRIDE LITTER PREVENTION GRANT IN THE AMOUNT OF $9,654.00 FOR THE ASSISTANCE OF THE LITTER PROGRAM**

**Motion**: It was moved by Committee Member Lawson, Seconded by Committee Member Brown to approve a resolution to accept Palmetto Pride Litter Prevention grant in the amount of $9,654.00 for the assistance of the litter program.

**Vote**: Motion approved without objection.

10. **APPROVAL OF A CONTRACT AWARD TO WASTE MANAGEMENT OF SOUTH CAROLINA FOR RFP # 012325 MUNICIPAL SOLID WASTE DISPOSAL**

DRAFT

**Motion**: It was moved by Vice-Chairman Bartholomew, Seconded by Council Member Tabernik approve a Contract Award to Waste Management of South Carolina for RFP # 012325 Municipal Solid Waste Disposal.

**Vote**: Motion was approved without objection.

11. **APPROVAL OF A CONTRACT AWARD TO GREEN MOUNTAIN TECHNOLOGIES FOR RFP # 121024 PURCHASE, INSTALLATION, AND SERVICING OF ENCLOSED COMPOSTING VESSEL**

**Motion**: It was moved by Vice-Chairman Bartholomew, Seconded by Committee Member Lawson to approve a Contract Award to Green Mountain Technologies for RFP # 121024 purchase, installation, and servicing of enclosed composting vessel.

**Vote**: Motion was approved without objection.

12. **REQUEST TO PURCHASE SIX WASTE COMPACTOR UNITS FOR BEAUFORT COUNTY CONVENIENCE CENTERS**

**Motion**: It was moved by Vice-Chairman Bartholomew, Seconded by Committee Member Lawson to request to purchase six waste compactor units for Beaufort County Convenience Centers.

**Vote**: Motion was approved without objection.

13. **A RESOLUTION TO COMMISSION ONE SOLID WASTE AND RECYCLING ENFORCEMENT OFFICER**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Committee Member Brown to approve a Resolution to commission one Solid Waste and Recycling Enforcement Officer.

**Vote**: Motion was approved without objection.

14. **APPROVAL OF A CHANGE ORDER TO IPW CONSTRUCTION GROUP FOR IFB #120123e LAUREL BAY ROAD PATHWAY PROJECT**

**Motion**: It was moved by Committee Member Brown, Seconded by Committee Member Lawson to approve a Change Order to IPW construction group for IFB #120123e Laurel Bay Road Pathway Project.

**Vote**: Motion was approved without objection.

15. **AN ORDINANCE AUTHORIZING THE COUNTY ADMINISTRATOR TO EXECUTE ANY AND ALL NECESSARY DOCUMENTS FOR THE ACCEPTANCE OF RIGHT OF WAY FOR CHEROKEE FARMS ROAD ASSOCIATED WITH A DEVELOPMENT AGREEMENT DATED DECEMBER 15, 2014**

**Motion**: It was moved by Council Member Glover, Seconded by Committee Member Brown to approve an Ordinance authorizing the County Administrator to execute any and all necessary documents for the acceptance of Right of Way for Cherokee Farms Road associated with a Development Agreement dated December 15, 2014.

**Vote**: Motion was approved without objection.

**Motion**: It was moved by Committee Member Brown, and Seconded by Committee Vice-Chaiman to take Items 16 and 17 together.

**Vote**: Motion was approved without objection.

16. **A CONTRACT AWARD TO BLYTHE CONSTRUCTION FOR US HWY 278 RESURFACING IFB # 012125.**

**Motion**: It was moved by Committee Member Lawson, Seconded by Vice-Chairman Bartholomew to approve a Contract Award to Blythe Construction for US HWY 278 resurfacing IFB # 012125.

**Vote**: Motion approved without objection.

17. **A CONTRACT AWARD TO BLYTHE CONSTRUCTION, INC. FOR BLUFFTON PARKWAY RESURFACING IFB# 01 012225**

**Motion**: It was moved by Committee Member Lawson, Seconded by Vice-Chairman Bartholomew to approve a Contract Award to Blythe Construction, INC. for Bluffton Parkway resurfacing IFB# 01 012225.

**Vote**: Motion was approved without objection.

18. **AN ORDINANCE AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A LEASE AGREEMENT WITH THE BIG ESTATE JENKINS COMMUNITY CENTER FOR REAL PROPERTY LOCATED AT 132 BOOKER T. WASHINGTON CIRCLE**

**Motion**: It was moved by Council Member Glover, Seconded by Vice-Chairman Bartholomew to approve an Ordinance authorizing the County Administrator to enter into a Lease Agreement with the Big Estate Jenkins Community Center for real property located at 132 Booker T. Washington Circle.

**Vote**: Motion was approved without objection.

19. **AN ORDINANCE AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A LEASE AGREEMENT WITH THE YOUNG MEN'S SOCIAL CLUB AND SOUTH PINE LADIES UNION FOR A PORTION OF THE REAL PROPERTY LOCATED AT 242 AND 228 SCOTT HILL ROAD**

**Motion**: It was moved by Council Member Glover, Seconded by Vice-Chairman Bartholomew to approve an Ordinance authorizing the County Administrator to enter into a lease agreement with the Young Men's Social Club and South Pine Ladies Union for a portion of the real property located at 242 and 228 Scott Hill Road.

**Vote**: Motion was approved without an objection.

20. **AN ORDINANCE AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A LEASE AGREEMENT WITH THE DALE-LOBECO COMMUNITY CENTER FOR REAL PROPERTY LOCATED AT 15 COMMUNITY CENTER ROAD**

**Motion**: It was moved by Ex-Officio Officer Howard, Seconded by Council Member Glover to approve an Ordinance authorizing the County Administrator to enter into a lease agreement.

**Vote**: Motion was approved without objection.

DRAFT

21. **A RESOLUTION AUTHORIZING THE DEMOLITION OF A STRUCTURE AND FUNDING FOR DEMOLITION OF A STRUCTURE ON BEAUFORT COUNTY OWNED PROPERTY LOCATED AT 2 MULLET STREET**

**Motion**: It was moved by Committee Member Lawson, Seconded by Vice-Chairman Bartholomew to approve a Resolution authorizing the demolition of a structure and funding for demolition of a structure on Beaufort County owned property located at 2 Mullet Street.

**Vote**: Motion was approved without objection.

22. **CONTRACT AWARD TO MADCO CONTRACTING & CONSULTING SERVICES FOR IFB #102324, SCOTT COMMUNITY CENTER RENOVATION**

**Motion**: It was moved by Council Member Tabernik, Seconded by Council Member Glover to approve a Contract Award to Madco Contracting & Consulting Services for IFB #102324, Scott Community Center renovation.

**Vote**: Motion was approved without objection.

23. **ADJOURNMENT**

Committee Chairman adjourned the meeting at 5:49pm.

**Ratified:**

DRAFT

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

**ITEM TITLE:**

**RECOMMENDATION TO APPROVE A RESOLUTION TO ADOPT THE AIRPORTS WILDLIFE MANAGEMENT POLICY**

**MEETING NAME AND DATE:**

Public Facilities Committee; March 24, 2025

**PRESENTER INFORMATION:**

Jon Rembold, C.M. Airports Director

(10 minutes)

**ITEM BACKGROUND:**

The Airports Board reviewed and recommended the approval of a resolution to adopt the Airports Wildlife Management Policy at its monthly meeting on October 17, 2024. The item was reviewed but not voted on during the November 2024 Public Facilities and Safety Committee Meeting during which members requested additional information related to the need for the policy. That information is provided in this package.

**PROJECT / ITEM NARRATIVE:**

The safety and security of our passengers, staff, and aircraft are our top priorities at the airports. To maintain a safe environment and comply with aviation regulations, we are implementing a strict policy prohibiting the feeding of any animals on or near airport grounds. The implementation is recommended as part of the recent Wildlife Hazard Assessment conducted by the US Department of Agriculture and delivered to the airport team in August 2024.

From the recent Wildlife Hazard Assessment: *Wildlife strikes are a major concern because they **threaten passenger safety** and result in costly repairs and lost revenue for air carriers (Dale 2009, Klope et al. 2009)*

Globally, bird and other wildlife strikes **killed more than 292 people and destroyed over 269 aircraft** from 1988 – 2019 (Richardson and West 2000; Thorpe 2003).

From 1990-2023. **296,613** wildlife strikes were reported **costing about $248,000,000 annually**

**FISCAL IMPACT:**

There is no fiscal impact to the airports associated with implementing the policy.

There is a risk of negative fiscal impact if a policy is not adopted. This is due to noncompliance with FAA Grant Assurances and recommendations of the Wildlife Hazard Assessment. This could include exclusion from the FAA's Airport Improvement Program (AIP) grant program and repayment of grants previously granted to Beaufort County.

**STAFF RECOMMENDATIONS TO COMMITTEE:**

Staff recommends approval of a resolution to adopt the Airports Wildlife Management Policy

**OPTIONS FOR COMMITTEE MOTION:**

Motion to approve /deny a resolution to adopt the Airports Wildlife Management Policy

Move forward to Council for Approval on March 31, 2024

**RESOLUTION 2025/_____**

**A RESOLUTION TO ADOPT THE HXD AND ARW ("AIRPORTS") AIRPORTS WILDLIFE MANAGEMENT POLICY**

**WHEREAS**, The safety and security of the passengers, staff, and aircraft are top priorities at the Airports; and

**WHEREAS**, To maintain a safe environment and comply with aviation regulations, the Airports are implementing a strict policy prohibiting the feeding of any animals on or near airport grounds;

**WHEREAS**, The Wildlife Hazard Assessment preformed by the US Department of Agriculture and dated August 2024 recommends that the Airports implement a strict policy prohibiting the feeding of any animals on or near airport grounds; and

**WHEREAS**, The Wildlife Management Policy States: "Effective immediately, feeding any animals, including birds, rodents, or stray/feral animals/pets, is strictly prohibited within Airport boundaries and surrounding areas";

**NOW, THEREFORE, BE IT RESOLVED** that Beaufort County Council, duly assembled, does hereby authorize the County Administrator to adopt the Airports Wildlife Management Policy as set forth in Exhibit A.

Adopted this ____ day of _____, 2025.

COUNTY COUNCIL OF BEAUFORT COUNTY

BY: _____
Alice Howard, Chair

ATTEST:

_____
Sarah W. Brock, Clerk to Council

HILTON HEAD ISLAND AIRPORT

BEAUFORT EXECUTIVE AIRPORT

# Airports Policy

**PROHIBITION OF FEEDING ANIMALS AT OR NEAR AIRPORT PREMISES**

Ref: (a) CFR Title 14 FAR Part 139.337 - Certification of Airports
(b) AC 150/5200-33C - Advisory Circular, Hazardous Wildlife Attractants on or near Airports
(c) Wildlife Hazard Assessment for Hilton Head Island Airport, dated August 2024

Wildlife strikes are a major concern because they threaten passenger safety and result in costly repairs and lost revenue for air carriers and can erode public confidence in the air transport industry as a whole. About 75% of all strikes experienced by civilian aviation occur at or in the immediate vicinity of airports. Wildlife strikes are largely uncontrolled events. It is impossible to predict exactly when and where an animal may encounter an operating aircraft. This is because numerous dynamic environmental factors constantly affect an animal's behavior. At the Hilton Head Island Airport and Beaufort Executive Airport, the safety and security of our passengers, staff, and aircraft are our top priorities. To maintain a safe environment and comply with aviation regulations, both airports are implementing a strict policy prohibiting the feeding of any animals on or near airport grounds.

Policy Statement:
***Effective immediately, feeding any animals, including birds, rodents, or stray/feral animals/pets, is strictly prohibited within airport boundaries and surrounding areas.***

Rationale:
1. Aircraft Safety: Feeding any species of animal increases wildlife populations near the airport. This elevates the risk of bird strikes, which can cause severe damage to aircraft and potentially lead to accidents and loss of life.
2. FOD Prevention: Food waste attracts animals and becomes foreign object debris (FOD), posing risks to aircraft operations and potentially damaging engines or other critical components.
3. Public Health: Encouraging wildlife to congregate in public areas increases the risk of zoonotic disease transmission and creates unsanitary conditions.
4. Ecological Balance: Artificial feeding disrupts local ecosystems and can harm wildlife by altering their natural foraging behaviors and diets.

Implementation:
- Airport Rules and regulations will be updated to inform all individuals about this policy. All airport tenants will be informed of the policy.
- Airport staff are required to enforce this policy and educate visitors when necessary.
- Wildlife management procedures will be enhanced to humanely deter animals from both airport grounds.

Consequences:
Since violations of airport policy are contrary to the conditions of airport tenant agreements, tenant supervisors will be notified of the violation.
Repeated violations constitute grounds for the termination of agreements with the airport due to noncompliance with Airport Rules and Regulations.

We appreciate your cooperation in maintaining a safe environment for all who use our facilities. By working together, we can ensure the continued safe operation of our airports while respecting and safeguarding the local animal population.

For any questions or to report violations, please contact Deputy Airports Director, Steve Parry at 843-962-3940.

Thank you for your understanding and compliance with this important safety measure.

This policy is effective immediately.

Jon Rembold, C.M.
Airports Director

# WILDLIFE HAZARD ASSESSMENT
**For**
# Hilton Head Island Airport (HXD)
# Hilton Head Island, SC
# (July 2023 – June 2024)

**Codes of Federal Regulation (CFR) Title 14 FAR Part 139.337**

HILTON HEAD ISLAND
AIRPORT

***Prepared by:***

**U.S. Department of Agriculture**
**Animal and Plant Health Inspection Service**
**Wildlife Services**

**400 Northeast Drive, Suite L**
**Columbia, SC 29203**

**Lauren Buxton**
**Supervisory Wildlife Biologist**

**James Maine**
**Wildlife Biologist**

**August 2024**

*Work Performance per Cooperative Agreement No. 23-7245-4579-RA*
*Project was monitored by Noel E. Myers, State Director, South Carolina*

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The support and confidence from Noel Myers, South Carolina's USDA Wildlife Services State Director, was also greatly appreciated and provided us with all the resources needed to conduct and complete this WHA.

# EXECUTIVE SUMMARY

Hilton Head Island Airport (HXD) is a public airport located in the town of Hilton Head on Hilton Head Island South Carolina, United States. The airport is approximately 12 miles from downtown Bluffton, SC and 36 miles from Savannah, GA. The airport is owned and administered by Beaufort County, SC.

Hilton Head Island Airport first opened in 1967 and was primarily used as a General Aviation airport until the early 1980's when commercial airline services began to be offered. Limited airline services were available until 2011 when the FAA, as part of their National Plan of Integrated Airport Systems (NPIAS) deemed HXD a Primary Commercial Service Airport (Web…c2011-2015). This finding by the FAA as well as the expansion of the primary runway(s) 21-03 from 4300' to 5000' led to an influx of airline services which has grown to three primary carriers with direct seasonal flights to nine major airports throughout the Eastern Seaboard, Mid-west and Southwest. Today, HXD serves as the destination for approximately 215,000 persons arriving and departing annually (Deplane Enplane...2024).

The unique island location of Hilton Head is a major attractant to not only humans but also birds and wildlife. Beaches, tidal marshes, golf courses with numerous ponds and protected wooded areas are havens for wildlife. Among these are several species that were observed during the surveys that are listed as threatened or endangered at the federal or state level (detailed analysis of each will be in their respective guild section in this WHA). The island is also home to a mammal found nowhere else, the Hilton Head white-tailed deer (*Odocoileus virginianus hiltonensis).* They are one of seventeen subspecies of white-tailed deer found north of Mexico (Rue 2013). Deer are considered a major threat to aircraft when found on or near airports. Fortunately, there have been no reported aircraft strikes involving deer on HXD.

The last Wildlife Hazard Assessment (WHA) on HXD was completed in July 2006. Since then, numerous expansions and improvements have been made throughout airport property. Because of this, and the length of time that has elapsed, an updated WHA was needed to better understand and address any changes in bird and wildlife patterns that may have occurred. All data and information in this WHA were collected from the surveys that were conducted over a twelve-month period, July 2023-June 2024.

# SIGNATORIES

The following Wildlife Hazard Assessment for HXD has been reviewed and accepted by the FAA. It will be become effective with the following signatures:

_____ 9/10/2024

Jon Rembold — Date
Airports Director
Beaufort County, SC Airports

_____ _____

FAA Airport Certification Inspector — Date

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# LIST OF ACRONYMS

| | |
|---|---|
| **AC** | Advisory Circular |
| **AGL** | Above Ground Level |
| **AOA** | Air Operations Area |
| **ARFF** | Aircraft Rescue and Firefighting |
| **ASOS** | Automated Surface Observation Station |
| **ATCT** | Air Traffic Control Tower |
| **CFR** | Codes of Federal Regulation |
| **FAA** | Federal Aviation Administration |
| **FAR** | Federal Aviation Regulations |
| **FLIR** | Forward Looking Infrared |
| **FOD** | Foreign Object Debris |
| **HXD** | Hilton Head Island Airport |
| **GA** | General Aviation |
| **MOU** | Memorandum of Understanding |
| **SCDNR** | South Carolina Department of Natural Resources |
| **USAF** | United States Air Force |
| **USFWS** | U.S. Dept. of the Interior, U.S. Fish and Wildlife Service |
| **WHA** | Wildlife Hazard Assessment |
| **WHMP** | Wildlife Hazard Management Plan |
| **WS** | U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services |

# 1.0 Introduction

Wildlife strikes are a major concern because they threaten passenger safety and result in costly repairs and lost revenue for air carriers (Dale 2009, Klope et al. 2009), and can erode public confidence in the air transport industry as a whole (Conover et al. 1995). About 75% of all strikes experienced by civilian aviation occur at or in the immediate vicinity of airports (Solman 1973, Burger 1983b, Machalek 1990, Dolbeer 2006, Blackwell et al. 2008). Many techniques to reduce wildlife activity on airfields have been developed, but none completely exclude all species of wildlife. The underlying assumption behind most control programs at airports is that a reduction in the localized wildlife population will result in fewer aircraft collisions (Brough and Bridgman 1980, Burger 1983b, Burger 1985, U.S. Department of Agriculture 1994, Schafer et al. 2007).

Wildlife use airports for roosting, drinking, loafing, and foraging. However, it is the availability of food that attracts most birds (Blokpoel 1976, Washburn et al. 2007). This results in a large number of strikes. In 2023, 19,603 strikes were reported, which is a 14 percent increase compared to17,205 strikes reported in 2022. The annual increase is likely attributed to better reporting as well as commercial airlines and private aircraft returning to pre COVID 19 aircraft travel patterns at Part 139 airports (certificated for passenger service) and general aviation airports. For the 34-year period (1990–2023), 296,613 strikes were reported where 98.3 percent of those strikes occurred in the USA (Dolbeer et. al 2023). Dolbeer continues to estimate the cost of wildlife strikes (96% involving birds) to the civil aviation industry in the USA is a minimum of $248 million annually. Allan and Orosz (2001) estimated that bird strikes annually cost commercial air carriers over $1.2 billion worldwide, 1999-2000. Globally, bird and other wildlife strikes killed more than 292 people and destroyed over 269 aircraft from 1988 – 2019 (Richardson and West 2000; Thorpe 2003).

Calbraith Rodgers, the first man to fly across the U.S., was the first to die as a result of a wildlife strike. On April 3, 1912, Rodgers' Wright Pusher struck a gull, causing the aircraft to crash into the surf at Long Beach, California. Rodgers was pinned under the wreckage and drowned (Blokpoel 1976). On September 22, 1995, an Air Force Airborne Warning and Control System aircraft crashed, killing all 24 on board, after ingesting four Canada geese into its number one and two engines during takeoff from Elmendorf Air Force Base, Alaska (Gresh 1996, Ohashi et al. 1996). This is an extreme example, as most wildlife strikes do not result in fatalities, but the safety hazards are very real. On 15 January 2009, US Airways Flight 1549 (Airbus 320) with 155 persons aboard made a forced landing in the Hudson River after ingesting Canada geese into both engines at 2900 feet above ground level after departure from LaGuardia Airport, New York (Marra et al. 2009, National Transportation Safety Board 2009). On 15 August 2019, Ural Airlines Flight 178 (Airbus 321) with 234 persons aboard made a forced landing in a corn field 3 miles from Zhukovsky International Airport, Moscow, Russia after ingesting gulls into both engines during take-off (Aviation Safety Network 2019). Incredibly, none of the 389 people were killed in these "Miracle on the Hudson" and "Miracle in the Corn Field" bird-strike events even though both aircraft were damaged beyond repair.

Wildlife strikes are largely uncontrolled events. It is impossible to predict exactly when and where an animal may encounter an operating aircraft. This is because numerous dynamic environmental factors constantly affect an animal's behavior. A Wildlife Hazard Assessment (WHA) makes it

possible to gauge a species potential for a damaging collision with aircraft. This is done by considering factors such as the body mass of the animal, its frequency on the airfield, its behaviors while on the airfield, and its overall abundance in the local area. Species discussed during this WHA ranked high in one or more of these factors and are considered a potential hazard. It is important to keep in mind that the following discussions of wildlife hazards focus on the *potential* for a damaging wildlife strike, but not necessarily the *probability* of such a strike. For the purposes of this WHA, a wildlife hazard is defined as: *A potential for a damaging aircraft collision with wildlife on or near an airport [14 CFR Part 139.337(a)(3)]*.

The FAA is responsible for setting and enforcing the Federal Aviation Regulations (FAR) and policies to enhance public aviation safety. To ensure compliance with FAR Part 139.337 (Appendix 1), the FAA requires certified airports to conduct an ecological study/wildlife hazard assessment, and if necessary, establish a Wildlife Hazard Management Plan (WHMP) when any of the following events occur on or near an airport:

- An air carrier aircraft experiences a multiple bird strike or engine ingestion.
- An air carrier aircraft experiences a damaging collision with wildlife other than birds.
- Wildlife of a size or in numbers capable of causing an event described in 1 or 2 of this section is observed to have access to any flight pattern or movement area.

There are many actions that can be taken to decrease wildlife hazards. These are determined by the time of year, the species involved and their attraction to the airfield, habitat characteristics on and around the airfield, as well as a host of other variables. It is necessary to have a comprehensive understanding of wildlife biology and the relationship wildlife has to specific environmental characteristics before initiating a wildlife control program. A WHA provides the foundation for site-specific understanding of potential wildlife hazards on an airport. It may also serve as the foundation for a thorough Wildlife Hazard Management Plan.

Data collected from any WHA are recorded over a one-year period. This allows wildlife biologists to observe seasonal fluctuations, behavior, and abundance of migratory and resident species. Upon completion of the study, recommendations designed to reduce site-specific wildlife hazards are developed based on an analysis of the data collected. If it is determined from the WHA that significant wildlife hazards are present, the FAA may require a WHMP be written. Such a plan addresses the responsibilities, policies, and procedures necessary to reduce wildlife hazards. A WHMP is written in accordance with CFR 14, 139.337, subpart (e), and is the responsibility of the airport.

## 1.1 Legal Authority of Wildlife Services (WS)

The U.S. Department of Agriculture, Wildlife Services (WS) program has a Memorandum of Understanding (MOU) with the FAA that established a cooperative relationship between the FAA and WS for resolving wildlife hazards to aviation in a manner benefiting public safety (Appendix 2). The MOU established that WS has the wildlife damage management expertise and may provide technical and operational assistance (when funded by an airport or other entity) to alleviate wildlife hazards at airports. WS may conduct a WHA to serve as a basis for the WHMP, but the

responsibility of development, approval, and implementation of the WHMP lies with the airport manager.

The primary authority for Wildlife Services is the Act of March 2, 1931 (46 Stat. 1468-69; 7 USC §§ 8351-8352) as amended, and the Act of December 22, 1987 (Public Law No. 100-202, § 101(k), 101 Stat. 1329-331, 7 USC § 8353), to cooperate with states, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of Wildlife Services involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety.

The MOU and legislation allow WS to conduct initial on-site investigations, biological assessments (short-term studies), wildlife hazard assessments (ecological studies), wildlife management operations, and to assist airports with the development of a wildlife hazard management plan.

## 2.0 Objectives

The objectives of this WHA are to:

- Identify wildlife attractants and land-use practices at HXD and surrounding areas that may contribute to wildlife hazards on the airfield.
- Determine wildlife population parameters such as abundance and periods of peak activity, with particular emphasis on species most threatening to aircraft safety.
- Provide HXD management recommendations for reducing wildlife hazards in such a manner to serve as a framework for the development of a WHMP.
- Review available wildlife strike records.

## 3.0 Background

### 3.1 Habitat Description

Habitat is defined as the physical and biological surroundings of an organism (Robinson and Bolen 1989) but can be more simply referred to as an area which provides the food, water, and cover an animal needs to survive. The available wildlife habitat around HXD can be divided into three main groups: *forest, ponds/ditches, and disturbed sites*. These habitats are more appropriately termed as cover types, as any one of these groups may contain only a portion of a particular species requirement for food, water, and/or cover. Each cover type at HXD has particular attractants, which are responsible for sustaining hazardous wildlife activity, and may include smaller "micro-habitats" that provide unique attractions to wildlife.

Forest: Mixed hardwoods and softwoods comprise the vast majority of habitat surrounding the airport outside of the fence and the Air Operation Area (AOA). There is a small section of trees and shrubbery located on the eastern side of the airport near the aircraft parking area and private hangars which is inside the airport fence.

Ponds/Ditches: There are five retention ponds within the HXD property- two in the Approach end of runway 03 (these two are only separated by approximately 50 ft), and typically only hold water for 3-4 days after a heavy rain, two on either side of the small road that goes to the private hangar area as well as a third pond located on the southwestern side of the Terminal ramp. These last three retention pond hold water and moisture much longer. During the survey period (12 months) these ponds contained either shallow standing water or showed exposed mud but were never completely dry. During the last few survey months, the terminal retention pond has been temporarily drained and is in the process of being regraded and improved to better dissipate water. The two located in the vicinity of the private hangars are barely visible due to the overgrowth of vegetation and trees. There are no active drainage ditches within the airport property. Prior to the WHA survey there was a drainage ditch that was centrally located in the median between the runway and taxiways but has since been leveled and re-graded. These improvements have corrected any potential run-off issues often associated with drainage ditches and no standing water was noticed in these areas.

Disturbed sites: These include all paved and gravel surfaces, ditches, airport structures, airfield equipment and short grass areas that are regularly mowed. This cover type is found throughout the Air Operation Area (AOA).

### 3.1a Wildlife Attractants at HXD

Wildlife attractants exert various levels of influence over a given species' behavior. This influence is dependent upon the type of habitat being provided and whether the attractant is one of food, water, cover, or a combination of the three. The strength of any given attractant can be described in terms of its ability to sustain wildlife activity in the face of increasing levels of disturbance (e.g., noise, development, and competition from other species). In general, food attractants exert a strong influence over most species, resulting in distracted behaviors that can lead to a greater potential of being struck by an aircraft. Nesting cover also exerts a strong attractive influence, leading some species to remain active in areas that have somewhat high levels of disturbance. Attractants that provide a combination of food and other habitat requirements have the strongest ability to sustain wildlife activity. The FAA has an advisory circular about hazardous wildlife attractants on or near airports (Appendix 3).

The ability of an attractant to sustain hazardous wildlife activity has implications for the efficacy of wildlife deterrent measures. The distance of the attractant from runway critical zones is also an important component in determining strike potential. When attractants are located on both sides of a runway, short, low-altitude flights of birds between these attractants and across the runway are common. This often results in an increased number of wildlife strikes.

Identifying wildlife attractants on and around the airport is an essential component of a WHA. The following is a list of wildlife attractants identified during the WHA. These attractants represent the primary causes of wildlife activity at HXD. Other wildlife attractants may exist but were not identified due to yearly fluctuations in availability or because they occurred too infrequently to be detected. All wildlife attractants within 5 statute miles are recommended for observation and documentation if the attractant may cause hazardous wildlife movement into or across the approach or departure airspace (Figure 1).

**Food**. A variety of food sources exist at or surrounding HXD. The following is a description of food sources, where the attractant is found, wildlife species attracted, and season the attractant is available:

Fruits and seeds: Seed bearing grasses and fruit producing trees attract insects, small (sparrows, horned larks, European starlings, etc.), and large-sized (corvids) birds, and small rodents (mice, rabbits, and squirrels) seeking to feed on fruits and seeds. These areas include the short grass, ditches, and forest within the AOA.

Small mammals: Small mammals, such as mice, rats, and squirrels attract carnivorous mammals (e.g., coyotes) and raptors. They can be found year-round throughout HXD.

Birds: Songbirds are prey species that attract coyotes and raptors. Birds occupy all habitats at HXD. Songbirds were available mainly during spring, summer, and fall with peak migration occurring from March through mid-April and late September through late October.

Human refuse: Garbage cans, dumpsters, litter, and human hand-outs attract wildlife such as crows, gulls, starlings, and sparrows. At HXD, no human refuse was identified as a wildlife attractant on the airport property. However, there is a public dump located outside of airport property which is approximately ¼ mile to the east of the ARFF station house. The dump consists of roll-off containers that are removed once full and replaced with empty containers. The actual trash/refuse is taken to a land fill located far off Island. During the 12-month survey period no noticeable increase in bird or wildlife activity was noticed in or around this dump location.

**Water.** Sources of drinking water attract most species of wildlife. The primary sources were the retention ponds and small puddles that formed in portions of unleveled tarmac found on HXD. Corvids, Columbids, and various songbird species could often be found in these areas particularly after a heavy rain.

Temporary standing water: This WHA was conducted during a normal precipitation year. Temporary standing water was observed after periods of heavy rainfall within the AOA (e.g., ramp and taxiways). During the summer, water evaporated quickly, but during sustained periods of rain, particularly in the late fall and winter, temporary pools of water lasted 3-4 days.

**Cover.** Cover includes areas that are used by wildlife for nesting, roosting (sleeping), loafing, and/or protection against predators and weather. The following is a description of the categories of cover at HXD, their location, the main wildlife species using them, and for what activity:

Airport facilities/structures: Airport facilities and structures include hangars, the terminal building, lights, signs, fences, Automated Surface Observation Station (ASOS) equipment, anemometers, and radio antennas. Blackbirds, crows, mourning doves, northern mockingbirds, eastern bluebirds, eastern kingbirds, and raptors were frequently observed

perching on lights, signs, and antennae.

Forest: There is no forested area inside the fence of HXD, but forested areas do surround the east and northern end of the perimeter fence. These off-property locations were used by blackbirds, corvids, raptors, and songbirds for feeding, loafing, nesting, and roosting. Rodents and other small mammals including coyotes and feral cats also used these forested areas.

Retention ponds: The occasional wading bird and duck species (only seen loafing during the night surveys) was seen inside the retention pond(s) but numerous bird species was located on the fence line and ground surrounding these retention ponds.

Pavement: Paved surfaces are located throughout the airfield and include all ramps, taxiways, runways, roads, and vehicular parking lots. Blackbirds, crows, killdeer, and songbirds were observed using these paved areas for loafing.

Short grass: Short grass is found adjacent to nearly all paved areas. Blackbirds, crows, starlings, and songbirds were attracted to short grass for feeding and loafing.

## 3.2 History of Wildlife Hazards at HXD

The definition of a wildlife strike used in this study was developed by Bird Strike Committee Canada (Transport Canada 1994) and has been endorsed by Bird Strike Committee USA, Bird Strike Committee Europe, the FAA, and the U.S. Air Force (USAF). A wildlife strike is deemed to have occurred whenever:

- A pilot reports a strike.
- Aircraft maintenance personnel identify damage as having been caused by a bird or mammal strike.
- Personnel on the ground report seeing an aircraft strike one or more birds or mammals.
- Bird or mammal, in whole or in part, are found on any airside pavement area or within 60 m (200 feet) of a runway, unless another reason for the bird or mammal's death is identified.

Wildlife strike data provides valuable information regarding wildlife hazards at airports. For both commercial transport and general aviation aircraft, 71% of bird strikes occurred at or below 500 feet AGL from 1990 to 2023 (Dolbeer et al. 2023). Nationwide, it is estimated that only between 20-25% of all wildlife strikes are reported to the FAA (Linnell et al. 1999; Cleary et al. 2000, Wright and Dolbeer 2005). It is unknown whether the wildlife strike reporting rate at HXD follows this national trend. From 1990-2024, there were a total of 66 wildlife strikes reported at HXD (see section 6.1)

Documentation regarding past wildlife damage management activities indicated the presence of coyotes, raptors, Canada geese, and doves, as species of concern. Most management activities used pyrotechnics to disperse the animal(s) from the AOA.

## 3.3 HXD Wildlife Hazard Management Review

### 3.3a Existing Wildlife Hazard Management Plan

HXD has an active wildlife hazard control program which is typically the responsibility of the airports Aircraft rescue and firefighting (ARFF) station. HXD currently possess depredation permits from the South Carolina Department of Natural Resources (SCDNR), as well as the U.S. Fish and Wildlife Service (USFWS).

### 3.3b Daily Wildlife Control Efforts

Daily wildlife control operations at HXD typically occur during other duties such as their daily runway sweeps, routine maintenance of airport grounds as well as training exercises that the ARFF frequently conducts. Operations and maintenance personnel actively use their vehicles to disperse large or dangerous congregations of birds and the ARFF personnel have access to and use pyrotechnics and an air rifle when needed. Because of the relatively small size of HXD as well as the lower volume of commercial traffic, using ARFF personnel as their primary source to actively conduct wildlife control efforts appears to be a very good and effective decision as opposed to using only Airport operations personnel which is the case in many larger airports. Additionally, the ARFF team often reaches out to the local USDA WS when any help is needed, or the wildlife issue is beyond their means.

# 4.0 Legal Status of Wildlife Services

All wildlife species observed during this WHA, with the exception of European starlings, and feral pigeons (rock dove), are protected by either Federal or State regulations. Most bird species are afforded protection under the Migratory Bird Treaty Act of 1918 and a federal depredation permit is required for taking these species. It should be noted that the term migratory, as referred to in the Migratory Bird Treaty Act, does not necessarily mean that the species must migrate. Canada geese, which are year-round residents in South Carolina, are protected as a migratory species under this Act. Bald eagles are further protected by the Bald and Golden Eagle Protection Act of 1940. This act prevents lethal control of eagles under most circumstances and protects nests from being disturbed. Federal and State agencies require special permission for the harassment of bald eagles.

The Endangered Species Act of 1972 affords protection to wildlife species endangered of becoming extinct. South Carolina also maintains an endangered species list of Rare, Threatened and Endangered Species.

Lethal removal (considered take by SCDNR) of game mammals and non-migratory game birds at airports for wildlife control purposes is regulated by SCDNR. SCDNR honors USFWS permit authorizations (Official Code of South Carolina Unannotated 50-11-10) and allows airports to take migratory birds (Appendix 4) that present an immediate hazard to human health and safety provided the airport has a current USFWS Depredation Permit. Appendix 4 also lists other relevant State laws.

# 5.0 Methods

Three different survey types were employed during the course of this study: Point-count surveys on-site and off-site, Nocturnal surveys and Incidental or general observations. The objective of each survey type shared the same general function of identifying wildlife hazards. These surveys represent the majority of observations made during the study. Point-count surveys documented bird abundance and seasonal trends using time/space counts. All observations were recorded on a standardized observation form (Appendix 5). Incidental observations were made on an *ad lib* basis and noted during their respective survey period (A.M, MID and P.M.) on this form as well. Nocturnal surveys followed the standard route around the airfield (perimeter of airfield and taxiways) and counted the number and species of animals observed. A brief description of each survey type is as follows.

## 5.1 Point-Count Surveys

Point-count surveys were conducted bi-weekly to quantify wildlife abundance and seasonal trends in and around the airfield. Although mammal activity was recorded, standardized surveys were primarily designed to document bird activity. Seven points, all located on airport property were established as the survey area (Figure 2).

These points were surveyed three times during the day (morning, midday, and evening). Each point was surveyed for a 3-minute period, and all observed wildlife activity within a ¼ mile radius was recorded. Wildlife behavior, cover type, number of individuals observed, and other pertinent observations were noted. Smaller birds (e.g., songbirds) were normally only detected when seen at close range or in flocks, therefore the number of smaller solitary birds may be underestimated. This observer bias was deemed acceptable due to the greater hazard to aircraft posed by larger, flocking species.

Seven off-site points were also established within a 5-mile radius of HXD. These sites were selected based on the proximity to the airport, as well as their potential to be attractants to wildlife. A total of 14 on-site and off-site surveys were conducted during the HXD WHA.

## 5.2 Nocturnal Surveys

Nocturnal surveys were conducted once a month for a total of 12 surveys. The intent of these surveys was to document nocturnal wildlife activity. The surveys consisted of driving a standard route around the airfield and counting the number and species of animals observed. Animals were viewed using a thermal scope and spotlight (if needed) and their activity, location, and number were recorded.

## 5.3 Incidental or General Observation

Incidental or general observations were conducted on an *ad lib* basis. The only format followed were that these observations had to have occurred outside of the ¼ radius of any specific survey point, this included driving from one survey point to another. Incidental observations are important

because they provide a more in-depth or complete view of the entire airport and it's surrounding area. Birds and animals are rarely stagnant, so these observations provide an opportunity to identify certain types and species that may not have been seen at any specific survey point but may still be considered hazardous to aircraft and can help shape future management plans.

## 5.4 Data Analysis

Standardized data was analyzed to determine the percentage of time when a guild was observed and the average number of individuals in each observation for each survey location. This data was also used to determine the average abundance of each guild throughout the course of the WHA. Results of these analyses are intended as an index over time, not an absolute quantification of the populations. Nocturnal data were analyzed to determine the magnitude of hazards occurring at night.

For simplification, species observed during standardized surveys were grouped into guilds. Guild classifications were based on observed behaviors of each species during the assessment, as animals with similar behaviors and habitat requirements can generally be managed by similar techniques. It should be noted that the following guild classifications may differ slightly from those found in standard wildlife literature regarding animal taxonomy, but they still tend to loosely correspond with traditional taxonomic categories. Appendix 6 lists all species that were observed during the WHA.

## 5.5 Guild Classifications

- Aerialists: This guild consists of barn swallows and tree swallows. Though small in size, they are often seen in large mixed flocks. It is common to see birds perched on wires and feeding on flying insects in and around airfields.

- Blackbirds: These are small birds such as European starlings, Brown-headed Cowbirds and Red-winged Blackbirds Members of this guild were observed loafing and foraging in flocks of 3 to 20 individuals in short grass areas and various airport structures.

- Columbids: Common Columbid species frequently encountered at airports are the Rock Pigeon (these are your typical pigeon species most people know) and various dove species. However, the only dove species encountered at HXD was the Mourning Dove. All members of this guild are gregarious in nature and often form flocks of various sizes. They are most likely to be found in or close to open areas that provide good ground foraging habitat and frequently roost on powerlines, fences, and various structures. They are one of the most frequently struck guilds by aircraft throughout the United States including HXD.

- Corvids: These are medium sized birds which include crows and jays. These birds inhabit all cover types at HXD. Crows feed on a wide variety of natural and human-provided food sources. Their primary feeding method involves scavenging. Corvids were generally seen feeding in open grassy areas and were often observed adjacent to and crossing the runway.
- Forest Birds: This guild consists of American robins, eastern bluebirds, northern mockingbirds, thrashers, and woodpeckers. These are all small sized, and apart from small

flocks forming in the fall/winter, are generally considered less hazardous to aircraft.

- Grassland Birds: This guild consists of eastern meadowlarks and various sparrows, buntings, and pipits. These are all small sized, and apart from small flocks forming in the fall/winter, are generally considered less hazardous to aircraft.

- Herptiles: This groups contains all reptiles and amphibians such as turtles, frogs, snakes, and lizards- including the American alligator.

- Mammals: This group encompasses all types of wildlife both large and small that have milk producing mammary glands and hair. Commonly encountered members of this group are all the species of bats, rodents, raccoons, opossum, coyotes, deer etc.

- Gulls and Terns: Laughing gulls and ring-billed gull were the most frequently observed species found in this guild. Due to their gregarious nature and size, they are a major concern at airports.

- Small Songbirds: This guild consists of finches, warblers, eastern kingbirds, eastern phoebe, and other various small bird species. These are all small sized, and apart from small flocks forming in the fall/winter, are generally considered less hazardous to aircraft.

- Raptors: This group is comprised of vultures, hawks, falcons, and eagles. They are small to large birds that prey on small birds and mammals. These birds are most often seen perching on structures around the airfield, in trees, or observed soaring over the AOA. Turkey vultures, Black vultures, Red-tailed hawks, and American kestrels were the most abundant and conspicuous members of this group at HXD.

- Shorebirds: This group is comprised of small to medium sized birds depending on species., They are generally associated with and found close to water sources except for the Killdeer, which can often be found far inland. Generally, these birds are rarely encountered individually and often form flocks. The Killdeer was the most common species encountered on HXD

- Upland Birds: This guild consists of larger sized birds that tend to stay around wooded or open grassland areas such as the wild turkey, northern bobwhite and all quail and grouse species. There were no members of this guild present or observed on HXD and present no hazard to the airport at this time. Because of this, they will not be addressed in the remainder of this WHA.

- Wading Birds: This guild consists of larger sized birds that are associated with both fresh and saltwater wet areas (with the exception of the Cattle egret which can be found in dry fields). Frequently encountered species were the Great egret, Snowy egret, Little blue heron and Great blue heron. Additionally, Because of their size and rather slow cumbersome flying style they are considered a significant hazard to aircraft when flying across runways and taxiways.

- Waterbirds: This group consists of all the species of cormorants, pelicans, rails, and loons. There were no waterbird species observed within airport boundaries, but they were observed in some of the off-site survey points. Because of the size and mass of most of the species in this guild they are considered a significant hazard to aircraft.

- Waterfowl: This group consists of ducks and geese. Due to their size, mass, and flocking tendencies, when found near airports they are considered a significant hazard. The only waterfowl encountered on HXD property was the Black-bellied Whistling-Duck.

Bar graphs represent the number of observations a given guild was present at each survey location and the number of individuals at each survey point. Looking at the number of observations versus the number of individuals helps show whether a particular species is likely to be a solitary species or a flocking species. For example, a solitary species may have been observed 10 times and only have a total of 10 individuals. Conversely, a flocking species may have been observed 5 times, but in large numbers when they were present (i.e., 100 individuals). These graphs are helpful because they indicate the location and number of wildlife likely to be observed on the airfield.

Effective wildlife hazard management at airports is dependent on the identification of key species involved. The following tables, figures, and written descriptions focus primarily on key species that posed a hazard to aircraft at HXD.

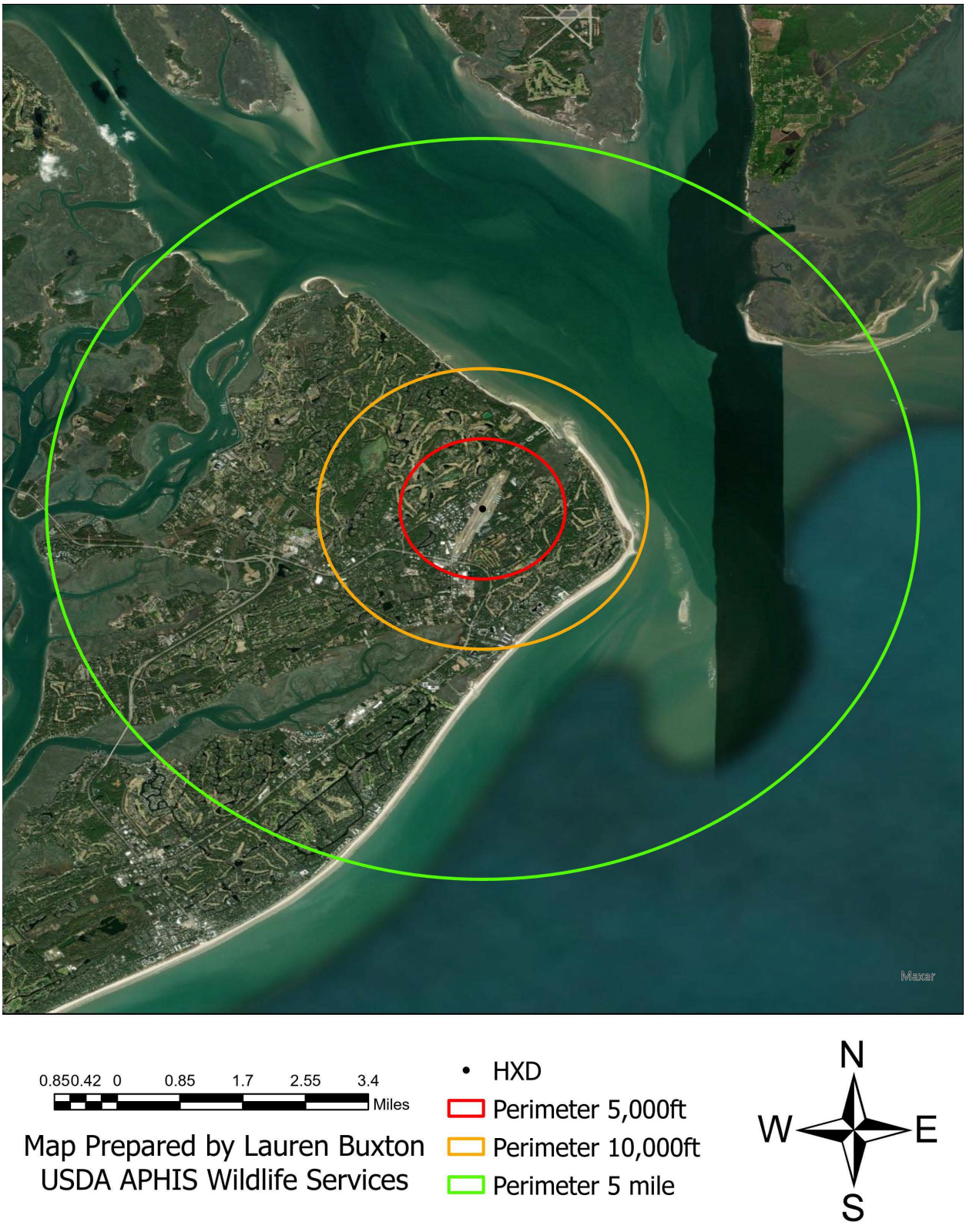



**Figure 1.** Map of perimeter distances, which should be inspected for wildlife attractants, around HXD.
Red = 5,000 feet (0.95 miles); Green = 10,000 feet (1.89 miles); Blue = 5 miles

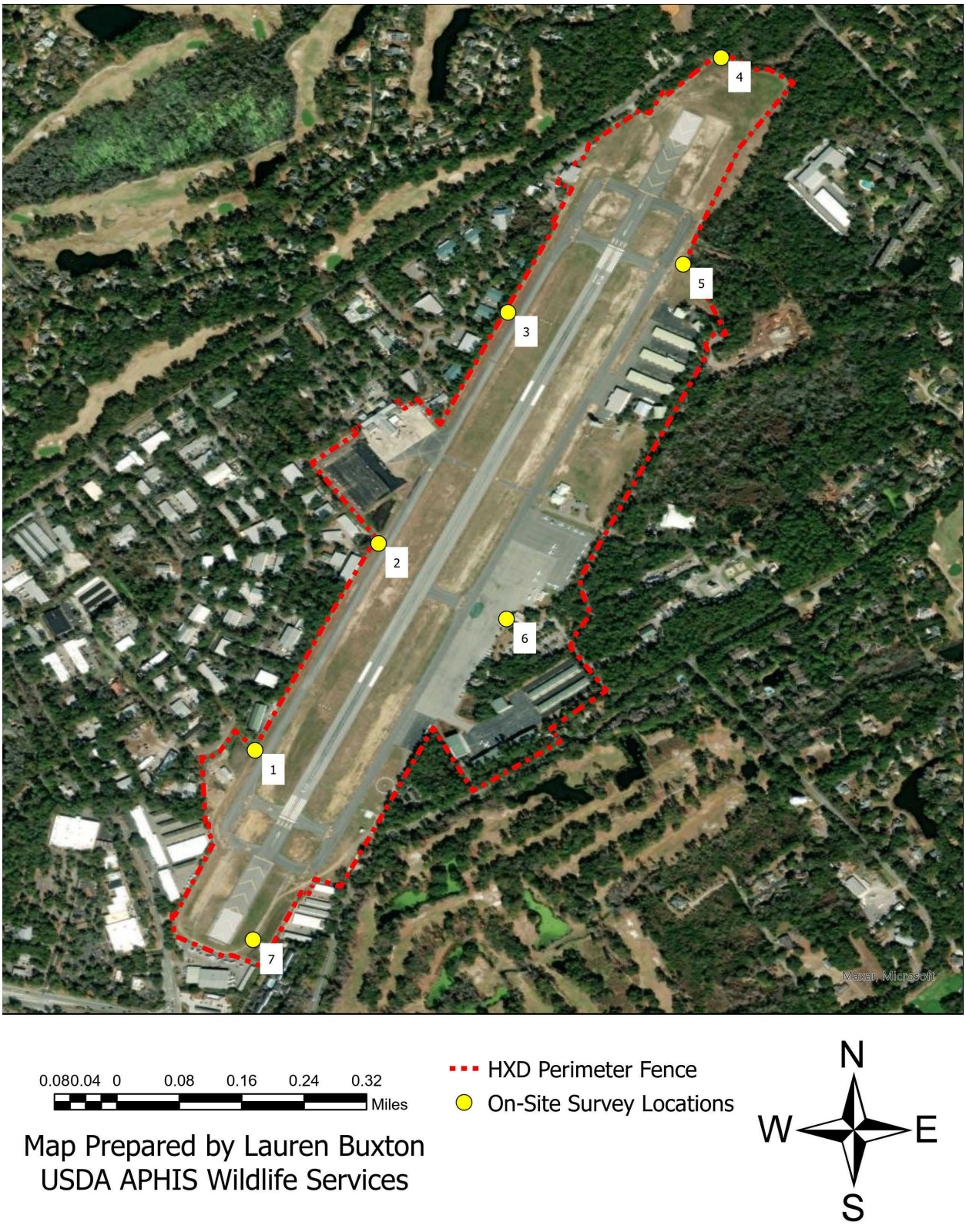



**Figure 2.** Map of HXD perimeter fence and on-site survey points for WHA at HXD, July 2023 - June 2024.

# 6.0 Results & Discussion

## 6.1 HXD Strikes

According to the FAA (FAA 2004) a wildlife strike has occurred when:

- A pilot reports striking 1 or more birds or other wildlife;
- Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;
- Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;
- Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is unidentified, and;
- An animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal.

It is estimated that only between 20-25% of all wildlife strikes are reported to the FAA (Linnell et al. 1999; Cleary et al. 2000, Wright and Dolbeer 2005). It is important for all airport staff, pilots, and maintenance personnel to report all bird strikes. This information is vital to help to reduce the risk of wildlife hazards to aircrafts. When reporting a strike, it is also important to clearly identify the animal involved. If the animal cannot be identified, it should be sent to the Smithsonian Lab. Please see FAA AC 150- 5200/32a appendix (B) for more information on strike reporting that is available online at:
https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_150_5200-32B.pdf

In 34 years, from January 1st, 1990, to May 31st of 2024, there were 66 reported strikes with aircraft at HXD. Strike reporting throughout the world, and particularly the United States, has steadily increased over the years, likely due to an increase in air traffic and better reporting procedures from personnel when strikes do occur (Figure 3). Of the total 66 wildlife strikes occurring at HXD, 69% involved birds of small and medium size, which include guilds like aerialists, Columbids, Corvids, forest birds, shorebirds, and depending on species both waterfowl and wading birds (Figure 4). The remaining 31% of wildlife strikes are comprised of 26% involving unknown species and 5% involving larger birds like raptors. Only 1 of the 66 wildlife strikes reported a dollar figure associated with the cost of damage repairs, but it was also reported as “No Damage.” That 1 wildlife strike was recategorized as “Minor damage” and accounts for the total 1% of wildlife strikes that resulted in minor damage (Figure 5). 53% of wildlife strikes resulted in no damage, 44% of wildlife strikes resulted in either undetermined or not reported damage, and 2% of wildlife strikes resulted in substantial damage (FAA...c2024).

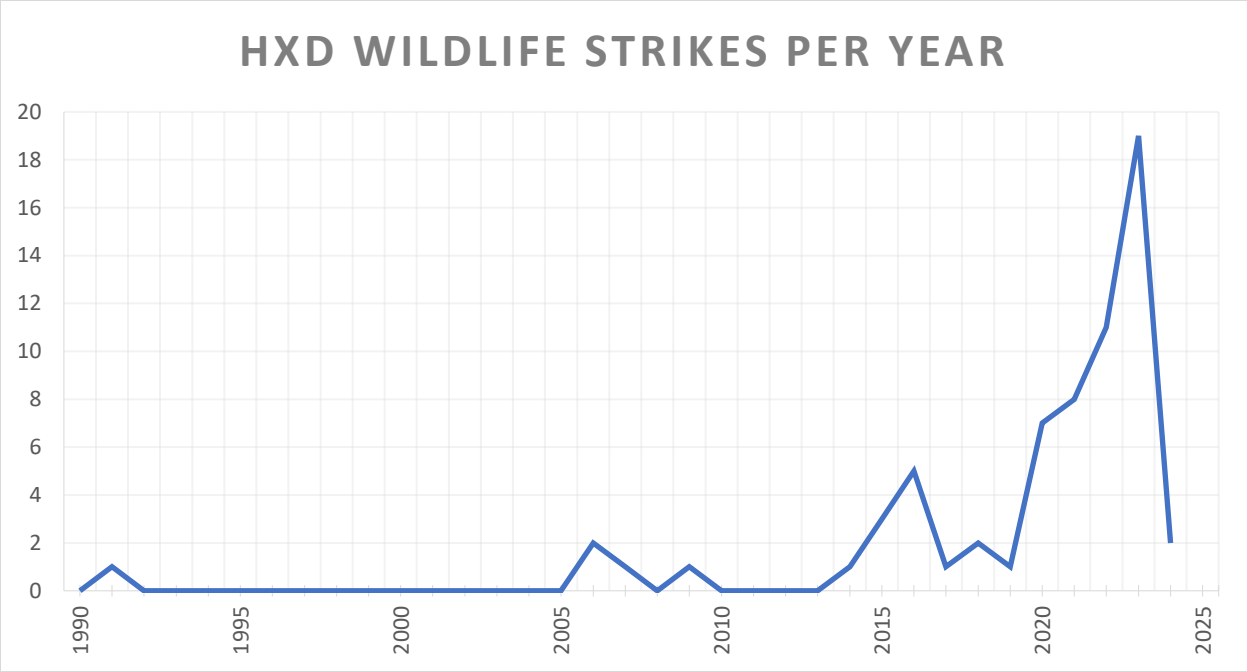



**Figure 3.** Number of wildlife strikes per year at HXD from 1990 – 2024.

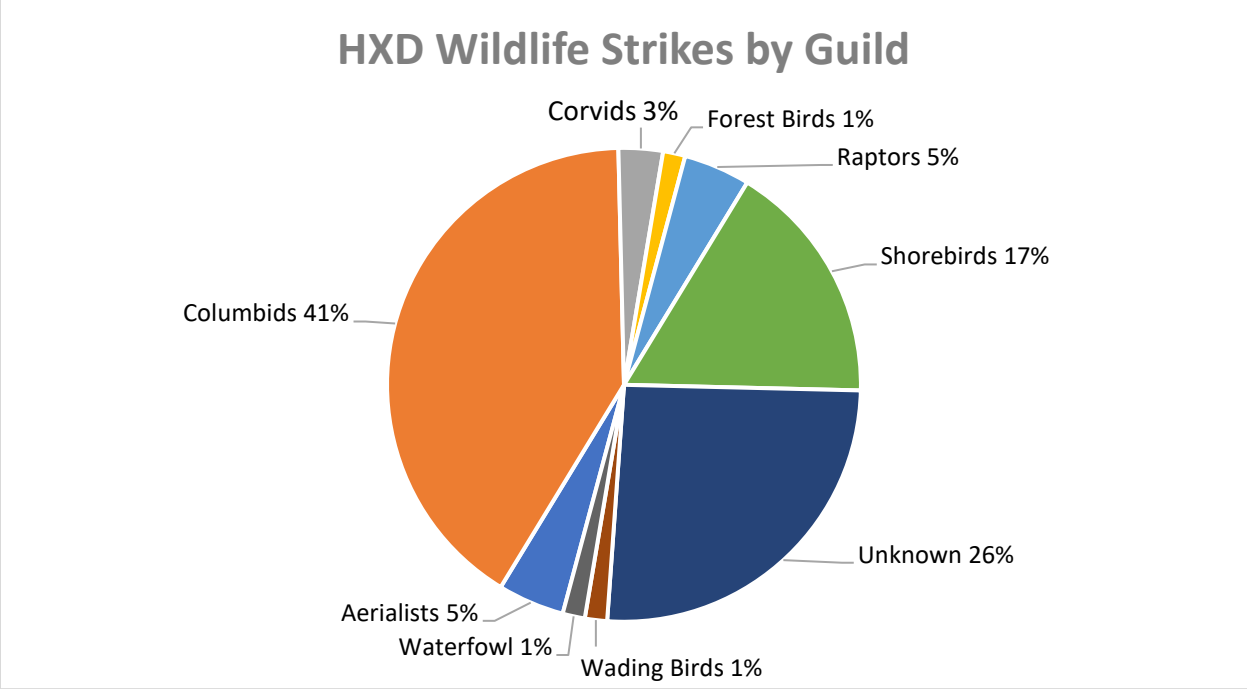



**Figure 4.** Percent of different bird guilds struck at HXD from 1990 – 2024.

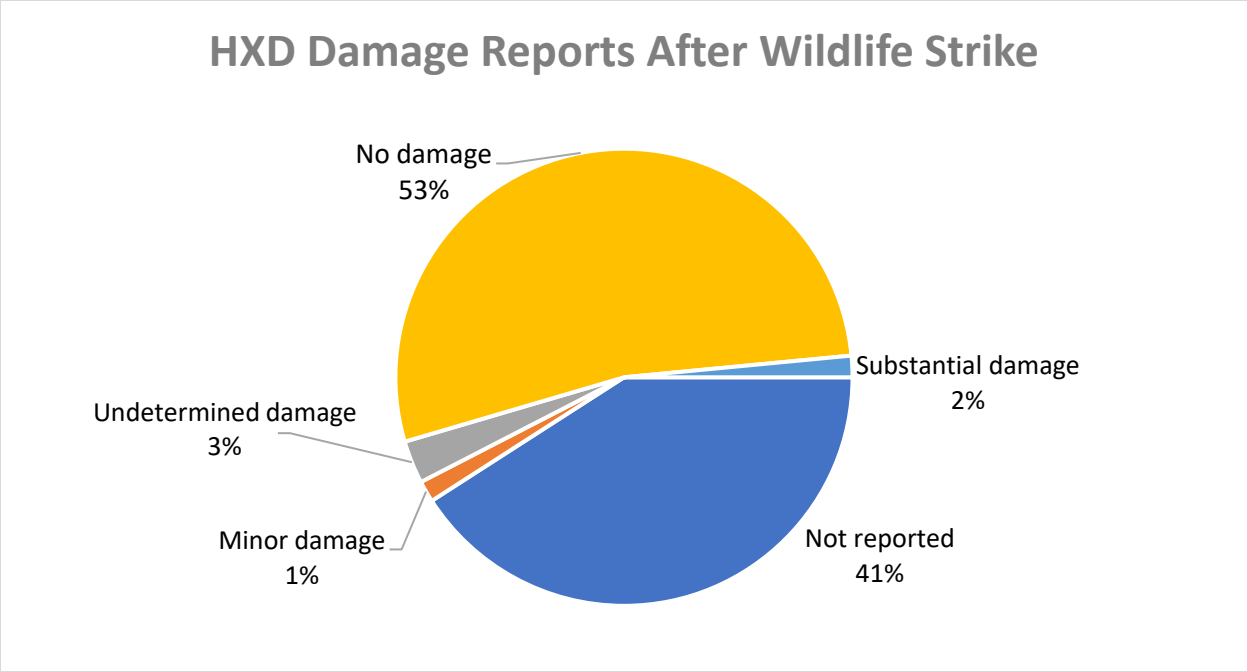



**Figure 5.** Reported damage from wildlife strikes at HXD from 1990 – 2024.

Even with the use of mitigation methods it is impossible to prevent all strikes from occurring, especially those that occur during the "in flight" phase of flight. It is important to note that most strikes occur at or on airports during take-off and landing phase. Data collected from all reported wildlife strikes to civil aircrafts from 1990 – 2023 shows that 71% of strikes occurred at less than 500 ft. AGL (Dolbeer et al. 2023). From 1990 – 2024, 100% of the 66 recorded strikes (FAA strike database 2024) at HXD where height was recorded fit into this classification (Figure 6).

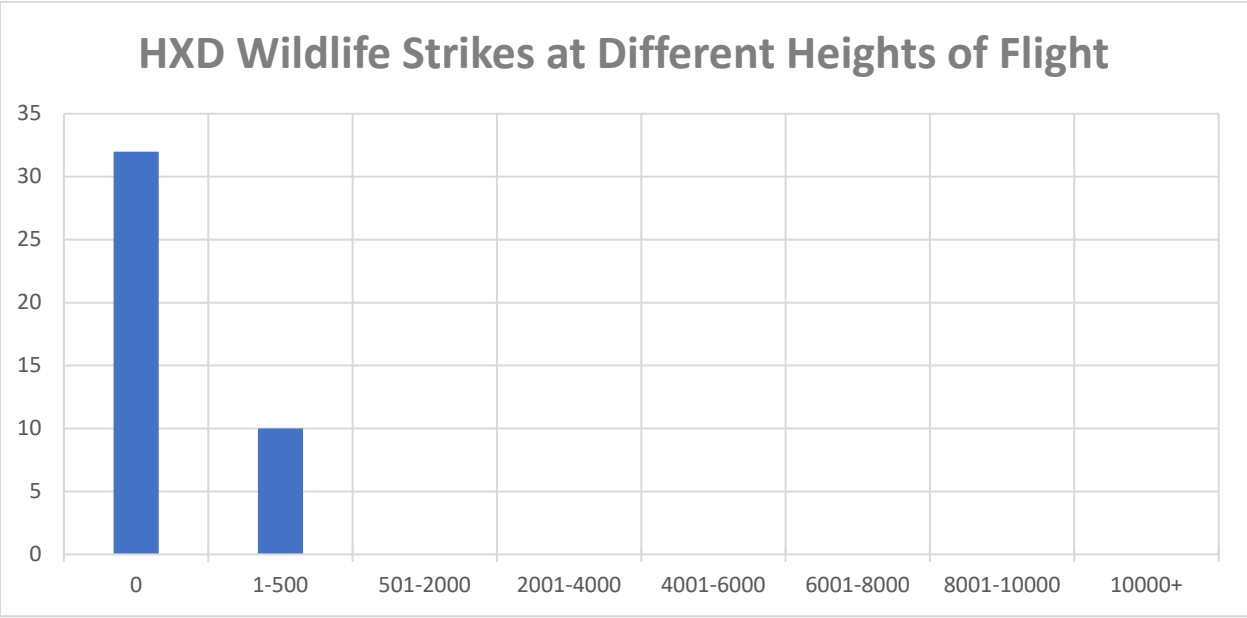



**Figure 6.** Number of wildlife strikes per height of flight at HXD from 1990 – 2024.

Not only is it important to know how many strikes are occurring, but also when they are occurring. Dolbeer et al. (2023) reported that most of the bird strikes to civil aircraft in the U.S. occurred between July and October when birds are migrating. Greenville, Spartanburg International Airport (GSP) which is approximately 204 miles from HXD reported their greatest number of strikes occurred in September and October (Simmemon 2022) while Marine Corps Air Station Beaufort (NBC) which is approximately 17 miles from HXD reported their greatest number of strikes in May and November (Maine 2020). Additionally, Savannah/Hilton International Airport which is approximately 30 miles from HXD experienced their highest numbers from August-November (FAA wildlife strike database 2024).

HXD stikes appear to follow this same trend of heightened strikes occurring July through October. As seen in Figure 7 most strikes occurring on HXD were from June-August. A logical explanation for the rise in strikes occurring in the summer months is the increased general and commercial aircraft activity on HXD. Hilton Head is a well know tourist destination particularly during the summer months. In 2023 at HXD, February and July were the low and high months of aircraft travel with 7,289 and 29,074 total number of deplanements and enplanements of aircraft passengers respectively (Hiltonheadairport.com 2024). Whereas most airports have slow months with travel decreasing slightly throughout the year, only seasonal tourist destinations typically have such dramatic swings of this magnitude (299%) in arrivals and departures. This is likely the reason that HXD has an increase in strikes during the summer months. Increased aircraft activity will increase the potential for strikes.

A total of 66 strikes were reported at HXD from 1990 – 2024 (FAA wildlife strike database 2024). Figure 7 displays strikes by month, while figure 8 displays strikes by time of day that occurred at HXD.

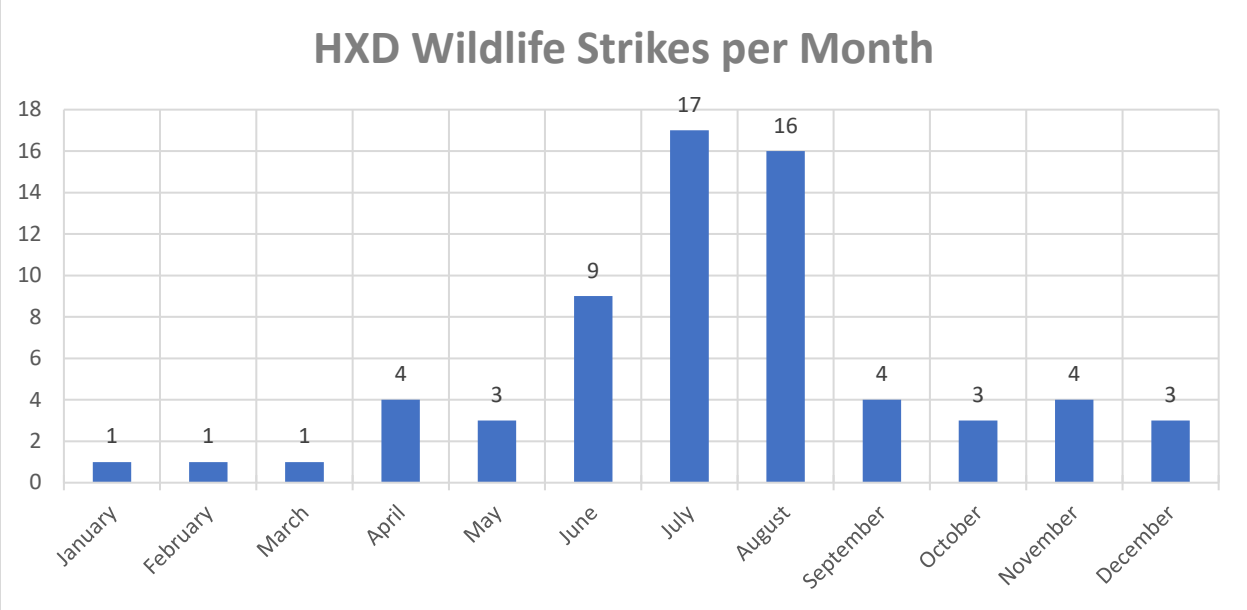



**Figure 7.** Quantity of wildlife strikes per month at HXD from 1990 – 2024.

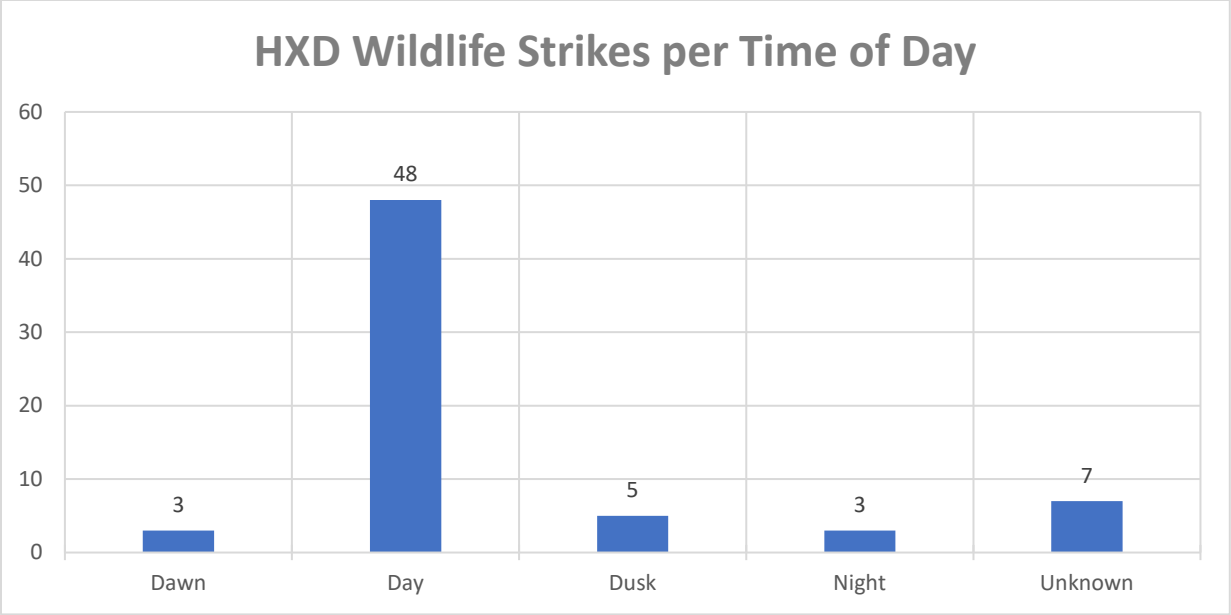



**Figure 8.** Quantity of wildlife strikes at different times of the day at HXD from 1990 – 2024.

Of the 66 reported strikes, 12 occurred on approach (18%), while 20 were unknown (30%) (Figure 9). The unknown strikes were identified post flight by maintenance personnel or by remains found on the AOA because the flight crew was unaware of a strike in flight.

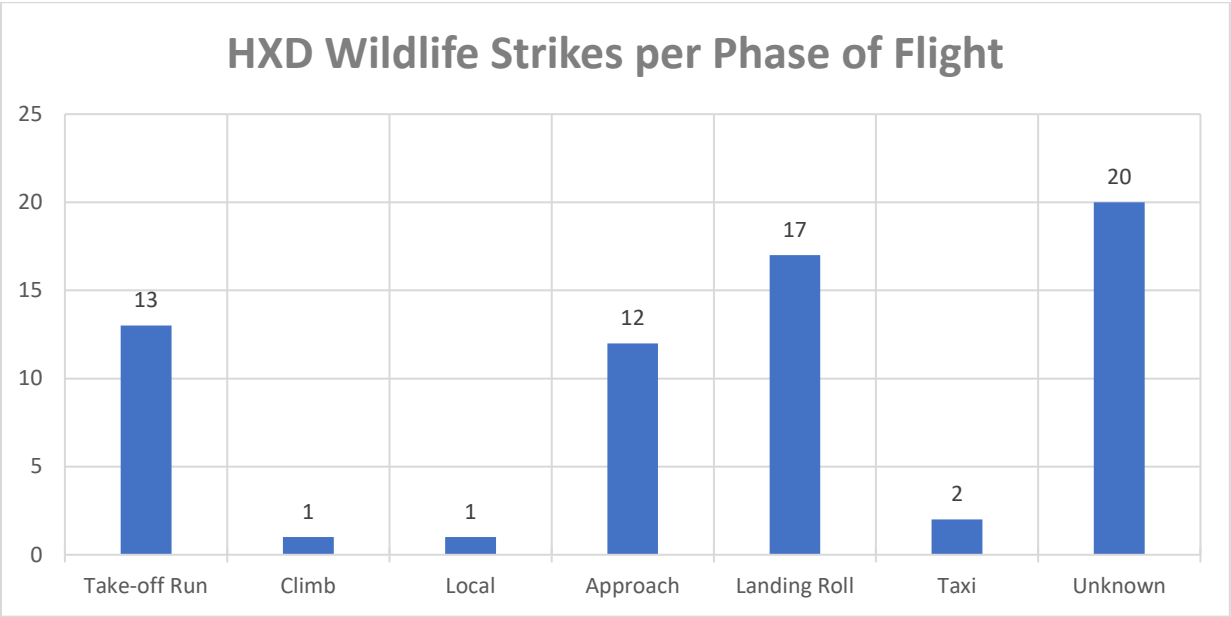



**Figure 9.** Flight phase of aircraft at time of all wildlife strikes at HXD from 1990 – 2024.

## 6.2 HXD Point-Count Surveys

Wildlife surveys were conducted bi-weekly from July 2023 through June 2024. There were 5,100 birds or other wildlife observed on-site over the course of 84 individual surveys – 24 morning surveys, 24 midday surveys, 24 evening surveys, and 12 nocturnal surveys. There was an additional 1,583 birds or other wildlife observed during 24 off-site surveys. The off-site and nocturnal surveys will be discussed in greater detail in Section 6.16 and Section 7.7. A total of 6,683 wildlife observations were made across all survey types. Figure 10 shows a heat map where the 5,100 on-site observations were made. A heat map is a two-dimensional way to represent abundance with the use of color. Areas that are more vibrantly yellow represent areas where wildlife abundance was denser during the survey observations.

Any wildlife that frequents the airport could potentially occur on or above a runway and therefore presents a risk to aircraft safety. This information is applicable in determining which areas of the airfield receive the greatest use by wildlife, as well as how often and in what numbers wildlife can be expected to use the areas. Even though birds were observed and distributed evenly throughout the survey area, survey points 1 and 7 had both the highest number of observations and highest number of observed wildlife (Figure 11). The difference in "observations" and the "number of observed" is that the number of observed is the quantity of actual wildlife seen during any given observation. For example, when the surveyor observes a group of 5 Eastern bluebirds perching on a fence; the number of wildlife observed is 5 and the number of observations is 1. Survey points 1 and 7 likely had higher values due to a combination of habitat resources including short grass, periodically wet ditch or retention ponds, and a fence for perching. Both survey points 1 and 7 were also where many of the soaring/towering bird species were observed like Black vultures and Turkey vultures. Conversely, point 6 had the least number of observations and the least number of observed wildlife. This is likely due to the survey point's location on asphalt and lack of wildlife habitat. Any wildlife that was utilizing the nearby short grass of survey point 6 was only viewable with binoculars.

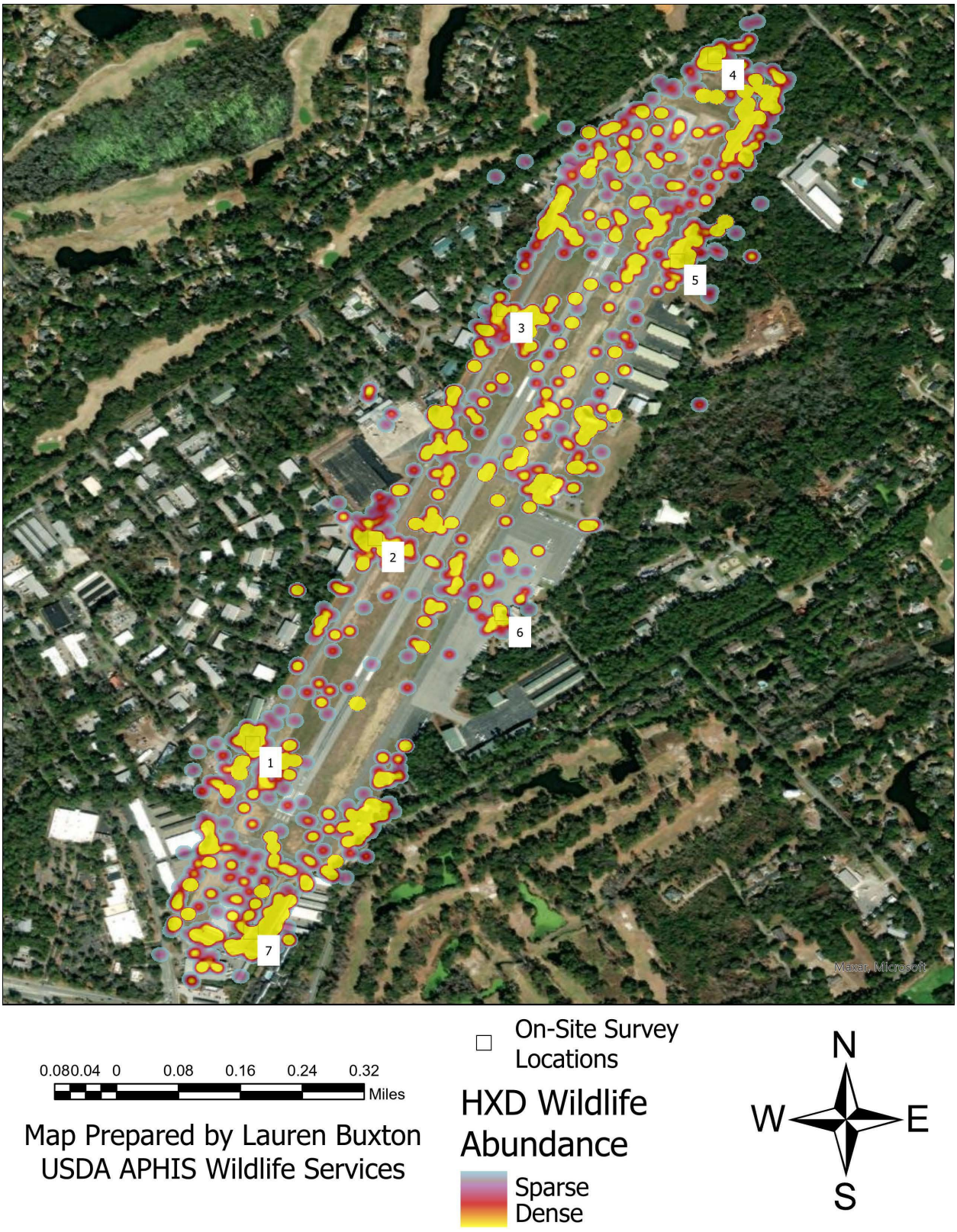



**Figure 10.** Heat map showing the location of every wildlife observation during the WHA at HXD, July 2023 – June 2024.

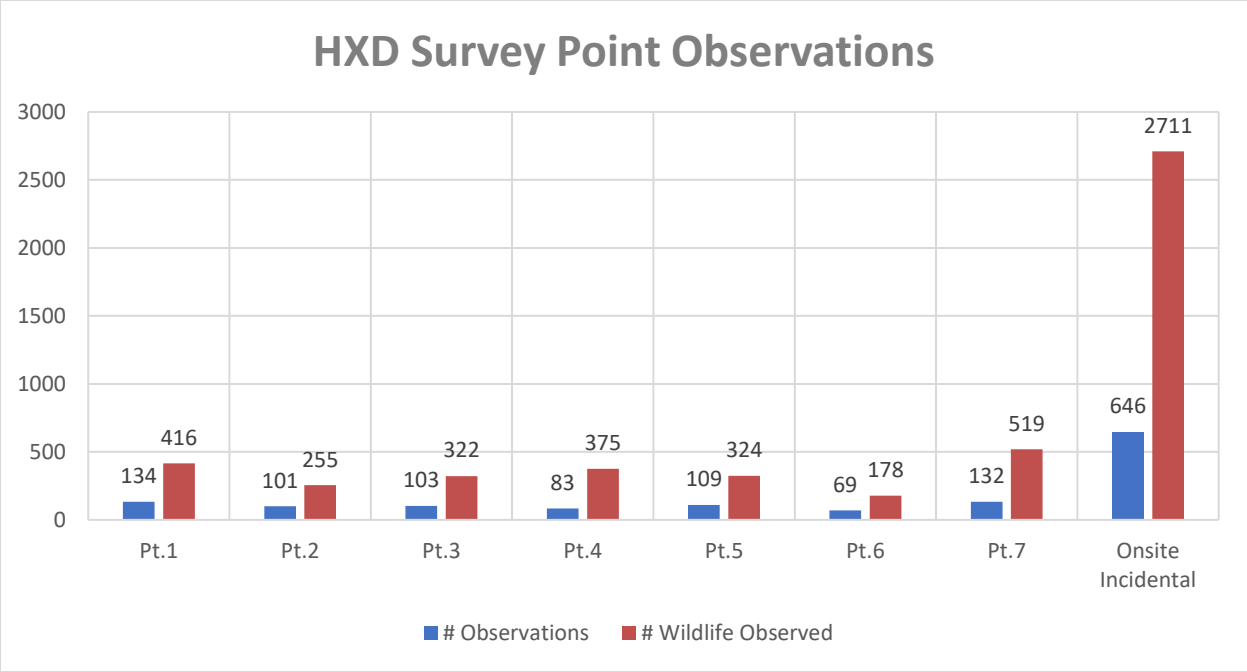



**Figure 11.** Total number of observations and total number of wildlife observed at each survey point during the WHA at HXD, July 2023 – June 2024.

Most birds observed (40%) were recorded during the evening survey period with a total of 2,058 bird observed. Midday observations were the lowest at 1328 birds (Figure. 12).
Early morning and evening hours are typically the most active periods for most bird species. These timeframes tend to coincide with leaving (am) and returning (pm) to roosting locations to feed or establish and defend breeding territory during mating season. The exception is usually large soaring raptors such as the Turkey and Black vulture that often wait until the sun has fully warmed the ground which provides the ability to perform "thermal riding" which is the ability of soaring raptors to stay in the most ideal thermal location that provides increased loft and soaring capabilities while expending the least amount of energy (Nemo 2017).

Abundance of birds observed monthly peaked in January with 649 and reached its lowest point in August with 202 observed (Figure 13). Both the time of day and month high and low points are at odds with the aircraft strike date previously reviewed in Figures 7 and 8. These differences are likely the result of strike reporting issues as well as increased air traffic in summer months. Many strikes are not reported in detail by pilots or ground crew unless a bird or animal strike results in damage to either aircraft or injury to personnel.

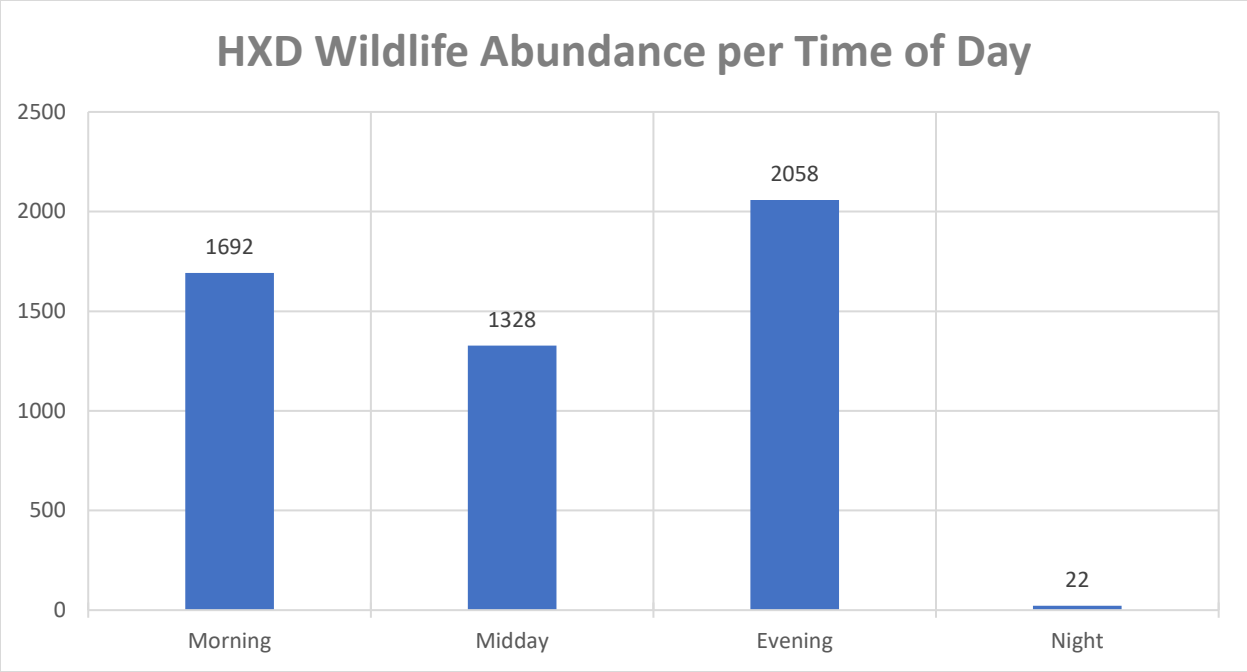



**Figure 12.** Total number of wildlife that was observed per time of day at HXD, July 2023 – June 2024.

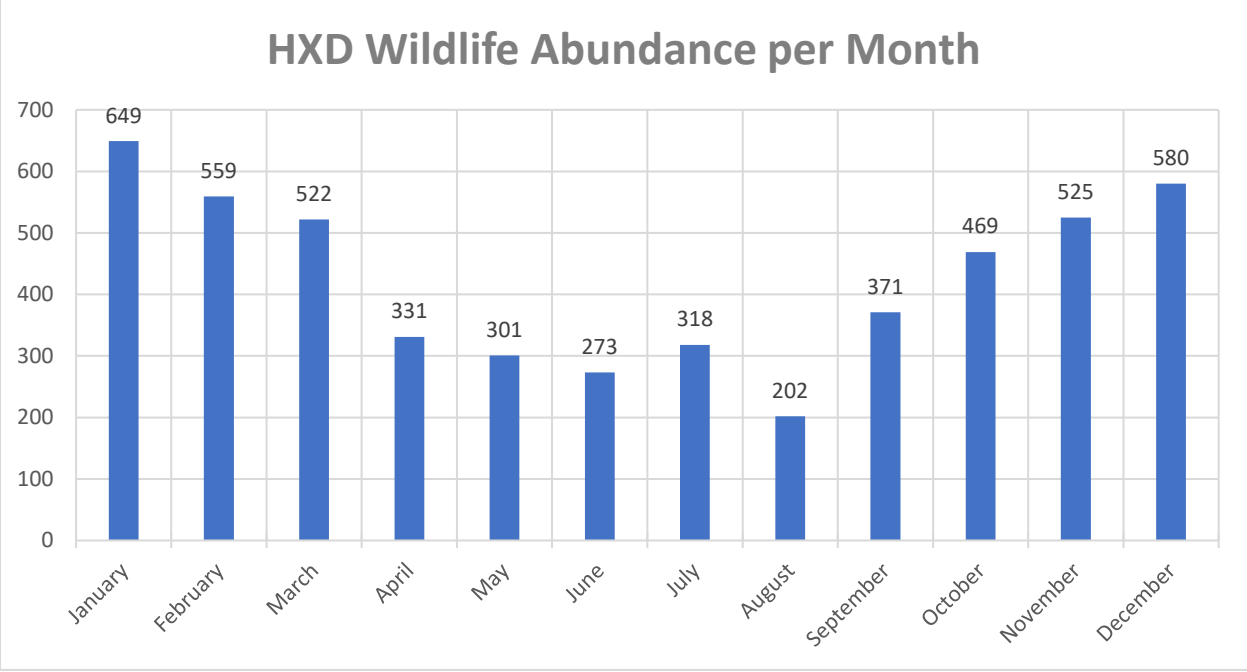



**Figure 13.** Total number of wildlife observed per month at HXD, July 2024 – June2024.

Eighty-four species of birds were observed during the WHA and were placed into 13 groups or "guilds" according to familial and genus relationships (Appendix 6). The list of 13 guilds is comprised of the birds observed during the WHA and only reflects a portion of the species inhabiting HXD and its surrounding areas. Nine additional species of non-birds were also observed during the WHA and are reflected in the 2 non-bird guilds, herptiles and mammals.

Of the 15 guilds that will be discussed, the corvid and small songbird guilds were the most abundant with 1,152 and 754 respectively (Figure 14). Corvids and small songbirds are also 2 of the 8 guilds that were observed every month during the survey period (Figure 15). Those 8 guilds include blackbirds, Columbids, Corvids, forest birds, mammals, raptors, shorebirds, and small songbirds. There is a notable rise in corvid abundance in October and November. This is likely due to the American crow's Fall roosting behavior where they gather in large groups prior to Spring migration. The large increase of grassland birds and small songbirds in January and February are likely due to Spring migration patterns.

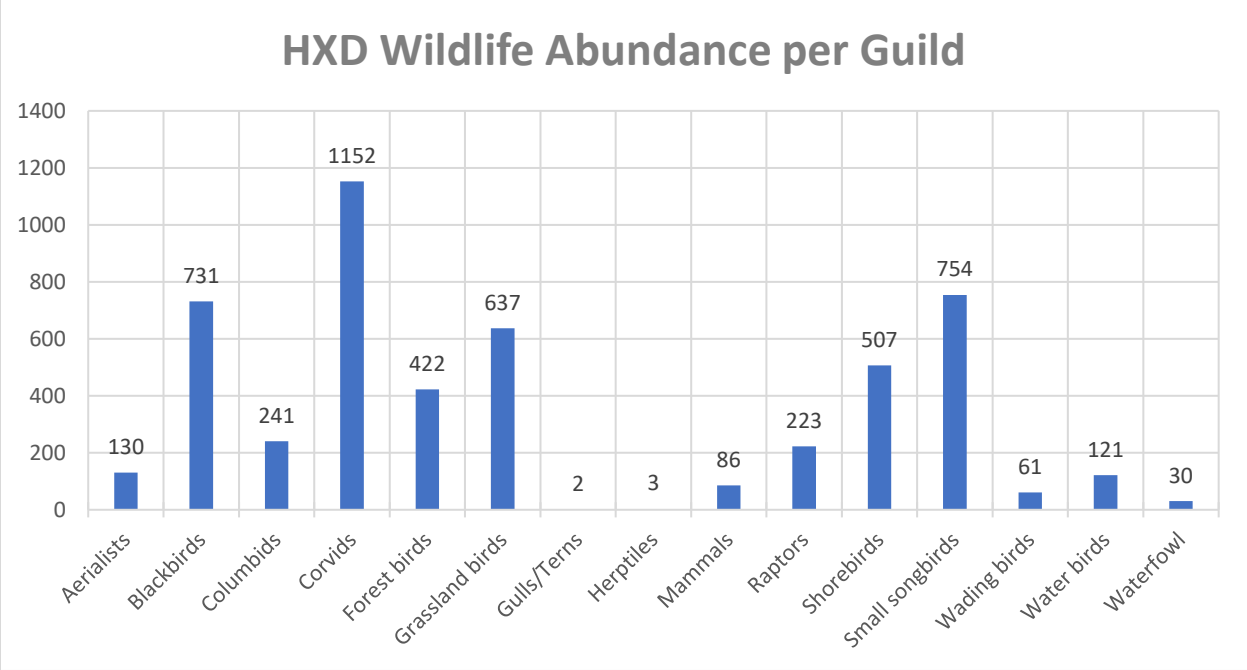



**Figure 14.** Total number of wildlife observed per guild at HXD, July 2024 – June 2024.

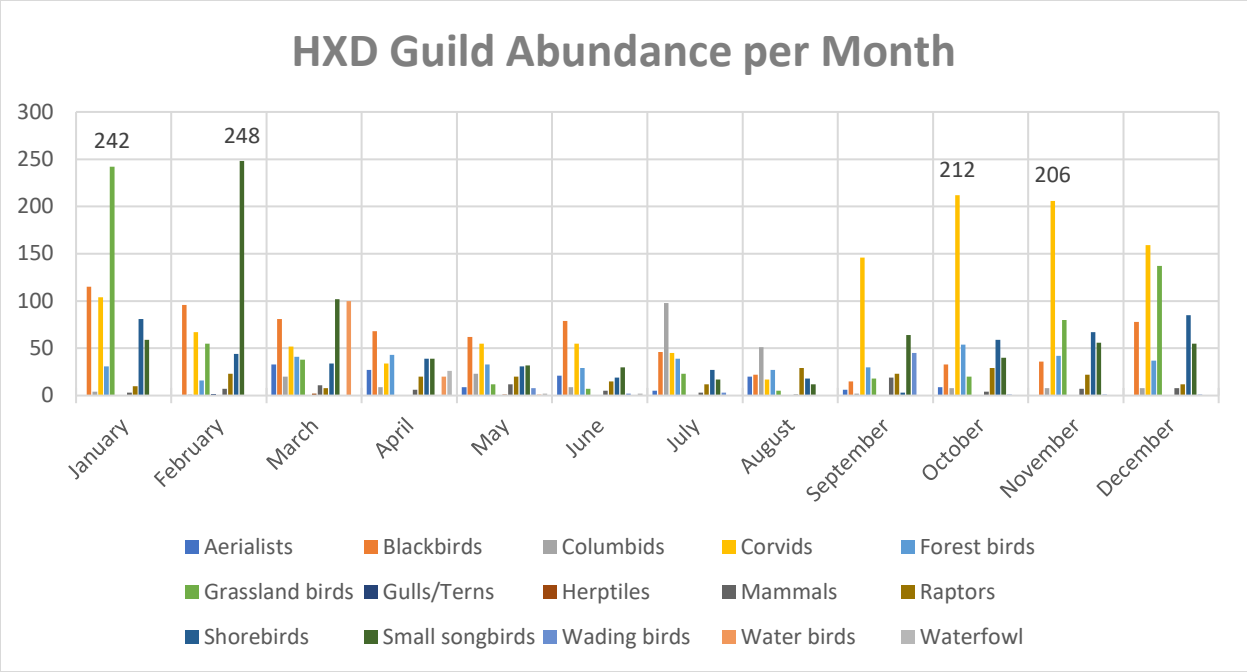



**Figure 15.** Total number of wildlife observed per guild per month at HXD July 2023 – June 2024.

Several categories of bird behaviors were observed during the WHA point-count surveys. The greatest number of birds were observed foraging and perching (Figure 16). A significant quantity of birds was also observed flying, whether that be flying local, flying passing, soaring/towering, or hawking insects. Ground-based activities like loafing or standing were also prevalent.

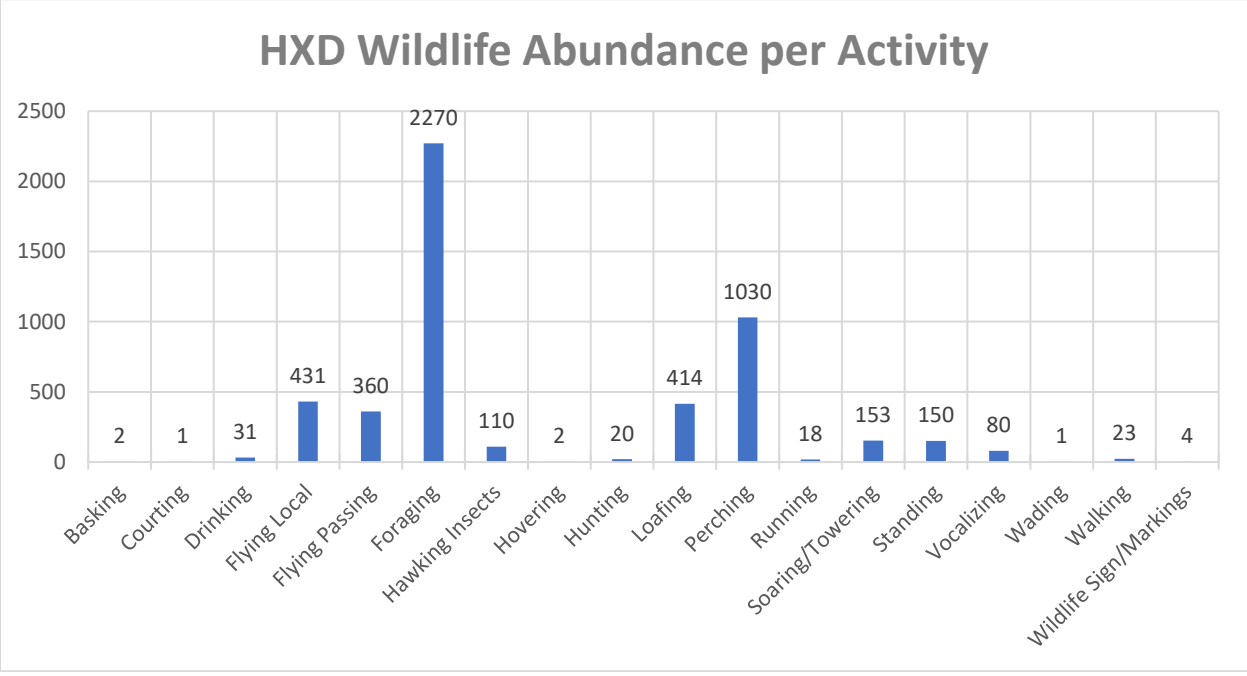



**Figure 16.** Total number of wildlife observed per activity at HXD July 2023 – June 2024.

Multiple types of habitats exist on HXD, both inside and outside of the AOA. In general, the grass inside of the perimeter fence is mowed frequently enough that it is characterized as being short grass. Short grass was the most common habitat type that wildlife was observed utilizing during the WHA surveys (Figure 17). The perimeter fence was the second highest utilized habitat type, and the runway is third highest.

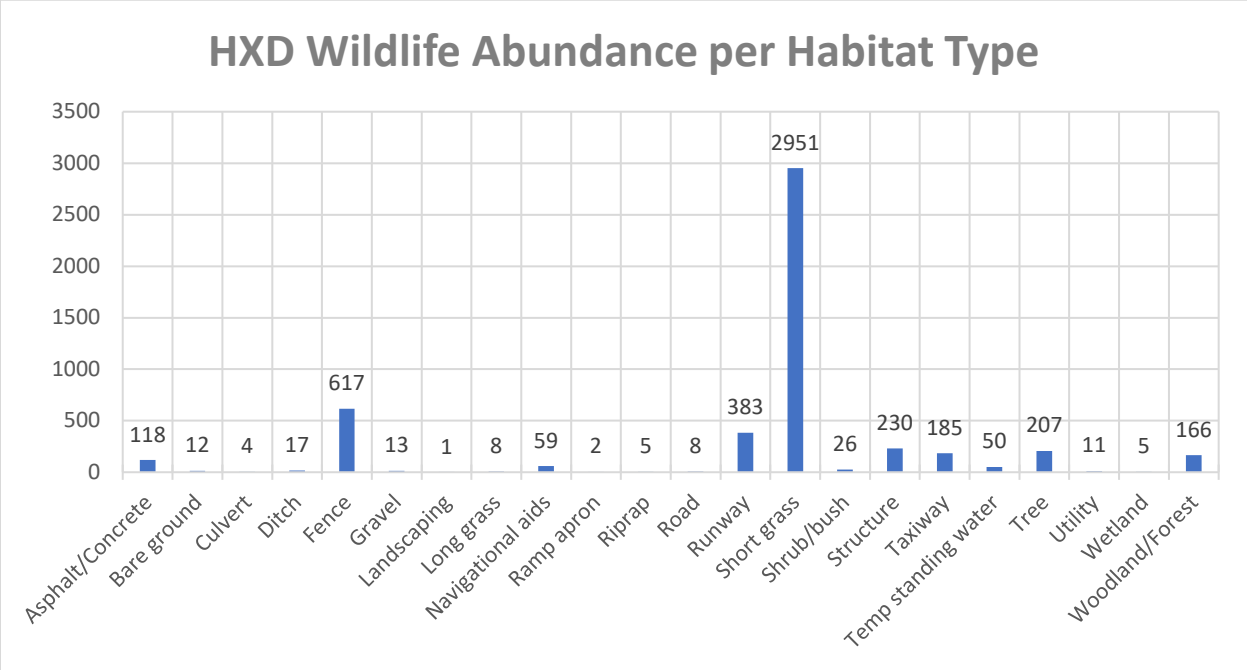



**Figure 17.** Total number of wildlife observed per habitat type at HXD July 2023 – June 2024.

Direct correlations can be made between habitat type and activity. As noted previously, both foraging and short grass were the most abundantly observed activity and habitat type, respectively. Foraging makes up 73% of all activities observed over short grass (Figure 18). Short grass is highly attractive to wildlife because it provides an abundance of foraging opportunities of invertebrates and plant parts like seeds and/or flowers.

The perimeter fence and perching activities are also directly correlated. Ninety-two percent of all activities that were observed over the perimeter fence were perching wildlife (Figure 19). Another 4% were activities that are also inherently considered “on the fence” include foraging, running, and standing.

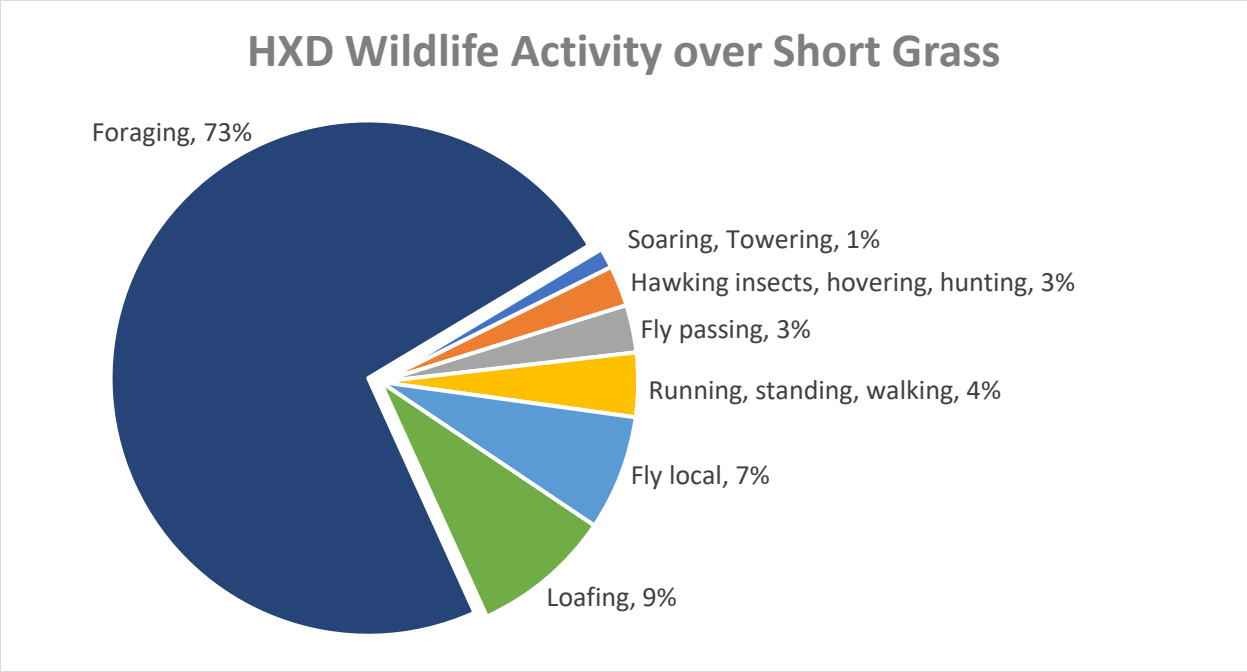



**Figure 18.** Percent of wildlife activities observed over short grass at HXD July 2023 – June 2024.

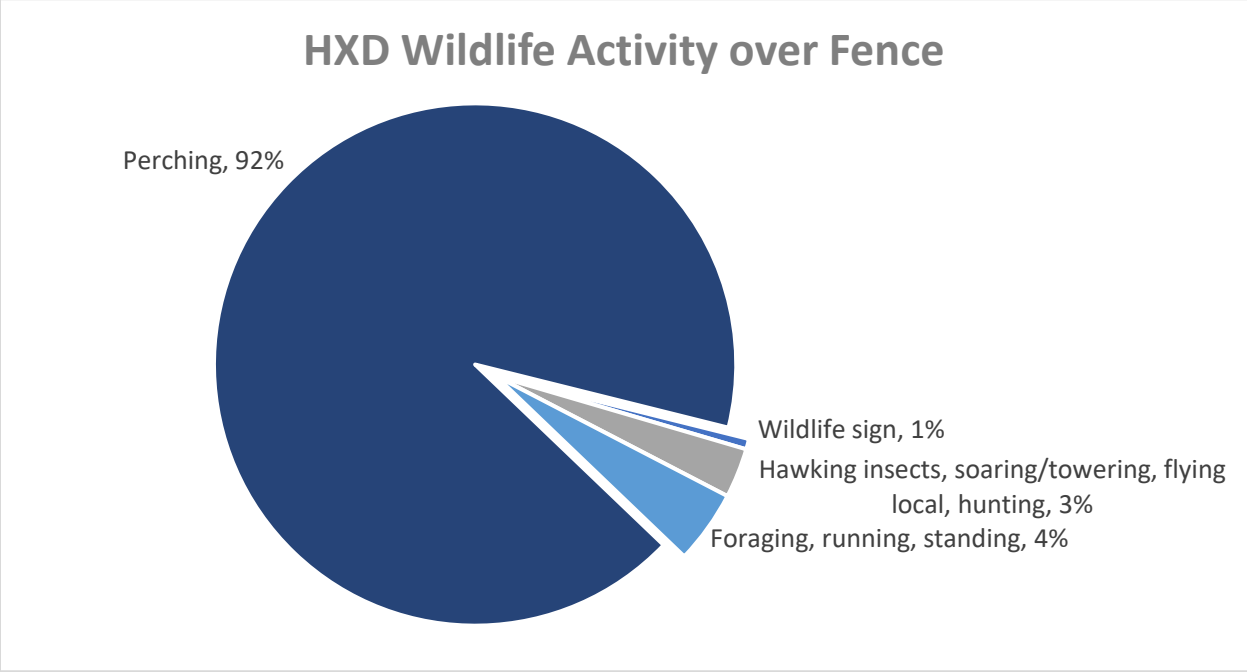



**Figure 19.** Percent of wildlife activities observed over the perimeter fence at HXD July 2023 – 2024.

Activity over the runway is particularly important because it's arguably the least desirable location for wildlife to be. A heat map was created to show the abundance of all wildlife that was observed over the runway on HXD (Figure 20). The approach end of both runways 03 and 21 are dense with wildlife activity.

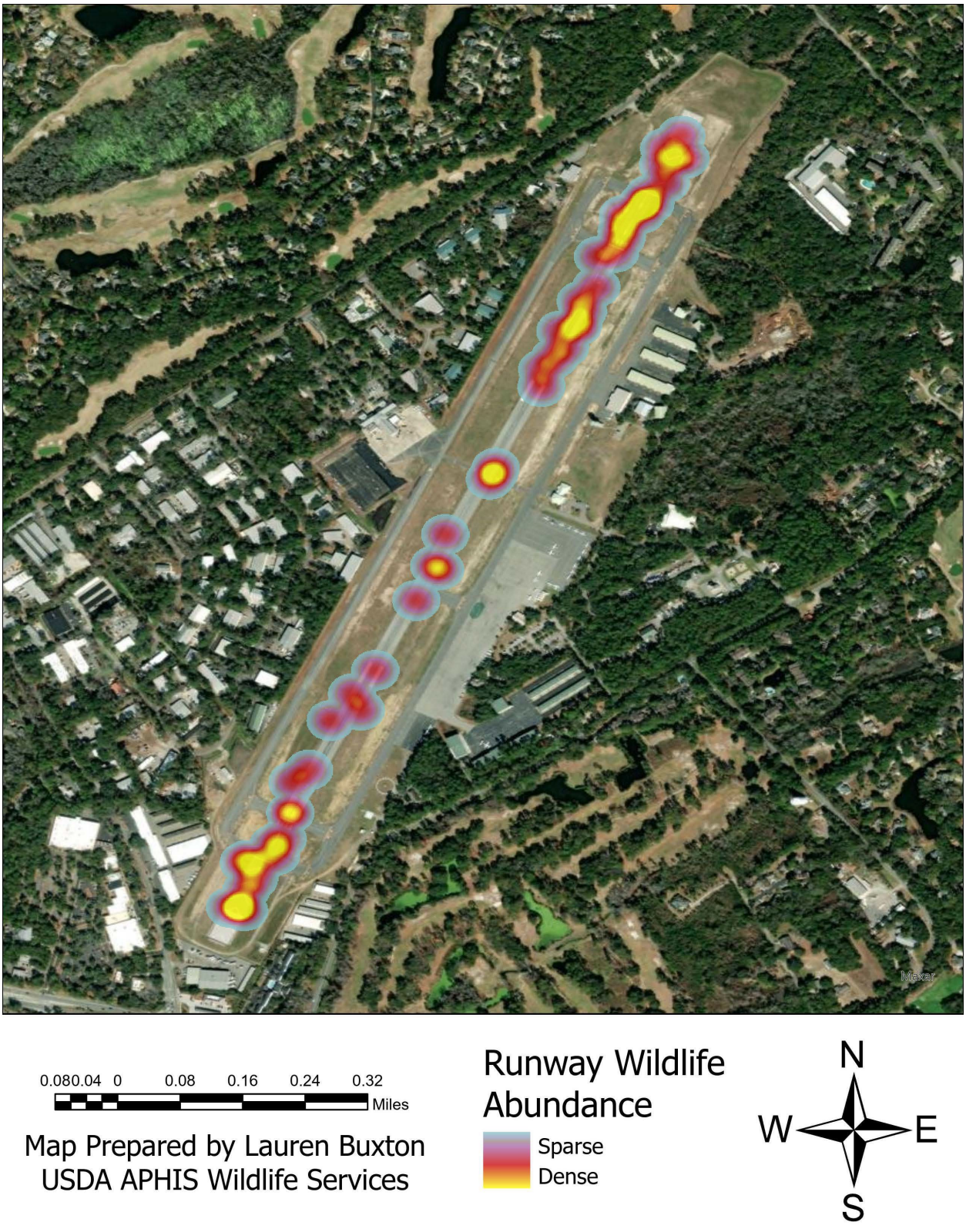



**Figure 20.** Heat map showing the location of wildlife activity over HXD runway at time of WHA, July 2023 – June 2024

Taking a closer look at the different activities observed over the runway, Figure 21 focuses on the different groupings of all flying behaviors. “On the ground” is a consolidated category and includes loafing, foraging, standing, and vocalizing. Any wildlife that is flying local, flying passing, or soaring/towering can be extremely dangerous to aircraft on approach or take-off. A total of 52 birds were seen flying local over the runway, 228 birds were seen flying passing over the runway, and 44 birds were seen soaring or towering over the runway. The large number gap between flying passing observations (25) and number of birds observed (228) is indicative of larger groups of birds being observed.

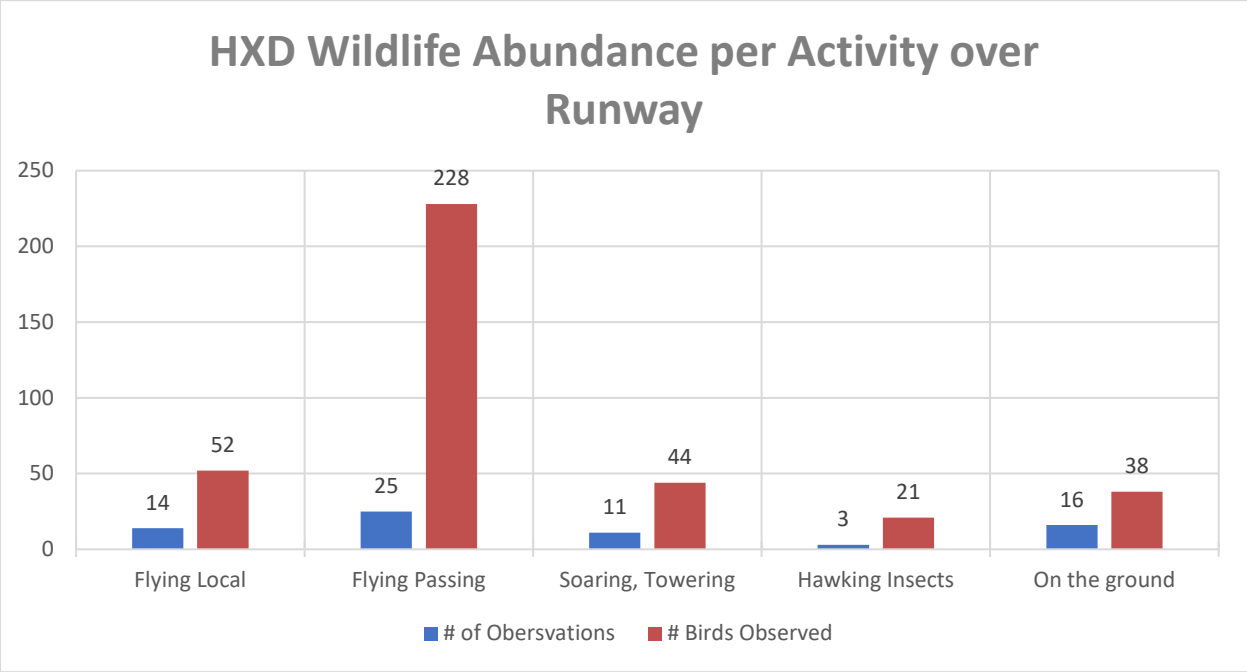



**Figure 21.** Total number of observations and total number of birds flying over the runway during the WHA at HXD, July 2023 – June 2024.

The species of those birds can also be of importance when considering risk to aircraft. Birds that were observed over HXD runway include Bald eagle, Canada goose, Black and Turkey vulture, Double-crested cormorant, American crow, Killdeer, Mourning dove, European starling, and other miscellaneous species (Figure 22). The birds that were observed “flying passing” were Canada goose, Double-crested cormorant, American white ibis, and American crow. All four of those species are hazardous to aircraft because they are large-bodied birds and/ or can occur in large groups.

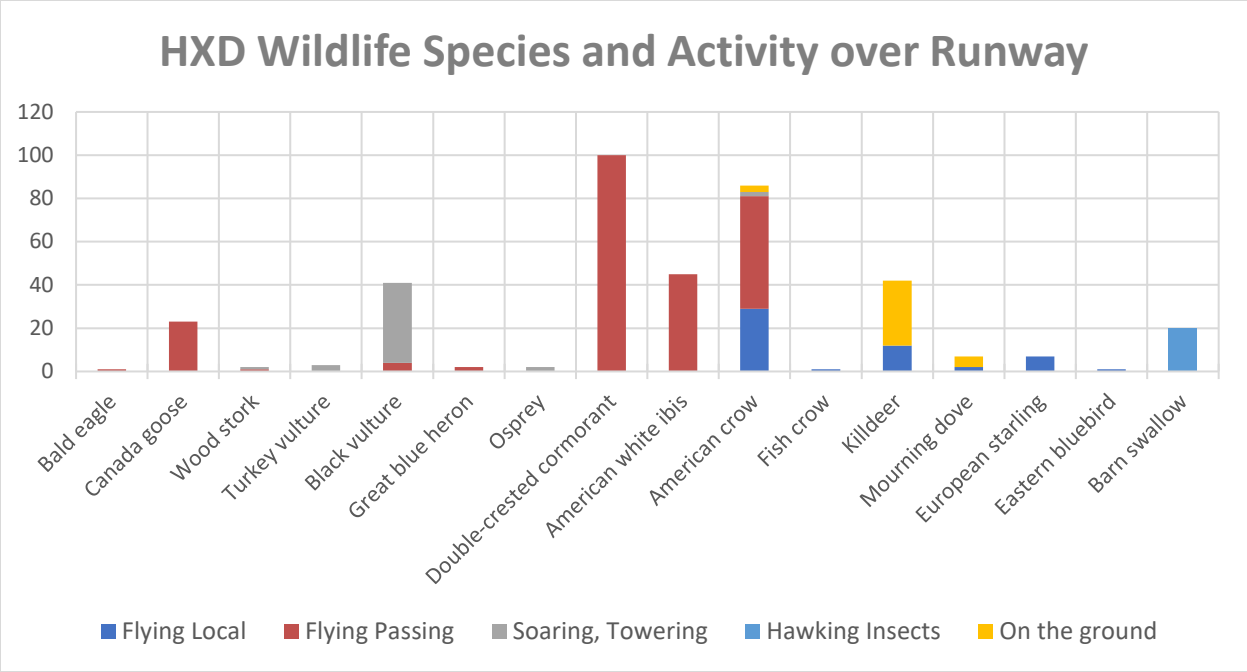



**Figure 22**. Wildlife activities per species observed over HXD runway at time of WHA, July 2023 – June 2024.

## 6.3 Aerial Foragers



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods, a depredation permit issued by the USFWS is required.

**Description.** Aerial foragers prefer open grasslands or open water areas. They feed on insects flying above these areas. All the swallow and swift species found in Eastern North America are considered aerial foragers. American cliff swallows, Barn swallows, Chimney swifts, and Tree swallows were all present on the HXD airfield (Figure 23). Eighty-seven percent of the aerial foragers observed during the WHA were barn swallows.

Figure 24 shows the number of aerial foragers observed by month at HXD with the largest concentrations of aerial foragers being observed from late spring through the summer. This is attributed to the migratory pattern of these species, which nest in the Americas during the summer and winter in the Neotropics. No aerial foragers were observed from November to February. Flock size generally stayed consistent throughout the survey route and all activities observed included flying local, hawking insects, and foraging. Figure 25 shows a heat map of all aerial forager observations made during the WHA. Short grass was the preferred habitat type.

**Damage.** Five different species of aerial foragers are on the list of top 33 most frequently struck bird species: Barn swallow, Cliff swallow, Chimney swift, Tree swallow, Bank swallow (Dolbeer et al. 2023). Fortunately, those strikes rarely result in damage (0.42%). Historically, barn swallows were involved in aircraft strikes three times at HXD, once in 2017 and twice in 2020, none of which resulted in damage.

**Control Measures.** Since aerial foragers feed on insects, application of insecticide should be researched and applied to limit the insects on the airfield. The grass cutting on the airfield should take place during minimal flying operations due to the attraction of the aerial foragers to insects that the mowers stir up. Also, aerial foragers are drawn to any structure with overhanging ledges such as culverts, large drainage pipes, under bridges and under the eaves of buildings and hangars. These areas are used for nesting and roosting purposes. Any structures or areas that provide this type of habitat should be screened or netted for the purpose of excluding these birds. There are a number of commercial products available that are exclusively designed for this purpose.

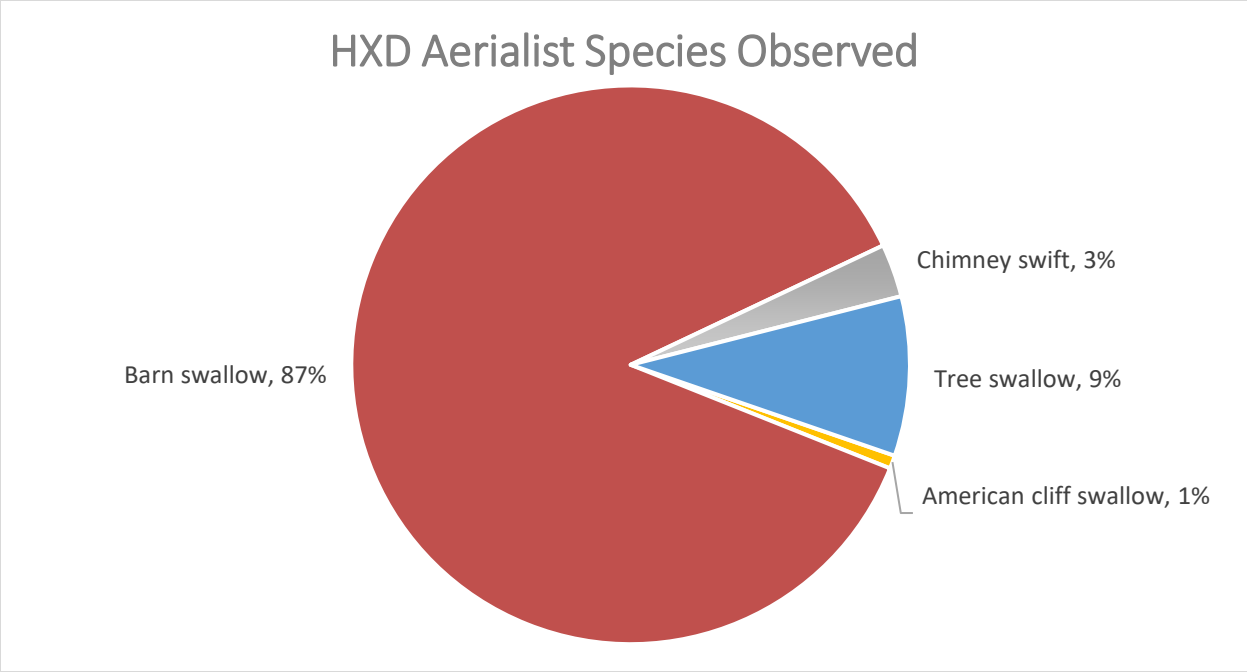



**Figure 23.** Species breakdown of all aerialists observed on HXD during WHA, July 2023 – June 2024.

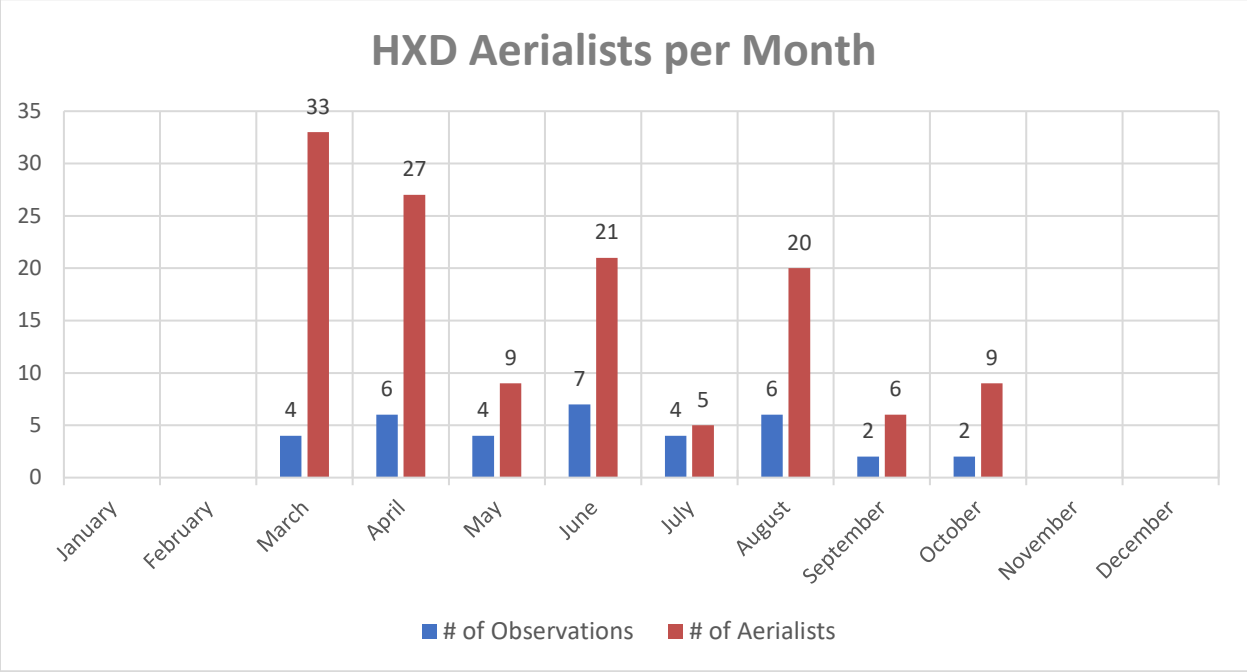



**Figure 24.** Abundance of Aerialist per month at HXD during WHA, July 2023 – June 2024.

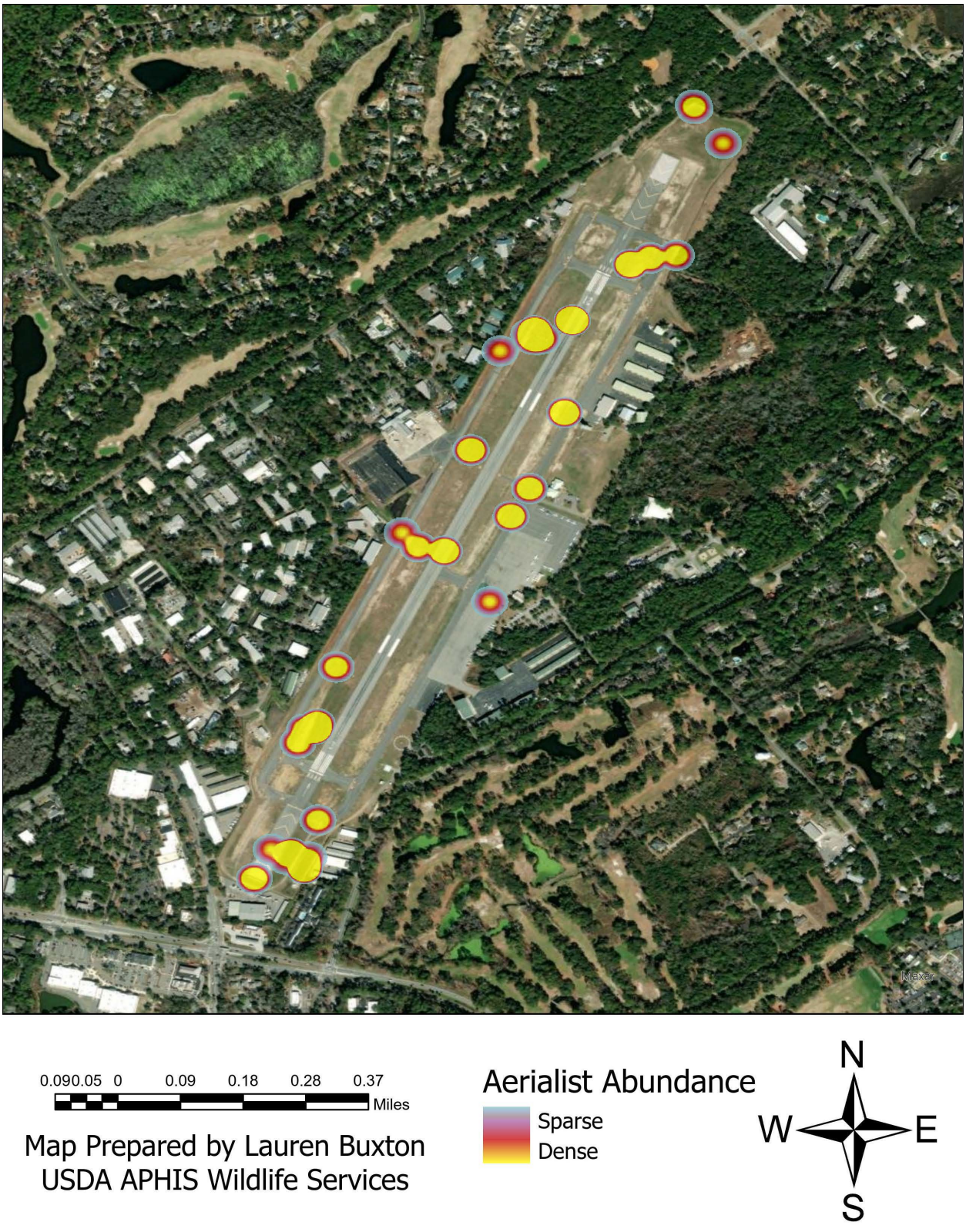



**Figure 25.** Heat map showing the abundance of aerialist activity over HXD during WHA, July 2023 – June 2024

## 6.4 Blackbirds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. European Starlings are not covered under the Migratory Bird Treaty Act; therefore, no permit is needed to utilize lethal control. According to CFR 50, part 21.43, blackbirds (rusty, yellow-headed, Brewer's, and red-winged, along with brown-headed cowbirds) can be taken without a federal permit when they are "found committing or about to commit depredation upon ornamentals or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner as to constitute a health hazard or other nuisance…"

**Description.** Starlings are opportunistic birds and will roost in almost any crevice found. Starlings are also one of three unprotected bird species and should be managed in areas where they are considered a hazard (i.e., hangers, buildings).

Starlings/Blackbirds represented the third largest species group with 731 birds observed during the WHA. European starlings comprised 52% of this group and Brown-headed cowbirds comprised 46% (Figure 26). Both European starlings and 4 additional species of blackbirds were seen all year (Figure 27). Starling and blackbird activity occurs most where there are structures available to perch upon and nearby short grass to forage (Figure 28).

**Damage.** According to the USAF Aviation Safety Division, European starlings rank 7$^{th}$ on the list of bird species that cause the most damage, with approximately $44,000 per strike. This damage is caused by the flocking behavior as well as the physiological make-up of these birds. According to the FAA strike database, the European starling is the 6$^{th}$ most struck bird (Appendix 8). The aircraft industry refers to starlings as "feathered bullets" due to their high body density. Their density has been reported to be 27% greater than herring gulls which are much larger than starlings. The loss of a C-130 and 34 crew members, in Holland, in 1996 has been attributed to a strike involving a flock of starlings (MacKinnon 1998). In 1999, an F-15E ingested starlings into the #1 engine causing $650,000 in damage (Grey 2003). Historically, no known blackbirds were involved in aircraft strikes at HXD. There is a chance that any unidentified bird strike was a result of a blackbird.

**Control Measures.** Management options include trapping, exclusion, and removal of starlings to discourage breeding populations. Pyrotechnics, propane cannons, and recorded distress calls can work well on all species in this group and should be utilized whenever necessary. Controlling the reed and cattail growth in wetter areas will also deter Red-winged blackbirds as they are attracted to wet areas and are known to build nests on this type of vegetation. Any piping or metal framing material that hangers and work buildings are often made of on an airfield should be regularly inspected to ensure starlings do not have access to any form of holes or cavities. If found, they should be sealed immediately. Starlings are cavity nesters and will readily occupy these areas.

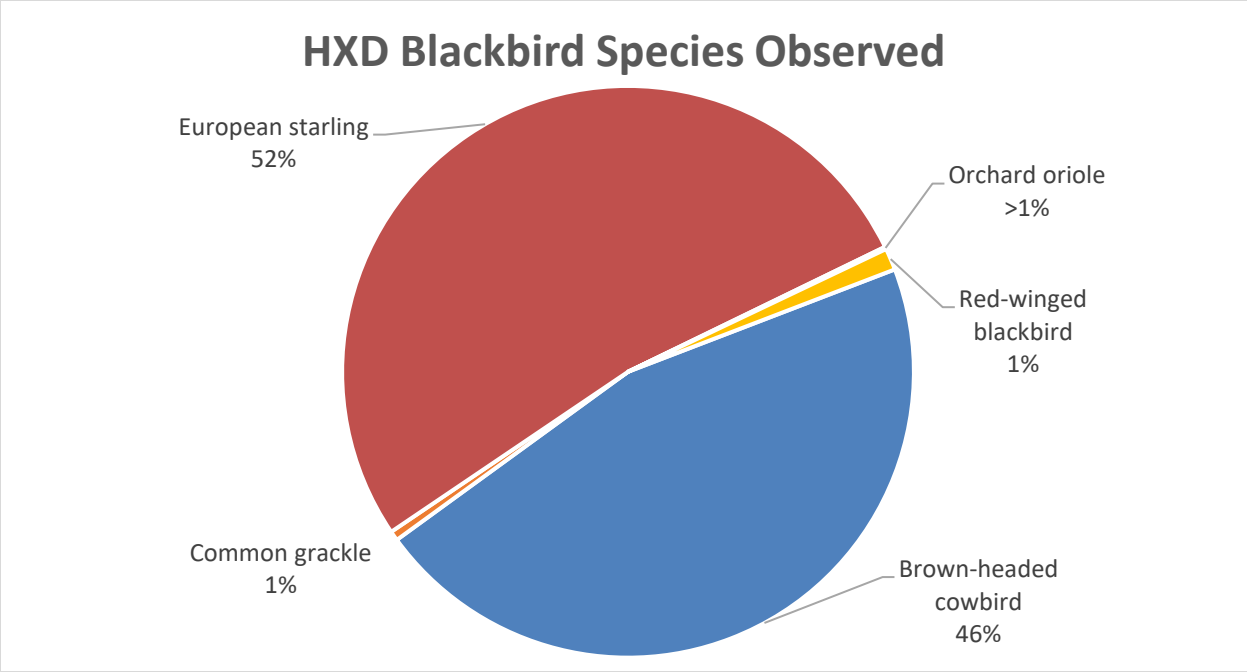



**Figure 26.** Species breakdown of all blackbirds observed on HXD during WHA, July 2023 – June 2024.

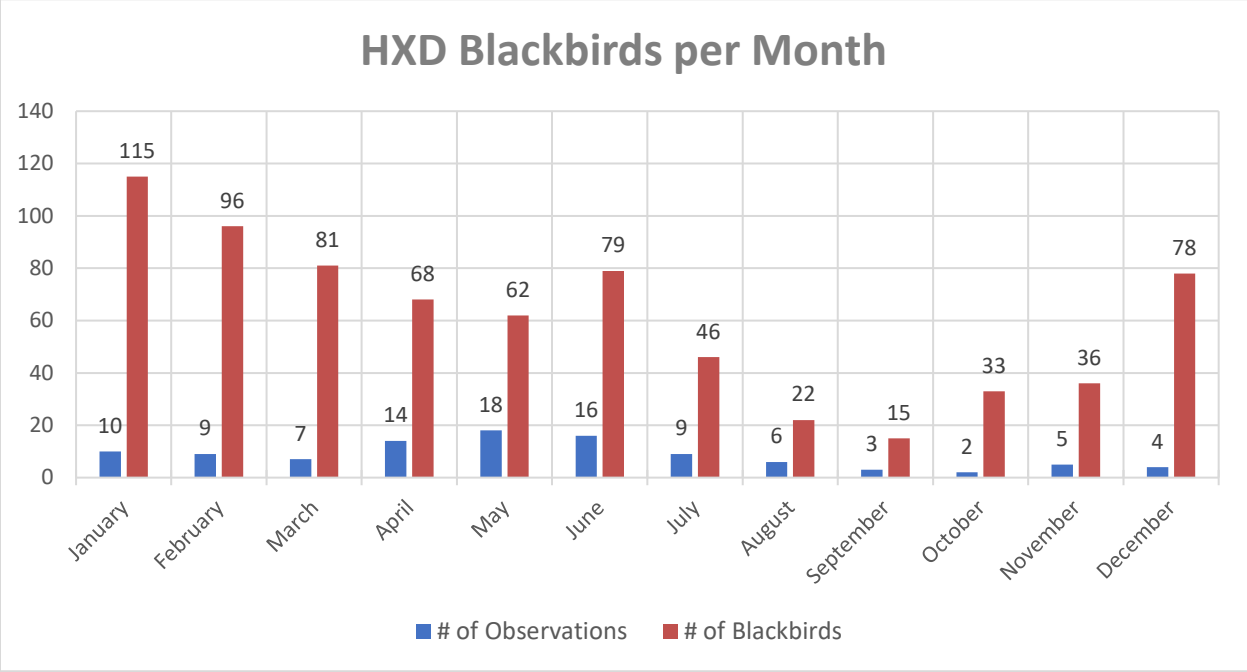



**Figure 27.** Abundance of blackbird per month at HXD during WHA, July 2023 – June 2024.

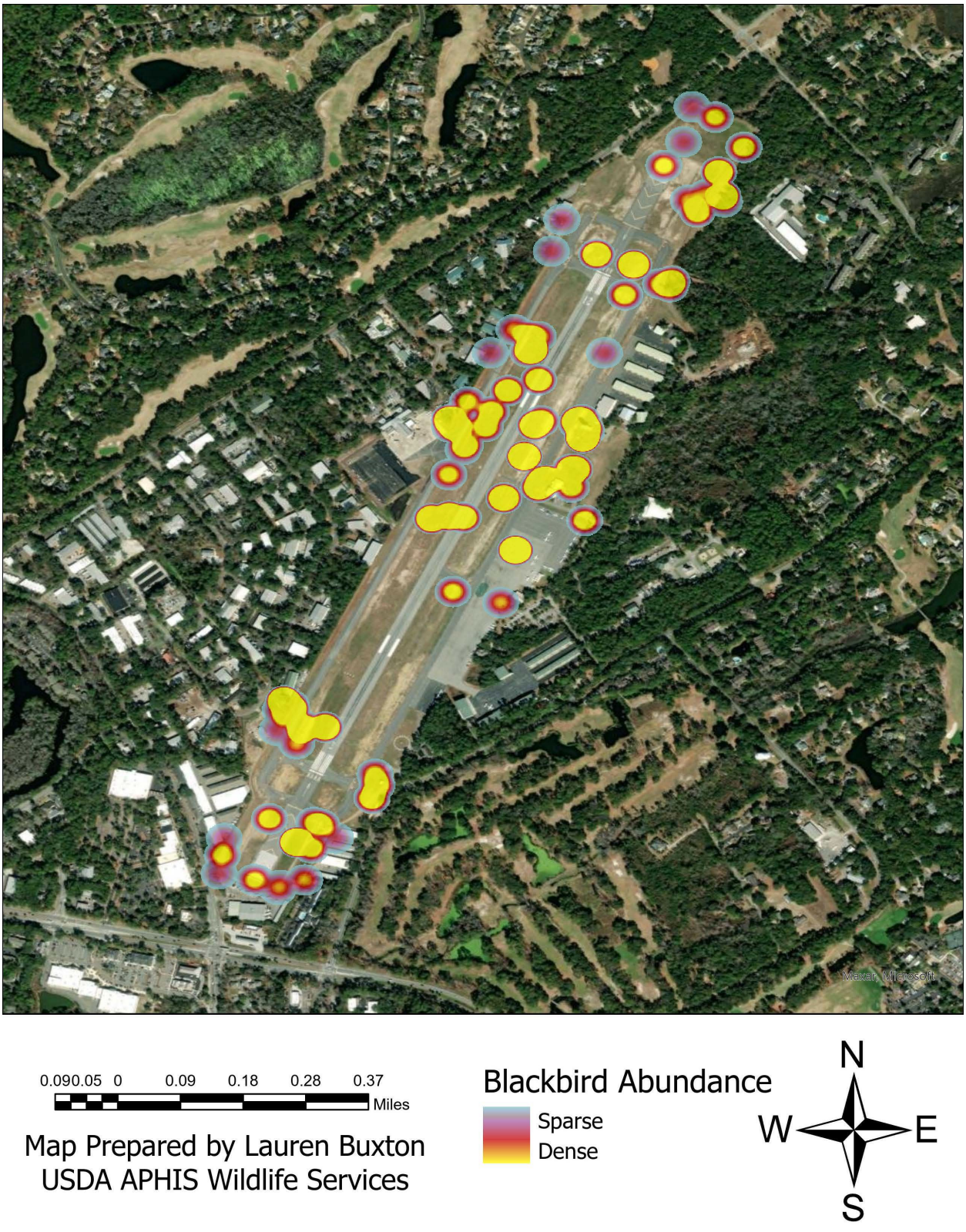



**Figure 28.** Heat map showing the abundance of blackbird activity over HXD during WHA, July 2023 – June 2024

## 6.5 Columbids



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required to take mourning doves. Rock doves (feral pigeons) are not covered under the Migratory Bird Treaty Act; therefore, no permit is needed to take these birds.

**Description.** Two hundred and forty-one doves were observed during the WHA. Mourning doves contributed to 100% of the total number of Columbids observed. Typically seen in small flocks containing a few individuals, they are often observed perched on fences, feeding in grassy areas, or picking up grit (small pebbles) on the paved or sandy areas to store in their gizzards which will aid in digestion. Doves are a migratory species but small numbers of them can be seen year-round. Flock sizes peaked in late summer, likely due to increased foraging opportunities prior to the fall migration (Figure 29). On HXD, the three main activities observed were foraging, loafing, and perching (Figure 30). Their preferred habitat was directly related to their activity where they foraged primarily in short grass and perched primarily on the perimeter fence, signs, or other structures (Figure 31).

**Damage.** Strike reporting by the FAA places mourning doves as the number 1 most struck bird species from 1990-2018. There was a total of 14,962 reported strikes with 1.8% of those strikes resulting in damage (Dolbeer et al. 2023). Although not as large as many other species considered detrimental to air safety (e.g., waterfowl, gulls, raptors), doves are a concern because of their loose flocking behavior, overall abundance, and dense body structure, which increases their potential to damage an aircraft. Historically, there was 26 strikes involving mourning doves at HXD, none of which reported any damage.

**Control Measures.** Control measures such as pyrotechnics, reinforced by lethal control, should be utilized on doves loafing in critical areas (such as midfield). Proper permits need to be on hand to enforce lethal control on doves, but not on pigeons. Feral pigeons receive no federal or state protection and should be eliminated or excluded from the airfield environment. For problems in hangers strobe lights and exclusion netting should be installed. For the birds that show no reaction, lethal control with a pellet rifle by qualified personnel should be utilized.

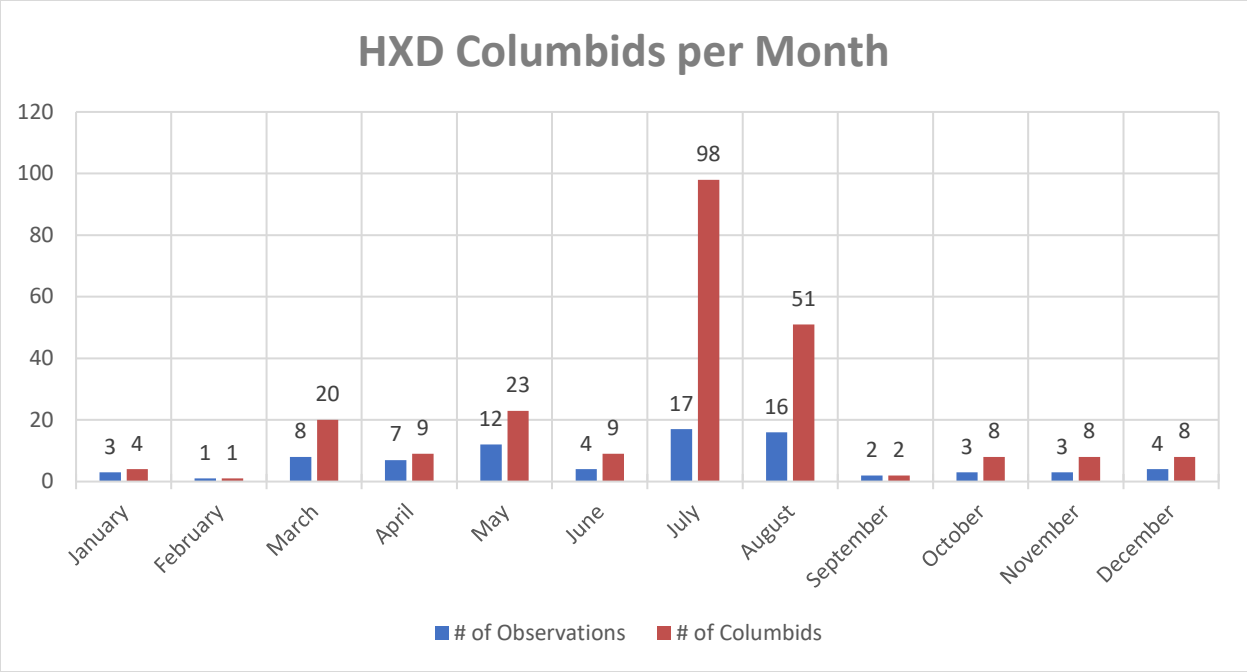



**Figure 29.** Abundance of Columbids per month at HXD during WHA, July 2023 – June 2024.




**Figure 30.** Picture of two Mourning dove perched on HXD airfield signage, August 24, 2023.

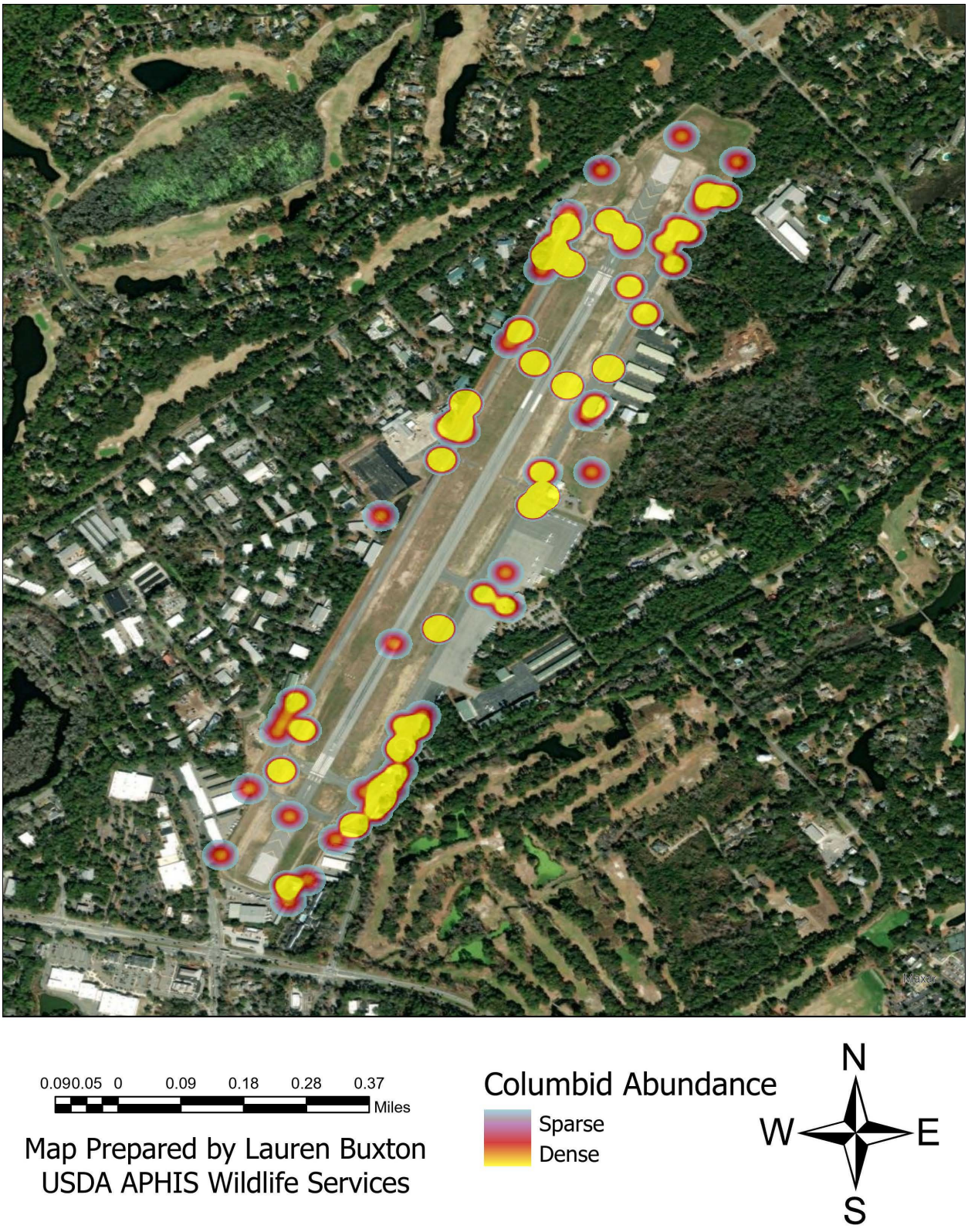



**Figure 31.** Heat map showing the abundance of Columbid activity over HXD during WHA, July 2023 – June 2024

## 6.6 Corvids



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description.** Crows are well-known, boisterous birds of exceptional intelligence and are very social. They are medium to large sized birds and are opportunistic feeders that are attracted to carrion, insects, refuse, and crops. All crows form winter roosts and will gather in large groups in the evening (Figure 32). Three species of Corvids were observed on HXD; the American crow, Blue jay, and Fish crow (Figure 33). American crows made up 98% of all observed Corvids and were observed year-round. Most observations were of small groups, but larger groups were observed in the fall and winter months (Figure 34). Corvids were present throughout the HXD airfield where they were frequently observed flying local, flying passing, and foraging (Figure 35).

**Damage.** Nationally, crows and jays account for less than 1% of civilian aircraft strikes that cause damage 7% of the time (Dolbeer et al. 2023). American crows are generally not considered a great threat to aviation, but strikes do occasionally occur. HXD experienced a strike with an American crow on June 23, 2016, fortunately there was no damage to personnel or aircraft. Blue jays are also not considered a great threat to aircraft because of their tendency to stay near forested habitat.

**Control Measures.** Pyrotechnics can be utilized to deter birds from critical areas and lethal control may be needed to reinforce the use of pyrotechnics. Habitat modification can be helpful in reducing corvid abundance on airfields. Prey-base reduction and the removal of carrion, dense tree stands, and refuse from runways is usually most effective. Mowing activities can attract crows, and should therefore, be carefully monitored for increased sightings around the airfield.



**Figure 32.** Picture of a large flock of American crows on top of grassy hill on north portion of HXD, September 28, 2024 at 1700 hours

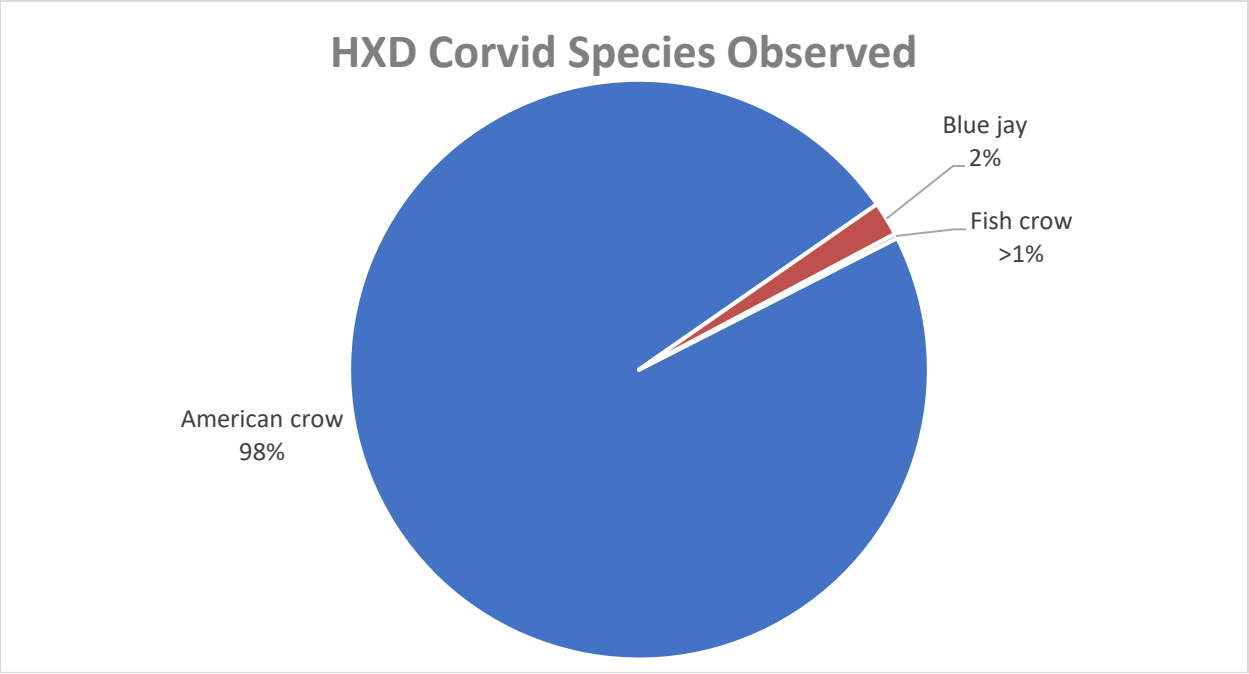



**Figure 33.** Species breakdown of all Corvids observed on HXD during WHA, July 2023 – June 2024.

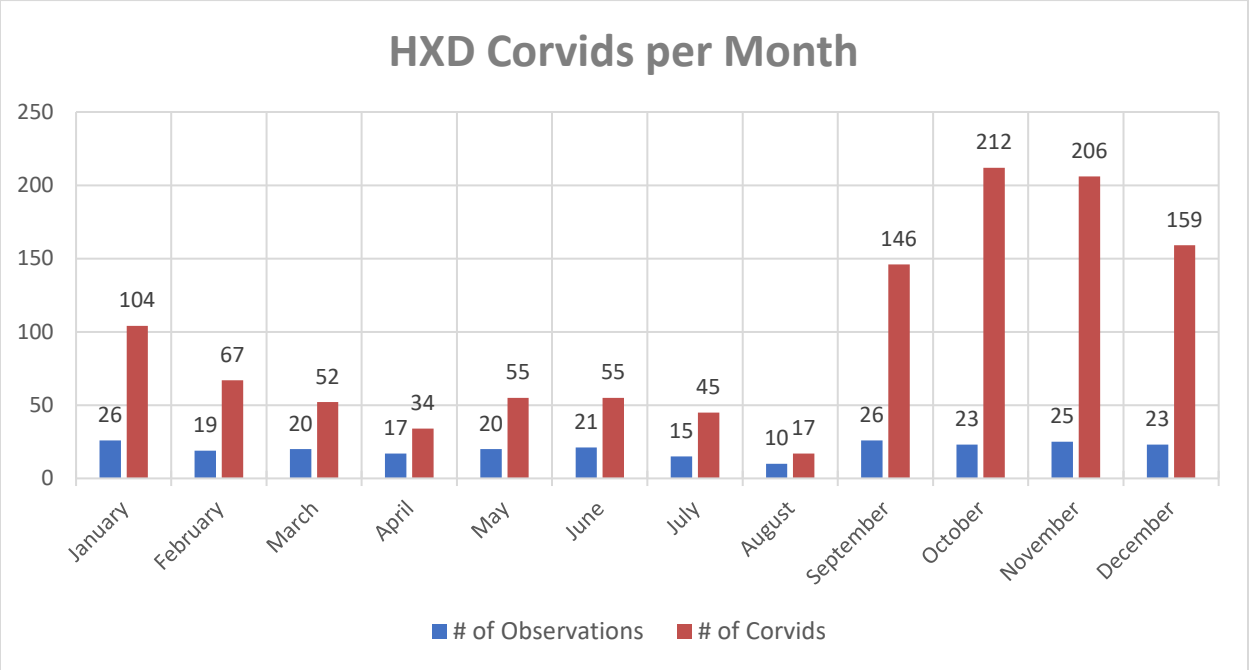



**Figure 34.** Abundance of Corvids per month at HXD during WHA, July 2023 – June 2024.

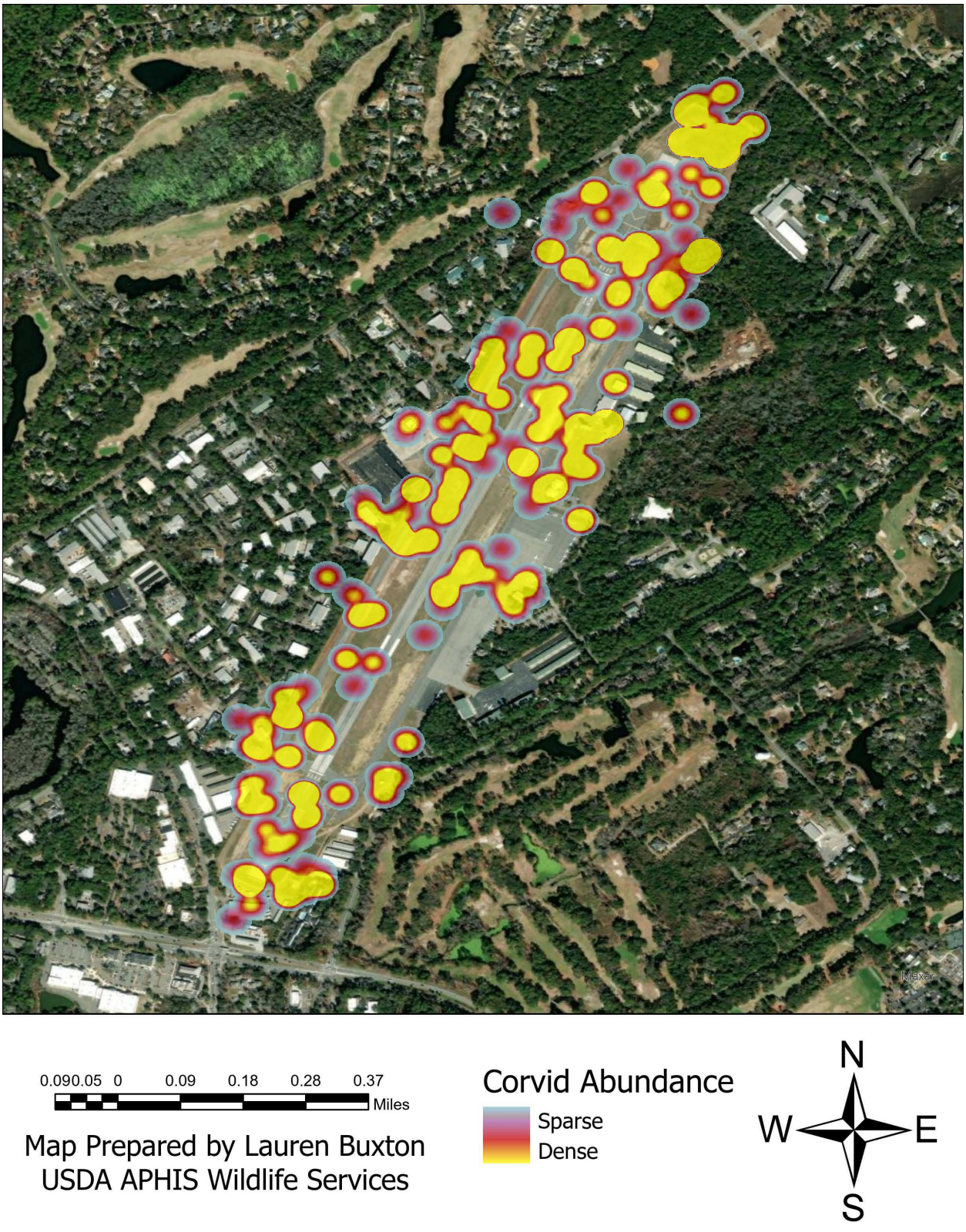



**Figure 35.** Heat map showing the abundance of Corvid activity over HXD during WHA, July 2023 – June 2024

## 6.7 Forest Birds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required. House sparrows are not covered under the Migratory Bird Treaty Act; therefore, no permit is needed to utilize lethal control.

**Description.** Forest birds were the sixth most abundant guild with 422 birds being observed overall. The forest birds that were observed included Northern mockingbird, Pileated woodpecker, Red-bellied woodpecker, and Brown thrasher (Figure 36). Both Gray catbird and Cedar waxing were observed, but in such low numbers, that they account for less than 1% of the total birds observed. Eastern bluebirds were the most abundant forest bird species and were observed 82% of the time. Forest birds were observed every month throughout the survey period (Figure 37). Eastern bluebirds that reside in South Carolina do not typically migrate. The rise in observations in the winter months is likely due to the inclusion of Eastern bluebirds that are migrating to South Carolina from more northern areas.

Seventy-three percent of the time, forest birds were observed perching. Perching was mostly observed on the perimeter fence and airfield navigational aids or signage (Figure 38). Fence-line perching was most observed near woodland areas because of the cover and food resources that it also provides. Forest birds' diets consist primarily of insects and plant fruits (berries). Muscadine vines, *Vitis rotundifolia*, were seen growing on sections of the perimeter fence. Muscadine's grape-like fruit will attract wildlife species that directly eat the berries, and in this case, will attract insects that forest birds will find valuable. A large section of Trumpet creeper, *Campsis radicans*, was also present along the perimeter fence. The flowers of this vine are highly attractive to insects like bees and butterflies (Figure 39).

**Damage.** This guild is not considered a significant threat to aircraft because species within this group are small, thus rarely resulting in damage to an aircraft. This does not, however, mean their hazard potential can be discounted altogether. In August of 2015 an aircraft at HXD experienced a strike with an Eastern bluebird. There was no damage to any personnel or aircraft.

**Control Measures.** Short term management options for forest birds include pyrotechnics and strategically placed propane cannons that are set on timers. Long term management options include planting non-attractive grasses (fescue) and using herbicide to remove any flowering weeds. Forest birds feed primarily on insects and fruit (berries), so limiting plants that attract insects would be beneficial in reducing forest bird abundance.

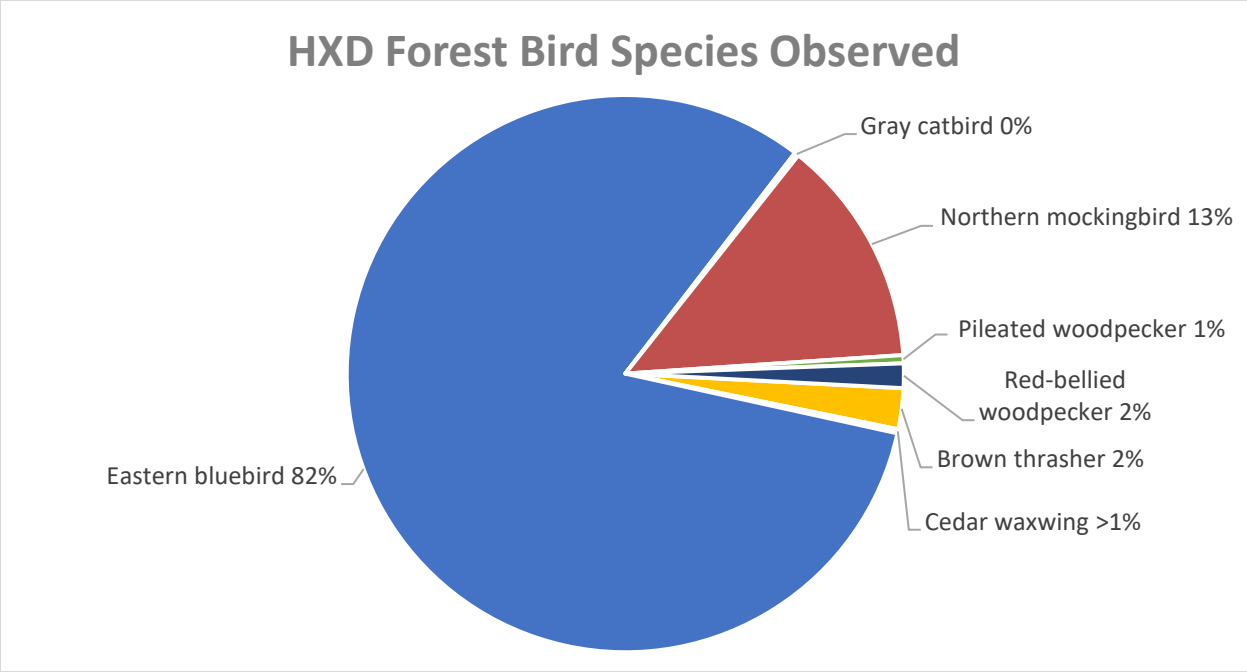



**Figure 36.** Species breakdown of all forest birds observed on HXD during WHA, July 2023 – June 2024.

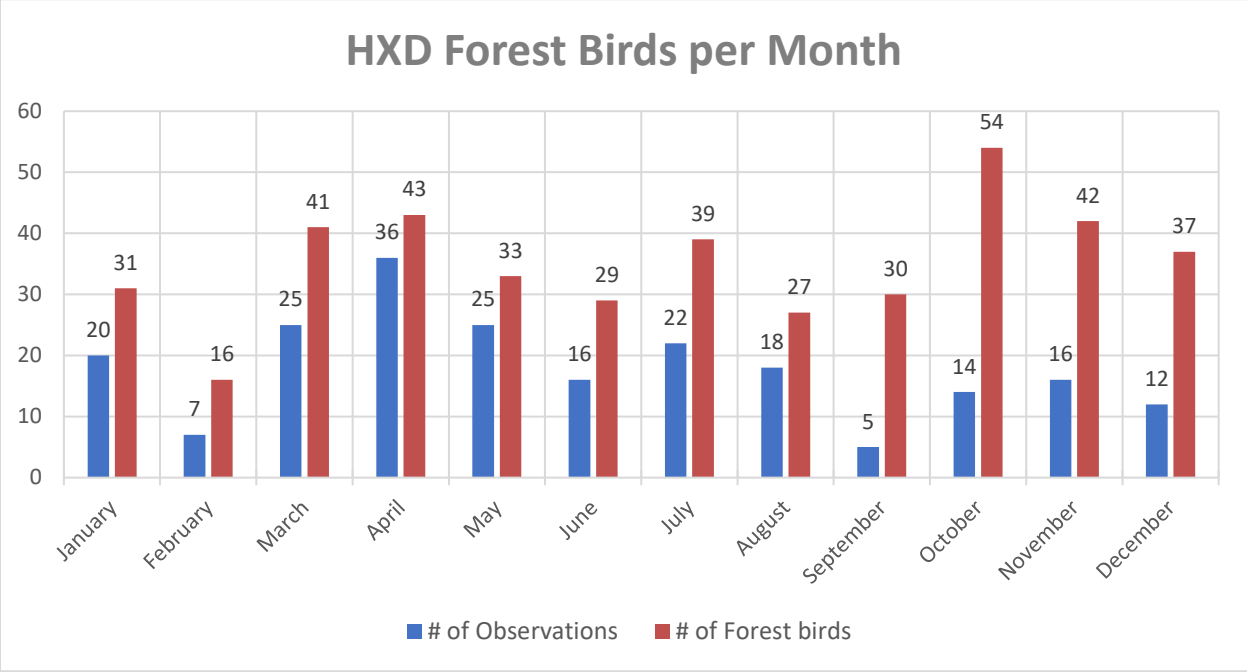



**Figure 37.** Abundance of forest birds per month at HXD during WHA, July 2023 – June 2024.

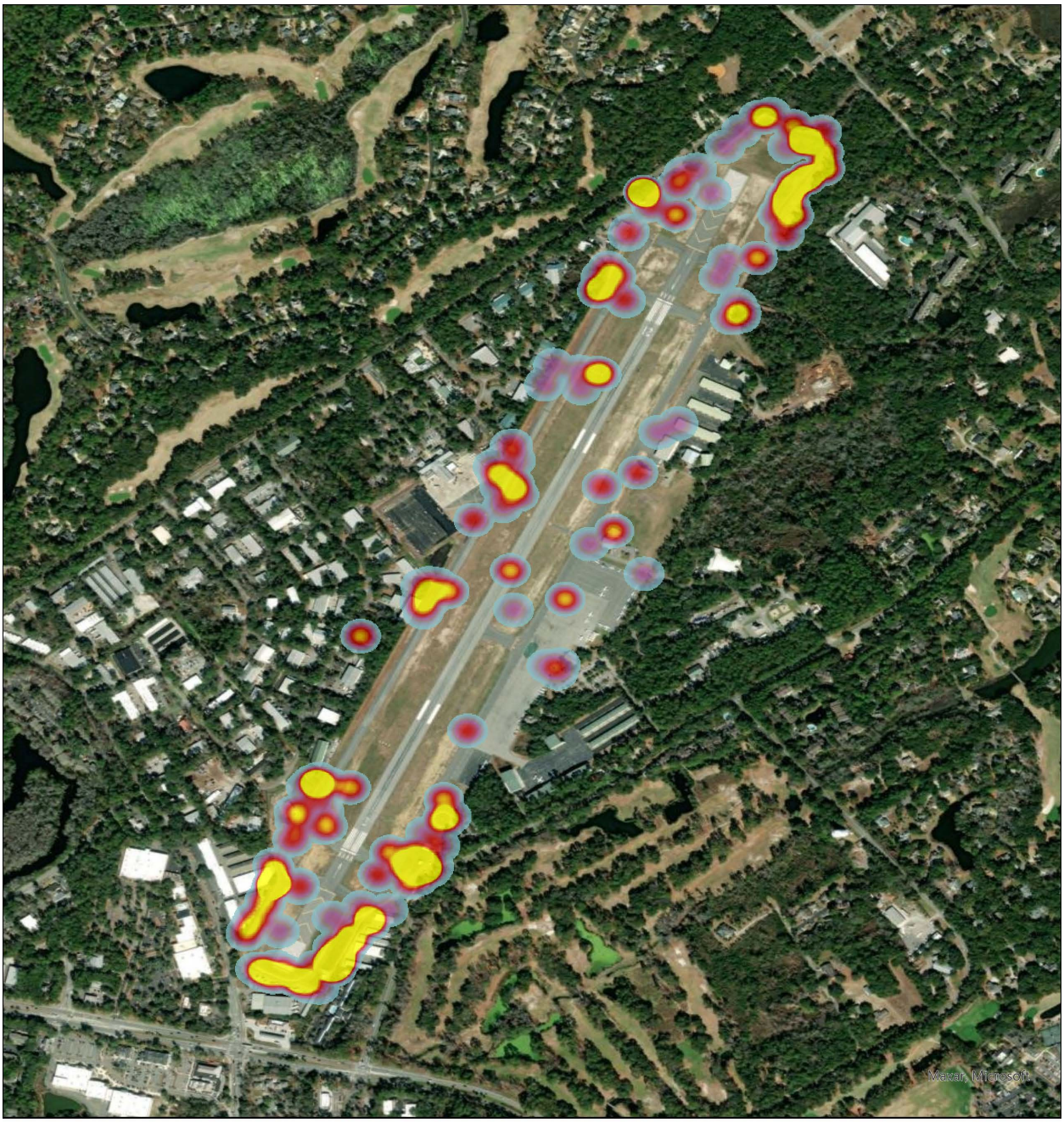
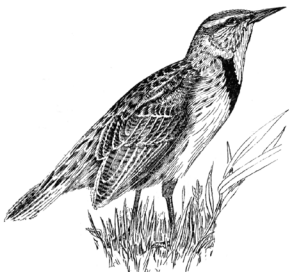



**Figure 38.** Heat map showing the abundance of forest bird activity over HXD during WHA, July 2023 – June 2024



**Figure 39.** Picture of Trumpet creeper, Campsis radicans, growing along HXD perimeter fence near survey point 5. April 12, 2024

## 6.8 Grassland Birds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required. House sparrows, however, are not covered under the Migratory Bird Treaty Act; therefore, no permit is needed to utilize lethal control.

**Description.** Grassland birds were the fourth most abundant group during this WHA with 637 birds being observed. These birds included eastern meadowlarks and various sparrow species. Eastern meadowlarks are mainly insectivorous birds that may form loose flocks, especially during winter months. They are common in large fields with sparse ground cover. Sparrows are small, social birds that are highly adaptable to different environments. Sparrows are omnivorous and feed mainly on seeds, grains, fruits, and insects. The most frequently observed sparrow on HXD was the Chipping sparrow (Figure 40). Sparrows are migratory, even for short distances, and were observed on HXD in larger groups during the winter (Figure 41). Ninety percent of forest bird activity observed was either foraging, 52%, or perching, 38%. These birds were primarily observed near or on the perimeter fence (Figure 42).

Several species of flowering plants were observed throughout the HXD airfield at different times of the year (Figure 43). These plants, in addition to the Bahia and Bermuda grasses that were also observed, contribute to the “grassland” habitat that these grassland birds prefer.

**Damage.** This guild is not considered a significant threat to aircraft because species within this group are small, thus rarely resulting in damage to an aircraft. This does not, however, mean their hazard potential can be discounted altogether, especially given their propensity to flock. Eastern meadowlarks are the seventh most struck bird species since 1990, but only result in damage 0.8% of the time (Appendix 8). An unidentified sparrow species was struck April of 2024, however there were no reported damages to aircraft or personnel.

**Control Measures.** Short term management options for grassland birds include pyrotechnics and strategically placed propane cannons that are set on timers. Long term management options include planting non-attractive grasses (fescue) and a stringent insecticide program to rid the airfield of the insects that attract these birds.

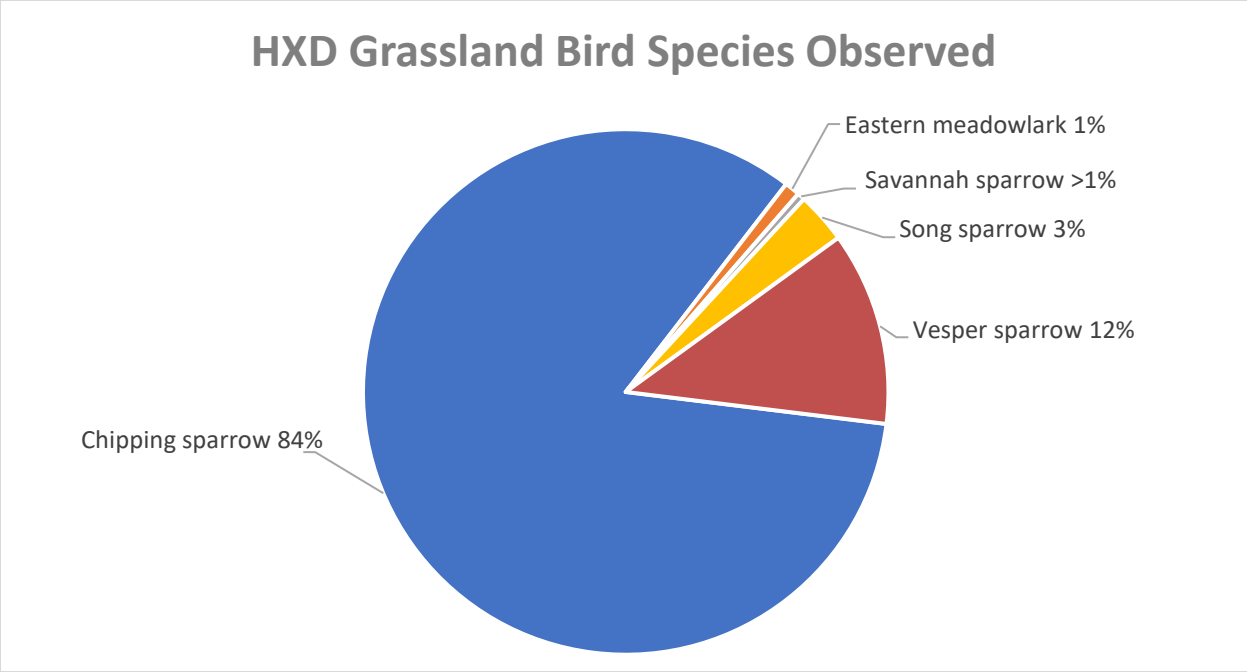



**Figure 40.** Species breakdown of all grassland birds observed on HXD during WHA, July 2023 – June 2024.

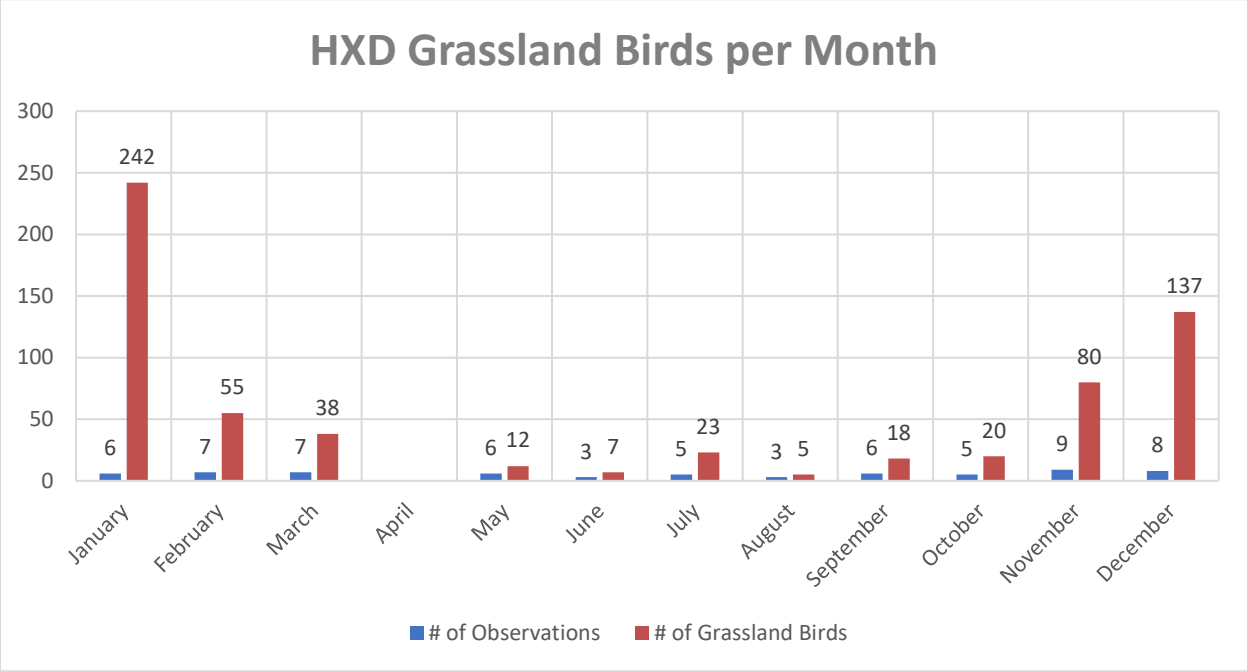



**Figure 41.** Abundance of grassland birds per month at HXD during WHA, July 2023 – June 2024.

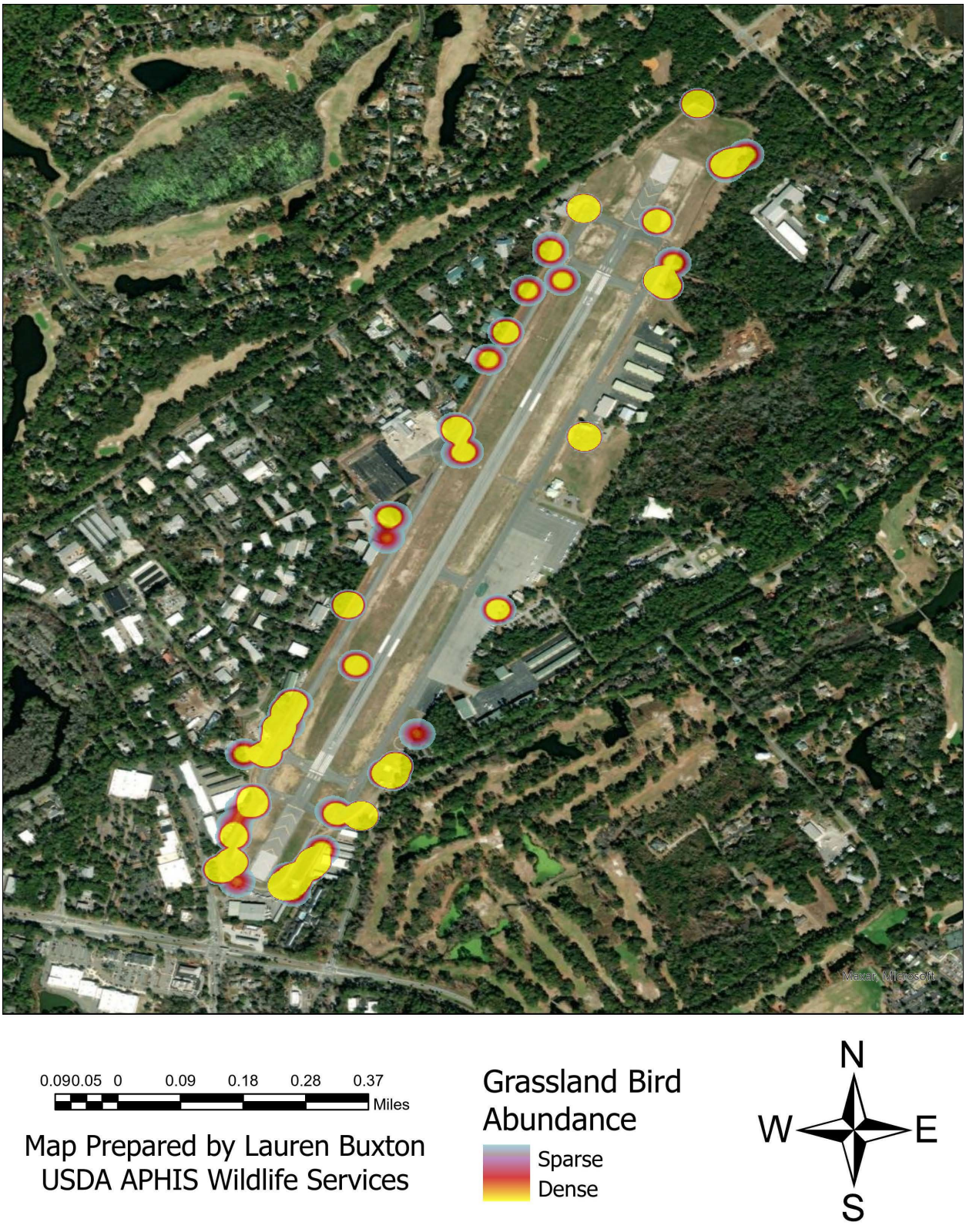



**Figure 42.** Heat map showing the abundance of grassland bird activity over HXD during WHA, July 2023 – June 2024



**Figure 43.** Pictures of flowering plants found throughout the HXD airfield.
Top: Sneezeweed. *Helenium autumnale*, blooming throughout midfield. August 24, 2023.
Middle: Sneezeweed, *Helenium autumnale*, closeup. August 24, 2023.
Bottom left: Primrose, *Oenothera spp.* closeup. April 12, 2024.
Bottom right: Mexican clover, *Richardia spp.* Closeup. June 26, 2024.

## 6.9 Gulls/Terns



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description.** Gulls and terns are attracted to airports for a variety of reasons. Airfields are composed of large sections of short grass and paved areas that are used by gulls for feeding and loafing. Gulls can be found far inland, but they are most associated with water, particularly salt and brackish water. HXD is geographically surrounded by this which only increases the likelihood of gulls being present. There were only two observations of solitary Laughing gulls that were passing over the airfield when observed (Figure 44). Laughing gulls are migratory and would be expected from early spring through fall. Both laughing gulls were observed in February. Although very few birds were observed, these birds do pose a significant risk to aviation safety and should be controlled when present.

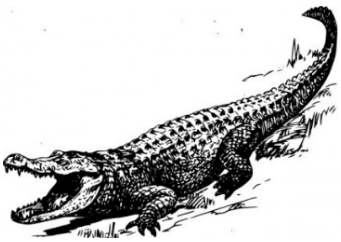
**Damage.** According to the FAA's report "Wildlife Strikes to Civil Aircraft in the United States 1990-2023," ring-billed gulls, herring gulls, and laughing gulls are in the top 33 most frequently struck bird species (Appendix 8). Laughing gulls reportedly were struck by aircraft 1,204 times since 1990 and 2.7% of those strikes resulted in damage. No strikes with gulls or terns have been reported on HXD.

**Control Measures.** Habitat modifications are the best methods to control gulls. Longer grass regimes of 7-14 inches reduce loafing areas especially in areas frequented by gulls. Proper elimination of standing water along the infield and movement areas of the airfield will also reduce areas that gulls find attractive. An active hazing program will often be the most efficient and effective means of reducing gull hazards on the airfield. Pyrotechnics and scaring flocks on the runways with vehicles can be used. However, gulls habituate to hazing and harassment, so lethal control is often needed to reinforce the non-lethal methods. Gulls taken by lethal control can also be used as a deterrent. The gulls should be displayed (belly up, wings spread) near the spot they frequent for a few days. This is often effective at scaring away flocks if they return but may also attract carrion-eating predators such as vultures, crow, and coyotes. Secondary hazards should be carefully considered before adopting this approach.




**Figure 44.** Heat map showing the abundance of gull or tern activity over HXD during WHA, July 2023 – June 2024

## 6.10 Herptiles



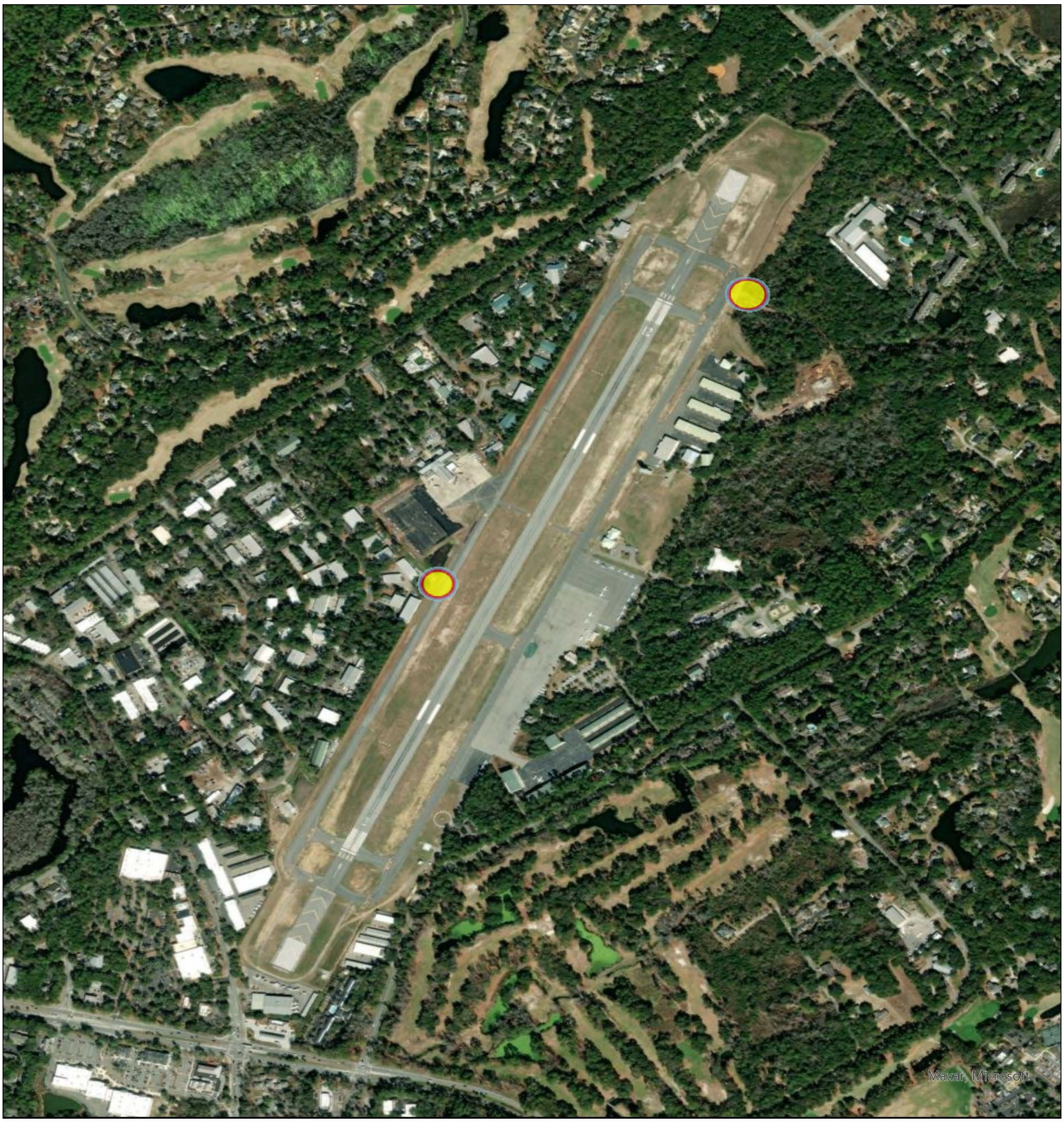
**Legal Status.** The SC Department of Natural Resources oversees and regulates all herptile species within the state boundaries as opposed to the USFWS that regulates all migratory bird species nationwide. No permit is needed to harass any herptiles. However, if lethal control is needed to reinforce non-lethal methods a depredation permit must be obtained from SC DNR for removal of any American alligators. Additionally, any other lethal take or removal of any other herptile species should be verified as permissible with the SC DNR prior to removal. The laws and regulations that pertain to herptile species are often rather convoluted and difficult to interpret at times. It is illegal to remove any herptile species from public lands in South Carolina. HXD is likely considered publicly owned land since it is owned and controlled by Beaufort County. Caution should be shown regarding any type of removal- lethal or otherwise.

**Description.** There were two species of herptiles observed during the WHA: the American toad, and the American alligator. The American toad does not represent any direct hazard to aircraft or personnel on HXD and no further discussion is needed in reference to this species. However, the American alligator has the potential to be hazardous to aircraft and personnel. The American alligator can grow very large in size. Large males have been known to reach lengths of more than 13 feet (Savannah River Ecology Lab). Females and young alligators are typically much smaller. Alligators can be found in virtually any body of water within their range and have even been seen in brackish and saltwater areas for short periods of time. The alligator is typically a generalist in terms of prey and feeding behavior but predominantly consumes prey opportunistically that are in or near the water such as fish, turtles, wading birds and frogs and snakes. All alligators observed on the survey were seen directly outside of the fence in a drainage ditch nearest survey point 5 (Figure 45).

**Damage** Although there has never been an aircraft strike with an alligator on HXD there has been 31 strikes reported in North America between April 1994-May 2023. The majority of these resulted in no damage or only minor damage to aircraft. However, in 1994 one strike did result in catastrophic damage to a small private aircraft that struck an alligator and subsequently flipped over into a body of water, fortunately there were no reported fatalities or serious injuries involved in this strike. Thirty of the 31 strikes occurred in mid to south Florida and one strike in 2017 was in Charleston, SC (FAA 2023).

**Control Measures**

The most effective control measure is to be proactive rather than reactive. Ensure alligators have no means of gaining access to airport property. Hazing is largely ineffective, and the alligator will simply submerge until the threat is gone but will not avoid or leave its home territory. At this point HXD has done an effective job at keeping any alligators outside of the airport property. Any culverts or drainpipes coming onto or off HXD should have grates covering the entrances. Grating is an effective deterrent for alligators, particularly the larger more hazardous ones.




0.090.05 0 0.09 0.18 0.28 0.37
Miles

Map Prepared by Lauren Buxton
USDA APHIS Wildlife Services

Herptile Abundance
Sparse
Dense

N
W E
S

**Figure 45.** Heat map showing the abundance of herptile activity over HXD during WHA, July 2023 – June 2024

## 6.11 Mammals



**Legal Status.** The SC Department of Natural Resources oversees and regulates all mammal species within the state boundaries as opposed to the USFWS that regulates all migratory bird species nationwide. No permit is needed to harass any mammal species. However, if lethal control is needed to reinforce non-lethal methods a depredation permit must be obtained from SC DNR if the mammal falls within game animal status. Non-game animal species typically do not require a depredation permit. On Hilton Head several species of rodents (with the exception of the squirrel species or any rodent species considered threated or endangered) and any mammal considered invasive, nuisance or non-native are considered non-game animals. However, SCDNR should be contacted for clarification prior to any depredation activities.

**Description.**
There was a total of 153 daylight observations of mammals. The Eastern gray squirrel was the most frequently encountered mammal throughout all survey periods, both onsite and offsite and represented 56% of all observations (Figure 46). The squirrel was also the only mammal directly observed inside of the airport fence line. There were also observations of animal sign inside the fence from both coyotes and armadillos. These were in the form of either tracks or access holes dug under the fence (Figure 47). All deer observations occurred either directly outside of the fence in the adjacent wooded areas or in offsite locations. Only two of the mammal species represent a significant hazard to aircraft, they are the white-tailed deer and the coyote. There are potential risks involved in any mammal strike with aircraft. However, the smaller mammals such as the squirrel, armadillo and rat species represent a minimal risk of significantly damaging either aircraft or personnel if struck. Figure 48 shows where mammals were observed and their general abundance.

**Damage.**
White-tailed deer are regarded as one of the most hazardous wildlife species to aircraft in the United States. Deer cause damage 82% of the time, when struck (Dolbeer et al. 2023). Nationally, fifteen white-tailed deer strikes have caused injures to 21 individuals and an estimated $25.5 million in reported economic losses for the period of 1990-2004 (Cleary et. al. 2005). Fortunately, no deer were observed inside the fence on HXD during any of the nocturnal surveys, however, deer have been observed inside the fence on several occasions by the ARFF personnel. When this happens, it has been the result of someone accidentally leaving one of the numerous access gates open allowing entry to the field. Coyotes are the other mammal of great concern. From 1990-2023 there were 882 reported aircraft strikes with coyotes, 67 of them causing damage with an estimated cost of “$4,842,783” (Dolbeer et al 2023).

**Control Measures.**
If deer or coyote become a presence on the airfield, the Air Traffic Control Tower (ATCT) should be advised, and appropriate action should be taken immediately to disperse them. When needed, lethal control should be implemented either through shooting or trapping/euthanizing and should be conducted by highly trained individuals. The ARFF personnel on HXD do not have access to any firearms other than air rifles at this time and any

lethal removal would be the result of USDA or Law Enforcement involvement. Because of the time required to get someone on site to conduct lethal removal, it is of paramount importance that airport personnel are diligent ensuring that all gates, fences, culverts, or any other means of access is always denied to deer and coyotes. In the past the ARFF team has done an effective job on several occasions removing deer by guiding them out of an open gate with their vehicles as well as isolating them until assistance can arrive. Although these methods have proven effective in the past, they are worst-case scenario options. The most effective method is preventing access and attractiveness of airport property.

Deer removal or lethal control is not the only control method available. The preferred method for both the deer and coyote is complete exclusion. Adequate fencing is key to keeping deer and other large mammals out. Fencing at a height of at least 8ft and preferably 10ft should be installed. Deer can jump extremely high so height and sturdiness of the fence should be the primary concern. There are numerous types and materials that can be effective and are readily available commercially. Regular patrolling of the airport perimeter is key in maintaining effective fencing. Frequent fence checks can identify gaps, holes or open gates which can then be fixed in a timely manner limiting any access to the airport. If digging mammals present a problem such as armadillos or coyotes, a fence apron can be added to the existing fence line. The most effective method is to have the apron extend approximately 5 feet out after attachment to the bottom of the fence. This prevents any mammal from digging under the fence. If the apron is buried and angled downward slightly it increases the effectiveness of the fence and is especially effective against skilled diggers like coyotes.

Removal of cover will eliminate hiding areas and travel corridors for deer and coyotes. HXD has only limited areas within the airport property that has any substantial cover, however, a large portion of the property is surrounded by cover and forested areas, and this does allow the mammals the ability to get close to the fence without being observed. If possible, removal of cover or establishing a “stand-off” distance in the form of clearing out areas where the brush and trees are directly next to the fence will permit better observation and reaction time once any mammal species are seen getting close to the fence line.  Combining frequent harassment using pyrotechnics or vehicles can also be effective in removing mammals that are seen close to the fence and often results in more long- term relief than solely removing cover and trees.

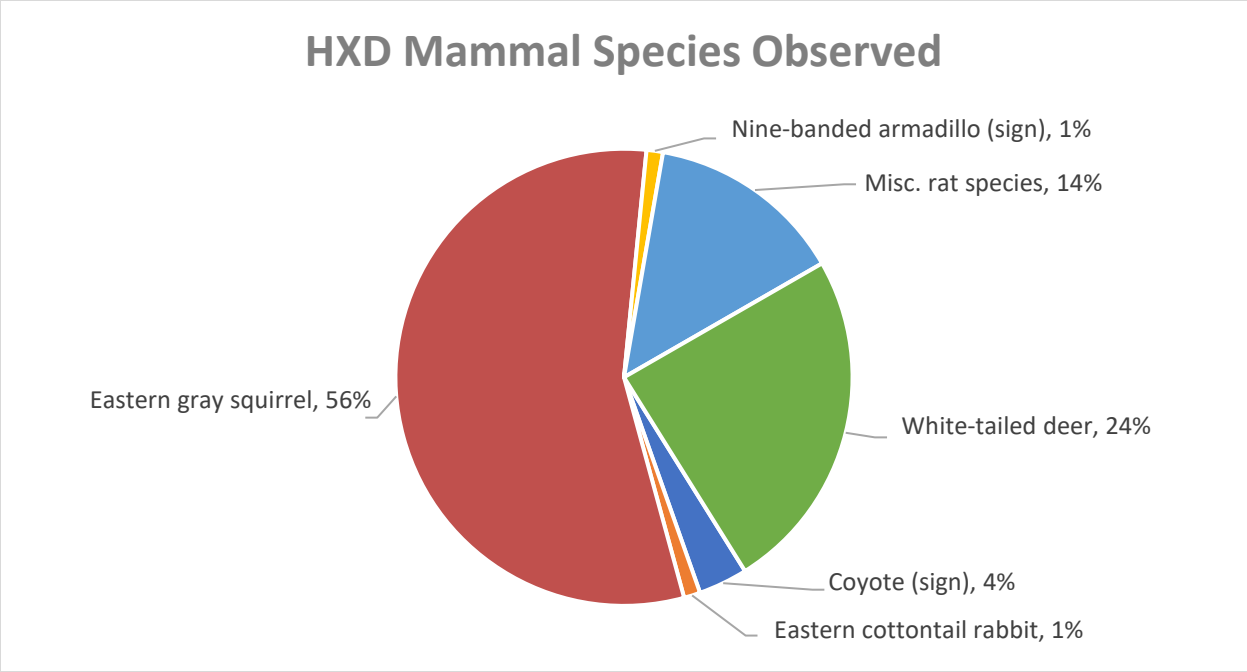



**Figure 46.** Species breakdown of all mammals observed on HXD during WHA, July 2023 – June 2024.



**Figure 47.** Picture of wildlife sign of digging under HXD perimeter fence, September 28, 2023




**Figure 48.** Heat map showing the abundance of mammal activity over HXD during WHA, July 2023 – June 2024

## 6.12 Raptors



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required. However, there are special considerations for the Bald Eagle. Although they are no longer listed as an endangered or threatened species nationally, they are still listed as threatened in South Carolina (SC Heritage Trust Program 2023) and fall under the Bald and Golden Eagle Protection Act (USFWS 2024) nationally. There were 15 observations of bald eagles during the WHA surveys so care must be taken when considering any type of harassment, nest, or lethal removal of this species. Special permits and assistance from the USFWS are often required.

**Description.** Raptors are predatory birds and scavengers that possess large and dense body profiles. As a group they prefer habitats that consist of open grasslands that hold a large prey base including small mammals, birds, amphibians, and reptiles. Other attractants found at airfields are an abundance of perch locations (trees surrounding the airfield), and rising thermals from heat coming from paved surfaces (i.e., runways, taxiways, and tarmacs). Raptors are commonly solitary individuals or in mated pairs, except for vultures which can make up communal roosts that hold 25-200 birds. Several different species of raptor were observed during the WHA (Figure 49).

Raptors were observed on 100% of the surveys throughout the entire year (Figure 50). Black and Turkey vultures were the most abundant making up 59% (52% and 7% respectively) of the species in the guild. Vultures were observed flying over all areas of the airfield, but they preferred to soar/tower over the approach end of runway 03. Hawk species including Red-tailed hawks, Red-shouldered hawks, and Cooper's hawks were most often observed flying over or near the edge of woodland habitat or perching on the perimeter fence (Figure 51). American kestrels were only observed in the winter months (Figure 52). Kestrels were generally observed perching on structures around the runways (number boards and navigational aids) or hunting over grassy areas. Two kite species, Mississippi kite and Swallow-tailed kites were only observed in the summer months either soaring or hawking insects. Ospreys were only observed flying in the summer months, likely due to nearby nesting sites. Bald eagles were observed throughout the survey period either flying locally, soaring, or perching. A breeding pair of Bald eagles were also seen building a nest outside of the perimeter fence on the northeast side of HXD (Figure 53). In general, raptors were observed throughout the entire HXD airfield (Figure 54).

**Damage**. Raptors can be particularly hazardous to aircraft because of their size, density, and behavior. According to the FAA strike database, four of HXD's ten observed raptors are on the list of the top 33 most frequently struck birds (Appendix 8). From 1990-2023, 10,109 raptor strikes to civilian aircraft were reported, causing $228,287,575 in damages (Dolbeer et al. 2023). Historically, HXD had three strikes with raptors: Turkey vulture (1991), Bald eagle (2009), and Red-tailed hawk (2023). There are not any damage figures available, but the 1991 strike was categorized as causing significant damage after the "L TIP TANK HIT & RUPTURED. STROBE/NAV LIGHT IGNITED LEAKING FUEL. FIRE EXTINGUISHED UPON LDG. NO INJURIES REPTD" (FAA Strike Database).

**Control Measures.** Habitat modification that consists of maintaining grass height between 7-14 inches, removal of brush or shrubby habitat as well as any grass or tree clippings that accumulate near all aircraft movement areas can greatly reduce small mammal and reptile abundance which is the main attractant for most species of raptors. These same modifications can also discourage and limit excessive insect abundance which is the main type of prey for three of the smaller raptor species encountered on HXD (American kestrel, Swallow-tailed kite, and Mississippi kite).

Larger raptor species such as vultures, eagles and Osprey can be more difficult to control. For vulture species, ensuring that any refuse or carrion found on or near airport property is removed immediately once discovered can help deter vultures from landing and soaring over the airport for long periods of time. If roadkill is found outside airport property on public roads or highways adjacent to the airport, the South Carolina Department of Transportation can be contacted to request the removal of the deceased animal. The town of Hilton Head or Beaufort County may also provide this service. Bald eagles and osprey are often attracted to many of the same types of habitats as other raptors but are typically found in areas where they have access to large bodies of water, particularly osprey whose preferred prey is fish. Because of HXD's island location, this means anywhere on the island there is a potential to find both species. The presence of nesting habitat also increases the likelihood of both species being present. Nest of both species can be removed during certain times of the year. However, great care must be taken, and a special permit is often needed, particularly regarding bald eagle nest removal. Consultation with the USFWS is HIGHLY recommended before any nest removal is planned.

Other control measures, as allowed by a USFWS federal depredation permit, include trapping and shooting of migratory bird species like raptors. Trapping and shooting should only be used when all other reasonable and appropriate methods of deterrence and management prove ineffective. Trapping options include, but not limited to, Bal-chatri, Swedish Goshawk, and pole traps. Birds captured with bal-chatri, goshawk, or other cage-type traps may be euthanized or transported and relocated to another site approved by the SCDNR. Birds captured with pole traps must be relocated a distance sufficient to minimize potential for returns to the capture site (preferably at least 100 miles away), except as otherwise authorized. Trapping and the subsequent husbandry and relocation of raptor species can be time intensive. "The Humane Capture, Handling, and Disposition of Migratory Birds," is an excellent source of information when considering trapping migratory birds (Miller et al. 2022). Both rifles and shotguns can be used when shooting migratory birds, but only if authorized on the USFWS depredation permit. Rifles or air rifles should be secondary when the use of a shotgun is inadequate to resolve an injurious situation. Paint ball guns are an alternative to haze and deter birds, but only when other methods of hazing are ineffective. Any designee operating underneath the jurisdiction of a USFWS depredation permit should be knowledgeable in the conditions of the permit prior to any control measures occur.

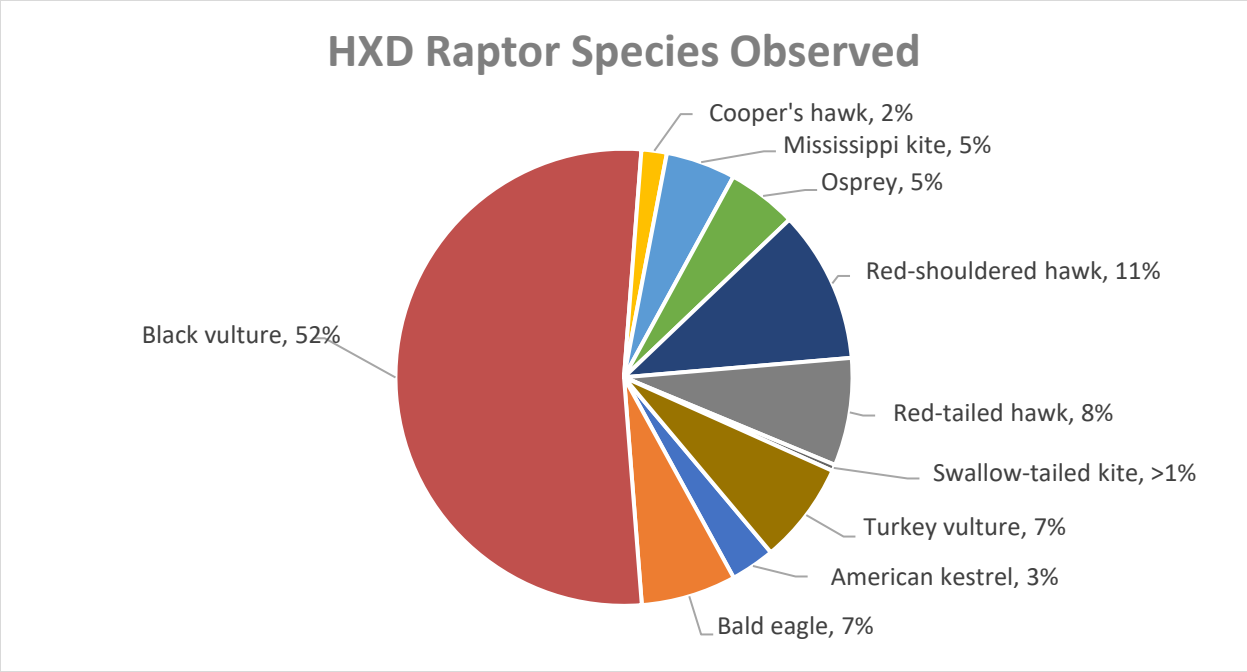



**Figure 49.** Species breakdown of all raptors observed on HXD during WHA, July 2023 – June 2024.

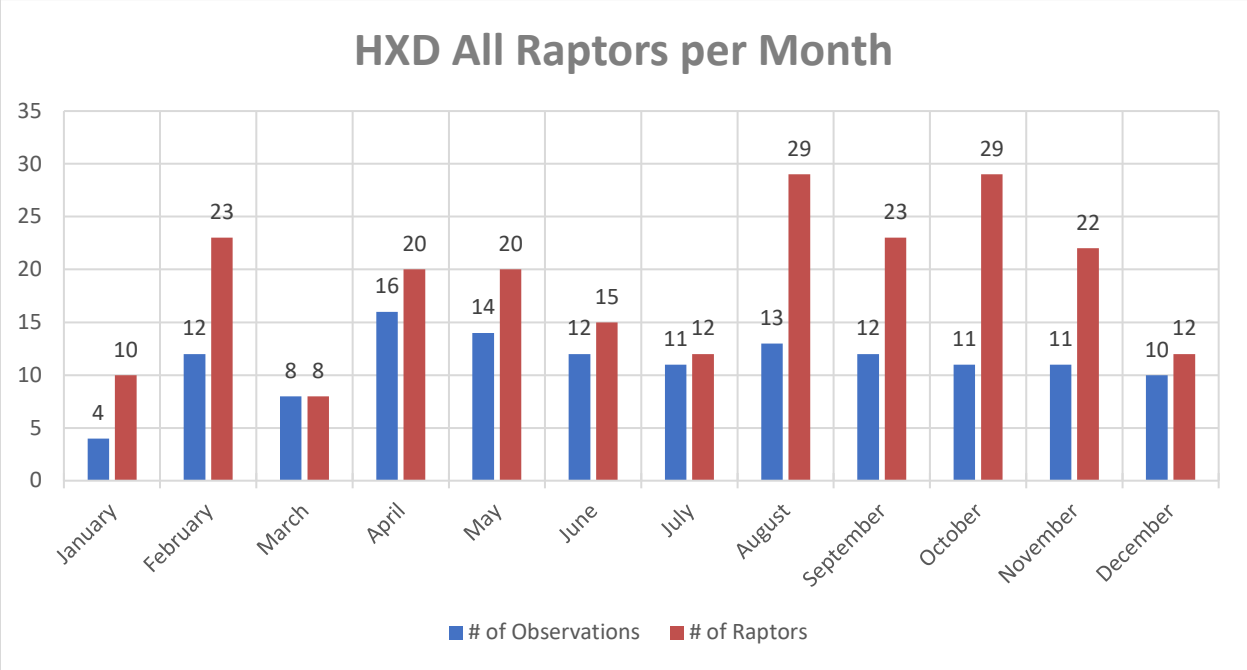



**Figure 50.** Abundance of raptors per month at HXD during WHA, July 2023 – June 2024.



**Figure 51.** Picture of Red-shouldered hawk perched on HXD perimeter fence, September 28, 2023

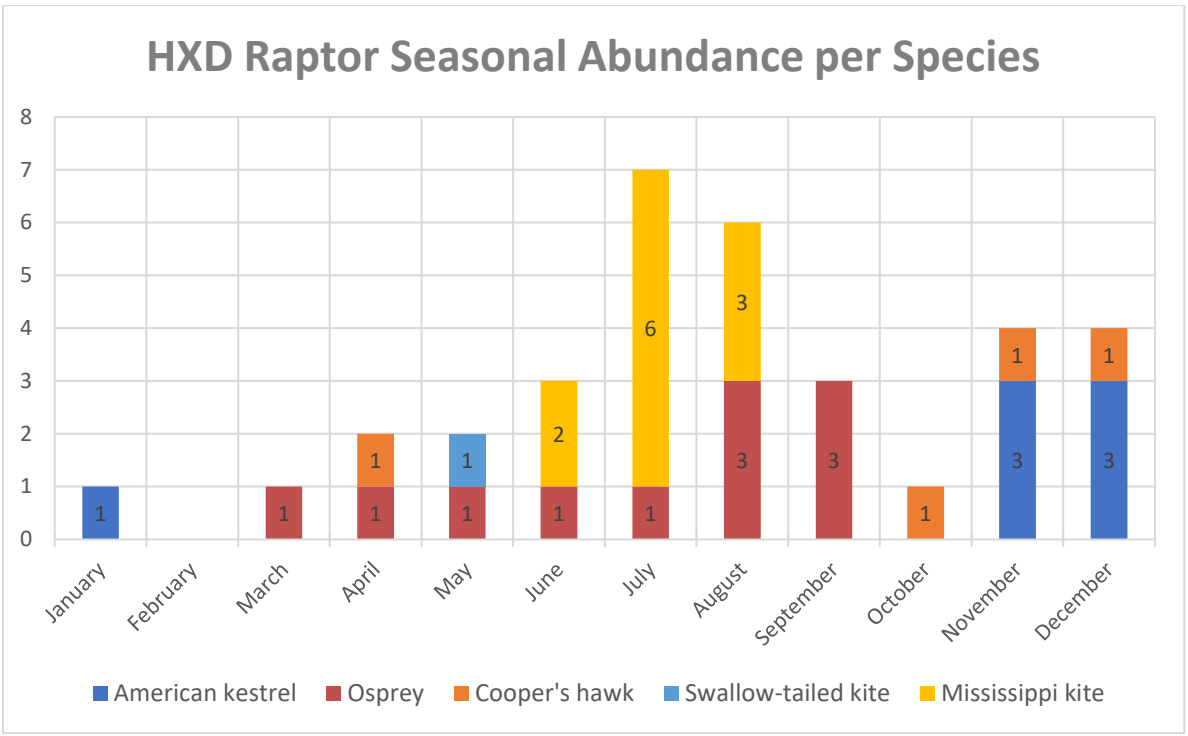



**Figure 52.** Abundance of raptors that displayed seasonal fluctuations at HXD during WHA, July 2023 – June 2024.



**Figure 53**. Picture of Bald eagle nest located outside of the perimeter fence on northeast side of HXD, June 26, 2024

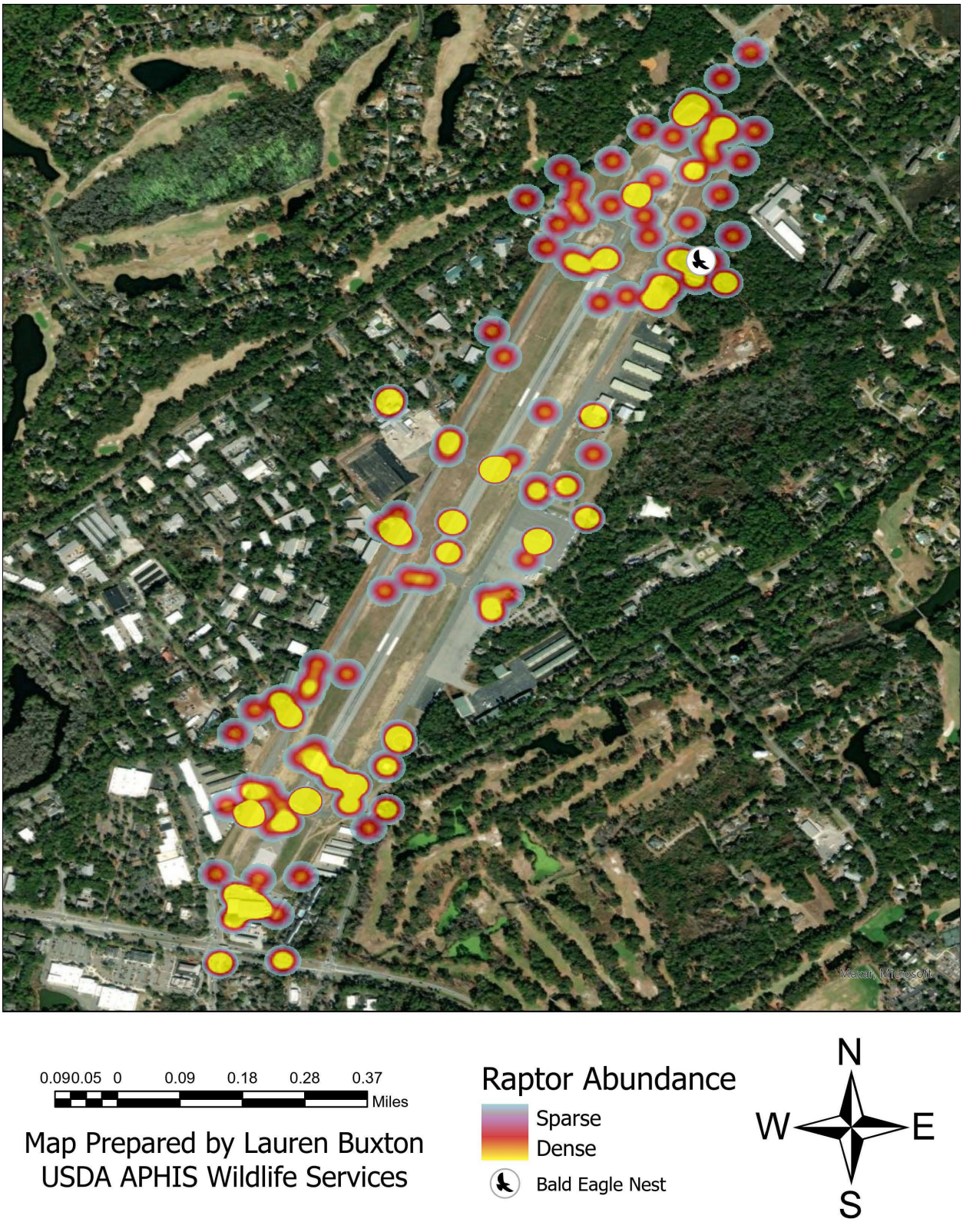



**Figure 54.** Heat map showing the abundance of raptor activity over HXD during WHA, July 2023 – June 2024

## 6.13 Shorebirds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description**. Shorebirds are generally a group that prefers open marshland and mud flats. One species of shorebird observed, the Killdeer, prefers gravel areas and short grass. A total of 507 shorebirds were observed and were the fifth most abundant guild observed during the WHA. Killdeer were the only species in this guild observed at HXD during the survey period. Figure 55 shows that although shorebirds were observed every month, they were more abundant and in larger groups from October through January. Killdeer were present throughout the entire airfield where they were observed predominately either loafing on asphalt (runways, taxiways, ramps) or foraging in short grass (Figure 56).

**Damage.** Shorebirds are frequently stuck by aircraft. The killdeer was the third most commonly bird struck by civil aircraft from 1990-2023 with 9,881 strikes reported (Dolbeer et al. 2023). Despite the frequency in which shorebirds are struck, the relatively small size and mass of most species limits the damage caused by strikes. Dolbeer et al. also noted that out of all the killdeer strikes, damage only occurred 0.8% of the time (2023). However, other species of this guild do exhibit flocking behavior and should be considered very hazardous in large numbers. Historically, Killdeer account for 10 total strikes at HXD, which is 17% of all the HXD wildlife strikes (Figure 4), none of which reported any damage.

**Control Measures.** When shorebirds appear on the airfield, they should be harassed with pyrotechnics to move them away from active areas. Vehicles can also be used to disperse large flocks (when given clearance to drive in movement areas). Areas that frequently hold shallow pools of water should also be drained if possible or mechanically graded to prevent flooding or rain accumulation.

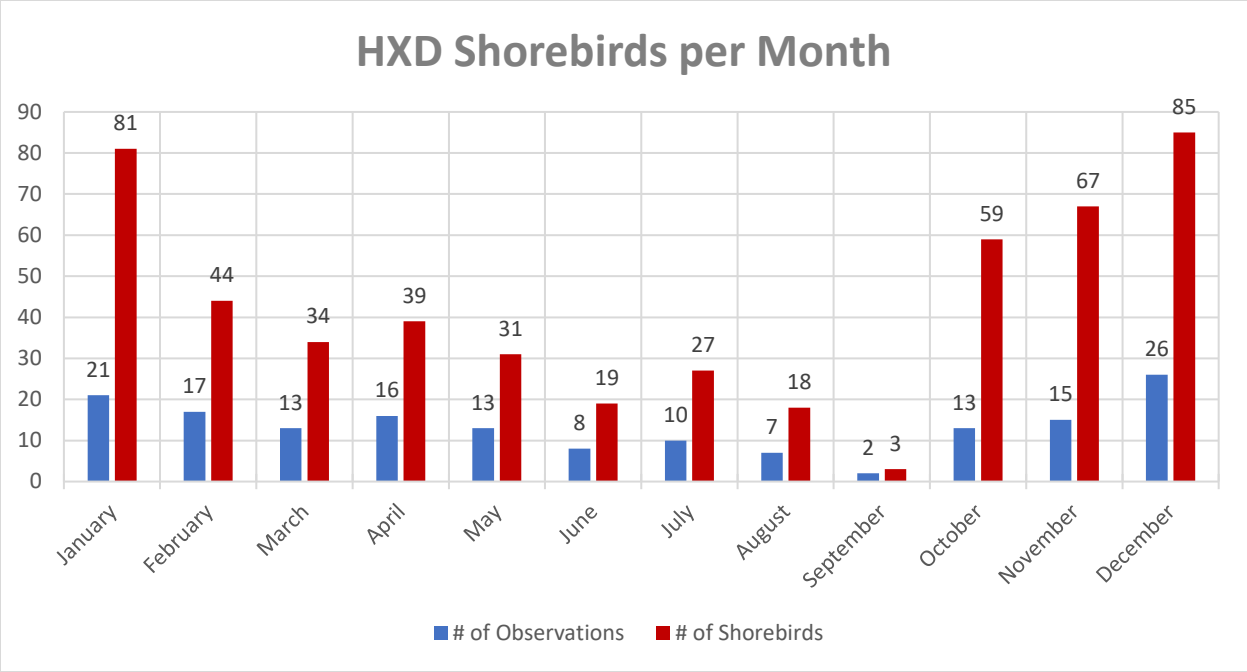



**Figure 55.** Abundance of shorebirds per month at HXD during WHA, July 2023 – June 2024.

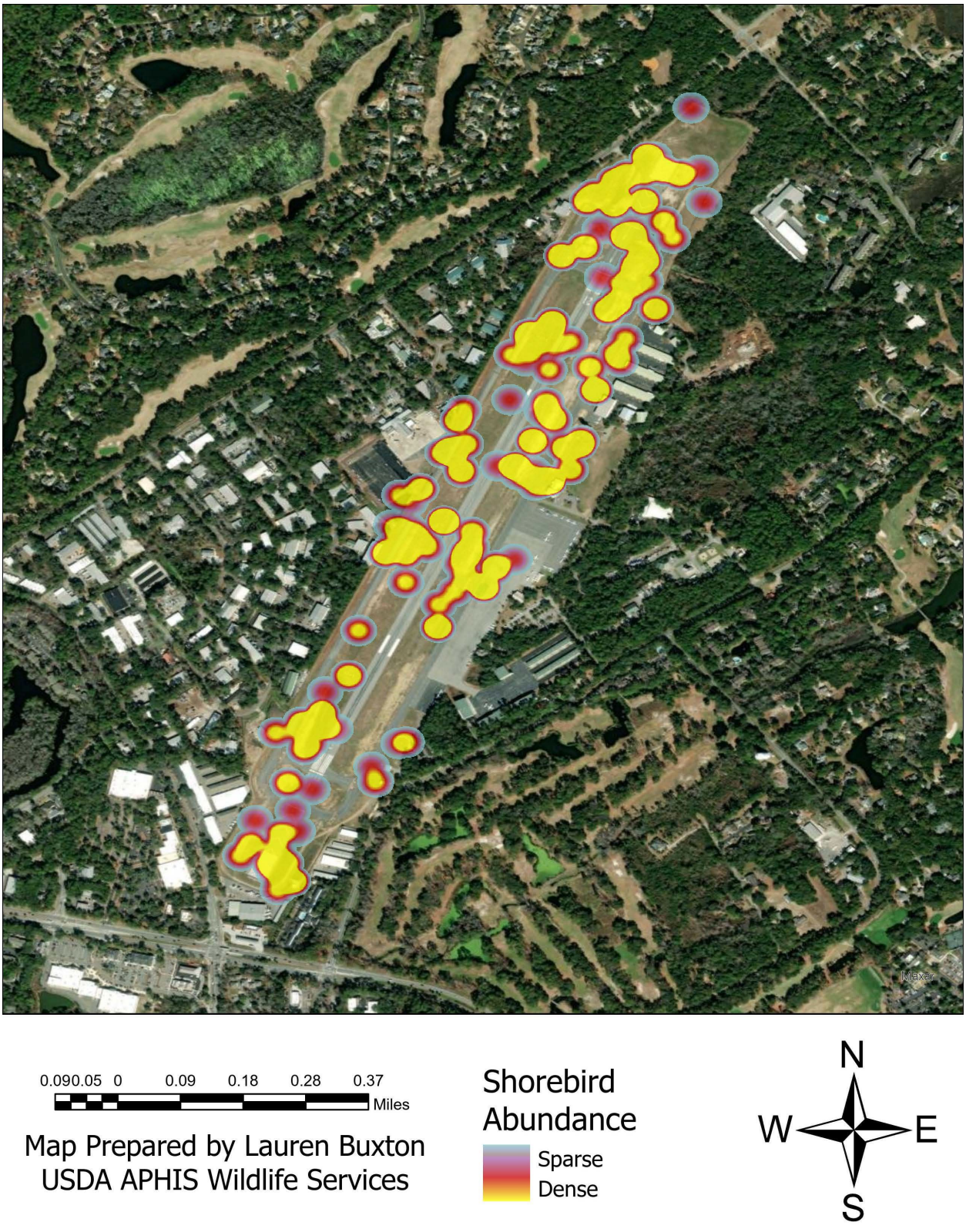
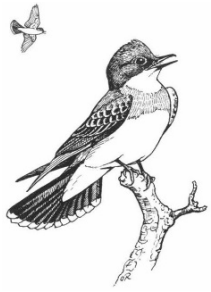



**Figure 56.** Heat map showing the abundance of shorebirds activity over HXD during WHA, July 2023 – June 2024

## 6.14 Small Songbirds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required. House sparrows are not covered under the Migratory Bird Treaty Act; therefore, no permit is needed to utilize lethal control.

**Description.** Small songbirds, as the name implies, includes small birds that can be seen in almost any type of habitat. Most are "generalists" and will eat a variety of forage items such as insects, worms, seeds, and berries. Palm warblers and Pine warblers make up over 50% of the observed songbirds, 43% and 10% respectively (Figure 57). Another warbler, the Yellow-rumped warbler was also frequently observed. A bar graph was used to show the different species within this group instead of a pie chart because this is also the most diverse guild that was observed. Sixty-three percent of the observed small songbirds were foraging in short grass near the perimeter fence, or twenty six percent were physically perched on the fence (Figure 59).

**Damage.** Because members of this guild are relatively small and are predominantly found in or around edge type habitat- areas where woods or shrubbery meets grassy areas- they are considered a low-risk guild and when struck, it rarely results in damage. They are most often observed as a single individual bird or in small groups but can be found in larger groups during the breeding season and migratory season. Historically, no known member of this guild was responsible for any wildlife strikes at HXD but it is possible that any of the "unknown bird – small" strikes could have involved a small songbird (Figure 4).

**Control Measures.** Short term management options for small songbirds include pyrotechnics and strategically placed propane cannons that are set on timers. Long term management options include planting non-attractive grasses and a stringent insecticide program to rid the airfield of the insects that attract the birds.

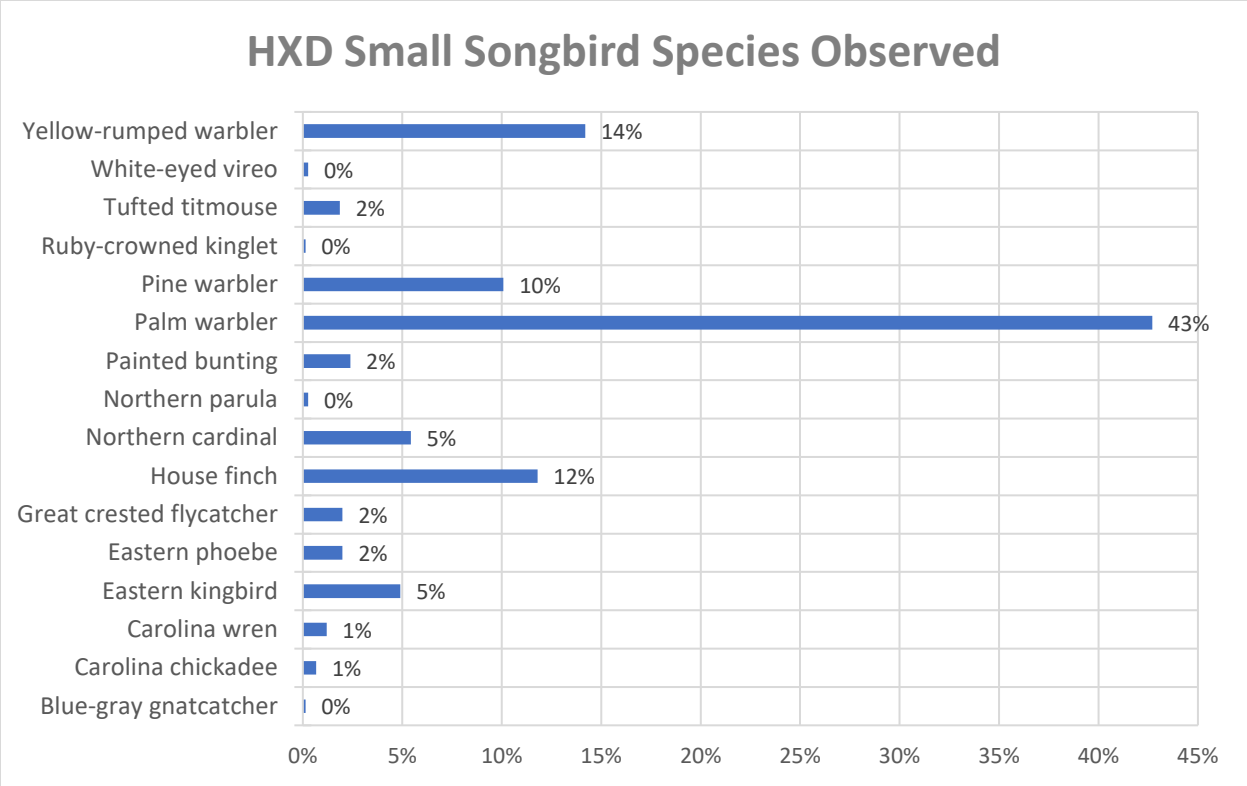



**Figure 57.** Species breakdown of all small songbirds observed on HXD during WHA, July 2023 – June 2024.

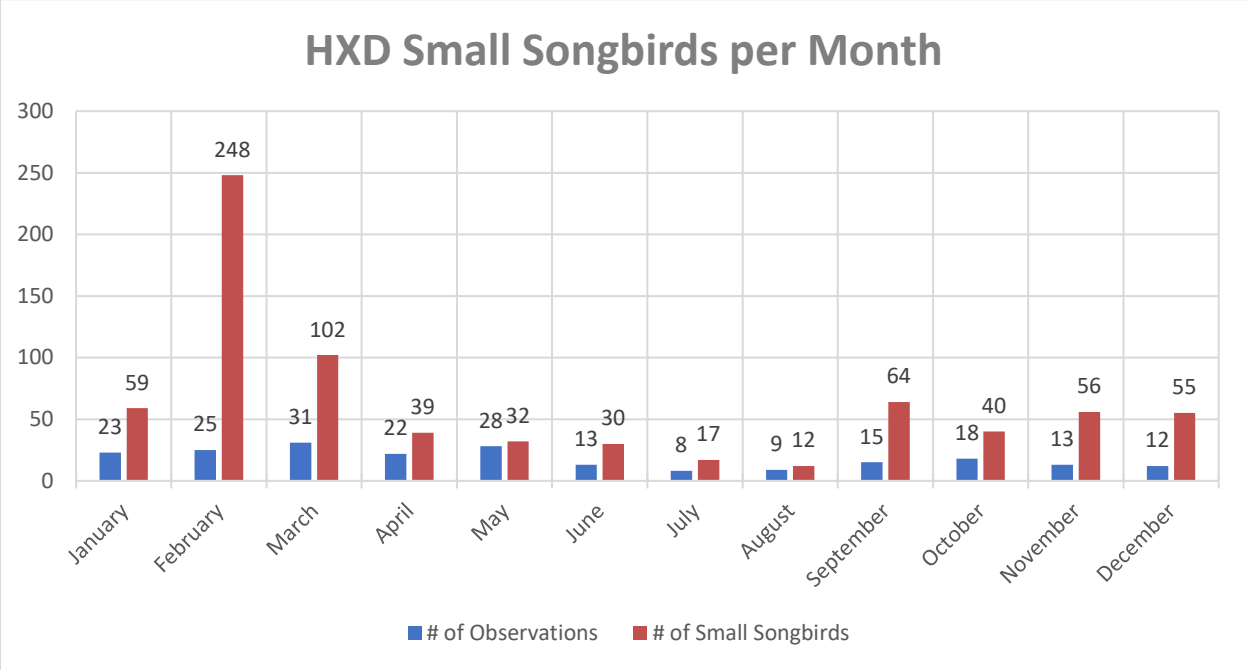



**Figure 58.** Abundance of small songbirds per month at HXD during WHA, July 2023 – June 2024.

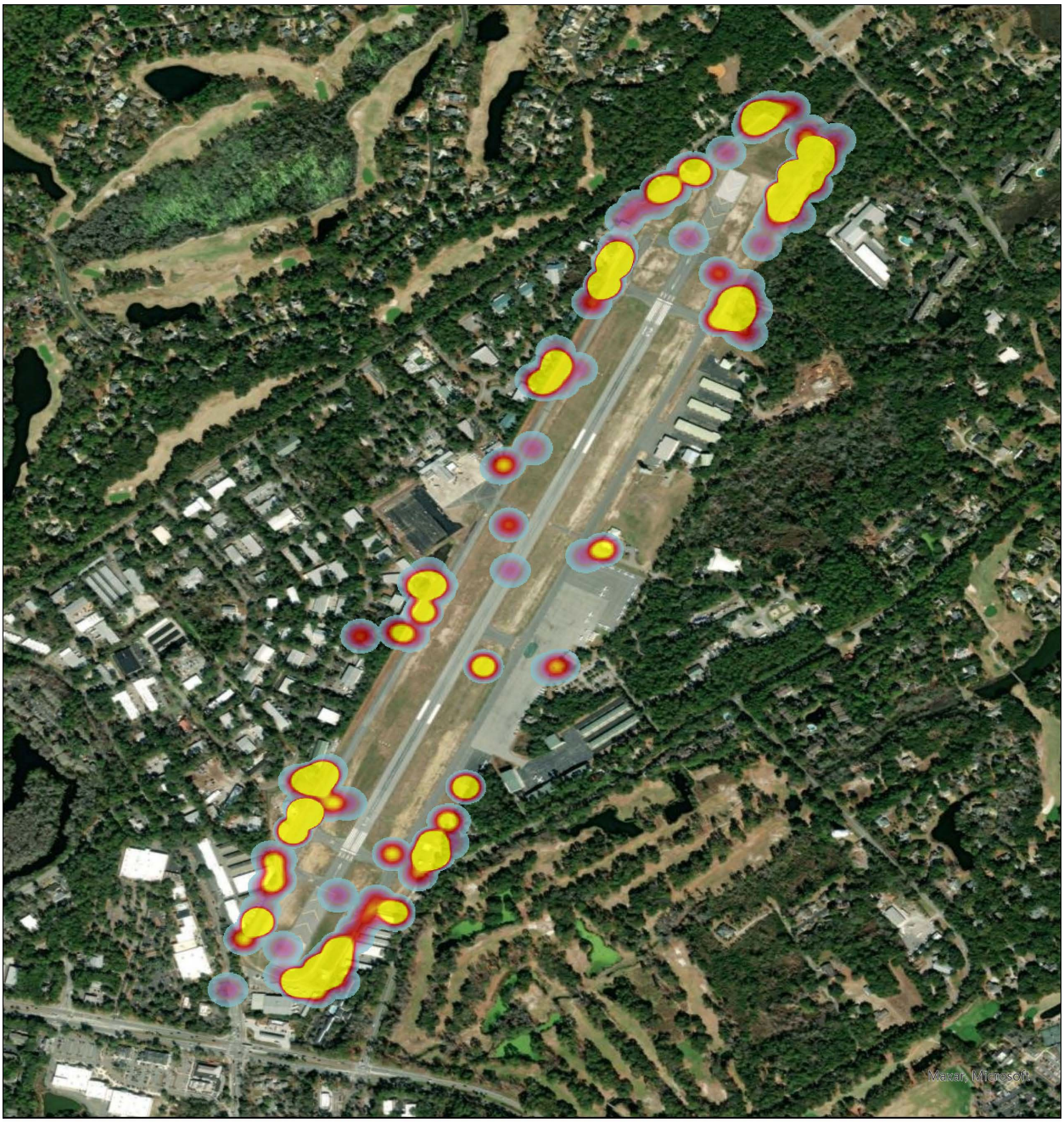



**Figure 59.** Heat map showing the abundance of small songbird activity over HXD during WHA, July 2023 – June 2024

## 6.15 Wading Birds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description.** There was a total of 61 wading birds observed during the WHA. Most of the wading birds observed were seen flying by or soaring and towering over the airport (51 total). Wading birds are generally solitary birds that forage in water or wetland areas. There were however, three species observed that have strong flocking and soaring tendencies. The American white ibis, Wood stork and Cattle egret made up 74%, 5% and 1% of the total observations respectively and were observed flying in loose formations or feeding in small groups and represented 80% of all wading birds observed (Figure 60). Of these three species the Cattle egret was the only one observed on airport property (5 total), and they were seen in the vicinity of survey point 6. Cattle egrets are also the only member of this guild that is not strongly associated with water. This species feeds heavily on insects as opposed to the fish, amphibians, and mollusk prey of the wading bird majority.

The remainder of the wading bird species observed were either seen flying locally (2 species) or were observed at survey point 2 (4 species) which is the retention pond located in the vicinity of the terminal. Most observations occurred from May through December with significant increases occurring in May and September (Figure 61). These spikes are most often the result of migratory movements. The white ibis and the Wood stork can be seen in certain areas of South Carolina almost year-round, so these migratory movements are likely short-distance migrations (The Basics of Bird Migration 2021) to daily food sources or breeding and nesting areas. Figure 62 shows where all the wading birds were observed.

**Damage.** Wading birds are considered a significant hazard to aircraft primarily because of their size and lumbering flight characteristics that are seen in most species. In the 34-year period from 1990-2023 there were a total of 2,916 reported strikes from the wading bird guild and of those 300 reported damage. When damage does occur from impacting a large bird from this guild it can be extensive and costly. These damaging strikes resulted in over thirty-two million dollars in damage (Dolbeer et al. 2023). HXD reported one strike involving a wading bird, a Snowy egret, in 2006 that did not result in damage.

**Control Measures.** Management for wading birds at HXD should be focused on limiting areas of standing water. Any type of open water area can be used for feeding, resting, and breeding and they are particularly drawn to marsh type environments with relatively shallow water containing reeds or aquatic vegetation. The airport contains several retention ponds, and they likely cannot be completely removed and are mandated by environmental compliance laws as well-being needed to effectively drain low-lying areas on HXD. Continued monitoring and maintenance of these areas should be conducted. Frequent cutting and control of any aquatic vegetation present will help limit attractiveness to wading birds and likely increase the effectiveness of moving water into drains and culverts away from airport property. Harassment with pyrotechnics should be used to disperse any birds seen in the vicinity of the retention ponds.

Lethal removal with the use of the air rifle or help from the USDA may be needed to reinforce harassment techniques if they become habituated to this method. There are also commercial products available that can be placed over pond areas such as mylar tape strands, netting, and floating balls if the previous harassment techniques become ineffective.

Cattle egrets are typically not attracted to water or marshy habitat like the other members of this guild. Insect activity in the main attractant for this species. They are often seen following behind the tractors that cut grass. The cutting disturbs and exposes insects which make for an easy meal. It is recommended that the landscape crew mows the grass during times of low aircraft activity which will reduce the possibility of strikes. Using this mowing schedule also helps control other species that are attracted to insect activity such various swallow and kite species. If aircraft flight activity increases during mowing operations, they should move away from movement areas such as taxiways and runways and mow in other areas until flying slows down again. The other harassment techniques previously mentioned for this guild will also work but need to be frequently reenforced because cattle egrets often fly off a short distance and quickly return to continue feeding in the same areas.

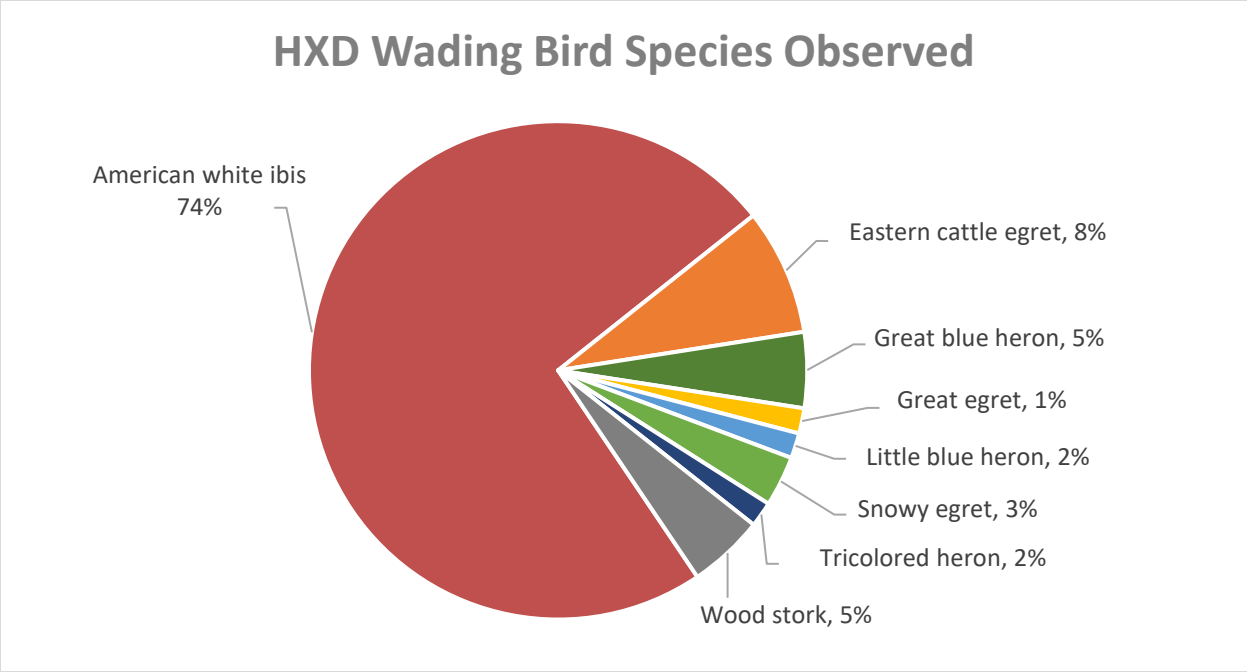



**Figure 60.** Species breakdown of all wading birds observed on HXD during WHA, July 2023 – June 2024.

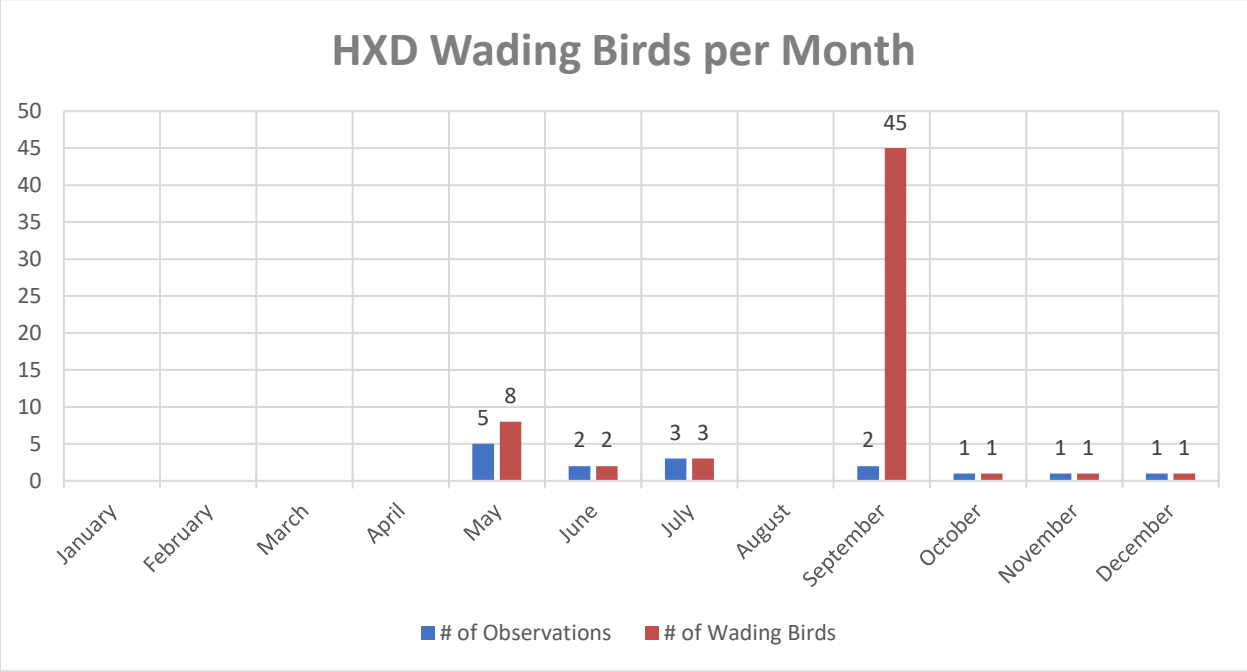



**Figure 61.** Abundance of wading birds per month at HXD during WHA, July 2023 – June 2024.




0.090.05 0 0.09 0.18 0.28 0.37
Miles

Map Prepared by Lauren Buxton
USDA APHIS Wildlife Services

Wading Bird Abundance
Sparse
Dense

N
W E
S

**Figure 62.** Heat map showing the abundance of wading bird activity over HXD during WHA, July 2023 – June 2024

## 6.16 Waterbirds



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description.** Like the name suggests, this guild includes birds that have a propensity to be near water like pelicans, cormorants, and anhinga. While the Brown pelican was observed at multiple off-site locations, only Double-crested cormorants and Anhinga were observed flying over the HXD airfield. Both species are similar in appearance and even behavior. The Double-crested cormorant has a hooked tip on its beak whereas the Anhinga has a spear-like beak. The tail is used when distinguishing species in flight because the Anhinga has a much longer tail. Anhinga are more likely to be year-round residents and Double-crested cormorants are more likely to be the migrants, although, resident cormorants do exist. A large group of 100 Double-crested cormorants was observed flying over HXD in March (Figure 63). Smaller groups of Anhinga were observed in April (20) and May (1). The majority of the birds were seen in the morning surveys, likely leaving roost sites and traveling to areas to hunt (Figure 64). The areas of HXD where these birds were flying over were random, so it is unlikely to predict where future flyovers will occur (Figure 65).

**Damage.** All members of this guild are considered hazardous because of their size and tendency to fly in large flocks. There are no reported strikes by this guild on HXD, but there are numerous strikes in other locations. Both species of pelican can be seen on the island but within the confines of the airport they are considered a relatively minor threat and tend to travel along the coast or follow rivers outside of the purview of this WHA. Anhinga and Double-crested cormorants are likely the only two species of concern in this guild for HXD. The overall threat of waterbird strikes on Hilton Head airport property is relatively low. HXD at this point does not have large enough ponds or waterways that could be considered a major attractant for this guild. Passing flocks at mid altitude flying over airport property can present a danger to aircraft though.

**Control Measures.** The primary means of control of this guild on airports is typically through habitat management of water sources but at this time HXD only has a few small shallow retention ponds and the possibility of either species landing in them is rather remote. Because of this, observations of either species will likely occur while in-flight passing by, moving from one water source on the island to another. Pyrotechnics should be the first line of defense in these instances. Dispersing the birds away from the airport and the flight path should be the primary intent.

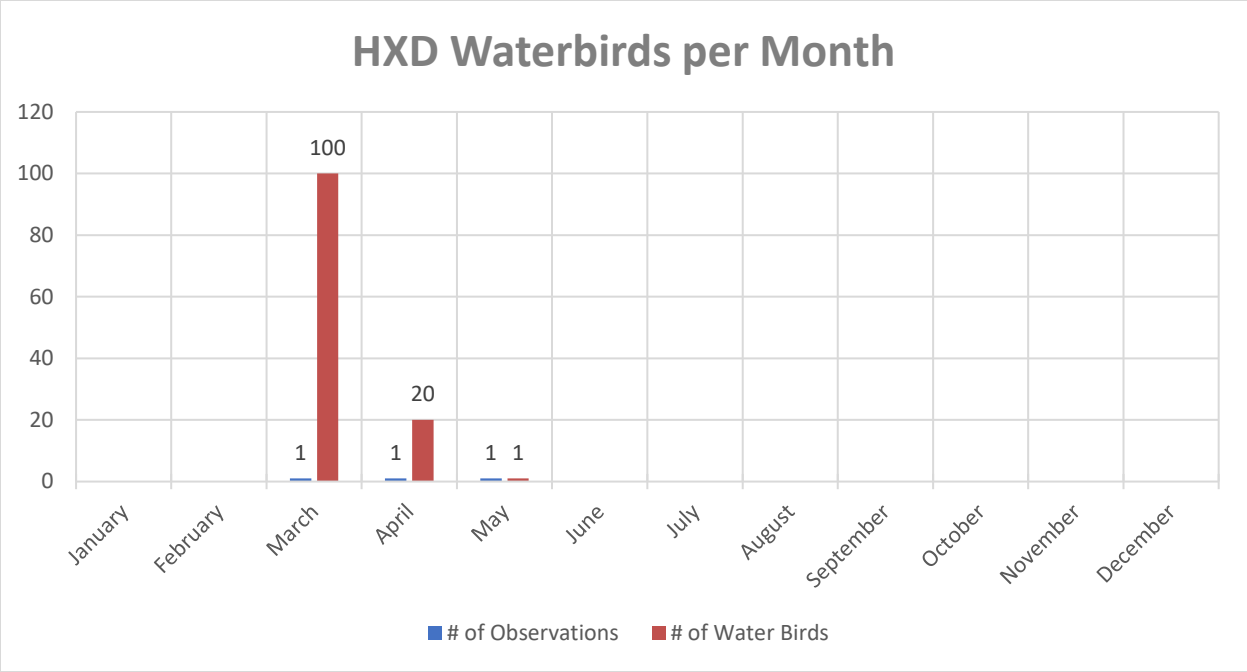



**Figure 63.** Abundance of waterbirds per month at HXD during WHA, July 2023 – June 2024.

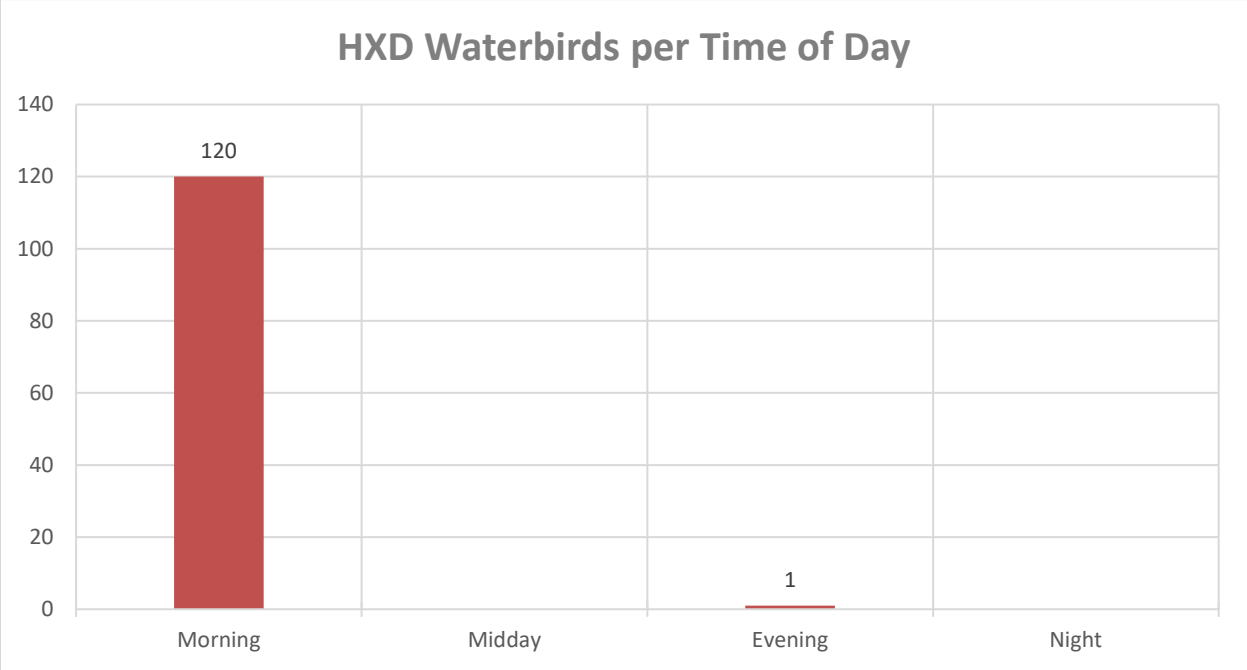
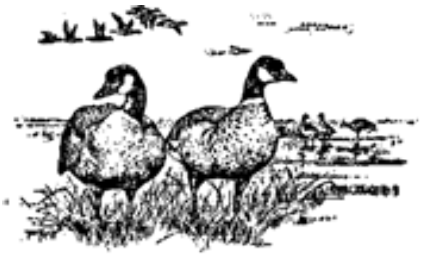



**Figure 64.** Abundance of waterbirds per time of day at HXD during WHA, July 2023 – July 2024.




**Figure 65:** Heat map showing the abundance of waterbird activity over HXD during WHA, July 2023 – June 2024

## 6.17 Waterfowl



**Legal Status.** A permit from the USFWS is not needed to harass these birds. If lethal control is needed to reinforce the non-lethal methods a depredation permit issued by the USFWS is required.

**Description.** Most waterfowl species live near freshwater or marine habitats and their size varies depending on habitat. Ducks and geese are rarely found alone, and often form large flocks to forage, loaf, and migrate together. Many species of waterfowl are attracted to large grassy areas that are common on airfields where they can loaf and forage. Retention ponds are attractive for the same reasons. Most waterfowl feed on plants or plant parts, but some feed on insects and mollusks. Only one species of waterfowl, the Black-bellied whistling duck, was observed physically on HXD property during the WHA while the second species, Canada goose was only seen flying over HXD (Figure 66). Both waterfowl species were seen from April to June (Figure 67). The Black-bellied whistling ducks were observed in small groups near the retention ponds at survey point 7. The Canada geese were observed in larger, v-shaped migratory groups flying over the airfield (Figure 68).

**Damage.** Except for the smaller teal species, all waterfowl are considered large and heavy birds that are very hazardous to aircraft. Waterfowl's propensity to form large flocks magnifies their inherent danger. Canada geese (fourth) and Mallards (eighth) appear on a ranked list of the 50 most hazardous wildlife species to aircraft (Appendix 9). Both Canada geese (fourteenth) and Mallards (twentieth) also appear on the list of 33 birds most frequently struck by aircraft (Appendix 8). Although Mallards were not observed during this WHA, a female Mallard and 4 ducklings were struck by an aircraft on HXD in 2015 with no damages. Mallards and Canada geese are a concern for HXD because of their tendency to coexist in highly urbanized environments; like neighborhood ponds and golf courses. Hilton Head Island is a tourist destination island that is dominated by manicured landscaping/ponds and no fewer than 10 golf courses that are highly attractive to waterfowl, especially Canada geese and Mallards. Canada geese alone were responsible for over Canada geese alone were responsible for over $183,000,000 in damages to civil aircraft in the United States from 1990-2023 (Dolbeer et al. 2023).

**Control Measures.** The best method to control waterfowl is the removal or exclusion of attractive wetland habitats. An additional method is by managing the grassy areas on the airfield. Maintaining long grasses that are 7-14 inches high will deter waterfowl. When combined with the planting of grass species that are unpalatable to birds, it can effectively deter a wide variety of birds, including geese (Linnell et al. 1997). A zero-tolerance policy should always be in effect for waterfowl on the airfield. Pyrotechnics work well for most waterfowl, especially during the hunting season. Lethal removal may be necessary if waterfowl become habituated to harassment or pose an imminent risk to aircraft. Habituation to hazing techniques is most often noticeable with resident birds (Canada geese) but may occur in migrants as well. Visual repellents in conjunction with pyrotechnics is effective in dispersing waterfowl. Corral traps can be effective for controlling resident Canada geese populations during the summer molt of their flight feathers.

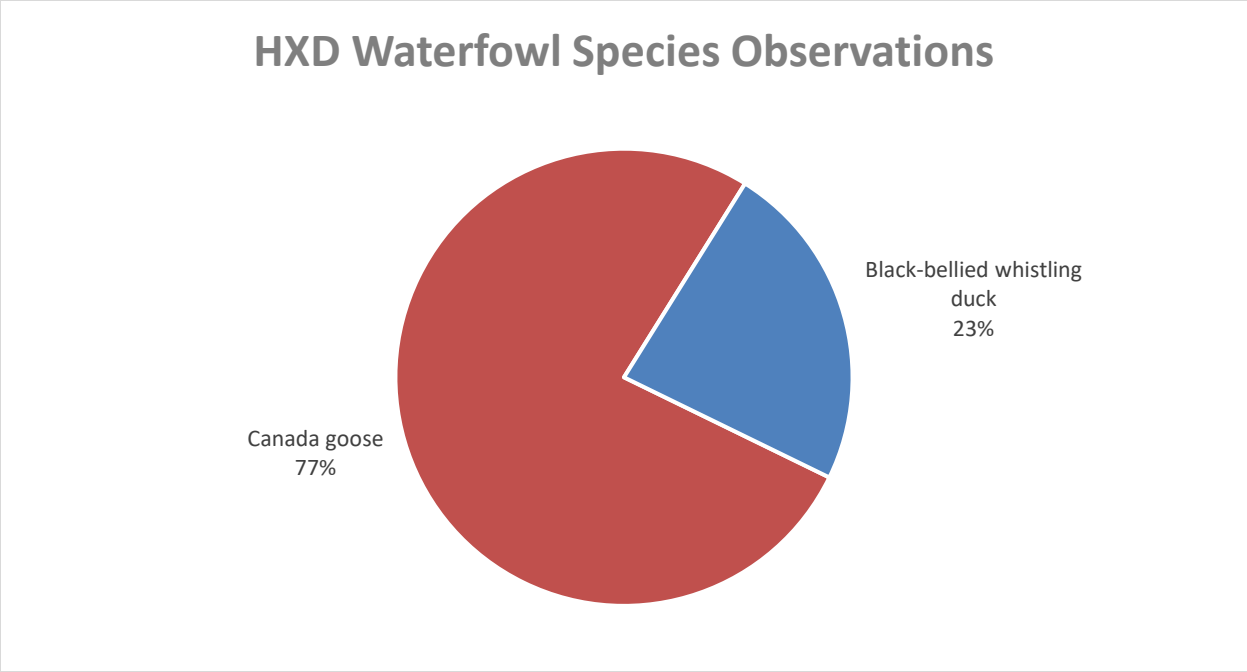



**Figure 66.** Species breakdown of all waterfowl observed on HXD during WHA, July 2023 – June 2024.

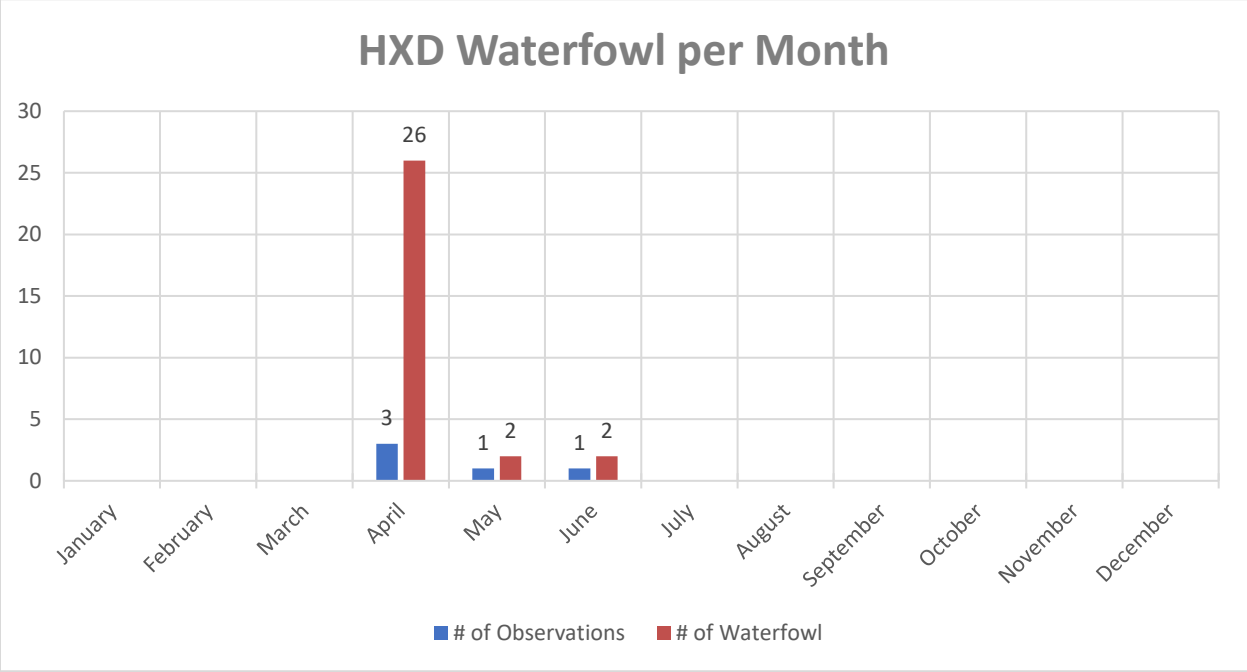



**Figure 67.** Abundance of waterfowl per month at HXD during WHA, July 2023 – June 2024.

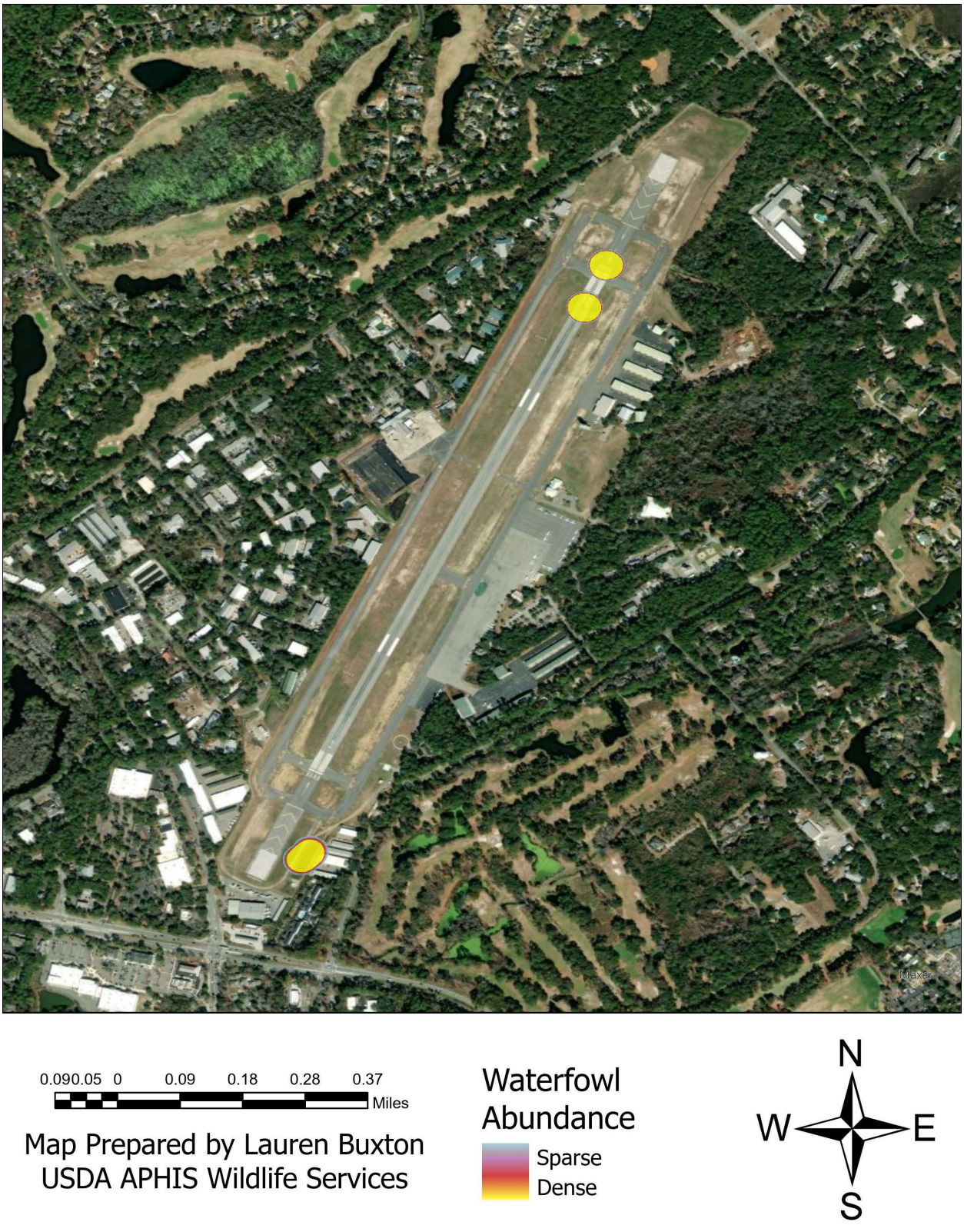



**Figure 68.** Heat map showing the abundance of waterfowl activity over HXD during WHA, July 2023 – June 2024

## 6.18 Nocturnal Surveys



**Legal Status.** None of the mammals observed during the WHA are threatened or endangered and therefore are covered under state, not federal, regulations. No permit is needed to harass these animals, but if lethal control is needed, a permit from the South Carolina Department of Natural Resources is required.

**Description.** Over the course of 12 nocturnal surveys two mammal species and one waterfowl species were observed. The two mammal species were the white-tailed deer and the roof rat. Both mammals were seen directly outside the fence line (Figure 69). All the deer were seen in the vicinity of survey point 5 and all the rats were seen between survey points 6 and 7 (totals were 5 and 12 respectively). Because both species were outside of the fence they presented no threat to aircraft. A member of the waterfowl guild was also observed during nocturnal surveys, and they were inside the airfield fence. A total of 7 Black-bellied whistling ducks were observed over the course of three separate nights. Each time they were observed was in the retention pond at survey point 7. These waterfowl were never observed during daylight and were likely foraging at night in the shallow water. Waterfowl are one of the few types of bird guilds that can regularly be seen feeding and flying at night. Most other guilds typically only feed or fly at night during peak migratory times and are for the most part diurnal in habits.

**Damage and Control Measures.**
All damage and control measures for any of the wildlife observed during the nocturnal surveys was discussed at length in their previous respective guild sections. Mammals 6.11 and Waterfowl 6.17.




**Figure 69.** Heat map showing the abundance of nocturnal wildlife activity over HXD during WHA, July 2023 – June 2024

# 7.0 Habitat Management

Habitat management provides the most effective long term remedial measure for reducing wildlife hazards on or near airports and landfills. Habitat management includes the physical removal or manipulation of food, water, and cover that attract wildlife. The ultimate goal is to make the environment unappealing to the species posing the greatest hazards to air traffic. This is accomplished by promoting an airport environment that is monotypic (uniform) throughout. The abundance of natural habitat components of food, water and cover are available on or near HXD and attract wildlife on a daily basis. These aspects of habitat should be managed or eliminated to control the abundance of wildlife and its hazards. Following the recommendations set forth in the WHA should provide methods for control of these hazards.

## 7.1 Grasses

Grass on the airfield was mowed regularly during the growing season while the WHA was conducted. Grass height should be maintained between 7-14 inches and should be cut whenever or before the average height of the grass is 14 inches. These actions deter flocking birds from utilizing this habitat component and prevent most of the grass from growing to the seed stage. Also, tall grasses promote use by small mammals, therefore increasing the potential for a higher abundance of raptors. If an increase in the abundance of raptors is noted, a more intensive grass cutting regime may be needed. Grass cutting activities should take place during hours of low flight frequency. This will help prevent strikes with birds that are attracted to the mowing (i.e., swallows). Only grasses that are unattractive to wildlife (i.e., fescue) should be planted on the airfield.

## 7.2 Water/Wetlands

There are no large areas of open water on HXD and standing water only lasted 3-4 days after heavy rainfall during the WHA. The only continuous standing water or damp area was the small retention pond located adjacent to the Terminal ramp. However, throughout the survey periods this retention pond presented limited attractiveness to most bird species and only a small number of wading birds was observed the entire 12-month survey period. HXD has made a concerted effort over the years to improve any drainage and standing water issues and they continue to do so with the current regrading and improvement project on this retention pond (Figure 70).

The only ditch or culvert area that could potentially impact HXD is not located within the fence line of the airport, but it drains out from an underground culvert from the field directly outside of the fence on the northeastern side of the airport just north of the survey point #5. The only noteworthy activity seen at this location was an alligator sunning occasionally and White-tailed deer crossing the stream made by the culvert drain, both were prevented from entering the airport property by the fence. As long as daily patrols are continued and fence gaps or any damage is corrected it poses limited risk at this time.



**Figure 70.** Picture of improvements made to retention pond during the WHA. Top: April 12, 2024. Bottom: June 26, 2024.

## 7.3 Wooded/Brushy Areas

There are only a few wooded or brushy areas contained within the fence line on HXD. The only areas where any trees or shrubs grow inside the airport property is in the eastern corner near the private hangars. There has been no noticeable increase in bird or animal activity in this area and does not represent any significant hazard at this time. However, if possible, regular trimming and monitoring of this area should be conducted. If any increases in bird/animal activity is noted additional efforts may need to be considered such as removing the trees or focusing hazing and harassment efforts in this location during times of animal activity. The remaining trees and brushy areas are all outside of and alongside the fence of HXD, particularly in the northern sections of the airport.

## 7.4 Structures

Wildlife use of structures is common at air facilities worldwide. At HXD, runway distance markers, signs, runway lights, and electrical boxes were often used as perches for small birds, crows, and raptors. Windsocks and radio towers were also used as perches by many of these same species. HXD has installed bird spikes on some of their signs and structures and they appear to be effective. It would be advisable to continue to install these spikes on all signs and structures where it is possible throughout the remainder of HXD property-prioritize signs and structures adjacent to movement areas such as runways and taxiways.

## 7.5 Nesting Activity

Although no active nests were observed in or on any airport structure or hangar, the likelihood of it happening in the future is extremely high. Eastern bluebirds and European starlings were frequently observed throughout all the surveys on HXD, both species are cavity nesters and will readily occupy any crevice or structure as a nest. A particular emphasis should be placed on European starlings who are notorious for nesting in any and all openings in pipes, ductwork and various other location on airports. They are not only dangerous because of their hazard to aircraft but they can also be a health hazard if they roost and or nest in large number- this includes Rock pigeons as well. Droppings and nesting material are not only unsightly but often contain bacteria and parasites as well.

The presence of nesting birds on or in the vicinity of an airport is a concern because:

- Pre-nesting courtship behaviors for some species involve aerial displays, which increase their chances of being struck by an aircraft.
- Nesting adults often spend a great deal of time around the runway environment when brooding their young. Adults increase their local flights once young have hatched.
- Juvenile fledglings pose an increased risk for wildlife strikes due to their inability to fly well and/or quickly avoid an aircraft.
- Immature birds pose an increased risk of collision due to their lack of experience in dealing with fast moving aircraft. They have not yet learned to recognize aircraft as something which should be avoided.

## 7.6 Off-site Wildlife Attractants

### 7.6a Hazardous Wildlife Attractants Near Airports

The FAA issued an Advisory Circular (AC) (150/5200-33) regarding *Hazardous Wildlife Attractants On Or Near Airports* (Appendix 3). The advisory circular states that "caution should be exercised to ensure that land use practices on or near airports do not enhance the attractiveness of the area to hazardous wildlife." This circular identifies criteria for wildlife attractants. Five statute miles is recommended if the attractant may cause hazardous wildlife movement into or across the approach or departure airspace. Wildlife attractants in the vicinity of an airport can influence the numbers, types, and activity patterns of wildlife that are hazardous to aircraft safety. Seven off-site locations were evaluated to determine if they attracted hazardous wildlife either

across the runway or across known air carrier flight paths (Figure 71). There may be other attractants in the vicinity of HXD that influence wildlife activity, but these other attractants may not have been observed due to their limited frequency of occurrence.

The following types of hazardous wildlife attractants were considered when selecting off-site survey point locations:

- Waste disposal operations. Survey point 8.
- Wastewater treatment facilities. Survey point 9.
- Wetlands/Marshes. Survey point 10.
- Landscaping. Survey point 11.
- Waterways/Open water. Survey point 12.
- Golf courses. Survey point 13.
- Wildlife refuges. Survey point 14.

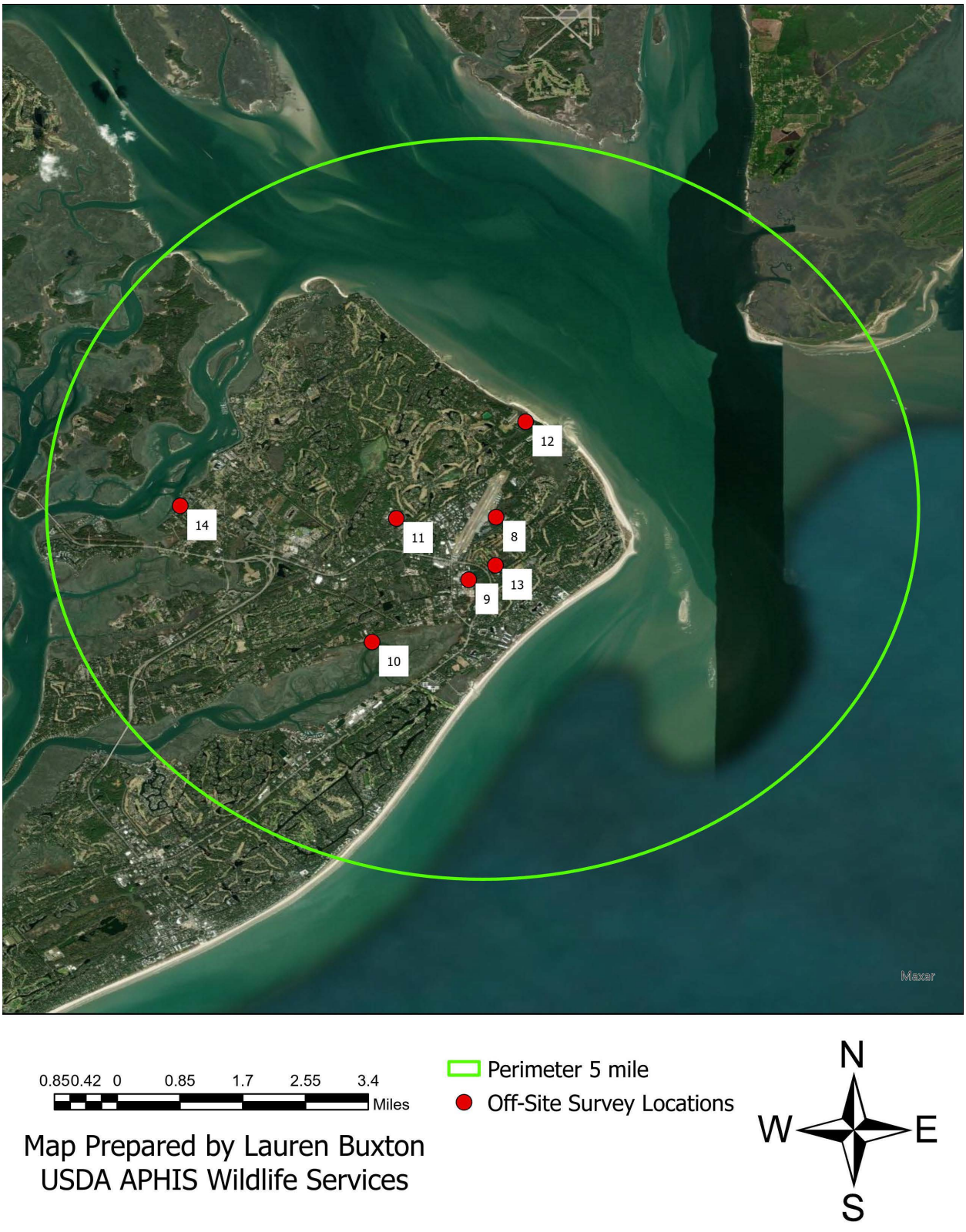



**Figure 71.** Map of offsite survey points for WHA at HXD, July 2023 - June 2024.

## 7.6b Off-site Survey Point Observations

All offsite survey point distances were straight-lined measured from the Airport ARFF station house located at 32°13'30.34"N 80°41'43.74"W. The descriptions below will refer to this reference location collectively as "HXD." Table 1 includes a list of all the wildlife species observed at each off-site survey location separated by their risk to aircraft. Species' categorized as a larger risk to aircraft are either identified as 1 of the 33 birds most frequently struck by aircraft (Appendix 8) or are a species within the top 50 wildlife groups rated as hazardous to aircraft (Appendix 9).

- **Off-site Point 8 Beaufort County Dump HHI:** This survey point is located approximately 0.15 of a mile or 240 meters from HXD and is the closest Offsite survey point. This point is located at 32°13'25.57"N 80°41'35.79"W. The survey point is in the parking lot next to the dump. The actual dump location consists of numerous roll-off containers for both trash and recyclable refuse. The surrounding habitat consists of mixed hardwoods including various sizes of live oak, water oak and sweet gum trees. Typically, dumps and landfill locations are a major attractant for various bird species as well as mammal species. However, there were no large concentrations of birds observed at this site. Beaufort County and the town of Hilton Head have done a commendable job of removing and rotating out filled roll-off containers. This likely has greatly reduced the attractiveness of the area to crow, gull, and raptor species (Table 1).

- **Off-site Point 9 HHI Water treatment Facility:** This survey point is located approximately 1 mile from HXD at 32°12'41.58"N 80°41'58.56"W. As the name suggests it is located at the water treatment facility maintained by the Public Service Department (PSD) of Hilton Head Island and serves both the North and Mid island businesses and communities. The survey observation point was next to three large water treatment ponds. Directly to the west of this point was a shopping plaza and to the north and east is a small stand of mixed deciduous and coniferous woods. To the south is the remainder of the treatment facility and small businesses. This survey point was attractive to gulls, raptors, wading birds, waterbirds, and waterfowl (Table 1). There were several Osprey nests observed on the tower structures. A flock of resident Canada geese also successfully nested and grew in population during the WHA. Wildlife observed at this survey point is a greater potential hazard due to its location 5,000 feet of the approach end of HXD runway 03 (Figure 73).

- **Off-site Point 10 Marshland Road Boat Launch:** This survey point is located 2.25 miles from HXD at 32°11'57.26"N 80°44'05.51"W. This is a public boat launch maintained by SCDNR. The parking area and boat launch were unpaved with loose gravel. There was a private boardwalk and boat dock to the east. The Old Oyster Factory restaurant was to the west, which also offered a boat dock. Both boat docks provided gulls, cormorants, egrets, and the Roseate spoonbill areas to perch, preen, sun, and loaf (Table 1). The surrounding marsh was also frequented by wading birds like American white ibis, Great egret, and Snowy egret. The Brown pelican was observed hunting over the open water.

- **Off-site Point 11 HHI Hospital Parking Pond:** This survey point is approximately 1 mile from HXD at 32°13'25.29"N 80°42'48.97"W. The pond is owned and maintained by HHI Hospital, and no fishing is allowed. The site contains a couple of picnic tables and a trash receptacle. The pond is approximately 1.8 acres in size and contains one small island. There are warning signs to "Not Feed Alligators," although, no alligators were observed. The hospital is to the west and its manicured landscaping could be considered a wildlife attractant. Medical offices on the other side of the pond to the south. Small stands of mixed woods encompassed the pond. Most of the wildlife species observed here were various small songbirds and Eastern gray squirrels. (Table 1).

- **Off-site Point 12 Mitchelville Boardwalk:** This survey point is located approximately 1.25 miles from HXD at 32°14'33.26"N 80°41'17.52"W. The survey point is the middle of the boardwalk that connects the Fish Haul Beach parking lot and the soccer fields to the north. The boardwalk spans a tidal marsh that consists of various species of reeds and shrubs. The beach area that overlooks Port Royal sound to the northeast. Wooded areas that consist of live oak, red maple, and wax myrtle trees surround the remainder of the tidal marsh. Observations of crows, red-winged blackbirds and several different small songbirds was a common occurrence, as well as the occasional waterbird and wading species flying by locally (Table 1). Wildlife observed at this survey point is a greater potential hazard due to its location 10,000 feet of the approach end of HXD runway 21 (Figure 73).



**Figure 72.** Picture of survey point 12 when a plane was on approach to HXD. June 26, 2024.

- **Off-site Point 13 Abandoned Golf Course:** This survey point is located approximately a quarter mile from HXD at 32°12’51.55’N 80°41’38.53” W. As the name implies, it is an abandoned golf course that has been taken over by the town of Hilton Head and is currently being used as an urban nature walk area with old cart paths winding through the fairways and wooded sections of the old course. There are retention ponds scattered throughout the course. The area consists of mainly grassy areas and strips of wooded areas made up of various pine and hardwood species. Directly to the west is William Hilton Parkway commonly referred to as HWY 278. The remainder of the survey point is surrounded by woods that is interspersed with two lane roads and housing areas. Various members of the forest, small songbird and grassland bird guilds were observed here (Table 1).

- **Off-Site Point 14 Squire Pope Rowing Center** This survey point was located approximately 3.5 miles from HXD at 32°13’27.48”N 80°45’25.78”W. This point is a public boat dock and fishing pier that is situated in and overlooks skull creek which is the main waterway that separates Hilton Head Island from mainland of Beaufort County. To the north, skull creek empties into Port Royal Sound. Pinckney Island National Wildlife Refuge is also to the north. To the east, south and west are small, wooded lots interspersed with residential areas and small businesses. Various members of the forest and small songbird guilds were observed here (Table 1). Larger birds including raptors (bald eagle, vultures, Osprey, hawks), wading birds (Great blue heron), and waterbirds (Brown pelican) were also observed utilizing the open water for hunting (Figure 73).

- **General Urbanized Areas:** The entire island of Hilton Head is considered a resort town located on a barrier island. Although there are many aspects of the island that have remained in its natural state, there also large areas of what can be considered urbanization and suburban habitat. Gated communities, historical neighborhoods, retail stores and restaurants dominate the southern part of the island which is heavily influenced by tourism. Because of this, and the frequency of new building projects and improvements of existing infrastructure it is very difficult to accurately predict all the possible hazards that may exist outside of the HXD property itself. Notably, to the west northwest of Hilton Head Island, large utility structures adjacent to the Karl Bowers Bridge (HWY 278) housed hundreds of roosting cormorants and Anhinga (Figure 73). This was noteworthy because those structures exist within the 5 mile radius of HXD and are in the flight path of many commercial aircraft that travel to and from Hilton Head Island on a daily basis (Figure 74).

**Table 1.** HXD off-site survey locations and the wildlife species observed, July 2023 – June 2024

| Distance from Airport | Off-Site Survey Point | Species with Greater Risk to Aircraft | Species with Lesser Risk to Aircraft |
|---|---|---|---|
| Within 5,000 ft | 8<br><br>Solid Waste and Recycling Center | (Corvids)<br>American crow<br><br>(Raptors)<br>Red-shouldered hawk | (Forest Birds)<br>Red-bellied woodpecker<br><br>(Mammals)<br>Eastern gray squirrel<br><br>(Small Songbirds)<br>Blue-gray gnatcatcher<br>Carolina wren<br>Eastern phoebe<br>Northern cardinal<br>Northern parula<br>Tufted titmouse |
| | 9<br><br>Wastewater Treatment Facility | (Aerialists)<br>Chimney swift<br><br>(Corvids)<br>American crow<br>Fish crow<br><br>(Gulls/Terns)<br>Herring gull<br>Laughing gull<br>Ring-billed gull<br><br>(Raptors)<br>Bald eagle<br>Osprey<br>Turkey vulture<br><br>(Wading Birds)<br>Tri-colored heron<br><br>(Waterbirds)<br>Anhinga<br>Double-crested cormorant<br><br>(Waterfowl)<br>Canada goose<br>Ring-necked duck | (Blackbirds)<br>Boat-tailed grackle<br><br>(Forest Birds)<br>Belted kingfisher<br>Eastern bluebird<br>Northern mockingbird<br><br>(Grassland Birds)<br>Eastern towhee<br><br>(Mammals)<br>Feral/free ranging cat<br><br>(Raptors)<br>Mississippi kite<br><br>(Small Songbirds)<br>Pine warbler<br><br>(Wading Birds)<br>Great egret<br>Snowy egret<br><br>(Waterfowl)<br>Bufflehead<br>Hooded merganser |

**Table 1 continued…** HXD off-site survey locations and the wildlife species observed, July 2023 – June 2024

| Distance from Airport | Off-Site Survey Point | Species with Greater Risk to Aircraft | Species with Lesser Risk to Aircraft |
|---|---|---|---|
| Within 5,000 ft<br>Continued… | 13<br><br>Abandoned golf course, now public park | (Aerialists)<br>Chimney swift<br><br>(Corvids)<br>American crow<br>Fish crow<br><br>(Grassland Birds)<br>Chipping sparrow<br><br>(Raptors)<br>Black vulture<br>Cooper's hawk<br>Red-shouldered hawk<br>Turkey vulture<br><br>(Mammals)<br>White-tailed deer | (Corvids)<br>Blue jay<br><br>(Forest Birds)<br>Downy woodpecker<br>Eastern bluebird<br>Red-bellied woodpecker<br>Yellow-bellied sapsucker<br><br>(Mammals)<br>Eastern cottontail rabbit<br>Eastern gray squirrel<br><br>(Small Songbirds)<br>Brown-headed nuthatch<br>Carolina chickadee<br>Carolina wren<br>Great crested flycatcher<br>House finch<br>Northern cardinal<br>Pine warbler<br>Tufted titmouse |
| Within 10,000 ft | 11<br><br>Hospital | (Columbids)<br>Mourning dove<br><br>(Corvids)<br>American crow<br><br>(Small Songbirds)<br>Yellow-rumped warbler<br><br>(Waterbirds)<br>Anhinga | (Forest Birds)<br>Eastern bluebird<br>Belted kingfisher<br><br>(Mammals)<br>Eastern gray squirrel<br><br>(Small Songbirds)<br>Blue-gray gnatcatcher<br>Carolina chickadee<br>Carolina wren<br>Eastern phoebe<br>Northern cardinal<br>Tufted titmouse |
| | 12<br><br>Mitchelville Boardwalk | (Aerialists)<br>Barn swallow<br>Tree swallow<br><br>(Blackbirds)<br>Red-winged blackbird | (Corvids)<br>Blue jay<br><br>(Forest birds)<br>Gray catbird<br>Northern mockingbird |

**Table 1 continued…** HXD off-site survey locations and the wildlife species observed, July 2023 – June 2024

| Distance from Airport | Off-Site Survey Point | Species with Greater Risk to Aircraft | Species with Lesser Risk to Aircraft |
|---|---|---|---|
| Within 10,000 ft | 12<br>Continued…<br><br>Mitchelville Boardwalk | (Corvids)<br>American crow<br><br>(Gulls/Terns)<br>Laughing gull<br>Ring-billed gull<br><br>(Raptors)<br>Osprey<br>Red-shouldered hawk<br><br>(Small Songbirds)<br>Yellow-rumped warbler<br><br>(Wading Birds)<br>Great blue heron<br><br>(Waterbirds)<br>Brown pelican | (Gulls/Terns)<br>Caspien tern<br><br>(Mammals)<br>Eastern gray squirrel<br><br>(Small Songbirds)<br>Carolina wren<br>Eastern phoebe<br>Northern cardinal<br>Painted bunting<br>Ruby-crowned kinglet<br>White-eyed vireo<br><br>(Wading Birds)<br>Great egret<br><br>(Waterbirds)<br>Clapper rail |
| Within 5 miles | 10<br><br>Marshland Boat Launch | (Aerialists)<br>Barn swallow<br><br>(Corvids)<br>American crow<br><br>(Gulls/Terns)<br>Laughing gull<br>Ring-billed gull<br><br>(Raptors)<br>American kestrel<br>Osprey<br><br>(Wading Birds)<br>Little blue heron<br><br>(Waterbirds)<br>Anhinga<br>Brown pelican<br>Double-crested cormorant | (Blackbirds)<br>Boat-tailed grackle<br><br>(Corvids)<br>Blue jay<br><br>(Gulls/Terns)<br>Caspian tern<br><br>(Forest Birds)<br>Eastern bluebird<br>Northern mockingbird<br><br>(Mammals)<br>Feral/free ranging cat<br><br>(Small Songbirds)<br>Carolina wren<br>House finch<br>Northern cardinal<br>Palm warbler<br><br>(Wading Birds)<br>American white ibis<br>Great egret<br>Roseate spoonbill<br>Snowy egret |

**Table 1 continued…** HXD off-site survey locations and the wildlife species observed, July 2023 – June 2024

| Distance from Airport | Off-Site Survey Point | Species with Greater Risk to Aircraft | Species with Lesser Risk to Aircraft |
|---|---|---|---|
| Within 5 miles Continued… | 10 Continued… Marshland Boat Launch | N/A | (Waterbirds) Pied-billed grebe (Waterfowl) Bufflehead Hooded merganser |
| | 14 Squire Pope Rowing Center | (Aerialists) Barn swallow (Columbids) Mourning dove (Corvids) American crow Fish crow (Gulls/Terns) Laughing gull Ring-billed gull (Raptors) Bald eagle Black vulture Osprey Red-shouldered hawk (Wading Birds) Great blue heron Yellow-crowned night heron Wood stork (Waterbirds) Anhinga Brown pelican Double-crested cormorant | (Corvids) Blue jay (Forest Birds) Eastern bluebird (Gulls/Terns) Caspian tern (Mammals) Eastern gray squirrel (Raptors) Mississippi Kite (Small Songbirds) Carolina wren Northern cardinal (Wading Birds) American white ibis Great egret (Waterbirds) Pied-billed grebe (Waterfowl) Bufflehead Hooded merganser |

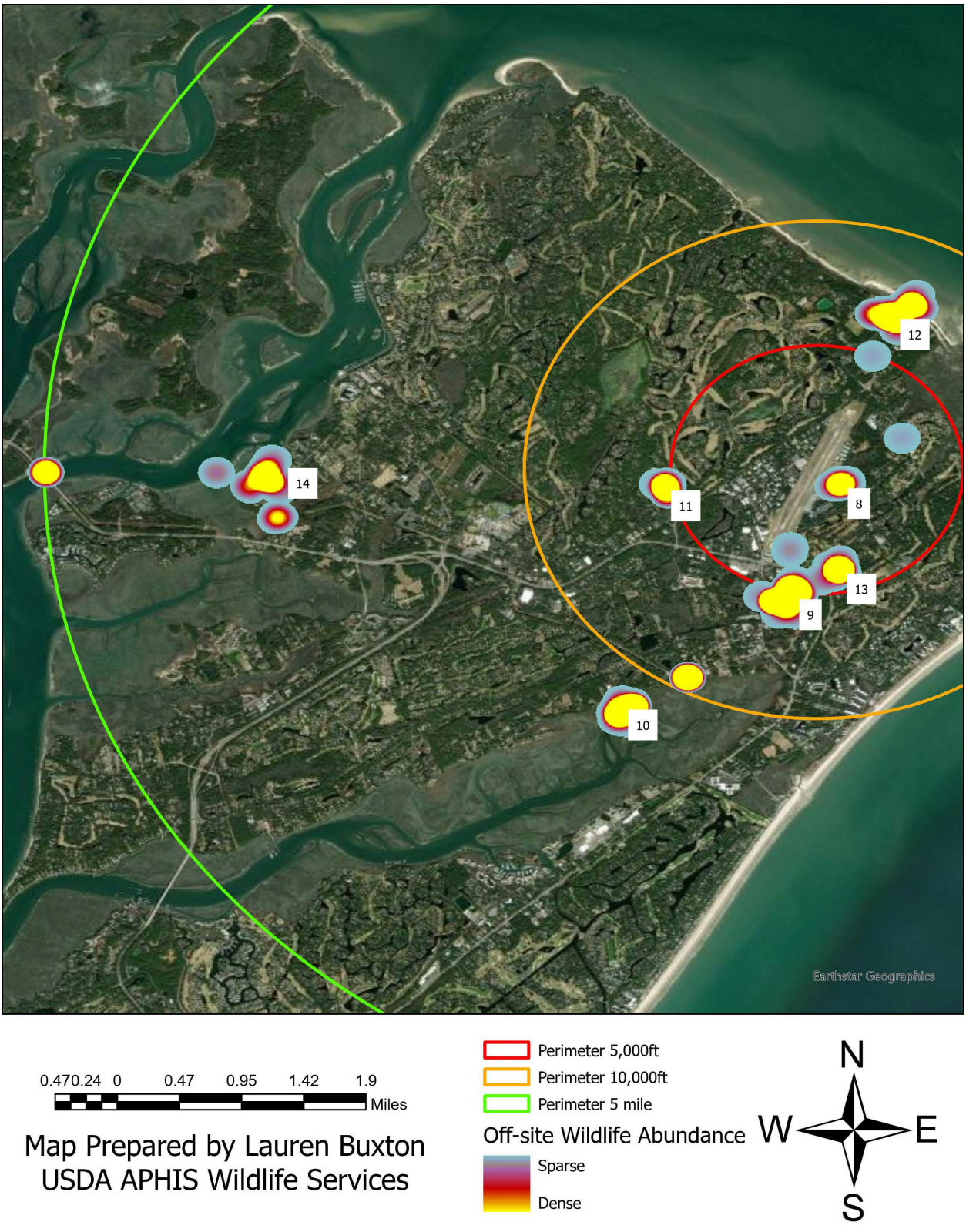



**Figure 73.** Map of offsite wildlife abundance for WHA at HXD, July 2023 - June 2024.




**Figure 74.** Picture of the commercial airlines and airports that HXD services including the flight path in between.

# 8.0 RECOMMENDATIONS

## 8.1 General

**Develop a Wildlife Hazard Management Plan based on the WHA**

A WHMP is a critical element for defining how wildlife hazards will be mitigated and who is responsible for their control. A WHMP should be developed using this WHA to include sections on habitat management, available resources, training, control methods/techniques, and evaluation. The habitat management section should include a timetable outlining wildlife habitat management goals and projected completion dates. Wildlife control methods/techniques should include species-specific techniques for deterrence. These procedures should set guidelines for the appropriate and most effective use of lethal control methods. Because airports are dynamic environments, the plan should be revisited at least annually to determine if changes are necessary and to consider how the wildlife control program can be improved or modified. If requested, WS may assist with the development of an WHMP for HXD.

**Assign Wildlife Control Personnel**

Current wildlife control efforts at HXD are currently handled by members of ARFF and Operations personnel and has been largely successful in deterring large groups of birds on airport property which reduces bird strike potential.

- Obtain and maintain appropriate wildlife control permits and supplies. This includes ensuring local ordinance and authorization are secured prior to discharging firearms, pyrotechnics, or propane cannons.

- Maintain cooperative relationships with appropriate wildlife resource management agencies (e.g., USFWS, WS, and SCDNR). Such relationships will provide the airport with ongoing biological expertise.

- Ensure that HXD personnel and pilots are familiar with the proper procedures for reporting all types of wildlife strikes and making FAA Form 5200-7 (Appendix 7) readily available. Whenever possible, wildlife personnel should file wildlife strike reports to ensure accuracy in species identification and other crucial information.

- Maintain a database for reporting wildlife hazard management activities, as well as wildlife strike information collected from pilot reports, mechanical inspections, and runway sweeps.

- Carry out daily wildlife hazard deterrent activities which include the hazing of wildlife from the AOA and advise the air traffic control tower, if necessary, of recurring wildlife movements that have the potential to result in a strike with operating aircraft.

Wildlife control personnel should actively participate in land-use projects or changes (on or off airport) property that could increase wildlife hazards at HXD. For example, new buildings should be designed in a manner that discourages use by wildlife.

## Train Personnel in Wildlife Hazing Procedures and Species Identification

All personnel involved in wildlife hazard management should be trained to recognize and respond to hazardous wildlife and potential wildlife hazards in the appropriate manner. Field guides are particularly useful for wildlife identification and should be made readily available to those who would use them. There are many easy-to-use guides that can be purchased at local bookstores for $15 - $25. Such guides include *Stokes Field Guide to Birds - Eastern Region* (Stokes and Stokes 1996), *Field guide to the Birds of North America* (National Geographic Society 1999), and *Birds of North America* (Robbins, Brunn, and Zim 2001). Depending on the situation, responses to wildlife hazards may entail active hazing or shooting or may simply require the employee to notify the airport manager about observed wildlife movements.

All personnel should be trained in the safe handling and most effective use of hazing devices so as to avoid increasing the hazardous situation (e.g., chasing birds into the path of an approaching aircraft). WS offers a formal training course designed to familiarize airport personnel with basic bird identification, dispersal techniques, and safe applications. This 8-hour course involves both classroom instruction and hands-on training in the field.

## Adopt a Policy of Zero Tolerance Toward Wildlife

One of the most important aspects of a wildlife control program is the recognition of wildlife hazards. The idea that some species are less of a problem based on perceptions of their behavior can lull airport management into playing a "numbers" game with regard to the potential for wildlife strikes. A zero-tolerance policy on the airfield should be adopted toward all potentially hazardous birds and mammal species. Any bird observed on the field by airport personnel can be considered hazardous because any bird could potentially fly over/along the runway. This recommendation does not suggest that upon detection, every individual of every species must be immediately removed from the airfield environment. In any wildlife deterrent operation, common sense judgments must be made in regard to the proper timing and implementation of deterrent actions. When logistical constraints for hazing wildlife become a factor, wildlife control activities should focus on "key species" identified in the **Results and Discussion** section (Section 6.0). A ranked list of wildlife species as potential hazards is available in Appendix 9.

## Adopt a No Wildlife Feeding Allowed Policy

The airport should take steps to alert the public that intentionally or unintentionally feeding wildlife can contribute to bird hazards at the airport. Hand-fed wildlife often becomes acclimated to humans, which in turn, can cause bird movements across the runway and known air carrier flight paths. Birds that have become accustomed to feeding from dumpsters or being hand fed by people are more difficult to deter from the airport using non-lethal methods. The use of signs in public areas and/or distribution of information via local media sources are examples of ways to increase employee and public awareness of this issue. In addition, airport operators and businesses that use outdoor containers (e.g., dumpsters) for disposal of food waste should be encouraged, via a written letter, to keep their containers securely closed at all times to prevent access by scavenging wildlife.

**Encourage Adjacent Landowners to Minimize Wildlife Activity on Their Property**

The airport should work with the other business complexes around the airfield to minimize wildlife use at these locations. HXD should participate in future land-use planning in an effort to address potential off-site wildlife hazards. Modification or elimination of the attractants would be the most effective measure for reducing wildlife use. However, since habitat modification is most likely inconsistent with the intended use of the land by the owners, wildlife deterrent techniques may be more practical. Some wildlife deterrent measures require a permit from SCDNR and USFWS for use. Landowners should contact the local offices of these agencies to secure permission for techniques prior to use.

**Revise Daily Wildlife Control Recording Procedures**

Daily wildlife control record keeping should include the documentation of all efforts made to detect and deter hazardous wildlife. Airfield patrols during which no hazardous wildlife are detected should be noted in daily logs by date and time. It is important to document these efforts to detect wildlife in order to ensure that all possible efforts to alleviate hazards have been taken. The detection of hazardous wildlife which does not result in immediate action should also be recorded. This allows other personnel conducting wildlife control operations to focus their efforts on species and areas of the airfield that may have been missed during previous efforts. Wildlife control records should also document wildlife attractants such as open trash receptacles, changes in vegetative structure that attract wildlife (e.g., seasonal production of seeds by certain plants), and temporary standing water. Documentation of wildlife attractants will alert control personnel to areas that need immediate attention and allow more effective annual revisions to the WHMP.

**Continue Monitoring Wildlife Activity and Use Patterns on the Airfield**

The intent of this WHA was to document general occurrence, habitat use, and population characteristics of wildlife at GSP. Attempts were also made to identify significant attractants within a 5-mile radius of the airfield that could adversely affect the safety of pilots and passengers. It must be realized that wildlife abundance and use patterns on airfields are affected by a host of variables that are rarely the same from year-to-year. Hence, conclusions based on wildlife activity and patterns during this study are only meant to be a guide and may or may not be consistent with subsequent years. Survey routes and methods were established in a manner to facilitate continued monitoring by an individual trained in wildlife species identification. Data from this study will provide a baseline for comparison in subsequent years. HXD should continue to monitor wildlife activity by conducting periodic surveys at the same points used during this assessment (Figure 2). While surveys conducted in subsequent years may not be conducted with the same frequency or intensity as this initial hazard assessment, they would still provide general insights into wildlife use patterns over time. In addition, they would enable HXD wildlife control personnel to gauge the effectiveness of their control efforts.

**Continue Monitoring Off-Site Wildlife Activity and Use Patterns**

As mentioned in Section 7.6, wildlife attractants in the vicinity of an airport can influence the numbers, types, and activity patterns of wildlife hazardous to aircraft safety. Periodic monitoring

of natural and man-made attractants like golf courses will help identify wildlife hazardous to aircraft safety.

## 8.2 Wildlife Deterrence

A variety of methods are available for deterring hazardous wildlife species found at HXD. Refer to Hyngstrom et al. (1994) for a detailed and comprehensive two-volume manual of prevention and control of wildlife damage. The following wildlife deterrent recommendations represent only possible solutions to the hazards observed at HXD and are based on WS experience with managing wildlife hazards in South Carolina. Techniques used by airports outside South Carolina may also prove effective for managing wildlife hazards at HXD. WS encourages the trial of other techniques, particularly non-lethal methods, for eliminating wildlife hazards. It is important to remember that a little imagination and persistence greatly augments the efficacy of any wildlife hazard reduction measure.

*Note: It is important to remember that wildlife deterrent measures are designed to deal with hazardous wildlife after they are detected. Such measures will not reduce the attractiveness of a particular area, especially if suitable habitat is allowed to remain. Wildlife deterrent techniques can help alleviate wildlife hazards to arriving and departing aircraft for short periods of time. The length of time depends on the diversity of methods being used, the target species ability to adapt, and the persistence of wildlife control personnel. Therefore, wildlife deterrence should not be used as a replacement for habitat modification.*

**Expand Wildlife Control Operations to Include All Hours of Operation**

According to CFR 14, Part 139.337(e)(5)(ii), the airport should provide for the "conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective." At a minimum, hazardous wildlife detection efforts, and if necessary, follow-up hazing efforts, should be conducted before every air carrier aircraft movement. Searches for wildlife should extend up to the last possible moment before landing and take-off because flocks of birds can land immediately prior to an aircraft's arrival or departure.

The exact schedule of wildlife control operations should be formulated by the wildlife control coordinator and included in the WHMP. All hazardous wildlife should be hazed from the field whenever observed. This includes hours of operation during which there are no air carrier operations. This will help reinforce the "zero-tolerance" zone and policy towards wildlife. Birds in particular can habituate to periods of relative safety (hours when they are not hazed), thus becoming more difficult to deter on a long-term basis.

**Concentrate Hazing Efforts Early in the Morning**

Bird hazing efforts should be heaviest during early morning hours. If birds are consistently dispersed each morning before they have a chance to feed, they will find alternative food sources and be less apt to return later in the day. If this policy is consistently maintained, they may soon learn to avoid the airfield and ponds altogether. Once birds become established on the airfield, they

become increasingly difficult to disperse. Flocking birds such as gulls, starlings/blackbirds, and waterfowl are readily attracted to individuals or flocks of birds already present. This results in a dramatic increase in the number of birds on the airport throughout the day. To prevent this decoying effect, all birds should be dispersed from the airfield immediately upon detection and not allowed to forage, loaf, or roost.

Additionally, local ordinances (i.e., noise ordinances) may prohibit the use of some methods, but these issues should be brought to the attention of the municipal government.

**Follow These Guidelines when Using Shotguns for Lethal Control**

Lethal control should be used to control birds that do not respond to non-lethal methods (the exact species that can be controlled lethally should be listed on all Federal and State permits). Lethal control of sparrow-like birds (e.g., swallows and killdeer) is typically less effective and should be used only in situations where they pose an immediate hazard to aircraft safety. It should be noted that when shooting gulls, it is common for the remaining birds to concentrate around the downed birds as they investigate. Therefore, the shooting of gulls should not be conducted if an aircraft is on final approach or is departing immediately, unless it is a flock of 3 birds or less.

- Use lethal control only as reinforcement for non-lethal hazing methods such as pyrotechnics or vehicle hazing, or as a last effort to remove persistent individuals from a flock. Depending on the species, the removal of one or two individuals from a flock of birds generally has the same negative conditioning effect on remaining birds as the removal of 10-15 birds from the same flock.

- Lethal control of individuals from migrating flocks (e.g., robins and swallows) may not significantly reduce the number of birds landing on the airfield. Negative response conditioning will not affect birds that have never experienced the conditioning technique. During migration, different individuals will likely be encountered on a day-to-day basis. Birds that were harassed the day before with a shotgun may not be the same ones observed the next day.

- Lethal shooting of flocking birds should always be accompanied by a non-lethal control method (e.g., pyrotechnics, vehicle hazing).

Public sensitivity to lethal control should be considered, and discretion is advised. However, concerns over public sensitivity should not supersede those of public safety, and the airport should not hesitate to implement lethal control when the situation warrants such action.

**Use Propane Cannons to Disperse Flocks of Birds from the Airfield**

Cannons should not be used in place of an active wildlife patrol but should be used to supplement active detection and dispersal efforts. The exact placement of cannons depends on the areas being most heavily frequented by flocking birds at the time. Habituation of birds to the bang of the cannons can be expected unless the cannons are relocated frequently. Reinforcement by occasional lethal control of a few birds with a shotgun may enhance the efficacy of propane cannons. It is

important to keep in mind that propane cannons should be used only when birds have been detected, in conjunction with other methods. It should also be noted that cannons have the potential to flush birds into the path of an aircraft and should only be used when they can be actively monitored by wildlife control personnel.

**Use Lethal Control to Effectively Reduce Mammals' Presence on the Airfield**

Because of their adaptable behavior, it is nearly impossible to permanently disperse resident deer and coyotes from the entire airfield using only habitat modification or hazing. While it is understood that lethal control is not always the most appealing option due to concerns with public relations, it is often the most efficient method for reducing wildlife hazards, and in some instances, it is the only effective method. For deer, a 9-foot-high fence will eliminate a majority of problems, but coyotes have a tendency to dig under fences.

Deer can be "herded" towards an open gate to get them out of the AOA. Lethal control should be a last resort if unsuccessful at "herding" a deer out of the AOA. A State permit is required.

If sighting of coyotes on the airfield are reported with increasing frequency, or if existing coyotes modify their behavior in a manner hazardous to aircraft, then lethal removal of one or more individuals, by trapping or shooting, would be the most efficient approach for providing a satisfactory hazard reduction. A State permit is needed for shooting with artificial lights, night vision, or other thermal optics.

Any lethal control of deer or coyotes should be done by experienced personnel who are familiar with firearms and know the surrounding areas for determining safe shots. Coordination with local law enforcement and the SCDNR is necessary prior to using artificial lights to shoot.

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# APPENDIX 1 – Federal Aviation Regulation Part 139.337 – (1 page)

Accessible online at:
https://www.ecfr.gov/current/title-14/chapter-I/subchapter-G/part-139/subpart-D/section-139.337

## CFR Title 14 FAR Part 139.337

## CODES OF FEDERAL REGULATIONS - AVIATION
## Wildlife hazard management.

**(a)** Each certificate holder (*holder of the airport operating certificate*) shall provide for the conduct of an ecological study, acceptable to the Administrator (*FAA*), when any of the following events occur on or near the airport:

**(1)** An air carrier aircraft experiences a multiple bird strike or engine ingestion.

**(2)** An air carrier aircraft experiences a damaging collision with wildlife other than birds.

**(3)** Wildlife of a size or in numbers capable of causing an event described in paragraph (a)(1) or (2) of this section is observed to have access to any airport flight pattern or movement area.

**(b)** The study required in paragraph (a) of this section shall contain at least the following:

**(1)** Analysis of the events which prompted the study.

**(2)** Identification of the species, numbers, locations, local movements, and daily and seasonal occurrences of wildlife observed.

**(3)** Identification and location of features on and near the airport that attract wildlife.

**(4)** Description of the wildlife hazard to air carrier operations.

**(c)** The study required by paragraph (a) of this section shall be submitted to the Administrator, who determines whether or not there is a need for a wildlife hazard management plan. In reaching this determination, the Administrator considers-

**(1)** The ecological study;

**(2)** The aeronautical activity at the airport;

**(3)** The views of the certificate holder;

**(4)** The views of the airport users; and

**(5)** Any other factors bearing on the matter of which the Administrator is aware.

**(d)** When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder shall formulate and implement a plan using the ecological study as a basis. The plan shall-

**(1)** Be submitted to, and approved by, the Administrator prior to implementation; and

**(2)** Provide measures to alleviate or eliminate wildlife hazards to air carrier operations.

**(e)** The plan shall include at least the following:

**(1)** The persons who have the authority and responsibility for implementing the plan.

**(2)** Priorities for needed habitat modification and changes in land use identified in the ecological study, with target dates for completion.

**(3)** Requirements for and, where applicable, copies of local, state, and Federal wildlife control permits.

**(4)** Identification of resources to be provided by the certificate holder for implementation of the plan.

**(5)** Procedures to be followed during air carrier operations, including at least-

**(I)** Assignment of personnel responsibilities for implementing the procedures;

**(ii)** Conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;

**(iii)** Wildlife control measures; and

**(iv)** Communication between the wildlife control personnel and any air traffic control tower in operation at the airport.

**(6)** Periodic evaluation and review of the wildlife hazard management plan for-

**(I)** Effectiveness in dealing with the wildlife hazard; and

**(ii)** Indications that the existence of the wildlife hazard, as previously described in the ecological study, should be reevaluated.

**(7)** A training program to provide airport personnel with the knowledge and skills needed to carry out the wildlife hazard management plan required by (d) of this section.

**(f)** Notwithstanding the other requirements of this section, each certificate holder shall take immediate measures to alleviate wildlife hazards whenever they are detected.

**(g)** FAA Advisory Circulars in the 150 series contain standards and procedures for wildlife hazard management at airports which are acceptable to the Administrator.

**APPENDIX 2 – No. 12-34-71-0003-MOU – (3 pages)**

Accessible online at :
https://www.faa.gov/sites/faa.gov/files/airports/environmental/policy_guidance/Memorandum-of-Understanding-FAA-USDA-Wildlife-Services.pdf

**FAA**
**Airports**

# Memorandum of Understanding between the United States Department of Transportation Federal Aviation Administration and the United States Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services

*NO. 12-34-71 -0003-MOU*

## ARTICLE 1

This Memorandum of Understanding (MOU) continues the cooperation between the Federal Aviation Administration and Wildlife Services (WS) for mitigating wildlife hazards to aviation.

## ARTICLE 2

The FAA has the broad authority to regulate and develop civil aviation in the United States[1]. The FAA may issue Airport Operating Certificates to airports serving certain air carrier aircraft. Issuance of an Airport Operating Certificate indicates that the airport meets the requirements of Title 14, Code of Federal Regulations, Part 139 (14 CFR 139) for conducting certain air carrier operations.

The WS has the authority to enter agreements with States, local jurisdictions, individuals, public and private agencies, organizations, and institutions for the control of nuisance wildlife. The WS also has the authority to charge for services provided under such agreements and to deposit the funds collected into the accounts that incur the costs.

14 CFR 139.337 requires the holder of an Airport Operating Certificate (certificate holder) to conduct a wildlife hazard assessment (WHA) when specific events occur on or near the airport. A wildlife management biologist who has professional training and/or experience in wildlife hazard management at airports, or someone working under the direct supervision of such an individual, must conduct the WHA required by 14 CFR 139.337. The FAA reviews all WHAs to determine if the certificate holder must develop and implement a wildlife hazard management plan (WHMP) designed to mitigate wildlife hazards to aviation on or near the airport. These

regulations also require airport personnel implementing an FAA-approved WHMP to receive training conducted by a qualified wildlife damage management biologist.

## ARTICLE 3

The FAA and the WS agree to the following.

a. The WS has the professional expertise, airport experience, and training to provide support to assess and reduce wildlife hazards to aviation on and near airports. The WS can also provide the necessary training to airport personnel.

b. Most airports lack the technical expertise to identify underlying causes of wildlife hazard problems. They can control many of their wildlife problems following proper instruction in control techniques and wildlife species identification from qualified wildlife management biologists.

c. Situations arise where control of hazardous wildlife is necessary on and off airport property (i.e., roost relocations, reductions in nesting populations, and removal of wildlife). This often requires the specialized technical support of WS personnel.

d. The FAA or the certificate holder may seek technical support from WS to lessen wildlife hazards. This help may include, but is not limited to, conducting site visits and WHAs to identify hazardous wildlife, their daily and seasonal movement patterns and habitat requirements. WS personnel may also provide:

   i. support with developing WH MPs including recommendations on control and habitat management methods designed to minimize the presence of hazardous wildlife on or near the airport;

   i. training in wildlife species identification and the use of control devices;

   ii. support with managing hazardous wildlife and associated habitats; and

   iii. recommendations on the scope of further studies necessary to identify and minimize wildlife hazards.

e. Unless specifically requested by the certificate holder, WS is not liable or responsible for development, approval, or implementation of a WHMP required by 14 CFR 139.337. Development of a WHMP is the responsibility of the certificate holder. The certificate holder will use the information developed by WS from site visits and/or conducting WHA in the preparation of a WHMP.

f. The FAA and WS agree to meet at least yearly to review this agreement, identify problems, exchange information on new control methods, identify research needs, and prioritize program needs.

## ARTICLE 4

The WS personnel will advise the certificate holder of their responsibilities to secure necessary permits and/or licenses for control of wildlife. This will ensure all wildlife damage control activities are conducted under applicable Federal, State, and local laws and regulations.

## ARTICLE 5

This MOU defines in general terms, the basis on which the parties will cooperate and does not constitute a 'financial obligation to serve as a basis for expenditures. Request for technical, operational, or research assistance that requires cooperative or reimbursable funding will be completed under a separate agreement

## ARTICLE 6

This MOU will supersede all existing MOUs, supplements, and amendments about the conduct of wildlife hazard control programs between WS and the FAA.

## ARTICLE 7

Under Section 22, Title 41, U.S.C., no member of or delegate to Congress will be admitted to any share or part of this MOU or to any benefit to arise from it.

## ARTICLE 8

This MOU will become effective on the date of final signature and will continue indefinitely. This MOU may be amended by agreement of the parties in writing. Either party, on 60 days advance written notice to the other party, may end the agreement.

OSB Woodie Woodward Date June 20,2005
Associate Administrator for Airports
Federal Aviation Administration

OSB William H. Clay Date June 27, 2005 Deputy
Administrator for Wildlife Services
Animal and Plant Health Inspection Service

**Appendix 3 – FAA Advisory Circular 150/5200-33C – (23 pages)**

Accessible online at:
https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-33C.pdf

U.S. Department of Transportation
**Federal Aviation Administration**

# Advisory Circular

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|---|---|---|
| **Subject:** Hazardous Wildlife Attractants on or near Airports | **Date:** 02/21/2020<br>**Initiated By:** AAS-300 | **AC No:** 150/5200-33C<br>**Change:** |

## 1 Purpose.

This Advisory Circular (AC) provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.

## 2 Cancellation.

This AC cancels AC 150/5200-33B, *Hazardous Wildlife Attractants on or near Airports,* dated August 28, 2007.

## 3 Application.

The Federal Aviation Administration recommends the guidance in this AC for land uses that have the potential to attract hazardous wildlife on or near public-use airports. This AC does not constitute a regulation, is not mandatory, and is not legally binding in its own right. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations, except as follows:

1. Airports that hold Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D, may use the standards, practices and recommendations contained in this AC as one, but not the only, acceptable means of compliance with the wildlife hazard management requirements of Part 139.
2. The FAA recommends the guidance in this AC for airports that receive funding under Federal grant assistance programs, including the Airport Improvement Program. See Grant Assurance #34.

3. The FAA recommends the guidance in this AC for projects funded by the Passenger Facility Charge program. See PFC Assurance #9.
4. The FAA recommends the guidance in this AC for land-use planners and developers of projects, facilities, and activities on or near airports.

## 4 **Principal Changes.**

Changes are marked with vertical bars in the margin. Change in this AC include:

1. Clarification by the FAA that non-certificated airports are recommended to conduct a Wildlife Hazard Assessment (Assessment) or a Wildlife Hazard Site Visit (Site Visit);
2. Table 1, Ranking of Hazardous Species, has been moved to Advisory Circular 150/5200-32, *Reporting Wildlife Aircraft Strikes* (5/31/2013);
3. Consolidation and reorganization of discussion on land uses of concern; and updated procedures for evaluation and mitigation. Discussion addresses off-airport hazardous wildlife attractants, followed by discussion of on-airport attractants. It also clarifies language regarding the applicability of the AC.

## 5 **Background.**

1. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a risk[1] to aircraft safety, they are not equally hazardous[2]. These hazard rankings can help focus hazardous wildlife management efforts on those species or groups that represent the greatest risk to safe air and ground operations in the airport environment. Used in conjunction with a site-specific Assessment that will determine the relative abundance and use patterns of wildlife species, these rankings combined with a systematic risk analysis can help airport operators better understand the general threat level (and consequences) of certain wildlife species. Also, the rankings can assist with the creation of a "high risk" list of hazardous species that warrant immediate attention.
2. Most public-use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach or departure airspace or aircraft operations area. Constructed or natural areas— such as

[1] Risk is the relationship between the severity and probability of a threat. It is the product of hazard level and abundance in the critical airspace, and is thus defined as the probability of a damaging strike with a given species.

[2] Hazardous wildlife are species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).

poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter (putrescible waste) disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, wetlands, or some conservation-based land uses — can provide wildlife with ideal locations for feeding, loafing, reproduction, and escape. Even small facilities, such as fast food restaurants, taxicab staging areas, rental car facilities, aircraft viewing areas, and public parks, can produce substantial attractions for hazardous wildlife.

3. During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage. Hazardous wildlife attractants on and near airports can jeopardize future airport expansion, making proper community land-use planning essential. This AC provides airport operators and those parties with whom they cooperate with the guidance they need to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land-use practices on or near public-use airports.

## 6 **Memorandum of Agreement Between Federal Resource Agencies.**

The FAA, the U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services signed a Memorandum of Agreement (MOA) to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife strikes) throughout the United States. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the Nation’s valuable environmental resources.

## 7. Feedback on this AC.

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



John R. Dermody
Director of Airport Safety and Standards

# CHAPTER 1. GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS

## 1.1 **Introduction.**

1.1.1 Airport operators should maintain an appropriate environment for the safe and efficient operation of aircraft, which entails mitigating wildlife strike hazards by fencing, modifying the landscape in order to deter wildlife or by hazing or removing wildlife hazardous to aircraft from congregating on airports. When considering proposed land uses, operators and sponsors of airports certificated under Part 139, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land-use practices that attract or sustain hazardous wildlife populations on or near airports, specifically those listed in Chapter 2, can significantly increase the potential for wildlife strikes.

1.1.2 The FAA urges regulatory agencies and planning and zoning agencies to evaluate proposed new land uses within the separation criteria and prevent the creation of land uses that attract or sustain hazardous wildlife within the separation distances.

1.1.3 The FAA recommends the use of minimum separation criteria outlined below for land-use practices that attract hazardous wildlife to the vicinity of airports. Please note that FAA criteria include land uses that cause movement of hazardous wildlife onto, into, or across the airport's approach or departure airspace or aircraft operations area. (See the discussion of the synergistic effects of surrounding land uses in Paragraph 2.8 of this AC.). For the purpose of evaluating distance criteria, the delineation of the aircraft operations area may also consider future airport development plans depicted on the Airport Layout Plan (e.g., planned runway extension).

1.1.4 The separation distances are based on (1) flight patterns and performance criteria of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board recommendations.

## 1.2 Airports Serving Piston-Powered Aircraft.

Airports that do not sell Jet-A fuel normally serve piston-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 5,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 5,000-foot separation distance measured from the nearest aircraft operations area.

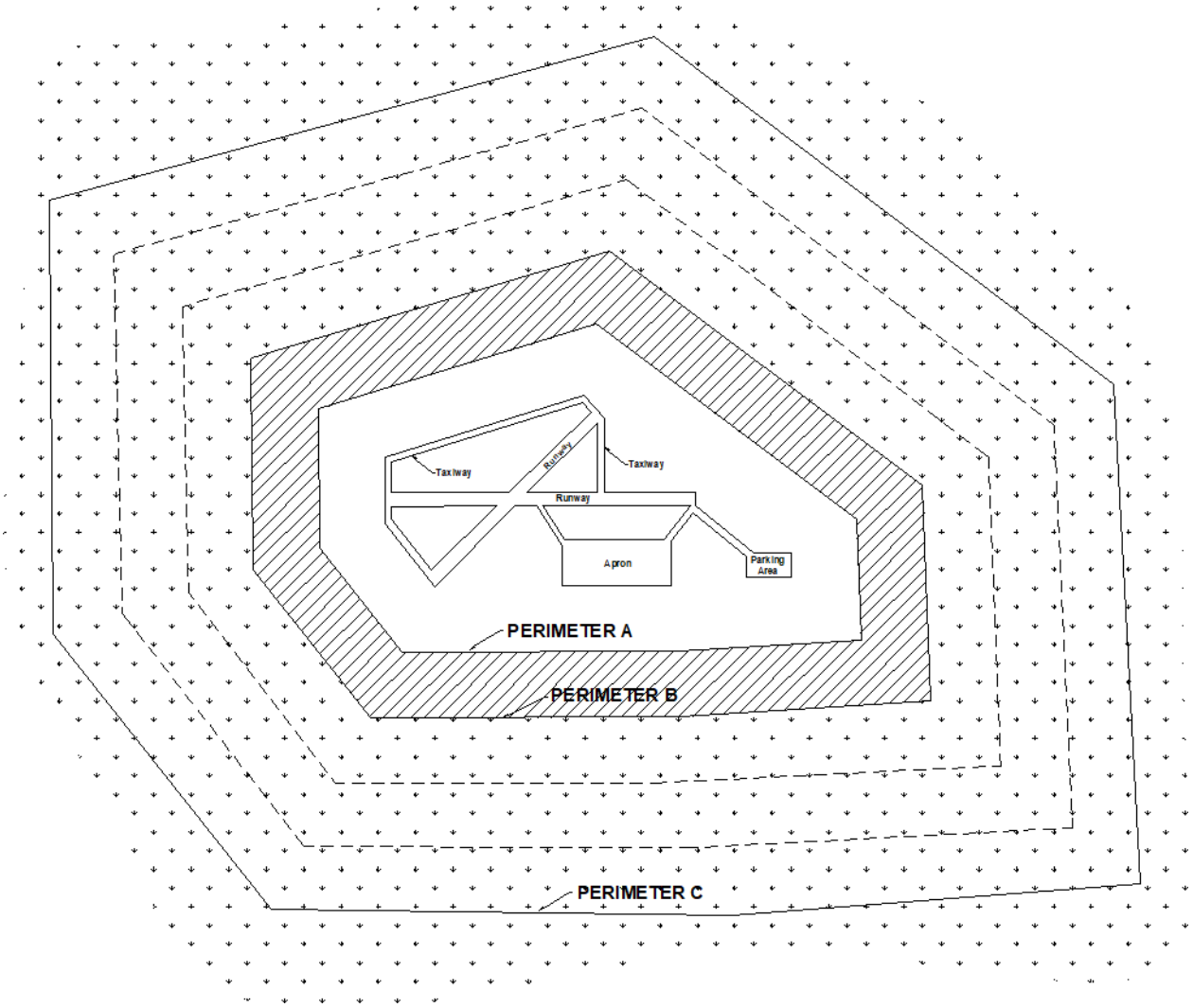
1.2.1 Airports Serving Turbine-Powered Aircraft.

For airports serving turbine-powered aircraft, the FAA recommends a separation distance of 10,000 feet from these airports for any of the hazardous wildlife attractants discussed in Chapter 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Figure 1 depicts an example of the 10,000-foot separation distance from the nearest aircraft movement areas.

1.2.2 Protection of Approach, Departure, and Circling Airspace.

For all airports, the FAA recommends a distance of 5 miles between the closest point of the airport's aircraft operations area and the hazardous wildlife attractant. Special attention should be given to hazardous wildlife attractants that could cause hazardous wildlife movement into or across the approach or departure airspace. Figure 1 depicts an example of the 5-mile separation distance measured from the nearest aircraft operations area.

**Figure 1. Example of recommended separation distances described in Chapter 1 within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.**




PERIMETER A: For airports serving piston-powered aircraft, it is recommended hazardous wildlife attractants be 5,000 feet from the nearest aircraft operations area.

PERIMETER B: For airports serving turbine-powered aircraft, it is recommended hazardous wildlife attractants be 10,000 feet from the nearest aircraft operations area.

PERIMETER C: Recommended for all airports, 5-mile range to protect approach, departure and circling airspace.

# CHAPTER 2. LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE

## 2.1 General.

2.1.1 Many types of vegetation, habitats and land use practices can provide an attractant to animals that pose a risk to aviation safety. Hazardous wildlife use the natural or artificial habitats on or near an airport for food, water or cover. The wildlife species and the size of the populations attracted to the airport environment vary considerably, depending on several factors, including land-use practices on or near the airport. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports* manual, prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French). This manual, as well as other helpful resources can be viewed and downloaded free of charge from the Wildlife Strike Resources section of the FAA's wildlife hazard mitigation web site: http://www.FAA.gov/airports/airport_safety/wildlife).

2.1.1.1 The USDA / Animal and Plant Health Inspection Service (APHIS) / Wildlife Services developed a new publication series on wildlife damage management and is available online. The Wildlife Damage Management Technical Series highlights wildlife species or groups of wildlife species that cause damage to agriculture, property and natural resources, and/or impact aviation and human health and safety. The publications can be found at: https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_reports/ct_wildlife+damage+management+technical+series.

2.1.1.2 Additional resources have been provided by the USDA / APHIS / Wildlife Services National Wildlife Research Center (NWRC) at: https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs/nwrc/sa_publications/ct_research_gateway. The NWRC Research Gateway contains research articles, reports, factsheets, technical notes, data and other materials on wildlife hazard mitigation, risk reduction, animal ecology, habitats, and advanced technologies and methodologies.

2.1.2 This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. The FAA has determined that the land uses listed below are generally not compatible with safe airport operations when they are located within the separation distances provided in Paragraphs 1.2 through 1.4.

2.1.3 As a reminder, these types of land uses or facilities often require permits from the appropriate permitting agency. The FAA may work with the permitting agency to include conditions for monitoring and mitigation measures, if necessary. Ultimately, the permittee is responsible for compliance to these conditions and the permitting agency is responsible for tracking compliance.

## 2.2 Waste Disposal Operations.

Municipal solid waste landfills (municipal landfills) are known to attract large numbers of hazardous wildlife, particularly birds. Because of this, these operations, when located within the separations identified in the siting criteria in Paragraphs 1.2 through 1.4, are considered incompatible with safe airport operations.

2.2.1 Siting for New Municipal Solid Waste Landfills Subject to AIR 21.

2.2.1.1 Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (P. L. 106-181) (AIR 21), 49 U.S.C. § 44718(d), prohibits the construction or establishment of a new municipal landfill within 6 miles of certain public-use airports. Before these prohibitions apply, both the airport and the landfill must meet the very specific conditions described below. These restrictions do not apply to airports or landfills located within the state of Alaska.

2.2.1.2 The airport must (1) have received a Federal grant(s) under 49 U.S.C. § 47101, et. seq.; (2) be under control of a public agency; (3) serve some scheduled air carrier operations conducted in aircraft with less than 60 seats; and (4) have total annual enplanements consisting of at least 51 percent of scheduled air carrier enplanements conducted in aircraft with less than 60 passenger seats.

2.2.1.3 The proposed municipal landfill must (1) be within 6 miles of the airport, as measured from airport property line to the landfill property line, and (2) have started construction or establishment on or after April 5, 2001. Section 44718(d) only limits the construction or establishment of some new landfills. It does not limit the expansion, either vertical or horizontal, of existing landfills.

2.2.1.4 Regarding existing municipal landfills and lateral expansions of landfills, 40 CFR § 258.10 requires owners or operators of a landfill units located within the separation distances provided in Paragraphs 1.2 through 1.4 to demonstrate that the unit is designed and operated so that it does not pose a bird hazard to aircraft. To accomplish this, follow the instructions provided in Paragraphs 3.2 and 3.3, document the wildlife monitoring and mitigation procedures that are cooperatively developed, and place this documentation in the operating permit of the facility.

2.2.2 Siting for New Municipal Landfills Not Subject to AIR 21.

If an airport and a municipal landfill do not meet the criteria of § 44718(d), then FAA recommends against locating the landfill within the separation distances identified in Paragraphs 1.2 through 1.4. In determining this distance separation, measurements should be made from the closest point of the airport property boundary to the closest point of the landfill property boundary.

2.2.3 Considerations for Existing Waste Disposal Facilities Within the Limits of Separation Criteria.

The FAA recommends against airport development projects that would increase the number of aircraft operations or accommodate larger or faster aircraft near landfill operations located within the separations identified in Paragraphs 1.2 through 1.4. In addition, in accordance with 40 CFR § 258.10, owners or operators of existing landfill units that are located within the separations listed in Paragraphs 1.2 through 1.4 must demonstrate that the unit is designed and operated so it does not pose a bird hazard to aircraft. (See Paragraph 4.3.2 of this AC for a discussion of this demonstration requirement.)

2.2.4 Enclosed Trash Transfer Stations.

Enclosed waste-handling facilities that receive garbage behind closed doors; process it via compaction, incineration, or similar manner; and remove all residue by enclosed vehicles generally are compatible with safe airport operations, provided they are constructed and operated properly and are not located on airport property or within the Runway Protection Zone. These facilities should not handle or store putrescible waste outside or in a partially enclosed structure accessible to hazardous wildlife. Trash transfer facilities that are open on one or more sides; or store uncovered quantities of municipal solid waste outside, even if only for a short time; or use semi-trailers that leak or have trash clinging to the outside; or do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations. The FAA considers fully enclosed waste-handling facilities constructed or operated incorrectly incompatible with safe airport operations if they are located closer than the separation distances specified in Paragraphs 1.2 through 1.4.

2.2.5 Composting Operations on or near Airport Property.

Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife. Sewage sludge, woodchips, and similar material are not municipal solid wastes and may be used as compost bulking agents. The compost, however, must never include food or other municipal solid waste. Composting operations should not be located on airport property unless effective, risk-reducing mitigations are in place. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any aircraft operations area or the distance called for by airport design requirements (see AC 150/5300-13, *Airport Design*). This spacing should prevent material, personnel, or equipment from penetrating any Object Free Area, Obstacle Free Zone, Threshold Siting Surface, or Clearway. Airport operators should monitor composting operations located in proximity to the airport to ensure that steam or thermal rise does not adversely affect air traffic.

2.2.6 Underwater Waste Discharges.

The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Paragraphs 1.2 through 1.4 because it could attract scavenging hazardous wildlife.

2.2.7 Recycling Centers.

Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, aluminum, electronic, and household wastes such as paint, batteries, and oil, are, in most cases, not attractive to hazardous wildlife and are acceptable.

2.2.8 Construction and Demolition Debris Facilities.

2.2.8.1 Construction and demolition landfills generally do not attract hazardous wildlife and are acceptable if maintained in an orderly manner, admit no putrescible waste, and are not co-located with other waste disposal operations. However, construction and demolition landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, construction and demolition landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities.

2.2.8.2 Therefore, a construction and demolition landfill co-located with another waste disposal operation should be located outside of the separations identified in Paragraphs 1.2 through 1.4.

2.2.8.3 Airport operators should be aware that on-site storage of construction and maintenance debris, as well as out-of-service aircraft or aircraft components, may provide an attractant for hazardous species (e.g., nesting or perching locations). The FAA recommends these on-site areas be monitored and/or mitigated, if necessary.

2.2.9 Fly Ash Disposal.

2.2.9.1 The incinerated residue from resource recovery power/heat-generating facilities that are fired by municipal solid waste, coal, or wood is generally not a wildlife attractant because it no longer contains putrescible matter. Landfills accepting only fly ash are generally not considered to be wildlife attractants and are acceptable as long as they admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

2.2.9.2 Since varying degrees of waste consumption are associated with general incineration (not resource recovery power/heat-generating facilities), the FAA considers the ash from general incinerators a regular waste disposal by-product and, therefore, a hazardous wildlife attractant if disposed of within the separation criteria outlined in Paragraphs 1.2 through 1.4.

## 2.3 Water Management Facilities.

Drinking water intake and treatment facilities, storm water and wastewater treatment facilities, associated retention and settling ponds, ponds built for recreational use, ponds

and fountains for ornamental purposes, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. Development of new open water facilities within the separation criteria identified in Paragraphs 1.2 through 1.4 should be avoided to prevent wildlife attractants. If necessary, land-use developers and airport operators may need to develop management plans, in compliance with local and state regulations, to support the operation of storm water management facilities on or near all public-use airports to ensure a safe airport environment. The FAA recommends these plans be developed in consultation with a Qualified Airport Wildlife Biologist[3], to minimize hazardous wildlife attractants.

2.3.1 Existing Stormwater Management Facilities.

2.3.1.1 On-airport stormwater management facilities allow the quick removal of surface water, including discharges related to aircraft deicing, from impervious surfaces, such as pavement and terminal/hangar building roofs. Existing on-airport detention ponds collect stormwater, protect water quality, and control runoff. Because they slowly release water after storms, they may create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan, Part 139 regulations require the immediate correction of any wildlife hazards arising from existing stormwater facilities located on or near airports using appropriate wildlife hazard mitigation techniques. Airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist.

2.3.1.2 Where possible, airport operators should modify stormwater detention ponds to allow a maximum 48-hour detention period for the design storm. The combination of open water and vegetation is particularly attractive to waterfowl and other hazardous wildlife. Water management facilities holding water longer than 48 hours should be maintained in a manner that keeps them free of both emergent and submergent vegetation. The FAA recommends that airport operators avoid or remove retention ponds and detention ponds featuring dead storage to eliminate standing water. Detention basins should remain totally dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, the detention facility should include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide nesting habitat. Drainage basins with a concrete or paved pad should be maintained to prevent or remove any sediment build-up to prevent vegetation growth.

2.3.1.3 When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wire grids, pillows,

[3] See Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.*

or netting, to deter birds and other hazardous wildlife. When physical barriers are proposed, airport operators must evaluate their use, effectiveness and maintenance requirements. Airport operators must also ensure physical barriers will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

2.3.1.4 The FAA recommends that airport operators encourage off-airport stormwater treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into stormwater treatment facility operating practices when their facility is located within the separation criteria specified in Paragraphs 1.2 through 1.4.

2.3.2 New Stormwater Management Facilities.

The FAA recommends that storm water management systems located within the separations identified in Paragraphs 1.2 through 1.4 be designed and operated so as not to create above-ground standing water. Stormwater detention ponds should be designed, engineered, constructed, and maintained for a maximum 48–hour detention period after the design storm and to remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap or concrete lined, narrow, linear-shaped water detention basins. When it is not possible to place these ponds away from an airport's aircraft operations area (but still on airport property), airport operators may use physical barriers, such as bird balls, wire grids, floating covers, vegetation barriers (bottom liners), or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. Caution is advised when nets or wire grids are used for deterring birds from attractants. Mesh size should be < 5 cm (2") to avoid entangling and killing birds and should not be made of a monofilament material. Grids installed above and across water to deter hazardous birds (e.g., waterfowl, cormorants, etc.) are different than using a small mesh covering but also provides an effective deterrent. Grid material, size, pattern and height above water may differ on a case-by-case basis. When physical barriers are used, airport operators must evaluate their use and ensure they will not adversely affect water rescue. Before installing any physical barriers over detention ponds on Part 139 airports, a review by a Qualified Airport Wildlife Biologist should be conducted, prior to approval from the appropriate FAA Regional Airports Division Office. All vegetation in or around detention basins that provide food or cover for hazardous wildlife should be eliminated. If soil conditions and other requirements allow, the FAA encourages the use of underground storm water infiltration systems because they are less attractive to wildlife.

2.3.3 Existing Wastewater Treatment Facilities.

2.3.3.1 The FAA recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport.

2.3.3.2 Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a Qualified Airport Wildlife Biologist, to minimize hazardous wildlife attractants. Airport operators should also encourage those wastewater treatment facility operators to incorporate these mitigation techniques into their standard operating practices. In addition, airport operators should consider the existence of wastewater treatment facilities when evaluating proposed sites for new airport development projects and avoid such sites when practicable.

2.3.4 New Wastewater Treatment Facilities.

The FAA recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Paragraphs 1.2 through 1.4. Appendix 1 defines wastewater treatment facility as "any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes." The definition includes any pretreatment involving the reduction or elimination of pollutants prior to introducing such pollutants into a treatment facility. When a wastewater treatment facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If possible, a more suitable location for the proposed facility should be identified. If no other suitable location exists, FAA recommends that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility's potential to attract hazardous wildlife. If appropriate measures cannot be incorporated to reduce potential wildlife hazards, airport operators should document their opposition in a letter to the local jurisdiction.

2.3.5 Artificial Marshes.

In warmer climates, wastewater treatment facilities sometimes employ artificial marshes and use submergent and emergent aquatic vegetation as natural filters. These artificial marshes may be used by some species of flocking birds, such as blackbirds and waterfowl, for breeding or roosting activities. The FAA recommends against establishing artificial marshes within the separations identified in Paragraphs 1.2 through 1.4.

2.3.6 Wastewater Discharge and Sludge Disposal.

The FAA recommends careful consideration regarding the discharge of wastewater or biosolids (i.e., secondarily treated sewage sludge) on airport property. Such discharges might improve soil moisture and quality on unpaved areas and lead to improved turf growth. Depending on the airfield plant communities and habitats present, this can be an attractive food source for many species of animals or, conversely, could result in limited attractiveness to hazardous wildlife. Also, improved turf requires more frequent mowing and could attract geese. Airports should improve their turf with the goal of a monoculture of turf that is least attractive to wildlife. Wastewater or biosolids

applications might assist in achieving this goal. Caution should be exercised when discharges saturate airfield areas adjacent to paved surfaces. The resultant soft, muddy conditions could restrict or prevent emergency vehicles from reaching accident sites in a timely manner.

## 2.4 Wetlands.

Wetlands provide a variety of functions and can be regulated by local, state, and Federal laws. Wetlands can be attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1 - AC 150/5200-32). Some types of wetlands are not as attractive to wildlife as others and they should be reviewed on a case-by-case basis to determine the likelihood of proposed wetlands increasing the numbers of hazardous wildlife at the airport. Factors such as size, shape, location, canopy cover and vegetative composition among other things should be considered when determining compatibility.

**Note:** If questions exist as to whether an area qualifies as a wetland, contact the District Office of the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, or a wetland consultant qualified to delineate wetlands.

2.4.1 Existing Wetlands on or near Airport Property.

If wetlands are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the FAA recommends immediately correcting, in cooperation with local, state, and Federal regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports within 5 miles of the aircraft operations area. Where required, a wildlife management plan will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a FAA Qualified Airport Wildlife Biologist.

2.4.2 New Airport Development.

Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Paragraphs 1.2 through 1.4. Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a Qualified Airport Wildlife Biologist, in coordination with the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the state wildlife management agency should evaluate the wildlife hazards and prepare a wildlife management plan that indicates methods of minimizing the hazards.

2.4.3 Mitigation for Wetland Impacts from Airport Projects.

Wetland mitigation may be necessary when unavoidable wetland disturbances result from new airport development projects or projects required to correct wildlife hazards from wetlands. Wetland mitigation must be designed so it does not create a wildlife hazard. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4.

2.4.3.1 **Onsite Mitigation of Wetland Functions.**

Wetland mitigation/conservation easements must not inhibit the airport operator's ability to effectively control hazardous wildlife on or near the mitigation site or effectively maintain other aspects of safe airport operations. Enhancing such mitigation areas to attract hazardous wildlife must be avoided. The FAA will review any onsite mitigation proposals to determine compatibility with safe airport operations and grant assurance compliance. Early coordination with the FAA is encouraged for any proposal to use airport land for wetland mitigation. A Qualified Airport Wildlife Biologist should evaluate any wetland mitigation projects that are needed to protect unique wetland functions and that must be located in the separation criteria in Paragraphs 1.2 through 1.4 before the mitigation is implemented. A wildlife management plan should be developed to reduce the wildlife hazards.

2.4.3.2 **Offsite Mitigation of Wetland Functions.**

2.4.3.2.1 The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Paragraphs 1.2 through 1.4 unless they provide unique functions that must remain onsite (see 2.4.3.1). Agencies that regulate impacts to or around wetlands recognize that it may be necessary to split wetland functions in mitigation schemes. Therefore, regulatory agencies may, under certain circumstances, allow portions of mitigation to take place in different locations.

2.4.3.2.2 The FAA encourages landowners or communities supporting the restoration or enhancement of wetlands to do so only after critically analyzing how those activities would affect aviation safety. To do so, landowners or communities should contact the affected airport sponsor, FAA, and/or a Qualified Airport Wildlife Biologist.

2.4.3.2.3 Those parties should work cooperatively to develop restoration or enhancement plans that would not worsen existing wildlife hazards or create such hazards. See Paragraphs 4.1.1 – 4.1.3 for land-use modifications evaluation criteria.

2.4.3.2.4 If parties develop a mutually acceptable restoration or enhancement plan, the landowner or community proposing the restoration or enhancement must monitor the restored or enhanced site. This monitoring must verify that efforts have not worsened or created hazardous wildlife attraction or activity. If such attraction or activity occurs, the landowner or community should work with the airport sponsor, or a Qualified Airport Wildlife Biologist to reduce the hazard to aviation.

2.4.3.3 **Mitigation Banking.**

Wetland mitigation banking is the creation or restoration of wetlands in order to provide mitigation credits that can be used to offset permitted wetland losses. Mitigation banking benefits wetland resources by providing advance replacement for permitted wetland losses; consolidating small projects into larger, better-designed and managed units; and encouraging integration of wetland mitigation projects with watershed planning. This last benefit is most helpful for airport projects, as wetland impacts mitigated outside of the separations identified in Paragraphs 1.2 through 1.4 can still be located within the same watershed. Wetland mitigation banks meeting the separation criteria offer an ecologically sound approach to mitigation in these situations. Airport operators should work with local watershed management agencies or organizations to develop mitigation banking for wetland impacts on airport property.

## 2.5 Dredge Spoil Containment Areas.

The FAA recommends against locating dredge spoil containment areas (also known as Confined Disposal Facilities) within the separations identified in Paragraphs 1.2 through 1.4 if the containment area or the spoils contain material that would attract hazardous wildlife. Proposals for new dredge spoil containment areas located within the separation distances should be reviewed on a case-by-case basis to determine the likelihood of resulting in an increase in hazardous wildlife. The FAA recommends that airport sponsors work with a Qualified Airport Wildlife Biologist and/or the FAA to review proposals for dredge spoil containment areas located within separation criteria.

## 2.6 Agricultural Activities.

Many agricultural crops can attract hazardous wildlife and should not be planted within the separations identified in Paragraphs 1.2 through 1.4. Corn, wheat, and other small grains in particular should be avoided. If the airport has no financial alternative to agricultural crops to produce the income necessary to maintain the viability of the airport, then the airport should consider growing crops that hold little food value for hazardous wildlife, such as grass hay. Attractiveness to hazardous wildlife species during all phases of production, from planting through harvest and fallow periods, should be considered when contemplating the use of airport property for agricultural production. Where agriculture is present, crop residue (e.g., waste grain) should not be left in the field following harvest. Also, airports should consult AC 150/5300-13, *Airport Design,* to ensure that agricultural crops do not create airfield obstructions or other safety hazards. Before planning or initiating any agricultural practices on airport property, operators should get approval from the appropriate FAA regional Airports Division Office and demonstrate that the additional cost of wildlife control and potential accidents is offset by revenue generated by agricultural leases. Annual review of the Airport Certification Manual by the Certification Inspector does not constitute approval and is insufficient to meet this requirement.

2.6.1 Livestock Production.

Confined livestock operations (i.e., feedlots, dairy operations, hog or chicken production facilities, or egg laying operations) often attract flocking birds, such as blackbirds, starlings, or pigeons that pose a hazard to aviation. Therefore, the FAA recommends against such facilities within the separations identified in Paragraphs 1.2 through 1.4. The airport operator should be aware of any wildlife hazards that appear to be attracted to off-site livestock operations and consider working with a Qualified Airport Wildlife Biologist to identify reasonable and feasible measures that may be proposed to landowners to reduce the attractiveness of the site to the potentially hazardous wildlife species.

2.6.1.1 In exceptional circumstances, and following FAA review and approval, livestock may be grazed on airport property as long as they are off the airfield and separated behind fencing where they cannot pose a hazard to aircraft. The livestock should be fed and watered as far away from the airfield and approach/departure space as possible because the feed and water may attract birds. The wildlife management plan should include monitoring and wildlife mitigation for any areas where the livestock and their feed/water is located in case a wildlife hazard is detected. Airports without wildlife management plans should equally consider monitoring and mitigation protocols to identify and address any wildlife hazards associated with livestock and their feeding operations.

2.6.2 Alternative Uses of Agricultural Land.

2.6.2.1 Habitat modification both on and surrounding an airfield is one of the best and most economical long term mitigation strategies to decrease risk that wildlife pose to flight safety. Alternative land uses (e.g., solar and biofuel) at airports could help mitigate many of the challenges for the airport operator, developers, and conservationists. However, careful planning must first determine that proposed alternative energy production at airports does not create wildlife attractants or other hazards.

2.6.2.2 Some airports are surrounded by vast areas of farmed land within the distances specified in Paragraphs 1.2 through 1.4. Seasonal uses of agricultural land for activities such as hunting can create a hazardous wildlife situation. In some areas, farmers will rent their land for hunting purposes. Rice farmers, among others, flood their land to attract waterfowl or for conservation efforts. This is often done during waterfowl hunting season to obtain additional revenue by renting out duck blinds.

2.6.2.3 The waterfowl hunters then use decoys and call in hundreds, if not thousands, of birds, creating a threat to aircraft safety. It is recommended that a Qualified Airport Wildlife Biologist review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate mitigating measures into the wildlife management plan, when possible.

## 2.7 Aquaculture.

Aquaculture is the breeding, rearing, and harvesting of fish, shellfish, and plants in all types of water environments including ponds, rivers, lakes, and the ocean. Aquaculture is used to produce food fish, sport fish, bait fish, ornamental fish, and to support restoration activities. Aquacultured species are grown in a range of facilities including tanks, cages, ponds, and raceways. When an aquaculture facility is proposed within the separation criteria, the airport operator, project proponent, and local jurisdiction should discuss the proposed project location with regard to its attraction to hazardous species, location near the airport and the separation distances identified in Paragraphs 1.2 through 1.4. If a facility is identified as a possible significant attraction, a more suitable location for the proposed facility should be identified. If no other suitable location exists, it is recommended that the proposed facility plans be reviewed by a Qualified Airport Wildlife Biologist to identify measures to avoid or reduce the facility's potential to attract hazardous wildlife.

2.7.1 Freshwater Aquaculture.

2.7.1.1 Freshwater aquaculture activities (e.g., catfish, tilapia, trout or bass production) are typically conducted outside of fully enclosed buildings in constructed ponds or tanks and are inherently attractive to a wide variety of birds and therefore pose a significant risk to airport safety when within the separation distances specified in Paragraphs 1.2 through 1.4. Freshwater aquaculture should only be considered if extensive mitigation measures have been incorporated to eliminate attraction to hazardous birds. Examples of such mitigation include:

1. Netting or other material to exclude hazardous birds (e.g., eagles, osprey, gulls, cormorants);
2. Acoustic hazing including pyrotechnics, propane cannons, directional sonic/hailing devices and other similar technologies;
3. Feeding procedure cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

2.7.2 Marine Aquaculture.

Marine aquaculture (Mariculture) refers to the culturing of species that live in the ocean. When appropriately managed and mitigated as necessary, mariculture facilities do not pose a significant risk to airport safety.

2.7.2.1 Finfish Mariculture.

2.7.2.1.1 U.S. finfish mariculture primarily produces salmon and steelhead trout as well as lesser amounts of cod, moi, yellowtail, barramundi, seabass, and seabream. Maricultures use rigid and non-rigid enclosures (e.g., cages) at the surface or submerged in the water column. These enclosures may be fully enclosed, or be open at the top or covered with netted material to negate losses from depredation by birds or other predators. Different facilities employ different designs and operational protocols.

2.7.2.1.2 While mariculture operations typically do not pose a significant attractant to hazardous birds, design and operational features can be incorporated as permit conditions to mitigate attraction and effectively reduce this risk. Examples of such mitigation include:

1. Fully enclosed cages using netting or other material to exclude hazardous birds (e.g., gulls, cormorants, pelicans) and to insure retention of fish;
2. Submerged enclosures to reduce attraction to hazardous birds;
3. Feed barge cleanliness, exclusion techniques prohibiting birds from perching or accessing food; efficiency of feeding operation procedures that reduce fish food attraction to hazardous birds;
4. Operation procedure efficiency transferring live fish to and from enclosures or removal of dead fish; maintenance and upkeep of facility;
5. Monitoring, mitigation and communication protocols with nearby airports as a proactive safety feature in response to specific hazardous species in the event they are identified at the facility in unacceptable numbers.

2.7.2.2 **Shellfish Mariculture.**

U.S. shellfish mariculture primarily produces oysters, clams, mussels, lobster and shrimp. Shellfish may be grown directly on the bottom, in submerged cages or bags, or on suspended lines. These types of mariculture operations do not typically present a significant attractant to hazardous birds. For those operations that are found to pose a significant risk, design and operation features that diminish possible attraction to hazardous bird species (e.g., reducing areas for perching or feeding) can effectively reduce this risk.

2.7.2.3 **Plant Mariculture.**

2.7.2.3.1 Microalgae, also referred to as phytoplankton, microphytes, or planktonic algae constitute the majority of cultivated algae. Macroalgae, commonly known as seaweed, also have many commercial and industrial uses.

2.7.2.3.2 While few commercial seaweed farms exist, the sector is growing. These types of mariculture operations do not typically present an attractant to hazardous birds.

## 2.8 **Golf Courses, Landscaping, Structures and Other Land-Use Considerations.**

2.8.1 Golf Courses.

The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese and some species of gulls. These species can pose a threat to aviation safety. If golf courses are located on or near airport property, airport operators should be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. Accordingly, airport operators should develop, at a minimum, onsite measures to minimize hazardous wildlife attraction in consultation with a Qualified Airport Wildlife Biologist. Existing golf courses located within these separations that have been documented to attract hazardous wildlife are encouraged to develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. The FAA recommends against construction of new golf courses within the separations identified in Paragraphs 1.2 through 1.4 if determined that the new facility would create a significant wildlife hazard attractant by a Qualified Airport Wildlife Biologist. Airport operators should ensure these golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

2.8.2 Landscaping and Landscape Maintenance.

2.8.2.1 Depending on its geographic location, landscaping can attract hazardous wildlife. The FAA recommends that airport operators approach landscaping with caution and confine it to airport areas not associated with aircraft movements. Vegetation that produces seeds, fruits, or berries, or that provides dense roosting or nesting cover should not be used. Airports should develop a landscape plan to include approved and prohibited plants. The landscape plan should consider the watering needs of mature plants. A Qualified Airport Wildlife Biologist should review all landscaping plans. Airport operators should also monitor all landscaped areas on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, corrective actions should be immediately implemented.

2.8.2.2 Turf grass areas on airports have the potential to be highly attractive to a variety of hazardous wildlife species. Research conducted by the USDA Wildlife Services' National Wildlife Research Center has shown that no one airfield vegetation management regimen will deter all species of hazardous wildlife in all situations. The composition and height of airfield grasslands should be properly managed to reduce their attractiveness to hazardous wildlife. In many situations, an intermediate height, monoculture turf grass might be most favorable. In cooperation with a

Qualified Airport Wildlife Biologist, airport operators should develop airport turf grass management plans on a prescription basis, including cultivar selection during reseeding efforts, that is specific to the airport's geographic location, climatic conditions, and the type of hazardous wildlife likely to frequent the airport.

2.8.2.3 Airport operators should ensure that plant varieties attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass. For airport property already planted with seed mixtures containing millet, rye grass, or other large-seed producing grasses, the FAA recommends disking, plowing, or another suitable agricultural practice to prevent plant maturation and seed head production. Plantings should follow the specific recommendations for grass management and seed and plant selection made by the State University Cooperative Extension Service, the local office of Wildlife Services, or a Qualified Airport Wildlife Biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a Qualified Airport Wildlife Biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

2.8.3 Structures.

2.8.3.1 Certain structures attract birds for loafing and nesting. Flat rooftops can be attractive to many species of gulls for nesting, hangars provide roosting / nesting opportunities for rock doves, towers, light posts and navigation aids can provide loafing / hunting perches for raptors and aircraft can provide loafing / nesting sites for European starlings, blackbirds and other species. These structures should be monitored and mitigated, if located on-site. Off-site structural attractions may require additional coordination to effectively mitigate their use by hazardous species.

2.8.3.2 Cellular communications towers are becoming increasingly more attractive to large birds (e.g., osprey, eagles, herons, vultures) for nesting and rearing their young. This problem is a growing concern because once the young fledge from nests built on manmade structures they are more likely to return to these kinds of sites to reproduce in future years.

2.8.4 Other Hazardous Wildlife Attractants.

Other land uses (e.g., conservation easements, parks, wildlife management areas) or activities not addressed in this AC may have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, each certificate holder must take prompt remedial action(s) to protect aviation safety and all non-certificated airports should take prompt remedial action(s) to protect aviation safety.

## 2.9 **Habitat for State and Federally Listed Species on Airports.**

An airport's air operations area is an artificial environment that has been created and maintained for aircraft operations. Because an aircraft operations area can be markedly different from the surrounding native landscapes, it may attract wildlife species that do not normally occur, or that occur only in low numbers in the area. Some of the grassland species attracted to an airport's aircraft operations area are at the edge of their natural ranges, but are attracted to habitat features found in the airport environment. Also, some wildlife species may occur on the airport in higher numbers than occur naturally in the region because the airport offers habitat features the species prefer. Some of these wildlife species are Federal or state-listed threatened and endangered species or have been designated by state resource agencies as species of special concern.

2.9.1 State-Listed Species Habitat Concerns.

2.9.1.1 Many state wildlife agencies have requested that airport operators facilitate and encourage habitat on airports for state-listed threatened and endangered species or species of special concern. Airport operators should exercise caution in adopting new management techniques because they may increase wildlife hazards and be inconsistent with safe airport operations. Managing the on-airport environment to facilitate or encourage the presence of hazardous wildlife species can create conditions that are incompatible with, or pose a threat to, aviation safety.

2.9.1.2 Not all state-listed threatened and endangered species or species of concern pose a direct threat to aviation safety. However, these species may pose an indirect threat and be hazardous because they attract other wildlife species or support prey species attractive to other species that are directly hazardous. Also, the habitat management practices that benefit these state-listed threatened and endangered species and species of special concern may attract other hazardous wildlife species. On-airport habitat and wildlife management practices designed to benefit wildlife that directly or indirectly create safety hazard where none existed before are incompatible with safe airport operations.

2.9.2 Federally Listed Species Habitat Concerns.

2.9.2.1 The FAA supports efforts to protect threatened and endangered species, as a matter of principle and consistent with the Endangered Species Act of 1973. The FAA must balance these requirements with our requirements and mission to maintain a safe and efficient airport system. Requests to enhance or create habitat for threatened and endangered species often conflict with the safety of the traveling public and may place the protected species at risk of mortality by aircraft collisions. The FAA does not support the creation, conservation or enhancement of habitat or refuges to attract endangered species on airports. If endangered species are present on an airport, specific obligations may apply under the Endangered

Species Act, 16 U.S.C. § 1531 et seq. and the airport operator should contact the Airports District Office Environmental Protection Specialist.

2.9.2.2 The designation of critical habitat for listed species under the Endangered Species Act on airport lands may be an incompatible land use in conflict with the intended and dedicated purpose of airport lands and may limit or preclude the ability of the airport to develop new infrastructure and growth capacity to meet future air carrier service demand. In addition, depending on the listed species (primarily but not limited to avian species), the designation of critical habitat within the separation distances provided in paragraphs 1.2 - 1.4 can represent a hazardous wildlife attractant in conflict with 14 CFR Part 139.337.

## 2.10 Synergistic Effects of Surrounding Land Uses.

There may be circumstances where two or more different land uses would not, by themselves, be considered hazardous wildlife attractants or are located outside of the separations identified in Paragraphs 1.2 through 1.4 but collectively may create a wildlife corridor directly through the airport and/or surrounding airspace. An example involves a lake located outside of the separation criteria on the east side of an airport and a large hayfield on the west side of an airport. These two land uses, taken together, could create a flyway for Canada geese directly across the airspace of the airport. Airport operators must consider the entire surrounding landscape and community when developing the wildlife management plan.

# APPENDIX 4 – South Carolina Code of Laws Unannotated – (2 pages)

Accessible online at:
https://www.scstatehouse.gov/code/t50c011.php

**Title 50 - Fish, Game and Watercraft**

CHAPTER 11

Protection of Game

**SECTION 50-11-10.** Adoption of Federal Migratory Bird Treaty Act; prohibitions concerning hunting of waterfowl; penalties.

(A) The Federal Migratory Bird Treaty Act and its implementing regulations are the law of this State. However, the board annually may set seasons, bag limits, and methods for hunting and taking migratory birds consistent with federal law. A violation of the Migratory Bird Treaty Act or its implementing regulations or a violation of regulations set by the board is a misdemeanor.

(B) In addition, it is unlawful to:

(1) trespass while hunting waterfowl;

(2) take or attempt to take waterfowl over bait;

(3) take or attempt to take waterfowl more than fifteen minutes before or after regularly designated hunting hours;

(4) possess more than one waterfowl over the legal limit;

(5) hunt waterfowl out of season.

(C) A person who violates a provision of subsection (A), with the exception of those provisions specified in subsection (B), is guilty of a misdemeanor and, upon conviction, must be fined not less than twenty-five dollars nor more than five hundred dollars or imprisoned not more than thirty days for each offense. A person who violates a provision of subsection (B) is guilty of a misdemeanor and, upon conviction, must be fined not less than two hundred dollars nor more than five hundred dollars or imprisoned not more than thirty days for each offense.

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**SECTION 50-11-820.** Unlawful to kill, catch, have in possession, or offer or expose for sale resident or migratory wild bird; exception.

No person within the State may kill, catch, or have in his possession, living or dead, any resident or migratory wild bird, other than a game bird, or purchase or offer or expose for sale any wild nongame bird after it has been killed or caught, except as permitted by Section 50-11-1180.

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**SECTION 50-11-840.** Destroying active wild bird nest or eggs; permit for removal.

(A) No person may take or destroy, or attempt to take or destroy, an active nest or the eggs of a wild bird or have an active nest or eggs in his possession, except pursuant to a permit issued by the department. An "active nest" means a nest with birds or eggs present.

(B) The department may issue a permit for the removal of an active nest or eggs that constitute a public safety threat or when birds are causing damage to property.

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**SECTION 50-11-852.** Unlawful to molest or kill birds of prey; bald eagles; penalties.

It is unlawful for any person to molest or kill any of the birds of prey within this State. Birds of prey include all hawks, eagles, falcons, kites, vultures, owls, and ospreys. Anyone violating the provisions of this section is guilty of a misdemeanor and, upon conviction, must be fined not less than two hundred dollars nor more than five hundred dollars or imprisoned for not more than thirty days. However, if the bird of prey is a bald eagle, the person violating the provisions of this section is guilty of a misdemeanor and, upon conviction, must be fined not less than five hundred dollars nor more than one thousand dollars or be imprisoned for not less than thirty days nor more than one year, or both.

If the bird of prey is a bald eagle, the person convicted shall also lose his privilege to hunt in this State for a period of five years from the date he is convicted of this offense if the bald eagle was killed and for a period of five years if the bald eagle was molested. "Convicted" for purposes of this section includes a plea of guilty or nolo contendere to the offense.

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**SECTION 50-11-880.** Wildlife sanctuaries declared in certain areas; unlawful to discharge firearm or attempt to take or kill wildlife in sanctuaries; exceptions.

The following areas are designated as wildlife sanctuaries:

(1) the Sea Pines Public Service District on Hilton Head Island, Beaufort County;

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**SECTION 50-11-1050.** Permit to remove destructive wildlife.

Where wildlife is destroying property, the department, upon the request of the property owner, may issue a permit authorizing the property owner, under the supervision of the department, to take action necessary to remove the destructive wildlife from his property.

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**SECTION 50-11-1090.** Authority of department to permit taking of game animal; requirements.

The department has the authority during any season of the year to permit the taking of any game animal and prescribe the method by which they may be taken when they cause damage to crops or property or when they pose a significant human health risk. Any animal taken under these conditions is under the supervision of the department.

## APPENDIX 5 – FAA Wildlife Survey Data Sheet Example – (1 page)

Accessible online at:
https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-38.pdf

**From: FAA Advisory Circular 150/5200-38 Appendix D.**

# Airport Observation Sheet

AIRPORT NAME OBSERVER SURVEY PERIOD DATE

TIME TEMPERATURE WIND DIR / SPEED WEATHER SUNRISE SUNSET

| TIME | PT | LOC | SPP | # | ACT | COV | DIR | COMMENTS |
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SU - sunny
PS - partly sunny
CL - cloudy
RN - rain
SN - snow/sleet
FG - fog
PC - partly cloudy

FD - feeding
LF - loafing
RS- roosting
NS - nesting
VO - vocalizing
FL - flying local
FP - flying passing

RN – running
BD - bedded
P – perched
ST – standing
TW- towering
HW - hawking
SW- swimming

RWY - runway
TWY - taxiway
RMP - ramp
ASP - asphalt
UNP - unpaved road
STR - structure
DTC - ditch

PND - pond
RES - reservoir
RIV - river
WDL – woodland
MAR - marsh/wetland
CRK - creek/stream
TSW - temp standing water
TR - single/sm group of trees

GSH grass, short
GLG - grass, long
SHB - shrubs
GRV - gravel
AGF - ag field
SHR - shoreline

# APPENDIX 6 – Observed Species List for HXD WHA – (2 pages)

| GUILD | COMMON NAME | SCIENTIFIC NAME |
|---|---|---|
| Aerialists | American cliff swallow | *Petrochelidon pyrrhonota* |
| | Barn swallow | *Hirundo rustica* |
| | Chimney swift | *Chaetura pelagica* |
| | Tree Swallow | *Tachycineta bicolor* |
| Blackbirds | Boat-tailed grackle | *Quiscalus major* |
| | Brown-headed cowbird | *Molothrus ater* |
| | Common grackle | *Quiscalus quiscula* |
| | European starling | *Sturnus vulgaris* |
| | Orchard oriole | *Icterus spurius* |
| | Red-winged blackbird | *Agelaius phoeniceus* |
| Columbids | Mourning dove | *Zenaida macroura* |
| Corvids | American crow | *Corvus brachyrhynchos* |
| | Blue jay | *Cyanocitta cristata* |
| | Fish crow | *Corvus ossifragus* |
| Forest birds | Belted kingfisher | *Megaceryle alcyon* |
| | Brown thrasher | *Toxostoma rufum* |
| | Cedar waxwing | *Bombycilla cedrorum* |
| | Downy woodpecker | *Dryobates pubescens* |
| | Eastern Bluebird | *Sialia sialis* |
| | Gray Catbird | *Dumetella carolinensis* |
| | Northern Mockingbird | *Mimus polyglottos* |
| | Pileated woodpecker | *Dryocopus pileatus* |
| | Red-bellied woodpecker | *Melanerpes carolinus* |
| | Red-headed woodpecker | *Melanerpes erythrocephalus* |
| | Yellow-bellied sapsucker | *Sphyrapicus varius* |
| Grassland birds | Chipping sparrow | *Spizella passerina* |
| | Eastern Meadowlark | *Sturnella magna* |
| | Eastern towhee | *Pipilo erythrophthalmus* |
| | Savannah Sparrow | *Passerculus sandwichensis* |
| | Song sparrow | *Melospiza melodia* |
| | Vesper sparrow | *Pooecetes gramineus* |
| Gulls or Terns | Caspian tern | *Hydroprogne caspia* |
| | Herring gull | *Larus argentatus* |
| | Laughing gull | *Leucophaeus atricilla* |
| | Ring-billed gull | *Larus delawarensis* |
| Herptiles | American alligator | *Alligator mississippie* |
| | American toad | *Anaxyrus americanus* |
| Mammals | Coyote (sign) | *Canis latrans* |
| | Eastern cottontail rabbit | *Sylvilagus floridanus* |
| | Eastern gray squirrel | *Sciurus carolinensis* |
| | Feral/free ranging cat | *Felis catus* |
| | Nine-banded armadillo (sign) | *Dasypus novemcinctus* |
| | Roof rat (Brown rat) | *Rattus norvegicus* |
| | White-tailed deer | *Odocoileus virginianus* |

| GUILD | COMMON NAME | SCIENTIFIC NAME |
|---|---|---|
| Raptors | American kestrel | *Falco sparverius* |
| | Bald eagle | *Haliaeetus leucocephalus* |
| | Black vulture | *Coragyps atratus* |
| | Cooper's hawk | *Accipiter cooperii* |
| | Mississippi kite | *Ictinia mississippiensis* |
| | Osprey | *Pandion haliaetus* |
| | Red-shouldered hawk | *Buteo lineatus* |
| | Red-tailed hawk | *Buteo jamaicensis* |
| | Swallow-tailed kite | *Elanoides forficatus* |
| | Turkey vulture | *Cathartes aura* |
| Shorebirds | Killdeer | *Charadrius vociferus* |
| Small songbirds | Blue-gray gnatcatcher | *Polioptila caerulea* |
| | Brown-headed nuthatch | *Sitta pusilla* |
| | Carolina chickadee | *Poecile carolinensis* |
| | Carolina wren | *Thryothorus ludovicianus* |
| | Eastern kingbird | *Tyrannus tyrannus* |
| | Eastern phoebe | *Sayornis phoebe* |
| | Great crested flycatcher | *Myiarchus crinitus* |
| | House finch | *Haemorhous mexicanus* |
| | Northern cardinal | *Cardinalis cardinalis* |
| | Northern parula | *Setophaga americana* |
| | Painted bunting | *Passerina ciris* |
| | Palm warbler | *Setophaga palmarum* |
| | Pine warbler | *Setophaga pinus* |
| | Ruby-crowned kinglet | *Corthylio calendula* |
| | Tufted titmouse | *Baeolophus bicolor* |
| | White-eyed vireo | *Vireo griseus* |
| | Yellow-rumped warbler | *Setophaga coronata* |
| Wading birds | American white ibis | *Eudocimus albus* |
| | Eastern cattle egret | *Bubulcus ibis* |
| | Great blue heron | *Ardea herodias* |
| | Great egret | *Ardea alba* |
| | Little blue heron | *Egretta caerulea* |
| | Roseate spoonbill | *Platalea ajaja* |
| | Snowy egret | *Egretta thula* |
| | Tricolored heron | *Egretta tricolor* |
| | Wood stork | *Mycteria americana* |
| | Yellow-crowned night heron | *Nyctanassa violacea* |
| Waterbirds | Anhinga | *Anhinga anhinga* |
| | Brown pelican | *Pelecanus occidentalis* |
| | Clapper rail | *Rallus crepitans* |
| | Double-crested cormorant | *Nannopterum auritum* |
| | Pied-billed grebe | *Podilymbus podiceps* |
| Waterfowl | Black-bellied whistling duck | *Dendrocygna autumnalis* |
| | Bufflehead | *Bucephala albeola* |
| | Canada goose | *Branta canadensis* |
| | Hooded merganser | *Lophodytes cucullatus* |
| | Ring-necked duck | *Aythya collaris* |

# APPENDIX 7 – FAA Bird / Other Wildlife Strike Report – (3 pages)

Accessible online at:
https://www.faa.gov/documentLibrary/media/form/faa5200-7.pdf

Online Strike Reporting:
https://wildlife.faa.gov/home

**Directions for FAA Form 5200-7 Bird/Other Wildlife Strike Report**

1. Name of Operator - This can be an airline (abbreviations okay - UAL, AAL, etc.), business (Coca Cola), government agency (Police Dept., FAA) or if a private pilot, his/her name.
2. Aircraft Make/Model - Abbreviations are okay, but to include the model (e.g. B737-200).
3. Engine Make/Model - Abbreviations are allowed (e.g., PW 4060, GECT7, LYC 580).
4. Aircraft Registration - This means the N# (for USA registered aircraft).
5. Date of Incident - Give the local date, not the ZULU or GMT date.
6. Local Time of Incident - Check the appropriate light conditions and fill in the hour and minute local time and check AM or PM or use the 24 clock and skip AM/PM.
7. Airport Name - Use the airport name or 3 letter code if a US airport. If a foreign airport, use the full name or 3 letter code and location (city/country).
8. Runway used - Self explanatory.
9. Location if En Route - Put the name of the nearest city and state.
10. Height AGL - Put the feet above ground level at the time of the strike (if you don't know, use MSL and indicate this). For take-off run and landing roll, it must be 0.
11. Speed (IAS) - Speed at which the aircraft was traveling when the strike occurred.
12. Phase of Flight - Phase of flight during which the strike occurred. Take-off run and landing roll should both be 0 AGL.
13. Part(s) of Aircraft Struck or Damaged - Check which parts were struck and damaged. If a part was damaged but not struck indicate this with a check on the damaged column only and indicate in comments (#21) why this happened (e.g., the landing gear might be damaged by deer strike, causing the aircraft to flip over and damage parts not struck by deer).
14. Effect on Flight - You can check more than one and if you check (Other", please explain in Comments (#21).
15. Sky condition - Check the one that applies.
16. Precipitation - You may check more than one.
17. Bird/Other Wildlife Species - Try to be accurate. If you don't know, put unknown and some description. Collect feathers or remains for identification for damaging strikes.
18. Number of birds seen and/or struck - check the box in the Seen column with the correct number if you saw the birds/other wildlife before the strike and check the box in the Struck column to show how many were hit. The exact number, can be written next to the box.
19. Size of Bird(s) - Check what you think is the correct size (e.g. sparrow = small, gull = medium and geese = large).
20. Pilot Warned of Birds - Check the correct box (even if it was an ATIS warning or NOTAM).
21. Remarks - Be as specific as you can. Include information about the extent of the damage, injuries, anything you think would be helpful to know. (e.g., number of birds ingested).
22. Aircraft time out of service - Record how many hours the aircraft was out of service.
23. Estimated cost of repairs or replacement - This may not be known immediately, but the data can be sent at a later date or put down a contact name and number for this data.
24. Estimated other cost - Include loss of revenue, fuel, hotels, etc. (see directions for #23).
25. Reported by - Although this is optional, it is helpful if questions arise about the information on the form (a phone number could also be included).
26. Title - This can be Pilot, Tower, Airport Operations, Airline Operations, Flight Safety, etc.
27. Date - Date the form was filled out.

# BIRD / OTHER WILDLIFE STRIKE REPORT

U S. Department of Transportation
**Federal Aviation Administration**

| 1. Name of Operator | 2. Aircraft Make/Model | 3. Engine Make/Model |
|---|---|---|
| | | |

| 4. Aircraft Registration | 5. Date of Incident | 6. Local Time of Incident |
|---|---|---|
| | ____/____/____ Month Day Year | ☐ Dawn ☐ Dusk ___ HR ___ MIN ☐ Day ☐ Night ☐ AM ☐ PM |

| 7. Airport Name | 8. Runway Used | 9. Location if En Route (Nearest Town/Reference & State) |
|---|---|---|
| | | |

| 10. Height (AGL) | 11. Speed (IAS) |
|---|---|
| | |

**12. Phase of Flight**

- ☐ A. Parked
- ☐ B. Taxi
- ☐ C. Take-off Run
- ☐ D. Climb
- ☐ E. En Route
- ☐ F. Descent
- ☐ G. Approach
- ☐ H. Landing Roll

**13. Part(s) of Aircraft Struck or Damaged**

| | Struck | Damaged | | Struck | Damaged |
|---|---|---|---|---|---|
| A. Radome | ☐ | ☐ | H. Propeller | ☐ | ☐ |
| B. Windshield | ☐ | ☐ | I. Wing/Rotor | ☐ | ☐ |
| C. Nose | ☐ | ☐ | J. Fuselage | ☐ | ☐ |
| D. Engine No. 1 | ☐ | ☐ | K. Landing Gear | ☐ | ☐ |
| E. Engine No. 2 | ☐ | ☐ | L. Tail | ☐ | ☐ |
| F. Engine No. 3 | ☐ | ☐ | M. Lights | ☐ | ☐ |
| G. Engine No. 4 | ☐ | ☐ | N. Other: (Specify) | ☐ | ☐ |

**14. Effect on Flight**

- ☐ None
- ☐ Aborted Take-Off
- ☐ Precautionary Landing
- ☐ Engines Shut Down
- ☐ Other: (Specify)

**15. Sky Condition**

- ☐ No Cloud
- ☐ Some Cloud
- ☐ Overcast

**16. Precipitation**

- ☐ Fog
- ☐ Rain
- ☐ Snow
- ☐ None

**17. Bird/Other Wildlife Species**

**18. Number of birds seen and/or struck**

| Number of Birds | Seen | Struck |
|---|---|---|
| 1 | ☐ | ☐ |
| 2-10 | ☐ | ☐ |
| 11-100 | ☐ | ☐ |
| more than 100 | ☐ | ☐ |

**19. Size of Bird(s)**

- ☐ Small
- ☐ Medium
- ☐ Large

**20. Pilot Warned of Birds** ☐ Yes ☐ No

**21. Remarks** *(Describe damage, injuries and other pertinent information)*

**DAMAGE / COST INFORMATION**

| 22. Aircraft time out of service: | 23. Estimated cost of repairs or replacement (U.S. $): | 24. Estimated other Cost *(U.S. $) (e.g. loss of revenue, fuel, hotels):* |
|---|---|---|
| _____ hours | $ | $ |

| Reported by *(Optional)* | Title | Date |
|---|---|---|
| | | |

**Paperwork Reduction Act Statement:** The information collected on this form is necessary to allow the Federal Aviation Administration to assess the magnitude and severity of the wildlife-aircraft strike problem in the U.S. The information is used in determining the best management practices for reducing the hazard to aviation safety caused by wildlife-aircraft strikes. We estimate that it will take approximately 6 minutes to complete the form. The information collected is voluntary. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number associated with this collection is 2120-0045. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, ABA-20

U.S. Department
of Transportation

**Federal Aviation Administration**

800 Independence Ave. S.W.
Washington, D.C. 20561

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Office of Airport Safety and Standards, AAS-310
800 Independence Avenue, SW
WASHINGTON, DC 20591

# APPENDIX 8 – 33 Birds Most Frequently Struck by Aircraft – (1 page)

Accessible online at:
https://www.faa.gov/airports/airport_safety/wildlife/wildlife-strike-report-1990-2023-USDA-FAA

## From: Wildlife Strikes to Civil Aircraft in the United States 1990-2023 Table 20

Table 20. The 33 species of birds identified most frequently as struck by civil aircraft in USA, 1990-2023 and 2023 only. See Figure 14 for relation between mean body mass and percent of strikes causing damage for these 33 species, 1990-2023.

| | Strikes (1990-2023)[1] | | | Strikes (2023 only)[1] | | |
|---|---|---|---|---|---|---|
| Rank | Bird species | Num-ber | % with damage | Bird species | Num-ber | % with damage |
| 1 | Mourning dove | 14,962 | 1.8 | Mourning dove | 1,126 | 1.0 |
| 2 | Barn swallow | 9,914 | 0.4 | Barn swallow | 870 | 0.1 |
| 3 | Killdeer | 9,881 | 0.8 | Killdeer | 716 | 0.3 |
| 4 | American kestrel | 9,104 | 0.6 | Horned lark | 692 | 1.0 |
| 5 | Horned lark | 8,263 | 0.5 | American kestrel | 654 | 0.9 |
| 6 | European starling | 6,208 | 2.6 | Eastern meadowlark | 395 | 1.3 |
| 7 | Eastern meadowlark | 4,340 | 0.8 | European starling | 281 | 1.8 |
| 8 | Rock pigeon | 4,334 | 7.1 | Cliff swallow | 248 | 0.4 |
| 9 | Red-tailed hawk | 4,048 | 12.9 | Western meadowlark | 208 | 0.0 |
| 10 | Cliff swallow | 2,933 | 0.3 | Red-tailed hawk | 202 | 9.4 |
| 11 | Western meadowlark | 2,527 | 1.1 | Rock pigeon | 200 | 3.5 |
| 12 | American robin | 2,318 | 7.5 | American robin | 200 | 9.5 |
| 13 | Ring-billed gull | 2,250 | 6.4 | Savannah sparrow | 175 | 0.6 |
| 14 | Canada goose | 2,142 | 46.4 | Chimney swift | 164 | 0.6 |
| 15 | Herring gull | 2,087 | 7.7 | Barn owl | 109 | 2.8 |
| 16 | Barn owl | 2,047 | 3.1 | Common nighthawk | 104 | 0.0 |
| 17 | Chimney swift | 1,658 | 1.1 | Swainson's thrush | 104 | 2.9 |
| 18 | Savannah sparrow | 1,555 | 0.8 | Yellow-rumped warbler | 103 | 0.0 |
| 19 | Pacific golden-plover | 1,506 | 0.9 | Ring-billed gull | 100 | 2.0 |
| 20 | Mallard | 1,389 | 19.6 | Herring gull | 99 | 4.0 |
| 21 | Common nighthawk | 1,293 | 0.5 | Cattle egret | 90 | 2.2 |
| 22 | Tree swallow | 1,248 | 0.1 | Tree swallow | 86 | 0.0 |
| 23 | Laughing gull | 1,204 | 2.7 | White-throated sparrow | 82 | 0.0 |
| 24 | Turkey vulture | 1,163 | 48.7 | Canada goose | 81 | 30.9 |
| 25 | Cattle egret | 895 | 5.7 | Mallard | 80 | 18.8 |
| 26 | Short-eared owl | 882 | 1.9 | Pacific golden-plover | 78 | 0.0 |
| 27 | Bank swallow | 825 | 0.2 | Gray catbird | 73 | 2.7 |
| 28 | Red-winged blackbird | 775 | 1.0 | American pipit | 71 | 0.0 |
| 29 | Yellow-rumped warbler | 741 | 0.5 | Cedar waxwing | 71 | 2.8 |
| 30 | American crow | 721 | 7.2 | Hermit thrush | 68 | 1.5 |
| 31 | Swainson's thrush | 681 | 5.1 | Red-winged blackbird | 67 | 1.5 |
| 32 | Osprey | 628 | 21.3 | Turkey vulture | 62 | 48.4 |
| 33 | Peregrine falcon | 618 | 5.7 | Short-eared owl | 61 | 3.3 |

# APPENDIX 9 – FAA Composite Ranking of Hazardous Wildlife – (3 pages)

Accessible online at:
https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-38.pdf

**From: FAA Advisory Circular 150/5200-38 Appendix A.**

Composite ranking (1 = most hazardous, 50 = least hazardous) and relative hazard score of 50 wildlife species with at least 100 reported strikes with civil aircraft based on three criteria (damage, major damage, and effect-on-flight). Data were derived from the FAA National Wildlife Strike Database, 1990–2012.[1]

| Wildlife species | % of strikes with: | | | Mean hazard level[5] | Composite ranking | Relative hazard score[6] |
|---|---|---|---|---|---|---|
| | Damage[2] | Major damage[3] | Effect on flight[4] | | | |
| White-tailed deer | 84 | 36 | 46 | 55 | 1 | 100 |
| Snow goose | 77 | 41 | 39 | 53 | 2 | 95 |
| Turkey vulture | 51 | 19 | 35 | 35 | 3 | 63 |
| Canada goose | 50 | 17 | 28 | 31 | 4 | 57 |
| Sandhill crane | 41 | 13 | 27 | 27 | 5 | 48 |
| Bald eagle | 41 | 12 | 28 | 27 | 6 | 48 |
| D.-crested cormorant | 34 | 15 | 24 | 24 | 7 | 44 |
| Mallard | 23 | 9 | 13 | 15 | 8 | 27 |
| Osprey | 22 | 7 | 15 | 15 | 9 | 26 |
| Great blue heron | 21 | 6 | 16 | 15 | 10 | 26 |
| American coot | 24 | 7 | 11 | 14 | 11 | 25 |
| Coyote | 9 | 2 | 21 | 11 | 12 | 19 |
| Red-tailed hawk | 15 | 5 | 11 | 10 | 13 | 19 |
| Cattle egret | 10 | 3 | 15 | 9 | 14 | 17 |
| Great horned owl | 15 | 3 | 6 | 8 | 15 | 14 |
| Herring gull | 10 | 5 | 9 | 8 | 16 | 14 |
| Rock pigeon | 10 | 4 | 10 | 8 | 17 | 14 |
| Ring-billed gull | 8 | 3 | 8 | 6 | 18 | 11 |

| Wildlife species | % of strikes with: | | | Mean hazard level[5] | Composite ranking | Relative hazard score[6] |
|---|---|---|---|---|---|---|
| | Damage[2] | Major damage[3] | Effect on flight[4] | | | |
| American crow | 8 | 3 | 8 | 6 | 18 | 11 |
| Peregrine falcon | 8 | 2 | 5 | 5 | 20 | 9 |
| Laughing gull | 5 | 2 | 7 | 5 | 21 | 8 |
| American robin | 7 | 1 | 4 | 4 | 22 | 7 |
| Snow bunting | 1 | 1 | 9 | 4 | 23 | 7 |
| Red fox | 3 | 0 | 8 | 4 | 23 | 7 |
| European starling | 4 | 1 | 5 | 3 | 25 | 6 |
| Amer. golden-plover | 4 | 2 | 4 | 3 | 26 | 6 |
| Barn owl | 4 | 2 | 3 | 3 | 27 | 5 |
| Upland sandpiper | 4 | 1 | 4 | 3 | 27 | 5 |
| Purple martin | 5 | 1 | 2 | 3 | 29 | 5 |
| Mourning dove | 3 | 1 | 4 | 3 | 30 | 5 |
| Red-winged blackbird | 3 | 0 | 5 | 3 | 31 | 5 |
| Woodchuck | 2 | 0 | 4 | 2 | 32 | 4 |
| Northern harrier | 2 | 1 | 2 | 2 | 33 | 3 |
| Chimney swift | 2 | 0 | 2 | 1 | 34 | 2 |
| Killdeer | 1 | 0 | 2 | 1 | 35 | 2 |
| House sparrow | 2 | 0 | 1 | 1 | 35 | 2 |
| Black-tailed jackrabbit | 1 | 1 | 1 | 1 | 37 | 2 |
| American kestrel | 1 | <1 | 2 | 1 | 38 | 2 |
| Eastern meadowlark | 1 | <1 | 2 | 1 | 38 | 2 |
| S.-tailed flycatcher | 0 | 0 | 2 | 1 | 40 | 1 |
| Horned lark | 1 | <1 | 1 | 1 | 41 | 1 |
| Pacific golden-plover | 1 | 0 | 1 | 1 | 41 | 1 |

| Wildlife species | % of strikes with: | | | Mean hazard level[5] | Composite ranking | Relative hazard score[6] |
|---|---|---|---|---|---|---|
| | Damage[2] | Major damage[3] | Effect on flight[4] | | | |
| Barn swallow | 1 | 0 | 1 | 1 | 43 | 1 |
| Savannah sparrow | 1 | 0 | <1 | 1 | 43 | 1 |
| Common nighthawk | 1 | 0 | 1 | 1 | 45 | 1 |
| Tree swallow | 0 | 0 | 1 | <1 | 46 | 1 |
| Burrowing owl | 1 | 0 | 0 | <1 | 46 | 1 |
| Western kingbird | 0 | 0 | 1 | <1 | 48 | 0 |
| Virginia opossum | 1 | 0 | 0 | <1 | 48 | 0 |
| Striped skunk | 0 | 0 | 0 | 0 | 50 | 0 |

## Notes:

[1] Excerpted from Table 19 of Serial Report No. 19, "Wildlife strikes to civil aircraft in the United States, 1990- 2012. U.S. Department of Transportation, Federal Aviation Administration, Office of Airport Safety and Standards, Washington, DC., USA. Refer to this report for additional explanations of criteria and method of ranking.

[2] Aircraft incurred at least some damage (destroyed, substantial, minor, or unknown) from strike.

[3] Aircraft incurred damage or structural failure, which adversely affected the structure strength, performance, or flight characteristics, and which would normally require major repair or replacement of the affected component, or the damage sustained made it inadvisable to restore aircraft to airworthy condition.

[4] Aborted takeoff, engine shutdown, precautionary landing, or other negative effect on flight.

[5] Based on the mean value for percent of strikes with damage, major damage (substantial damage or destroyed), and negative effect-on-flight.

[6] Mean hazard level (see footnote 5) was scaled down from 100, with 100 as the score for the species with the maximum mean hazard level and thus the greatest potential hazard to aircraft.

Additional Information

Beaufort County Airports Policy

Prohibition of Feeding Animals at or near Airport Premises

**References**

a. CFR Title 14 FAR Part 139.337 – Certification of Airports
Accessible online at:
https://www.ecfr.gov/current/title-14/chapter-I/subchapter-G/part-139/subpart-D/section-139.337
b. AC 150/5200-33C, Advisory Circular, Hazardous Wildlife Attractants on or near Airports
Accessible online at:
Advisory Circular 150/5200-33C, Hazardous Wildlife Attractants on or near Airports, 21 February 2020
c. Wildlife Hazard Assessment for Hilton Head Island Airport, dated August 2024 (provided as a pdf document)

**Definitions**

Wildlife Hazard – "Potential for a damaging collision with wildlife on or near an airport. As used in this part, "wildlife" includes feral animals and domestic animals out of the control of their owners" (Ref a. 139.5 Definitions, Wildlife Hazard and Ref b. pg. A-1 #11, pg. A-4 #33.)

Hazard Wildlife - Species of wildlife (birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching). (Ref b. pg A-3 #11)

Wildlife – Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustation, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof. Wildlife includes feral animals and domestic animals out of the control of their owners. (Ref b. pg. A-3 #31.)

Wildlife Attractant – Any human-made structure, land-use practice, or human-made or natural geographic feature that can attract or sustain hazardous wildlife within the landing or departure airspace or the airport's aircraft operations area. These attractants include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquacultural activities, surface mining, and wetlands. (Ref b pg. A-3 #32.)

**Observations and Mitigation**

- Aircraft and passenger safety are the highest priority in airports.
- An increase in observed wildlife and reported wildlife strikes required a wildlife assessment conducted from June 2023 – July 2024
- Assessment results indicated elevated wildlife strikes from 2015 to the present, some of which caused damage (Ref c, pg. 15, 16, 17, 18)
- Observed Wildlife attractants have been observed throughout airport property, including bird feeders, dog and cat food, animal housing containers, and refuse.

- Attractants typically attract bugs and rodents, which attract larger mammals and ferals that feed and attract birds of prey that circle the airfield, causing a hazard to aircraft and human lives.
- Airport wildlife hazard mitigation extends to a 10,000' boundary surrounding the airport center point. (Piston-powered aircraft 5000' boundary, Turbine-powered aircraft 10,000' boundary, Commercial airport's 5-mile distance) (Reb b, pg. 1-1,1.2, pg. 1-2, 1.3 & 1.4. Ref c pg. 12 Map) While it is often impractical enforce regulations across this large area, it reflects the propensity for wildlife to travel within their established habitat in search of food and the resulting risk to aviation safety as well as the aerial space wherein bird strikes most often occur.

**FAA Inspection Discrepancies (noted at HXD)**

2023 – Noted discrepancy, "Airport did not take continuous actions to alleviate wildlife habitat in accordance with 14 CFR Part 139 139.337(a), *Wildlife Management".*

- This Discrepancy prompted the Wildlife Hazard Assessment conducted between June 2023 and July 2024.
- August 2024 Draft Wildlife Hazard Assessment submitted to FAA. Once accepted by the FAA (September 2024), the recommended "no feeding policy was drafted for approval. (Ref c. Section 8.1 General, pg. 97, "Adopt a Policy of Zero Tolerance Toward Wildlife" and "Adopt a No Wildlife Feeding Allowed Policy")

**Potential Consequences of Noncompliance**

From Reference b – Advisory Circular 150/5200-33C:
The Federal Aviation Administration recommends the guidance in this AC for land uses that have the potential to attract hazardous wildlife on or near public-use airports. This AC does not constitute a regulation, is not mandatory, and is not legally binding in its own right. It will not be relied upon as a separate basis by the FAA for affirmative enforcement action or other administrative penalty. Conformity with this AC is voluntary, and nonconformity will not affect rights and obligations under existing statutes and regulations, **except as follows:**

1. Airports that hold Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D, may use the standards, practices and recommendations contained in this AC as one, but not the only, acceptable means of compliance with the wildlife hazard management requirements of Part 139. (HXD)
2. The FAA recommends the guidance in this AC for airports that receive funding under Federal grant assistance programs, including the Airport Improvement Program. See Grant Assurance #34. (HXD & ARW)
3. The FAA recommends the guidance in this AC for projects funded by the Passenger Facility Charge program. See PFC Assurance #9. (HXD)

In other words, since both county airports meet at least one of these criteria, the county as the airport sponsor is subject to the guidance in the Advisory Circular. Consequences include loss of grant funding, repayment of grant funding, loss of certification under Part 139.

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

**ITEM TITLE:**

**RECOMMEND APPROVAL OF A RESOLUTION AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A NON-TENANT COMMERCIAL OPERATING AGREEMENT BETWEEN BEAUFORT COUNTY AND PALMETTO ACES FLYING CLUB**

**MEETING NAME AND DATE:**

Public Facilities and Safety Committee; March 17, 2025

**PRESENTER INFORMATION:**

Jon Rembold; Airports Director

3 minutes

**ITEM BACKGROUND:**

The Airports Board reviewed and recommended approval of the resolution at its monthly meeting held on February 20, 2025.

**PROJECT / ITEM NARRATIVE:**

Palmetto Flying Aces is engaged in the aircraft rental business and desires to use certain areas and facilities owned by the County and acquire from the County certain rights and privileges in connection with the use of the Hilton Head Island Airport.

**FISCAL IMPACT:**

Beaufort County/Hilton Head Island Airport will receive a monthly fee of three (3%) percent of gross revenue receipts on Palmetto Aces Flying Club operations.

This agreement will produce revenue for the airport at no cost to the airport.

**STAFF RECOMMENDATIONS TO COUNCIL:**

Approve the resolution for a Non-tenant Commercial Operating Agreement between Beaufort County and Palmetto Aces Flying Club and forward it to County Council for approval.

**OPTIONS FOR COUNCIL MOTION:**

Motion to approve/deny the resolution for a Non-tenant Commercial Operating Agreement between Beaufort County and Palmetto Aces Flying Club.

**Next step: County Council Meeting – March 24, 2025**

**RESOLUTION 2025/_____**

**A RESOLUTION AUTHORIZING THE COUNTY ADMINISTRATOR TO ENTER INTO A NON-TENANT COMMERCIAL AGREEMENT BETWEEN BEAUFORT COUNTY AND PALMETTO ACES FLYING CLUB**

**WHEREAS**, the Hilton Head Island Airport ("Airport") desires to enter into a Non-tenant Commercial Agreement with Palmetto Aces Flying Club ("Operator"), that shall include reasonable rates; and

**WHEREAS**, the Operator will engage in the business of Aircraft Rental and desires to use certain areas and facilities owned by the County and acquire from County certain rights and privileges in connection with its use of Airport; and

**WHEREAS**, the County has the right to permit use of the Airport facilities upon the terms and conditions hereinafter set forth and has full power and authority to enter into this Agreement; and

**WHEREAS**, County Council finds that it is in the best interest of the citizens and residents of Beaufort County for the County Administrator to enter into a Non-tenant Commercial Agreement with Palmetto Aces Flying Club or substantially similar, terms set forth in Exhibit A.

**NOW, THEREFORE, BE IT RESOLVED** that Beaufort County Council, duly assembled, does hereby authorize the County Administrator to enter into a Non-tenant Commercial Agreement with Palmetto Aces Flying Club or substantially similar, terms set forth in Exhibit A.

Adopted this ____ day of _____, 2025

COUNTY COUNCIL OF BEAUFORT COUNTY

BY: _____
Alice Howard, Chairman

ATTEST:

_____
Sarah W. Brock, Clerk to Council

**STATE OF SOUTH CAROLINA )**
**)**
**COUNTY OF BEAUFORT )**

**NON-TENANT COMMERCIAL OPERATING AGREEMENT**

This Non-Tenant Commercial Operating Agreement (the "Agreement") is entered into by and between the County of Beaufort, a political subdivision of the State of South Carolina, as the governing body of the Beaufort County Airport, a body politic and corporate, existing under and by virtue of the laws of the State of South Carolina ("County"), and Palmetto Aces Flying Club LLC (the "Operator"), having its principal office at 91 Summit Drive (5J) Hilton Head Island, SC 29926.

WITNESSETH:

WHEREAS, County is the owner and operator of the Hilton Head Island Airport (the "Airport") located at 120 Beach City Road, Hilton Head Island, South Carolina, 29907; and

WHEREAS, Operator is engaged in the business of **AIRCRAFT RENTAL** and desires to use certain areas and facilities owned by the County and acquire from County certain rights and privileges in connection with its use of Airport; and

WHEREAS, County has the right to permit use of the Airport upon the terms and conditions hereinafter set forth and has full power and authority to enter into this Agreement.

NOW, THEREFORE, for and inconsideration of the promises and the mutual covenants, agreements and conditions contained herein, the parties hereto agree as follows:

## ARTICLE I
## TERM

The term of this Agreement shall commence on 1 June 2025 ("Date of Commencement") and shall end at 11:59 p.m. on May 31, 2026.

After that time, this Agreement may be renewed for a one year period, unless thirty (30) days' prior written notice of intent not to renew is given by either party, one to the other, and provided further that such renewal be upon terms mutually agreeable to both parties hereto. This renewal option shall be in effect for 2 years from the end of the initial term of this Agreement.

## ARTICLE II
## USES AND PRIVILEGES

The County hereby grants to Operator, subject to all the terms and conditions of this Agreement the following rights, uses, and privileges:

1. Scope of Privilege. The Operator shall only have the non-exclusive right and privilege to access the Airport to provide **AIRCRAFT RENTAL**. Operator understands and agrees that it shall not engage in any other business at the Airport under this Agreement. Operator acknowledges that no right or privilege has been granted to Operator which would operate to prevent any person, firm or corporation from operating an aircraft on the Airport. It is not the intent of this Agreement to grant to Operator the exclusive right to provide any or all of the services described in this article at any time during the term of this Agreement. County reserves the right, at its sole discretion, to grant others certain rights and privileges upon the Airport, which are identical in part or in whole to those granted to Operator.

Operator may engage in the following specific activities and services:

(a) **AIRCRAFT RENTAL**

Any other activity to be engaged in by Operator will require advance written permission from County and any unauthorized activity by Operator is grounds for immediate termination of this Agreement.

2. Access. Subject to the provisions hereof, the Rules, Regulations and Ordinances and such restrictions as County may impose, County hereby grants to Operator, its agents, suppliers, employees, contractors, passengers, guests, and invitees, the right and privilege of free and unrestricted access, ingress and egress to the Airport and to public areas and public facilities at the Airport.

The ingress and egress provided for above shall not be used, enjoyed or extended to any person engaging in any activity or performing any act of furnishing any service for or on behalf of Operator that Operator is not authorized to engage in or perform under the provisions hereof unless expressly authorized by County.

County shall have the right at any time or times to close, relocate, reconstruct, change, alter, or modify any such means of access provided for Operator's use pursuant to this Agreement or otherwise, either temporarily or permanently; provided that reasonable notice to Operator and a reasonably convenient and adequate means of access, ingress and egress shall exist or be provided in lieu thereof. County shall suffer no liability by reason thereof and such action shall in no way alter or affect any of Operator's obligations under this Agreement.

Operator agrees that there shall be no restrictions or interference with public use and access of any public facilities.

## ARTICLE III
## ADDITIONAL PRIVILEGES

Operator shall be entitled, in common with others so authorized, to the use of all facilities and improvements of a public nature which now are or may hereafter be connected with or appurtenant to the Airport, including the use of operating area, runways, taxiways, terminal facilities, aircraft parking areas and vehicle parking areas designed by County.

ARTICLE IV
CHARGES AND FEES

1. Manner and Extent of Payment. Commencing with the Date of Commencement, the Operator, in return for use of the Airport facilities and privileges granted hereunder, agrees to pay County without deduction or setoff, during the term of this Agreement, certain charges and fees as set forth herein, in the following manner unless specified otherwise:

(a) Percentage Fee: For the concession privileges granted hereunder, Operator shall pay a monthly fee of three (3%) percent of gross revenue receipts on its operations hereunder. Twenty (20) days after the beginning of each calendar month during the term hereof, Operator shall furnish to County an accounting of the previous month's gross revenues along with payment for the appropriate sum of money as computed in accordance with this subsection.

Definition of Gross Receipts: The term "gross receipts" shall include the following: (i) the aggregate amount of all sales made and services performed for cash, credit or otherwise, of every kind, name and nature, regardless of when or whether paid for or not; plus (ii) the aggregate of all exchanges of goods, wares, merchandise and services for like property or services, at the selling price thereof, as if the same had been sold for cash or the reasonable value thereof, whichever sum is the greater.

(b) All payments herein are to be made in lawful money of the United States of America and are payable to **Hilton Head Island Airport, 26 Hunter Road, Hilton Head Island, SC 29926**.

2. Delinquent Charges or Fees. Without waiving any other right or action available to County in the event of default in payment of charges or fees hereunder, in the event that Operator is delinquent for a period of fifteen (15) days or more after invoice in paying to County any charge or fee payable to County pursuant to this Agreement, Operator shall pay to County interest thereon at the rate of eighteen (18%) percent per annum from the date such item was due and payable until paid.

3. Monthly Activity Report. Operator shall furnish to County on or before the fifteenth (15th) day of each month an accurate report (EXHIBIT A) setting forth all data necessary to calculate fees and charges due under this Agreement. Said statements are to be signed by a responsible individual employed by Operator.

In the event County retains counsel to collect any sums owing to it from Operator, Operator agrees to pay to County the sums expended by County on account of the retention of such counsel as well as court costs and expenses incurred by County, including all direct salary costs, materials, supplies, and administrative overhead.

## ARTICLE V
## PERFORMANCE AND SERVICE STANDARDS

1. Type of Operation. Operator shall provide all services to be provided under this Agreement on a nondiscriminatory basis to all users of the Airport. Operator shall maintain and operate its business in a first-class manner and shall keep it in a safe, clean, orderly, and inviting condition at all times, to such an extent as shall be satisfactory to County. Service shall be prompt, courteous and efficient.

Operator and its agents and employees shall not engage in open, notorious, and public disputes, disagreements, or conflicts tending to deteriorate the quality of the aeronautical services of Operator and its compatibility with the best interests of the public at the Airport.

2. Management. The management, maintenance and operation of privileges under this Agreement shall at all times during the term hereof be under the supervision and direction of an active, qualified, competent, and experienced manager representing Operator, who shall be subject at all times to the direction and control of Operator. Such manager shall be available upon reasonable request during normal business hours.

3. Personnel. Operator shall, in the operation of the services under this Agreement, employ or permit the employment of only such personnel as will assure a high standard of service to the public. All such personnel, while on duty, shall be clean, neat in appearance, and courteous at all times, and shall be appropriately attired, with uniforms in such instances as are appropriate. No personnel employed by Operator while on or about the Airport shall use improper language, act in a loud, boisterous or otherwise improper manner, or be permitted to solicit business in an inappropriate manner.

## ARTICLE VI
## INSURANCE

1. Operator shall carry, during the term of this Agreement or any extension hereof, the liability insurance coverage with limits as hereinafter stated, but the carrying of such insurance coverage shall not relieve Operator of any of its obligations under this Agreement.

2. Operator shall, upon commencement of the term hereof, obtain and cause to be kept in force liability insurance coverage insuring against the liabilities set forth in the indemnification paragraph below, such insurance to include, by way of example but not by way of limitation, comprehensive general liability coverage and shall be in not less than the amounts hereinafter stated. Such insurance coverage shall be provided by policies issued by a company or companies of sound and adequate financial responsibility. Such insurance policies shall contain an endorsement providing that County will be given not less than thirty (30) days' notice prior to the cancellation or change of any of the provisions provided by said policies. The comprehensive general liability policies shall include contractual liability coverage, and shall make reference to

this Agreement. Such policies shall name County as an additional insured and Operator shall cause a certificate of insurance to be furnished to County evidencing such insurance coverage prior to Operator's use of the Airport pursuant to the terms of this Agreement. The following statement is required on the face of the insurance certificate: "Beaufort County, its officials, servants, agents and employees are named as additional insured." In the event County is notified that any of the coverage required herein is to be cancelled or changed in such a manner as not to comply with the requirements of this Agreement, Operator shall, immediately obtain and provide County with certificates evidencing the re-establishment of the insurance coverage required hereby.

3. The minimum limits of coverage shall be as follows:

a. Commercial General Liability Insurance including, but not limited to, Personal Injury, Broad Form Contractual and Broad Form Property Damage (per accident). Combined Limit: One Million Dollars ($1,000,000) per occurrence.
b. Automobile Liability
c. Worker's Compensation (if applicable)

Please ensure that the Certificate Holder is listed as Beaufort County (not the airport name), PO Box 1228, Beaufort, SC 29902.

Evidence of coverage is to be kept on file with the airport.

4. Insofar as said commercial general liability insurance provides protection against liability for damages to third parties for personal injury, death and property damage, County shall be included as a named insured; provided, however, such liability insurance coverage shall also extend to damage, destruction, and injury, to County owned or leased property and County personnel, and caused by, or resulting from work, acts, operations, or omissions of Operator, its officers, agents, employees, and independent contractors on the Airport. County shall have no liability for any premiums charged for such coverage, and the inclusion of County as a named insured is not intended to, and shall not, make County a partner or joint venturer with Operator in its operations on the Airport.

## ARTICLE VII
## INDEMNIFICATION

Operator agrees to indemnify and hold harmless County from and against any and all claims, demands, suits, judgments, costs and expenses asserted by any person or persons, including agents, servants, employees or independent contractors of Operator or County, by reason of death or injury to persons or loss or damage to property, resulting from Operator's operations or acts or omissions of Operator's agents, servants, employees, officers, contractors, or anything done or omitted by Operator, under this Agreement except to the extent that such claims, demands, suits, judgments, costs and expenses may be attributed to the negligent acts or omissions of County or its agents or employees.

## ARTICLE VIII
## EQUIPMENT, LICENSES, PERMITS AND SUPPLIES

Operator will provide all its own equipment, licenses, permits and supplies if applicable. If a license, registration or permit of any kind is required of the Operator, its employees, agents or subcontractors, by federal or state law, Operator warrants that such license, registration or permit has been obtained, is valid and in good standing, and that any applicable bond has been posted in accordance with applicable laws and regulations.

## ARTICLE IX
## RULES, REGULATIONS AND ORDINANCES

Operator shall observe and obey all lawful and reasonable Rules, Regulations and Ordinances promulgated, from time to time during the term hereof, by County governing conduct on and operations at the Airport and use of its facilities. Copies of the Rules, Regulations and Ordinances adopted, shall be available to Operator.

## ARTICLE X
## DEFAULT AND TERMINATION

1. Termination by Operator. This Agreement shall be subject to termination by Operator in the event of any one or more of the following defaults:

(a) The abandonment of the Airport as an airport;
(b) The default by County in the performance of any of the terms, covenants or conditions of this Agreement, and the failure of County to remedy, or undertake to remedy, to Operator's satisfaction, such default for a period of thirty (30) days after receipt of notice from Operator to remedy the same; or
(c) Damage to or destruction of all or a material part of the Airport facilities necessary to the operation of Operator's business.

2. Termination by County. This Agreement shall be subject to termination by County in the event of any one or more of the following defaults:

(a) Failure by Operator to pay County any payments due hereunder within the time as provided by this Agreement;
(b) Failure by Operator to observe and perform any covenant, condition or agreement on its part as herein provided or failure to provide authorized services to the public during normal business hours or normal business days for a period of ten (10) days after written notice to do so by County;
(c) Dissolution or liquidation of Operator or by the filing by Operator of a voluntary petition in bankruptcy;
(d) Insolvency of Operator, or if Operator makes a general assignment for the benefit of creditors;
(e) Consent by Operator to the appointment of a receiver, trustee or liquidator of all or essentially all of the property;
(f) Desertion, abandonment or vacation of Operator's operations at the Airport.

3. Default. Upon default as above provided:

(a) County may expel Operator or those claiming under it and may act in any way necessary to ensure the continuing and proper operation of the Airport. In such event, the term of this Agreement shall end.

(b) County may take any other action at law or in equity that it may deem appropriate, necessary or desirable to collect any amounts due from Operator and to enforce performance and observance of any obligation, agreement or covenant of Operator under this Agreement.

4. Causes of Breach; Waiver. Neither party shall be held to be in breach of this Agreement because of any failure to perform any of its obligations hereunder if said failure is due to any cause for which it is not responsible and over which it has no control; provided, however, that the foregoing provision shall not apply to failures by Operator to pay fees, rents or other charges to County.

The waiver of any breach, violation or default in or with respect to the performance or observance of the covenants and conditions contained herein shall not be taken to constitute a waiver of any such subsequent breach, violation or default in or with respect to the same or any other covenant or condition hereof.

5. Termination of Agreement for Convenience. In addition to the grounds of default and termination provided herein, this Agreement may be terminated for convenience upon thirty (30) days' notice to Operator by the County or to County by Operator.

## ARTICLE XI
## NO PARTNERSHIP OR JOINT VENTURE

No partnership or joint venture between the parties is intended to or shall be created hereunder. In conducting its business hereunder, Operator acts independently and not as an agent of County. The selection, retention, assignment, direction and payment of Operator's employees shall be the sole responsibility of Operator and County shall not attempt to exercise any control over the business activities of Operator or daily performance of duties by Operator's employees.

## ARTICLE XII
## ASSIGNMENT AND SUBLETTING

This Agreement, or any part thereof, may not be assigned, transferred or subleased by Operator, by process or operation of law or in any other manner whatsoever, without the prior written consent of County.

## ARTICLE XIII
## ARBITRATION

Any controversy which shall arise between County and Operator regarding the rights, duties or liabilities of any party hereunder shall be settled by binding arbitration pursuant to the

rules of the American Arbitration Association, and judgment upon the award shall be entered in accordance with the South Carolina Uniform Arbitration Act. The parties agree, subject to the consent of the American Arbitration Association, that such arbitration shall be processed pursuant to the American Arbitration Association "Expedited Procedure" notwithstanding that the amount in controversy may exceed the limits set for such procedure. If any action, including arbitration, shall be brought by any party to recover any sums hereunder, or for or on account of any breach of, or to enforce or interpret any of the covenants, terms or conditions of this Agreement, the prevailing party shall be entitled to recover costs and expenses, including reasonable attorney's fees. If an arbitration proceeding is brought by any party to this Agreement, a request shall be made by the parties to the arbitrator that in the event a prevailing party is not determined by the outcome of the action, the arbitrator shall make a final determination concerning payment of all costs and expenses (including reasonable attorney's fees) by one or both parties, as the arbitrator deems appropriate based upon the facts and circumstances of the case.

## ARTICLE XIV
## MISCELLANEOUS

1. Entire Agreement. This Agreement constitutes the entire understanding between the parties, and as of its effective date supersedes all prior representations, agreements and understandings, oral or written, relating to the subject matter hereof. Any change or modification hereof must be in writing signed by both parties.

2. Governing Law and Venue. This Agreement is made and entered into in the State of South Carolina and shall be construed in accordance with the laws of the State of South Carolina. Venue for any litigation arising from this Agreement is to be in the Circuit Court for Beaufort County, South Carolina.

3. Severability. If a provision hereof shall be finally declared void or illegal by any court or administrative agency having jurisdiction, the entire Agreement shall not be void, but the remaining provisions shall continue in effect as nearly as possible in accordance with the original intent of the parties.

4. Notices. Any notice given by one party to the other in connection with this Agreement shall be in writing and shall be sent by certified mail, return receipt requested, with postage and registration fees prepaid. Either party shall have the right, by giving written notice to the other, to change the address at which its notices are to be received. Until any such change is made, notices shall be delivered as follows:

AS TO COUNTY:
Airport Director
26 Hunter Road
Hilton Head Island, SC 29926

With a Copy to:
Beaufort County Staff Attorney
P. O. Drawer 1228
Beaufort, SC 29901-1228

With a Copy to:
Beaufort County Administrator
P. O. Drawer 1228

Beaufort, SC 29901-1228

AS TO OPERATOR:
Palmetto Aces Flying Club LLC
45 Folly Field Road – 17G
Hilton Head Island, SC 29928

With a Copy to:

Notices shall be deemed to have been received on the date of receipt as shown on the return receipt.

5. Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors, legal representatives and assigns where permitted.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the latest dated of execution as noted below.

ATTEST:

_____

_____

BEAUFORT COUNTY

By:_____
, County Administrator

Date:_____

ATTEST:

_____

_____

OPERATOR:

By:_____
Printed Name:_____
Title:_____

Date:_____

EXHIBIT A

HILTON HEAD ISLAND
AIRPORT

# Palmetto Aces Flying Club LLC

Monthly Activity Report
(3% Gross Revenue)

| Date | Description of Services Rendered | Amount |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | **TOTAL GROSS REVENUE** | |
| | **3% of Gross Revenue due to Airport** | |

Signature: _____

Please submit this form along with the amount due to the following address by the 15th of each month:

**Hilton Head Island Airport**
**Attn: Administration**
**26 Hunter Road**
**Hilton Head Island, SC 29926**

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

| |
|---|
| **ITEM TITLE:** |
| An IGA with the Town of Port Royal to allow for the funding, construction, and donation of a Splash Pad on the County owned park site at the Bruce Edgerly Field and Port Royal Center adjacent to the new Accessible Playground |
| **MEETING NAME AND DATE:** |
| Public Facilities Committee – March 17, 2025 |
| **PRESENTER INFORMATION:** |
| Hank Amundson, Dylan Kidd, Eric Brown, and Brooke Plank-Bucolla of the Town of Port Royal<br>10 Minutes |
| **ITEM BACKGROUND:** |
| The Town of Port Royal is proposing to fund the purchase and construction of a Splash Pad on the County owned park site of Bruce Edgerly Field and Port Royal Center. |
| **PROJECT / ITEM NARRATIVE:** |
| The IGA being put forth lays out the roles and responsibilities of each party in the allowance of the construction and donation of a Splash Pad to be constructed on a County owned park site. |
| **FISCAL IMPACT:** |
| $0 in up front cost, but Maintenance and Operation Costs going forward. (TBD) |
| **STAFF RECOMMENDATIONS TO COUNCIL:** |
| Move forward to full council for approval. |
| **OPTIONS FOR COUNCIL MOTION:** |
| Move forward to full council for approval.<br>Decline |

**STATE OF SOUTH CAROLINA )**
**) INTERGOVERNMENTAL AGREEMENT**
**COUNTY OF BEAUFORT )**

**THIS INTERGOVERNMENTAL AGREEMENT** ("Agreement") is entered into on _____, 2025, ("Effective Date") by and between **Beaufort County** ("County"), a political subdivision of the State of South Carolina, and **the Town of Port Royal** ("Town"), a political subdivision of the State of South Carolina; collectively referred to as "the Parties".

**WHEREAS**, the County and the Town collaborate on multiple issues and initiatives, as the Town lies within the County; and

**WHEREAS,** the County owns and operates the Bruce Edgerly Field and Port Royal Center ("The Park"), which is within Town limits and located at 1514 Richmond Avenue, Port Royal, SC 29935, as shown in **Exhibit 1**; and

**WHEREAS,** the County has made considerable investment in the Park over the past 18 months, including adding bathrooms, sidewalks, and an inclusive playground; and

**WHEREAS,** the Town desires to assist the County in making additional improvements to the Park to better the quality of life of its and the County's citizens; and

**WHEREAS,** the Town is desires to purchase, permit, and install a Splash Pad on the Park property and donate all of the improvements detailed in in **Exhibits 2 and 3** attached hereto and incorporated herein by reference, collectively hereinafter referred to as the "Project" to the County; and

**WHEREAS,** the County has agreed to serve as the project manager for the Project, and will be responsible for managing the installation/construction process, as the Project is within the Park property and will be operated and maintained by the County after donation and installation; and

**WHEREAS,** with The Town agrees to be responsible for all aspects of pre-donation cost payment, as well as permitting, for the Project; and

**WHEREAS**, the Town has procured the equipment required for the Project with their Federally awarded American Rescue Plan Act ("ARPA") funds and worked with the County on potential Project orientation within the existing Park; and

**WHEREAS**, the County, as the owner of the Park and ultimately the Project, will be responsible for the operation and maintenance the Park, to include the donated Project; and

**NOW, THEREFORE,** for and in consideration of these premises and the mutual covenants set forth below, the Parties hereto hereby agree as follows:

**Section 1: Roles and Responsibilities.**

a. The Town will fund all acquisition and installation of the Project, to include utility connections and capacity fees.

b. The Town agrees to assist the County with the acquisition of permits required to construct and complete the Project, as it lies within Town's jurisdiction.

c. The County will oversee the installation of the Project as Project Manager to ensure understanding of all aspects of the installation in order simplify operation and maintenance of the donated Project.

d. The County shall be the sole Owner of the infrastructure, equipment, and all other components associated with the Project when the Project is complete and the Permit to Operate has been issued by SCDHEC.

**Section 2: Schedule.**

a. The term date for this Agreement shall be from the Effective Date through December 31, 2026**.** The term date is based on the date the US Treasury has established for the expenditure of ARPA funds. The term may be extended if mutually agreed upon by the Parties.

b. The tentative schedule for the Project is as follows:

i. Procurement of Equipment: Completed by Town of Port Royal

ii. Design Complete: July 1, 2025

iii. Permits, approvals and easement efforts completed by: January 1, 2026

iv. Project Substantial Completion achieved: December 15, 2026

v. Project Final Completion: December 20, 2026

**Section 3: General Provisions.**

a. Termination of the Agreement, in whole or part, may only occur by mutual written agreement from the Parties.

b. Except as otherwise provided herein, this Agreement may not be amended, changed, modified or altered without prior written consent of the Parties.

c. In the event that any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provisions hereof.

d. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

e. This Agreement shall be governed by and construed in accordance with the laws of the State of South Carolina.

f. The captions or headings herein are for convenience only and in no way define, limit, or describe the scope or intent of any provision or sections of this Agreement.

g. Any disputes with regard to the Project that cannot be resolved shall first be submitted to mediation with a South Carolina Certified Mediator chosen by the Parties. In the event that the Parties cannot agree to such person, the Parties will submit the request to the Chief Administrative Judge for the Circuit Court of Beaufort County to designate a mediator to conduct the mediation. If the dispute is not resolved during the mediation process, any litigation must be brought in the Court of Common Pleas, 14th Judicial Circuit, Beaufort County.

h. All notices required under this Agreement shall be in writing via US registered mail or via email with confirmation of delivery receipt.

DRAFT

i. The recitals contained hereinabove and the exhibits attached hereto are hereby incorporated within this Agreement so that their contents are made a substantive part hereof.

**IN WITNESS WHEREOF**, the Parties have set their hands and seals to this Agreement as of the Effective Date.

WITNESS: TOWN OF PORT ROYAL

_____ _____

Van Willis, *Town Manager*

WITNESS: BEAUFORT COUNTY

_____ _____

Michael Moore, *Beaufort County Administrator*

DRAFT

**EXHIBIT 1**

DRAFT

**EXHIBITS 2 & 3**

DRAFT

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

| |
|---|
| ITEM TITLE: |
| Approval of an ordinance authorizing the abandonment of a drainage easement recorded in Deed Book 3044 at page 2170 |
| **MEETING NAME AND DATE:** |
| Public Facilities Committee Meeting March 17, 2025 |
| **PRESENTER INFORMATION:** |
| Bradley Harriott, Public Works Director<br>Patty Wilson, Right of Way Manager<br>(5 Minutes) |
| **ITEM BACKGROUND:** |
| The Stormwater Department obtained a drainage easement on March of 2011 that was recorded in DB 3044/2070. The recorded drainage easement referenced parcel R510 007 000 0116 0000 which is not located in the intended location of the drainage easement. Family members of Charles and Beatrice Frazier who signed the recorded document have requested that the County abandon the recorded easement. |
| **PROJECT / ITEM NARRATIVE:** |
| The Stormwater Department agrees that the drainage easement recorded in DB 3044/2070 is not valid and recommends abandonment of the drainage easement. |
| **FISCAL IMPACT:** |
| *N/A* |
| **STAFF RECOMMENDATIONS TO COUNCIL:** |
| Staff recommends abandoning the drainage easement recorded in Deed Book 3044 at Page 2170. |
| **OPTIONS FOR COUNCIL MOTION:** |
| *Motion to approve/deny/amend a*n ordinance authorizing the abandonment of a drainage easement recorded in Deed Book 3044 at page 2170 due to property being unrelated to easement location.<br>*Next Step – three readings and a public hearing from County Council* |

**ORDINANCE NO. 2025 / __**

**AN ORDINANCE AUTHORIZING THE ABANDONMENT OF A DRAINAGE EASEMENT RECORDED IN DEED BOOK 3044 AT PAGES 2170-2172**

**WHEREAS**, a thirty-foot (30') drainage easement was recorded with the Beaufort County Register of Deeds on March 17, 2017 in Deed Book 2170 at Pages 2170-2172; and

**WHEREAS**, the aforementioned recorded drainage easement referenced parcel R510 007 000 0116 0000 which is not located in the intended location of the drainage easement.; and

**WHEREAS**, County staff was approached by family members to abandon the recorded drainage easement that is not located in the drainage area; and

**WHEREAS**, the Public Works Director supports abandoning the drainage easement recorded in Deed Book 3044 at Pages 2170-2172 since the parcel referenced in the document is not located in the drainage area; and

**WHEREAS**, Beaufort County Council has determined that it is in the best interest of the County to abandon the drainage easement recorded in Deed Book 2170 at Pages 2170-2172; and

**WHEREAS**, S.C. Code Ann. §4-9-130 requires that the transfer of any interest in real property owned by the County must be authorized by the adoption of an ordinance by Beaufort County Council.

**NOW, THEREFORE, BE IT ORDAINED, BY BEAUFORT COUNTY COUNCIL**, that the County Administrator is hereby authorized to take all actions as may be necessary to abandon the drainage easement recorded in Deed Book 3044 at Pages 2170-2172.

DONE this ____ day of _____ 2025.

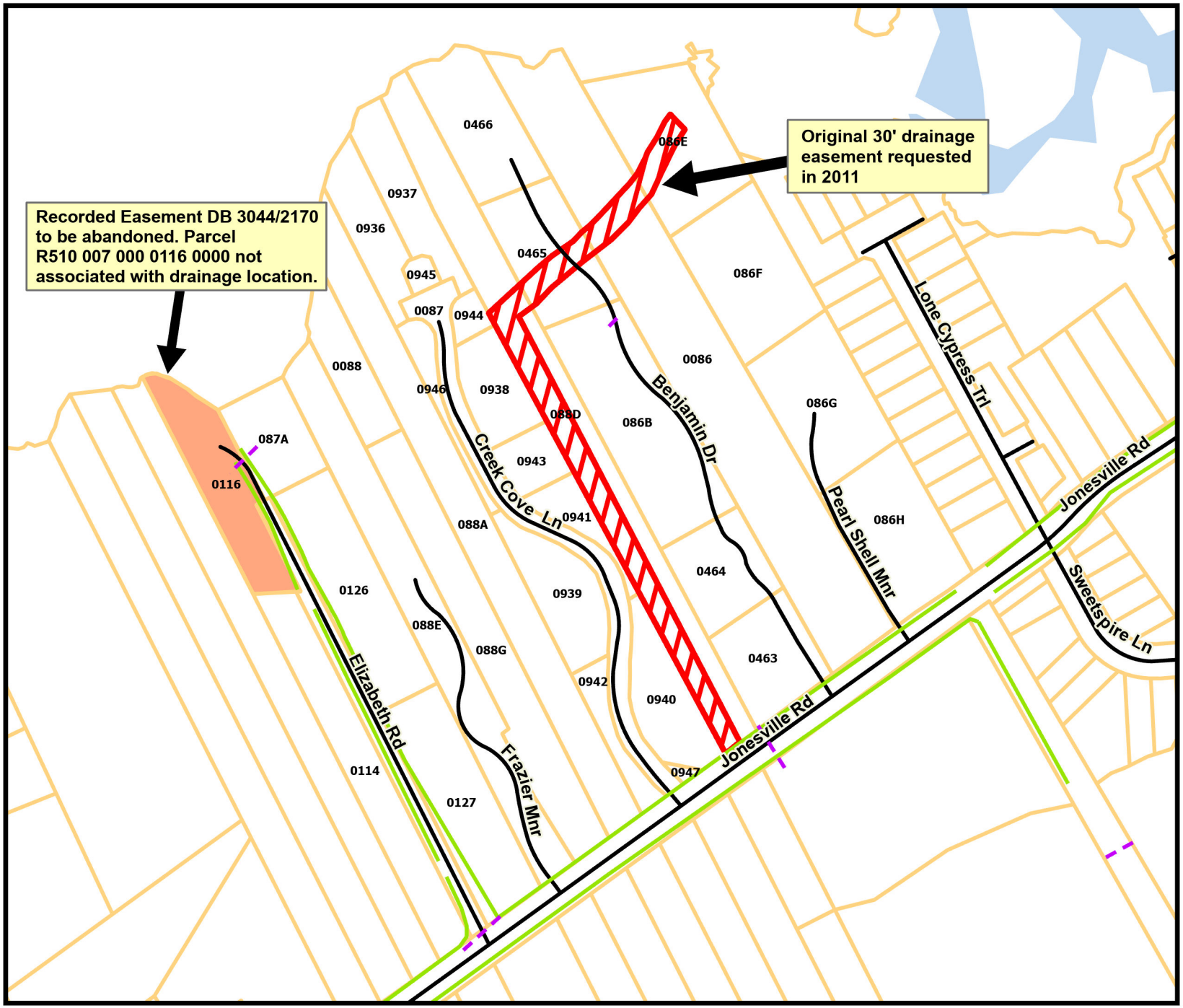
COUNTY COUNCIL OF BEAUFORT COUNTY

By: _____
Alice Howard, Chair

ATTEST:

_____
Sarah W. Brock, Clerk to Council

Third and Final Reading:
Public Hearing:
Second Reading:
First Reading:




(Location Map)
R510-7-
Jonesville Road

Activity:
Drainage Easement Abandonment

Township:
Hilton Head Island

Legend
- Original Esmt. Request
- Parcels

Drainage
- Creek/Stream
- Crossline Pipe
- Roadside

N
W
E
S

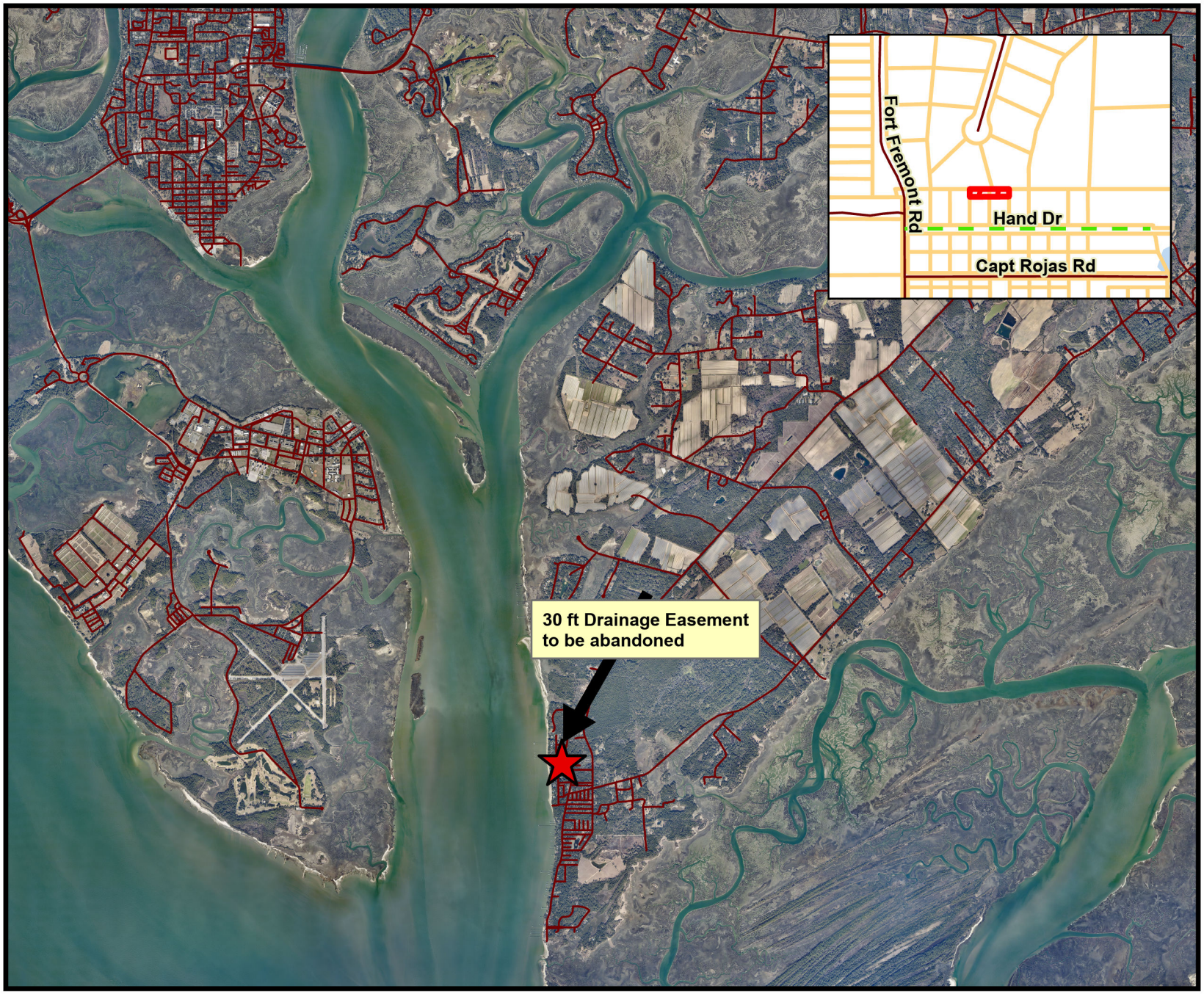
0 100 200 400 Feet

1 inch = 200 feet

Prepared By: Beaufort County GIS Dept.
Print Date: 02/06/2025
Path: E:\ArcGIS Pro Projects\R510_7_116_Exhibit.aprx

# Site Map

## Township: St Helena Island




0 2,500 5,000 10,000 15,000 Feet

1 inch = 6,080 feet

Prepared By: Beaufort County GIS Dept.
Print Date: 02/28/2025
Path: E:\ArcGIS Pro Projects\HandDr_LocationMap.aprx

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

ITEM TITLE:

**APPROVAL OF AN ORDINANCE AUTHORIZING THE ABANDONMENT OF AN EASEMENT ENCUMBERING PROPERTY IDENTIFIED AS TMS NO. R300 035 00A 0004 0000 AND R300 035 00A 0004 0000**

**MEETING NAME AND DATE:**

Public Facilities Committee Meeting March 17, 2025

**PRESENTER INFORMATION:**

Bradley Harriott, Public Works Director

Patty Wilson, Right of Way Manager

(5 Minutes)

**ITEM BACKGROUND:**

In the 2005 timeframe, the Stormwater Department requested drainage easements from approximately 13 property owners located on a private road named Hand Drive on St. Helena Island. Only one property owner who owned two parcels granted an easement to the County. Multiple requests were denied from surrounding property owners, so the ditch relocation was never constructed.

**PROJECT / ITEM NARRATIVE:**

The Stormwater Department was approached by owners of the property where the drainage easements were granted and they have requested that the County abandon the easements due to non-relocation of the ditch. County staff has no objection to abandoning the easement recorded in DB 2167 at pages 1152-1154.

**FISCAL IMPACT:**

*N/A*

**STAFF RECOMMENDATIONS TO COUNCIL:**

Staff recommends abandoning the drainage easements recorded in Deed Book 1152 at Pages 1152-1154

**OPTIONS FOR COUNCIL MOTION:**

*Motion to approve/deny/amend a*n ordinance authorizing the abandonment of an easement encumbering property identified as TMS NO. R300 035 00A 0004 0000 and R300 035 00A 0004 0000

*Next Step – three readings and a public hearing from County Council*

**ORDINANCE NO. 2025 / __**

**AN ORDINANCE AUTHORIZING THE ABANDONMENT OF AN EASEMENT ENCUMBERING PROPERTY IDENTIFIED AS TMS NO. R300 035 00A 0004 0000 AND R300 035 00A 0004 0000**

**WHEREAS**, on or about May 31, 2005, John D. Vinczi agreed to deed Beaufort County a thirty-foot (30') drainage easement located across the real property identified as TMS No. R300 035 000 000A 004 0000 & R300 035 000 000A 005 0000 in connection with a drainage system; and

**WHEREAS**, a thirty-foot (30') drainage easement was recorded with the Beaufort County Register of Deeds on June 14, 2005 at Book 2167 / Pages 1152-1154; and

**WHEREAS**, County staff requested drainage easements from approximately 13 property owners associated with relocating a drainage ditch off Hand Drive on St. Helena Island; and

**WHEREAS**, County staff reached out on multiple occasions to obtain associated drainage easements and did not received favorable responses from the surrounding property owners; and

**WHEREAS**, the Public Works Director supports abandoning the drainage easements located on parcels R300 035 000 000A 004 0000 & R300 035 000 000A 005 0000 due to lack of easements for the system and the properties are located on a private road; and

**WHEREAS**, Beaufort County Council has determined that it is in the best interest of the County to abandon the drainage easement located across the real property identified as TMS No. R300 035 000 000A 004 0000 & R300 035 000 000A 005 0000; and

**WHEREAS**, S.C. Code Ann. §4-9-130 requires that the transfer of any interest in real property owned by the County must be authorized by the adoption of an ordinance by Beaufort County Council.

**NOW, THEREFORE, BE IT ORDAINED, BY BEAUFORT COUNTY COUNCIL**, that the County Administrator is hereby authorized to take all actions as may be necessary to abandon the drainage easement located across the real property identified as TMS No. R300 035 000 000A 004 0000 & R300 035 000 000A 005 0000.

DONE this ____ day of _____ 2025.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: _____
Alice Howard, Chair

ATTEST:

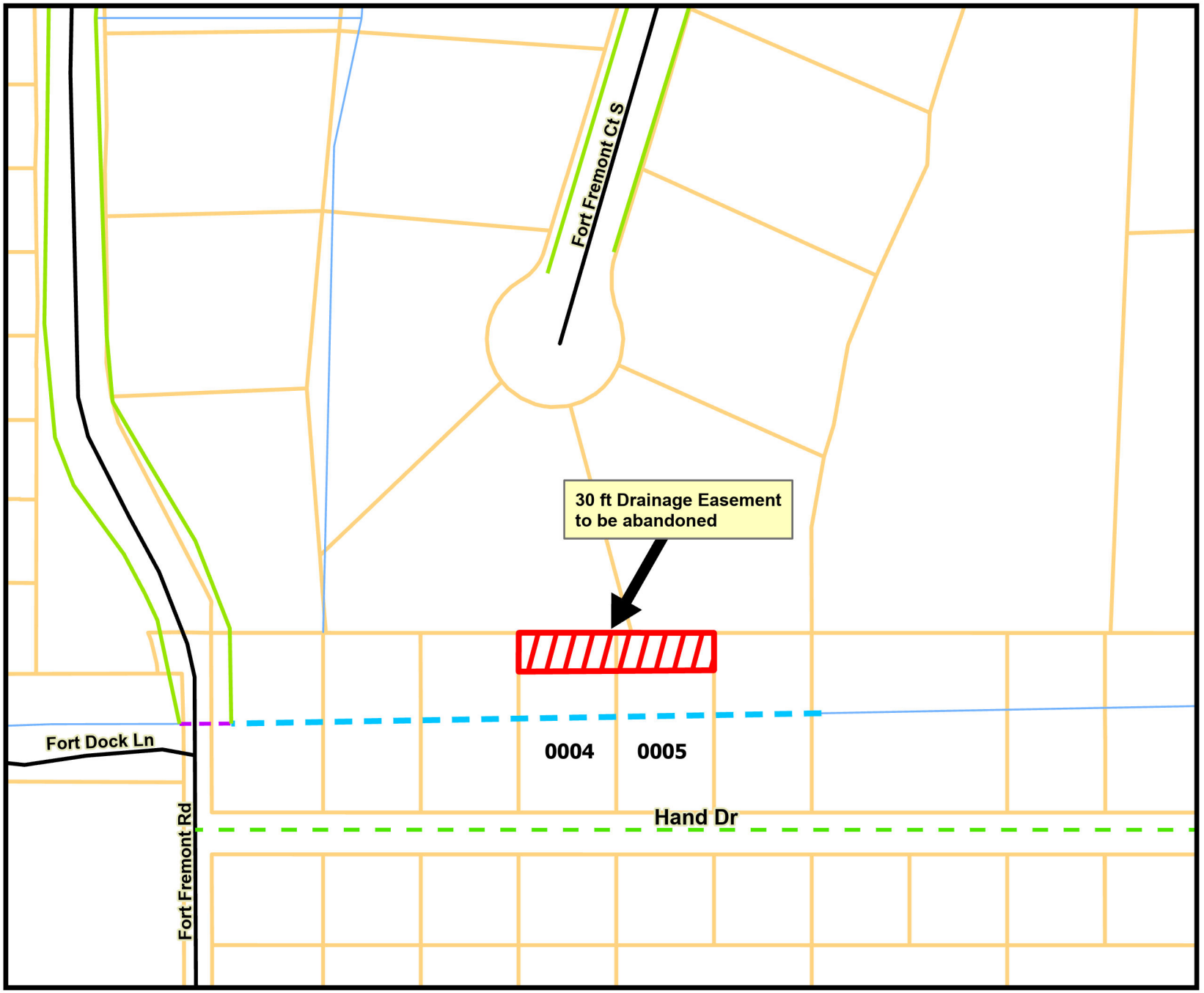
_____
Sarah W. Brock, Clerk to Council

Third and Final Reading:
Public Hearing:
Second Reading:
First Reading:

# Location Map

**Activity:**
**Easements to be Abandoned (Parcels R300 35A 0004 & 0005)**

**Township:**
**St Helena Island**




Legend
- Drainage Esmt
- Streets
- Private Rd
- Parcels

Drainage
- Channel (fka Outfall)
- Channel Pipe
- Crossline Pipe
- Roadside

N W E S

0 100 200 Feet

**1 inch = 101 feet**

Prepared By: Beaufort County GIS Dept.
Print Date: 02/05/2025
Path: E:\ArcGIS Pro Projects\HandDr_LocationMap.aprx

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

**ITEM TITLE:**

RECOMMEND APPROVAL OF CONTRACT TO SEAMON WHITESIDE FOR THE ALLJOY DRAINAGE STUDY PROJECT ($275,000.00)

**MEETING NAME AND DATE:**

Public Facilities and Safety Committee Meeting March 17, 2025

**PRESENTER INFORMATION:**

Jared Fralix, P.E., Assistant County Administrator – Infrastructure (5 minutes)

**ITEM BACKGROUND:**

Beaufort County Public Works was awarded an RIA grant for $187,500 federal funds with a 25% local match of $62,500 to conduct a drainage study and propose solutions for the Alljoy area drainage issues. An RFQ was issued with nine (9) responses returned. Three (3) firms were chosen for interviews: Seamon Whiteside, Woolpert and Davis & Floyd. Seamon Whiteside was ranked the highest by the selection panel due to local experience with drainage studies and the incorporation of creative solutions in their proposal.

**PROJECT / ITEM NARRATIVE:**

The Alljoy community has been affected by routine flooding from heavy rainfall, elevated tides, and deteriorating or insufficient stormwater infrastructure. As a proactive approach, Beaufort County has initiated this project with the goal of surveying/mapping the community's existing stormwater system and developing a comprehensive plan to provide long-term coastal community resiliency through holistic flood mitigation projects.

**FISCAL IMPACT:**

The project cost is $250,000. Staff recommends a 10% contingency of $25,000 bringing the total project value to $275,000. This project will be funded by an RIA grant for $187,500 , account code 2555-90-0000-43770ALLJO and by $87,000 ($62,500 grant match + $25,000 (10%) contingency) coming from the Stormwater Utility fund, account code 5025-90-9020-54420, available balance: $1,671,495.87

**STAFF RECOMMENDATIONS TO COUNCIL:**

Staff recommends approval of a contract to Seamon Whiteside of Mt. Pleasant for Alljoy Drainage Study project in the amount of $275,000.

**OPTIONS FOR COUNCIL MOTION:**

Motion to approve /deny the contract to Seamon Whiteside for the Alljoy Drainage Study Project in the amount of $275,000.

***Recommended to APPROVE contract to Seamon Whiteside***

***(Next Step – Move forward to County Council for Approval).***

STATE OF SOUTH CAROLINA )
)
COUNTY OF BEAUFORT )

CONTRACT
**Alljoy Drainage Study**

THIS CONTRACT (hereinafter the "Contract") entered into this _____day of _____, 20____, between the COUNTY OF BEAUFORT, South Carolina, a public body corporate and politic and political subdivision of the State of South Carolina, (hereinafter "County") and Seamon, Whiteside & Associates, Inc, (hereinafter the "Contractor"), ("Party" as to each; collectively the "Parties")

**WITNESSETH:**

WHEREAS, the County wishes to contract for **Alljoy Drainage Study** (the "Work" and/or "Services"); and

WHEREAS, the Contractor has represented to the County that its staff is qualified to provide the Work required in this Contract in a professional, timely manner; and

WHEREAS, the County has relied upon the above representations by the Contractor;

NOW, THEREFORE, in consideration of these premises and covenants set forth herein, it is agreed by and between the Parties as follows:

DRAFT

**SECTION ONE**

**Contract Documents**

The Parties agree that the Contract Documents shall include the following, which are incorporated herein by reference:

Exhibit A: Contractor's Schedule of Values dated **Firm's Scope and Fee January 14, 2025.**

Exhibit B: Solicitation Number RFQ 090324

In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Contract, the following shall control:

As between the Contract and the Contract Documents which make up this Contract, the Contract shall govern.

In the event of any conflict, discrepancy, or inconsistency among any of the Contract Documents, the Contractor shall the County immediately upon discovery of the same for resolution by the County.

Any documents not included or expressly contemplated in this Contract do not, and shall not, form a part of this Contract. The Contract Documents are intended to be complementary, and a requirement in one document shall be deemed a requirement in all documents.

**SECTION TWO**

**Scope of Work**

The Contractor agrees to perform and furnish all labor, supervision, materials, equipment, transportation and supplies necessary for the completion of the Work required under this Contract in a timely and

workmanlike manner, professional in all aspects, and in accord with all applicable laws, rules and regulations.

The Contractor shall provide the services outlined below in conjunction with the Contractor's Bid dated **Firm's Scope and Fee January 14, 2025** marked as Exhibit A, that was previously incorporated by reference. The Contractor shall commence the Work as specified in the Notice to Proceed, when it is issued, but not before it is issued. Coordination of the Work and administration of this Contract shall be by Beaufort County.

## SECTION THREE

## Contract Price: Payment Terms

County agrees to pay for the performance of the Work described in this Contract, including all items necessary to accomplish and complete the Work, in accordance with all terms and conditions as stated herein on the following basis:

Contract Amount: **Two Hundred Forty-Five Thousand Five Hundred Dollars and Zero Cents ($245,500.00)**

Payments:

**Contractor will be paid on a percentage complete basis with the submission of monthly invoices.** Monthly payments will be made based on a percentage of services rendered and any expenses incurred. Final payment which shall be paid upon Final Acceptance by the County's authorized representative. Final Acceptance is defined as the County accepting the Work from the Contractor when the County deems the Work completed in accordance with the terms of the Contract.

DRAFT

Final Payment is defined as the last payment from the County to the Contractor of the entire unpaid balance of the Contract sum as adjusted by any approved change orders.

Application for payment shall be prepared and submitted electronically. All invoices shall be addressed to **Beaufort County Stormwater PO Drawer 1228 Beaufort SC 29901**.

## SECTION FOUR

## Time: Term of Contract

The County hereby contracts with Contractor to provide the Work specified herein within **365** calendar days after issuance of the Notice to Proceed.

The County reserves the right to extend the term of this Contract, if it is determined to be in its best interest.

The Contractor expressly acknowledges that time is of the essence in completion of this Contract and that the time limits and dates herein are critical components of the Contract.$N/A The Contractor warrants and represents that it has taken these facts into consideration and has determined that it can complete the work within these time limits, including time for likely delays caused by weather or from other sources. The Contractor will not be compensated for any delays beyond the time set forth herein. The Contractor's only remedy for delays may be an extension of time to perform the Work. Due consideration will be given to claims for an extension of time due to extraordinary circumstances only.

## SECTION FIVE

## Insurance Requirements

The Contractor, at its own expense, shall at all times during the term of the Contract, maintain insurance as included in the solicitation, Insurance Requirements, which is attached hereto and previously incorporated by reference. The County may contact the Contractor's insurer(s) or insurer(s)' agent(s) directly at any time regarding the Contractor's coverages, coverage amounts, or other such relevant and reasonable issues related to this Contract. The Contractor shall also require any subcontractors to carry the same coverages in the same amounts.

The County must be advised immediately of any changes in required coverages.

**SECTION SIX**

**Compliance with Legal Requirements**

All applicable federal, state and local laws, ordinances, and rules and regulations of any authorities (including, but not limited to, any laws, ordinances or regulations relating to the S.C. Department of Revenue or the S.C. Board of Contractors) shall be binding upon the Contractor throughout the pendency of the Work. The Contractor shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the County harmless and indemnify same in the event of non-compliance as set forth in the Contract.

The Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of South Carolina Code of Laws (1976, as amended) and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable to the Contractor and its subcontractors or sub-subcontractors; or (b) that the Contractor and its subcontractors or subsubcontractors are in compliance with Title 8, Chapter 14.

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Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the Court or imprisoned for not more than five years, or both."

The Contractor agrees to include in any contracts with subcontractors, language requiring subcontractors to (a) comply with applicable requirements of Title 8, Chapter 14, and (b) include in its contracts with the subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14.

The Contractor agrees to and shall certify agreement to abide by the requirements under Title VI of the Civil Rights Act of 1964, and other non-discrimination authorities under Federal Executive Order Number 11246, as amended, and specifically the provisions of the equal opportunity clause.

The Contractor shall comply with all federal, state and local laws, ordinances, rules and regulations of any authorities throughout the duration of this Contract. The Contractor shall be responsible for compliance with any such law, ordinance, rule or regulation, and shall hold the County harmless and indemnify same in the event of non-compliance.

**SECTION SEVEN**

**Drug-free Workplace Act**

The Contractor shall comply with the South Carolina Drug-free Workplace Act, Section 44-107-10 et seq., S.C. Code of Laws (1976, as amended). The County requires all contractors executing contracts for a stated or estimated value of $50,000 or more to sign a Drug-free Workplace Certification form prior to the issuance of the Notice to Proceed.

## SECTION EIGHT

### Contractor's Warranties and Representations

The Contractor represents that its staff is knowledgeable about and experienced in performing the Work required in this Contract and warrants that it will use best skill and attention to provide above described Work in a professional, timely manner.

The Contractor warrants and represents that it shall be responsible for all subcontractors working directly for it, as well as for their work product, as though the Contractor had performed the Work itself.

A. If equipment, materials and supplies are to be a part of the service provided, all equipment, materials, and supplies incorporated in the Work covered by the bid and provided by the Contractor are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this Contract, reference to any equipment, material, article or patented process, by trade name, make or catalog number, shall not be construed as limiting competition. When requested, the Contractor shall furnish to the Purchasing Director, for approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the Work. When required by this Contract or when called for by the Purchasing Director, the Contractor shall provide full information concerning the material or articles that he contemplates incorporating in the Work. When so directed, samples shall be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material and articles installed or used without the required prior approval of the County shall be at the risk of subsequent rejection by the County.

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B. Any and all manufacturers' warranties on any equipment or materials will be passed on to the County and copies of said warranties will be furnished by the Contractor to the County upon completion and final acceptance of the Work.

C. The Purchasing Director may, in writing, require the Contractor to remove from the Work Site any employee the Purchasing Director deems incompetent, careless or otherwise objectionable.

D. In addition to any manufacturer's warranties, all labor and materials are warranted to be free from defects for a period of twenty-four (24) months after the date of Final Payment by the County.

## SECTION NINE

### Retention of Records

The Contractor agrees to maintain for three (3) years from the date of Final Payment, or until the end of any audit or closure of all pending matters under this Contract, whichever is later, all books, documents, papers, and records pertinent to this Contract. The Contractor agrees to provide to the County, any federal grantor agency, the Comptroller General of the United States, any state gantor agency, any assignee, or any of their duly authorized representatives access to such books, documents, papers, and records for the purpose of examining, auditing, and copying them. The Contractor further agrees to include these provisions in any subcontracts issued in connection with this Contract.

**SECTION TEN**

**State and Local Taxes**

Except as otherwise provided, Contract prices shall include all applicable state and local taxes.

The Contractor shall calculate that portion of the Contract that is subject to the six percent (6%) South Carolina sales and/or use tax, and this amount shall be itemized and shown on all invoices, and shall be paid to the SCDOR by Contractor. If Contractor is a non-South Carolina Company, the County will withhold said amount from all invoices and remit payment to the SCDOR, unless the Contractor furnishes the County with a valid South Carolina Use Tax Registration Certificate Number.

The Contractor shall indemnify and hold harmless the County for any loss, cost, or expense incurred by, levied upon or billed to the County as a result of the Contractor's failure to pay any tax of any type due in connection with this Contract.

The Contractor shall ensure that the above sections are included in all subcontracts and sub-subcontracts, and shall ensure withholding on out of state sub and sub-subcontractors to which withholding is applicable.

**SECTION ELEVEN**

**Independent Contractor**

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The Contractor is an independent contractor and shall not be deemed the agent or employee of the County for any purpose whatsoever. Contractor shall not hold himself out as an employee of the County, and shall have no power or authority to bind or obligate the County in any manner, except the County shall make payment to the Contractor for work and expenses as herein provided. The Contractor shall obtain and maintain all licenses and permits required by law for performance of this Contract by him or his employees, agents, and servants. The Contractor shall be liable for and pay all taxes required by local, state or federal governments, including but not limited to social security, Workers' Compensation, employment security, and any other taxes and licenses or insurance premiums required by law. No employee benefits of any kind shall be paid by the County to or for the benefit of the Contractor or its employees, agents, or servants by reason of this Contract.

**SECTION TWELVE**

**Other Contracts**

The County reserves the right to undertake or award other contracts for additional work/services, and may elect to complete portions of the Work/Services included in this Contract using its own forces or through other contracts, and the Contractor shall fully cooperate with such other contractors, County employees and carefully fit its own work/services to such work/services as may be directed by the County. The Contractor shall not commit or permit any act by its forces or subcontractors which will interfere with the performance of work/services by any other contractor or by County and or Department employees

**SECTION THIRTEEN**

**Permits and Licenses**

The Contractor shall, without additional expense to the County, be responsible for obtaining and maintaining all necessary licenses and permits required by the State of South Carolina, a municipality or the County or any other authority having jurisdiction. Prior to execution of a contract, the Contractor may be required to provide a copy of its current applicable Contractor's License issued by the State of South

Carolina and business license issued by the County. Contractor's (and or any subcontractor's) License Number, Person's Name and Business Name must all be shown on all required licenses.

**SECTION FOURTEEN**

**Safety, Health, and Security Precautions**

The Contractor shall take proper safety, health and security precautions to protect its workers and the County's property, workers and the public at all times during the term of this Contract. All materials shall be stored securely, protected from theft or damage.

**SECTION FIFTEEN**

**Inspection and Acceptance**

All Work shall be subject to inspection and test by the County at all reasonable times and places. The Contractor shall, without charge, correct any workmanship found by the County not to conform to the Contract requirements.

**SECTION SIXTEEN**

**Conditions Affecting the Work**

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the Work, and the general and local conditions that can affect the Work or the cost thereof. Any failure by the Contractor to do so will not relieve the Contractor from responsibility for successfully performing the Work without additional expense to the County. The County assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this Contract, unless such understandings or representations by the County are expressly stated in this Contract.

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**SECTION SEVENTEEN**

**Cleanup Work: Repair of Damages**

During the performance of the Work, the Contractor shall continuously keep County-provided work space (the "Work Site") and areas adjacent thereto in an orderly condition, free and clear from debris and discarded materials.

Contractor will restore or replace, when and as directed by the County, any public or private property damaged or destroyed by Contractor's work, equipment or employees to a condition at least equal to that existing immediately prior to the beginning of the Work.

**SECTION EIGHTEEN**

**Damages**

The Contractor expressly agrees that if the Work, or any part thereof, is not performed or completed in a timely or professional manner in accordance with this Contract or any amendment thereto, the Contractor and its sureties shall be liable to the County for actual damages that relate to the Contractor's failure to perform or complete the Work in the manner described above. If actual damages are agreed to by the County and the Contractor or awarded by the Court, the County shall have the right to deduct from and retain out of monies, which may be then due or which may become due and payable to the Contractor, the amount of such actual damages; and if the amount so retained by the County is not sufficient to pay in full such actual

damages, the Contractor and/or its sureties shall pay to the County the amount necessary to effect payment in full of such actual damages.

**SECTION NINETEEN**

**Suspension of Work**

The Purchasing Director may order, in writing, the Contractor to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the County. The County may suspend performance of its obligations under this Contract in good faith for the convenience of the County or to investigate matters arising in the Work.

The Purchasing Director may order suspension of the Work in whole or in part for such time as he deems necessary because of the failure of the Contractor to comply with any of the requirements of this Contract, and the Contract's completion date shall not be extended on account of any such suspension of Work.

When the Purchasing Director orders any suspension of the Work under the paragraph above, the Contractor shall not be entitled to any payment for Work with respect to the period during which such Work is suspended and shall not be entitled to any costs or damages resulting from such suspension.

The rights and remedies of the County provided in this Section are in addition to any other rights and remedies provided by law or under this Contract.

**SECTION TWENTY**

**Modification of Contract**

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The County's Purchasing Director has the unilateral right to modify this Contract, within the general scope of work described above and in Exhibit B, when the modification is in the best interest of the County, provided however, the Contractor is given written notice of any such modification and the County is responsible for paying Contractor for any additional expenses incurred by the Contractor that relate to the modification. Subject to the above, the Contractor shall immediately notify the County in writing of any proposed adjustment in its fee and the schedule for performance. The Contractor is obligated to perform the revised contract when so directed by the Purchasing Director, and the County is obligated to pay for the work performed pursuant to the modification. No claim by the Contractor for an adjustment hereunder shall be allowed if asserted after Final Payment under this Contract.

**SECTION TWENTY-ONE**

**Termination**

A. For Convenience

The Purchasing Director, by advance written notice, may terminate this Contract when it is in the best interests of the County. If this Contract is so terminated, the Contractor shall be compensated for all necessary and reasonable direct costs of performing the Work actually accomplished. The Contractor will not be compensated for any other costs in connection with a termination for convenience. The Contractor will not be entitled to recover any damages in connection with a termination for convenience.

B. For Default

If the Contractor refuses or fails to perform the Work or any separable part thereof in a timely or

workmanlike manner in accordance with the Contract Documents, or otherwise fails, in the sole opinion of the County, to comply with any of the terms and conditions of the Contract Documents deemed, in the sole opinion of the County, to be material (including, without limitation, the requirement that Contractor obtain and maintain in force all necessary permits), such refusal or failure shall be deemed a default under this Contract.

In the event of a default under this Section, the County shall have the right to inform the Contractor of the default and demand that the Contractor immediately deliver a plan to remedy the default. If the Contractor does not respond with a timely or reasonably achievable plan, the County may terminate forthwith this Contract by additional written notice to the Contractor. In the event of such default, the advance notice period for termination is waived and the Contractor shall not be entitled to any costs or damages resulting from a termination under this Section. Whether or not the Contractor's right to proceed with the Work is terminated, it and its sureties shall be liable for any damage to the County resulting from the Contractor's default. Any wrongful termination for default shall be deemed by the Parties a termination for convenience.

C. Termination for Non-Appropriation of Funds

The Purchasing Director, by written advance notice, may terminate this Contract in whole or in part in the event that sufficient appropriation of funds from any source (whether a federal, state, County or other source) are not made or sufficient funds are otherwise unavailable, in either case, to pay the charges under this Contract. If this Contract is so terminated, the Contractor shall be compensated for all necessary and reasonable direct costs of performing the Work actually provided to the date of such termination. The Contractor will not be compensated for any other costs in connection with a termination for non-appropriation. The Contractor will not be entitled to recover any damages in connection with a termination for non-appropriation, including, but not limited to, lost profits.

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D. Rights Cumulative

The rights and remedies of the County provided in this Section are in addition to any other rights and remedies provided by law or under this Contract.

**SECTION TWENTY-TW0**

**Indemnification**

Except for expenses or liabilities arising from the negligence or intentional acts of the County, the Contractor hereby expressly agrees to indemnify and hold the County harmless against any and all expenses and liabilities arising out of the negligent or intentionally wrongful performance, action or inaction of the Contractor in conduct of this Contract, as follows:

For matters other than those arising from the rendering or failure to render professional services, the Contractor expressly agrees to the extent that there is a causal relationship between its negligence, action or inaction, or the negligence, action or inaction of any of its employees or any person, firm or corporation directly or indirectly employed by the Contractor and any damage, liability, injury, loss or expense (whether in connection with bodily injury or death or property damage) that is suffered by the County and/or its officers or employees or by any member of the public, to indemnify and save the County and its officers and employees harmless against any and all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs, and expenses arising out of the negligence, action or inaction of the Contractor, regardless

of whether such liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses are caused in part by the County. Such costs are to include, without limitation, defense, settlement and reasonable attorney's fees incurred by the County and its employees. This promise to indemnify shall include, without limitation, bodily injuries or death occurring to the Contractor's employees and any person, directly or indirectly employed by the Contractor (including, without limitation, any employee of any subcontractor), the County's officers or employees, the employees of any other independent contractors, or occurring to any member of the public. When the County submits notice, the Contractor shall promptly defend any aforementioned action.

For matters arising out of the rendering or failure to render professional services, the Contractor will indemnify and save the County and its officers and employees harmless from and against all liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses arising out of or resultant from any negligent act, error or omission of the Contractor in the rendering or failure to render professional services under this Contract. Such costs are to include, without limitation, defense, settlement and reasonable attorneys' fees incurred by the County and its officers and employees. This promise to indemnify shall include, without limitation, bodily injuries or death occurring to the Contractor's employees and any person, directly or indirectly employed by the Contractor (including, without limitation, any employee of any subcontractor), the County's officers or employees, the employees of any other independent contractors, or occurring to any member of the public. When the County submits notice of a claim that triggers the indemnity, the Contractor shall promptly defend any aforementioned action.

The limits of insurance required in this Contract shall not limit the Contractor's obligations under this Section. The terms and conditions contained in this Section shall survive the termination of the Contract or the suspension of the Work hereunder. To the extent that any liabilities, penalties, demands, claims, lawsuits, losses, damages, costs and expenses are caused in part by the acts of the County, the Contractor's obligations shall be reduced in proportion to the County's fault. The obligations herein shall also extend to any actions by the County to enforce this indemnity obligation. The recovery of costs and fees all extend to those incurred in the enforcement of this indemnity.

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**SECTION TWENTY-THREE**

**Gratuities and Kickbacks**

Gratuities. It shall be unethical for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement of a contract or subcontract, or to any solicitation or proposal therefore.

Kickbacks. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor, or to hire any subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

Violation of this clause may result in Contract termination.

**SECTION TWENTY-FOUR**

**Labor: Subcontractors**

No subcontracts shall be allowed without the prior written approval of the County. The Contractor shall not contract with a proposed person or entity to whom the County has made reasonable and timely objections. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable and timely objection.

The Contractor shall enforce strict discipline and good order among its employees and other persons carrying out the performance of the Contract.

Employment of labor by the Contractor shall be effected under conditions which are satisfactory to the County. The Contractor shall remove or cause to have removed from the project any employee or employees who are considered unsatisfactory by the County.

The Contractor assumes the responsibility for assuring that its working forces are compatible with the County employees and the Contractor is responsible for making itself aware of those forces. The Contractor will furnish a competent representative who is to be kept available to represent the Contractor for the purpose of receiving notices, orders and instruction. No substitutions shall be made of such Contractor's representative without the approval of the County and a replacement by someone with comparable, skills, experience and talent.

**SECTION TWENTY-FIVE**

**Assignment**

DRAFT

The Contractor shall not assign in whole or in part the Contract without the prior written consent of the County or its Assignee. The Contractor shall not assign any money due or that may become due to it under said the Contract without the prior written consent of the County or its Assignee. Each Party binds itself, its successors, assigns, executors, administrators or other representatives to the other Party hereto and to successors, assigns, executors, administrators or other representatives of such other Party in connection with all terms and conditions of the Contract.

**SECTION TWENTY-SIX**

**Controlling Law**

The laws of South Carolina shall govern this Contract. All litigation arising under this Contract shall be litigated only in a nonjury hearing in the Court of Common Pleas, Fourteenth Judicial Circuit, Beaufort County, South Carolina.

**SECTION TWENTY-SEVEN**

**Entire Contract**

This Contract constitutes the entire understanding and contract between the Parties hereto and supersedes all prior and contemporaneous written and oral contracts between the Parties and their predecessors in interest regarding the subject matter of this Contract. This Contract may not be changed, altered, amended, modified, or terminated orally, except as specifically provided, and any such change, alteration, amendment, or modification must be in writing and executed by the Parties hereto.

**SECTION TWENTY-EIGHT**

**Severance**

Should any part of this Contract be determined by a Court of competent jurisdiction to be invalid, illegal, or against public policy, said offending Section shall be void and of no effect and shall not render any other Section herein, nor this Contract as a whole, invalid. Any terms which, by their nature, should survive the suspension, termination or expiration hereof shall be deemed to so survive.

**SECTION TWENTY-NINE**

**Non-waiver**

Any waiver of any default by either Party to this Contract shall not constitute waiver of any subsequent default, nor shall it operate to require either Party to waive, or entitle either Party to a waiver of, any subsequent default hereunder.

DRAFT

IN WITNESS WHEREOF, the Parties hereto have executed this Contract under their several seals as of the day and year first written above.

WITNESS:

_____

_____

BEAUFORT COUNTY

By:_____

Its:_____

CONTRACTOR

_____

By:_____

_____

Its:_____

DRAFT

SEAMONWHITESIDE

January 14, 2025

Ms. Victoria Moyer, CPPB, NIGP-CPP
Deputy Director
Procurement Services
Beaufort County, SC

**Beaufort County – Alljoy Drainage Study**

Dear Ms. Moyer,

Seamon, Whiteside & Associates, Inc. (SW+) is pleased to offer a proposal for professional engineering services to complete a drainage study for the Alljoy Community based on the requested scope of work advertised in the request for qualifications (RFQ) titled Alljoy Drainage Study (RFQ # RFQ 090324) advertised on August 1, 2024. It is our understanding that this study will focus on collecting pertinent data to develop a hydrologic and hydraulic model and generate a plan consisting of recommendations for improvements to address systemic flooding in the study area (see Figure 1).




*Figure 1 - Location map depicting approximate study limits.*

*Deliverable*: GIS citizen survey results and web mapping files.

**Division Four: Hydrologic and Hydraulic Modeling & System Evaluation**

An existing conditions analysis will be completed to document and validate (from Client or photo documentation) existing flood conditions across the study area. This division will include the following tasks:

1. Develop a representative hydrologic and hydraulic model to evaluate performance of current drainage infrastructure.
2. Evaluate system performance for the following scenarios:
    a. Current conditions typical (average) and extreme (e.g., hurricane or King Tide) tidal events without rainfall.
    b. Current conditions 10- and 25-year design rainfall events during typical (average) and extreme (e.g., hurricane or King Tide) tidal events.
    c. Future conditions typical (average) and extreme (e.g., hurricane or King Tide) tidal events adjusted for sea level rise without rainfall. These evaluations will also account for changes in land cover, as applicable.
    d. Future conditions 10- and 25-year design rainfall events during typical (average) and extreme (e.g., hurricane or King Tide) tidal events adjusted for sea level rise. These evaluations will also account for changes in rainfall and land cover, as applicable.
3. Prepare GIS mapping to document results from the analysis (e.g., inundation footprints, flood depths, etc.).
4. Use results from the analysis to identify problem areas.

*Deliverable*: GIS database and exhibits documenting system evaluation.

**Division Five: Recommendations for Improvements**

Results of the existing conditions hydrologic and hydraulic model (for both current and future conditions) will be used to determine potential cause(s) of observed flooding within the study area and develop solutions to mitigate such flooding. During this division, our team will complete the following tasks:

1. Develop design criteria and performance metrics for determining a drainage improvement's effectiveness based on established design criteria and the Client's long-term goals (e.g., water quality, flood reduction, etc.).
2. Develop conceptual improvements to alleviate existing flood conditions and/or improve system performance (both maintenance and construction capital improvement projects). Proposed drainage improvements will be evaluated by developing/using a proposed conditions hydrologic and hydraulic model.
3. Evaluate proposed system performance for the scenarios outlined in Division Four Task 2 based on implementation of conceptual improvements.
4. Prepare GIS mapping to document results from the analysis (e.g., inundation footprints and drainage improvements' locations/details).
5. Evaluate permitting constraints/requirements associated with recommendations.
6. Prepare opinions of probable construction costs for recommendations to include engineering, design, permitting, and construction.
7. Determine ranking/priority of recommendations based on a diverse set of metrics (e.g., flood reduction, cost, Client goals, etc.).

3. Address comments from Client and SC Rural Infrastructure Authority.
4. Deliver final report to Client and SC Rural Infrastructure Authority.

*Deliverable*: Report detailing means, methods, results, and final recommendations of the drainage improvement plan, as well as supporting appendices and exhibits. All draft and final electronic deliverables will be provided to the Client as well as SC Rural Infrastructure Authority.

*Notes:*

1. *Civil engineering and landscape architecture design and permitting services are not included in this scope of services.*
2. *Hydrologic & hydraulic monitoring services are not included in this scope of services but can be added via an addendum.*
3. *Quantitative water quality and coastal modeling services are not included in this scope of services but can be added via an addendum.*
4. *Preparation of grant applications and funding requests are not included in this scope or services but can be added through a separate agreement.*
5. *Review of design and permitting ordinances are not included in this scope of services but can be added via an addendum.*
6. *Opinions of probable costs that are prepared by SW+ shall be based on experience and qualifications and represent its best judgment familiar with the construction industry but shall not be a guarantee that construction costs will not vary from its opinions of probable cost.*

**Fees:**

We will provide the indicated services for the following fees. Fees for all divisions are inclusive of anticipated or incurred project expenses.

Division One: Client Coordination, Progress Meetings, and Stakeholder Meetings..... $21,500 (Hourly Estimated Fee)

Division One: Inventory/Assessment of Stormwater System and Data Gathering.....$56,750 (Lump Sum)

Division Two: Digital Community Engagement Support.....$5,000 (Lump Sum)

Division Three: Hydrologic and Hydraulic Modeling & System Evaluation.....$42,500 (Lump Sum)

Division Four: Recommendations for Improvements.....$63,750 (Lump Sum)

Division Five: Coastal Resiliency and Water Quality Evaluation..... $25,500 (Hourly Estimated Fee)

Division Six: Funding Assessment.....$10,000 (Lump Sum)

Division Seven: Comprehensive Drainage Improvement Plan.....$20,500 (Lump Sum)

Hourly rate services and/or additional services shall be invoiced according to the table below:

SW+ current hourly rates are as follows (see note below):

| | |
|---|---|
| Principal in Charge | $285.00 |
| Managing Principal | $275.00 |
| Professional Support | $110.00 |
| Administrative Support | $90.00 |
| **Landscape Architecture** | |
| Director | $225.00 |
| Senior Landscape Architecture Team Leader/Practice Leader 2 | $220.00 |
| Landscape Architecture Team Leader/Practice Leader 1 | $210.00 |
| Senior Landscape Architecture Project Manager 3/Senior Land Planner 3 | $200.00 |
| Senior Landscape Architecture Project Manager 2/Senior Land Planner 2 | $195.00 |
| Senior Landscape Architecture Project Manager 1/Senior Land Planner 1 | $190.00 |
| Landscape Architecture Project Manager/Land Planner 5 | $180.00 |
| Landscape Architecture Project Coordinator/Land Planner 4 | $175.00 |
| Land Planner 3 | $170.00 |
| Land Planner 2 | $160.00 |
| Land Planner 1 | $150.00 |
| **Civil Engineering** | |
| Director | $225.00 |
| Senior Civil Engineering Team Leader/Practice Leader 2 | $220.00 |
| Civil Engineering Team Leader/Practice Leader 1 | $210.00 |
| Senior Civil Engineering Project Manager 3/Senior Designer 3 | $200.00 |
| Senior Civil Engineering Project Manager 2/Senior Designer 2 | $195.00 |
| Senior Civil Engineering Project Manager 1/Senior Designer 1 | $190.00 |
| Civil Engineering Project Manager/Civil Designer 5 | $185.00 |
| Civil Engineering Project Coordinator/Civil Designer 4 | $180.00 |
| Civil Designer 3 | $175.00 |
| Civil Designer 2 | $165.00 |
| Civil Designer 1 | $155.00 |
| Senior CAD Technician | $160.00 |
| CAD Technician 4 | $150.00 |
| CAD Technician 3 | $140.00 |
| CAD Technician 2 | $130.00 |

Black and white inkjet plotting ($2.00 per sq ft)
- 24 x 36 ..... $12.00 each
- 30 x 42 ..... $17.50 each
- 36 x 48 ..... $24.00 each

Black and white Xerox copies
- 8½ x 11 ..... $0.20 each
- 8½ x 14 ..... $0.25 each
- 11 x 17 ..... $0.35 each

Color Xerox copies
- 8½ x 11 ..... $1.00 each
- 8½ x 14 ..... $2.75 each
- 11 x 17 ..... $3.50 each

When an estimated fee range is indicated, this estimate was made based on current understanding of project scope and/or construction duration. If it becomes apparent that this estimate will be exceeded, we will notify Client in advance of reaching the upper limit of the indicated range.

Other project related reimbursable expenses, such as but not restricted to postage, long distance telephone calls, travel expenses, courier fees, and agency permitting fees will be billed at actual cost plus a 10% handling fee. Fees for outside subconsultants will be billed at actual cost plus a 15% handling fee. Fees and reimbursable expenses will be invoiced every 4 weeks.

Should you find this Contract and attached General Terms of Agreement acceptable, please confirm by signing in the space provided below and return one executed original to our office. We look forward to working with you on this project.

Should you have any questions or need additional information, please call our office.

SEAMON, WHITESIDE & ASSOCIATES, INC.



Jason Munday PE
Vice President

Accepted By:

Please Provide Billing Contact
Email address:

Signature and Title

8.1. The Americans with Disabilities Act (ADA) provides that it is a violation of the ADA to design and construct a facility for first occupancy later than January 26, 1993, that does not meet for accessibility and usability requirements of the ADA except where an entity can demonstrate that it is structurally impractical to meet such requirements. The Client acknowledges that the requirements of the ADA will be subject to various and possibly contradictory interpretations. The Consultant, therefore, will use his or her reasonable professional efforts to interpret applicable ADA requirements and other federal, state and local laws, rules, codes, ordinances and regulations as they apply to the project. The Consultant, however, cannot and does not warrant or guarantee that the Client's project will comply with interpretations of ADA requirements and/or requirements of other federal, state and local laws, rules, codes, ordinances and regulations as they apply to the project.

9. **Certifications.** The terms "Certification," "Certify," and "Certified," as used in lending or regulatory agency documents which require the rendering of a professional opinion concerning compliance with such documents shall mean a statement by a Licensed Professional representing that professional services have been performed by him or under his direct supervision and, based upon the Licensed Professional's knowledge, information and belief, are consistent with commonly accepted local standards of practice; NO GUARANTEE OR WARRANTY IS EITHER EXPRESSED OR IMPLIED.

10. **Client's Responsibilities.** In addition to other responsibilities described herein or imposed by law, the Client shall:

10.1. Designate in writing a person to act as its representative with respect to this Agreement, such person having complete authority to transmit instructions, receive information, and make or interpret the Client's decisions.

10.2. Provide all information and criteria as to the Client's requirements, objectives, and expectations for the project including all numerical criteria that are to be met and all standards of development, design, or construction.

10.3. Furnish, at the Client's expense, all information, requirements, geotechnical reports, data, surveys and instructions required by this Agreement. The Consultant may use such information, requirements, geotechnical reports, data, surveys and instructions in performing its services and is entitled to rely upon the accuracy and completeness thereof.

10.4. Client agrees to not hold Consultant responsible for errors or omissions in Consultant's work that are directly attributable to errors or incorrect data provided to Consultant by Client or Client's other consultants. Client further acknowledges that any redesign or corrective efforts required by Consultant resulting from incorrect information provided by Client or Client's other consultants will be paid for by the Client as additional services.

10.5. Arrange for access to the site and other private or public property as required for the Consultant to provide its services.

10.6. Review all documents or oral reports presented by the Consultant and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of the Consultant.

10.7. Give prompt written notice to the Consultant whenever the Client becomes aware of any development that affects the scope, timing, or payment of the consultant's services or any defect or noncompliance in any aspect of the project.

10.8. Bear all costs for the payment of fees associated with the project. Such fees would include but not be limited to permit review and application fees, impact fees, and capacity fees. The Consultant will notify the client regarding the amount of fees and timing of payment.

11. **Method of Payment.** The Client agrees to pay the Consultant's invoices in a timely manner:

11.1. The Client agrees to pay the Consultant for work performed in accordance with the terms of this Contract, without regard to the success of the project.

11.2. For any payment, not reasonably in dispute, that is not received within 30 days, the Client shall pay a service charge on the past due amount, including interest at the rate of 1½% per month.

11.3. If payment is not received within 60 days, the Consultant may at their option and with five days written notice, suspend services or terminate this Agreement on the grounds of substantial nonperformance by the Client. Should SW+'s right of suspension or termination be exercised, they shall not be liable to the Client for delays or damages caused by the suspension or termination.

11.4. Payments on invoices submitted by SW+ for services performed shall not be delayed, postponed or otherwise withheld pending completion or success of construction, or receipt of funding from lending institutions, government grants, or other sources.

11.5. No deductions shall be made from the Consultant's compensation on account of liquidated damages or on account of cost in changes in the Work, other than those for which the Consultant has been finally determined to be liable.

21. **Use of Documents**. Prior to final payment to SW+ pursuant to the terms of this agreement, SW+ and its subconsultants shall be deemed the authors and owners of their respective Instruments of Service, including the Surveys, Drawings, Specifications, Reports, Field Data, Notes and other deliverables as defined within the Scope of Services whether handwritten or in electronic form, and shall retain all common law, statutory and other reserved rights, including copyrights thereto. Following final payment to SW+ pursuant to the terms of this agreement, the ownership rights to SW+'s Instruments of Service shall be transferred to the Client. However, SW+ shall maintain all ownership, copyright and property rights related to SW+'s intellectual property developed outside of the Scope of Services.

    21.1. The Client acknowledges the Consultant's deliverables as defined within the Scope of Services, including electronic files, as the work of the Consultant and the Consultant's instruments of professional service. Nevertheless, the deliverables prepared under this Agreement shall become the property of the Client upon completion of the services and payment in full of all monies due to the Consultant. The Client shall not make any modification to the deliverables without the prior written authorization of the Consultant. The Client agrees, to the fullest extent permitted by law, to defend, indemnify and hold harmless the Consultant, its officers, directors, employees and subconsultants (collectively, Consultant) against any damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from or allegedly arising from or in any way connected with the reuse or modification of the deliverables by the Client or any person or entity that acquires or obtains the deliverables from or through the Client.

22. **Electronic Documents.** The Consultant may furnish to the Client and other parties as required during the execution of the Work, documents in electronic form. The Client shall agree to the following terms with regard to distribution and use of documents in electronic form unless furnished by the Consultant to the Client as a deliverable defined within the Scope of Services:

    22.1. In accepting and utilizing any drawings, reports and data on any form of electronic media generated and furnished by the Consultant, the Client agrees that all such electronic files are instruments of service of the Consultant, who shall be deemed the author, and shall retain all common law, statutory law and other rights, without limitation, including copyrights.

    22.2. The Client agrees not to reuse these electronic files, in whole or in part, for any purpose other than for the Project. The Client agrees not to transfer these electronic files to others without the prior written consent of the Consultant. The Client further agrees to waive all claims against the Consultant resulting in any way from any unauthorized changes to or reuse of the electronic files for any other project by anyone other than the Consultant.

    22.3. The Client and the Consultant agree that any electronic files furnished by either party shall conform to the project specifications. Any changes to the electronic specifications by either the Client or the Consultant are subject to review and acceptance by the other party. If the Consultant is required to expend additional effort to incorporate changes to the electronic file specifications made by the Client, these efforts shall be compensated for as Additional Services.

    22.4. Electronic files furnished by either party shall be subject to an acceptance period of fourteen (14) days during which the receiving party agrees to perform appropriate acceptance tests. The party furnishing the electronic files shall correct any discrepancies or errors detected and reported within the acceptance period. After the acceptance period, the electronic files shall be deemed to be accepted and neither party shall have any obligation to correct errors or maintain electronic files.

    22.5. In addition, the Client agrees, to the fullest extent permitted by law, indemnify and hold harmless the Consultant, its officers, directors, employees and subconsultants (collectively, Consultant) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any changes made by anyone other than the Consultant from any reuse if the electronic files without the prior written consent of the Consultant.

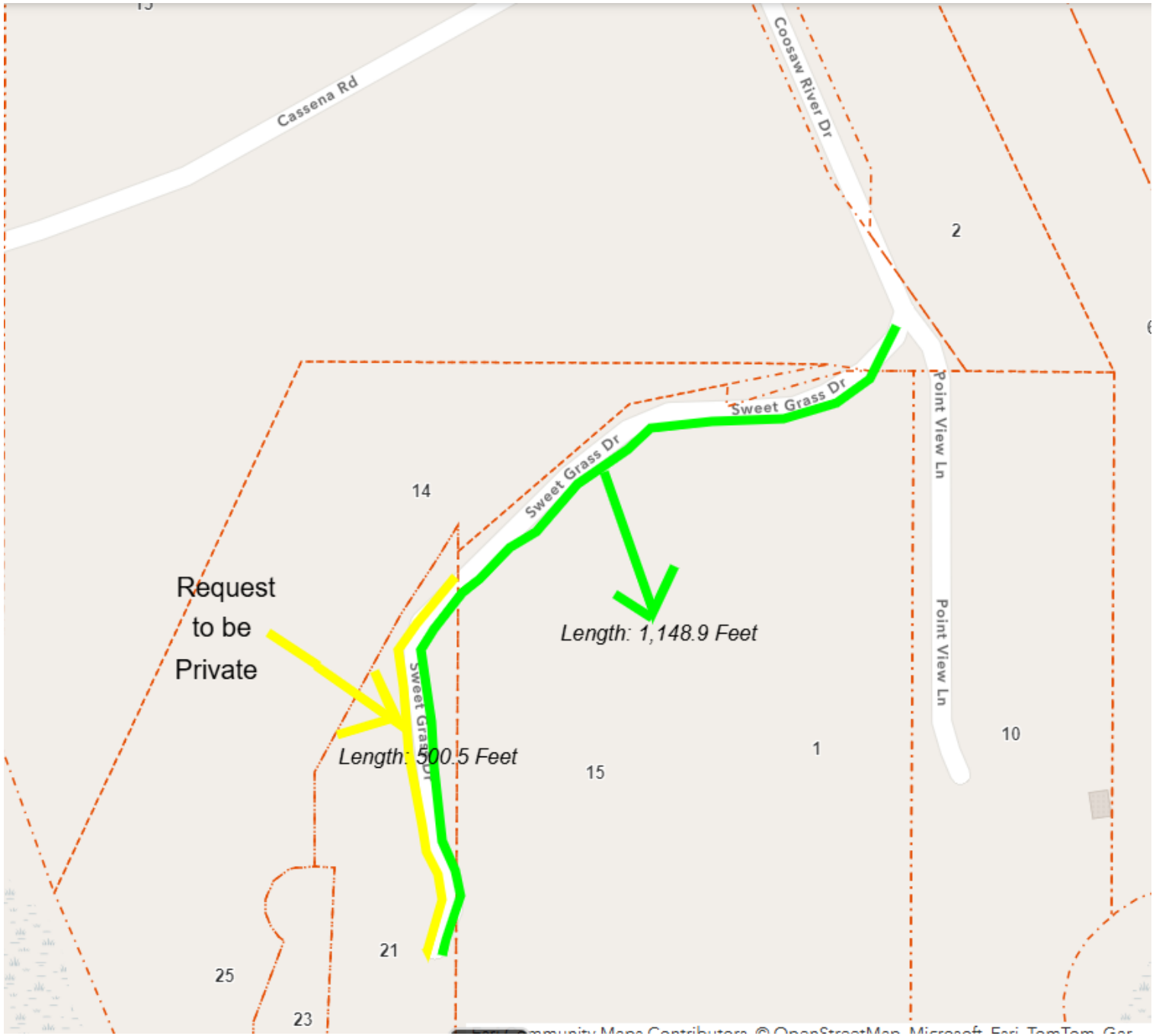
    22.6. Under no circumstances shall delivery of electronic file for use by the Client be deemed a sale by the Consultant, and the Consultant makes no warranties, either express or implied, of merchantability and fitness for any particular purpose. In no event shall the Consultant be liable for indirect or consequential damages as a result of the Client's use or reuse of the electronic files.

23. **Certifications.** The Consultant shall not be required to execute certifications or third-party reliance letters that are inaccurate, that relate to facts of which the Consultant does not have actual knowledge, or warrant the existence of conditions whose existence and accuracy the Consultant cannot ascertain, or that would cause the Consultant to violate

# BEAUFORT COUNTY COUNCIL
## AGENDA ITEM SUMMARY

| |
|---|
| ITEM TITLE: |
| Approval to abandon maintenance activities to a section of Sweet Grass Drive and return a portion of the road to be classified as private. |
| **MEETING NAME AND DATE:** |
| Public Facilities Committee Meeting March 17, 2025 |
| **PRESENTER INFORMATION:** |
| Jared Fralix, P.E., Assistant County Administrator, Infrastructure<br>Patty Wilson, Right of Way Manager<br>(5 Minutes) |
| **ITEM BACKGROUND:** |
| Property owners who own parcels R200 012 000 002A 0000 or 21 Sweet Grass Drive, R200 012 000 002B 0000 or 23 Sweet Grass Drive and R200 012 000 0040 or 14 & 25 Sweet Grass Drive have petitioned for the County to make the portion of the road private that their properties surrounded. |
| **PROJECT / ITEM NARRATIVE:** |
| Sweet Grass Drive is a County maintained road that is approximately 1,149 LF. The property owners would like to put a gate up to block public access to their land which would reduce the road length around 500 LF. |
| **FISCAL IMPACT:** |
| *N/A* |
| **STAFF RECOMMENDATIONS TO COUNCIL:** |
| Staff recommends granting private road status for a portion of Sweet Grass Drive |
| **OPTIONS FOR COUNCIL MOTION:** |
| *Motion/Deny request for a portion of Sweet Grass Drive to be classified as Private.*<br><br>***(Next Step) Move PFC action to County Council for approval*** |

Sweet Grass Drive approximately 1,149 LF. Owners requesting approximately 500 LF to be classified as Private



**Beaufort County Petition for**
**County Road to be classified as Private**

Date: January 13, 2025

Name of Road: Sweet Grass Drive

Location: Judge Island

Point Person Contact Information: Shawna Collins (Name); 704-441-3100 (Phone #)
shawna@collinsfamilylaw.com (E-Mail Address); 21 Sweet Grass Dr., Beaufort, SC 29907 (Mailing Address)

Please submit this petition to the following address:

Beaufort County Right of Way Manager
120 Shanklin Road
Beaufort, SC 29906

For Right of Way questions call:
Patty Wilson
Beaufort County Right of Way Manager
843 255- 2694

# Beaufort County Petition for County Road to be classified as Private

We the owners of property adjacent to Sweet Grass Drive (Name of Road) are submitting this petition to have the above named road classified as private. We understand that if County Council approves this request the road will be classified as private and that the County will not be responsible for the maintenance of the road and drainage associated with the road. We also understand that road classification may affect financial lending status and reversing the road status once private is not guaranteed. We the undersigned agree formally with this request.

Kelly S. Collins
Name (Print)
Kelly S. Collins
Name (Signature)
21 Sweet Grass Dr.
Address
Beaufort, SC 29907
City, State, Zip Code
704-575-8148
Day Time Phone Number
storycollins@gmail.com
Email Address
See attached
Tax Map Parcel Number

Shawna D. Collins
Name (Print)
Name (Signature)
21 Sweet Grass Dr.
Address
Beaufort, SC 29907
City, State, Zip Code
704-441-3100
Day Time Phone Number
shawna@collinsfamilylaw.com
Email Address
See attached
Tax Map Parcel Number

Name (Print)
Name (Signature)
Address
City, State, Zip Code
Day Time Phone Number
Email Address
Tax Map Parcel Number

Name (Print)
Name (Signature)
Address
City, State, Zip Code
Day Time Phone Number
Email Address
Tax Map Parcel Number

Name (Print)
Name (Signature)
Address
City, State, Zip Code
Day Time Phone Number
Email Address
Tax Map Parcel Number

Name (Print)
Name (Signature)
Address
City, State, Zip Code
Day Time Phone Number
Email Address
Tax Map Parcel Number

# Public Facilities Committee

Boards and Commissions Appointments and Reappointments

| Solid Waste & Recycling | | |
|---|---|---|
| Lawrence Bryan | Term to be served: 3rd | Reappointment |

1st Term needs 6/11 Council Votes
2nd Term needs 8/11 Council Votes
3rd Term needs 10/11 Council Votes

# Letter of Intent

Lawrence Bryan

4383 Pinewood Circle

Beaufort, SC 29906

To Whom it May concern:

This is a statement to verify the intention that, I, Lawrence Bryan, am seeking Reappointment for the Solid Waste and Recycling Board. This will go into effect on 02/2025.

Sincerely,

Lawrence Bryan



# Public Facilities Committee

Boards and Commissions Appointments and Reappointments

| Beaufort County Transportation Committee | | |
|---|---|---|
| Clarence Daniels | Term to be served: 2nd | Reappointment |
| James Backer | Term to be served: 3rd | Reappointment |

1st Term needs 6/11 Council Votes
2nd Term needs 8/11 Council Votes
3rd Term needs 10/11 Council Votes

**From:** DiJulio-Cook, Chris
**To:** boardsandcommissions
**Subject:** FW: Letter of Intent and Conflict of Interest Form
**Date:** Tuesday, December 3, 2024 7:32:19 AM
**Attachments:** image001.png
image001.png

Good morning,
Will this suffice as Mr. Daniel's letter of intent to request another term with the Transportation Commission? I am still awaiting his completed COI but will return that once I receive it.
Thanks,
Chris

**From:** Clarence Daniel <clarencedaniel357@gmail.com>
**Sent:** Sunday, December 1, 2024 9:22 PM
**To:** DiJulio-Cook, Chris <c.dijuliocook@bcgov.net>
**Cc:** veronicamiller34@gmail.com; jimbacker88 <jimbacker88@gmail.com>
**Subject:** Re: Letter of Intent and Conflict of Interest Form

[EXTERNAL EMAIL] Please report any suspicious attachments, links, or requests for sensitive information to the Beaufort County IT Division at helpdesk@bcgov.net or to 843-255-7000.

Yes, we are still interested.i will remain on the committee

On Tue, Nov 26, 2024, 07:40 DiJulio-Cook, Chris <c.dijuliocook@bcgov.net> wrote:

> Good morning,
> I'm reaching out because each of your terms expire in February of 2025. Over the next week or two if you would please send me an email with your intentions of whether you'd like to remain on the committee or not so we can start the process of reappointing or, should you choose to step down, advertising the vacancy.
> If you are seeking reappointment, please complete the attached conflict of interest form, and return that to me, as well.
> Please let me know if you have any questions.
> Hope you all have a happy Thanksgiving.
> Chris
>
> Chris DiJulio-Cook
> Business Manager
> Beaufort County Engineering

Hi Chris,

Attached is a completed Conflict of Interest Statement.

Also, at this time I plan to continue as a member of the BCTC.

Regards,

***Jim Backer***
610.597.8495 (mobile)

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**From:** DiJulio-Cook, Chris <c.dijuliocook@bcgov.net>
**Sent:** Tuesday, December 31, 2024 10:47 AM
**To:** jimbacker88 <jimbacker88@gmail.com>; veronicamiller34@gmail.com
**Cc:** kgordon gordonconst.com <kgordon@gordonconst.com>
**Subject:** Letter of Intent and Conflict of Interest Form (Reminder)

Good morning,
I hope each of you had a wonderful holiday.
February is quickly approaching, and It's been a bit since I've followed up about your terms expiring, so I wanted to reach back out, now that the hecticness of the holidays has died down some. I have not heard back from either of you regarding your intentions of remaining on the Committee. If you would each take a moment to respond to this email and let me know if you would like to continue as a member of the CTC or not. I can pass that information along to the Clerk to Council to either have your name put on the next agenda for Finance Committee for reappointment or to advertise the vacancy.
If you are seeking reappointment, please complete the attached conflict of interest form, and return that to me, as well.
Please let me know if you have any questions.
Have a happy New Year!
Chris

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**From:** DiJulio-Cook, Chris
**Sent:** Tuesday, November 26, 2024 7:40 AM
**To:** veronicamiller34@gmail.com; clarencedaniel357@gmail.com; jimbacker88@gmail.com
**Subject:** Letter of Intent and Conflict of Interest Form