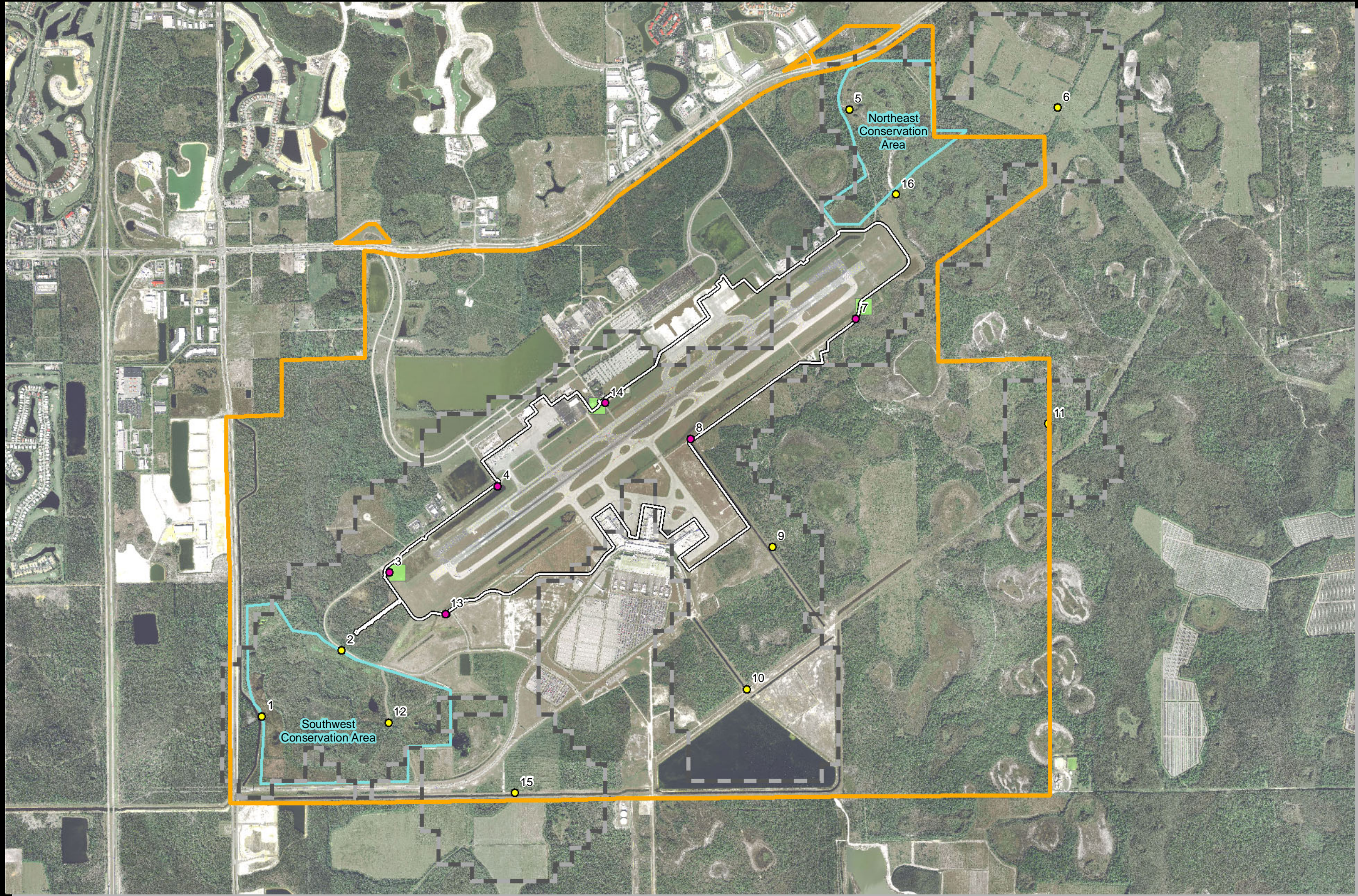


\\ftms01\proj-fmn\20033734\Task 14\ArcGIS\Map Documents\11x17_Final\Analysis_summer night.mxd



Legend

- SWFIA Boundary
- Aircraft Operations Area (AOA)
- Observation Sites**
 - Outside AOA
 - Inside AOA
- Quantitative Study Observed Area
- Conservation Areas
- Risk**
 - Summer Night-time Hazard (All Birds)
 - Low

0 1,250 2,500 3,750
Feet



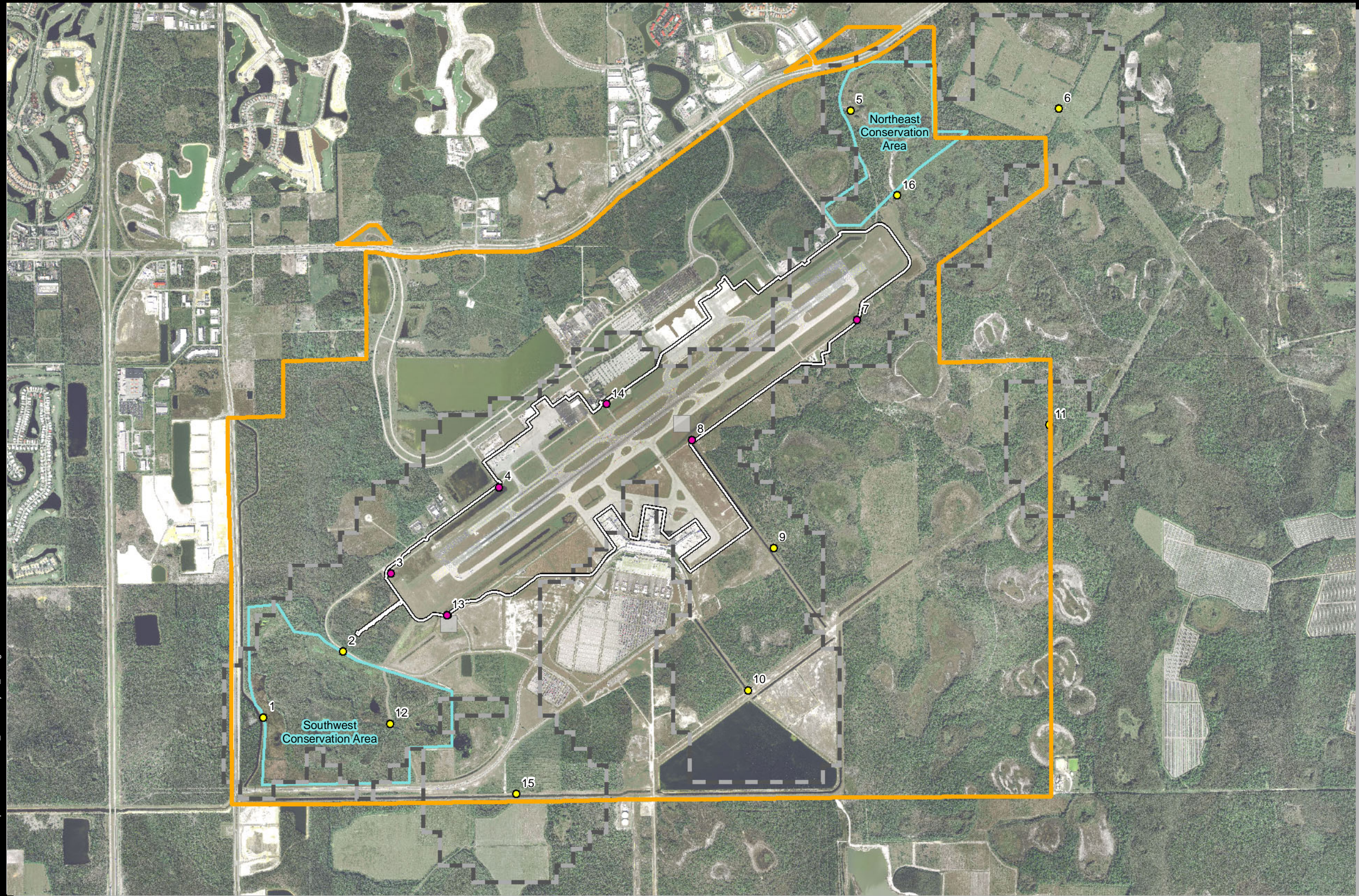
Lee County Port Authority - RSW Wildlife Hazard Assessment; Lee County, Florida

Quantitative Hazard Scores - Summer Night-time

2122 Johnson Street
Fort Myers, Florida 33901
(239) 334-0046



\\ftms01\proj-fmn\20033734\Task 141\ArcGIS\Map Documents\11x17_Final\Analysis_fall_night.mxd



Legend

- SWFIA Boundary
- Aircraft Operations Area (AOA)
- Observation Sites**
 - Outside AOA
 - Inside AOA
 - Quantitative Study Observed Area
 - Conservation Areas
- Risk**
 - Fall Night-time Hazard (All Guilds)
None observed

0 1,250 2,500 3,750 Feet



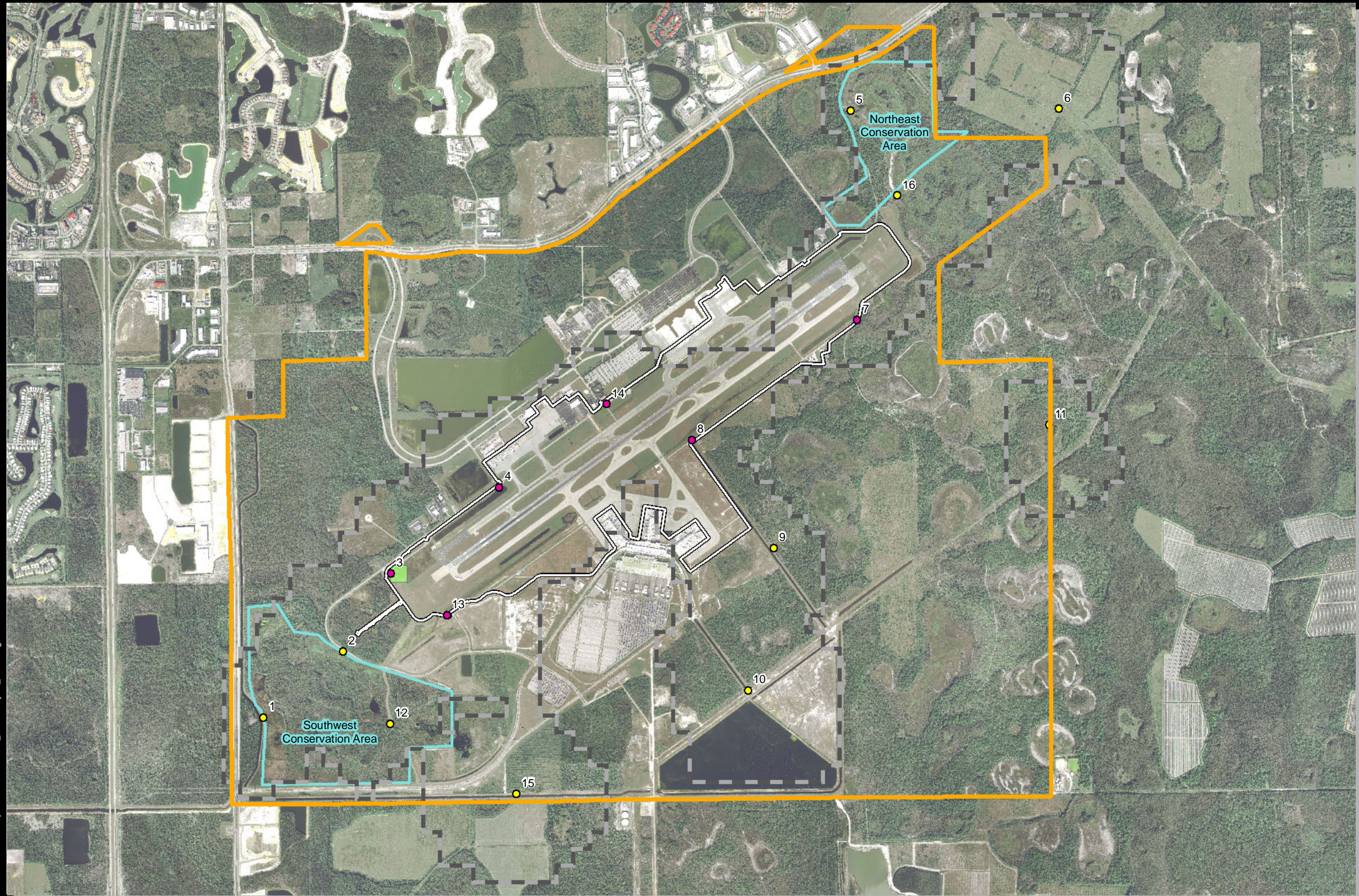
Lee County Port Authority - RSW Wildlife Hazard Assessment; Lee County, Florida

Quantitative Hazard Scores - Fall Night-time

2122 Johnson Street
Fort Myers, Florida 33901
(239) 334-0046

JOHNSON
ENGINEERING

\\ftms01\proj-fmn\20033734\Task 141\ArcGIS\Map Documents\11x17_Final\Analysis_winter.night.mxd



Legend

- SWFIA Boundary
- Aircraft Operations Area (AOA)
- Observation Sites**
 - Outside AOA
 - Inside AOA
- Quantitative Study Observed Area
- Conservation Areas
- Risk**
 - Winter Night-time Hazard (All Guilds)
 - Low

0 1,250 2,500 3,750 Feet



Lee County Port Authority - RSW Wildlife Hazard Assessment; Lee County, Florida

Quantitative Hazard Scores - Winter Night-time

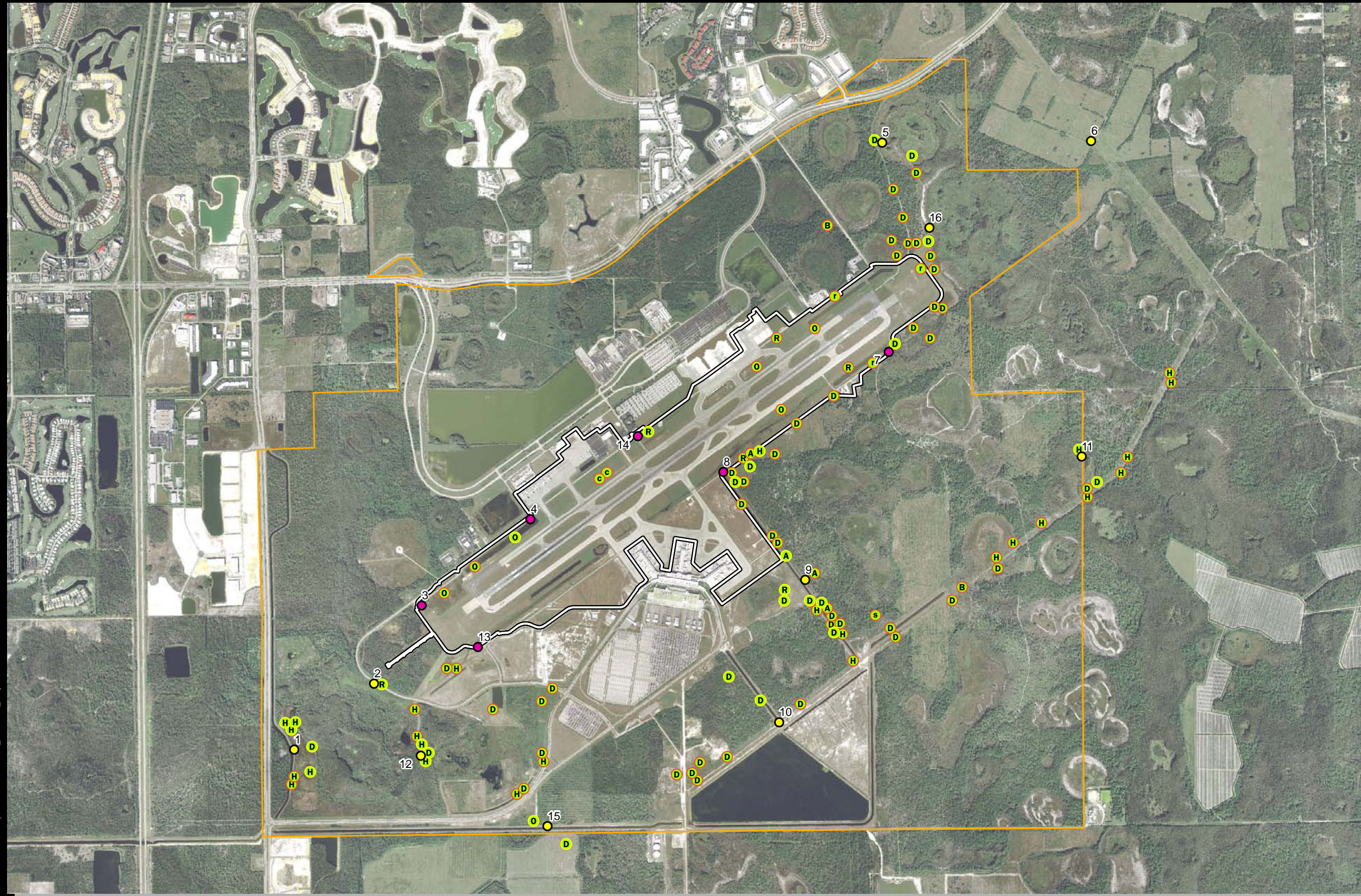
2122 Johnson Street
Fort Myers, Florida 33901
(239) 334-0046

JOHNSON
ENGINEERING

APPENDIX N

Cumulative Mammal Results Map

\\lms01\proj\lms\20033734\Task 141\ArcGIS\MapDocuments\11x17_Mammal_Map.mxd



Legend

SWFIA Boundary

Observation Sites

- Outside AOA
- Inside AOA

Aircraft Operations Area (AOA)

Boundary Fence

Mammal Observations

Species Name

- A Armadillo
- B Bobcat
- D Deer
- C Feral Cat
- H Feral Hog
- S Gray Squirrel
- R Rabbit
- R Raccoon
- O River Otter

- Quantitative
- Qualitative

0 1,250 2,500 3,750 Feet



Lee County Port Authority - RSW Mammal Map; Lee County, Florida

Cumulative Mammal Data - March 2008 through February 2009

2122 Johnson Street
Fort Myers, Florida 33901
(239) 334-0046



APPENDIX O

**Structural Attractants Report by
Fehér Environmental Consulting, Inc.**



SUMMARY OF FIELD REVIEW

DATE: June 11, 2008

PREPARED BY: George G. Fehér (FEC)

REFERENCE: Southwest Florida International Airport (RSW)

COPIES TO: Anik Smith, Johnson Engineering, Inc. (JEI)

Summary:

On May 8, 2008 a field review was completed of Concourses B,C and D at RSW as part of the Wildlife Hazard Assessment (WHA) being conducted by JEI (See Figure). The purpose of the inspection was to identify potential hazardous wildlife attractants located at the Concourse.

In attendance were:

- Ms. Anik L. Smith (JEI)
- Mr. Arlie McMillan (RSW), and
- Mr. George G. Fehér (FEC)

There were no major attractants identified; only two minor items needed to be addressed by airport personnel: an open electrical junction box with the remains of a **bird's nest inside** and **three small garbage cans having food remains** but no lids to keep birds out.

Methodology:

Using the USDA/FAA Manual: *Wildlife Hazard Management at Airports, Second Edition, July 2005* as a guideline, the inspection team traversed, on-foot, the entire perimeter of all three concourse buildings. Time spent on-site was approximately four hours. JEI and FEC personnel interviewed RSW Operations and Maintenance staff as to past or current wildlife problems, toured the facilities and took representative photographs.

Findings:

Summary of observations follows:

- The terminal concourse has relatively few openings where birds can nest or congregate. Although most of the roof structure is of sloped metal construction, there is one area of flat-decking (not inspected) which, if gravel surfaced, could potentially serve as nesting sites for terns. Exhaust ductwork was covered with industrial gauge screens (See photo).



- Some of the outside overhangs of the terminal concourse contain exposed, horizontal, overhead piping coming from the Terminal. Although free of nesting material during inspection, these could provide nesting sites and should be periodically inspected for any nesting activity.
- Due to on-going construction, most of the electrical junction boxes located under the Terminal's overhangs were left open. One box under Concourse D had the remains of a bird's nest, but no bird (See photo).
- The horizontal tops of roll-up service doors could provide potential nesting opportunities, but nesting material was not observed. These appeared to be of minimal significance as an attractant.
- The articulated jetways are well engineered with few opportunities for nesting. In addition, their constant movement precludes nests staying in place.
- Overall maintenance of jet parking ramps, tug parking areas and trash bins associated with remodeling activities appeared good; large construction debris bins were covered with tarpaulins. No attractants observed.
- A few small trash cans outside service personnel eating areas were noted having food remains, but no lids. Since these could provide foraging opportunities for grackles, crows and other trash scavenging birds, lids should be added.
- Trash compactors located adjacent to the terminal concourse appeared in good working order and the surrounding areas were kept free of trash fall-out. There are 1-2 compactors per concourse; they are emptied around 6:00 AM daily. Observed trash disposal; all trash was contained in plastic bags before being thrown into the compactor and processed; doors were then closed (See photo). Minimal potential as an attractant.
- Rat traps have been used adjacent to the back of the concourses for several years. These are serviced regularly by an outside company (See photo).

Recommendation:

- Continue monitoring the terminal, jetways, concourses, rooftops and adjacent areas for signs of nesting. Inspections should be conducted every six months as a minimum, more frequently if increased bird activity is observed in the area.
- Add lids to open trash containers, especially those with food scraps.

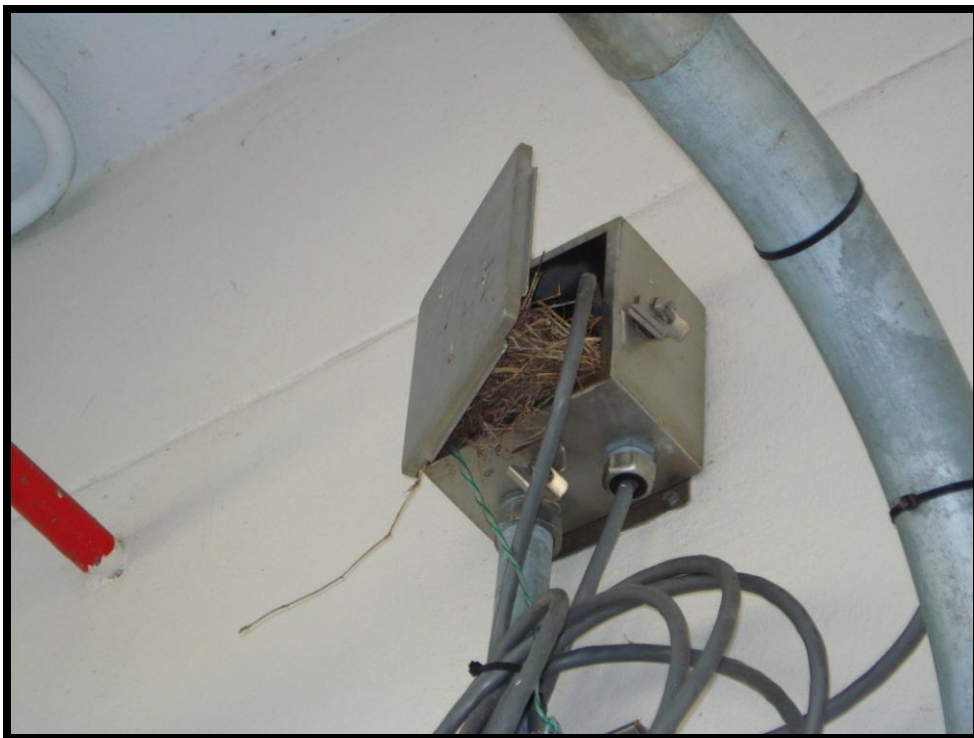
END OF NOTES



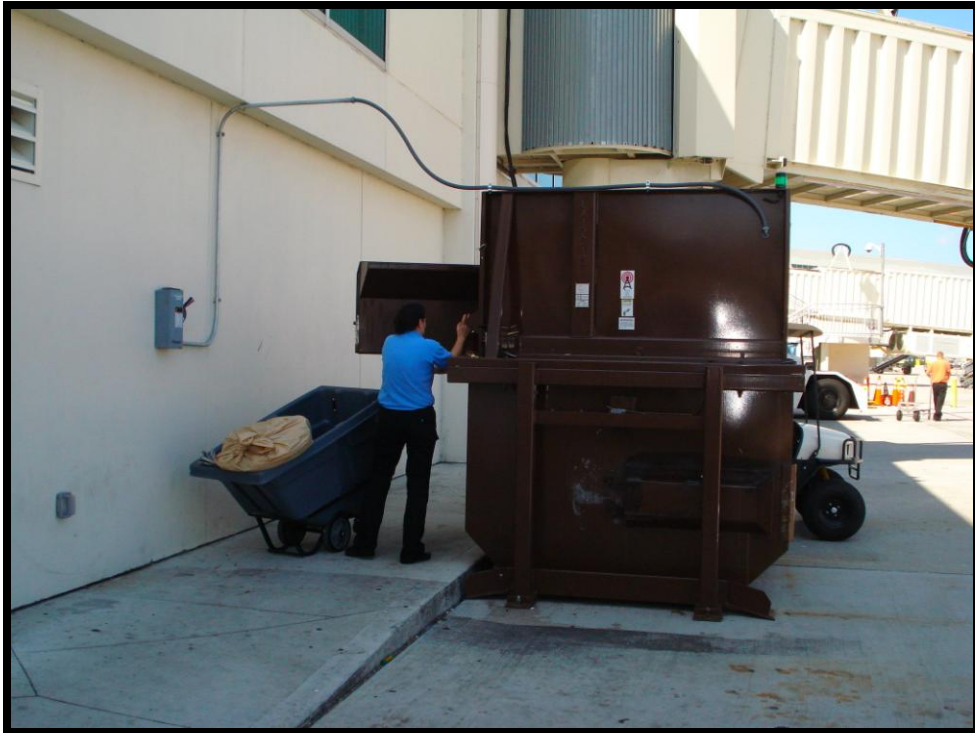
REPRESENTATIVE PHOTOGRAPHS



Typical exhaust vent with screen grating



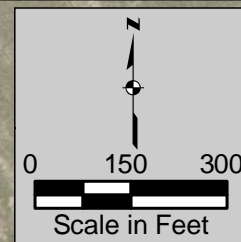
Junction box with nest material



Trash compacting process



Typical rat traps adjacent to back of concourse.



Southwest Florida
International Airport

JOHNSON
ENGINEERING

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (941) 334-0046
FAX (941) 334-3661
E.B. #642 & L.B. #642

OBSERVER

DATE

OBSERVATION PERIOD

SITE NO.

16

APPENDIX P

**Memorandum to Ellen Lindblad (LCPA) from Johnson
Engineering on the Tour of RSW with
Dr. Jerry Jackson (FGCU)**

TO: Ellen Lindblad

DATE: July 1, 2008

FROM: Anik L. Smith

RE: Hazardous Wildlife tour of RSW with
Dr. Jerry Jackson

The purpose of this memorandum is to provide a summary of Dr. Jackson's visit to RSW on June 27, 2008. The purpose of his visit was to give insight and/or recommendations on the management of hazardous wildlife at RSW, landside and airside.

AOA

We began our tour in the AOA. Dr. Jackson as you know worked as a consultant to Orlando International Airport (MCO) on hazardous wildlife issues prior to the construction of their new runway in the 1990's. For your information, he mentioned that, at the time, MCO decided to spend \$60M on culverting their canal system within the AOA to avoid open water within the AOA (we did not discuss this in detail).

His overall comment on the AOA was that it looked good and actually looked a lot better than most airports he travels to (he does travel frequently). The bottom line: the more diverse the vegetation is, the more diverse the forage base will be and therefore the greater the diversity of wildlife species utilizing the area will be. A large diversity of vegetation attracts a lot of insects.

He thought that based on some of the broadleaf vegetation present that there were likely cotton rats present, possibly up to 100/ac. Of course there is no evidence to support this other than the vegetation present. Our trapping efforts should be able to tell us more about the rodent population within the AOA. We have seen very few hawks and owls utilizing the AOA in the time we have been conducting the Assessment, therefore the rodent population may not be an issue.

His take on the least terns that nested on the old terminal pad was that it was a residual affect of them having nested on the roof of the old building. Whether they come back next year is largely based on the success they had this year, and since we only observed 4 pairs, it is very likely that they will not nest there again next year. We did not see any least terns during this visit. Interestingly, loggerhead shrikes love to prey on least tern chicks and RSW has a healthy population of shrikes on and around the AOA.

Shrikes are a beneficial species to have around the AOA because they do not pose a threat to aviation operations and they eat a lot of grasshoppers, therefore competing with other grassland species that might be a threat to aviation operations such as grackles.

Barred owls love to prey on crayfish, so we might see them more around the AOA when water levels are low.

Dr. Jackson commented that the large canal northeast of the apron, which has filled in with cattails and other wetland vegetation, is providing food and cover for prey species for hawks and owls. It's also great nesting habitat for moorhens and coots.

LANDSIDE

His main concern about the Southwest Conservation Area was not the vultures. As you know the vultures are utilizing the large pine trees with long horizontal branches that can hold several birds, located at the edge of the wetland. As the planted cypress within this wetland mature they will make those pine trees less desirable to the vultures because they will no longer have the open space to take flight, which they need as they are large birds.

He is concerned that the maturing cypress mentioned above will provide a perfect heronry particularly for cattle egrets. It is possible that one problem could be traded for another. He agreed with our opinion that the conservation easement over this area either be removed or at least modified to allow the LCPA to appropriately manage the area and prevent the establishment of a major heronry, or any other wildlife hazard. Of course the establishment of a heronry may not happen, but it is a management consideration to keep in mind.

His comment on landscape trees was that trees with a thick composition of leaves such as the oaks and olive trees that are planted throughout the landscaped areas at the Airport provide good nesting habitat for potentially hazardous species. The boots on the cabbage palms provide good nesting habitat for mourning doves, common ground doves and grackles. If money and time allowed the boots could be removed to remove that hazard. Also the mature fruit from the cabbage palms attract wildlife; those too could be removed before they ripen.

APPENDIX Q

**Risk Analysis Report (KRSW, 2003-2007)
From FAA National Wildlife Strike Database**

Wildlife Strike Summary and Risk Analysis Report

Airport: SOUTHWEST FLORIDA INTL ARPT - (KRSW), 2003-2007

This report provides a summary of wildlife strikes with civil aircraft for KRSW, 2003-2007. Strike data for KRSW are compared to mean values for all airports with a similar number of passenger enplanements (Group 2 airports) in KRSW's FAA Region and in the USA. The report also provides a simple wildlife species risk analysis to assist in setting risk management priorities at KRSW. The data is taken from strike reports entered into the FAA National Wildlife Strike Database (see <http://wildlife-mitigation.tc.faa.gov/> for latest annual report on national wildlife strike statistics).

Part 1. Basic statistics: Reported wildlife strike numbers with civil aircraft and civil aircraft movements at KRSW for year 2007 and for 5-year period, 2003-2007.

Number of reported:	Year 2007	2003-2007 (5-year avg)
Wildlife strikes	35	28.6
Wildlife strikes causing damage	6	3.0
Aircraft movements - air carrier and GA	92,959	85,243

Part 2. Strike rates per 100,000 aircraft movements for KRSW (a **Group 2 airport) compared to strike rates for all Group 2 airports (i.e., airports with similar number of enplanements) in the FAA Region and in the USA.**

Strike category	Airport(s)	Strikes/100K movements		Comments
		Year 2007	2003-2007 (5-yr avg)	
All strikes	KRSW	37.65	33.55	Strike rate at KRSW in 2007 (37.65) was 12% above 5-year average at KRSW (33.55)
All strikes	<u>Group 2</u> airports in region	31.02	25.90	Strike rate at KRSW in 2007 (37.65) was 21% above Group 2 average for region (31.02)
All strikes	<u>Group 2</u> airports in USA	24.20	19.04	Strike rate at KRSW in 2007 (37.65) was 56% above Group 2 average for the USA (24.20)
Damaging strikes	KRSW	6.45	3.52	Damaging strike rate at KRSW in 2007 (6.45) was 83% above 5-year average at KRSW (3.52)
Damaging strikes	<u>Group 2</u> airports in region	2.55	2.06	Damaging strike rate at KRSW in 2007 (6.45) was 153% above Group 2 average for region (2.55)
Damaging strikes	<u>Group 2</u> airports in USA	1.97	1.12	Damaging strike rate at KRSW in 2007 (6.45) was 227% above Group 2 average for USA (1.97)

Part 3. Wildlife species risk analysis based on damaging strikes at KRSW, 2003-2007^a.

Ranking of risk (2003-2007)	Species causing damaging strikes at KRSW	2003-2007		2007 only	
		No. of damaging strikes	% of total	No. of damaging strikes	% of total
1	UNKNOWN BIRD	3	20	1	17
1	VULTURES	3	20	2	33
3	BALD EAGLE	1	7		
3	BANK SWALLOW	1	7		
3	BLACK VULTURE	1	7	1	17
3	CATTLE EGRET	1	7	1	17
3	GREAT EGRET	1	7		
3	HAWKS	1	7		
3	MOTTLED DUCK	1	7		
3	RED-TAILED HAWK	1	7		
3	SANDHILL CRANE	1	7	1	17
	Total	15	100	6	100

^aThis ranking of wildlife species as to their risk to aviation safety at KRSW is based on the species reported as causing damage to aircraft at and in the vicinity of KRSW during the past 5 years. This ranking is intended to assist in prioritizing management activities and refining the airport's Wildlife Hazard Management Plan. However, this ranking is not meant to imply that all other wildlife species observed on or near KRSW can be ignored. Some of these other species, because of their size or flocking behavior, may pose a risk that has not been identified (e.g., the species has caused a damaging strike that was not reported, the species has caused a damaging strike but was identified as "unknown bird"), or the species has not manifested itself yet in a damaging strike.

APPENDIX R

RSW WHA Kickoff Meeting Minutes and mowing techniques email



MEETING MINUTES

PROJECT: RSW WHA – 20033734-141

DATE OF MEETING: FEBRUARY 29, 2008

TOPICS OF DISCUSSION: KICKOFF MEETING – AGENDA ATTACHED

ATTENDEES: EMILY UNDERHILL, ELLEN LINDBLAD, RENÉE KWIAT, KAREN BRYANT
(DEVELOPMENT)
BOBBY ORICK (OPERATIONS)
SCOTT DAVIS (MAINTENANCE)
ANIK SMITH, CHURCH ROBERTS AND KENDRA WILLETT (JED)
RUSS DEFUSCO (BASH, INC.)
GEORGE FEHÉR (FEC)
SARAH JAMIESON (ESA)

- Everyone introduced themselves and Anik gave a brief description of each consultant team member's role.
- Russ showed a short video clip of a USAF crash resulting from a bird strike and then discussed the series of events that took place and likely lead to the crash.
- Russ discussed the role of a Wildlife Hazard Assessment (WHA) for an airport and that in his experience he has never seen an airport who had a WHA conducted not need a Wildlife Hazard Management Plan (WHMP). He emphasized that the ultimate goal in conducting a WHA is to implement a WHMP.
- Russ discussed the presence of the two conservation easements on airport property and that steps should be taken, utilizing Federal rules, regulations and MOA's, to remove the easements from these areas and allow the LCPA to manage these areas for hazardous wildlife when necessary. Current easement language would need to be reviewed to determine if it already allows the LCPA to manage these areas for hazardous wildlife.
- Russ gave each of the LCPA staff present at this meeting the opportunity to discuss their role in this Assessment and their concerns about hazardous wildlife if any.
- Emily expressed concern that a WHMP could affect the LCPA's FONSI and potentially re-open their EA. Russ said that WHMP's are exempt from NEPA action under certain circumstances. According to the Wildlife Hazard Management at Airports Manual (2nd ed., July 2005), if a draft WHMP submitted to the FAA does not involve extraordinary

circumstances, the FAA may categorically exclude the WHMP under FAA Order 1050.1E, paragraph 308e. If a draft WMHP submitted to the FAA involves extraordinary circumstances, the FAA may require the airport sponsor to prepare an EA, or the FAA may prepare an EIS.

- Bobby and Emily wanted to make sure that in the WHA they would get credit for what the airport is already doing to manage hazardous wildlife and ensure public safety at the airport. The consultant team confirmed that reviewing current hazardous wildlife deterrence activities and airfield management is part of the WHA and the WHMP.
- Anik gave an overview of the Assessment process that will be taking place, which included the specific issues the team will be looking into such as: turf management, surface water management areas maintenance, deterrence activities, fence condition, wildlife observations (looking at different animal groups to at least obtain species lists, nighttime surveys for deer, hogs, owls, coyotes and others, which will require coordination with Ops and tower), overview of generalized land use as wildlife attractants out to 5 mile buffer (i.e. conservation areas, parks, large scale attractants).
- Anik gave a summary of the consultant team tour that took place the previous day 02/28/08. The team toured the AOA and looked at the management techniques that are working and where changes could be made. Discussed current deterrence techniques with Ops.
- Anik brought up the issues that should probably be dealt with now as opposed to at the end of the WHA: the vulture roost in SW conservation area and how USDA could potentially help to disperse it (possibly free of charge), wetland vegetation management within the surface water management areas, mowing techniques, and existing holes under the AOA fence.
- Scott requested the mowing technique suggestions in writing as soon as possible so they can be considered during their budget review process; Anik said she would provide that to him.
- Anik went over the sampling locations: 6 within the AOA, 7 landside, 2 off airport property.
- Anik went over the Project Timeline.
- LCPA staff requested that in our data collection we keep existing and future development of the parallel runway separate. The consultant team confirmed that would not be a problem.
- Renee will be providing Anik with the password to the FAA's strike database.
- All Johnson Engineering Ecologists who will be conducting any field sampling/monitoring on this project will be badged and go through security training. Renee will work with us to get our own lock on the gate to the south detention lake and powerline.
- Anik asked if monthly status meeting updates could be combined with the bi-monthly Hazardous Wildlife Working Group (HWWG) meetings. LCPA staff said no because there are individuals who are on that Working Group that are not on the Core WHA Team, but if schedules allowed we could hold the status meeting ½ hour prior to the HWWG meetings.
- We discussed the fact that one of the sampling locations is on Wild Turkey Strand Preserve (WTSP) and Emily indicated that she wanted to talk to Ellen about that. Anik mentioned that if we did sample in this location that Cathy Olson from Lee County Parks and Recreation requested that they receive a copy of the data collected on WTSP.

Anik L. Smith

From: Anik L. Smith
Sent: Thursday, March 13, 2008 12:17 PM
To: Scott Davis
Subject: mowing techniques

Hi Scott,

Sorry it's taken me a couple of weeks to get back to you on mowing techniques as was discussed in our Kick-off meeting on 2/29/08.

Basically, Russ was recommending that the pattern of mowing be periodically modified to avoid rutting, which can happen when the mowers always take the same path. Water can accumulate in the ruts, which can be attractive to wildlife and potentially allow for the growth of wetland vegetation, which can also attract wildlife. This would probably require a little more time but if on a rotation the field could be mowed at a diagonal and then parallel to the runway, as is currently being done, that should avoid any rutting. Also what happens when mowing in the same pattern is thatch can build up as small mounds on either side of the mower and those areas can attract all kinds of critters from rodents to insects that are attractive to the more hazardous wildlife such as the hawks.

He also stressed maintaining the grass height at the FAA recommended height of 6-12", which appears to be the height at which the grass in the AOA at RSW is being maintained. As you probably know, it's important that the grass not be allowed to go to seed, which would attract seed-eating birds. And grass that's too short will allow ground feeding birds to come in and feed because they are able to see above the grass and watch for predators.

Essentially those were the recommendations, please let me know if you have any questions or if I can be of any further assistance.

Thank you,

Anik L. Smith

Ecologist



2122 Johnson Street

Fort Myers, FL 33901

Phone: (239) 461-3327

Fax: (239) 334-3661

Email: ALS@johnsoneng.com

"Since 1946... peace-of-mind by design"

APPENDIX S

Madden Biological Assessment

**MADDEN RESEARCH LOOP
BIOLOGICAL ASSESSMENT**

April 2009

Prepared for:



Prepared by:

JOHNSON
ENGINEERING

TABLE OF CONTENTS

	<u>Page</u>
List of Figures	ii
List of Tables	iii
1.0 INTRODUCTION	1
2.0 SITE REVIEW.....	4
3.0 PROPOSED MADDEN RESEARCH LOOP	6
4.0 HAZARDOUS WILDLIFE REGULATIONS SPECIFIC TO THE PROJECT.....	8
5.0 SITE REVIEW OF COMPARISON PONDS	12
6.0 HAZARDOUS WILDLIFE REVIEW/EVALUATION OF THE PROJECT	
6.1 Recommended Best Management Practices	16
7.0 ADDITIONAL RECOMMENDATIONS	18
8.0 CONCLUSION.....	19

ATTACHMENTS:

Attachment A Habitat Map
Attachment B Grant Assurance Document
Attachment C FAA Advisory Circular
Attachment D Additional Recommendations
Attachment E Revised (April 2009) Site Plan

LIST OF FIGURES

	<u>Page</u>
Figure 1-1 Madden Research Loop – RSW AOA	3
Figure 3-1 Madden Research Loop Proposed Site Plan	7
Figure 5-1 Location Map of Similar Ponds	13

LIST OF TABLES

	<u>Page</u>
Table 2-1 Species Observations on and Near the Project Area.....	5
Table 3-1 Madden Research Loop – Proposed Littoral Plantings.....	6
Table 5-1 Species Observations – Summary of Similar Ponds.....	14

1.0 INTRODUCTION

Johnson Engineering, INC. (JEI) was tasked by the Lee County Port Authority (LCPA) to provide a technical review and biological assessment for a proposed storm water management system associated with an approximate 24-acre development known as the “Madden Research Loop” (the Project) adjacent to the Southwest Florida International Airport (RSW). Community Engineering Services, INC and Boylan Environmental Consultants, INC., the Project’s engineers and environmental consultants, provided project background information, figures and permit information relevant for this assessment. The Project is located at the intersection of Paul J. Doherty Parkway and Chamberlin Parkway on LCPA property, approximately 750 feet from RSW’s airport operations area (AOA).

This technical memorandum and biological assessment specifically addresses the construction of the proposed storm water management pond and dry treatment areas in regards to potentially creating a hazardous wildlife attractant for RSW. The Federal Aviation Administration (FAA) and several other federal agencies including the U.S. Fish and Wildlife Service (FWS), U.S. Environmental Protection Agency (EPA), and Army Corps of Engineers (ACOE) have entered into a Memorandum of Agreement (MOA) recognizing the considerable risks that aircraft-wildlife strikes pose to safe aviation. The signatories to the MOA have agreed to coordinate more effectively in efforts to minimize wildlife risks to aviation and human safety. The MOA acknowledges that storm water management facilities attract hazardous wildlife and are, therefore normally incompatible with airports. Storm water management facilities can be designed in a manner that can reduce the potential to attract hazardous wildlife. Specific design recommendations have been promulgated by the FAA and will be discussed in more detail throughout this assessment.

The typical design requirements for storm water management ponds in southwest Florida call for gently sloping sides at a 4:1 slope. This area (termed the “littoral zone) provides shallow water areas that provide a food source for waterfowl and wading birds. These areas can also provide potential nesting habitat for certain wading birds. As an overview of the current hazardous wildlife issues relative to RSW and the Project, JEI staff conducted field reconnaissance at the Project and generally around RSW to identify existing potential hazardous

attractants and performed field reconnaissance for three (3) storm water management ponds in close proximity (approximately a 5 mile radius) of RSW's AOA for comparison. **Figure 1-1** provides the location of the Project in relation to the RSW's AOA.

The Project is bound to the east by Paul J. Doherty Parkway and to the south by Chamberlin Parkway. The majority of the land to the south and west of the project is developed as part of RSW. The development to the south and west consist of a parking lot and rental car facilities. The area north of the project consists of undeveloped, forested upland and wetland habitats. There is a large pond approximately 360 feet east of the Project on property owned by the LCPA. The area around the pond consists of maintained (i.e. regularly mowed) herbaceous land. Progressing further east, there is a system of large freshwater marsh habitats connected by more transitional wetlands and intermixed with pine flatwoods. It should be noted that there are existing ditches and water detention areas currently existing in the AOA and within the RSW property boundary. All existing water management facilities were constructed in accordance with applicable FAA criteria at the time they were constructed.

J:\20087500\DWG's\Attachment_A.dwg (Sheet1) mcb Nov 06, 2008 - 8:32am



Hazardous Wildlife Attractant Assessment
Madden Research Loop



2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

Madden Research Loop - RSW AOA

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
October 2008	ProjNo		As Shown	Fig. 1-1

2.0 SITE REVIEW

An overall site review was conducted on October 24, 2008 that included a field inspection of the Project site and adjacent areas. **Table 2-1** provides a list of all species observed. The Project site currently supports use by wading birds as evidenced by the direct observation of a great blue heron (*Ardea herodias*) foraging within a ditch. Hazardous wildlife attractants observed on RSW property in close proximity to the Project include: wading birds and grebes in the pond east of the Project, shore birds, doves, and grackles southeast of the Project in the AOA, and multiple wading birds and kingfishers foraging in the dry retention areas approximately 2,400 feet south of Runway 6/24. Portions of the dry retention areas contained standing water and were dominated by emergent wetland vegetation at the time the observations were conducted. Rainfall at RSW for 2008 through the month of October has been 54.56 inches, which is approximately 4 inches in excess of the average for this time period.

Table 2-1

**MADDEN RESEARCH LOOP HAZARDOUS WILDLIFE ATTRACTANT
SPECIES OBSERVATION - ON THE PROJECT AREA**

Common Name	Scientific Name	Observation
Gray Catbird	<i>Dumetella carolinensis</i>	Perched
Blue jay	<i>Cyanocitta cristata</i>	Perched
Northern cardinal	<i>Cardinalis cardinalis</i>	Fly-over
Mockingbird	<i>Mimus polyglottos</i>	Calling
Mourning dove	<i>Zenaida macroura</i>	Perched
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	Foraging
Great blue heron	<i>Ardea herodias</i>	Foraging in ditch
Palm warbler	<i>Dendroica palmarum</i>	Foraging
Red-shouldered hawk	<i>Buteo lineatus</i>	Fly-over
Tri-colored heron	<i>Egretta tricolor</i>	Wading, foraging, fly-over

**MADDEN RESEARCH LOOP HAZARDOUS WILDLIFE ATTRACTANT
SPECIES OBSERVATION – NEAR THE AOA**

Common Name	Scientific Name	Observation
Boat-tailed grackle	<i>Quiscalus major</i>	Perched, fly-over
Gray Catbird	<i>Dumetella carolinensis</i>	Perched
Mourning dove	<i>Zenaida macroura</i>	Perched
Killdeer	<i>Charadrius vociferus</i>	Loafing, perched, fly-over
Cattle egret	<i>Bubulcus ibis</i>	Foraging, fly-over
Great egret	<i>Ardea alba</i>	Wading, foraging, fly-over
Wood stork	<i>Mycteria americana</i>	Wading, foraging, fly-over
Anhinga	<i>Anhinga anhinga</i>	Perched, foraging
Tri-colored heron	<i>Egretta tricolor</i>	Wading, foraging, fly-over
White ibis	<i>Eudocimus albus</i>	Foraging, fly-over
Little blue heron	<i>Egretta caerulea</i>	Wading, foraging, fly-over
Great blue heron	<i>Ardea herodias</i>	Wading, foraging
Belted kingfisher	<i>Ceryle alcyon</i>	Foraging, fly-over
Pied-billed grebe	<i>Podilymbus podiceps</i>	Swimming, foraging

3.0 PROPOSED MADDEN RESEARCH LOOP

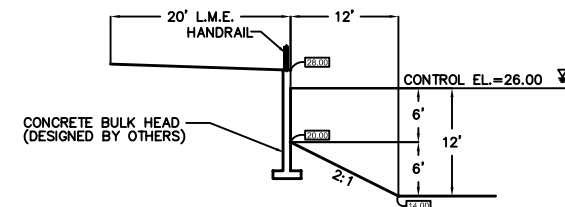
The Project consists of an approximate 24-acre research park and associated storm water management facilities consisting of four (4) dry detention areas and one (1) wet storm water management pond. The proposed wet detention pond is approximately 3,100 feet from Runway 6/24. The dry retention areas total 1.57 acres and the wet storm water management pond is 2.96 acres in size. The site plan (**please see Figure 3-1**) calls for the creation of 0.04 acres of planted littoral shelf at a 4:1 slope, 0.48 acres of littoral shelf that will vegetate via natural recruitment at a 4:1 slope, and 0.09 acres of pond area at a 2:1 slope that will be bulk headed. The remaining portion of the wet detention pond will be approximately 12 feet deep and most likely consist of open water habitat.

The proposed planted littoral zone consists of three distinct areas of different plant material. **Table 3-1** provides the proposed plants and zones.

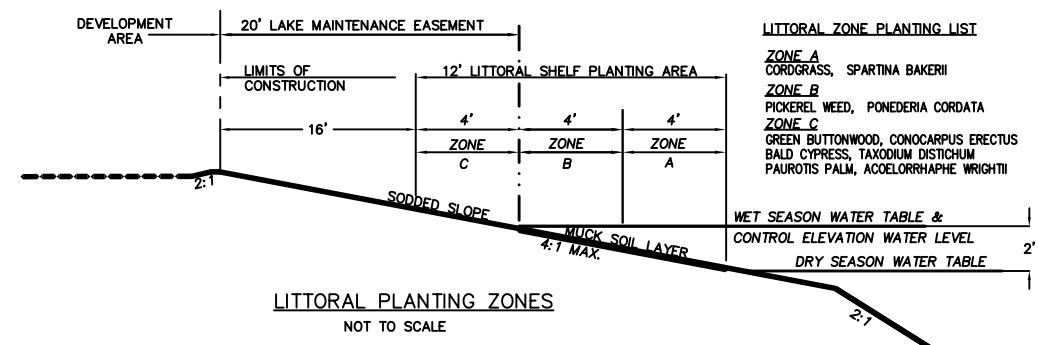
Table 3-1

	COMMON NAME	SCIENTIFIC NAME
ZONE A	Sand Cordgrass	<i>Spartina bakeri</i>
ZONE B	Pickerelweed	<i>Pontederia cordata</i>
ZONE C	Buttonwood	<i>Conocarpus erectus</i>
	Bald Cypress	<i>Taxodium distichum</i>
	Paurotis Palm	<i>Acoelorrhaphe wrightii</i>

The proposed site for the Project is currently comprised of pine flatwoods (15.00 acres), a ditch (0.03 acres), hydric pine flatwoods with 25%-49% cover by exotic species (3.39 acres), disturbed lands (4.77 acres) and dirt roads (1.22 acres). A habitat map is provided in **Attachment A**.



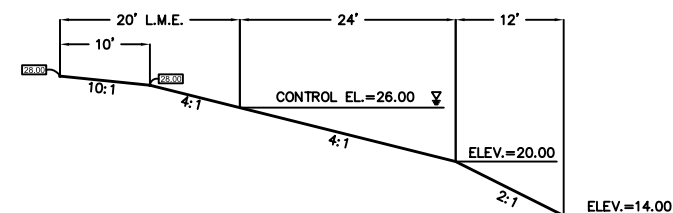
SECTION A-A
TYPICAL BULKHEAD SECTION
N.T.S.



NOTES:

- NOTES:
- 1) SHALL NOT BE PLANTED CLOSER THAN 25' FROM PIPE.
 - 2) POND SHORELINE PERIMETER LENGTH AT CONTROL ELEVATION AND REQUIRED NUMBER OF PLANTINGS INDICATED ON PLAN.

SECTION B-B
LITTORAL PLANTING ZONE SECTION
N.T.S.



SECTION C-C
TYPICAL LAKE SECTION
N.T.S.

LEGEND

- SECTION A-A
(BULK HEAD-342 L.F.)
- SECTION B-B
(LITTORAL SHELF-149 L.F.)
- SECTION C-C
(PER "SFVMD" RULES-875 L.F.)

community engineering services, inc.
civil engineering • surveying • project management

EB-0006613 LB-6572
2740 Oak Ridge Court, Suite 301
Fort Myers, Florida 33901
Telephone (239) 936-9777 Fax (239) 936-0064

SITE PLAN AND LAKE SECTIONS
OF
MADDEN RESEARCH LOOP

FOR
THE JOHN MADDEN COMPANY
6501 SOUTH FIDDLER'S GREEN CIRCLE, SUITE 110
GREENWOOD VILLAGE, CO 80111
(303) 349-0650 FAX (303) 773-0735

scale: 1"=100'

SHEET

Figure 3-1

date _____

4.0 HAZARDOUS WILDLIFE REGULATIONS SPECIFIC TO THE PROJECT

RSW is currently licensed by the FAA under the U.S. Code of Federal Regulations: Title 14--Aeronautics and Space Chapter I—Federal Aviation Administration, Department of Transportation PART 139—Certification and Operations: Land Airports Serving Certain Air Carriers (14 CFR Part 139). Under 14 CFR Part 139, licensed airports are required to address wildlife hazard attractants when certain threshold events occur at their airport under section 139.337 which reads:

§ 139.337 Wildlife hazard management

- (a) In accordance with its Airport Certification Manual and the requirements of this section, each certificate holder must take immediate action to alleviate wildlife hazards whenever they are detected.
- (b) In a manner authorized by the Administrator, each certificate holder must ensure that a wildlife hazard assessment is conducted when any of the following events occurs on or near the airport:
 - (1) An air carrier aircraft experiences multiple wildlife strikes;
 - (2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;
 - (3) An air carrier aircraft experiences an engine ingestion of wildlife; or
 - (4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area.
- (c) The wildlife hazard assessment required in paragraph (b) of this section must be conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airports or an individual working under direct supervision of such an individual. The wildlife hazard assessment must contain at least the following:
 - (1) An analysis of the events or circumstances that prompted the assessment.
 - (2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.
 - (3) Identification and location of features on and near the airport that attract wildlife.
 - (4) A description of wildlife hazards to air carrier operations.
 - (5) Recommended actions for reducing identified wildlife hazards to air carrier operations.
- (d) The wildlife hazard assessment required under paragraph (b) of this section must be submitted to the Administrator for approval and determination of the need for a wildlife hazard management plan. In reaching this determination, the Administrator will consider—
 - (1) The wildlife hazard assessment;
 - (2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;
 - (3) The aeronautical activity at the airport, including the frequency and size of air carrier aircraft;
 - (4) The views of the certificate holder;

- (5) The views of the airport users; and
 - (6) Any other known factors relating to the wildlife hazard of which the Administrator is aware.
- (e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must—
 - (1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;
 - (2) Be submitted to, and approved by, the Administrator prior to implementation; and
 - (3) As authorized by the Administrator, become a part of the Airport Certification Manual.
- (f) The plan must include at least the following:
 - (1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.
 - (2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:
 - (i) Wildlife population management;
 - (ii) Habitat modification; and
 - (iii) Land use changes.
 - (3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.
 - (4) Identification of resources that the certificate holder will provide to implement the plan.
 - (5) Procedures to be followed during air carrier operations that at a minimum includes—
 - (i) Designation of personnel responsible for implementing the procedures;
 - (ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;
 - (iii) Wildlife hazard control measures; and
 - (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.
 - (6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:
 - (i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and
 - (ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.
 - (7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.
- (g) FAA Advisory Circulars contain methods and procedures for wildlife hazard management at airports that are acceptable to the Administrator.

The second regulatory/mandated guidance document that applies to RSW is outlined in an FAA Advisory Circular. RSW receives federal grant-in-aid through the FAA grant program, which in turn is accompanied by grant assurances that are signed and agreed to by the airport sponsor. Under the FAA grant assurance document (**see Attachment B**), grant assurance #34 for airport sponsors includes adherence to all FAA Advisory Circulars. Grant assurance #34 states:

34. Policies, Standards, and Specifications. It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated __ (date to be added at time of grant issuance) and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.

Specific to this project review, FAA Advisory Circular 150/5200-33B “Hazardous Wildlife on or Near Airports” provides general guidance on separation criteria of AOA to wildlife hazard attractants for airports and design recommendations for new storm water management facilities (**see Attachment C**). Since RSW services both piston and turbine powered aircraft (the later having the more far reaching separation criteria) FAA AC 150/5200/33B Section 1 recommends that:

1-3 AIRPORTS SERVING TURBINE-POWERED AIRCRAFT-Airports selling Jet-A fuel normally serve turbine-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 10,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport’s AOA and the hazardous wildlife attractant.

FAA AC 150/5200-33B also includes the following areas under separation criteria:

1-4 PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE-

For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport’s AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

Section 2-3 (b) of FAA AC 150/5200-33B contains information related to new storm water management facilities:

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, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, 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.

b. New Storm Water Management Facilities- The FAA strongly recommends that off airport storm water management systems located within the separations identified in Sections 1-2 through 1-4 be designed and operated so as not to create aboveground standing water. Storm water detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wire grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. 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, airport operators must get 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, such as French drains or buried rock fields, because they are less attractive to wildlife.

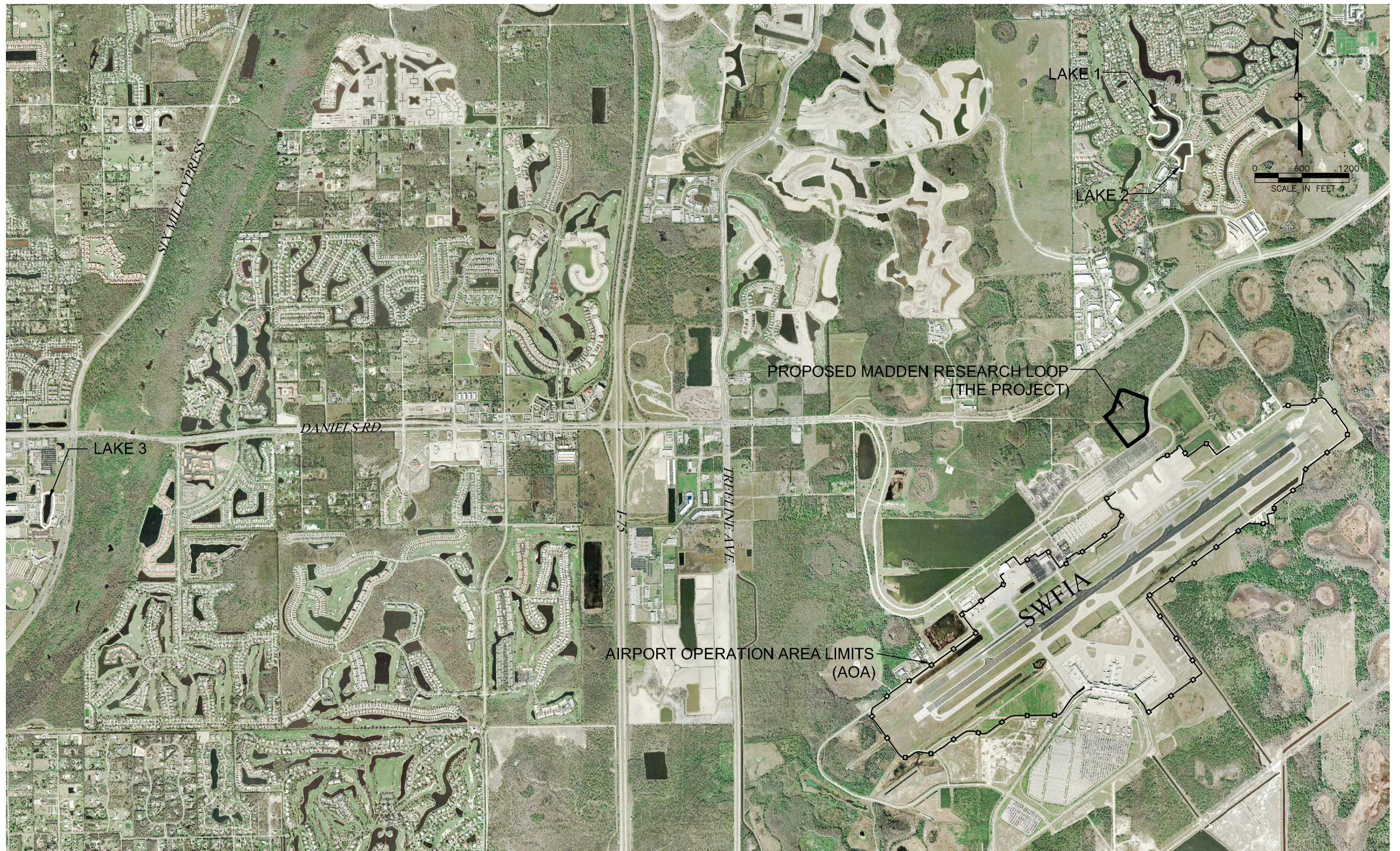
While there are additional FAA guidance documents and regulations related to hazardous wildlife (especially the location of landfill facilities), the two above listed regulation/guidance documents are being used as the basis for this technical review.

5.0 SITE REVIEW OF COMPARISON PONDS

Blackwell et. al. (2008) studied 30 storm water ponds around the Seattle-Tacoma International Airport and found that ponds containing an open water component, contained a component of emergent or woody vegetation and were geographically isolated were among the 3 best approximating models attracting specific groups of avian species (ducks, wading birds, shorebirds, pigeons, doves, gulls, rails and raptors) that can be considered hazardous wildlife attractants¹. In addition to the site review specific to the Project and the immediate surrounding area, three (3) storm water management ponds of similar design within an approximate five (5) mile radius of the Project were reviewed for comparison purposes. These field reviews were conducted on October 22 and 28, 2008. Wildlife observations were noted during dawn and dusk time periods. **Figure 5-1** provides the locations of the ponds while **Table 5-1** provides a list of the species observed at these comparison ponds. Consistent with observations on and near RSW and other research on hazardous wildlife attractants and storm water ponds, the three (3) storm water ponds assessed attracted species that can be considered hazardous wildlife attractants. Observed potential hazardous wildlife attractants included: wading birds, ducks, doves, and members of the Anhingidae family.

¹ Blackwell, B.F., Schafer, L.M., Helon, D.A., & Linnell, M.A. Bird use of stormwater-management ponds: Decreasing avian attractants on airports. *Landscape and Urban Planning* 86(2008) 162-170.

J:\20087500\DWG's\Attachment_A.dwg (Site & Ponds) mab Dec 09, 2008 - 1:57pm



Hazardous Wildlife Attractant Assessment
Madden Research Loop

JOHNSON
ENGINEERING

2122 JOHNSON STREET
P.O. BOX 1550
FORT MYERS, FLORIDA 33902-1550
PHONE (239) 334-0046
FAX (239) 334-3661
E.B. #642 & L.B. #642

Madden Research Loop
Similar Ponds Species Observations

DATE	PROJECT NO.	FILE NO.	SCALE	SHEET
October 2008	20087500		As Shown	Fig. 5-1

Table 5-1

**MADDEN RESEARCH LOOP HAZARDOUS WILDLIFE ATTRACTANT
SPECIES OBSERVATION – SUMMARY OF SIMILAR PONDS
LAKE 1**

Common Name	Scientific Name	Observation
Belted kingfisher	<i>Ceryle alcyon</i>	Foraging, fly-over
Tri-colored heron	<i>Egretta tricolor</i>	Wading, foraging, fly-over
Mallard duck	<i>Anas platyrhynchos</i>	Fly-over
Northern Flicker	<i>Colaptes auratus</i>	Adjacent
Anhinga	<i>Anhinga anhinga</i>	Perched in pond
Great blue heron	<i>Ardea herodias</i>	Wading in pond
Little blue heron	<i>Egretta caerulea</i>	Wading in pond
Red-wing blackbird	<i>Agelaius phoeniceus</i>	Fly-over

**MADDEN RESEARCH LOOP HAZARDOUS WILDLIFE ATTRACTANT
SPECIES OBSERVATION – SUMMARY OF SIMILAR PONDS
LAKE 2**

Common Name	Scientific Name	Observation
Belted kingfisher	<i>Ceryle alcyon</i>	Foraging, fly-over
Tri-colored heron	<i>Egretta tricolor</i>	Wading, foraging, fly-over
Mallard duck	<i>Anas platyrhynchos</i>	Fly-over
Northern Flicker	<i>Colaptes auratus</i>	Adjacent
Anhinga	<i>Anhinga anhinga</i>	Perched in pond
Great blue heron	<i>Ardea herodias</i>	Wading in pond
Little blue heron	<i>Egretta caerulea</i>	Wading in pond
Red-wing blackbird	<i>Agelaius phoeniceus</i>	Fly-over

Table 5-1 (Continued)

**MADDEN RESEARCH LOOP HAZARDOUS WILDLIFE ATTRACTANT
SPECIES OBSERVATION – SUMMARY OF SIMILAR PONDS
LAKE 3**

Common Name	Scientific Name	Observation
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	Swimming in pond, perched,
Mallard duck	<i>Anas platyrhynchos</i>	Fly-over, foraging
Great egret	<i>Ardea alba</i>	Wading in pond, perched
		on edge of pond, fly-over
Little blue heron	<i>Egretta caerulea</i>	Wading in pond, fly-over
Herring gull	<i>Larus argentatus</i>	Fly-over
Snowy egret	<i>Egretta thula</i>	Wading in pond
Green heron	<i>Butorides virescens</i>	Wading in pond, foraging
Mourning dove	<i>Zenaida macroura</i>	Adjacent
Tri-colored heron	<i>Egretta tricolor</i>	Wading, foraging, fly-over
White ibis	<i>Eudocimus albus</i>	Foraging, fly-over
Cattle egret	<i>Bubulcus ibis</i>	Foraging, fly-over
Anhinga	<i>Anhinga anhinga</i>	Perched in pond, fly-over
Loggerhead shrike	<i>Lanius ludovicianus</i>	Perched near pond
Wood stork	<i>Mycteria americana</i>	Foraging
Florida sandhill crane	<i>Grus canadensis pratensis</i>	Fly-over, foraging near pond

6.0 HAZARDOUS WILDLIFE REVIEW/EVALUATION OF THE PROJECT

The Project site plan depicts four (4) dry pretreatment areas and one (1) wet storm water management pond. FAA AC 150/5200-33B requirements for new storm water facilities, found in section 2-3(b) state:

Storm water detention ponds should be designed, engineered, constructed, and maintained for a maximum 48-hour detention period after the design storm and remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins.

6.1 RECOMMENDED BEST MANAGEMENT PRACTICES

For dry pretreatment storm water management areas the following best management practices (BMP) per FAA AC 150/5200-33B are recommended:

- Where possible dry pretreatment facilities shall be designed for a maximum 48-hour detention period after the design storm and remain completely dry between storm events (please note – typical rainfall amounts in southwest Florida during the wet season often come with such frequency and duration that a 48 hour detention period may be exceeded and these areas may not remain completely dry between storm events).
- If side slopes or littoral zones are proposed, they should be designed and constructed with steep slopes (at a minimum of 5:1, or steeper)
- If there are any littoral zones proposed, no littoral zone plantings should be permitted
- Pretreatment areas should be sodded.
- Conduct maintenance activities to eliminate any littoral zone vegetation or vegetation other than desired species
- When practical (dry conditions), regularly mow and maintain dry pretreatment areas to heights of 8” to 12” in height.

For wet storm water management areas the following BMP per FAA AC 150/5200-33B are recommended:

- The pond should be designed and constructed with steep slopes (at a minimum of 5:1, or steeper)
- The slope of the pond should be armored with rip-rap to discourage vegetation growth and to stabilize side slopes
- Maintenance activities should be conducted to eliminate any vegetation in the littoral area where the rip-rap is located (approved chemical herbicides or removal of vegetation)
- No littoral plantings should be permitted

7.0 ADDITIONAL RECOMMENDATIONS

In addition to the previously mentioned BMP, periodic evaluation and observations of the site should be made to determine if hazardous wildlife species are utilizing the areas. If wildlife hazard attractants become obvious on this site, the LCPA may need to work with the tenant to take action to deter or exclude hazardous wildlife from the area. Potential strategies for the surface water management facilities include the use of bird balls, wire grids, pillows, and netting as referenced in FAA AC 150/5200-33B and “Wildlife Hazard Management at Airports: A Guide for Airport Personnel” (2005) developed by the FAA and the U.S. Department of Agriculture Animal and Plant Health Inspection Service, Wildlife Services. Chapter 5, Section 4 of the later document specifically addresses water management facilities. Chapter 9 “Wildlife Control Strategies and Techniques at Airports” describes multiple techniques that can be used to deter, reduce or eliminate hazardous wildlife associated with storm water facilities (this document can be located on the following website: http://wildlife-mitigation.tc.faa.gov/public_html/index.html).

Coordination and communication with the tenant or tenant’s grounds maintenance staff may be necessary to address potential wildlife hazard attractants. It is recommended that the tenant and LCPA review this technical memorandum jointly and potentially enter into an agreement to meet with airport staff over a specified time frame to review wildlife hazard attractant issues at the Project, review who to contact if an issue arises, and to gather information about potentially hazardous wildlife species utilizing the Project site.

It is recommended that the Project’s landscaping plan (including grass area) be reviewed by LCPA or their representative in regards to potential wildlife hazard attractants. Additional recommendations were prepared at the request of representatives for the Project as a result of a meeting held in December 2008 and are provided in Attachment D. A meeting with the Project sponsor and the FAA was held on April 15, 2009. At this meeting, the engineer for the project informed FAA staff that the site plan has been modified and the wet storm water detention pond will be designed with a steep slope (2:1) and stabilized with rip-rap. This design will significantly inhibit the ability of emergent vegetation from becoming established along the bank of the pond. Periodic maintenance is still recommended to discourage vegetation along the shoreline of the pond. A copy of the revised site plan is provided in **Attachment E**.

8.0 CONCLUSION

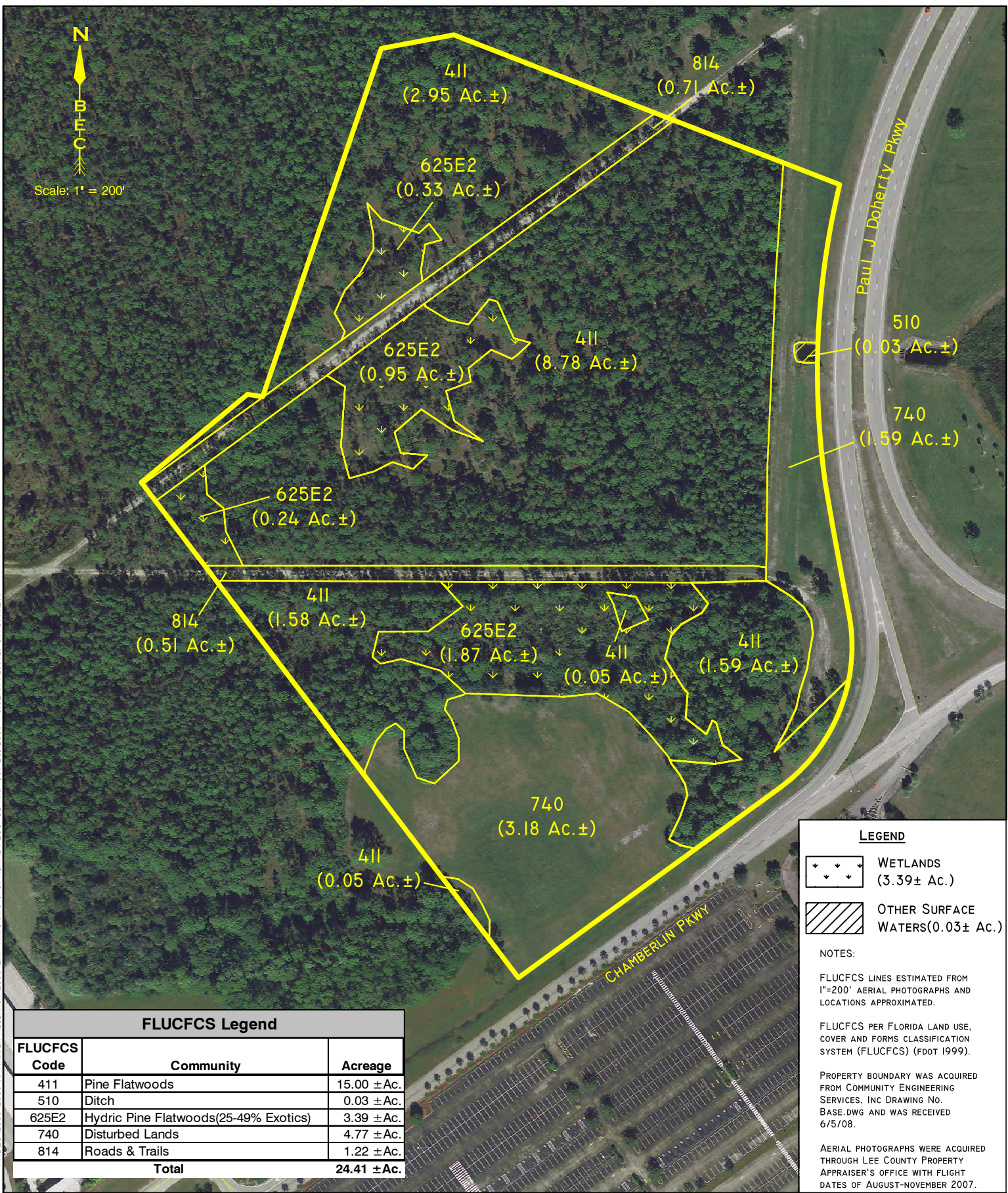
Wildlife that are attracted to and are located in close proximity to airports present a danger for operations. Collisions between birds and aircraft pose a major threat to aviation safety. The FAA provides recommendations for reducing hazardous wildlife attractants and provides design criteria for storm water ponds, which promote hazardous wildlife risk management. The storm water management ponds reviewed as part of this assessment that have littoral, vegetated slopes (as the wet pond for the Project was previously designed) proved to be an attractant to species that can be considered hazardous to aircraft operations. The wet detention pond associated with the Project has been redesigned to be more compatible with airport operations and as a more compatible land use under FAA Advisory Circular 150/5200-33B. As a licensed airport under 14 CFR Part 139, RSW incurs some risk relating to potential future funding from the FAA and is exposed to some measure of liability for potential aircraft-wildlife strikes in the future should they allow ponds to be constructed which are not compliant with FAA Advisory Circular 150/5200-33B.

With the recommended design, construction, best management practices, and maintenance activities implemented as described in Section 6.1, additional recommendations in Section 7.0, and the revised design for the wet pond, the Project should be considered less attractive to hazardous wildlife than the existing ponds near the AOA and be in compliance with current FAA criteria. While hazardous wildlife may utilize the new areas, the Project and its associated water management system should be designed and constructed in a manner that will decrease the habitat available for hazardous wildlife. Through periodic monitoring and maintenance, potential hazardous wildlife use of these areas can be identified and if necessary, mitigated to decrease the potential for these areas to be attractants to hazardous wildlife.

ATTACHMENT A

Habitat Map

X:\BEC\2008\2008-18 Madden Research Loop\2008\ERP MAPS DWG TAB: AERIAL FLUCFCS MAP OCT 20, 2008 - 8:32AM PLOTTED BY: BARRETT





Scale: 1" = 200'



FLUCFCS Legend		
FLUCFCS Code	Community	Acreage
411	Pine Flatwoods	15.00 ±Ac.
510	Ditch	0.03 ±Ac.
625E2	Hydric Pine Flatwoods(25-49% Exotics)	3.39 ±Ac.
740	Disturbed Lands	4.77 ±Ac.
814	Roads & Trails	1.22 ±Ac.
Total		24.41 ±Ac.

LEGEND

 WETLANDS
(3.39± Ac.)

 OTHER SURFACE
WATERS(0.03± Ac.)

NOTES:

FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.

FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).

PROPERTY BOUNDARY WAS ACQUIRED FROM COMMUNITY ENGINEERING SERVICES, INC DRAWING NO. BASE.DWG AND WAS RECEIVED 6/5/08.

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH FLIGHT DATES OF AUGUST-NOVEMBER 2007.

Boylan Environmental Consultants, Inc.



Wetland & Wildlife Surveys, Environmental Permitting, Impact Assessments

11000 Metro Parkway, Suite 4, Ft. Myers, FL 33906 (239) 418-0671

Drawn By:	Date:	Category
B.K.M.	6/11/08	FLUCFCS
Job Number		Scale:
2008-18		1" = 200'
S/T/R		County
19/44S/26E		Lee

Madden Research Loop

Aerial FLUCFCS Map

Page

Exhibit

ATTACHMENT B
Grant Assurance Document

ASSURANCES Airport Sponsors

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of the grant offer by the sponsor, these assurances are incorporated in and become part of the grant agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.** The terms, conditions and assurances of the grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.
2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.** The preceding paragraph 1 also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.
3. **Airport Planning Undertaken by a Sponsor.** Unless otherwise specified in the grant agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 30, 32, 33, and 34 in section C apply to planning projects. The terms, conditions, and assurances of the grant agreement shall remain in full force and effect during the life of the project.

C. Sponsor Certification. The sponsor hereby assures and certifies, with respect to this grant that:

1. **General Federal Requirements.** It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:

Federal Legislation

- a. Title 49, U.S.C., subtitle VII, as amended.
- b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.¹
- c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
- d. Hatch Act - 5 U.S.C. 1501, et seq.²

- e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq.^{1 2}
- f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).¹
- g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.¹
- h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
- i. Clean Air Act, P.L. 90-148, as amended.
- j. Coastal Zone Management Act, P.L. 93-205, as amended.
- k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.¹
- l. Title 49 ,U.S.C., Section 303, (formerly known as Section 4(f))
- m. Rehabilitation Act of 1973 - 29 U.S.C. 794.
- n. Civil Rights Act of 1964 - Title VI - 42 U.S.C. 2000d through d-4.
- o. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
- p. American Indian Religious Freedom Act, P.L. 95-341, as amended.
- q. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq.¹
- r. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.¹
- s. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq.¹
- t. Copeland Anti kickback Act - 18 U.S.C. 874.¹
- u. National Environmental Policy Act of 1969 - 42 U.S.C. 4321, et seq.¹
- v. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
- w. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq.²
- x. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.

Executive Orders

Executive Order 11246 - Equal Employment Opportunity¹
 Executive Order 11990 - Protection of Wetlands
 Executive Order 11988 – Flood Plain Management
 Executive Order 12372 - Intergovernmental Review of Federal Programs.
 Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New Building Construction¹
 Executive Order 12898 - Environmental Justice

Federal Regulations

- a. 14 CFR Part 13 - Investigative and Enforcement Procedures.
- b. 14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
- c. 14 CFR Part 150 - Airport noise compatibility planning.
- d. 29 CFR Part 1 - Procedures for predetermination of wage rates.¹
- e. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.¹
- f. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).¹
- g. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).¹

- h. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.³
- i. 49 CFR Part 20 - New restrictions on lobbying.
- j. 49 CFR Part 21 - Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
- k. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in Airport Concessions.
- l. 49 CFR Part 24 - Uniform relocation assistance and real property acquisition for Federal and federally assisted programs.^{1 2}
- m. 49 CFR Part 26 – Participation By Disadvantaged Business Enterprises in Department of Transportation Programs.
- n. 49 CFR Part 27 - Nondiscrimination on the basis of handicap in programs and activities receiving or benefiting from Federal financial assistance.¹
- o. 49 CFR Part 29 – Government wide debarment and suspension (non-procurement) and government wide requirements for drug-free workplace (grants).
- p. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.
- q. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.¹

Office of Management and Budget Circulars

- a. A-87 - Cost Principles Applicable to Grants and Contracts with State and Local Governments.
- b. A-133 - Audits of States, Local Governments, and Non-Profit Organizations

¹ These laws do not apply to airport planning sponsors.

² These laws do not apply to private sponsors.

³ 49 CFR Part 18 and OMB Circular A-87 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in the grant agreement.

2. Responsibility and Authority of the Sponsor.

- a. **Public Agency Sponsor:** It has legal authority to apply for the grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.
- b. **Private Sponsor:** It has legal authority to apply for the grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person

to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

3. **Sponsor Fund Availability.** It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under the grant agreement which it will own or control.

4. **Good Title.**

- a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.
- b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

5. **Preserving Rights and Powers.**

- a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in the grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.
- b. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in the grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of the grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.
- c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.
- d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that

property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.

- e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.
- f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in the grant agreement and shall insure that such arrangement also requires compliance therewith.

6. **Consistency with Local Plans.** The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.
7. **Consideration of Local Interest.** It has given fair consideration to the interest of communities in or near where the project may be located.
8. **Consultation with Users.** In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.
9. **Public Hearings.** In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.
10. **Air and Water Quality Standards.** In projects involving airport location, a major runway extension, or runway location it will provide for the Governor of the state in which the project is located to certify in writing to the Secretary that the project will be located, designed, constructed, and operated so as to comply with applicable air and water quality standards. In any case where such standards have not been approved and where applicable air and water quality standards have been promulgated by the Administrator of the Environmental Protection Agency, certification shall be obtained from such Administrator. Notice of certification or refusal to certify shall be provided within sixty days after the project application has been received by the Secretary.
11. **Pavement Preventive Maintenance.** With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such

reports on pavement condition and pavement management programs as the Secretary determines may be useful.

12. **Terminal Development Prerequisites.** For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.
13. **Accounting System, Audit, and Record Keeping Requirements.**
 - a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of the grant, the total cost of the project in connection with which the grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.
 - b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to the grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which the grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.
14. **Minimum Wage Rates.** It shall include, in all contracts in excess of \$2,000 for work on any projects funded under the grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.
15. **Veteran's Preference.** It shall include in all contracts for work on any project funded under the grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Veterans of the Vietnam era and disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.
16. **Conformity to Plans and Specifications.** It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved

plans, specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into the grant agreement.

17. **Construction Inspection and Approval.** It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.
18. **Planning Projects.** In carrying out planning projects:
 - a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.
 - b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.
 - c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.
 - d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.
 - e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.
 - f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.
 - g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.
 - h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.
19. **Operation and Maintenance.**
 - a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably

operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary.

In furtherance of this assurance, the sponsor will have in effect arrangements for-

- (1) Operating the airport's aeronautical facilities whenever required;
- (2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and
- (3) Promptly notifying airmen of any condition affecting aeronautical use of the airport.

Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.

- b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.

20. Hazard Removal and Mitigation. It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use. It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

22. Economic Nondiscrimination.

- a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.
- b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-
 - (1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and
 - (2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.

- c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.
- d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.
- e. Each air carrier using such airport (whether as a tenant, non tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non tenants and signatory carriers and non signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.
- f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.
- g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.
- h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.
- i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.

23. **Exclusive Rights.** It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:
- a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and
 - b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport.

It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations,

aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.

24. Fee and Rental Structure. It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.

25. Airport Revenues.

- a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. Provided, however, that if covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.
- b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.
- c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.

26. Reports and Inspections. It will:

- a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;
- b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use

agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;

- c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of the grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and
- d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:
 - (i) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and
 - (ii) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.

27. Use by Government Aircraft. It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that-

- a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or
- b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.

28. Land for Federal Facilities. It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

29. Airport Layout Plan.

- a. It will keep up to date at all times an airport layout plan of the airport showing (1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto; (2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities; and (3) the location of all existing and proposed nonaviation areas and of all existing improvements thereon. Such airport layout plans and each amendment, revision, or modification thereof, shall

be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.

- b. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities.

30. Civil Rights. It will comply with such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from funds received from this grant. This assurance obligates the sponsor for the period during which Federal financial assistance is extended to the program, except where Federal financial assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon in which case the assurance obligates the sponsor or any transferee for the longer of the following periods: (a) the period during which the property is used for a purpose for which Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits, or (b) the period during which the sponsor retains ownership or possession of the property.

31. Disposal of Land.

- a. For land purchased under a grant for airport noise compatibility purposes, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will, at the discretion of the Secretary, (1) be paid to the Secretary for deposit in the Trust Fund, or (2) be reinvested in an approved noise compatibility project as prescribed by the Secretary, including the purchase of nonresidential buildings or property in the vicinity of residential buildings or property previously purchased by the airport as part of a noise compatibility program.
- b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested in another eligible airport improvement project or projects approved by the Secretary at that airport or within the national airport system, or (2) be paid to the Secretary for deposit in the Trust Fund if no eligible project exists.

- c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.
- d. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.

- 32. Engineering and Design Services.** It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement **prescribed** for or by the sponsor of the airport.
- 33. Foreign Market Restrictions.** It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.
- 34. Policies, Standards, and Specifications.** It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated _____ and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.
- 35. Relocation and Real Property Acquisition.** (1) It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B. (2) It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24. (3) It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.
- 36. Access By Intercity Buses.** The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport, however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.
- 37. Disadvantaged Business Enterprises.** The recipient shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The Recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure

non discrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26, and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801).

- 38. Hangar Construction.** If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.

39. Competitive Access.

- a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-
 1. Describes the requests;
 2. Provides an explanation as to why the requests could not be accommodated; and
 3. Provides a time frame within which, if any, the airport will be able to accommodate the requests.
- b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date

ATTACHMENT C

FAA Advisory Circular



U.S. Department
of Transportation

**Federal Aviation
Administration**

Advisory Circular

**Subject: HAZARDOUS WILDLIFE
ATTRACTANTS ON OR NEAR
AIRPORTS**

Date: 8/28/2007

AC No: 150/5200-33B

Initiated by: AAS-300 **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. APPLICABILITY. The Federal Aviation Administration (FAA) recommends that public-use airport operators implement the standards and practices contained in this AC. The holders of Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D (Part 139), may use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. Airports that have received Federal grant-in-aid assistance must use these standards. The FAA also recommends the guidance in this AC for land-use planners, operators of non-certificated airports, and developers of projects, facilities, and activities on or near airports.

3. CANCELLATION. This AC cancels AC 150/5200-33A, *Hazardous Wildlife Attractants on or near Airports*, dated July 27, 2004.

4. PRINCIPAL CHANGES. This AC contains the following major changes, which are marked with vertical bars in the margin:

- a. Technical changes to paragraph references.
- b. Wording on storm water detention ponds.
- c. Deleted paragraph 4-3.b, *Additional Coordination*.

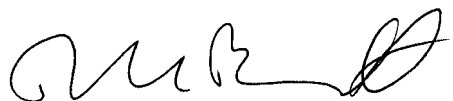
5. BACKGROUND. Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1

ranks the wildlife groups commonly involved in damaging strikes in the United States according to their relative hazard to aircraft. The ranking is based on the 47,212 records in the FAA National Wildlife Strike Database for the years 1990 through 2003. These hazard rankings, in conjunction with site-specific Wildlife Hazards Assessments (WHA), will help airport operators determine the relative abundance and use patterns of wildlife species and help focus hazardous wildlife management efforts on those species most likely to cause problems at an airport.

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 air operations area (AOA). Constructed or natural areas—such as 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, or wetlands—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.

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) in July 2003 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.



DAVID L. BENNETT
Director, Office of Airport Safety
and Standards

Table 1. Ranking of 25 species groups as to relative hazard to aircraft (1=most hazardous) based on three criteria (damage, major damage, and effect-on-flight), a composite ranking based on all three rankings, and a relative hazard score. Data were derived from the FAA National Wildlife Strike Database, January 1990–April 2003.¹

Species group	Ranking by criteria			Composite ranking ²	Relative hazard score ³
	Damage ⁴	Major damage ⁵	Effect on flight ⁶		
Deer	1	1	1	1	100
Vultures	2	2	2	2	64
Geese	3	3	6	3	55
Cormorants/pelicans	4	5	3	4	54
Cranes	7	6	4	5	47
Eagles	6	9	7	6	41
Ducks	5	8	10	7	39
Osprey	8	4	8	8	39
Turkey/pheasants	9	7	11	9	33
Hérons	11	14	9	10	27
Hawks (buteos)	10	12	12	11	25
Gulls	12	11	13	12	24
Rock pigeon	13	10	14	13	23
Owls	14	13	20	14	23
H. lark/s. bunting	18	15	15	15	17
Crows/ravens	15	16	16	16	16
Coyote	16	19	5	17	14
Mourning dove	17	17	17	18	14
Shorebirds	19	21	18	19	10
Blackbirds/starling	20	22	19	20	10
American kestrel	21	18	21	21	9
Meadowlarks	22	20	22	22	7
Swallows	24	23	24	23	4
Sparrows	25	24	23	24	4
Nighthawks	23	25	25	25	1

¹ Excerpted from the *Special Report for the FAA, "Ranking the Hazard Level of Wildlife Species to Civil Aviation in the USA: Update #1, July 2, 2003"*. Refer to this report for additional explanations of criteria and method of ranking.

² Relative rank of each species group was compared with every other group for the three variables, placing the species group with the greatest hazard rank for ≥ 2 of the 3 variables above the next highest ranked group, then proceeding down the list.

³ Percentage values, from Tables 3 and 4 in Footnote 1 of the *Special Report*, for the three criteria were summed and scaled down from 100, with 100 as the score for the species group with the maximum summed values and the greatest potential hazard to aircraft.

⁴ Aircraft incurred at least some damage (destroyed, substantial, minor, or unknown) from strike.

⁵ 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 makes it inadvisable to restore aircraft to airworthy condition.

⁶ Aborted takeoff, engine shutdown, precautionary landing, or other.

This page intentionally left blank.

Table of Contents

SECTION 1. GENERAL SEPARATION CRITERIA FOR HAZARDOUS WILDLIFE ATTRACTANTS ON OR NEAR AIRPORTS.....	1
1-1. INTRODUCTION.....	1
1-2. AIRPORTS SERVING PISTON-POWERED AIRCRAFT	1
1-3. AIRPORTS SERVING TURBINE-POWERED AIRCRAFT.....	1
1-4. PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE.....	1
SECTION 2. LAND-USE PRACTICES ON OR NEAR AIRPORTS THAT POTENTIALLY ATTRACT HAZARDOUS WILDLIFE	3
2-1. GENERAL.....	3
2-2. WASTE DISPOSAL OPERATIONS.....	3
2-3. WATER MANAGEMENT FACILITIES	5
2-4. WETLANDS	8
2-5. DREDGE SPOIL CONTAINMENT AREAS	9
2-6. AGRICULTURAL ACTIVITIES.....	9
2-7. GOLF COURSES, LANDSCAPING AND OTHER LAND-USE CONSIDERATIONS	10
2-8. SYNERGISTIC EFFECTS OF SURROUNDING LAND USES	11
SECTION 3. PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS	13
3-1. INTRODUCTION.....	13
3-2. COORDINATION WITH USDA WILDLIFE SERVICES OR OTHER QUALIFIED WILDLIFE DAMAGE MANAGEMENT BIOLOGISTS.....	13
3-3. WILDLIFE HAZARD MANAGEMENT AT AIRPORTS: A MANUAL FOR AIRPORT PERSONNEL	13
3-4. WILDLIFE HAZARD ASSESSMENTS, TITLE 14, CODE OF FEDERAL REGULATIONS, PART 139.....	13
3-5. WILDLIFE HAZARD MANAGEMENT PLAN (WHMP)	14
3-6. LOCAL COORDINATION	14
3-7. COORDINATION/NOTIFICATION OF AIRMEN OF WILDLIFE HAZARDS	14
SECTION 4. FAA NOTIFICATION AND REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS.....	15
4-1. FAA REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS	15
4-2. WASTE MANAGEMENT FACILITIES	15
4-3. OTHER LAND-USE PRACTICE CHANGES	16
APPENDIX 1. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR	19

This page intentionally left blank.

SECTION 1.

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

1-1. INTRODUCTION. When considering proposed land uses, airport operators, 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 can significantly increase the potential for wildlife strikes.

The FAA recommends the 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 air operations area (AOA). (See the discussion of the synergistic effects of surrounding land uses in Section 2-8 of this AC.)

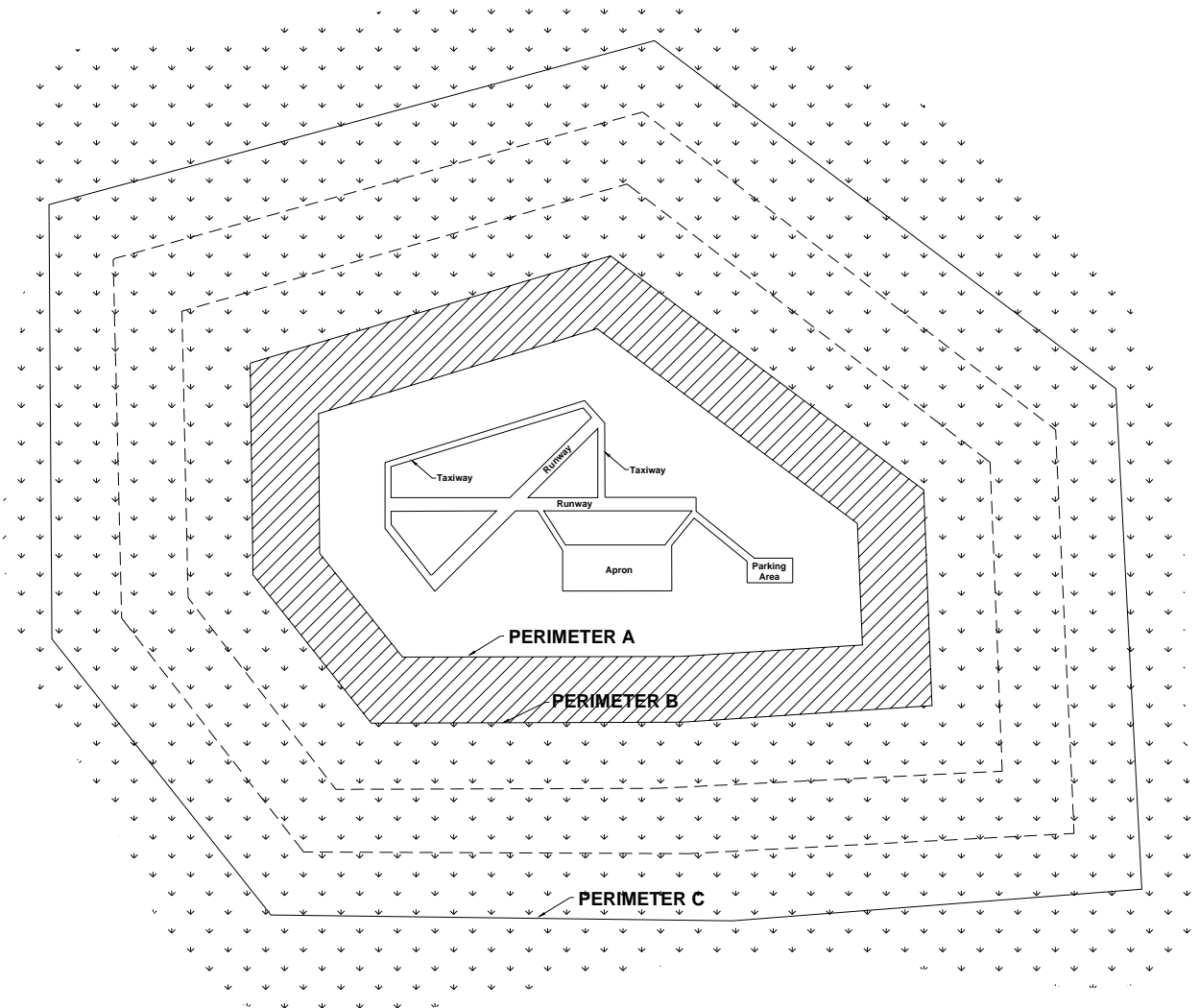
The basis for the separation criteria contained in this section can be found in existing FAA regulations. The separation distances are based on (1) flight patterns of piston-powered aircraft and turbine-powered aircraft, (2) the altitude at which most strikes happen (78 percent occur under 1,000 feet and 90 percent occur under 3,000 feet above ground level), and (3) National Transportation Safety Board (NTSB) 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 at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance measured from the nearest aircraft operations areas.

1-3. AIRPORTS SERVING TURBINE-POWERED AIRCRAFT. Airports selling Jet-A fuel normally serve turbine-powered aircraft. Notwithstanding more stringent requirements for specific land uses, the FAA recommends a separation distance of 10,000 feet at these airports for any of the hazardous wildlife attractants mentioned in Section 2 or for new airport development projects meant to accommodate aircraft movement. This distance is to be maintained between an airport's AOA and the hazardous wildlife attractant. Figure 1 depicts this separation distance from the nearest aircraft movement areas.

1-4. PROTECTION OF APPROACH, DEPARTURE, AND CIRCLING AIRSPACE. For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

Figure 1. Separation distances within which hazardous wildlife attractants should be avoided, eliminated, or mitigated.



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

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

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

SECTION 2.

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

2-1. GENERAL. 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. This section discusses land-use practices having the potential to attract hazardous wildlife and threaten aviation safety. In addition to the specific considerations outlined below, airport operators should refer to *Wildlife Hazard Management at Airports*, prepared by FAA and U.S. Department of Agriculture (USDA) staff. (This manual is available in English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: <http://wildlife-mitigation.tc.FAA.gov>.) And, *Prevention and Control of Wildlife Damage*, compiled by the University of Nebraska Cooperative Extension Division. (This manual is available online in a periodically updated version at: ianrwww.unl.edu/wildlife/solutions/handbook/.)

2-2. WASTE DISPOSAL OPERATIONS. Municipal solid waste landfills (MSWLF) 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 Sections 1-2 through 1-4, are considered incompatible with safe airport operations.

- a. Siting for new municipal solid waste landfills subject to AIR 21.** Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) (AIR 21) prohibits the construction or establishment of a new MSWLF within 6 statute 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.

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.

The proposed MSWLF must (1) be within 6 miles of the airport, as measured from airport property line to MSWLF property line, and (2) have started construction or establishment on or after April 5, 2001. Public Law 106-181 only limits the construction or establishment of some new MSWLF. It does not limit the expansion, either vertical or horizontal, of existing landfills.

NOTE: Consult the most recent version of AC 150/5200-34, *Construction or Establishment of Landfills Near Public Airports*, for a more detailed discussion of these restrictions.

- b. Siting for new MSWLF not subject to AIR 21.** If an airport and MSWLF do not meet the restrictions of Public Law 106-181, the FAA recommends against locating MSWLF within the separation distances identified in Sections 1-2 through 1-4. The separation distances should be measured from the closest point of the airport's AOA to the closest planned MSWLF cell.
- c. 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 MSWLF operations located within the separations identified in Sections 1-2 through 1-4. In addition, in accordance with 40 CFR 258.10, owners or operators of existing MSWLF units that are located within the separations listed in Sections 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 Section 4-2(b) of this AC for a discussion of this demonstration requirement.)
- d. 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 not located on airport property or within the Runway Protection Zone (RPZ). 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; that store uncovered quantities of municipal solid waste outside, even if only for a short time; that use semi-trailers that leak or have trash clinging to the outside; or that 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 these facilities incompatible with safe airport operations if they are located closer than the separation distances specified in Sections 1-2 through 1-4.
- e. 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. Off-airport property composting operations should be located no closer than the greater of the following distances: 1,200 feet from any AOA 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 (OFA), Obstacle Free Zone (OFZ), Threshold Siting Surface (TSS), 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. On-airport disposal of compost by-products should not be conducted for the reasons stated in 2-3f.

- f. Underwater waste discharges.** The FAA recommends against the underwater discharge of any food waste (e.g., fish processing offal) within the separations identified in Sections 1-2 through 1-4 because it could attract scavenging hazardous wildlife.
- g. Recycling centers.** Recycling centers that accept previously sorted non-food items, such as glass, newspaper, cardboard, or aluminum, are, in most cases, not attractive to hazardous wildlife and are acceptable.
- h. Construction and demolition (C&D) debris facilities.** C&D landfills do not generally 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, C&D landfills have similar visual and operational characteristics to putrescible waste disposal sites. When co-located with putrescible waste disposal operations, C&D landfills are more likely to attract hazardous wildlife because of the similarities between these disposal facilities. Therefore, a C&D landfill co-located with another waste disposal operation should be located outside of the separations identified in Sections 1-2 through 1-4.
- i. Fly ash disposal.** 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 are maintained in an orderly manner, admit no putrescible waste of any kind, and are not co-located with other disposal operations that attract hazardous wildlife.

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 Sections 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, and ponds that result from mining activities often attract large numbers of potentially hazardous wildlife. To prevent wildlife hazards, 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.

- a. Existing storm water management facilities.** On-airport storm water 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 storm water, protect water quality, and control runoff. Because they slowly release water

after storms, they create standing bodies of water that can attract hazardous wildlife. Where the airport has developed a Wildlife Hazard Management Plan (WHMP) in accordance with Part 139, the FAA requires immediate correction of any wildlife hazards arising from existing storm water 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 wildlife damage management biologist.

Where possible, airport operators should modify storm water detention ponds to allow a maximum 48-hour detention period for the design storm. 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.

When it is not possible to drain a large detention pond completely, airport operators may use physical barriers, such as bird balls, wires grids, pillows, or netting, to deter birds and other hazardous wildlife. 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, airport operators must get approval from the appropriate FAA Regional Airports Division Office.

The FAA recommends that airport operators encourage off-airport storm water treatment facility operators to incorporate appropriate wildlife hazard mitigation techniques into storm water treatment facility operating practices when their facility is located within the separation criteria specified in Sections 1-2 through 1-4.

- b. New storm water management facilities.** The FAA strongly recommends that off-airport storm water management systems located within the separations identified in Sections 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 remain completely dry between storms. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. When it is not possible to place these ponds away from an airport's AOA, airport operators should use physical barriers, such as bird balls, wires grids, pillows, or netting, to prevent access of hazardous wildlife to open water and minimize aircraft-wildlife interactions. 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, airport operators must get 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, such as French drains or buried rock fields, because they are less attractive to wildlife.

- c. Existing wastewater treatment facilities.** The FAA strongly recommends that airport operators immediately correct any wildlife hazards arising from existing wastewater treatment facilities located on or near the airport. Where required, a WHMP developed in accordance with Part 139 will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should encourage wastewater treatment facility operators to incorporate measures, developed in consultation with a wildlife damage management 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.
- d. New wastewater treatment facilities.** The FAA strongly recommends against the construction of new wastewater treatment facilities or associated settling ponds within the separations identified in Sections 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 of the amount of pollutants or the elimination of pollutants prior to introducing such pollutants into a publicly owned treatment works (wastewater treatment facility). During the site-location analysis for wastewater treatment facilities, developers should consider the potential to attract hazardous wildlife if an airport is in the vicinity of the proposed site, and airport operators should voice their opposition to such facilities if they are in proximity to the airport.
- e. 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 strongly recommends against establishing artificial marshes within the separations identified in Sections 1-2 through 1-4.
- f. Wastewater discharge and sludge disposal.** The FAA recommends against the discharge of wastewater or sludge on airport property because it may improve soil moisture and quality on unpaved areas and lead to improved turf growth that can be an attractive food source for many species of animals. Also, the turf requires more frequent mowing, which in turn may mutilate or flush insects or small animals and produce straw, both of which can attract hazardous wildlife. In addition, the improved turf may attract grazing wildlife, such as deer and geese. Problems may also occur when discharges saturate unpaved airport areas. The resultant soft, muddy conditions can severely 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. Normally, wetlands are attractive to many types of wildlife, including many which rank high on the list of hazardous wildlife species (Table 1).

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

- a. 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. Where required, a WHMP will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators should develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist.
- b. New airport development.** Whenever possible, the FAA recommends locating new airports using the separations from wetlands identified in Sections 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 wildlife damage management biologist, in consultation 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 WHMP that indicates methods of minimizing the hazards.
- c. 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 Sections 1-2 through 1-4.

(1) Onsite mitigation of wetland functions. The FAA may consider exceptions to locating mitigation activities outside the separations identified in Sections 1-2 through 1-4 if the affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water recharge, which cannot be replicated when moved to a different location. Using existing airport property is sometimes the only feasible way to achieve the mitigation ratios mandated in regulatory orders and/or settlement agreements with the resource agencies. Conservation easements are an additional means of providing mitigation for project impacts. Typically the airport operator continues to own the property, and an easement is created stipulating that the property will be maintained as habitat for state or Federally listed species.

Mitigation 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. A wildlife damage management 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 Sections 1-2 through 1-4 before the mitigation is implemented. A WHMP should be developed to reduce the wildlife hazards.

(2) Offsite mitigation of wetland functions. The FAA recommends that wetland mitigation projects that may attract hazardous wildlife be sited outside of the separations identified in Sections 1-2 through 1-4 unless they provide unique functions that must remain onsite (see 2-4c(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.

(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 Sections 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 Sections 1-2 through 1-4 if the containment area or the spoils contain material that would attract hazardous wildlife.

2-6. AGRICULTURAL ACTIVITIES. Because most, if not all, agricultural crops can attract hazardous wildlife during some phase of production, the FAA recommends against the use of airport property for agricultural production, including hay crops, within the separations identified in Sections 1-2 through 1-4. If the airport has no financial alternative to agricultural crops to produce income necessary to maintain the viability of the airport, then the airport shall follow the crop distance guidelines listed in the table titled "Minimum Distances between Certain Airport Features and Any On-Airport Agricultural Crops" found in AC 150/5300-13, *Airport Design*, Appendix 17. The cost of wildlife control and potential accidents should be weighed against the income produced by the on-airport crops when deciding whether to allow crops on the airport.

- a. 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 starlings, that pose a hazard to aviation. Therefore, The FAA recommends against such facilities within the separations identified in Sections 1-2 through 1-4. Any livestock operation within these separations should have a program developed to reduce the attractiveness of the site to species that are hazardous to aviation safety. Free-ranging livestock must not be grazed on airport property because the animals may wander onto the AOA. Furthermore, livestock feed, water, and manure may attract birds.
- b. Aquaculture.** Aquaculture activities (i.e. catfish or trout production) conducted outside of fully enclosed buildings are inherently attractive to a wide variety of birds. Existing aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4 must have a program developed to reduce the attractiveness of the sites to species that are hazardous to aviation safety. Airport operators should also oppose the establishment of new aquaculture facilities/activities within the separations listed in Sections 1-2 through 1-4.
- c. Alternative uses of agricultural land.** Some airports are surrounded by vast areas of farmed land within the distances specified in Sections 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, for example, flood their land during waterfowl hunting season and obtain additional revenue by renting out duck blinds. The duck hunters then use decoys and call in hundreds, if not thousands, of birds, creating a tremendous threat to aircraft safety. A wildlife damage management biologist should review, in coordination with local farmers and producers, these types of seasonal land uses and incorporate them into the WHMP.

2-7. GOLF COURSES, LANDSCAPING AND OTHER LAND-USE CONSIDERATIONS.

- a. 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. The FAA recommends against construction of new golf courses within the separations identified in Sections 1-2 through 1-4. Existing golf courses located within these separations must develop a program to reduce the attractiveness of the sites to species that are hazardous to aviation safety. 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.
- b. Landscaping and landscape maintenance.** 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. A wildlife damage management 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.

Turf grass areas can 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 grass management regime will deter all species of hazardous wildlife in all situations. In cooperation with wildlife damage management biologist, airport operators should develop airport turf grass management plans on a prescription basis, depending on the airport's geographic locations and the type of hazardous wildlife likely to frequent the airport

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 wildlife damage management biologist. Airport operators should also consider developing and implementing a preferred/prohibited plant species list, reviewed by a wildlife damage management biologist, which has been designed for the geographic location to reduce the attractiveness to hazardous wildlife for landscaping airport property.

- c. **Airports surrounded by wildlife habitat.** The FAA recommends that operators of airports surrounded by woodlands, water, or wetlands refer to Section 2.4 of this AC. Operators of such airports should provide for a Wildlife Hazard Assessment (WHA) conducted by a wildlife damage management biologist. This WHA is the first step in preparing a WHMP, where required.
- d. **Other hazardous wildlife attractants.** Other specific land uses or activities (e.g., sport or commercial fishing, shellfish harvesting, etc.), perhaps unique to certain regions of the country, have the potential to attract hazardous wildlife. Regardless of the source of the attraction, when hazardous wildlife is noted on a public-use airport, airport operators must take prompt remedial action(s) to protect aviation safety.

2-8. SYNERGISTIC EFFECTS OF SURROUNDING LAND USES. There may be circumstances where two (or more) different land uses that would not, by themselves, be considered hazardous wildlife attractants or that are located outside of the separations identified in Sections 1-2 through 1-4 that are in such an alignment with the airport as to create a wildlife corridor directly through the airport and/or surrounding airspace. An example of this situation may involve 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, land uses that together could create a flyway for Canada geese directly across the airspace of the airport. There are numerous examples of such situations;

therefore, airport operators and the wildlife damage management biologist must consider the entire surrounding landscape and community when developing the WHMP.

SECTION 3.

PROCEDURES FOR WILDLIFE HAZARD MANAGEMENT BY OPERATORS OF PUBLIC-USE AIRPORTS.

3.1. INTRODUCTION. In recognition of the increased risk of serious aircraft damage or the loss of human life that can result from a wildlife strike, the FAA may require the development of a Wildlife Hazard Management Plan (WHMP) when specific triggering events occur on or near the airport. Part 139.337 discusses the specific events that trigger a Wildlife Hazard Assessment (WHA) and the specific issues that a WHMP must address for FAA approval and inclusion in an Airport Certification Manual.

3.2. COORDINATION WITH USDA WILDLIFE SERVICES OR OTHER QUALIFIED WILDLIFE DAMAGE MANAGEMENT BIOLOGISTS. The FAA will use the Wildlife Hazard Assessment (WHA) conducted in accordance with Part 139 to determine if the airport needs a WHMP. Therefore, persons having the education, training, and expertise necessary to assess wildlife hazards must conduct the WHA. The airport operator may look to Wildlife Services or to qualified private consultants to conduct the WHA. When the services of a wildlife damage management biologist are required, the FAA recommends that land-use developers or airport operators contact a consultant specializing in wildlife damage management or the appropriate state director of Wildlife Services.

NOTE: Telephone numbers for the respective USDA Wildlife Services state offices can be obtained by contacting USDA Wildlife Services Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD, 20737-1234, Telephone (301) 734-7921, Fax (301) 734-5157 (<http://www.aphis.usda.gov/ws/>).

3-3. WILDLIFE HAZARD MANAGEMENT AT AIRPORTS: A MANUAL FOR AIRPORT PERSONNEL. This manual, prepared by FAA and USDA Wildlife Services staff, contains a compilation of information to assist airport personnel in the development, implementation, and evaluation of WHMPs at airports. The manual includes specific information on the nature of wildlife strikes, legal authority, regulations, wildlife management techniques, WHAs, WHMPs, and sources of help and information. The manual is available in three languages: English, Spanish, and French. It can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: <http://wildlife-mitigation.tc.FAA.gov/>. This manual only provides a starting point for addressing wildlife hazard issues at airports. Hazardous wildlife management is a complex discipline and conditions vary widely across the United States. Therefore, qualified wildlife damage management biologists must direct the development of a WHMP and the implementation of management actions by airport personnel.

There are many other resources complementary to this manual for use in developing and implementing WHMPs. Several are listed in the manual's bibliography.

3-4. WILDLIFE HAZARD ASSESSMENTS, TITLE 14, CODE OF FEDERAL REGULATIONS, PART 139. Part 139.337(b) requires airport operators to conduct a Wildlife Hazard Assessment (WHA) when certain events occur on or near the airport.

Part 139.337 (c) provides specific guidance as to what facts must be addressed in a WHA.

3-5. WILDLIFE HAZARD MANAGEMENT PLAN (WHMP). The FAA will consider the results of the WHA, along with the aeronautical activity at the airport and the views of the airport operator and airport users, in determining whether a formal WHMP is needed, in accordance with Part 139.337. If the FAA determines that a WHMP is needed, the airport operator must formulate and implement a WHMP, using the WHA as the basis for the plan.

The goal of an airport's Wildlife Hazard Management Plan is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport.

The WHMP must identify hazardous wildlife attractants on or near the airport and the appropriate wildlife damage management techniques to minimize the wildlife hazard. It must also prioritize the management measures.

3-6. LOCAL COORDINATION. The establishment of a Wildlife Hazards Working Group (WHWG) will facilitate the communication, cooperation, and coordination of the airport and its surrounding community necessary to ensure the effectiveness of the WHMP. The cooperation of the airport community is also necessary when new projects are considered. Whether on or off the airport, the input from all involved parties must be considered when a potentially hazardous wildlife attractant is being proposed. Airport operators should also incorporate public education activities with the local coordination efforts because some activities in the vicinity of your airport, while harmless under normal leisure conditions, can attract wildlife and present a danger to aircraft. For example, if public trails are planned near wetlands or in parks adjoining airport property, the public should know that feeding birds and other wildlife in the area may pose a risk to aircraft.

Airport operators should work with local and regional planning and zoning boards so as to be aware of proposed land-use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in Sections 1-2 through 1-4. Pay particular attention to proposed land uses involving creation or expansion of waste water treatment facilities, development of wetland mitigation sites, or development or expansion of dredge spoil containment areas. At the very least, airport operators must ensure they are on the notification list of the local planning board or equivalent review entity for all communities located within 5 miles of the airport, so they will receive notification of any proposed project and have the opportunity to review it for attractiveness to hazardous wildlife.

3-7 COORDINATION/NOTIFICATION OF AIRMEN OF WILDLIFE HAZARDS. If an existing land-use practice creates a wildlife hazard and the land-use practice or wildlife hazard cannot be immediately eliminated, airport operators must issue a Notice to Airmen (NOTAM) and encourage the land-owner or manager to take steps to control the wildlife hazard and minimize further attraction.

SECTION 4.

FAA NOTIFICATION AND REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS

4-1. FAA REVIEW OF PROPOSED LAND-USE PRACTICE CHANGES IN THE VICINITY OF PUBLIC-USE AIRPORTS.

- a. The FAA discourages the development of waste disposal and other facilities, discussed in Section 2, located within the 5,000/10,000-foot criteria specified in Sections 1-2 through 1-4.
- b. For projects that are located outside the 5,000/10,000-foot criteria but within 5 statute miles of the airport's AOA, the FAA may review development plans, proposed land-use changes, operational changes, or wetland mitigation plans to determine if such changes present potential wildlife hazards to aircraft operations. The FAA considers sensitive airport areas as those that lie under or next to approach or departure airspace. This brief examination should indicate if further investigation is warranted.
- c. Where a wildlife damage management biologist has conducted a further study to evaluate a site's compatibility with airport operations, the FAA may use the study results to make a determination.

4-2. WASTE MANAGEMENT FACILITIES.

- a. **Notification of new/expanded project proposal.** Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Public Law 106-181) limits the construction or establishment of new MSWLF within 6 statute miles of certain public-use airports, when both the airport and the landfill meet very specific conditions. See Section 2-2 of this AC and AC 150/5200-34 for a more detailed discussion of these restrictions.

The Environmental Protection Agency (EPA) requires any MSWLF operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal (40 CFR 258, *Criteria for Municipal Solid Waste Landfills*, Section 258.10, *Airport Safety*). The EPA also requires owners or operators of new MSWLF units, or lateral expansions of existing MSWLF units, that are located within 10,000 feet of any airport runway end used by turbojet aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft. (See 4-2.b below.)

When new or expanded MSWLF are being proposed near airports, MSWLF operators must notify the airport operator and the FAA of the proposal as early as possible pursuant to 40 CFR 258.

- b. Waste handling facilities within separations identified in Sections 1-2 through 1-4.** To claim successfully that a waste-handling facility sited within the separations identified in Sections 1-2 through 1-4 does not attract hazardous wildlife and does not threaten aviation, the developer must establish convincingly that the facility will not handle putrescible material other than that as outlined in 2-2.d. The FAA strongly recommends against any facility other than that as outlined in 2-2.d (enclosed transfer stations). The FAA will use this information to determine if the facility will be a hazard to aviation.
- c. Putrescible-Waste Facilities.** In their effort to satisfy the EPA requirement, some putrescible-waste facility proponents may offer to undertake experimental measures to demonstrate that their proposed facility will not be a hazard to aircraft. To date, no such facility has been able to demonstrate an ability to reduce and sustain hazardous wildlife to levels that existed before the putrescible-waste landfill began operating. For this reason, demonstrations of experimental wildlife control measures may not be conducted within the separation identified in Sections 1-2 through 1-4.

4-3. OTHER LAND-USE PRACTICE CHANGES. As a matter of policy, the FAA encourages operators of public-use airports who become aware of proposed land use practice changes that may attract hazardous wildlife within 5 statute miles of their airports to promptly notify the FAA. The FAA also encourages proponents of such land use changes to notify the FAA as early in the planning process as possible. Advanced notice affords the FAA an opportunity (1) to evaluate the effect of a particular land-use change on aviation safety and (2) to support efforts by the airport sponsor to restrict the use of land next to or near the airport to uses that are compatible with the airport.

The airport operator, project proponent, or land-use operator may use FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, or other suitable documents similar to FAA Form 7460-1 to notify the appropriate FAA Regional Airports Division Office. Project proponents can contact the appropriate FAA Regional Airports Division Office for assistance with the notification process.

It is helpful if the notification includes a 15-minute quadrangle map of the area identifying the location of the proposed activity. The land-use operator or project proponent should also forward specific details of the proposed land-use change or operational change or expansion. In the case of solid waste landfills, the information should include the type of waste to be handled, how the waste will be processed, and final disposal methods.

- a. Airports that have received Federal grant-in-aid assistance.** Airports that have received Federal grant-in-aid assistance are required by their grant assurances to take appropriate actions to restrict the use of land next to or near the airport to uses that are compatible with normal airport operations. The FAA recommends that airport operators to the extent practicable oppose off-airport land-use changes or practices within the separations identified in Sections 1-2 through 1-4 that may attract hazardous wildlife. Failure to do so may lead to noncompliance with applicable grant assurances. The FAA will not approve the placement of airport

development projects pertaining to aircraft movement in the vicinity of hazardous wildlife attractants without appropriate mitigating measures. Increasing the intensity of wildlife control efforts is not a substitute for eliminating or reducing a proposed wildlife hazard. Airport operators should identify hazardous wildlife attractants and any associated wildlife hazards during any planning process for new airport development projects.

This page intentionally left blank.

APPENDIX 1. DEFINITIONS OF TERMS USED IN THIS ADVISORY CIRCULAR.**1. GENERAL.** This appendix provides definitions of terms used throughout this AC.

1. **Air operations area.** Any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. An air operations area includes such paved areas or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiways, or apron.
2. **Airport operator.** The operator (private or public) or sponsor of a public-use airport.
3. **Approach or departure airspace.** The airspace, within 5 statute miles of an airport, through which aircraft move during landing or takeoff.
4. **Bird balls.** High-density plastic floating balls that can be used to cover ponds and prevent birds from using the sites.
5. **Certificate holder.** The holder of an Airport Operating Certificate issued under Title 14, Code of Federal Regulations, Part 139.
6. **Construct a new MSWLF.** To begin to excavate, grade land, or raise structures to prepare a municipal solid waste landfill as permitted by the appropriate regulatory or permitting agency.
7. **Detention ponds.** Storm water management ponds that hold storm water for short periods of time, a few hours to a few days.
8. **Establish a new MSWLF.** When the first load of putrescible waste is received on-site for placement in a prepared municipal solid waste landfill.
9. **Fly ash.** The fine, sand-like residue resulting from the complete incineration of an organic fuel source. Fly ash typically results from the combustion of coal or waste used to operate a power generating plant.
10. **General aviation aircraft.** Any civil aviation aircraft not operating under 14 CFR Part 119, Certification: Air Carriers and Commercial Operators.
11. **Hazardous wildlife.** Species of wildlife (birds, mammals, reptiles), including feral animals and domesticated animals not under control, that are associated with aircraft strike problems, are capable of causing structural damage to airport facilities, or act as attractants to other wildlife that pose a strike hazard
12. **Municipal Solid Waste Landfill (MSWLF).** A publicly or privately owned discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR § 257.2. An MSWLF may receive

other types wastes, such as commercial solid waste, non-hazardous sludge, small-quantity generator waste, and industrial solid waste, as defined under 40 CFR § 258.2. An MSWLF can consist of either a stand alone unit or several cells that receive household waste.

13. **New MSWLF.** A municipal solid waste landfill that was established or constructed after April 5, 2001.
14. **Piston-powered aircraft.** Fixed-wing aircraft powered by piston engines.
15. **Piston-use airport.** Any airport that does not sell Jet-A fuel for fixed-wing turbine-powered aircraft, and primarily serves fixed-wing, piston-powered aircraft. Incidental use of the airport by turbine-powered, fixed-wing aircraft would not affect this designation. However, such aircraft should not be based at the airport.
16. **Public agency.** A State or political subdivision of a State, a tax-supported organization, or an Indian tribe or pueblo (49 U.S.C. § 47102(19)).
17. **Public airport.** An airport used or intended to be used for public purposes that is under the control of a public agency; and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft is publicly owned (49 U.S.C. § 47102(20)).
18. **Public-use airport.** An airport used or intended to be used for public purposes, and of which the area used or intended to be used for landing, taking off, or surface maneuvering of aircraft may be under the control of a public agency or privately owned and used for public purposes (49 U.S.C. § 47102(21)).
19. **Putrescible waste.** Solid waste that contains organic matter capable of being decomposed by micro-organisms and of such a character and proportion as to be capable of attracting or providing food for birds (40 CFR §257.3-8).
20. **Putrescible-waste disposal operation.** Landfills, garbage dumps, underwater waste discharges, or similar facilities where activities include processing, burying, storing, or otherwise disposing of putrescible material, trash, and refuse.
21. **Retention ponds.** Storm water management ponds that hold water for several months.
22. **Runway protection zone (RPZ).** An area off the runway end to enhance the protection of people and property on the ground (see AC 150/5300-13). The dimensions of this zone vary with the airport design, aircraft, type of operation, and visibility minimum.
23. **Scheduled air carrier operation.** Any common carriage passenger-carrying operation for compensation or hire conducted by an air carrier or commercial

operator for which the air carrier, commercial operator, or their representative offers in advance the departure location, departure time, and arrival location. It does not include any operation that is conducted as a supplemental operation under 14 CFR Part 119 or as a public charter operation under 14 CFR Part 380 (14 CFR § 119.3).

- 24. Sewage sludge.** Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. (40 CFR 257.2)
- 25. Sludge.** Any solid, semi-solid, or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. (40 CFR 257.2)
- 26. Solid waste.** Any garbage, refuse, sludge, from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded material, including, solid liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954, as amended, (68 Stat. 923). (40 CFR 257.2)
- 27. Turbine-powered aircraft.** Aircraft powered by turbine engines including turbojets and turboprops but excluding turbo-shaft rotary-wing aircraft.
- 28. Turbine-use airport.** Any airport that sells Jet-A fuel for fixed-wing turbine-powered aircraft.
- 29. Wastewater treatment facility.** Any devices and/or systems used to store, treat, recycle, or reclaim municipal sewage or liquid industrial wastes, including Publicly Owned Treatment Works (POTW), as defined by Section 212 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-576) and the Water Quality Act of 1987 (P.L. 100-4). This definition includes any pretreatment involving the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. (See 40 CFR Section 403.3 (q), (r), & (s)).

- 30. Wildlife.** Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring thereof (50 CFR 10.12, *Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants*). As used in this AC, wildlife includes feral animals and domestic animals out of the control of their owners (14 CFR Part 139, Certification of Airports).
- 31. Wildlife attractants.** 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 AOA. These attractants can include architectural features, landscaping, waste disposal sites, wastewater treatment facilities, agricultural or aquaculture activities, surface mining, or wetlands.
- 32. Wildlife hazard.** A potential for a damaging aircraft collision with wildlife on or near an airport.
- 33. Wildlife strike.** A wildlife strike is deemed to have occurred when:
- a. A pilot reports striking 1 or more birds or other wildlife;
 - b. Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;
 - c. Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;
 - d. 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 identified;
 - e. The 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) (Transport Canada, Airports Group, *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

2. RESERVED.

ATTACHMENT D

Additional Recommendations

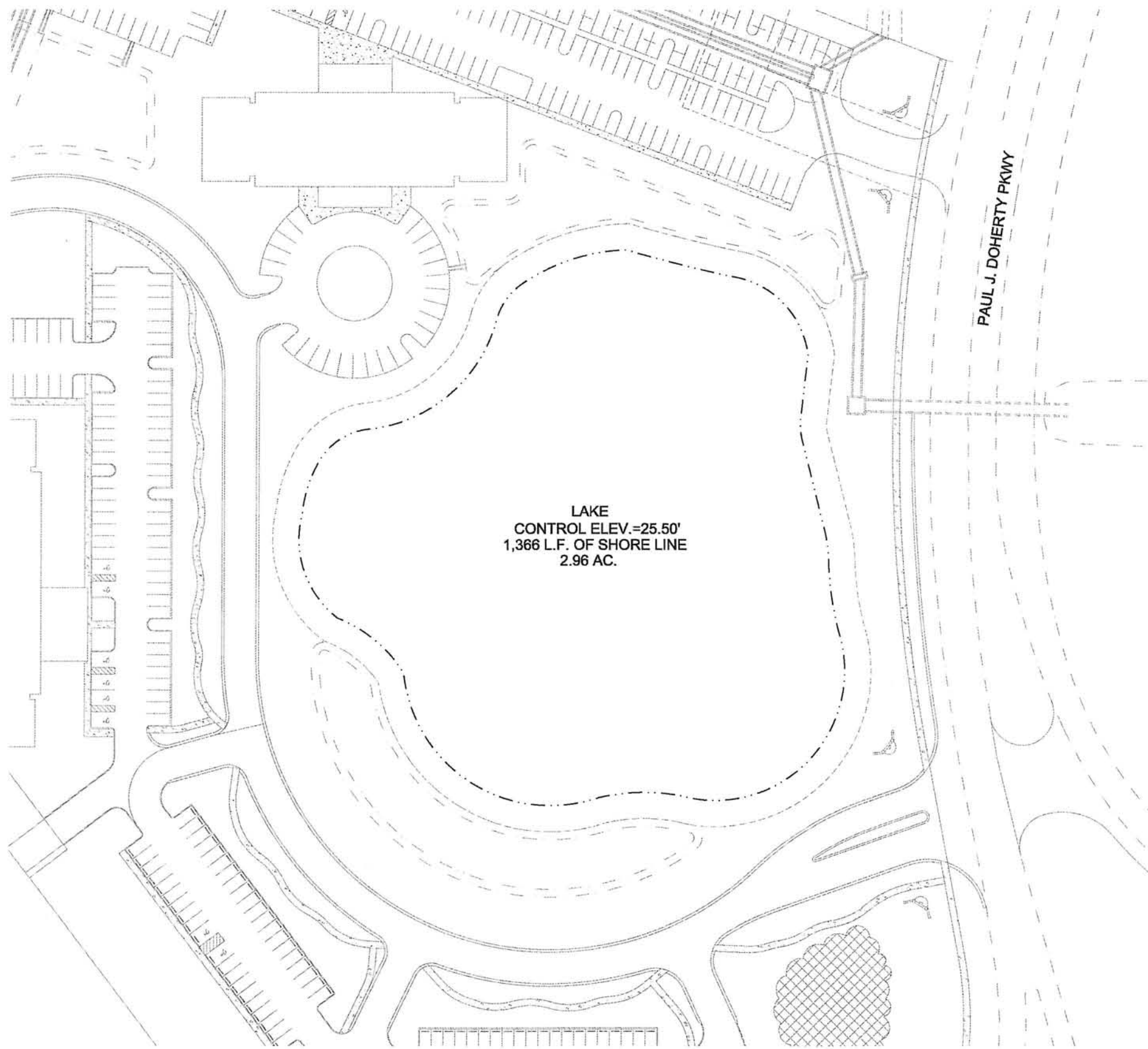
To expand upon and further refine the recommendations that were presented in the Biological Assessment prepared for the Lee County Port Authority regarding the Madden Research Loop, dated December 2008, the following four recommendations are presented as options to address the potential wildlife hazard attractant associated with the littoral zones of the proposed stormwater pond. Each design/construction option is accompanied by best management practices that would help to reduce the potential risk associated with developing the stormwater pond within the 10,000 foot separation criteria set forth in FAA AC 150/5200-33B. Please note landscaping is acceptable 1' above control elevation.

Options to address littoral zone areas:

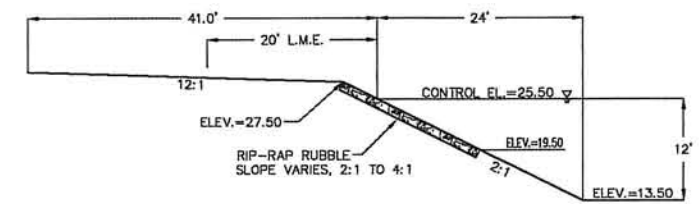
- Design and construct the pond with a slope at a minimum of 5:1, or steeper, around the entire perimeter and do not vegetate (with plantings or via natural recruitment) the littoral zone.
 - Develop and implement an aggressive vegetation treatment/removal maintenance plan to eliminate any vegetation that may naturally recruit onto the sloped areas of the surface water pond.
 - Routinely monitor slope area and open water area for wildlife utilization for potential wildlife hazards.
 - On an as needed basis, implement deterrent activities such as wire grid system, pyrotechnics, etc to address any wildlife hazard species that utilize the stormwater facility area.
- Design and construct a lined pond with a slope of 5:1 or steeper around the perimeter and do not vegetate (with plantings or via natural recruitment) the littoral zone.
 - Develop and implement a vegetation treatment/removal maintenance plan to eliminate any vegetation that may naturally recruit onto the sloped areas of the surface water pond through the liner.
 - Routinely monitor slope area and open water area for wildlife utilization for potential wildlife hazards.
 - On an as needed basis, implement deterrent activities such as wire grid system, pyrotechnics, etc to address any wildlife hazard species that utilize the stormwater facility area.
- Design and construct steep-sloped, rip-rap lined perimeter area to discourage littoral zone plant growth.
 - Develop and implement a vegetation treatment/removal maintenance plan to eliminate silt and any vegetation that may naturally recruit into rip-rap area.
 - Periodically, monitor rip-rap area and open water area for wildlife utilization that creates a potential wildlife hazard.
 - On an as needed basis, implement deterrent activities such as wire grid system, pyrotechnics, etc to address any wildlife hazard species that utilize the stormwater facility area.

- Design and construct steep-sloped pond with a head wall/retaining wall around the perimeter area to discourage littoral zone plant growth.
 - Develop and implement a vegetation treatment/removal maintenance plan to eliminate any vegetation that may naturally recruit into the littoral zone area.
 - Periodically, monitor littoral zone area and open water area for wildlife utilization that creates a potential wildlife hazard.
 - On an as needed basis, implement deterrent activities such as wire grid system, pyrotechnics, etc to address any wildlife hazard species that utilize the stormwater facility area.

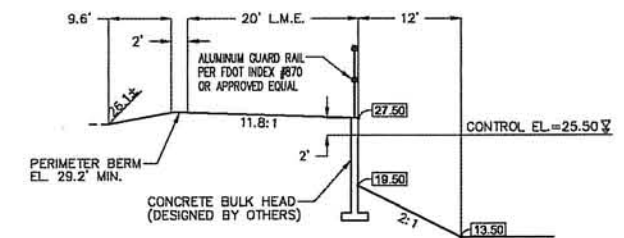
ATTACHMENT E
Revised Site Plan (April 2009)



LAKE BANK TREATMENT OPTIONS



OPTION #1
SCALE 1"=10'



OPTION #2
SCALE 1"=10'

date 2-09

file name: EXHIBIT

job 08-009

No.	Date	Revisions



community engineering services, inc.
civil engineering • surveying • project management

EB-0006613 LB-6572
2740 Oak Ridge Court, Suite 301
Fort Myers, Florida 33901
Telephone (239) 936-9777 Fax (239) 936-0064

LAKE CROSS SECTION EXHIBIT
OF
MADDEN RESEARCH LOOP

FOR
THE JOHN MADDEN COMPANY
6501 SOUTH FIDDLERS GREEN CIRCLE, SUITE 110
GREENWOOD VILLAGE, CO 80111
(303) 995-6434 fax (303) 773-0735

scale: 1"=40'

SHEET

1 OF 1

date

APPENDIX T

Legal Discussion Relating to Deterrence of Wildlife at RSW

LEGAL STATUS OF WILDLIFE – REQUIREMENTS FOR HARASSING STATE AND FEDERALLY LISTED SPECIES

Several wildlife species encountered on or near RSW during the course of the WHA are protected by environmental regulations on the federal level, state level, or both. This section provides information on regulations that address or have the potential to overlap with wildlife hazard management activities at RSW. Regulations are continually being revised and updated; therefore information in this section should be viewed as advisory and updated periodically to document changes in the regulations.

Federal Regulations

The primary federal regulations reviewed in this section deal with federally-listed (protected) species, the regulations associated with federally listed species habitats, and the protection of migratory birds. As outlined below, species listed as federally endangered or threatened cannot be harassed or depredated unless coordination and permitting has occurred with the US Fish and Wildlife Service (USFWS). However, species that are protected under the Migratory Bird Treaty Act (MBTA) can be harassed by airport wildlife hazard deterrent activities without a federal permit. When deterrent activities include lethal control or capture of a species protected under the MBTA, then a federal depredation permit is required. RSW has obtained a federal depredation permit that is specific to the actions and species they are legally approved to depredate; a copy of this permit is provided at the end of this section. There are also species that can be lethally controlled or captured without a specific federal permit due to current federal standing orders or their designation as non-migratory game birds, exotic, feral, or domestic animals.

Endangered Species Act of 1973 (ESA)

The ESA protects species of flora and fauna that have been listed as either “endangered” or “threatened” through the federal process. It is unlawful for anyone to “take” a federally-listed species. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct” (ESA 1973). Species protected under the ESA may have established “critical habitat areas” that are also protected from adverse impacts in association with federal actions. There were two (2) federally-listed wildlife species observed during the WHA. Even though there were two federally-listed species observed during the WHA, currently there are no critical habitat designations on the RSW property boundary.

Wildlife hazard management activities at RSW may have the potential to impact federally listed species. Observed federally-listed species at RSW fall under the jurisdiction of the USFWS. There are two main issues that may require coordination and/or permitting through the USFWS. First, the modification of habitats that are identified as wildlife hazard attractants may require federal level permits. For example, if modifications include impacting Waters of the U.S as defined under the Clean Water Act (40 CFR 230.3(s)) that are designated as habitat for a federally listed species, a federal

permit and coordination with the USFWS for potential impacts could be required. Second, wildlife deterrent activities involving federally listed species could be viewed as “harassment” in certain cases and would potentially be considered a “take” of a federally listed species. Coordination with the USFWS is required to outline the permitting/documentation needed to utilize wildlife deterrent activities that involve federally listed species.

Migratory Bird Treaty Act (MBTA)

Most native avian species found on or around RSW are protected under the MBTA (1918). Under the MBTA, the following applies:

“Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, any migratory bird, any part, nest, or eggs of any such bird,...”

Avian species not protected under the MBTA include non-migratory game birds, introduced game birds, exotic, and feral species. A complete list of species covered under the MBTA can be found in the US Code of Federal Regulations (CFR) Title 50 §10.13.

Per 50 CFR 21.41, federal law allows the tactics of scaring or herding species protected under the MBTA. However, if deterrent activities include lethal control or capturing (take, posses, transport) species protected under the MBTA, a federal depredation permit is required. A federal depredation permit does not allow the permittee to take, capture, harass, or disturb federally listed species under the ESA, including bald or golden eagles. RSW currently has a federal depredation permit issued by the USFWS, included at the end of this section.

Standing Orders under 50 CFR

50 CFR has standing orders for depredation activities that apply to certain species and/or species groups (some in specific locations). Activities under these standing orders do not require a federal depredation permit but do have specific requirements that accompany each order. Applicable to wildlife hazard management at RSW, is the “Depredation order for blackbirds, cowbirds, grackles, crows and magpies” (50 CFR §21.43).

State Regulations

State regulations reviewed in this section include state listed species, state listed species habitat, and airport specific actions related to wildlife hazard management. Airports are permitted to harass state listed species, by state law, without a permit. Lethal control, trapping, or nest removal activities involving state listed species would require a permit and fall under the purview of the Florida Fish and Wildlife Conservation Commission (FWC). There is also a state provision that allows airport personnel to use

lethal control, without a permit, for white-tailed deer and Wild Turkey when warranted during wildlife hazard management activities.

There is a new state statute (Airline Safety and Wildlife Protection Act of Florida 2009) that affords “immunity” from state and local laws to airport personnel implementing wildlife hazard management activities. A summary of the provisions is provided within this section. Also, FAA Cert Alert No. 06-07 (2006) provides guidance to airports on “procedures for responding to requests by state wildlife agencies to facilitate and encourage habitats for state-listed threatened and endangered species or species of special concern that occur on airports and may pose a threat to aviation safety”.

Florida Endangered and Threatened Species Act

The State of Florida enacted the Florida Endangered and Threatened Species Act in 1976. Florida Administrative Code (F.A.C.) Chapter 68A-27 provides the “rules relating to endangered or threatened species.” The state of Florida has designated four (4) categories of protected species and the protection afforded to them by the state is as follows:

Endangered Species

“No person shall kill, attempt to kill or wound any endangered species” (FAC 68A-27.001).

“No person shall pursue, molest, harm, harass, capture, possess, or sell any of the endangered species included in this sub section, or part thereof or their nests or eggs except by specific permits, permits being issued only when the permitting activity will clearly enhance the survival potential of the species” (F.A.C. 68A-27.003).

Threatened Species

“No person shall take, possess, transport, molest, harass or sell any of the threatened species included in this subsection or part thereof or their nests or eggs except as authorized by specific permit...” (F.A.C. 68A-27.004).

Species of Special Concern

“No person shall take, possess, transport, or sell any species of special concern included in this paragraph or part thereof or their nests or eggs except as authorized by commission regulations or by permit...” (F.A.C. 68A-27.005).

Candidate Species

“No person shall engage in direct take of any candidate species except as authorized by specific permit...” (F.A.C. 68A 27.0021)

Wildlife hazard management activities at RSW may have the potential to impact state listed species. There were nine (9) state listed wildlife species observed during the WHA. Observed state listed species at RSW fall under the jurisdiction of the FWC.

Under state law, airport personnel are permitted to harass state-listed species without a permit (see FAC 68A-27.002 below). However, state listed species (or their nests and eggs) are not permitted to be lethally controlled (damaged or removed) without a permit from the FWC. The modification of habitat to decrease wildlife hazard attractants at RSW may also impact state listed species habitat and could require coordination and permitting with the FWC.

The following is an airport specific provision within the Florida Administrative Code that permits harassment of state listed species by wildlife hazard deterrent activities:

F.A.C. 68A-27.002 Provision for Harassment of Endangered, Threatened and Species of Special Concern on Airport Property

“Species of birds and mammals protected in Rules 68A 27.003, 68A-27.004, and 68A-27.005 F.A.C., may be harassed on airport property as specified in subsection 68A-9.010, F.A.C., if aircraft safety and human lives are in imminent jeopardy.”

F.A.C. 68A-9.010 Taking Nuisance Wildlife

“(4) Take of nuisance wildlife on airport property.

(a) Wildlife listed in Chapter 68A-27, F.A.C., that pose an imminent jeopardy to aircraft safety and human life, may be harassed by persistent, non-injurious disturbance without physical capture or direct handling to disperse wildlife by airport operators or their agents on airport property in order to prevent collisions between aircraft and wildlife.

(b) Airport personnel may take deer or wild turkey on airport property if their presence poses a potential threat to aircraft safety and human life. Deer may be taken by the use of a gun and light at night. Carcasses of deer or wild turkey taken under this rule shall be buried, incinerated on-site or donated to a charitable, non-profit institution or agency. No deer or wild turkey carcasses taken under this rule shall be retained for use by airport personnel.”

While both of the F.A.C. items listed above provide airport personnel state legal authority to harass state listed species and the ability to kill white-tailed deer or Wild Turkey on airport property, these provisions do not supersede the federal level regulations found in the MBTA or the ESA.

RSW currently has a Nuisance Alligator Program Permit, also provided at the end of this section, issued by the FWC under authority granted in FAC 68A-25.003. The American alligator (*Alligator mississippiensis*) is a federally listed species under the ESA as threatened due to similarity of appearance. 50 CFR § 17.42 conveys authority over a “take” of an American alligator to designated State conservation agencies. 50 CFR § 17.42 states:

(2) Taking. No person may take any American alligator, except:

(i) Any employee or agent of the Service, any other Federal land management agency, or a State conservation agency, who is designated by the agency for such

purposes, may, when acting in the course of official duties, take an American alligator.

Through the Nuisance Alligator Program Permit, RSW has been designated a “Nuisance Alligator Open Harvest Area” and Tracey Hansen is currently designated by permit to “take” alligators from the property.

Senate Bill 1864 “Airline Safety and Wildlife Protection Act of Florida”

Senate Bill 1864, entitled the “Airline Safety and Wildlife Protection Act of Florida.” was passed by both the Florida Senate and the Florida House of Representatives during the 2009 legislative session, and provided at the end of this section. The Bill has been signed by the Governor of Florida, creating Florida Statute 379.2293. The Bill, as it was approved, is intended to provide airports who are undertaking actions to manage wildlife for the protection of human life and aircraft safety (actions that are incorporated into an FAA approved Wildlife Hazard Management Plan) immunity from “penalties, restrictions, liabilities, or sanctions and that such authorizations not be superseded by actions of other state or local agencies.” There are certain criteria that need to be met for this immunity to apply and there are exclusions to what actions this Bill includes, for example, it does not include wetland impacts, unless under emergency action, or trespassing.



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USD 703-712

REGULATIONS (Attached)
50 CFR 13
50 CFR 21.41

3. NUMBER
MB673842-0

4. RENEWABLE
☒ YES
☐ NO

5. MAY COPY
☒ YES
☐ NO

6. EFFECTIVE
04/01/2008

7. EXPIRES
03/31/2009

1. PERMITTEE

SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
11000 TERMINAL ACCESS ROAD, SUITE 8671
FORT MYERS, FL 33913

NAME AND TITLE OF PRINCIPAL OFFICER—(If #1 is a business)

ERRY D. GOULDTHORPE
R. OF AIRPORT OP.

9. TYPE OF PERMIT

DEPREDAATION - AIRPORT

LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
REPORT PROPERTY

CONDITIONS AND AUTHORIZATIONS:

GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

VALID FOR USE BY PERMITTEE NAMED ABOVE.

You are authorized to take, temporarily possess, and transport the migratory birds specified below to relieve or prevent injurious situations impacting public safety. All take must be done as part of an integrated wildlife damage management program that emphasizes nonlethal management techniques. You may not use this authority for situations in which migratory birds are merely causing a nuisance.

1) The following may be lethally taken:

Minimum numbers and species.

2) The following may be live-trapped and relocated:

Minimum numbers and species.

E. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests and eggs, including species that are not listed in Condition D (except bald eagles, golden eagles, or endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. A direct threat to human safety is one which involves a threat of serious bodily injury or a risk to human life.

You must report any emergency take activity to your migratory bird permit issuing office at 404-679-7070 within 72 hours after the emergency take action. Your report must include the species and number of birds taken, method, and a complete description of the circumstances warranting the emergency action.

F. You are authorized to salvage and temporarily possess migratory birds found dead or taken under this permit for (1) disposal, (2) transfer to the U.S. Department of Agriculture, (3) diagnostic purposes, (4) purposes of training airport personnel, (5) donation to a public charity (those suitable for human consumption), or (6) donation to a public scientific or educational institution as defined in 50 CFR 10.12. Any dead bald eagles or golden eagles salvaged

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31
1/31

SIGNED BY

Annex P. Simon

TITLE

PERMITS ADMINISTRATOR-REGION 4 MIGRATORY BIRD PERMIT PROGRAM

DATE

05/20/2008

be reported within 48 hours to the National Eagle Repository at (303) 287-2110 and to the migratory bird permit issuing office at 404-670-7070. The repository will provide directions for shipment of these specimens.

may not salvage and must immediately report to U.S. Fish and Wildlife Service Law Enforcement any migratory birds that appear to have been killed, shot, or otherwise injured as the result of criminal activity.

you may use the following methods of take: (1) firearms; (2) nets; (3) registered animal drugs (excluding nicarbazin), pesticides and repellents; (4) conry abatement; and (5) legal lethal and live traps (excluding pole traps). Birds caught live may be euthanized or transported and relocated to a site approved by the appropriate State wildlife agency, if required. When using firearms, you may use rifles or air rifles to shoot any bird when you determine that the use of a shotgun is inadequate to resolve the injurious situation. The use of any of the above techniques is at your discretion for each situation.

you may temporarily possess and stabilize sick and injured migratory birds and immediately transport them to a federally licensed rehabilitator for care.

The following subpermittees are authorized: any other person who is (1) employed by or under contract to you for the activities specified in this permit, (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

You and any subpermittee(s) must comply with the attached Standard Conditions for Migratory Bird Depredation Permits.

In the event of suspected illegal activity, immediately contact USFWS Law Enforcement at: 352-429-1037.



Standard Conditions Migratory Bird Depredation Permits 50 CFR 21.41

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. The standard conditions below are additional provisions and conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: www.fws.gov/permits/mbpermits/birdbasics.html.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.
2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.
4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: www.fws.gov/endangered.
5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND or www.reportband.gov.
6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency.
7. This permit does not authorize take or release of any migratory birds, nests, or eggs on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
8. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
 - (a) turned over to the U.S. Department of Agriculture for official purposes,
 - (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
 - (c) completely destroyed by burial or incineration.
9. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of letters you have provided.
10. You and any subpermittees must carry a legible copy of this permit and display it upon request whenever you are exercising its authority.

11. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.

12. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.

13. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 4/7/2008)

50 CFR 13 GENERAL PERMIT PROCEDURES¹

Subpart A—Introduction

- § 13.1 General.
- § 13.2 Purpose of regulations.
- § 13.3 Scope of regulations.
- § 13.4 Emergency variation from requirements.
- § 13.5 Information collection requirements.

Subpart B—Application for Permits

- § 13.11 Application procedures.
- § 13.12 General information requirements on applications for permits.

Subpart C—Permit Administration

- § 13.21 Issuance of permits.
- § 13.22 Renewal of permits.
- § 13.23 Amendment of permits.
- § 13.24 Right of succession by certain persons.
- § 13.25 Transfer of permits and scope of permit authorization.
- § 13.26 Discontinuance of permit activity.
- § 13.27 Permit suspension.
- § 13.28 Permit revocation.
- § 13.29 Review procedures.

Subpart D—Conditions

- § 13.41 Humane conditions.
- § 13.42 Permits are specific.
- § 13.43 Alteration of permits.
- § 13.44 Display of permit.
- § 13.45 Filing of reports.
- § 13.46 Maintenance of records.
- § 13.47 Inspection requirement.
- § 13.48 Compliance with conditions of permit.
- § 13.49 Surrender of permit.
- § 13.50 Acceptance of liability.

Authority: 16 U.S.C. 668a, 704, 712, 742j-1, 1382, 1538(d), 1539, 1540(f), 3374, 4901-4916; 18 U.S.C. 42; 19 U.S.C. 1202; E.O. 11911, 41 FR 15683; 31 U.S.C. 9701.

Source: 39 FR 1161, Jan. 4, 1974, unless otherwise noted.

¹ Code of Federal Regulations, Title 50 (Chapter I, United States Fish and Wildlife Service, Department of the Interior), Vol 1, Parts 1 to 199. [Revised as of October 1, 2000] From the U.S. Government Printing Office via GPO Access [CITE: 50 CFR 13] [Page 40-50]

Subpart A—Introduction

§ 13.1 General.

Each person intending to engage in an activity for which a permit is required by this subchapter B shall,

before commencing such activity, obtain a valid permit authorizing such activity. Each person who desires to obtain the permit privileges authorized by this subchapter must make application for such permit in accordance with the requirements of this part 13 and the other regulations in this subchapter which set forth the additional requirements for the specific permits desired. If the activity for which permission is sought is covered by the requirements of more than one part of this subchapter, the requirements of each part must be met. If the information required for each specific permitted activity is included, one application will be accepted for all permits required, and a single permit will be issued.

§ 13.2 Purpose of regulations.

The regulations contained in this part provide uniform rules, conditions, and procedures for the application for and the issuance, denial, suspension, revocation, and general administration of all permits issued pursuant to this subchapter B.
[54 FR 38147, Sept. 14, 1989]

§ 13.3 Scope of regulations.

The provisions in this part are in addition to, and are not in lieu of, other permit regulations of this subchapter and apply to all permits issued thereunder, including "Import and Marking" (part 14), "~~Feather Imports~~" "Wild Bird Conservation" (part 15), "Injurious Wildlife" (part 16), "Endangered Wildlife and Plants" (part 17), "Marine Mammals" (part 18), "Migratory Birds" (part 21), "Eagles" (part 22) and "Endangered Species Convention" (part 23). As used in this part 13, the term "permit" shall refer to either a license, permit, or certificate as the context may require.
[42 FR 10465, Feb. 22, 1977, as amended at 42 FR 32377, June 24, 1977; 45 FR 56673, Aug. 25, 1980]

§ 13.4 Emergency variation from requirements.

The Director may approve variations from the requirements of this part when he finds that an emergency exists and that the proposed variations will not hinder effective administration of this subchapter B, and will not be unlawful.

§ 13.5 Information collection requirements.

(a) The Office of Management and Budget approved the information collection requirements contained in this part 13 under 44 U.S.C. and assigned OMB Control Number 1018-0092. The Service may not conduct or sponsor, and you are not required to respond to, a collection of information unless it displays a currently valid OMB control number. We are collecting this information to provide information necessary to evaluate

permit applications. We will use this information to review permit applications and make decisions, according to criteria established in various Federal wildlife conservation statutes and regulations, on the issuance, suspension, revocation, or denial permits. You must respond to obtain or retain a permit.

(b) We estimate the public reporting burden for these reporting requirements to vary from 15 minutes to 4 hours per response, with an average of 0.803 hours per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the forms. Direct comments regarding the burden estimate or any other aspect of these reporting requirements to the Service Information Collection Control Officer, MS-222 ARLSQ, U.S. Fish and Wildlife Service, Washington, DC 20240, or the Office of Management and Budget, Paperwork Reduction Project (1018-0092), Washington, DC 20603.

[63 FR 52634, Oct. 1, 1998]

Subpart B—Application for Permits

§ 13.11 Application procedures.

The Service may not issue a permit for any activity authorized by this subchapter B unless the applicant has filed an application in accordance with the following procedures. Applicants do not have to submit a separate application for each permit unless otherwise required by this subchapter.

(a) *Forms.* Applications must be submitted in writing on a Federal Fish and Wildlife License/Permit Application (Form 3-200) or as otherwise specifically directed by the Service.

(b) *Forwarding instructions.* Applications for permits in the following categories should be forwarded to the issuing office indicated below.

(1) Migratory bird banding permits (50 CFR 21.22)—Bird Banding Laboratory, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Laurel, Maryland 20708. (Special application forms must be used for bird banding permits. They may be obtained by writing to the Bird Banding Laboratory).

(2) Exception to designated port (50 CFR part 14), import/export license (50 CFR 14.93), migratory bird permit, other than banding (50 CFR part 21) and Bald or Golden eagle permits (50 CFR part 22)—Assistant Regional Director for Law Enforcement of District in which the applicant resides (see 50 CFR 10.22 for addresses and boundaries of the Law Enforcement Districts).

(3) ~~Feather quota~~ [Wild bird conservation] (50 CFR part 15), injurious wildlife (50 CFR part 16), endangered and threatened species (50 CFR part 17),

marine mammal (50 CFR part 18) and permits and certificates for the Convention on International Trade in Endangered Species (CITES) (50 CFR part 23)—U.S. Fish and Wildlife Service, Federal Wildlife Permit Office, P.O. Box 3654, [Division of Management Authority, 4401 N. Fairfax Drive, Room 700,] Arlington, Virginia 22203.

(c) *Time notice.* The Service will process all applications as quickly as possible. However, it cannot guarantee final action within the time limits the applicant requests. Applicants for endangered species and marine mammal permits should submit applications to the Office of Management Authority which are postmarked at least 90 calendar days prior to the requested effective date. Applicants for all other permits should submit applications to the issuing office which are postmarked at least 60 days prior to the requested effective date.

(d) Fees.

(1) Unless otherwise exempted by this paragraph, applicants for issuance or renewal of permits must pay the required permit processing fee at the time of application. Applicants should pay fees by check or money order made payable to "U.S. Fish and Wildlife Service." The Service will not refund any application fee under any circumstances if the Service has processed the application. However, the Service may return the application fee if the applicant withdraws the application before the Service has significantly processed it.

(2) Except as provided in paragraph (d)(4) of this section the fee for processing any application is \$25.00. If regulations in this subchapter require more than one type of permit for an activity, and the permits are issued by the same office, the issuing office may issue one consolidated permit authorizing the activity. The issuing office may charge only the highest single fee for the activity permitted.

(3) A fee shall not be charged to any Federal, State or local government agency, nor to any individual or institution under contract to such agency for the proposed activities. The fee may be waived or reduced for public institutions (see 50 CFR 10.12). Proof of such status must accompany the application.

(4) Nonstandard fees.

Type of permit	Fee
Import/Export License (Section 14.93).....	\$ 50.
Marine Mammal (Section 18.31).....	\$100.
Migratory Bird-Banding or Marking (21.22).....	None.
Bald or Golden Eagles (Part 22).....	None.

(e) *Abandoned or incomplete applications.* Upon receipt of an incomplete or improperly executed application, or if the applicant does not submit the proper fees, the issuing office will notify the applicant of the

deficiency. If the applicant fails to supply the correct information to complete the application or to pay the required fees within 45 calendar days of the date of notification, the Service will consider the application abandoned. The Service will not refund any fees for an abandoned application.

[47 FR 30785, July 15, 1982, as amended at 50 FR 52889, Dec. 26, 1985; 54 FR 4031, Jan. 27, 1989; 54 FR 38147, Sept. 14, 1989; 61 FR 31868, June 21, 1996]

§13.12 General information requirements on applications for permits.

(a) General information required for all applications. All applications must contain the following information:

(1) Applicant's full name, mailing address, telephone number(s), and,

(i) If the applicant is an individual, the date of birth, height, weight, hair color, eye color, sex, and any business or institutional affiliation of the applicant related to the requested permitted activity; or

(ii) If the applicant is a corporation, firm, partnership, association, institution, or public or private agency, the name and address of the president or principal officer and of the registered agent for the service of process;

(2) Location where the requested permitted activity is to occur or be conducted;

(3) Reference to the part(s) and section(s) of this subchapter B as listed in paragraph (b) of this section under which the application is made for a permit or permits, together with any additional justification, including supporting documentation as required by the referenced part(s) and section(s);

(4) If the requested permitted activity involves the import or re-export of wildlife or plants from or to any foreign country, and the country of origin, or the country of export or re-export restricts the taking, possession, transportation, exportation, or sale of wildlife or plants, documentation as indicated in Sec. 14.52(c) of this subchapter B;

(5) Certification in the following language: I hereby certify that I have read and am familiar with the regulations contained in title 50, part 13, of the Code of Federal Regulations and the other applicable parts in subchapter B of chapter I of title 50, Code of Federal Regulations, and I further certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to suspension or revocation of this permit and to the criminal penalties of 18 U.S.C. 1001.

(6) Desired effective date of permit except where

issuance date is fixed by the part under which the permit is issued;

(7) Date;

(8) Signature of the applicant; and

(9) Such other information as the Director determines relevant to the processing of the application.

(b) *Additional information required on permit applications.* As stated in paragraph (a)(3) of this section certain additional information is required on all applications. These additional requirements may be found by referring to the section of this subchapter B cited after the type of permit for which application is being made:

Type of permit	Section
Importation at non-designated ports:	
Scientific.....	14.31
Deterioration prevention.....	14.32
Economic hardship.....	14.33
Marking of package or container:	
Symbol marking.....	14.83
Import/export license.....	14.93
Feather import quota: Importation or entry.....	15.21
[Wild bird conservation:	
Scientific research.....	15.22
Zoological breeding or display.....	15.23
Cooperative breeding.....	15.24
Personal pets.....	15.25]
Injurious wildlife: Importation or shipment.....	16.22
Endangered wildlife and plant permits:	
Similarity of appearance.....	17.52
Scientific, enhancement of propagation or survival, incidental taking for wildlife.....	17.22
Scientific, propagation, or survival for plants.....	17.62
Economic hardship for wildlife.....	17.23
Economic hardship for plants.....	17.63
Threatened wildlife and plant permits:	
Similarity of appearance.....	17.52
General for wildlife.....	17.32
American alligator-buyer or tanner.....	17.42(a)
General for plants.....	17.72
Marine mammals permits:	
Scientific research.....	18.31
Public display.....	18.31
Migratory bird permits:	
Banding or marking.....	21.22
Scientific collecting.....	21.23
Taxidermist.....	21.24
Waterfowl sale and disposal.....	21.25
Special aviculturist [Special Canada goose].....	21.26
Special purpose.....	21.27

Falconry.....	21.28
Raptor propagation permit.....	21.30
Depredation control.....	21.41
Eagle permits:	
Scientific or exhibition.....	22.21
Indian religious use.....	22.22
Depredation control.....	22.23
Falconry purposes.....	22.24
Take of golden eagle nests.....	22.25
Endangered Species Convention permits.....	23.15

[39 FR 1161, Jan. 4, 1974, as amended at 42 FR 10465, Feb. 22, 1977; 42 FR 32377, June 24, 1977; 44 FR 54006, Sept. 17, 1979; 44 FR 59083, Oct. 12, 1979; 45 FR 56673, Aug. 25, 1980; 45 FR 78154, Nov. 25, 1980; 46 FR 42680, Aug. 24, 1981; 48 FR 31607, July 8, 1983; 48 FR 57300, Dec. 29, 1983; 50 FR 39687, Sept. 30, 1985; 50 FR 45408, Oct. 31, 1985; 54 FR 38147, Sept. 14, 1989]

Subpart C--Permit Administration

§13.21 Issuance of permits.

(a) No permit may be issued prior to the receipt of a written application therefor, unless a written variation from the requirements, as authorized by Sec. 13.4, is inserted into the official file of the Bureau. An oral or written representation of an employee or agent of the United States Government, or an action of such employee or agent, shall not be construed as a permit unless it meets the requirements of a permit as defined in 50 CFR 10.12.

(b) Upon receipt of a properly executed application for a permit, the Director shall issue the appropriate permit unless:

(1) The applicant has been assessed a civil penalty or convicted of any criminal provision of any statute or regulation relating to the activity for which the application is filed, if such assessment or conviction evidences a lack of responsibility.

(2) The applicant has failed to disclose material information required, or has made false statements as to any material fact, in connection with his application;

(3) The applicant has failed to demonstrate a valid justification for the permit and a showing of responsibility;

(4) The authorization requested potentially threatens a wildlife or plant population, or

(5) The Director finds through further inquiry or investigation, or otherwise, that the applicant is not qualified.

(c) *Disqualifying factors.* Any one of the following will disqualify a person from receiving permits issued under this part.

(1) A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the Lacey Act,

the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act disqualifies any such person from receiving or exercising the privileges of a permit, unless such disqualification has been expressly waived by the Director in response to a written petition.

(2) The revocation of a permit for reasons found in Sec. 13.28 (a)(1) or (a)(2) disqualifies any such person from receiving or exercising the privileges of a similar permit for a period of five years from the date of the final agency decision on such revocation.

(3) The failure to pay any required fees or assessed costs and penalties, whether or not reduced to judgement disqualifies such person from receiving or exercising the privileges of a permit as long as such moneys are owed to the United States. This requirement shall not apply to any civil penalty presently subject to administrative or judicial appeal; provided that the pendency of a collection action brought by the United States or its assignees shall not constitute an appeal within the meaning of this subsection.

(4) The failure to submit timely, accurate, or valid reports as required may disqualify such person from receiving or exercising the privileges of a permit as long as the deficiency exists.

(d) *Use of supplemental information.* The issuing officer, in making a determination under this subsection, may use any information available that is relevant to the issue. This may include any prior conviction, or entry of a plea of guilty or nolo contendere, or assessment of civil or criminal penalty for a violation of any Federal or State law or regulation governing the permitted activity. It may also include any prior permit revocations or suspensions, or any reports of State or local officials. The issuing officer shall consider all relevant facts or information available, and may make independent inquiry or investigation to verify information or substantiate qualifications asserted by the applicant.

(e) *Conditions of issuance and acceptance.*

(1) Any permit automatically incorporates within its terms the conditions and requirements of subpart D of this part and of any part(s) or section(s) specifically authorizing or governing the activity for which the permit is issued.

(2) Any person accepting and holding a permit under this subchapter B acknowledges the necessity for close regulation and monitoring of the permitted activity by the Government. By accepting such permit, the permittee consents to and shall allow entry by agents or employees of the Service upon premises where the permitted activity is conducted at any reasonable hour. Service agents or employees may enter such premises to inspect the location; any books, records, or permits required to be kept by this subchapter B; and any wildlife or plants kept under

authority of the permit.

(f) *Term of permit.* Unless otherwise modified, a permit is valid during the period specified on the face of the permit. Such period shall include the effective date and the date of expiration.

(g) *Denial.* The issuing officer may deny a permit to any applicant who fails to meet the issuance criteria set forth in this section or in the part(s) or section(s) specifically governing the activity for which the permit is requested.

[39 FR 1161, Jan. 4, 1974, as amended at 42 FR 32377, June 24, 1977; 47 FR 30785, July 15, 1982; 54 FR 38148, Sept. 14, 1989]

§ 13.22 Renewal of permits.

(a) *Application for renewal.* Applicants for renewal of a permit must submit a written application at least 30 days prior to the expiration date of the permit. Applicants must certify in the form required by Sec. 13.12(a)(5) that all statements and information in the original application remain current and correct, unless previously changed or corrected. If such information is no longer current or correct, the applicant must provide corrected information.

(b) *Renewal criteria.* The Service shall issue a renewal of a permit if the applicant meets the criteria for issuance in Sec. 13.21(b) and is not disqualified under Sec. 13.21(c).

(c) *Continuation of permitted activity.* Any person holding a valid, renewable permit, who has complied with this section, may continue the activities authorized by the expired permit until the Service has acted on such person's application for renewal.

(d) *Denial.* The issuing officer may deny renewal of a permit to any applicant who fails to meet the issuance criteria set forth in Sec. 13.21 of this part, or in the part(s) or section(s) specifically governing the activity for which the renewal is requested.

[54 FR 38148, Sept. 14, 1989]

§ 13.23 Amendment of permits.

(a) *Permittee's request.* Where circumstances have changed so that a permittee desires to have any condition of his permit modified, such permittee must submit a full written justification and supporting information in conformity with this part and the part under which the permit was issued.

(b) The Service reserves the right to amend any permit for just cause at any time during its term, upon written finding of necessity, provided that any such amendment of a permit issued under Sec. 17.22(b) through (d) or Sec. 17.32(b) through (d) of this subchapter shall be consistent with the requirements of Sec. 17.22(b)(5), (c)(5)

and (d)(5) or Sec. 17.32(b)(5), (c)(5) and (d)(5) of this subchapter, respectively.

(c) *Change of name or address.* A permittee is not required to obtain a new permit if there is a change in the legal individual or business name, or in the mailing address of the permittee. A permittee is required to notify the issuing office within 10 calendar days of such change. This provision does not authorize any change in location of the conduct of the permitted activity when approval of the location is a qualifying condition of the permit.

[54 FR 38148, Sept. 14, 1989, as amended at 64 FR 32711, June 17, 1999]

§ 13.24 Right of succession by certain persons.

(a) Certain persons other than the permittee are authorized to carry on a permitted activity for the remainder of the term of a current permit, provided they comply with the provisions of paragraph (b) of this section. Such persons are the following:

(1) The surviving spouse, child, executor, administrator, or other legal representative of a deceased permittee; or

(2) A receiver or trustee in bankruptcy or a court designated assignee for the benefit of creditors.

(b) In order to qualify for the authorization provided in this section, the person or persons desiring to continue the activity shall furnish the permit to the issuing officer for endorsement within 90 days from the date the successor begins to carry on the activity.

(c) In the case of permits issued under Sec. 17.22(b) through (d) or Sec. 17.32(b) through (d) of this subchapter B, the successor's authorization under the permit is also subject to a determination by the Service that:

(1) The successor meets all of the qualifications under this part for holding a permit;

(2) The successor has provided adequate written assurances that it will provide sufficient funding for the conservation plan or Agreement and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation requirements; and

(3) The successor has provided such other information as the Service determines is relevant to the processing of the request.

[64 FR 32711, June 17, 1999]

§ 13.25 Transfer of permits and scope of permit authorization.

(a) Except as otherwise provided for in this section, permits issued under this part are not transferable or assignable.

(b) Permits issued under Sec. 17.22(b) through (d) or Sec. 17.32(b) through (d) of this subchapter B may be

transferred in whole or in part through a joint submission by the permittee and the proposed transferee, or in the case of a deceased permittee, the deceased permittee's legal representative and the proposed transferee, provided the Service determines that:

(1) The proposed transferee meets all of the qualifications under this part for holding a permit;

(2) The proposed transferee has provided adequate written assurances that it will provide sufficient funding for the conservation plan or Agreement and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation requirements; and

(3) The proposed transferee has provided such other information as the Service determines is relevant to the processing of the submission.

(c) Except as otherwise stated on the face of the permit, any person who is under the direct control of the permittee, or who is employed by or under contract to the permittee for purposes authorized by the permit, may carry out the activity authorized by the permit.

(d) In the case of permits issued under Sec. 17.22(b)-(d) or Sec. 17.32(b)-(d) of this subchapter to a State or local governmental entity, a person is under the direct control of the permittee where:

(1) The person is under the jurisdiction of the permittee and the permit provides that such person(s) may carry out the authorized activity; or

(2) The person has been issued a permit by the governmental entity or has executed a written instrument with the governmental entity, pursuant to the terms of the implementing agreement.

[64 FR 32711, June 17, 1999, as amended at 64 FR 52676, Sept. 30, 1999]

§13.26 Discontinuance of permit activity.

When a permittee, or any successor to a permittee as provided for by Sec. 13.24, discontinues activities authorized by a permit, the permittee shall within 30 calendar days of the discontinuance return the permit to the issuing office together with a written statement surrendering the permit for cancellation. The permit shall be deemed void and cancelled upon its receipt by the issuing office. No refund of any fees paid for issuance of the permit or for any other fees or costs associated with a permitted activity shall be made when a permit is surrendered for cancellation for any reason prior to the expiration date stated on the face of the permit.

[54 FR 38149, Sept. 14, 1989]

§13.27 Permit suspension.

(a) *Criteria for suspension.* The privileges of exercising some or all of the permit authority may be

suspended at any time if the permittee is not in compliance with the conditions of the permit, or with any applicable laws or regulations governing the conduct of the permitted activity. The issuing officer may also suspend all or part of the privileges authorized by a permit if the permittee fails to pay any fees, penalties or costs owed to the Government. Such suspension shall remain in effect until the issuing officer determines that the permittee has corrected the deficiencies.

(b) *Procedure for suspension.*

(1) When the issuing officer believes there are valid grounds for suspending a permit the permittee shall be notified in writing of the proposed suspension by certified or registered mail. This notice shall identify the permit to be suspended, the reason(s) for such suspension, the actions necessary to correct the deficiencies, and inform the permittee of the right to object to the proposed suspension. The issuing officer may amend any notice of suspension at any time.

(2) Upon receipt of a notice of proposed suspension the permittee may file a written objection to the proposed action. Such objection must be in writing, must be filed within 45 calendar days of the date of the notice of proposal, must state the reasons why the permittee objects to the proposed suspension, and may include supporting documentation.

(3) A decision on the suspension shall be made within 45 days after the end of the objection period. The issuing officer shall notify the permittee in writing of the Service's decision and the reasons therefore. The issuing officer shall also provide the applicant with the information concerning the right to request reconsideration of the decision under Sec. 13.29 of this part and the procedures for requesting reconsideration.

[54 FR 38149, Sept. 14, 1989]

§ 13.28 Permit revocation.

(a) *Criteria for revocation.* A permit may be revoked for any of the following reasons:

(1) The permittee willfully violates any Federal or State statute or regulation, or any Indian tribal law or regulation, or any law or regulation of any foreign country, which involves a violation of the conditions of the permit or of the laws or regulations governing the permitted activity; or

(2) The permittee fails within 60 days to correct deficiencies that were the cause of a permit suspension; or

(3) The permittee becomes disqualified under Sec. 13.21(c) of this part; or

(4) A change occurs in the statute or regulation authorizing the permit that prohibits the continuation of a permit issued by the Service; or

(5) Except for permits issued under Sec. 17.22(b)

through (d) or Sec. 17.32(b) through (d) of this subchapter, the population(s) of the wildlife or plant that is the subject of the permit declines to the extent that continuation of the permitted activity would be detrimental to maintenance or recovery of the affected population.

(b) *Procedure for revocation.*

(1) When the issuing officer believes there are valid grounds for revoking a permit, the permittee shall be notified in writing of the proposed revocation by certified or registered mail. This notice shall identify the permit to be revoked, the reason(s) for such revocation, the proposed disposition of the wildlife, if any, and inform the permittee of the right to object to the proposed revocation. The issuing officer may amend any notice of revocation at any time.

(2) Upon receipt of a notice of proposed revocation the permittee may file a written objection to the proposed action. Such objection must be in writing, must be filed within 45 calendar days of the date of the notice of proposal, must state the reasons why the permittee objects to the proposed revocation, and may include supporting documentation.

(3) A decision on the revocation shall be made within 45 days after the end of the objection period. The issuing officer shall notify the permittee in writing of the Service's decision and the reasons therefore, together with the information concerning the right to request and the procedures for requesting reconsideration.

(4) Unless a permittee files a timely request for reconsideration, any wildlife held under authority of a permit that is revoked must be disposed of in accordance with instructions of the issuing officer. If a permittee files a timely request for reconsideration of a proposed revocation, such permittee may retain possession of any wildlife held under authority of the permit until final disposition of the appeal process.

[54 FR 38149, Sept. 14, 1989, as amended at 64 FR 32711, June 17, 1999]

§ 13.29 Review procedures.

(a) *Request for reconsideration.* Any person may request reconsideration of an action under this part if that person is one of the following:

(1) An applicant for a permit who has received written notice of denial;

(2) An applicant for renewal who has received written notice that a renewal is denied;

(3) A permittee who has a permit amended, suspended, or revoked, except for those actions which are required by changes in statutes or regulations, or are emergency changes of limited applicability for which an expiration date is set within 90 days of the permit change; or

(4) A permittee who has a permit issued or renewed but has not been granted authority by the permit to perform all activities requested in the application, except when the activity requested is one for which there is no lawful authority to issue a permit.

(b) *Method of requesting reconsideration.* Any person requesting reconsideration of an action under this part must comply with the following criteria:

(1) Any request for reconsideration must be in writing, signed by the person requesting reconsideration or by the legal representative of that person, and must be submitted to the issuing officer.

(2) The request for reconsideration must be received by the issuing officer within 45 calendar days of the date of notification of the decision for which reconsideration is being requested.

(3) The request for reconsideration shall state the decision for which reconsideration is being requested and shall state the reason(s) for the reconsideration, including presenting any new information or facts pertinent to the issue(s) raised by the request for reconsideration.

(4) The request for reconsideration shall contain a certification in substantially the same form as that provided by Sec. 13.12(a)(5). If a request for reconsideration does not contain such certification, but is otherwise timely and appropriate, it shall be held and the person submitting the request shall be given written notice of the need to submit the certification within 15 calendar days. Failure to submit certification shall result in the request being rejected as insufficient in form and content.

(c) *Inquiry by the Service.* The Service may institute a separate inquiry into the matter under consideration.

(d) *Determination of grant or denial of a request for reconsideration.* The issuing officer shall notify the permittee of the Service's decision within 45 days of the receipt of the request for reconsideration. This notification shall be in writing, shall state the reasons for the decision, and shall contain a description of the evidence which was relied upon by the issuing officer. The notification shall also provide information concerning the right to appeal, the official to whom an appeal may be addressed, and the procedures for making an appeal.

(e) *Appeal.* A person who has received an adverse decision following submission of a request for reconsideration may submit a written appeal to the Regional Director for the region in which the issuing office is located, or to the Director for offices which report directly to the Director. An appeal must be submitted within 45 days of the date of the notification of the decision on the request for reconsideration. The appeal shall state the reason(s) and issue(s) upon which the appeal is based and may contain any additional evidence or arguments to

support the appeal.

(f) *Decision on appeal.*

(1) Before a decision is made concerning the appeal the appellant may present oral arguments before the Regional Director or the Director, as appropriate, if such official judges oral arguments are necessary to clarify issues raised in the written record.

(2) The Service shall notify the appellant in writing of its decision within 45 calendar days of receipt of the appeal, unless extended for good cause and the appellant notified of the extension.

(3) The decision of the Regional Director or the Director shall constitute the final administrative decision of the Department of the Interior.

[54 FR 38149, Sept. 14, 1989]

Subpart D--Conditions

§ 13.41 Humane conditions.

Any live wildlife possessed under a permit must be maintained under humane and healthful conditions.

[54 FR 38150, Sept. 14, 1989]

§ 13.42 Permits are specific.

The authorizations on the face of a permit which set forth specific times, dates, places, methods of taking, numbers and kinds of wildlife or plants, location of activity, authorize certain circumscribed transactions, or otherwise permit a specifically limited matter, are to be strictly construed and shall not be interpreted to permit similar or related matters outside the scope of strict construction.

[39 FR 1161, Jan. 4, 1974, as amended at 42 FR 32377, June 24, 1977]

§ 13.43 Alteration of permits.

Permits shall not be altered, erased, or mutilated, and any permit which has been altered, erased, or mutilated shall immediately become invalid. Unless specifically permitted on the face thereof, no permit shall be copied, nor shall any copy of a permit issued pursuant to this subchapter B be displayed, offered for inspection, or otherwise used for any official purpose for which the permit was issued.

§ 13.44 Display of permit.

Any permit issued under this part shall be displayed for inspection upon request to the Director or his agent, or to any other person relying upon its existence.

§ 13.45 Filing of reports.

Permittees may be required to file reports of the activities conducted under the permit. Any such reports shall be filed not later than March 31 for the preceding

calendar year ending December 31, or any portion thereof, during which a permit was in force, unless the regulations of this subchapter B or the provisions of the permit set forth other reporting requirements.

§ 13.46 Maintenance of records.

From the date of issuance of the permit, the permittee shall maintain complete and accurate records of any taking, possession, transportation, sale, purchase, barter, exportation, or importation of plants obtained from the wild (excluding seeds) or wildlife pursuant to such permit. Such records shall be kept current and shall include names and addresses of persons with whom any plant obtained from the wild (excluding seeds) or wildlife has been purchased, sold, bartered, or otherwise transferred, and the date of such transaction, and such other information as may be required or appropriate. Such records shall be legibly written or reproducible in English and shall be maintained for five years from the date of expiration of the permit.

[39 FR 1161, Jan. 4, 1974, as amended at 42 FR 32377, June 24, 1977; 54 FR 38150, Sept. 14, 1989]

§ 13.47 Inspection requirement.

Any person holding a permit under this subchapter B shall allow the Director's agent to enter his premises at any reasonable hour to inspect any wildlife or plant held or to inspect, audit, or copy any permits, books, or records required to be kept by regulations of this subchapter B.

[39 FR 1161, Jan. 4, 1974, as amended at 42 FR 32377, June 24, 1977]

§ 13.48 Compliance with conditions of permit.

Any person holding a permit under subchapter B and any person acting under authority of such permit must comply with all conditions of the permit and with all applicable laws and regulations governing the permitted activity.

[54 FR 38150, Sept. 14, 1989]

§ 13.49 Surrender of permit.

Any person holding a permit under subchapter B shall surrender such permit to the issuing officer upon notification that the permit has been suspended or revoked by the Service, and all appeal procedures have been exhausted.

[54 FR 38150, Sept. 14, 1989]

§ 13.50 Acceptance of liability.

Except as otherwise limited in the case of permits described in Sec. 13.25(d), any person holding a permit under this subchapter B assumes all liability and responsibility for the conduct of any activity conducted under the authority of such permit.

[64 FR 32711, June 17, 1999]

[End]

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



RODNEY BARRETO
Miami

SANDRA T. KAUPÉ
Palm Beach

H.A. "HERKY" HUFFMAN
Enterprise

DAVID K. MEEHAN
St. Petersburg

KATHY BARCO
Jacksonville

RICHARD A. CORBETT
Tampa

BRIAN S. YABLONSKI
Tallahassee

ENNETH D. HADDAD, Executive Director
CTOR J. HELLER, Assistant Executive Director

ALLIGATOR MANAGEMENT PROGRAM
SOUTH FLORIDA FIELD STATION
8122 US HWY 441 SE
OKEECHOBEE, FL 34974-9543
(863) 462-5195
FAX (863) 462-5133

May 24, 2006

John French
17530 Nalle Road
N. Ft. Myers, FL 33917

Subject: Nuisance Alligator Open Harvest Area
Area: Southwest International Airport

Trapper French,

Southwest International Airport is established as of this date as a nuisance alligator open harvest area. A harvest permit is attached. You, or your designated agents, must have in your possession this permit and letter whenever you are taking alligators under this permit.

This permit is valid unless revoked, or in the event your contract is terminated.

All actions under this permit will be conducted in cooperation and agreement with Mr. Bobby Orick, Director of Operations, or his designee. Additionally, Mr. Orick may rescind this permit at any time via e-mail to Mr. Hord (lindsey.hord@myfwc.com).

Thank you,

A handwritten signature in black ink, appearing to read "Lindsey Hord", written over a large, stylized circular flourish.

Lindsey Hord, Coordinator
Statewide Nuisance Alligator Program

LJH/1184/lc
//ams/nuisance/OHA/Southwest International Airport

CC:
Mr. Bobby Orick
Mr. Harry Dutton
Mr. Greg Holder
Major Dennis Post

Florida Fish and Wildlife Conservation Commission
Nuisance Alligator Program Permit
(68A-25.003)

Time: <u>7:27 PM</u>	Date: <u>5/23/2006</u>	Valid Permit: <u>Y</u>	Permit No: <u>12895</u>
Complainant: <u>ORICK, BOBBY</u>	Home #: _____		
Address: <u>11000 TERMINAL ACCESS DRIVE</u>	Bus/Other #: _____		
City: <u>FT. MYERS</u>	Zip Code: <u>33913-</u>	Cell #: <u>(239) 410-2550</u>	
Community/Subdivision	<u>SOUTHWEST INTERNATIONAL AIRPORT</u>		
Body of Water: _____	County: <u>LEE</u>		
Do you own, rent or lease property? Own: _____ Rent: _____ Lease: _____ Other: _____			

COMPLAINT

Date last seen: _____ How long there: _____ Approximate size (ft): 4+
Is there human activity in the water? Yes _____ No _____ Number of Alligators: 100
Is the alligator threatening pets or livestock? Yes _____ No _____
Has the alligator been fed? Yes _____ No _____ Not Sure _____
Directions/Comments: OPENT HARVEST AREA: Southwest International Airport
See Attached letter for instructions/restrictions

Specific Complaint: _____

COPY

Received By: LINDA COLLINS

PERMIT

Date Issued: 5/26/2006 Permit Expires: 12/31/2009
This permit authorizes Alligator Control Agent: JOHN FRENCH to take
100 alligators at 4+ feet in length as outlined by 68A-25.003, Florida Administrative Code
Additional Instructions: _____
Approving Signature: LINDSEY.HORD

ENROLLED

CS/HB 1065, Engrossed 1

2009 Legislature

A bill to be entitled

An act relating to aircraft safety; providing a short title; creating s. 379.2293, F.S.; providing legislative findings and intent; exempting airport authorities and other entities from penalties, restrictions, or sanctions with respect to authorized actions taken to protect human life or aircraft from wildlife hazards; defining the term "authorized action taken for the purpose of protecting human life or aircraft safety from wildlife hazards"; providing that federal or state authorizations for such actions prevail over certain other regulations, permits, comprehensive plans, and laws; providing immunity from penalties with respect to authorized action for certain individuals; providing exceptions; providing an effective date.

Be It Enacted by the Legislature of the State of Florida:

Section 1. This act may be cited as the "Airline Safety and Wildlife Protection Act of Florida."

Section 2. Section 379.2293, Florida Statutes, is created to read:

379.2293 Airport activities within the scope of a federally approved wildlife hazard management plan or a federal or state permit or other authorization for depredation or harassment.--

(1) The Legislature finds and declares that the ability of airports to manage wildlife hazards in a manner consistent with

ENROLLED

CS/HB 1065, Engrossed 1

2009 Legislature

state and federal law is necessary to prevent jeopardy to human life or aircraft safety. It is the intent of the Legislature that actions taken by airports within the scope of authorizations to manage wildlife for such purposes not be subject to penalties, restrictions, liabilities, or sanctions and that such authorizations not be superseded by actions of other state or local agencies.

(2) An airport authority or other entity owning or operating an airport, as defined in s. 330.27(2), is not subject to any administrative or civil penalty, restriction, or other sanction with respect to any authorized action taken in a non-negligent manner for the purpose of protecting human life or aircraft safety from wildlife hazards.

(3)(a) For purposes of this section, an "authorized action taken for the purpose of protecting human life or aircraft safety from wildlife hazards" is an action authorized by or within the scope of any of the following:

1. The airport's wildlife hazard management plan, as approved by the Federal Aviation Administration.

2. A depredation permit issued by the United States Fish and Wildlife Service.

3. A standing order of the United States Fish and Wildlife Service.

4. Rule 68A-9.010(4) or rule 68A-27.002, Florida Administrative Code, or a permit authorizing the harassment of wildlife issued by the Fish and Wildlife Conservation Commission.

(b) The term "authorized action taken for the purpose of

ENROLLED

CS/HB 1065, Engrossed 1

2009 Legislature

protecting human life or aircraft safety from wildlife hazards"
does not include:

1. Dredging or filling of wetlands or other surface waters or alteration of a stormwater management system, unless authorized by and performed in compliance with a permit issued under part IV of chapter 373 or an emergency order under chapter 373. However, such a permit or emergency order is not required prior to the activity when the airport authority or other entity described in subsection (2) determines that an emergency condition exists which requires immediate action to protect human life and the airport authority or other entity described in subsection (2) obtains the appropriate permit under part IV of chapter 373 within one year after conducting the emergency action.

2. Trespass on lands or unauthorized interference with an easement not owned or leased by the airport authority or other entity referred to in subsection (2).

(4) If an authorized action taken for the purpose of protecting human life or aircraft safety from wildlife hazards as defined in subsection (3) conflicts or appears to conflict with a development permit, land development regulation, local comprehensive plan, or other environmental or land-use law, rule, restriction, or requirement, the authorization described in subsection (3) shall prevail.

(5) In addition to applying to the airport authority or other owner or operator of the airport, the immunities conferred by this section also apply to any officer, employee, contractor, or employee of a contractor of the airport authority or other

ENROLLED

CS/HB 1065, Engrossed 1

2009 Legislature

85 owner or operator of the airport, or any member of the airport's
86 governing body, to the extent that the actions of the officer,
87 employee, contractor, contractor's employee, or member are
88 authorized by or within the scope of one or more of the legal
89 authorities described in subsection (3).

90 (6) Nothing in this section is intended to provide
91 immunity from liability with respect to intentional or negligent
92 torts, and nothing in this section is intended to affect the
93 waiver of sovereign immunity under s. 768.28.

94 Section 3. This act shall take effect upon becoming a law.
95
96

APPENDIX U

Northeast and Southwest Conservation Areas Conservation Easement

33 20 K

3448965

CONSERVATION EASEMENT DEED

STATE OF FLORIDA
COUNTY OF LEE

LEE CO. CONTRACT NO. C930522

KNOW ALL PERSONS BY THESE PRESENTS THAT in consideration for the issuance of State of Florida Department of Environmental Regulation permit number 362111079 to Lee County Port Authority on January 12, 1993, Lee County Port Authority (Grantor) has granted to the State of Florida Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida (Grantee), a Conservation Easement in accordance with Section 704.06, Florida Statutes, in and over the real property in Lee County, Florida, as set forth in the legal description attached hereto as Exhibit A.

As used herein, the term Grantor shall include any successor or assignee of the Grantor, and the term Grantee shall include any successor or assignee of the Grantee.

It is the purpose and intent of this Conservation Easement to assure that the subject lands (with the exception of included wetlands which are to be enhanced or created as specified in the aforementioned permit) will be retained and maintained forever predominantly in the natural vegetative and hydrologic condition existing at the time of execution of this Conservation Easement. The included wetlands which are to be enhanced or created shall be maintained forever in the enhanced or created conditions required by the aforementioned permit.

Except for such specific activities as are authorized pursuant to Department of Environmental Regulation Permit No. 362111079, including but not limited to creation, enhancement and maintenance of wetlands as specified mitigation in said permit, the following activities are prohibited on the property subject to this Conservation Easement:

1. Construction or placing of buildings, roads, signs, billboards, or other advertising, utilities, or other structures on or above the ground;
2. Dumping or placing of soil or other substances or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;
3. Removal or destruction of trees, shrubs, or other vegetation with exception of nuisance and exotic plant species as may be required by Grantee;
4. Excavation, dredging, or removal of loam, peat, gravel, soil, rock or other material substance in such manner as to affect the surface;

PREPARED BY: C. TT2
4415
FORT
HILL
TWO PARK
ERS FLOR
33916

OR2420 PG3770

OR 2420 PG 3771

5. Surface use except for purposes that permit the land or water area to remain predominantly in its natural condition;
6. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation;
7. Acts or uses detrimental to such aforementioned retention and maintenance of land or water areas; and
8. Acts or uses detrimental to the preservation of any features or aspects of the property having historical, archaeological or cultural significance.

It is understood that the granting of this Conservation Easement entitles the Grantee or its authorized representatives to enter the above described land in a reasonable manner and at reasonable times to assure compliance.

The Grantor on behalf of itself and its successors or assigns hereby agrees to bear all costs and liability relating to the operation and maintenance of the lands subject to this Conservation Easement in the natural vegetative and hydrologic condition existing at the time of execution of this Conservation Easement, including the maintenance of enhanced or created wetlands in the vegetative and hydrologic condition required by the aforementioned permit, and Grantor does hereby indemnify and hold harmless the Grantee from same. The Conservation Easement hereby granted and the obligation to retain and maintain the land forever predominantly in the vegetative and hydrologic condition as herein specified shall run with the land and shall be binding upon the Grantor and its successors and assigns, and shall inure to the benefit of the Grantee and its successors and assigns.

The terms and conditions of this Conservation Easement may be enforced by the Grantee by injunctive relief and other appropriate available remedies. These remedies are in addition to any other remedy, fine or penalty which may be applicable under Chapter 403, Florida Statutes.

Any forbearance on behalf of the Grantee to exercise its rights in the event of the failure of Grantor to comply with the provisions of this Conservation Easement shall not be deemed or construed to be a waiver of the Grantee's rights hereunder in the event of any subsequent failure of the Grantor to comply.

IN WITNESS WHEREOF, Grantor has hereunto set Grantor's hand and seal on this 10th day of May, 1993.

ATTEST:
Charlie Green, Clerk

Lee County Board of Port Commissioners
Lee County, Florida

Charlie Green, Clerk

John Manning, Chair

By: Deputy Clerk

Date

Approved as to Legal Form

Lee County Port Authority Attorney

OR2420 PG3772

EXHIBIT A**CONSERVATION EASEMENT FOR
SOUTHWEST FLORIDA REGIONAL AIRPORT****DESCRIPTION FOR PARCEL 1;**

A tract or parcel of land lying in Sections 35 and 36, Township 45 South, Range 25 East, all in Lee County, Florida, which tract or parcel is more properly described as follows:

Beginning at the southeast corner of the southeast quarter (SE-1/4) of said Section 35, the Point of Beginning for this parcel, run S 89° 20' 10" W along the south line of said fraction for 2654.12 feet to the southwest corner of said southeast quarter (SE-1/4); thence run S 89° 20' 52" W along the south line of the east half (E-1/2) of the southwest quarter (SW-1/4) of said Section 35 for 1321.95 feet to the southwest corner of said fraction; thence run N 00° 34' 03" W along the west line of said fraction for 2654.39 feet to the southwest corner of the east half (E-1/2) of the northwest quarter (NW-1/4) of said Section 35; thence continue to run N 00° 21' 27" E along the west line of the east one half (E-1/2) of the northwest quarter (NW-1/4) of said Section 35 for 2098.48 feet to a point; thence run along the north line of this parcel the following courses; S 89° 38' 46" E for 369.36 feet to a point; thence run N 85° 11' 50" E for 711.30 feet to a point; thence run S 33° 23' 04" E for 814.39 feet to a point; thence run S 82° 43' 42" E for 469.94 feet to a point; thence run S 46° 27' 12" E for 236.19 feet to a point; thence run S 58° 34' 50" E for 851.28 feet to a point; thence run S 70° 23' 25" E for 355.42 feet to a point; thence run S 85° 32' 05" E for 578.68 feet to a point; thence run S 68° 20' 37" E for 1598.48 to an intersection with the east line of the west one-half (W-1/2) of the west one-half (W-1/2) of Section 36; thence run S 00° 33' 08" E along the east line of said fraction for 1305.16 feet to the southeast corner of the northwest quarter (NW-1/4) of the southwest quarter (SW-1/4) of said Section 36; thence run S 89° 22' 24" W along the south line of said fraction for 1319.01 feet to the intersection with the west line of the southwest quarter (SW-1/4) of said Section 36; thence run S 00° 25' 56" E along the west line of said fraction for 1344.37 feet to the Point of Beginning. This easement also contains the dedicated 30-foot wide unpaved access roadway to the Low Level Wind Shear Alert Sensing equipment owned and maintained by the Federal Aviation Administration. This description is subject to restrictions, reservations and easements of record.

**CONSERVATION EASEMENT FOR
SOUTHWEST FLORIDA REGIONAL AIRPORT**

DESCRIPTION FOR PARCEL 2;

A tract or parcel of land lying in Sections 17 and 20, Township 45 South, Range 26 East, all in Lee County, Florida, which tract or parcel is more properly described as follows:

Beginning at the northeast corner of the northeast quarter (NE-1/4) of said Section 20 run S 89° 27' 35" W along the north line of said fraction of said Section 20 for 1809.87 feet to the Point of Beginning.

From said Point of Beginning run the following courses for the boundary of this parcel; S 53° 22' 51" W for 2857.28 feet to a point; thence run S 45° 27' 46" W for 1948.66 feet to a point; thence run S 89° 18' 42" W for 580.47 feet to a point; thence run N 35° 59' 37" W for 520.32 feet to a point; thence run N 54° 00' 23" E for 1284.50 feet to a point; thence run N 12° 10' 42" W for 273.53 feet to a point; thence run N 30° 01' 42" W for 285.40 feet to a point; thence run N 24° 08' 04" W for 140.74 feet to a point of curvature, thence run northwesterly along the arc of a curve to the left of radius 1773.68 feet (chord bearing N 20° 01' 26" W)(chord 930.54 feet)(delta 30° 24' 55") for 941.55 feet to a point of curvature, thence run northeasterly along the arc of a curve to the right of radius 752.84 feet (chord bearing N 01° 07' 22" E)(chord 696.19 feet)(delta 55° 04' 51") for 723.74 feet to a point of tangency; thence run N 26° 29' 41" E for 347.92 feet to a point; thence run N 64° 23' 38" E for 499.31 feet to a point; thence run S 90° 00' 00" E for 1522.03 feet to the intersection with the west line of the southeast quarter (SE-1/4) of said Section 17; thence run S 01° 00' 13" E along the west line of said fraction 1665.28 feet to the southwest corner of the southeast quarter (SE-1/4) of said Section 17; thence run along the south line of said fraction N 89° 27' 35" E for 833.75 feet to the Point of Beginning. This easement also contains the dedicated 50-foot wide unpaved access roadway to the Low Level Wind Shear Alert Sensing equipment owned and maintained by the Federal Aviation Administration. This description is subject to restrictions, reservations and easements of record.

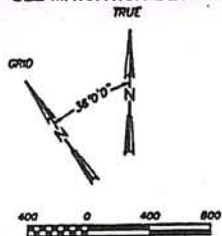
These descriptions are not a legal survey of the property limits of said parcels. The bearings hereinabove mentioned are Plane Coordinate for the Florida West Zone based on the south line of the southeast quarter (SE-1/4) of said Section 35 bearing S 89° 20' 10" W.

The property description of the existing airport boundary is based on the Johnson Engineering Inc. document dated February 7, 1991.

OR 2420 PG 3774

MITIGATION SITE LOCATIONS: AREAS "A" THROUGH "E", "H" AND "I"
SEE MITIGATION DETAIL AND TREE PLANTING DETAIL DRAWINGS

OR2420 PG3775



26

AREA TO BE KEPT UNDER
CONSERVATION EASEMENT
PROPOSED
LLWS-6 ACCESS
ROAD

PROPOSED
PERIMETER
ROAD

6.00 ACRES

25

PROPOSED 2000'
RUNWAY AND
TAXIWAY EXTENSION

FLORIDA DEPARTMENT OF TRANSPORTATION
LAND USE, COVER, AND FORM CLASSIFICATION SYSTEM

- 211 IMPROVED PASTURE
- 212 UNIMPROVED PASTURE
- 214 ROW CROPS
- 261 FALLOW CROP LAND
- 300 RANGELAND
- 321 PALMETTO PRAIRIES
- 411/643 PINE FLATWOODS/VET PRAIRIES
- 411 PINE FLATWOODS
- 411H HYDRIC PINE FLATWOODS
- 411H/643 PINE FLATWOODS/VET PRAIRIES/HELALEUCA INVADED
- 411H PINE FLATWOODS/HELALEUCA INVADED
- 420 CABBAGE PALM
- 616 INLAND PONDS AND SLOUGHS
- 616/621H INLAND PONDS AND SLOUGHS/CYPRESS/HELALEUCA INVADED
- 616/621 INLAND PONDS AND SLOUGHS/CYPRESS
- 621 CYPRESS
- 621H CYPRESS/HELALEUCA INVADED
- 624 CYPRESS-PINE-CABBAGE PALM
- 641 FRESHWATER MARSHES
- 643 VET PRAIRIES
- 740 DISTURBED LANDS
- 742 BORROW AREAS
- 744 FILL AREAS

FLUCFCS MAP PREPARED BY: W. DEXTER BENDER AND ASSOCIATES

CONTRACTORS ACCESS
ROUTES AND RESTORATION
TO BE APPROVED BY GWR.

C18, T21

PROPOSED
LLWS-5
ACCESS ROAD

AREA TO BE KEPT UNDER
CONSERVATION EASEMENT - 414.2 ACRES

35 3'
1 6'

[Handwritten signature]

Applicant: LEE COUNTY PORT AUTHORITY

SOUTHWEST FLORIDA REGIONAL AIRPORT
CONSERVATION AREA-SOUTHWEST END

Water Body: UNNAMED FRESHWATER WETLANDS

Original Work ☒ Maintenance ☐

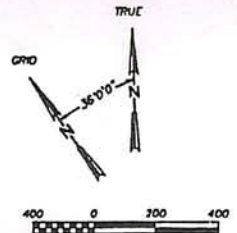
County: LEE

Sheet No.: 37 of 48

Datum: NGVD

Date: 04-14-93

OR2420 PG3776



MITIGATION AREA "F"
SEE DETAIL DRAWING 135

FLORIDA DEPARTMENT OF TRANSPORTATION
LAND USE, COVER, AND FORM CLASSIFICATION SYSTEM

- 211 IMPROVED PASTURE
- 261 FALLOW CROP LAND
- 300 RANGELAND
- 411 PINE FLATWOODS
- 428 CABBAGE PALM
- 616 INLAND PONDS AND SLOUGHS
- 621 CYPRESS
- 641 FRESHWATER MARSHES
- 643 WET PRAIRIES
- 740 DISTURBED LANDS

AIRPORT BOUNDARY

AIRPORT BOUNDARY

AREA TO BE KEPT UNDER
CONSERVATION EASEMENT

TOTAL ACREAGE TO BE KEPT UNDER
CONSERVATION EASEMENT=155.2 ACRES

CHARLIE GREEN LEE CITY, FL
93 SEP -2 AM 8:50

PROPOSED PERIMETER ROAD RELOCATION

MITIGATION AREA "G"
SEE DETAIL DRAWING 142

PROPOSED RUNWAY EXTENSION

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE
FOR MAINTENANCE OF ACCESS ROAD.

[Handwritten Signature]

Applicant: LEE COUNTY PORT AUTHORITY

SOUTHWEST FLORIDA REGIONAL AIRPORT
CONSERVATION AREA-NORTHEAST END

Water Body: UNNAMED FRESHWATER WETLANDS

Original Work ☒ Maintenance ☐

County: LEE

Sheet No.: 38 of 48

Datum: NGVD

Date: 04-14-93

APPENDIX V

RSW WHA PowerPoint Presentation



RSW Wildlife Hazard Assessment 2008-2009



Development Services

Southwest Florida International Airport

Conducted by:

JOHNSON
ENGINEERING

History of RSW Hazardous Wildlife Management Program

- 1989: first bird/wildlife study that identified individual species, determined habitat attractants to the identified species, and identified present and potential problem areas.
- 1997 - 1998: USDA conducted a Wildlife Hazard Assessment (WHA). The report analyzed strike data for a three-year period from 1994 to 1997. Study offered no recommended actions for improvement to the deterrent program.
- 1999: RSW becomes the Nation's first commercial airport to use a Border Collie for wildlife deterrence activities.
- 1999 - 2001: LCPA initiated a second study, conducted by Kevin L. Erwin Consulting Ecologists, Inc. The final report analyzed the wildlife data and developed recommendations to reduce problem birds.

History of RSW Hazardous Wildlife Management Program

- **2003:** LCPA Staff conducted an assessment that included species counts, strike data, analyzed previous studies and investigated additional potential deterrent methods.
- **2003 - Present:** LCPA Staff monitors species on the airfield weekly. This information is entered in to AIRMAN, a wildlife tracking software.
- **2005:** LCPA created a Hazardous Wildlife Working Group, which meets bimonthly or after a qualifying wildlife event.
- **2005:** Johnson Engineering Inc., with Fehér Environmental Consulting, Inc. completed a Preliminary Wildlife Hazard Assessment of airfield wildlife, wildlife strike data and provided short and long term recommendations for deterrence activities.

Significant Program Achievements

- Constructed 160 acre lake with steep-sided & rip-rapped slopes as part of \$438M Midfield Terminal Complex
- Eliminated Airside open water areas along parallel taxiways as part of Runway 6/24 & Taxiway A Rehabilitation
- RSW has continually adapted and improved onsite & offsite hazardous wildlife management since 1st WHA (1998)
- Through Border Collie program, 17% reduction in strikes during use of collie (1999-2008) vs. pre-collie(1991-98)
- Since the issuance of FAC AC 150/5200-33 in 1997, all storm water features have been designed and constructed with steep-sided & rip-rapped slopes
- Achieved a high level of coordination with local permitting agencies to promote adherence to the directives of FAA AC 150/5200-33B

LCPA Hazardous Wildlife Management Program Team

LCPA Multi-faceted Team Approach:

- Operations
- Maintenance
- Planning & Environmental Compliance
- Local Consultant Expertise



Hazardous Wildlife Working Group

LCPA Hazardous Wildlife Management Program

Duties Conducted by LCPA Operations

- Has overseen Border Collie Program since 1999
- Daily airfield patrols, utilizing corrective/depredation techniques as necessary
- Ensures appropriate NOTAM is current on ATIS
- Maintains a wildlife deterrence log on a daily basis
- Maintains depredation permits
- Oversees the alligator/feral hog trapping & monitoring program

LCPA Hazardous Wildlife Management Program

Duties Conducted by LCPA Maintenance

- Maintains airfield grass height at between 7" – 14" tall to deter loafing and foraging birds
- Periodically survey the AOA fence & fill in holes as necessary to keep out wildlife
- Removal of sedimentation and vegetation within AOA storm water features during times of drought
- Coordination with LCHCD to spray emergent & submerged vegetation from storm water management areas
- Spraying of nuisance vegetation

LCPA Hazardous Wildlife Management Program

Duties Conducted by Planning & Environmental Compliance

- Has overseen Hazardous Wildlife Working Group since 2005
- Continues to analyze project possibilities to fill in storm water treatment areas within the AOA
- Conducts weekly wildlife surveys within AOA and records observations in AIRMAN
- Ensures Airport Improvement Projects include steep sided and rip-rapped slopes and meet other criteria set forth in AC 150/5200-33B
- Continues use of offsite 7,000-acre Mitigation Park for airport mitigation to provide a safer airport operational environment

LCPA Hazardous Wildlife Management Program

Duties Conducted by Planning & Environmental Compliance

- Recent RSW re-zoning efforts, airport property changed from Agricultural (AG-2) to Airport Operations Planning District (AOPD). This policy change now allows for:
 - Lake slopes of 2:1 versus 6:1;
 - Eliminates landscaping requirements within AOA.
- Works closely with Lee County Government on deviations from Lee County Development Policies to comply with AC 150/5200-33B for all development projects within the 10,000 foot separation distance.

Reason for Current WHA

June 2007 - Part 139 Certification Inspection

FAA Letter of Compliance: *Suggested a “qualified wildlife biologist conduct a new assessment and it should determine if an official Wildlife Hazard Management Plan is required at this time.”*

Requirements for Wildlife Biologist

FAA AC 150/5200-36 “Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.”

→Wildlife Biologists conducting airport WHA must meet certain education, training, and experience standards.

→Johnson Engineering hired Dr. Russell DeFusco (BASH,Inc) as “qualified wildlife biologist” and team of local biologists for year long study.

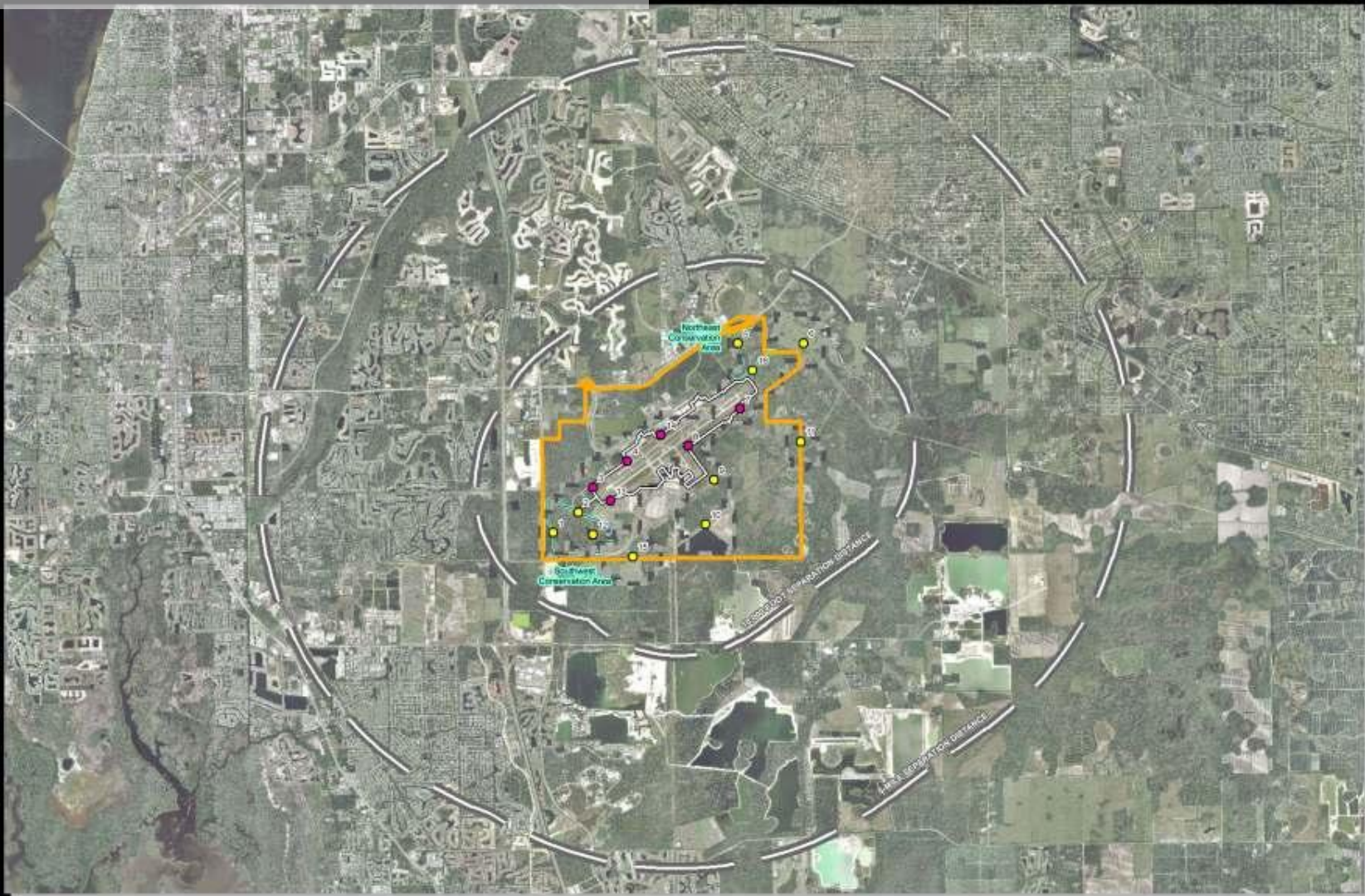
WHA Components as per §139.337 Wildlife Hazard Management

- 1) An analysis of the event (s) or circumstances that led to the assessment.
- 2) Identification of the wildlife species observed and their numbers, locations, local movements and daily and seasonal occurrences.
- 3) Identification and location of features on and near the airport that attract wildlife.
- 4) A description of wildlife hazards to air carrier operations.
- 5) Recommended actions for reducing identified wildlife hazards to air carrier operations.

WHA Methodology

- Wildlife observations for 12 consecutive months:
(March 1, 2008 - February 28, 2009)
- 16 total observation sites: airside & landside
- Dawn, midday, and dusk surveys conducted monthly at each site
- The 6 AOA sites were surveyed an additional 9 times at night over the one year study
- Monthly meeting updates with LCPA staff and WHA team

The Study Area



- Legend**
- SWFIA Boundary
 - Aircraft Operations Area (AOA)
 - Observation Sites
 - Outside AOA
 - Inside AOA
 - Quantitative Study Observed Area
 - Conservation Areas

0 4,000 8,000 12,000 Feet

The Study Area with Future Land Use



WHA Data Collection



WHA Data Analysis – A Unique Method

- FAA Relative Hazard Scores applied to a mathematical formula:

$$\text{HAZARD} \times \text{PROBABILITY} = \text{RELATIVE RISK}$$

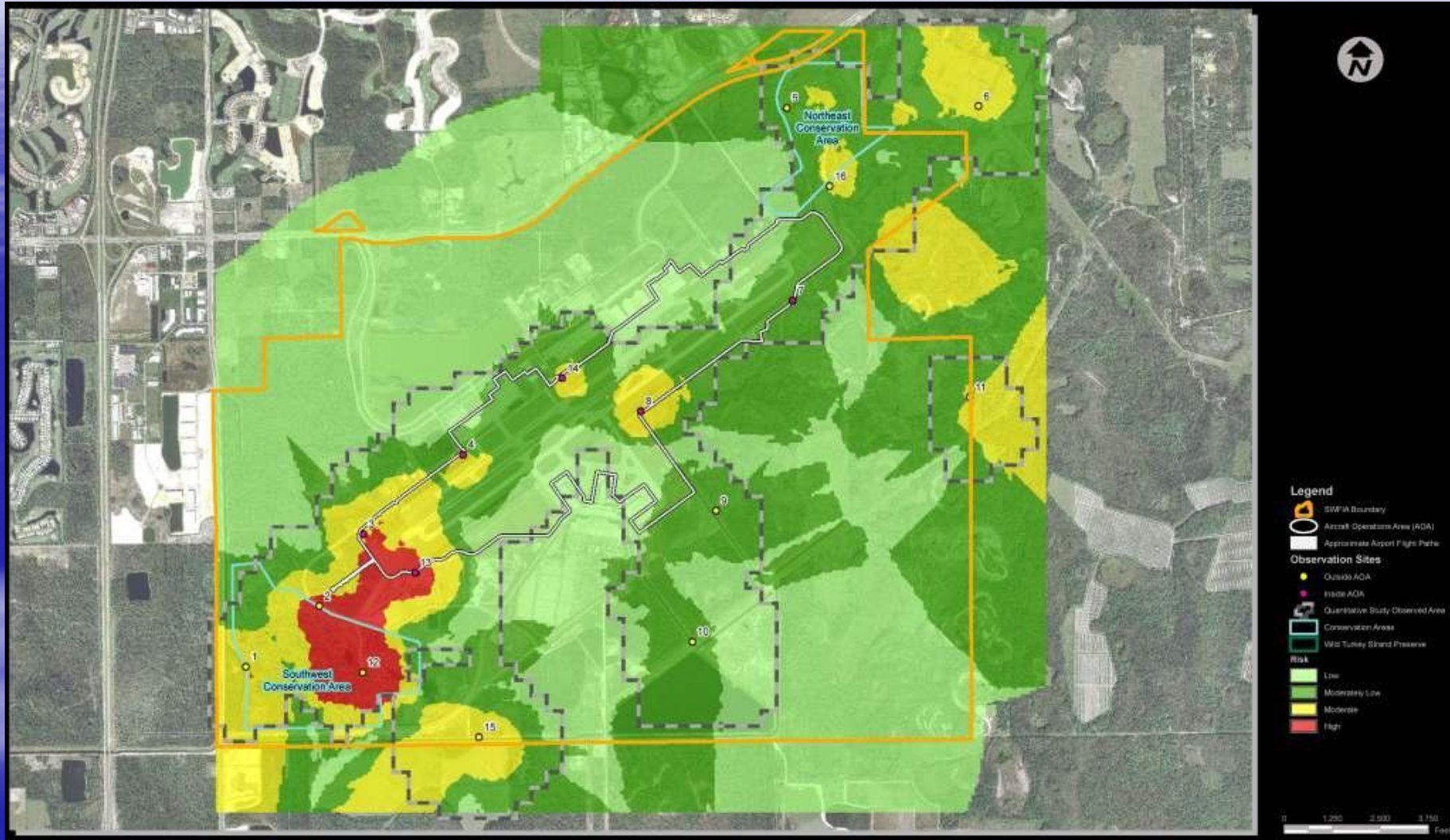
↙ ↘
[# of birds] x [RHS x frequency]

- Provides specific guidance as to when and where the relative risk takes place on the airport
- Formula applied to every 400'x400' grid square where observations were made

WHA Results

1. Where on the airport are hazardous species occurring?
2. When are hazardous species present?
3. What species are contributing to the relative risk?

WHA Cumulative Results



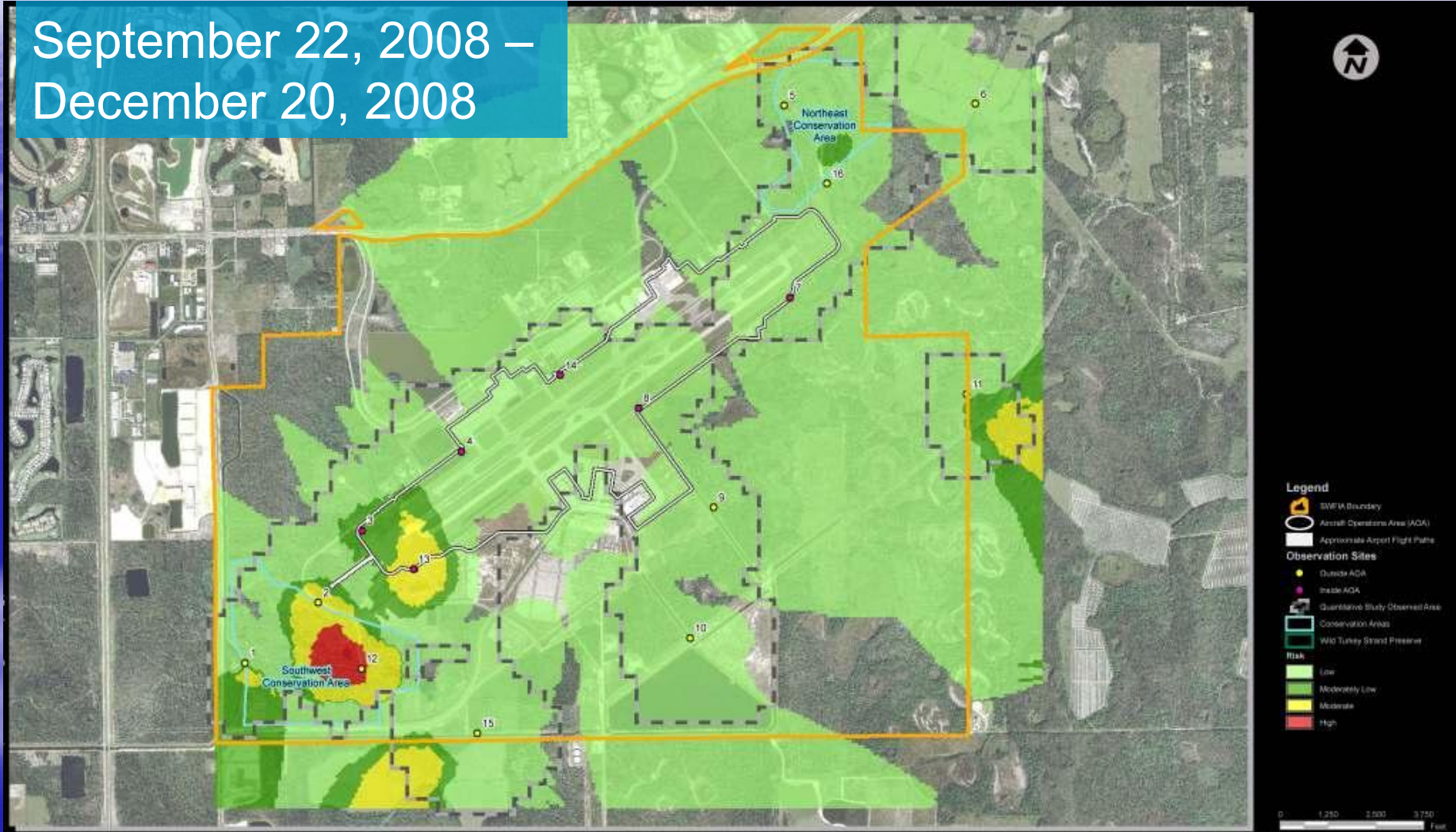
WHA Seasonal Results

Seasons in order of highest hazardous wildlife activity:

1. **Fall** (September 22, 2008 – December 20, 2008)
2. **Spring** (March 20, 2008 – June 20, 2008)
3. **Summer** (June 21, 2008 – September 21, 2008)
4. **Winter** (December 21, 2008 – March 19, 2009)

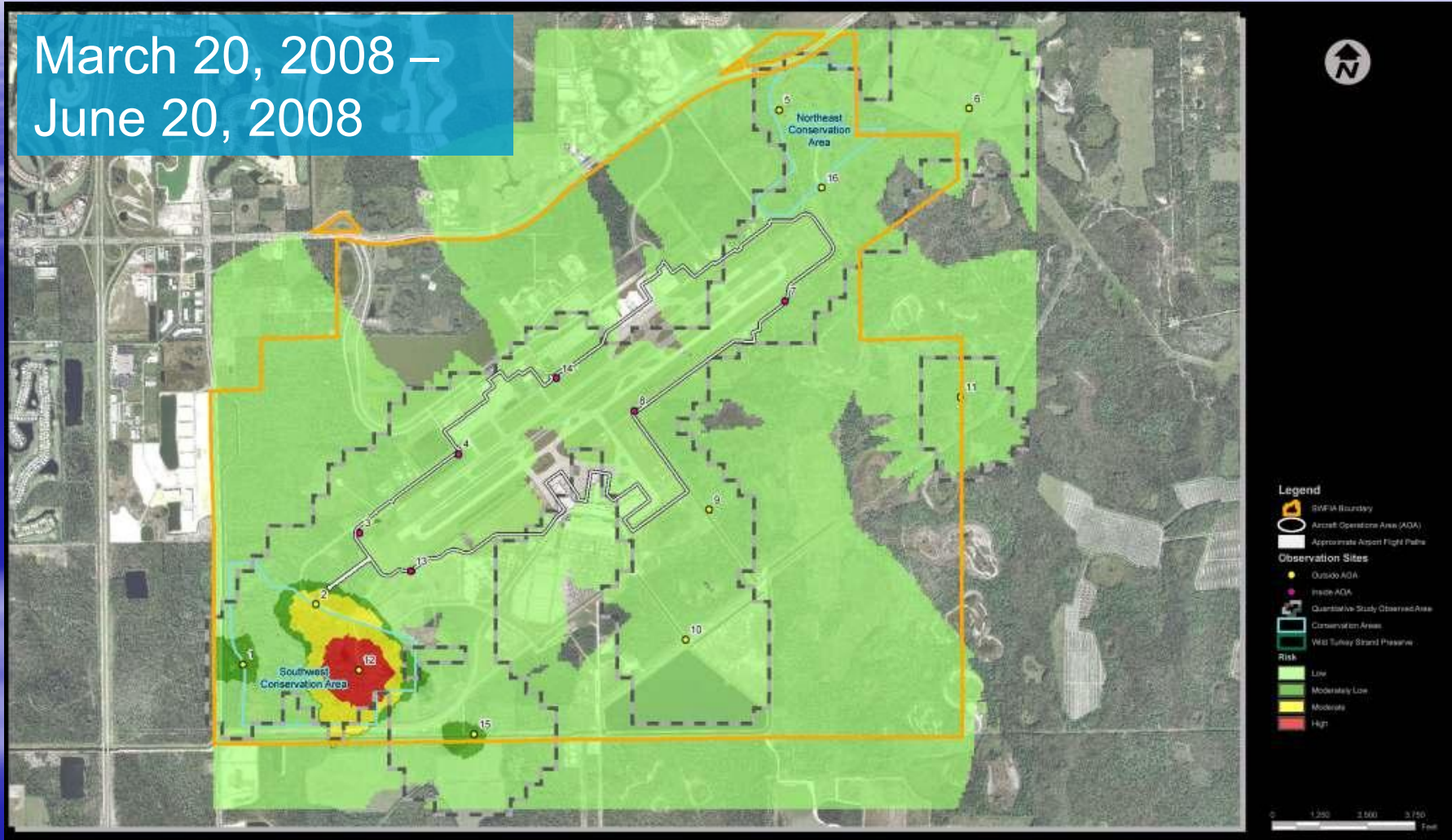
WHA Fall Results

September 22, 2008 –
December 20, 2008



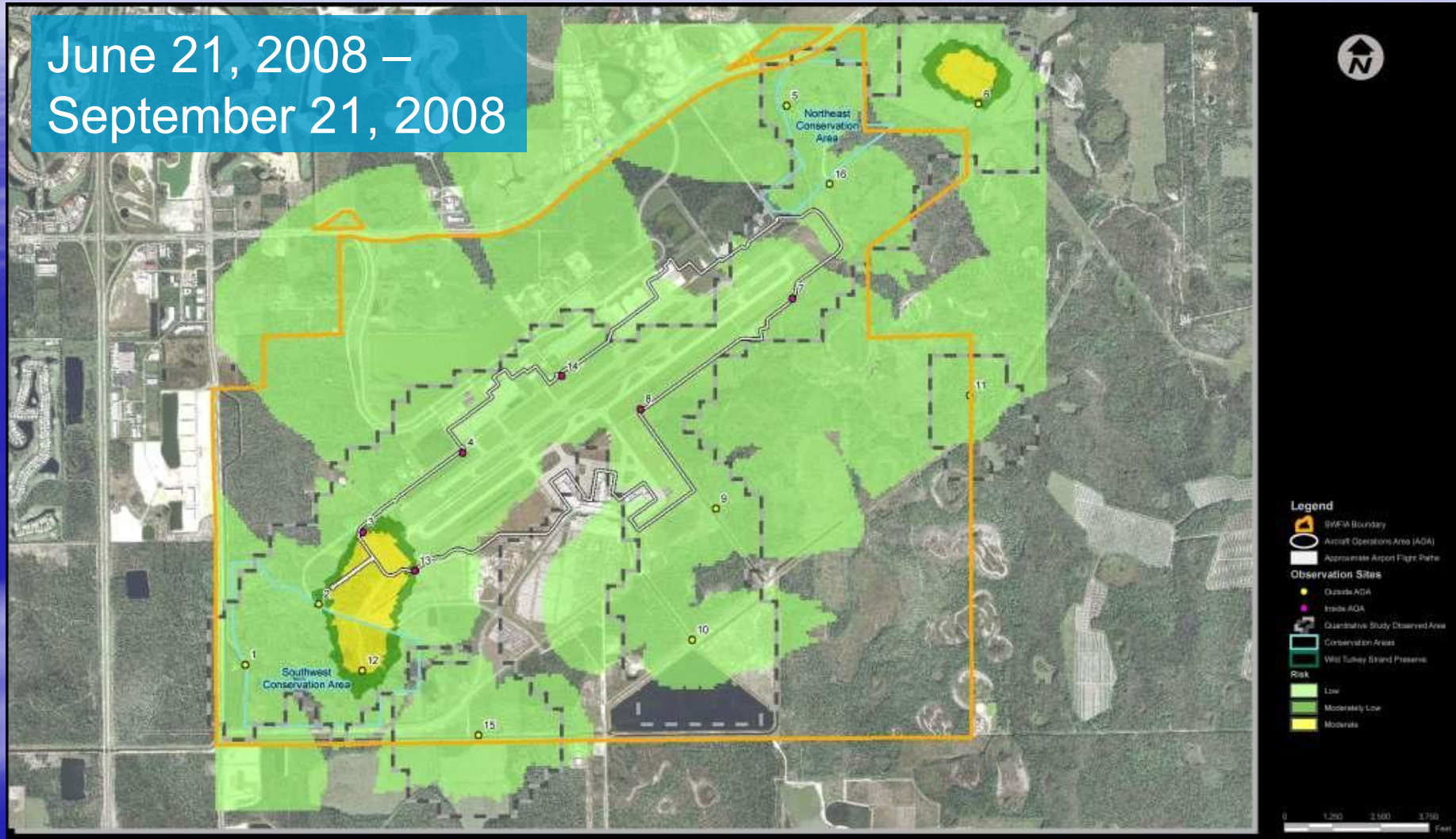
WHA Spring Results

March 20, 2008 –
June 20, 2008



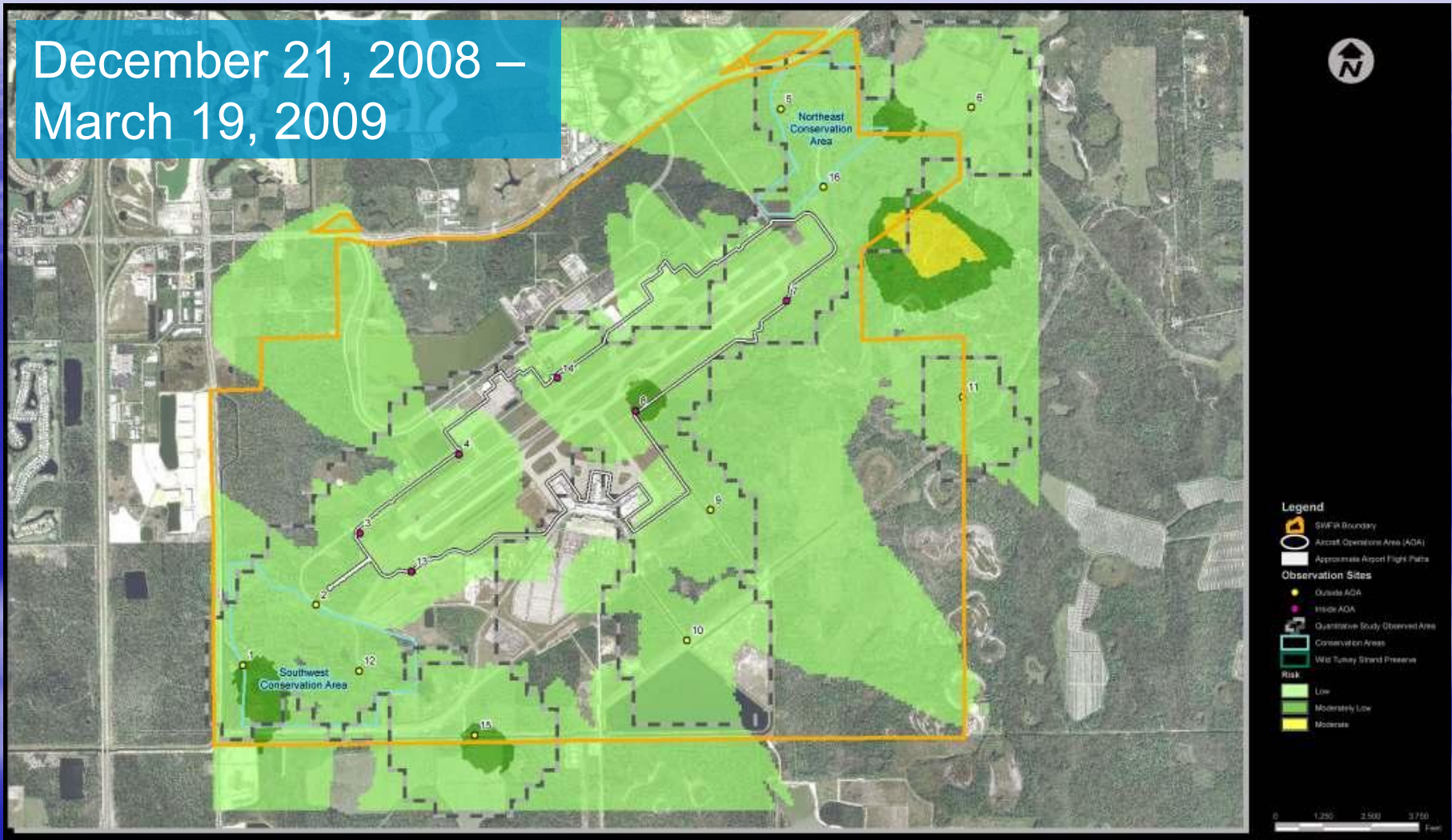
WHA Summer Results

June 21, 2008 –
September 21, 2008



WHA Winter Results

December 21, 2008 –
March 19, 2009



WHA Recommendations

1. CONTINUE CURRENT HAZARDOUS WILDLIFE MANAGEMENT PROGRAM AT RSW
2. ADDITIONAL RECOMMENDATIONS BASED ON WHA
 - HABITAT MANAGEMENT
 - WILDLIFE DETERRENCE
 - OTHER GENERAL ACTIONS

WHA Recommendations

HABITAT MANAGEMENT

Airfield management activities:

- Mowing the airfield following the current rotational schedule, but raise mower decks to six inches, and periodically modify the mowing pattern;
- Implementation of a drought maintenance plan for all lakes and canals within the AOA to reduce/remove wetland vegetation within these areas that are attractive to hazardous wildlife;

WHA Recommendations

HABITAT MANAGEMENT (cont'd)

Habitat modifications inside the AOA:

- Continue to steepen slopes, deepen water depth and remove emergent vegetation along the canal (known as Lake 4) as practicable. Evaluate future options for piping canal system underground.

WHA Recommendations

HABITAT MANAGEMENT (cont'd)

Habitat modifications outside the AOA:

- Southwest & Northeast Conservation Areas: Coordinate with agencies to allow harassment and maintenance activities to reduce attractiveness to vultures and wading birds and enter into discussions regarding potential amendment of conservation easement, if necessary.
- Removal of the trees and shrubs in the 2 identified Cattle Egret roosting locations.

WHA Recommendations

WILDLIFE DETERRENCE

- Utilize Border Collie during mowing events to deter Cattle Egrets
- Monitor terminal, jetways, concourses, rooftops, & trash areas for signs of nesting
- Maintain existing & install new anti-perching devices on lights, poles, culverts, headwalls, and other structures where they have shown to be effective.

WHA Recommendations

WILDLIFE DETERRENCE (cont'd)

- Conduct frequent inspections of vulture roost along with monitoring for nesting activity in SW Conservation Area
- If present, conduct harassment & depredation of vultures, as needed
- Add lids to open trash containers located by the airside baggage handling area and post signs to inform users of the risks of attracting hazardous wildlife

WHA Recommendations

OTHER GENERAL ACTIONS

Coordinate with appropriate on-airport stakeholders on hazardous wildlife issues:

- Promote continued reporting of all wildlife strikes to airport and FAA by both staff and pilots
- Ensure FAA ATCT procedures provide aircrews & ground personnel with access & information regarding real-time wildlife hazards

WHA Recommendations

OTHER GENERAL ACTIONS (cont'd)

- Standardize interdepartmental input of wildlife deterrence data that is collected to improve quality of database, along with other minor improvements to data collection and the database
- The Operations Department should also consider reviewing the Best Management Practices for Airport Wildlife Control, adopted by the Bird Strike Committee USA and compare them to their current hazardous wildlife management program.
- Additional wildlife monitoring outside AOA and including dawn and dusk observations

WHA Recommendations

OTHER GENERAL ACTIONS (cont'd)

- Increase annual bird identification training of Ops personnel to semi-annual to cover seasonal occurrence of birds at RSW
- Prepare, via the HWWG, a summary of the year's hazardous wildlife activity at RSW, to be used as an adaptive management tool to assist with the implementation of the recommendations from this assessment and help to reduce the wildlife hazard at RSW.

Conclusion

- RSW > 20 years of proactive management of hazardous wildlife
- This WHA with GIS methodology pin-pointed areas of concern
- Recommendations specific to the most problematic areas on the airport

Thank You

Questions?



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

Federal Aviation
Administration
Southern Region

Airports Division, ASO 620
P.O. Box 20636
Atlanta, GA 30320

September 06, 2011

Mr. Bobby D. Orick
Operations
Southwest Florida Intl
11000 Terminal Access Rd.
Fort Myers, FL 33902

Dear Mr. Orick:

Southwest Florida Intl
Fort Myers, Florida
Revision to Airport Certification Manual

The revision (WLHMP) to your Airport Certification Manual has been reviewed and approved. Please distribute copies of the revision to the holders of your ACM listed on the Distribution List. Each existing ACM should be updated in accordance with this revision.

Sincerely,



Jack McSwain

Certification Safety Inspector



WILDLIFE HAZARD MANAGEMENT PLAN

Southwest Florida International Airport
Ft. Myers, FL

Lee County Port Authority
11000 Terminal Access Road, Suite 8671
Ft. Myers, FL 33913-8213

Robert Ball
Executive Director

August 2011

SOUTHWEST FLORIDA INTERNATIONAL AIRPORT

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



Table of Contents

	<u>Page</u>
Executive Summary	1
1.0 Introduction	5
2.0 Authority and Responsibility	7
2.1 Hazardous Wildlife Working Group.....	7
2.2 RSW Responsibilities	8
2.3 Responsibilities of Other Entities	10
2.4 Schedule of Tasks to be Completed.....	10
3.0 Requirements for Wildlife Control	13
3.1 Species Observed at RSW	13
3.2 Legal Status of Wildlife – Requirements for Harassing State and Federally Protected Species	16
3.2.1 Federal Regulations	16
3.2.2 State Regulations	18
3.3 Pesticide Use and Regulations	26
4.0 Resources for Implementing the Plan	28
5.0 Procedures during Air Carrier Operations	29
6.0 Procedures for Reviewing the Plan.....	30
7.0 A Training Program for Airport Personnel	32
7.1 FAA Requirements for a Training Program	32
7.2 WHA Training Recommendations	32
8.0 Preparers and Contributors to this Plan	34

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



List of Tables

	<u>Page</u>
Table 2-1 Wildlife Hazard Management Plan Implementation Matrix	12
Table 3-1 Wildlife Species Observed During the RSW Wildlife Hazard Assessment	13
Table 3-2 Summary of the Legal Status of Wildlife & Permissible Control Activity	24
Table 3-3 Pesticides Currently Utilized at RSW	26
Table 6-1 List of Wildlife Hazard Management Data Maintained by RSW	31

List of Appendices

Appendix A	Southwest Florida International Airport Location Map
Appendix B	Airport Land Use and Cover Map
Appendix C	Airport Aerial Showing 10,000' Separation Distance
Appendix D	LCPA OI-3409
Appendix E	Federal Depredation Permit

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



EXECUTIVE SUMMARY

Southwest Florida International Airport (RSW) is located approximately seven miles southwest of the City of Fort Myers, in Lee County, Florida. The airport was certificated for commercial operation in 1983 and a new terminal was added in 2005. The airport operated in the original terminal, situated north of runway 6/24, until 2005 when the new terminal opened south of runway 6/24.

Total airport property consists of 6,366.4 acres, of which 854.1 acres falls within the air operations area (AOA). In general, the airport is surrounded by a mosaic of land uses: transportation corridors, residential and commercial developments, golf courses, agriculture, remnant native habitats, and large tracts of preservation areas. Out of the approximately 6,366 acres that make up the airport property, approximately 1,136 acres represent the terminal, taxiways, runway, roads, parking lots, fixed base operators, and all other support facilities. The remaining 5,230 acres are comprised of canals, detention ponds, fallow farm fields, and undeveloped land in its natural state. There are also two onsite preserves totaling 475 acres. These preserves were mitigation for wetland impacts from the runway 6/24 extension project conducted in 1993 and are under a conservation easement.

RSW is a certificated airport as established by the Federal Aviation Administration (FAA) under Code of Federal Regulation (CFR) Title 14 Federal Aviation Regulation (FAR) Part 139 – Certification of Airports; as such the airport must comply with FAA regulations. FAR Part 139.337 Wildlife Hazard Management requires airports to conduct Wildlife Hazard Assessments (WHA), if certain criteria are met. RSW completed a WHA in 2009. The WHA was presented to the FAA in December of the same year. In January 2010, the FAA approved the RSW WHA without any changes and recommended that a Wildlife Hazard Management Plan (WHMP) be written and submitted for their approval.

A matrix has been developed for this WHMP that will act as a guide and reference to all airport departments as they move forward with the implementation of the recommendations that resulted from the WHA. The Hazardous Wildlife Working Group (HWWG) will also be able to utilize the matrix to conduct their annual review of the WHMP.

To effectively and legally conduct wildlife control efforts at RSW, it is important for the Operations Department staff to be informed on the wildlife species present at the airport and the local, state and federal laws protecting some of those species. Several wildlife species encountered on or near RSW during the course of the WHA are protected by environmental regulations on the federal level, state level, or both. Specifically, eight avian species and one reptilian species occurring at RSW are state listed, and two confirmed federally listed species. Section 3.0 of this WHMP describes in detail the regulations surrounding the control of protected wildlife species.

Presently at RSW, the Maintenance Department applies pesticides to control plant and insect pests where necessary on airport property. All pesticides are regulated by the Environmental Protection Agency (EPA) and each state has its own rules on pesticide application and licensing. States are authorized to regulate pesticides under Federal Insecticide, Fungicide, and Rodenticide

ACM Revision: _____
Original Date: _____

OCT 12 2011

1

JEM
INSPECTOR



Act and under state pesticide laws. In Florida, pesticides, pesticide use, and licensing are regulated by the Florida Department of Agriculture and Consumer Services (FDACS). The Maintenance Department complies with all federal and state laws and guidelines regarding the storage and use of the chemicals they utilize at the airport.

The Operations Department at RSW is responsible for providing their Operations Agents with the tools necessary to effectively carry out wildlife control efforts. Airport Operations maintains an adequate stock of wildlife deterrent supplies for Operations Agents to conduct their daily wildlife patrols and to respond to emergency calls from the air traffic control tower to disperse animals from runways and other critical areas.

The Operations Department is also responsible for the day-to-day wildlife control duties. An Operations Agent is on duty 24 hours a day, 365 days a year. Details of operations and inspections are entered into the Operations database on a daily basis by the agent who carried out the inspection. When responding to a wildlife hazard situation within the AOA, Operations Agents maintain radio communications with the air traffic control tower (ATCT), and the Agent operates according to FAA guidelines.

RSW has had an active HWWG since 2005. This WHMP will be reviewed on an annual basis by the HWWG so necessary changes can be made if needed. Necessary changes to the WHMP will be made by the airport, or its representative, and the Plan updated prior to the FAA Certification Inspection. The first annual review of the WHMP will be conducted one full calendar year after its approval by the FAA. Keeping accurate records of wildlife observations and control efforts throughout the year will be important in evaluating the effectiveness of the WHMP. As part of the WHMP annual review, the HWWG should address whether any aspect of the WHA should be reevaluated based on the wildlife observations/monitoring conducted that year.

A training program is essential at any airport for wildlife control personnel to carry out a safe and effective wildlife control program. RSW currently has a training program for their Operations Agents and in 2005 they expanded their training program to include staff from the Maintenance and Planning and Development Departments. As specified in FAR Part 139.337 (e) (7) the training shall be presented by a qualified wildlife damage management biologist.

This WHMP has been prepared by two qualified airport wildlife biologists from Johnson Engineering, William Brammell and Anik Smith. Airport staff has also significantly contributed to the writing of this document.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

2

JEM
INSPECTOR



PREFACE

It is the primary objective of the Lee County Port Authority and Airport staff to provide safe air carrier operations at the Airport. This Wildlife Hazard Management Plan has been developed to fulfill the requirements of Code of Federal Regulations Title 14 Federal Aviation Regulations Part 139.337 – Wildlife Hazard Management. The Wildlife Hazard Management Plan is also intended to guide Southwest Florida International Airport in alleviating and eliminating, where practicable, wildlife hazards to air carrier operations, through systematic monitoring of wildlife and effective management of those hazards.

This Wildlife Hazard Management Plan has been built upon the current wildlife hazard management program at Southwest Florida International Airport and the recommendations that resulted from the Wildlife Hazard Assessment, conducted at the airport in 2008-2009 and subsequently accepted by the Federal Aviation Administration in February 2010. The Wildlife Hazard Management Plan will be implemented in accordance with all applicable local, state and federal laws. The Wildlife Hazard Management Plan will be reviewed at least on an annual basis to ensure it remains applicable to the current wildlife hazard issues at the airport.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

3

JEM
INSPECTOR

LIST OF ACRONYMS

AC	Advisory Circular
ACM	Airport Certification Manual
AOA	Air Operations Area
ATCT	Air Traffic Control Tower
CFR	Code of Federal Regulations
ESA	Endangered Species Act
FAA	Federal Aviation Administration
F.A.C.	Florida Administrative Code
FAR	Federal Aviation Regulations
FBO	Fixed Based Operator
FDACS	Florida Department of Agriculture and Consumer Services
F.S.	Florida Statute
FWC	Florida Fish and Wildlife Conservation Commission
HWWG	Hazardous Wildlife Working Group
MBTA	Migratory Bird Treaty Act
RSW	Southwest Florida International Airport
USFWS	U.S. Fish and Wildlife Service
WHA	Wildlife Hazard Assessment
WHMP	Wildlife Hazard Management Plan

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____ Original Date: _____

JEM
INSPECTOR



1.0 INTRODUCTION

Southwest Florida International Airport (RSW) is located approximately seven miles southwest of the City of Fort Myers, in Lee County, Florida (**Appendix A – location map**). The airport was certificated for commercial operation in 1983 and a new terminal was added in 2005. The airport operated in the original terminal, situated north of runway 6/24, until 2005 when the midfield terminal opened south of runway 6/24. In 2009, RSW served more than 7.4 million passengers and had 83,120 operations (movements). It is one of the top 50 airports in the U.S. for passenger traffic with more than 20 airline partners serving the airport.

Total airport property consists of 6,366.4 acres, of which 854.1 acres falls within the Air Operations Area (AOA). In general the airport is surrounded by a mosaic of land uses: transportation corridors, residential and commercial developments, golf courses, agriculture, remnant native habitats, and large tracts of preservation areas. Cover types for native habitats include pine flatwoods, herbaceous and forested wetlands, and mixed hardwood forest. In addition, there are large scale open water storm water detention facilities.

Out of the approximately 6,366 acres that make up the airport property, approximately 1,136 acres represent the terminal, taxiways, runway, roads, parking lots, fixed base operators (FBO), and all other support facilities. The remaining 5,230 acres are comprised of canals, detention ponds, fallow farm fields, and undeveloped land in its natural state (**refer to Appendix B for an airport-wide land use and cover map**). There are 1,569 acres of natural wetlands on airport property. There are also two onsite preserves totaling 475 acres. These preserves were mitigation for wetland impacts from the runway 6/24 extension project conducted in 1993 and are under a conservation easement granted to the Florida Department of Environmental Protection.

RSW is a certificated airport as established by the Federal Aviation Administration (FAA) under Code of Federal Regulation (CFR) Title 14 Federal Aviation Regulation (FAR) Part 139 – Certification of Airports; as such the airport must comply with FAA regulations. FAR Part 139.337 Wildlife Hazard Management requires airports to conduct Wildlife Hazard Assessments (WHA), if certain criteria are met. RSW completed a WHA in 2009 that was presented to the FAA in December of the same year. In January 2010, the FAA approved the RSW WHA without any changes and recommended that a Wildlife Hazard Management Plan (WHMP) be written and submitted for their approval.

According to §139.337:

(e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must—

- (1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;*
- (2) Be submitted to, and approved by, the Administrator prior to implementation; and*

ACM Revision: _____
Original Date: _____

OCT 12 2011

5

JEM
INSPECTOR



- (3) *As authorized by the Administrator, become a part of the Airport Certification Manual.*
- (f) *The plan must include at least the following:*
- (1) *A list of the individuals having authority and responsibility for implementing each aspect of the plan.*
 - (2) *A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:*
 - (i) *Wildlife population management;*
 - (ii) *Habitat modification; and*
 - (iii) *Land use changes.*
 - (3) *Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.*
 - (4) *Identification of resources that the certificate holder will provide to implement the plan.*
 - (5) *Procedures to be followed during air carrier operations that at a minimum includes—*
 - (i) *Designation of personnel responsible for implementing the procedures;*
 - (ii) *Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;*
 - (iii) *Wildlife hazard control measures; and*
 - (iv) *Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.*
 - (6) *Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:*
 - (i) *The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and*
 - (ii) *Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.*
 - (7) *A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.*

The following seven (7) sections of this Plan are outlined according to the seven (7) components of a wildlife hazard management plan as required by §139.337.

Hazardous wildlife management efforts at RSW currently and will continue to focus predominately within the 10,000' separation distance of the airport's AOA (**Appendix C**), as defined in FAA Advisory Circular 150/5200-33, where the airport has the most control over the presence of hazardous wildlife and their attractants.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



2.0 AUTHORITY AND RESPONSIBILITY

Requirement: FAR Part 139.337 (e) (1); *A list of the individuals having authority and responsibility for implementing each aspect of the plan.*

2.1 Hazard Wildlife Working Group

RSW currently has a Hazardous Wildlife Working Group (HWWG) that oversees the implementation of the Airport's hazardous wildlife management procedures. Team members include:

- RSW Operations
- RSW Maintenance
- RSW Planning & Environmental Compliance
- RSW Construction and Engineering
- Qualified Airport Wildlife Biologist (QAWB)

Others who may be invited by the Airport to participate include:

- FAA ATCT
- Aviation Related Tenants
- RSW Air Carriers
- Other QAWB's

Responsibilities of the HWWG shall include, but not be limited to:

- Developing and evaluating wildlife control methodologies used at the Airport (i.e. wildlife deterrent activities, management plan, implementing projects to reduce wildlife attractants)
- Participation in short and long term planning efforts to address AC 150/5200-33 (Hazardous Wildlife Attractants on or Near Airports)
- Developing, tracking and maintaining a Schedule of Tasks for wildlife management techniques
- Developing a list of equipment to be carried during wildlife patrols and control activities
- Developing an annual review protocol for management techniques used, wildlife strikes, wildlife monitoring results, and adaptive management recommendations
- Developing and maintaining a list of agencies and personnel specialized in wildlife control
- Reviewing local requirements for compatibility in reduction of wildlife attractants (landscaping, surface water management designs)
- Developing a training protocol for Airport personnel involved with the control of hazardous wildlife

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____



2.2 RSW Responsibilities

Following are the responsibilities and tasks by RSW departments and the responsible persons in charge of coordinating the tasks assigned to their department.

Department: Operations

Responsible Person: Director of Operations in charge of coordinating the following tasks within this Department:

Tasks Assigned to the Operations department:

- Designate a Wildlife Coordinator to supervise, coordinate, and monitor wildlife activities
- Monitor progress of wildlife management activities and other airport departmental responsibilities related to hazardous wildlife
- Purchase supplies necessary to conduct wildlife control activities
- Maintain a daily log of all deterrent activities, wildlife strikes and incident reports
- Obtain and maintain the appropriate permits for wildlife control
- Conduct daily inspections in AOA for wildlife activity and strikes
- Continue wildlife deterrent activities
- Initiate corrective harassment or depredation measures when necessary
- Operate border collie program
- Ensure wildlife control personnel are properly trained and badged in accordance with FAA regulations
- If recommended by Planning and Environmental Compliance implement harassment of vulture roost as needed
- Conduct periodic inspections of the trash collection station, record status of the area (container doors open, wildlife presence, etc.) and report any problems to the department responsible and/or to the HWWG
- Review Best Management Practices of Airport Wildlife Control, adopted by the Bird Strike Committee USA (Cleary 207) and implement recommendations as practicable
- Coordinate issuance of NOTAMS
- Continue alligator/feral hog trapping program
- Maintain personnel wildlife training records

Department: Maintenance

Responsible Person: Director of Maintenance in charge of coordinating the following tasks within this Department.

Tasks Assigned to the Maintenance Department:

- Implement habitat modifications that are addressed in management protocols and other requested wildlife controls
- Conduct vegetation management

ACM Revision: _____
Original Date: _____

OCT 12 2011

JEM
INSPECTOR



- Secure and maintain equipment utilized for wildlife deterrence
- Wildlife proof buildings and remove abandoned equipment as necessary
- Mow grass to recommended heights
- Ensure AOA fence is properly maintained and secure
- Conduct the application of herbicides and other wildlife eradication methods in accordance with rules and regulations
- Implement drought maintenance plan for all lakes and canals within AOA
- Ensure trash containers by airside baggage handling area are properly secured
- Install, as needed, new anti-perching devices and maintain existing anti-perching devices

Department: Development, Planning and Environmental Compliance

Responsible Person: Director of Planning and Environmental Compliance

Tasks Assigned to the Development, Planning and Environmental Compliance

Department:

- Identify projects to reduce wildlife attractants
- Contract the services of a Qualified Airport Wildlife Biologist to assist with selected tasks when needed
- Monitor land clearing activities and herbicide applications to verify compliance with water quality, wetland, and other environmental laws and regulations
- Assist in obtaining permits required to carry out specified activities
- Review plans and specifications for selected structures during the planning phases for input on designs to alleviate wildlife usage
- Coordinate with surrounding land owners and local governments to prevent creation of new hazardous wildlife attractants
- Establish protocols to ensure selected projects' design are reviewed so they can be evaluated to identify potential wildlife hazards
- Conduct bi-weekly airfield wildlife observations and expand survey to include Southwest Conservation Area
- Coordinate with all stakeholders at the airport on hazardous wildlife issues
- Coordinate Hazardous Wildlife Working Group
- Assist in hazardous wildlife training for airport personnel
- Conduct environmental mitigation in accordance with FAA requirements
- Conduct vulture surveys in the Southwest Conservation Area, once a month, during their nesting season (January - August) to determine if there is any nesting activity taking place
- Identify any new perching attractants and determine which anti-perching devices will be effective

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



Department: Engineering and Construction

Responsible Person: Director of Engineering and Construction

Tasks Assigned to the Development, Engineering and Construction Department:

- Responsible for the design and permitting of any wildlife-related changes to the RSW surface water management system

2.3 Responsibilities of Other Entities

Following are the responsibilities and tasks by entities other than RSW departments, along with responsible persons in charge of coordinating the tasks assigned to the entity.

FAA: Air Traffic Control Tower (ATCT)

Responsible Person: Air Traffic Manager

Tasks Assigned to the ATCT:

- Comply with OI-3409 (Appendix D)

Aviation Related Tenants/Air Carriers

Responsible Person: Station Managers

Tasks Assigned to the Aviation Related Tenants/Air Carriers

- Maintain leasehold in compliance with applicable lease terms
- Report any wildlife-related incidents
- Contribute aviation user information to HWWG

2.4 Schedule of Tasks to be Completed

Requirement: FAR Part 139.337 (e) (2); *A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:*

- (i) Wildlife population management;*
- (ii) Habitat modification; and*
- (iii) Land use changes.*

In response to FAR Part 139.337 (e) (1) and (e) (2), **Table 2-1** was developed. Each recommendation was categorized as one or more of the following actions: wildlife population management, habitat modification and/or land use change. Airport departments are assigned to the implementation of each recommendation, along with a target date and estimated completion date.

ACM Revision: _____
Original Date: _____

OCT 12 2011

JEM
INSPECTOR



This table will act as a guide and reference to all airport departments as they move forward with the implementation of the WHMP. The Hazardous Wildlife Working Group (HWWG) will also be able to utilize the matrix to conduct their annual review of the WHMP (see section 6.0).

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



Table 2-1: Wildlife Hazard Management Plan Implementation

Category	Task	Responsible Department	Target Date	Date Completed
Wildlife Population Management and Habitat Modifications	Develop a comprehensive plan and coordinate with the Florida Department of Environmental Protection and possibly other regulatory agencies such as the South Florida Water Management District, to allow the LCPA the opportunity to modify the habitat to reduce the wildlife hazard attractant within these areas. These activities may require amending the language of the conservation easement recorded, as depicted in Appendix U. The following habitat modifications are recommended for the Southwest Conservation Area: a. Removing the snags being utilized as roosts by vultures; b. Trimming the lower branches from the live pine trees being used as roosts by vultures and other potential habitat modifications may need to be considered to reduce the attractiveness to vultures; c. Possible habitat modifications, such as the removal of cypress and other wetland trees and shrubs, will need to be explored to diminish the quality of the attractant to White Ibis and other potential roosting/nesting wading bird species.	Planning & Environmental Compliance	2015	
Wildlife Population Management and Habitat Modifications	Additional habitat modifications outside the AOA as identified in the WHA or further identified in the airport.	Planning & Environmental Compliance / Operations	2015*	
Habitat Modification	A "Drought Management and Maintenance Plan" is under development for current and future lake maintenance in times of drought. The goal of the plan is to conduct maintenance activities during drought conditions when the water levels are low enough that vegetation can be removed; as well as conducting other activities that will deter wildlife use, while remaining within allowable activities under existing South Florida Water Management District (SFVMD) permits.	Planning & Environmental Compliance to Develop Plan; Implementation by Maintenance	09-2012 (Plan)	
Habitat Modification	LCPA continues to look at project possibilities to fill in stormwater treatment areas within the AOA. LCPA staff has researched SFVMD permits and has determined that steepening side slopes, deepening canals and lake-bottom scraping within the AOA water bodies (known as Lake 4 and any other wetland/surface water features along the south side of Runway 6/24) as practicable is allowable under existing state and federal permits. The LCPA plans to continue these activities as funding allows.	Planning & Environmental Compliance/ Engineering for Permitting/ Implementation	2015*	

*Subject to available funding.

ACM Revision: _____
Original Date: _____

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR



3.0 REQUIREMENTS FOR WILDLIFE CONTROL

Requirement: FAR Part 139.337 (e) (3); *Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.*

3.1 Species Observed at RSW

To effectively and legally conduct wildlife control efforts at RSW it is important for the Operations Department staff to be informed on the wildlife species present at their airport and the local, state and federal laws protecting some of those species. The following table (**Table 3-1**) lists all the wildlife species observed during the WHA conducted in 2008-2009, and their protected status. The ongoing wildlife monitoring at the airport by Operations and Planning and Development staff will maintain the species list current.

Table 3-1: Wildlife Species Observed during the RSW WHA

SPECIES NAME	LEGAL STATUS		TOTAL OBSERVED	NO. OF SIGHTINGS
	USFWS ¹	FWC ²		
BIRDS				
AMERICAN BITTERN			2	2
AMERICAN COOT			95	21
AMERICAN CROW			51	28
AMERICAN KESTREL			83	78
AMERICAN ROBIN			41	2
ANHINGA			119	106
AMERICAN WHITE PELICAN			77	3
BARRED OWL			5	5
BALD EAGLE ³			12	10
BARN SWALLOW			3	2
BLACK-BELLIED WHISTLING-DUCK			7	1
BLACK-CROWNED NIGHT-HERON			5	4
BELTED KINGFISHER			15	13
BLUE-GRAY GNATCATCHER			45	39
BLUE JAY			10	9
BLACK VULTURE			462	197
BLACK-NECKED STILT			30	17
BOAT-TAILED GRACKLE			106	27
BLUE-WINGED TEAL			76	8
CATTLE EGRET			1,714	192
CAROLINA WREN			42	40
COMMON GROUND-DOVE			27	17
COMMON GRACKLE			1,672	258
COMMON MOORHEN			212	92
COMMON NIGHTHAWK			55	17
COMMON YELLOWTHROAT			2	2
CHUCK-WILL'S-WIDOW			6	6
DOUBLE-CRESTED CORMORANT			25	24
DOWNY WOODPECKER			12	8
EASTERN MEADOWLARK			115	100
EURASIAN COLLARED-DOVE			4	3
EUROPEAN STARLING			121	12
GREAT BLUE HERON			83	82

ACM Revision: _____
Original Date: _____



SPECIES NAME	LEGAL STATUS		TOTAL OBSERVED	NO. OF SIGHTINGS
	USFWS ¹	FWC ²		
GREAT CRESTED FLYCATCHER			3	3
GREAT HORNED OWL			5	5
GLOSSY IBIS			253	32
GRAY CATBIRD			45	35
GREAT EGRET			478	334
GREEN HERON			6	6
GREATER YELLOWLEGS			3	2
KILLDEER			207	72
LITTLE BLUE HERON		Species of Special Concern	168	134
LEAST TERN		Species of Special Concern	35	10
LESSER YELLOWLEGS			5	3
LIMPKIN			4	2
LOGGERHEAD SHRIKE			30	28
MALLARD			5	2
MIXED FLOCK			146	5
MOURNING DOVE			441	201
MOTTLED DUCK			501	179
NORTHERN BOBWHITE			1	1
NORTHERN CARDINAL			111	104
NORTHERN FLICKER			1	1
NORTHERN HARRIER			10	10
NORTHERN MOCKINGBIRD			33	29
NORTHERN ROUGH-WINGED SWALLOW			4	2
OSPREY			15	15
PALM WARBLER			26	12
PIED-BILLED GREBE			60	38
PINE WARBLER			10	10
PILEATED WOODPECKER			12	11
PURPLE MARTIN			16	5
RED-BELLIED WOODPECKER			61	60
RING-NECKED DUCK			41	9
ROCK PIGEON			27	2
ROSEATE SPOONBILL			8	6
ROYAL TERN			3	3
RED-SHOULDERED HAWK			210	190
RED-TAILED HAWK			3	3
RED-WINGED BLACKBIRD			108	76
SANDHILL CRANE ⁴		Threatened	56	33
SAVANNAH SPARROW			2	2
SNOWY EGRET		Species of Special Concern	89	37
SOLITARY SANDPIPER			1	1
SPOTTED SANDPIPER			1	1
SHARP-SHINNED HAWK			5	3
SWALLOW-TAILED KITE			60	43
TREE SWALLOW			3,122	46
TRICOLORED HERON		Species of Special Concern	101	84
TUFTED TITMOUSE			1	1
TURKEY VULTURE			355	210
WHITE-EYED VIREO			17	17
WHITE IBIS		Species of Special Concern	963	126

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



SPECIES NAME	LEGAL STATUS		TOTAL OBSERVED	NO. OF SIGHTINGS
	USFWS ¹	FWC ²		
WILSON'S SNIPE			5	5
WILD TURKEY			36	10
WINTER WREN			2	2
WOOD DUCK			10	6
WOOD STORK	Endangered	Endangered	29	16
YELLOW-RUMPER WARBLER			2	1

MAMMALS				
ARMADILLO			5	5
BOBCAT			2	2
DEER			136	57
FERAL CAT			2	2
FERAL HOG			73	26
GREY SQUIRREL			1	1
RACCOON			11	6
RABBIT			3	3
RIVER OTTER			7	7

REPTILES				
ALLIGATOR	Similarity of Appearance (Threatened)	Species of Special Concern	44	40
TURTLE			28	12

AMPHIBIANS				
BRONZE FROG			2	2
BARKING TREE FROG			1	1
CRICKET FROG			77	55
CUBAN TREE FROG			17	13
EASTERN NARROWMOUTH TOAD			3	3
GREEN TREE FROG			16	15
OAK TOAD			4	4
PIG FROG			9	10
PINE WOODS TREE FROG			2	2
SOUTHERN TOAD			1	1
Total:	2	8	15,496	

NOTES:

1. USFWS - U.S. Fish and Wildlife Service
2. FWC - Florida Fish and Wildlife Conservation Commission
3. Protected under the Bald and Golden Eagle Protection Act.
4. Their observed breeding at RSW confirms them as the Florida Sandhill Crane.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
 Original Date: _____

JEM
INSPECTOR



3.2 Legal Status of Wildlife - Requirements for Harassing State and Federally Protected Species

Several wildlife species encountered on or near RSW during the course of the WHA are protected by environmental regulations on the federal level, state level, or both. Specifically, seven (7) avian species and one (1) reptilian species occurring at RSW are state listed; and two (2) confirmed federally listed species. This section provides information on federal and state regulations that address or have the potential to overlap with wildlife hazard management activities at RSW. Regulations are continually being revised and updated; therefore information in this section should be viewed as advisory and updated periodically to document changes in the regulations.

3.2.1 Federal Regulations

The primary federal regulations reviewed in this section deal with federally listed (protected) species, the regulations associated with federally listed species habitats, and the protection of migratory birds. As outlined below, species listed as federally endangered or threatened cannot be harassed or depredated unless coordination and permitting has occurred with the U.S. Fish and Wildlife Service (USFWS). However, species that are protected under the Migratory Bird Treaty Act (MBTA) can be harassed by airport wildlife hazard deterrent activities without a federal permit. When deterrent activities include lethal control or capture of a species protected under the MBTA, then a federal depredation permit is required. RSW has obtained a federal depredation permit that is specific to the actions and species they are legally approved to depredate; a copy of this permit can be found in Appendix E. The Operations Department is responsible for requesting renewal of this permit on an annual basis, from USFWS. There are also species that can be lethally controlled or captured without a specific federal permit due to current federal standing orders or their designation as non-migratory game birds, exotic, feral, or domestic animals.

3.2.1.1 Endangered Species Act

The Endangered Species Act of 1973 (ESA) protects species of flora and fauna that have been listed as either endangered or threatened through the federal process. It is unlawful for anyone to “take” a federally listed species. Take is defined by the ESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct”¹. Species protected under the ESA may have established “critical habitat areas” that are also protected from adverse impacts in association with federal actions. There were two (2) federally listed wildlife species observed during the WHA (wood stork and American alligator). There are currently no critical habitat designations on the RSW property boundary for federally listed species.

Wildlife hazard management activities at RSW may have the potential to impact federally listed species. Observed federally listed species at RSW fall under the jurisdiction of the USFWS.

¹ Information on ESA available from <http://www.fws.gov/endangered/laws-policies/index.html>

OCT 12 2011

JEM
INSPECTOR

There are two main issues that may require coordination and/or permitting through the USFWS. First, the modification of habitats that are identified as wildlife hazard attractants may require federal level permits. For example, if modifications include impacting Waters of the U.S., as defined under the Clean Water Act (40 CFR 230.3(s)), that are designated as habitat for a federally listed species, a federal permit and coordination with the USFWS for potential impacts could be required. Second, wildlife deterrent activities involving federally listed species could be viewed as “harassment” in certain cases and would potentially be considered a “take” of a federally listed species. Coordination with the USFWS is required to outline the permitting/documentation needed to utilize wildlife deterrent activities that involve federally listed species.

3.2.1.2 Migratory Bird Treaty Act

Most native avian species found on or around RSW are protected under the MBTA (1918). Under the MBTA, the following applies:

“Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, any migratory bird, any part, nest, or eggs of any such bird,...”

Avian species not protected under the MBTA include non-migratory game birds, introduced game birds, exotic, and feral species. A complete list of species covered under the MBTA can be found in the U.S. CFR Title 50 §10.13.

Per 50 CFR 21.41, federal law allows the tactics of scaring or herding species protected under the MBTA. However, if deterrent activities include lethal control or capturing (take, possess, transport) species protected under the MBTA, a federal depredation permit is required. A federal depredation permit does not allow the permittee to take, capture, harass, or disturb federally listed species protected under the ESA, including bald or golden eagles.

3.2.1.3 Bald and Golden Eagle Act

The Bald Eagle was delisted by the USFWS on June 28, 2007 and is no longer protected under the ESA. However, both the Bald and Golden Eagles receive protection under the Bald Eagle Protection Act of 1940. Bald Eagles do occur at RSW and were commonly observed during the WHA.

According to the USFWS²:

“This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto.”

² Information available at: <http://www.fws.gov/laws/lawsdigest/BALDEGL.HTML>



and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act."

The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." For purposes of these guidelines, "disturb" means:

"to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment³.

3.2.1.4 Standing Orders Under 50 CFR

50 CFR has standing orders for depredation activities that apply to certain species and/or species groups (some in specific locations). Activities under these standing orders do not require a federal depredation permit but do have specific requirements that accompany each order. Applicable to wildlife hazard management at RSW, is the "Depredation order for blackbirds, cowbirds, grackles, crows and magpies" (50 CFR §21.43).

3.2.2 State Regulations

State regulations reviewed in this section include state listed species, state listed species habitat, and airport specific actions related to wildlife hazard management. Airports are permitted to harass state listed species, by state law, without a permit.

There is a new state statute (Airline Safety and Wildlife Protection Act of Florida 2009) that affords "immunity" from state and local laws to airport personnel implementing wildlife hazard management activities. A summary of the provision is provided within this section. Also, FAA Cert Alert No. 06-07 (2006) provides guidance to airports on "procedures for responding to requests by state wildlife agencies to facilitate and encourage habitats for state listed threatened and endangered species or species of special concern that occur on airports and may pose a threat to aviation safety".

3.2.2.1 Take of Wildlife on Airport Property - Chapter 68A-9.012

The Florida Fish and Wildlife Conservation Commission (FWC) adopted a new rule (effective 7/27/10) regarding taking of wildlife on Florida airports, Florida Administrative Code (F.A.C.)

³ Information taken from US Fish and Wildlife Service website:

<http://www.fws.gov/midwest/eagle/guidelines/bgepa.html>. Information last updated in March 2010.

OCT 12 2011

JEM
INSPECTOR



Chapter 68A-9.012 Take of Wildlife on Airport Property, which replaces 68A-27.002 Provision for Harassment of Endangered, Threatened and Species of Special Concern on Airport Property. The following is a summary of the new rule and its effect on wildlife control of all wildlife and state listed species at Florida airports. The entire rule is quoted below the summary.

Federally protected species may be taken as authorized by federal permit/authorization. No additional state authorization is required. This rule does not allow for the take of federally listed species without prior federal approval. For state listed species that are not federally protected, the rule allows for persistent harassment on airport property of wildlife that poses safety issues for humans and aircraft without a permit.

Also, the rule allows for any kind of take, including killing, of wildlife in emergency safety situations. Gopher tortoises may not be killed. Gopher tortoise burrows in the safety area may be destroyed after or while gopher tortoises are live captured.

In addition, the rule allows for airport authorities operating under an FAA approved WHMP to take, including killing, state listed species when persistent harassment of the animal has not been effective at reducing the threat to human and aircraft safety. Prior to resorting to taking of state listed species, the airport would also have to have made habitat management alteration that has eliminated or significantly reduced hazardous wildlife attractants on airport property.

68A-9.012 Take of Wildlife on Airport Property. Any airport may take wildlife on airport property for the purpose of ensuring aircraft and human safety in accordance with this rule. An airport or other entity owning or operating an airport as defined in Section 330.27(2), F.S., or their officers, employees, contractors (or employee of a contractor) or member of the airport's governing body as referenced in Section 379.2293(5), F.S., may carry out the activities specified in this rule. Notwithstanding the provisions of this section, the executive director or a designee may issue permits authorizing the take of additional species of wildlife, additional methods of take or alternative forms of disposition and transportation for justifiable purposes pursuant to Rule 68A-9.002, F.A.C., provided authorizations shall be denied or revoked upon reasonable conclusion that the requested or permitted activity would be detrimental to fish and wildlife resources or public health and safety.

(1) The taking and disposition of species regulated by the United States Departments of Interior or Commerce in 50 C.F.R. §10.13 (Migratory Birds), 50 C.F.R. § 17.11 and §17.12 (Threatened and Endangered Species), 50 C.F.R. §22 (Bald Eagle), 50 C.F.R. §223.102 and §224.102 (Marine Species), is allowed pursuant to federal authorization. No additional Commission authorization is required.

(2) The following paragraphs control the take of black bears and species described in Chapter 68A-27, F.A.C., except species described in subsection (1):

(a) Any of these species may be harassed by persistent, non-injurious disturbance without physical capture or direct handling to disperse wildlife when the wildlife poses an imminent threat to aircraft and human safety.

(b) Any of these species may be otherwise taken when:

ACM Revision: _____
Original Date: _____

OCT 12 2011

JEM
INSPECTOR

1. The wildlife poses an imminent threat to aircraft and human safety; and
2. A situation requires an emergency response which does not allow time for paragraph (2)(a); or

3. Attempts using paragraph (2)(a) have been documented as unsuccessful and when:

a. The airport is implementing a Federal Aviation Administration approved wildlife hazard management plan; and

b. The airport has made habitat management alteration that has eliminated or significantly reduced hazardous wildlife attractants on airport property.

(c) Wildlife burrows, including gopher tortoise burrows, within the safety area as defined in 14 C.F.R. § 139.5 may be destroyed after or while all existing gopher tortoise(s) within the burrows are live captured.

(3) Notwithstanding any provision of Commission rule, an airport authority may take all other wildlife not described in subsections (1) and (2) on airport property if their presence poses a potential threat to aircraft and human safety.

(4) Notwithstanding any provision of Commission rule, wildlife in subsections (2) and (3) taken pursuant to this rule may be taken by any method except the following:

(a) Poison, other than those pesticides that are registered by the Florida Department of Agriculture and Consumer Services without additional authorizations and are only used in a manner consistent with the product labeling.

(b) Leg hold traps except those commercially manufactured padded-jaw traps.

(c) Traps, nets and snares unless they are visited at intervals not exceeding 24 hours.

(d) Any method prohibited pursuant to Section 828.12, F.S.

(e) Live capture of any deer, except Key deer as authorized by subsection (1).

(f) The killing of gopher tortoises is prohibited.

(5) Disposition of live-captured wildlife.

(a) Any species described in subsection (2) live captured shall be immediately released provided the release site and capture site are located on a contiguous piece of airport property or a permit or authorization has been obtained from the Commission for offsite release or alternative forms of disposition.

(b) Any species described in subsection (3) live captured by any method shall be released or euthanized within 24 hours following capture or inspection of a trapping device containing wildlife except,

1. Wildlife may only be released if:

a. The wildlife is released on the property of the airport provided the release site and capture site are located on a contiguous piece of property; or

b. The wildlife is a native species; and

c. The property where the animal is to be released is located within the county of capture and is a minimum of 40 contiguous acres; and

d. The person releasing the wildlife is in possession, at time of release, of written permission from the property owner allowing such action.

2. Euthanasia of wildlife shall be humane as defined by the American Association of Zoo Veterinarians or the American Veterinary Medical



Association.

3. Euthanasia of any live captured bobcat is prohibited and any live captured bobcat shall be released as provided in subparagraph 1.

(6) Transportation of wildlife.

(a) Live-captured wildlife described in subsection (3), may be transported pursuant to this subsection only for:

1. The purpose of euthanasia as provided in subsection (5); or

2. The purpose of release as provided in subsection (5).

(b) Transportation of wildlife authorized by this subsection shall not supersede the provisions of any rabies alert or area quarantine issued by County Health Departments or County Animal Services.

(7) Wildlife described in subsections (2) and (3) that is killed pursuant to this rule or parts of that wildlife shall not be retained for personal use and shall be buried or incinerated.

(8) Any take that kills wildlife described in subsection (2) shall be reported by the airport. An Airport Wildlife Incident Report (Form FWC-AWIR 06-2010, herein incorporated by reference) must be submitted to the Commission within 5 business days. The form is available at MyFWC.com and must be submitted to the Protected Species Permit Coordinator, 620 S. Meridian Street, Mail Station 2A, Tallahassee, FL 32399-1600 or by email at AirportIncidents@myFWC.com.

3.2.2.2 Florida Endangered and Threatened Species Act - Chapter 68A-27

The State of Florida enacted the Florida Endangered and Threatened Species Act in 1976. Chapter 68A-27, (F.A.C.) provides the rules relating to endangered or threatened species. The State of Florida has designated four (4) categories of protected species and the protection afforded to them by the State is as follows:

Endangered Species

"No person shall kill, attempt to kill or wound any endangered species" (68A-27.001, F.A.C.).

"No person shall pursue, molest, harm, harass, capture, possess, or sell any of the endangered species included in this sub section, or part thereof or their nests or eggs except by specific permits, permits being issued only when the permitting activity will clearly enhance the survival potential of the species" (68A-27.003, F.A.C.).

Threatened Species

"No person shall take, possess, transport, molest, harass or sell any of the threatened species included in this subsection or part thereof or their nests or eggs except as authorized by specific permit..." (68A-27.004, F.A.C.).

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



Species of Special Concern

"No person shall take, possess, transport, or sell any species of special concern included in this paragraph or part thereof or their nests or eggs except as authorized by commission regulations or by permit..." (F.A.C. 68A-27.005).

Candidate Species

"No person shall engage in direct take of any candidate species except as authorized by specific permit..." (F.A.C. 68A 27.0021)

Wildlife hazard management activities at RSW may have the potential to impact state listed species. There were nine (9) state listed wildlife species observed during the WHA. Observed state listed species at RSW fall under the jurisdiction of FWC. Under state law, airport personnel are permitted to harass state listed species without a permit and now with the new rule, state listed species are also permitted to be lethally controlled without a permit from FWC, as explained above (Chapter 68A-9.012).

If state listed species are taken lethally at the airport this must be reported to FWC by the airport in the following manner:

- Use form FWC-AWIR 06-2010 available at MyFWC.com; and
- Submit completed form to:

Protected Species Permit Coordinator
620 S. Meridian Street, Mail Station 2A
Tallahassee, FL 32399-1600
or by email at: AirportIncidents@myFWC.com

3.2.2.3 Taking and Disposal of Nuisance Alligators Statewide – Chapter 68A-25.003

RSW currently has a Nuisance Alligator Program Permit, a copy of which is maintained in the Operations Departments office, issued by FWC under authority granted in 68A-25.003, F.A.C. The American alligator (*Alligator mississippiensis*) is a federally listed species under the ESA as threatened due to similarity of appearance with the federally endangered American crocodile, which does not occur at RSW. 50 CFR § 17.42 conveys authority over a "take" of an American alligator to designated State conservation agencies. 50 CFR § 17.42 states:

(2) Taking. No person may take any American alligator, except:

(i) Any employee or agent of the Service, any other Federal land management agency, or a State conservation agency, who is designated by the agency for such purposes, may, when acting in the course of official duties, take an American alligator.

Through the Nuisance Alligator Program Permit, RSW has been designated a "Nuisance Alligator Open Harvest Area" and a licensed trapper is currently designated by permit to "take" alligators from the airport property on an as needed basis.

ACM Revision: _____
Original Date: _____



3.2.2.4 Senate Bill 1864 – Airline Safety and Wildlife Protection Act of Florida

Senate Bill 1864, entitled the “Airline Safety and Wildlife Protection Act of Florida.” was passed by both the Florida Senate and the Florida House of Representatives during the 2009 legislative session, and provided at the end of this section. The Bill has been signed by the Governor of Florida, creating Florida Statute 379.2293. The Bill, as it was approved, is intended to provide airports who are undertaking actions to manage wildlife for the protection of human life and aircraft safety (actions that are incorporated into an FAA approved Wildlife Hazard Management Plan) immunity from “penalties, restrictions, liabilities, or sanctions and that such authorizations not be superseded by actions of other state or local agencies.” There are certain criteria that need to be met for this immunity to apply and there are exclusions to what actions this Bill includes, for example, it does not include wetland impacts, unless under emergency action, or trespassing. **Table 3-2** below summarizes the federal and state regulations that apply to the control of wildlife species at currently known to occur at RSW.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR

Table 3-2 Summary of Legal Status of Wildlife and Permissible Control Activity

Table 3-2 Summary of Legal Status of Wildlife and Permissible Control Activity					
Species Occurring at RSW	Legal Status		Legally Permissible Wildlife Control Activity	Federal Requirements / Applicable Law	State Requirements / Applicable Law
	Federal	State			
BIRDS					
Wood Stork	E		<ul style="list-style-type: none">– No harassment– No depredation	ESA Consultation with USFWS required to harass/take this species	No additional State approval required
Bald Eagle			<ul style="list-style-type: none">– No harassment– No depredation	Bald Eagle Protection Act Consultation with USFWS required to harass/take this species	No additional State approval required
Florida Sandhill Crane		T	<ul style="list-style-type: none">– Harassment allowed– Depredation; only in an emergency and when harassment is not effective	MBTA USFWS Depredation Permit	F.A.C. Chapter 68A-9.012
Little Blue Heron, Least Tern, Snowy Egret, Tricolored Heron, White Ibis, Burrowing Owl ¹		SSC	<ul style="list-style-type: none">– Harassment allowed– Depredation; only in an emergency and when harassment is not effective²	MBTA USFWS Depredation Permit	F.A.C. Chapter 68A-9.012
blackbirds, cowbirds, grackles, crows			<ul style="list-style-type: none">– Harassment allowed– Depredation allowed	Standing Orders under 50 CFR §21.43	No additional State approval required
All other native birds			<ul style="list-style-type: none">– Harassment allowed– Depredation allowed	MBTA USFWS Depredation Permit	F.A.C. Chapter 68A-9.012
Exotic birds ³			<ul style="list-style-type: none">– Harassment allowed– Depredation allowed	MBTA	F.A.C. Chapter 68A-9.012
MAMMALS ⁴					
			<ul style="list-style-type: none">– Harassment allowed– Depredation allowed		F.A.C. Chapter 68A-9.012
REPTILES					
American Alligator	T-SA	SSC	<ul style="list-style-type: none">– Harassment allowed– Depredation allowed		Nuisance Alligator Program Permit Chapter 68A-25.003

¹ Special permits from FWC are required to collapse the burrows of this species.

² The depredation of listed state species can only be conducted when certain criteria are met; consult F.A.C. Chapter 68A-9.012 for details.

³ Exotic as defined in the Migratory Bird Treaty Act; includes such birds as European Starling, House Sparrow, Muscovy Duck and Eurasian Collared Dove.

⁴ No listed mammals were observed at RSW during the WHA. Depending on the species and its legal status, there would be applicable laws regarding the harassment/take of federally and/or state listed mammals.

ACM Revision: _____
Original Date: _____

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR



Gopher Tortoise		T	- Destruction of burrows during/after live capture of tortoises		F.A.C. Chapter 68A-9.012
AMPHIBIANS ⁵					
			- Harassment allowed - Depredation allowed		F.A.C. Chapter 68A-9.012

E - Endangered
T - Threatened
SSC - Species of Special Concern
T-SA - Threatened due to Similarity of Appearance

⁵ No listed amphibians were observed at RSW during the WHA. Depending on the species and its legal status, there would be applicable laws regarding the harassment/take of federally and/or state listed amphibians.

ACM Revision: _____
Original Date: _____

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR

3.3 Pesticide Use and Regulations

Presently at RSW, the Maintenance Department applies pesticides to control plant and insect pests where necessary on airport property. A list of the pesticides currently used is included in **Table 3-3**. Each staff member involved in conducting pesticide application at the airport holds a corresponding pesticide applicator license(s) as issued by the Florida Department of Agriculture and Consumer Services (FDACS). These licenses are maintained current through periodic training provided by the University of Florida Institute of Food and Agricultural Sciences Extension Services.

Table 3-3 Pesticides Currently Utilized at RSW

#	Chemical	Category
1	Glyphosate	Herbicide
2	Acephate	Insecticide
3	Diquat DiBromide	Herbicide
4	Isoxaben	Herbicide Pre-M
5	Oryzalin	Herbicide Pre-M
6	Halofenozide	Insecticide
7	Trichlorfon	Insecticide
8	Imidacloprid	Insecticide
9	Thiophanate Methyl	Fungicide
10	Atrazine	Herbicide
11	Fenozycarb	Insecticide
12	Benzothiadiazole	Herbicide
13	Bifenthrin	Insecticide
14	Cyfluthrin	Insecticide
15	Mefenoxam	Fungicide
16	Abamectin	Insecticide
17	Acetamide	Herbicide Pre-M
18	2,4-Dichlorophenoxyacetic	Herbicide
19	Octen	Insecticide
20	Lactic Acid	Insecticide
21	Pemethrin	Insecticide
22	Piperonyl Butoxide	Insecticide
23	Blend of Methylated Seed Oil, Paraffinic Oil, Non-Ionic Surfactants	-----
24	Synthetic Latex, Alcohol Ethoxylate	-----

The Maintenance Department complies with all federal and state laws and guidelines regarding the storage and use of these chemicals. Current Material Safety Data Sheets (MSDS) are kept on file in the Maintenance Department office for all pesticides utilized at the airport. An MSDS is a form containing information on the properties of a particular substance such as a pesticide. An important component of product handling and workplace safety, it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as toxicity, health effects, first aid, storage, disposal,

ACM Revision: _____
Original Date: _____



protective equipment, and spill-handling procedures. In the U.S., the Occupational Safety and Health Administration (OSHA) requires that MSDSs be available to employees for potentially harmful substances handled in the workplace under the Hazard Communication regulation.

All pesticides are regulated by the Environmental Protection Agency (EPA) and each state has its own rules on pesticide application and licensing. The EPA receives its authority to register pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). States are authorized to regulate pesticides under FIFRA and under state pesticide laws. States may place more restrictive requirements on pesticides than the EPA.

In Florida, pesticides, their use and licensing are regulated by FDACS. Specifically, the laws that regulate this industry include: Chapter 487, Florida Statute (F.S.) – Pesticide Regulation and Safety; Chapter 5E-2 Florida Administrative Code (F.A.C.) – Pesticides; and Chapter 5E-9 F.A.C. – Licensed Pesticide Applicators and Dealers.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM

INSPECTOR

27

ACM Revision: _____
Original Date: _____



4.0 RESOURCES FOR IMPLEMENTING THE PLAN

Requirement: FAR Part 139.337 (e) (4); *Identification of resources that the certificate holder will provide to implement the plan.*

The Operations Department at RSW is responsible for providing their Operations Agents with the tools necessary to effectively carry out wildlife control efforts. The equipment utilized is maintained in good operable condition and the staff operating this equipment is adequately trained. The following resources are at the disposal of Operations Agents for the implementation of the WHMP and the control of hazardous wildlife.

- Bird bangers and whistlers (for pistol launchers)
- Vehicle siren and P.A. system
- Shellcrackers
- Single-shot 12 gauge shotgun for pyrotechnic use
- Multi-shot 12 gauge shotgun for depredation use
- .22 rifle and pellet rifle for depredation use
- Laser rifle
- Border Collie
- 2-way radio and/or cellular phone per vehicle
- Safety glasses per vehicle
- Hearing protection device per vehicle
- Latex and other types of gloves per vehicle
- Binoculars
- Cleaning kits for firearms
- Field guides for bird identification

RSW Operations vehicles are stocked with a selection of supplies from the above list in order for Operations Agents to respond accordingly to wildlife hazards at the airport. Airport Operations maintains an adequate stock of wildlife deterrent supplies for Operations Agents to conduct their daily wildlife patrols and to respond to wildlife calls from the Air Traffic Control Tower (ATCT) to disperse animals from runways and other critical areas.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



5.0 PROCEDURES DURING AIR CARRIER OPERATIONS

Requirement: FAR Part 139.337 (e) (5) *Procedures to be followed during air carrier operations that at a minimum includes—*

- (i) Designation of personnel responsible for implementing the procedures;*
- (ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;*
- (iii) Wildlife hazard control measures; and*
- (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.*

The Operations Department at RSW is responsible for the day-to-day wildlife control duties. An Operations Agent is on duty 24 hours a day, 365 days a year. Specifically, Operations Agents conduct daily runway inspections, perimeter inspections, and landside inspections. During every inspection, wildlife is observed. If a hazardous wildlife issue is present, appropriate action is taken. Details of each of these inspections are entered into the Operations Database (Microsoft Access database) on a daily basis by the agent who carried out the inspection. The type of information recorded into the database includes: wildlife species observed, their numbers, location, and type of deterrent action conducted, if necessary. Details on the current control measures are found in the Wildlife OI-3409 (found in Appendix D); Operations Instructions specific to RSW.

When responding to a wildlife hazard situation within the AOA, Operations Agents maintain radio communications with the ATCT, and they operate according to FAA guidelines.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



6.0 PROCEDURES FOR REVIEWING THE PLAN

Requirement: FAR Part 139.337 (e) (6) *Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:*

- (i) *The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and*
- (ii) *Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.*

RSW has had an active Hazardous Wildlife Working Group (HWWG) since 2005. Participants in the HWWG include representatives from the Planning and Development, Maintenance and Operations Departments, and an airport wildlife biologist, currently from Johnson Engineering. This group meets bi-monthly (every other month) to discuss all hazardous wildlife issues affecting RSW at the time.

This WHMP will be reviewed on an annual basis by the HWWG during its February meeting. Necessary changes to the WHMP will be made by the LCPA, or its representative, and the Plan updated prior to the Certification Inspection; currently conducted in late spring at RSW.

This WHMP will also be reviewed following an event as described in FAR Part 139.337 (b) (1) An air carrier experiences multiple wildlife strikes; (b) (2) An air carrier aircraft experiences substantial damage from striking wildlife; and (b) (3) An air carrier aircraft experiences an engine ingestion of wildlife. The review will be conducted at the regularly scheduled HWWG meeting following the event described in Part 139.337 (b) (1), (2) or (3), unless the event requires more immediate action.

Utilizing the HWWG venue for review of the WHMP will allow all RSW departments involved in the management of wildlife hazards to have input on the effectiveness of the WHMP in addressing hazardous wildlife issues, as well as an airport wildlife biologist familiar with the wildlife hazard issues at RSW. When necessary, other airport stakeholders such as but not limited to the ATCT and pilots representative, should be invited to the review meeting. Inviting pertinent stakeholders to the review meeting and obtaining their support will enable RSW to maintain a WHMP that operates productively.

In order to undertake a thorough review of the WHMP the following records will need to be kept and provided to HWWG members one month prior to the February review meeting:

1. All wildlife strike reports since the last WHMP review. For the first annual review the strike reports reviewed will date back to the FAA approval of the WHMP.

And a summary of each of the following over the past year:

2. Wildlife control efforts including what worked, what did not, and possible new control measures the airport would like to implement for the following year.
3. Wildlife observations and monitoring as recorded by the Operations and Planning and Development Departments, respectively.
4. The progress made in the implementation of the WHA recommendations.
5. New development on or near (within 10,000' of the AOA) the airport that may change hazardous wildlife activity at the airport, either by reducing it or increasing it.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

A point person on the HWWG should be appointed to collect this information from the different departments and assemble into a concise report for dissemination to all members of the HWWG. The point person could change from year to year if the Working Group felt this would benefit the review process. Keeping accurate records of the above referenced data will be important in evaluating the effectiveness of the WHMP. **Table 6-1** lists the records being kept by the airport, which department is responsible for maintaining them, how and where the records are stored, and how frequently the information recorded.

Table 6-1 List of Wildlife Hazard Management Data Maintained by RSW

Data	Department	How	Where	When
Wildlife strike reports	Operations	By Operations Agents, pilots or other	On strike reporting form (FAA Form 5200-7), submitted to the FAA, electronic and paper copy kept	Each time a wildlife strike is reported
Wildlife control efforts	Operations	By Operations Agents	Action recorded in Operations Access database	After each survey of the AOA and after each deterrent action
Wildlife observations	Operations	By Operations Agents	Observations recorded in Access database	After each survey of the AOA and after each deterrent action
Wildlife observations / monitoring	Planning and Development	Manager of Environmental Compliance	Airman software	Bi-weekly dawn, midday and dusk surveys plus an annual spotlight survey of the AOA
Progress on implementing WHA recommendations	Planning and Development	Manager of Environmental Compliance	Matrix from WHMP (Word table)	Matrix updated/reviewed monthly
New development on or near the airport	Planning and Development	Manager of Environmental Compliance	Establish a Word table specifically for this purpose	Table updated/reviewed monthly

As part of the WHMP annual review, the HWWG should address whether any aspect of the WHA should be reevaluated based on the wildlife observations/monitoring conducted throughout the year. Problems that could trigger portions of the WHA to be reevaluated include but are not limited to:

- An influx of a wildlife species or species group beyond what is normally observed by Operations/Planning and Development;
- A significant increase in wildlife strikes per 10,000 movements; or
- Whenever the airport believes a WHA reevaluation is needed.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



7.0 A TRAINING PROGRAM FOR AIRPORT PERSONNEL

Requirement: FAR Part 139.337 (e) (7) *A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.*

A training program is essential at any airport for wildlife control personnel to carry out a safe and effective wildlife control program. RSW currently has a training program for their Operations Agents and in 2005 they expanded their training program, specifically on wildlife identification, to staff of the Maintenance and Planning and Development Departments.

7.1 FAA Requirements for a Training Program

As specified in FAR Part 139.337 (e) (7) the training shall be carried out by a qualified wildlife damage management biologist, also referred to as a qualified airport wildlife biologist. On June 28, 2006 the FAA issued AC No. 150/5200-36 – Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports. The circular provides guidelines on professional qualifications required for:

- Wildlife biologists conducting wildlife hazard assessments,
- Wildlife biologists preparing wildlife hazard management plans,
- Training instructor qualifications, and
- A training curriculum outline.

The American Association of Airport Executives (AAAE) and Embry-Riddle Aeronautical University, in cooperation with the FAA and the USDA, are offering training courses designed to meet the above referenced FAA AC. Particulars may be obtained from the respective providers. Airports may provide training for managing hazardous wildlife species internally or through independent contractors/consultants to meet their needs. However, only those individuals having met the FAA training requirements to become instructors may provide training to airport personnel, as outlined in AC No. 150/5200-36.

7.2 WHA Training Recommendations

The WHA recommended that bird identification training, particularly for wildlife control personnel, be increased to twice annually from the formerly once annually, in order to include migratory and overwintering species. A wildlife identification training session should be divided into a classroom presentation and a practical portion in the field. These sessions should be held during a time of year and time of day that will maximize the number of wildlife species, particularly birds, to be observed, and be representative of what is typically found within and around the AOA.

OCT 12 2011

ACM Revision: _____
Original Date: _____

32

JEM
INSPECTOR



Since the curriculum for the FAA required, minimum-8-hour training for wildlife control personnel (see section 7.1.) includes a section on bird and mammal identification, it could be designed to serve both of the semi-annual wildlife identification trainings recommended in the WHA. The recommendation was made due to the seasonal presence of migratory and overwintering species at RSW and for the importance of wildlife control personnel correctly identifying species prior to conducting their deterrent activities.

It will be the responsibility of the Operations Department to maintain accurate records of the staff members that attended each training opportunity related to the management of wildlife hazards.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR



8.0 PREPARERS AND CONTRIBUTORS TO THIS PLAN

The WHMP was completed under the guidelines of FAA FAR Part 139.337(c) and FAA AC 150/5200-36 “Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports.” The two leading preparers are qualified airport wildlife biologists from Johnson Engineering, William Brammell and Anik Smith; their bios are included below. Airport staff (consisting primarily of Operations, Maintenance and Planning staff) significantly contributed in the preparation and writing of this document.

Anik Smith, Johnson Engineering - Airport Wildlife Biologist

Ms. Smith was the Project Manager for the WHA conducted at RSW in 2008-2009. She holds a BS in Environmental Biology and has over 14 years of experience in the environmental field. Anik completed the FAA approved Wildlife Hazard Management course through Embry-Riddle Aeronautical University in 2006 and attended the Joint Bird Strike Committee–USA/Bird Strike Committee–Canada Annual Meeting in 2006 and 2008. Her experience includes three years of ornithological field research experience for the University of Memphis, Dartmouth College, Bird Studies Canada and the Wildlife Conservation Society, and 12 years of experience in conservation lands management including writing and implementing land management plans and protected species’ management plans, GPS/GIS mapping, wildlife surveys, and monitoring reports. For the last five years Anik has worked with the Lee County Port Authority consulting on environmental projects at Southwest Florida International Airport and Page Field General Aviation Airport, and acted as a member of their Hazardous Wildlife Working Group.

William Brammell, Johnson Engineering - Airport Wildlife Biologist

Mr. Brammell holds a B.A. in Geography and a M.P.A in Public Administration – Environmental Policy. He has over 18 years of experience in the environmental field. He performs Clean Water Act (CWA) Section 404 wetland permitting and State of Florida Environmental Resource Permit (ERP), wetland mitigation planning and monitoring and regularly coordinates these activities with the various Water Management Districts, Army Corps of Engineers and local municipalities. Mr. Brammell specializes in threatened and endangered (T&E) survey and permitting, Endangered Species Act (Section 7 consultation), Migratory Bird Treaty Act coordination and is an Authorized Gopher Tortoise Relocation Agent. National Environmental Policy Act (NEPA) experience includes Environmental Assessment (EA) documentation and Categorical Exclusion (CE) biological support documentation for various airports in Florida. William completed the FAA approved Wildlife Hazard Management course through Embry-Riddle Aeronautical University in 2007. Mr. Brammell has provided hazardous wildlife assessment and biological support services for FAR Part 139 airports, general aviation airports, and private developments occurring on airport property.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

ACM Revision: _____
Original Date: _____

JEM
INSPECTOR

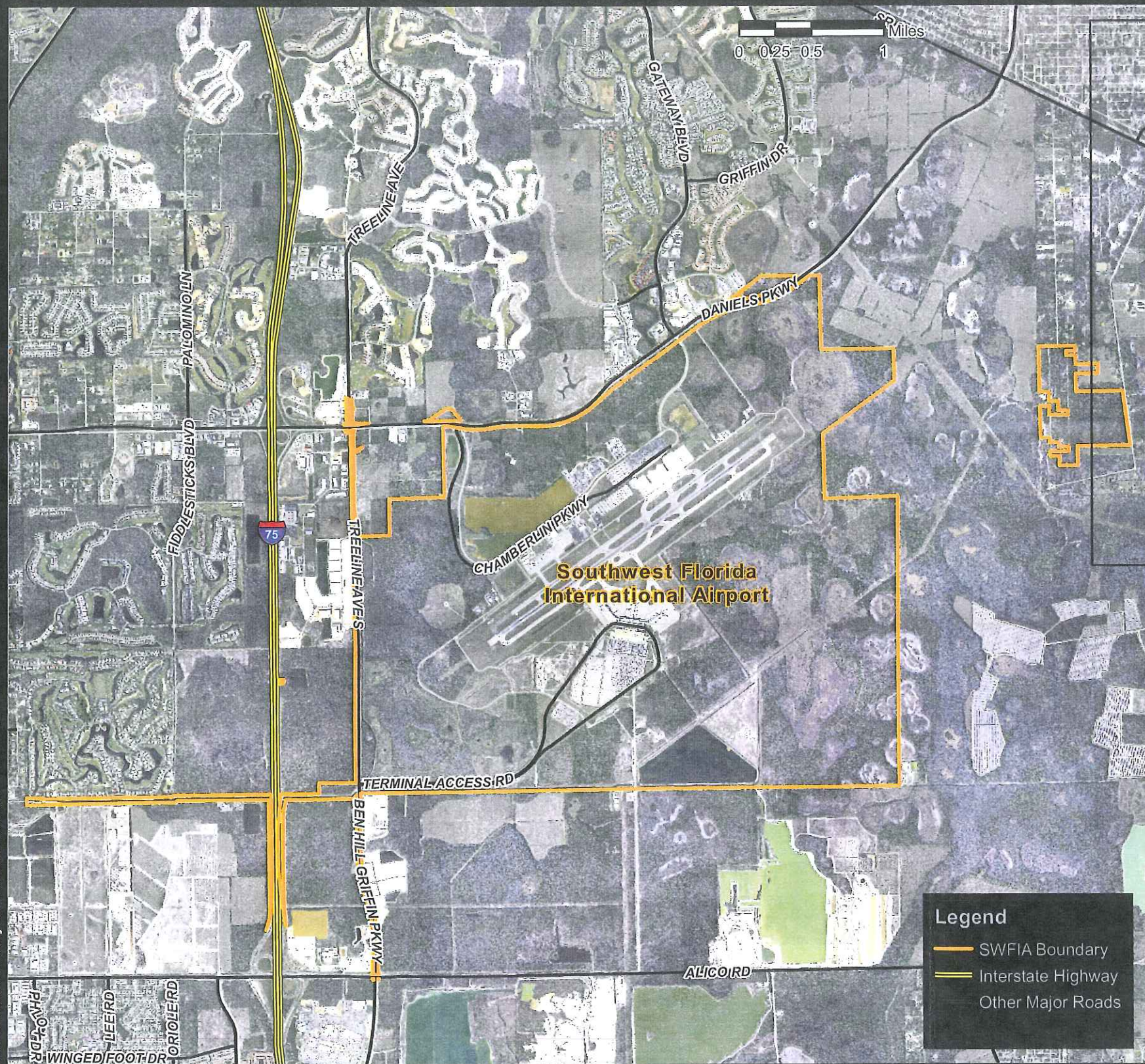
APPENDIX A
RSW LOCATION MAP

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR

\\ftms01\proj\frn\2003\3734\Task 14\July 2010\Location2.mxd



Data Sources:
Lee County background from
Lee County GIS Department;
Roads from ESRI and Lee GIS;
Florida counties (upper right) from
Florida Geographic Data Library

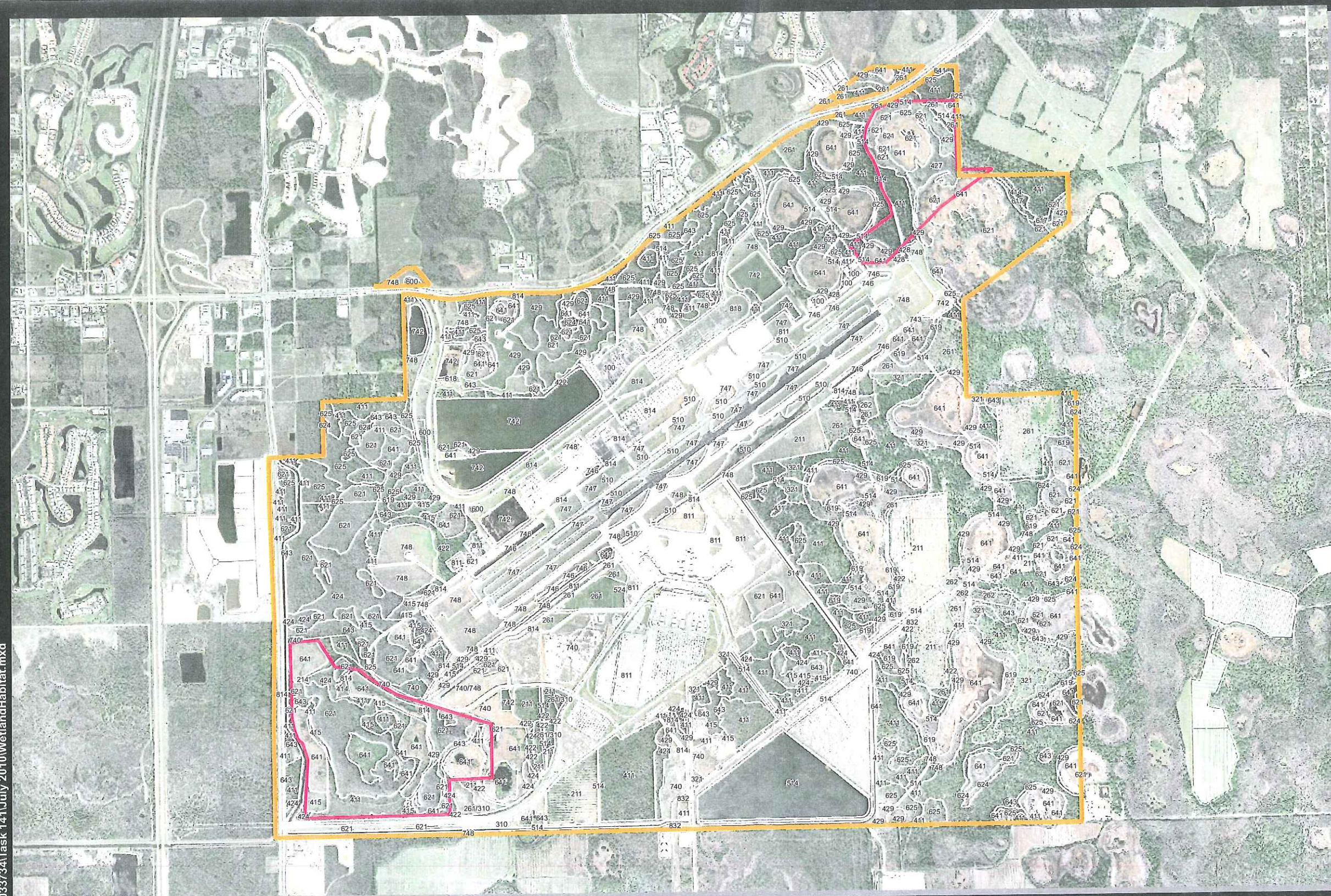
APPENDIX B
RSW LAND USE AND COVER MAP

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011




JEM

INSPECTOR



FLUCFCS Code	Area Acres	FLUCFCS Code Description
100	42.13	Urban and Built-Up
211	217.25	Improved Pasture
214	15.29	Row Crops
261	20.357	Fallow Crop Land
261/310	18.48	Fallow Crop Land/Herbaceous (Dry Prairie)
262	16.00	Fallow Crop Land - Hydric
310	0.51	Herbaceous Rangeland (Dry Prairie)
321	86.23	Panhandle Prairie
411	1,040.26	Pine Flatwoods
414	5.82	Pine - Mesic Oak
415	51.68	Mixed Pine
422	50.08	Brazilian Pepper
424	113.87	Melaleuca
427	0.45	Live Oak
428	2.59	Cabbage Palm
429	39.12	Wax Myrtle - Willow
510	33.52	Streams and Waterways
514	195.56	Canal
524	0.14	Lakes less than 10 acres
600	8.70	Wetlands (general)
617	5.07	Mixed Wetland Hardwoods
618	0.60	Willow and Elderberry
619	0.60	Cypress Wetland Hardwoods
621	495.01	Cypress
624	21.41	Cypress - Pine - Cabbage Palm
625	233.59	Hydric Pine Flatwoods
641	669.74	Freshwater Marsh
643	92.73	Wet Prairie
740	347.47	Disturbed Land
740/748	24.90	Disturbed Land / Maintained Grass Areas
743	205.60	Borrow Area
746	2.66	Spill Area
748	30.24	Abandoned Railway
747	166.53	Dry Detention
748	433.56	Maintained Grass Areas
811	737.23	Airport
814	286.68	Roads and Highways
818	52.46	Land at Park/Facilities
917	17.67	Electrical Power Transmission Lines

LEGEND

-  SWFIA Boundary
-  FLUCFCS areas
-  Northeast & Southwest Conservation Areas



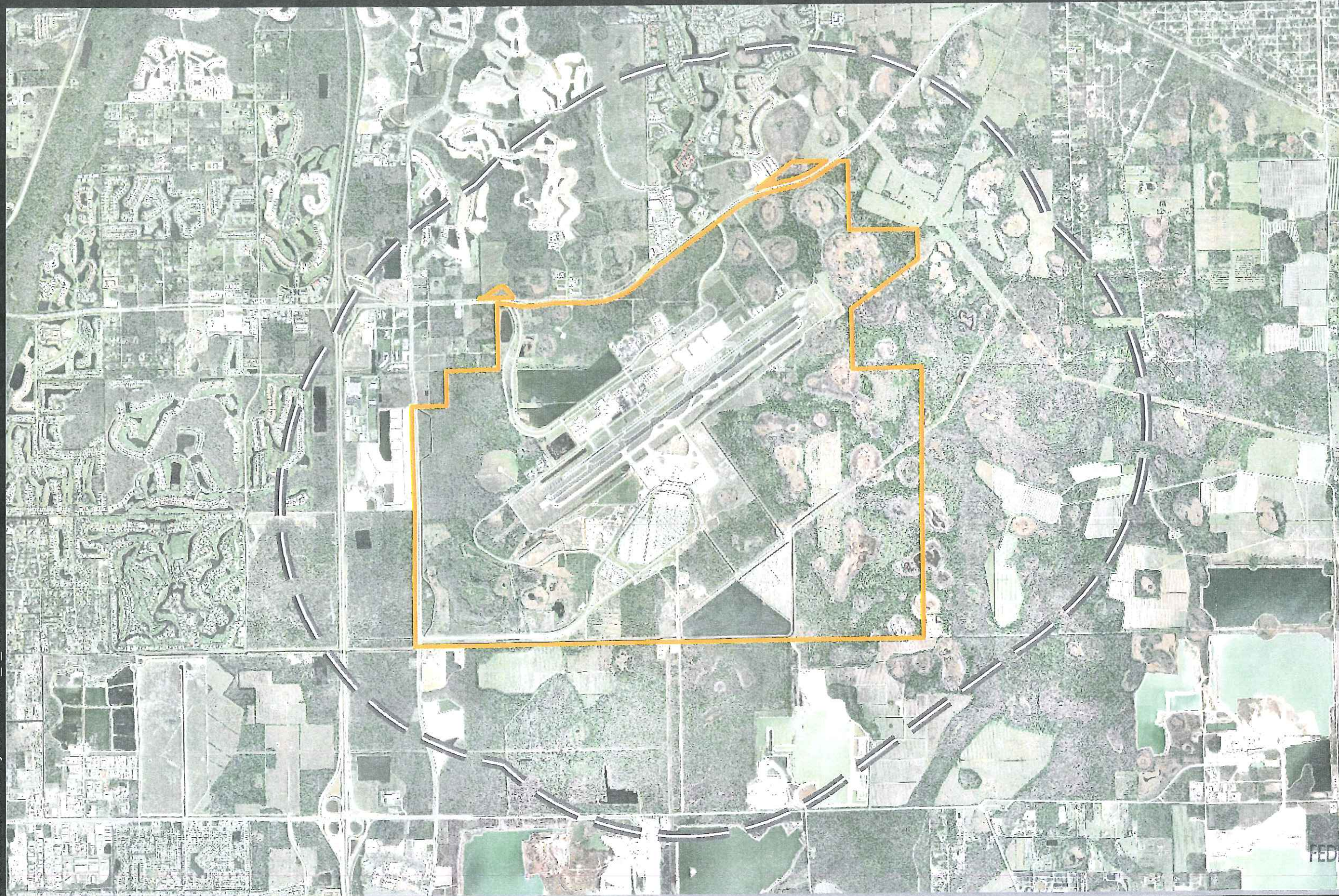
APPENDIX C
AIRPORT AERIAL SHOWING 10,000' SEPARATION DISTANCE

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR

\\frms01\proj-fmn\20033734\Task 141\July 2010\10000 ft buffer.mxd



LEGEND

 SWFIA Boundary

 10,000-foot separation distance

0 2000 4000
SCALE IN FEET



Lee County Port Authority - RSW Wildlife Hazard Management Plan; Lee County, Florida

Appendix C

10,000 foot separation distance

2122 Johnson Street
Fort Myers, Florida 33901
(239) 334-0046

OCT 12 2011
JOHNSON
ENGINEERING
INSPECTOR

APPENDIX D
LCPA OI-3409

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR

Operations Instruction
SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
Lee County Port Authority
AIRPORT OPERATIONS TECHNIQUES AND
COMMUNICATION GUIDELINES
FOR THE WILDLIFE PROGRAM

INTENT

To identify techniques to combating wildlife on or adjacent to the airport that may pose a safety threat to aviation operations.

HOW TO OBTAIN THIS PUBLICATION

This publication can be obtained from the:

Southwest Florida International Airport
Airport Operations Department
11000 Terminal Access Road, Suite 8671
Fort Myers, Florida 33913
(239) 590-4721

I. **GENERAL**

The Southwest Florida International Airport has habitats that attract wildlife. As such, the Operations Department will remain alert to alleviate wildlife activity that presents a hazard to aviation.

II. **GUIDELINES**

- A. For the purpose of identifying species of wildlife which may demand special control or handling requirements, agents shall be familiar with species listed as federal or state endangered wildlife.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

B. Agents shall also be familiar with equipment used in the control of wildlife activities, for example:

1. Vehicle siren and P.A. system
2. Scare rockets and pistol
3. Shell crackers and the safe and proper use of a shotgun, .22 rifle, and pellet rifle
4. Laser rifle
5. Border Collie

C. Field conditions shall be monitored with control measures provided upon request from control tower personnel or when observed day-to-day conditions pose safety hazards which warrant such measures.

III. PROCEDURES

A. Bird Hazard Reduction

1. The initial step in the prevention of possible bird hazards is to identify those factors that attract or may attract birds, including but not limited to:
 - a. Food
 - b. Shelter
 - c. Water
 - d. Territory
2. Identification of factors which are attracting birds will be brought to the attention of the Airport's Hazardous Wildlife Working Group so corrective measures can be planned and implemented.
3. Reasonable efforts have been made to identify and prevent attractions for wildlife that may create hazardous conditions to aircraft operations including but not limited to:
 - a. Elimination of food, shelter, and water
 - b. An ongoing aquatic weed reduction program
 - c. AOA canals rip rapped

B. Bird Removal

1. When birds populate sensitive safety areas, attracted by temporary habitat conditions or pose safety hazards, scare devices should first be used in an attempt to scare birds from the airport. Time of day

and methods should be alternated to increase effectiveness of scare tactics. Equipment and devices used to scare wildlife include but are not limited to the following.

- a. Vehicle sirens provide four distinctive unpleasant sounds, of which alternating between the four proves most effective
 - b. Shell crackers, to be used with the shotgun
 - c. Border Collie
 - d. 9 mm pyrotechnic rounds shoot streamers or bangers used with the appropriate pistols
2. In the event the above methods are ineffective, a combination of the devices should be used.
 3. In the event of a wildlife strike to an aircraft the following guidelines prevail:
 - a. Agents should attempt to collect any remains present. ARFF can assist with a water wash down if necessary.
 - b. Agents should interview any aircrew reporting a strike, in person if possible, to determine type of bird if known, location of strike, phase of flight, effects on flight, and all other elements necessary to complete the bird strike report.
 - c. If the bird species is unable to be determined, feather samples or other remains should be collected and submitted for positive species identification.

C. Alligator Removal

1. Alligators shall be categorized into two (2) groups: alligators under four (4) feet in length and alligators four (4) feet and longer.
 - a. Alligators under four (4) feet in length shall be scarred away from any air operation area by trained Operations staff.
 - b. Alligators four (4) feet or longer in length shall also be discouraged by scare techniques. However, in the event that scare techniques are not successful, the Florida Fish and Wildlife Conservation Commission licensed trapper should be contacted for removal of the alligator.

OCT 12 2011

D. Hog or Other Large Animal Removal

1. Hogs or other large animals within the perimeter fence shall be coaxed to depart by employing scare techniques or herding procedures.
2. As a last resort, depredation is recommended. Maintenance shall be notified for proper removal of carcasses.
3. Scare techniques and herding procedures shall not be a consideration if a imminent threat to aviation safety exists.

E. Reptile, Amphibian, and Small Animal Removal

1. Scare techniques, and, or removal and relocation procedures shall be employed to keep reptiles, amphibians, and small animals clear of the aircraft operating areas.
2. Upon discovery of any dead reptile, amphibian, or small animal, proper removal procedures shall be accomplished in a timely manner.

F. Record-keeping

1. Records are kept on all wildlife management activities conducted at the Southwest Florida International Airport. Agents will record all pertinent information in the monthly control log.
2. When recording the formation, the following should be included:
 - a. Date
 - b. Time
 - c. Grid location
 - d. Method of control
 - e. Number removed/killed
 - f. Type of wildlife
 - g. Remarks
 - h. Canine remarks
3. The remarks section has been set aside for information which may be helpful in identifying possible attractions or trends, for example:
 - a. Types of activity: Feeding, loafing, roosting, etc.
 - b. Field conditions: Wet, high grass, mowing, etc.

- c. Weather: Clear, overcast, raining, etc.
 - d. Special Characteristics: Flight direction, food attractions, etc.
4. Bird strikes will be recorded in the same manner as other activity. Details of the strike will be entered into the remarks section and an FAA Form 5200-7 will be filed. A copy of the submitted form will be kept in the Bird/Wildlife Strike log book.

IV. COMMUNICATION PROCEDURES BETWEEN THE FEDERAL AVIATION
ADMINISTRATION AIR TRAFFIC CONTROL SPECIALISTS (FAA ATCS) AND THE
AIRPORT OPERATIONS DUTY AGENT

The Southwest Florida International Airport operations duty agents monitor the airport for wildlife hazards several times per day and continuously if necessary. Additionally, the Lee County Port Authority, the operator of the airport, requests and encourages FAA ATCS to notify airport operations at the moment of awareness of wildlife on the airport. This operations instruction (OI) should be used as a guideline for the coordination that must occur between the two organizations when observing or combating wildlife and the responsibilities of the FAA ATCS and the Port Authority.

A. Airport Operations Duty Agent Communication Responsibilities

- 1. Agents shall be familiar and proficient with operating two way aviation band radio equipment to communicate directly with the FAA ATCS.
- 2. Agents shall always have a back up communication plan ready if needed.
- 3. Agents shall also be familiar with no radio (NORDO) procedures should radio and back up communication failure occur including:
 - a. Knowing light gun signals
 - b. Having a pre-planned route to clear the movement area under NORDO
 - c. Clear the movement area and immediately notify the FAA ATCS if the wildlife hazard still exists and what happened to the communications
- 4. FAA ATCS will be notified via two-way radio or by phone when wildlife control activities are conducted. Personnel will notify FAA ATCS of their present location and the general area where wildlife control activities are being conducted.

FEDERAL AVIATION ADMINISTRATION

5. Duty agents will monitor ground control 121.9 when in operations vehicles in case FAA ATCS may call for assistance.
6. Personnel will position themselves, when at all possible, between the hazardous wildlife threat and all runways/taxiways as to deter the birds/wildlife away from all moving aircraft.
7. Personnel will perform wildlife control activities between aircraft take-offs and landings.
8. Below is an example of a communication from the operations duty agent to the FAA ATCS:

Fort Myers Ground Airport Operations;
I'm located at (state position) needing to harass two (state type of wildlife);
I'm not sure where the (restate type of wild life) will go;
I don't see any aircraft;
What is the position of the nearest arrival?

B. FAA ATCS Responsibilities

1. The FAA ATCS should notify airport operations via the telephone number 590-4810, Airport Communications, at the moment of awareness of any of the following wildlife hazards on the airport:
 - a. Birds
 - b. Alligators
 - c. Mammals
 - d. Any other wildlife that impacts operations
2. The FAA ATCS alternatively may notify airport operations via ground or local control if the ATCS know that the operations agent is on the frequency.
3. The current airport grid map is the proper tool for identifying the location of the wildlife hazard. The following reporting phraseology is an example of a message that FAA ATCS could transmit:

This is Fort Myers Ground;

Instruction: OI-3409

Date: 07/20/05

There are 3 (or X) birds/mammals/alligators on the runway/taxiway
(or X);

At (X location or state alpha numeric grid);

(State any other pertinent details), for example;

Traffic is holding until the hazard(s) is/are removed.

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM

INSPECTOR

Revised 07/26/11

APPENDIX E
FEDERAL DEPREDAATION PERMIT

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

1. PERMITTEE

SOUTHWEST FLORIDA INTERNATIONAL AIRPORT
11000 TERMINAL ACCESS ROAD, SUITE 8671
FORT MYERS, FL 33913

2. AUTHORITY-STATUTES
16 USD 703-712

REGULATIONS
50 CFR Part 13
50 CFR 21.41

3. NUMBER
MB673842-0

4. RENEWABLE
☒ YES
☐ NO

5. MAY COPY
☒ YES
☐ NO

6. EFFECTIVE
04/01/2011

7. EXPIRES
03/31/2012

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)
TOM NICHOLS
DEPARTMENT DIRECTOR, OPERATIONS

9. TYPE OF PERMIT
DEPREDAATION AT AIRPORTS

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
Airport property

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. You are authorized to take, temporarily possess, and transport the migratory birds specified below to relieve or prevent injurious situations impacting public safety. All take must be done as part of an integrated wildlife damage management program that emphasizes nonlethal management techniques. You may not use this authority for situations in which migratory birds are merely causing a nuisance.

(1) The following may be lethally taken: Minimum numbers and species.

(2) The following may be live-trapped and relocated: Minimum numbers and species.

E. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests and eggs, including species that are not listed in Condition D (except bald eagles, golden eagles, or endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. A direct threat to human safety is one which involves a threat of serious bodily injury or a risk to human life.

You must report any emergency take activity to your migratory bird permit issuing office (404) 679-7070 within 72 hours after the emergency take action. Your report must include the species and number of birds taken, method, and a complete description of the circumstances warranting the emergency action.

F. You are authorized to salvage and temporarily possess migratory birds found dead or taken under this permit for (1) disposal, (2) transfer to the U.S. Department of Agriculture, (3) diagnostic purposes, (4) purposes of training airport personnel, (5) donation to a public scientific or educational institution as defined in 50 CFR 10.12, (6) donation to persons authorized by permit or regulation to possess them, or (7) donation of migratory game birds only to a public charity (those suitable for human consumption). Any dead bald eagles or golden eagles salvaged must be reported within 48 hours to the National Eagle Repository at (303) 287-2110 and to the migratory bird permit issuing office at (404) 679-7070. The Repository will provide directions for shipment of these specimens.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31

OCT 12 2011

JEM

ISSUED BY

Carmen P. Smith

TITLE

CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 4

INSPECTOR

DATE

05/11/2011

G. You may not salvage and must immediately report to U.S. Fish and Wildlife Service Office of Law Enforcement any dead or injured migratory birds that you encounter that appear to have been poisoned, shot, electrocuted, have collided with industrial power generation equipment, or were otherwise killed or injured as the result of potential criminal activity. See USFWS OLE contact information below.

H. You may use the following methods of take: (1) firearms; (2) nets; (3) registered animal drugs (excluding nicarbazin), pesticides and repellents; (4) falconry abatement; and (5) legal lethal and live traps (excluding pole traps). Birds caught live may be euthanized or transported and relocated to another site approved by the appropriate State wildlife agency, if required. When using firearms, you may use rifles or air rifles to shoot any bird when you determine that the use of a shotgun is inadequate to resolve the injurious situation. You may use paint ball guns to haze birds or deter birds only when other methods of hazing are ineffective.

Anyone who takes migratory birds under the authority of this permit must follow the American Veterinary Medical Association Guidelines on Euthanasia when euthanization of a bird is necessary (http://www.avma.org/issues/animal_welfare/euthanasia.pdf).

I. You may temporarily possess and stabilize sick and injured migratory birds and immediately transport them to a federally licensed rehabilitator for care.

J. The following subpermittees are authorized: any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

K. You and any subpermittee(s) must comply with the attached Standard Conditions for Migratory Bird Depredation Permits. **These standard conditions are a continuation of your permit conditions and must remain with your permit.**

For suspected illegal activity, immediately contact USFWS Law Enforcement at: (352) 429-1037

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011

JEM
INSPECTOR



Standard Conditions Migratory Bird Depredation Permits 50 CFR 21.41

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. The standard conditions below are a continuation of your permit conditions and must remain with your permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.
[Note: Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at <http://www.atf.gov/explosives/how-to/become-an-fel.htm>.]

2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.
4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: <http://www.fws.gov/endangered>.

5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND or <http://www.reportband.gov>.
6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency.
7. This permit does not authorize take or release of any migratory birds, nests, or eggs on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
8. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
 - (a) turned over to the U.S. Department of Agriculture for official purposes, or
 - (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
 - (c) completely destroyed by burial or incineration, or
 - (d) with prior approval from the permit issuing office, donated to persons authorized by permit or regulation to possess them.

OCT 12 2011

JEM
INSPECTOR

9. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of letters you have provided.
10. You and any subpermittees must carry a legible copy of this permit, *including these Standard Conditions*, and display it upon request whenever you are exercising its authority.
11. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
12. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.
13. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 2/24/2011)

FEDERAL AVIATION ADMINISTRATION

OCT 12 2011