

# Industry/Government Collaboration Wildlife Hazard Mitigation

## PILOT PROJECT SUMMARY:

### Panama Tocumen International Airport

**ICAO CAR/SAM Regional Bird/ Wildlife  
Hazard Prevention Committee Meeting and  
Conference, Asuncion, Paraguay**

**November 6<sup>th</sup>, 2013**

*John R Weller*



**Federal Aviation  
Administration**



# Current Challenges:

- ❖ Bird populations are increasing.
- ❖ Wildlife populations are being protected.
- ❖ Birds are staying in urban areas rather than migrating.
- ❖ Commercial aircraft movements are increasing. Throughout the world overall operations have increased.
- ❖ Aircraft are quieter.



# Common Goals:

1. Conduct wildlife hazard assessments to determine wildlife issues at the airport
2. Develop effective wildlife hazard mitigation plan
3. **Reduce wildlife strikes with aircraft!**



Federal Aviation  
Administration

# How does an airport with limited resources conduct a professional wildlife hazard assessment and develop a proper mitigation plan?



Idea: Industry and government working together to address hazardous wildlife issues in a regional, cooperative and prioritized manner.



# Pilot Project FAA/USDA Objectives:

1. Meet with stakeholders
2. Discuss wildlife program and learn about on-airport and off-airport issues
3. Work with wildlife team to conduct wildlife surveys
4. Determine possible habitat and wildlife management techniques that are appropriate for airports and provide recommendations
5. Help facilitate coordination with off-airport entities and government agencies
6. Help educate airport staff
7. Compile and present preliminary results and a summary of the project to stakeholders
8. Develop wildlife assessment report and assist airport with development of wildlife hazard management plan



# Project Visit Summary

- Initial site visit: June 26-30, 2012
- 2<sup>nd</sup> quarter site visit: October 1-4, 2012
- 3<sup>rd</sup> quarter site visit: March 10-14, 2013
- Final site visit: July 9-10, 2013 (PTY Only)



# Project Visit Summary

## Initial Site Visit

### Objective 1: Meet with stakeholders

- ❖ Had initial meeting with DGC, Airport Manager,

### Objective 2: Discuss wildlife program and learn about on-airport and off-airport issues

- ❖ Met with wildlife team and toured on-site and off-site wildlife attractants

### Objective 3: Work with wildlife team to conduct wildlife surveys

- ❖ Conducted initial dawn/dusk wildlife surveys with wildlife team.



# Project Visit Summary

## 2<sup>nd</sup> Quarter Site Visit

**Objective 3 (continued):** Work with wildlife team to conduct wildlife surveys

- ❖ Conducted dawn and dusk surveys with team

**Objective 4:** Determine possible habitat and wildlife management techniques that are appropriate for airport and provide initial recommendations

- ❖ Met with wildlife team and airport maintenance manager to discuss vegetation and drainage management improvements.

**Objective 5:** Help facilitate coordination with off-airport entities and government agencies

- ❖ Met with Dr. Matthew Miller at Smithsonian Tropical Research Institute (STRI) to discuss ID of bird remains (PTY)



# Project Visit Summary

## 3rd Quarter Site Visit

**Objective 3 (continued):** Work with wildlife team to conduct wildlife surveys

**Objective 6:** Help educate airport staff

- ❖ Conducted wildlife hazard mitigation training for airport staff



# Project Visit Summary

## Final Site Visit (PTY)

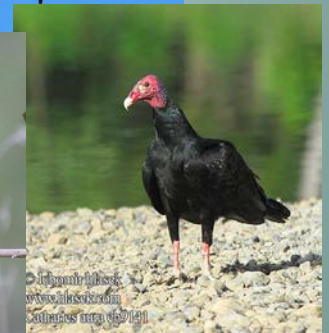
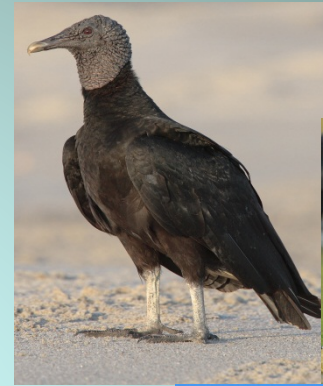
**Objective 7:** Compile and present preliminary results and a summary of the project to stakeholders

**Objective 8:** Develop wildlife assessment report and assist airport with development of wildlife hazard management plan



# Preliminary Wildlife Survey Results

- ❖ 1,588 bird observations during 18 survey iterations over 7 months
- ❖ 81 different species of birds observed
- ❖ 5 most observed species:
  - Black vulture (*Coryagyps atratus*)
  - Great-tailed grackle (*Quiscalus mexicanus*)
  - Gray-breasted martin (*Progne chalybea*)
  - Turkey vulture (*Cathartes aura*)
  - Smooth-billed ani (*Crotophaga ani*)



# Preliminary Wildlife Survey Results

- ❖ Need to continue analyzing the data
- ❖ Determine which survey points had most observations
- ❖ Determine which species are most hazardous based on size/flocking behavior/activities
- ❖ This data will help determine what mitigation efforts will have the biggest effect in minimizing dangerous strikes



# Wildlife Mitigation Efforts Completed / In Progress Since Pilot Project Began

**Very Important!!** The airports have a Wildlife Control Department that is dedicated to minimizing wildlife hazards to aircraft.

- Contract with company to maintain green areas in and ditches.
- Adjustments were made to the perimeter external drains 03R and work is being done on the inside drains to promote better drainage of stormwater (PTY)



# Wildlife Mitigation Efforts Completed / In Progress Since Pilot Project Began

- Pruned trees in flight path that served as shelter for birds.
- Increased bird surveys during migration and began taking pictures in order to create an educational newsletter as a tool for airlines and pilots to identify the hazardous bird species.
- Acquired equipment including pigeon traps, acoustic deterrents, and spikes/barbed signage on taxiways and runways to prevent birds from landing and roosting.



# Wildlife Mitigation Efforts Completed / In Progress Since Pilot Project Began

- Purchase pending on two 4x4 vehicles for wildlife patrols.
- Improving perimeter fence.
- Once drainage project is complete-mesh will be added to the drainage system.
- Installation of cameras and traps to survey wildlife activity found in peripheral areas of the airport.



# Proposed Wildlife Mitigation Efforts

Evaluating the potential for the following projects and equipment:

- ❖ Falconry
- ❖ Merlin Radar
- ❖ Bird Robot



# Continuing Challenges

- ❖ Working with local government authorities
- ❖ Increasing awareness and strike reporting with species information
- ❖ Working with environmental agencies regarding wildlife management
- ❖ Prohibition of use of certain harassment/deterrent techniques
- ❖ Habitat management in wetland areas
- ❖ Dealing with off-site landowners



# Questions?

