



NAS PAX BASH Program

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Overview



- Team Members
- Roles and Responsibilities
- Current and Historical Data
- Periodic Assessments
- Wildlife Management and Dispersal
- Contribution to Airfield Safety
- Tenant Responsibilities



Why does BASH matter?



- First reported US bird strike: Orville Wright, 1905
- Worst US loss of life due to wildlife strike:
 - Eastern Airlines flight 375, 4 October 1960
 - Ingested flock of starlings on takeoff, destroyed all four engines
 - 62 fatalities resulted
- Statistical data from 1990-2013 in the US indicates:
 - 142,000 total wildlife strikes (11,000 in 2013 alone)
 - 25 fatalities attributed to wildlife strikes
 - 279 injuries attributed to wildlife strikes
 - 62 aircraft destroyed or irreparably damaged
 - \$639 million reported cost of losses due to wildlife damage
 - Estimated as high as \$957 billion when including non-reported damage



BASH Working Group



- Involved personnel:
 - Airfield Facilities Division (AFD)
 - Environmental Services (N45)
 - USDA APHIS Personnel
 - ATC (Tower)
- Responsibilities include:
 - Data collection
 - Hazard analysis
 - Active dispersal
 - Access denial
 - Population control



Current BASH Threats



- Large Bird Species

- Raptors
 - Eagles
 - Hawks
 - Ospreys
- Waterfowl
 - Ducks
 - Geese
 - Swans
- Wading Birds
 - Herons
 - Egrets

- Small Bird Species

- Songbirds
- Blackbirds
- Corvidae

- Mammalian Populations

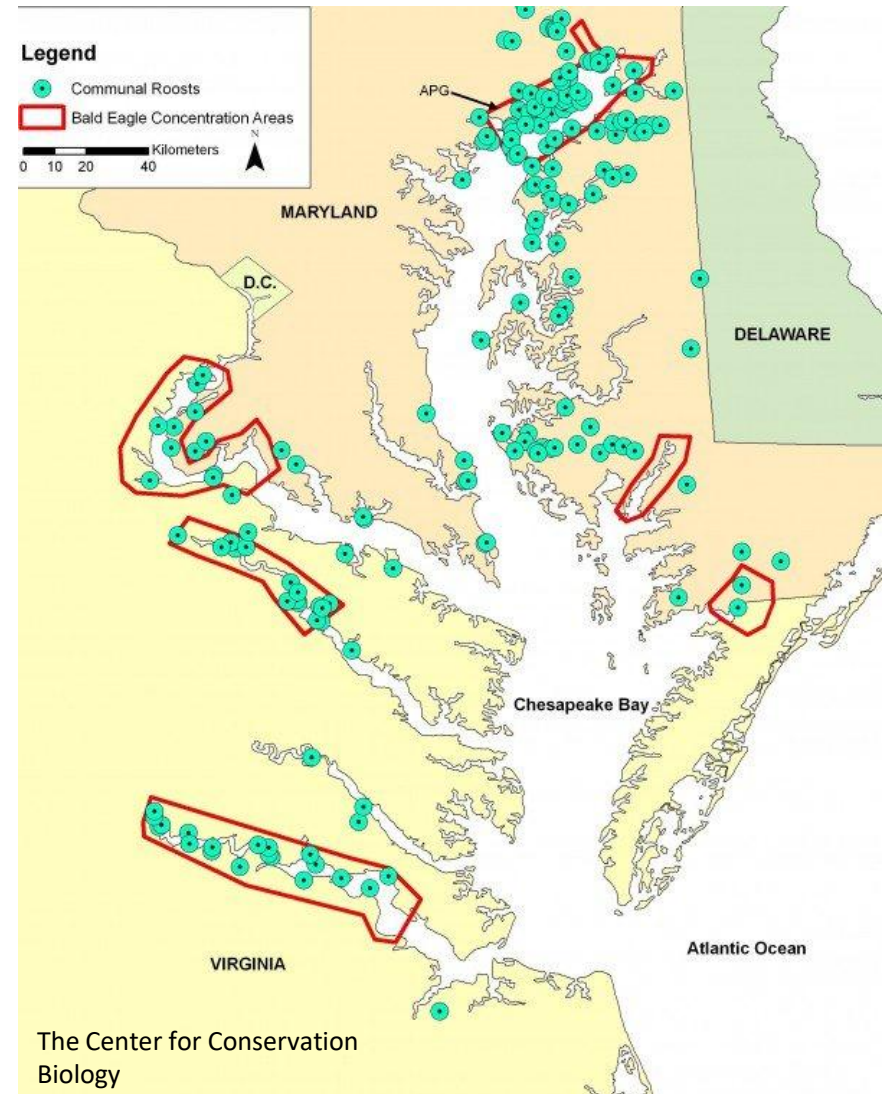
- Deer
- Groundhogs
- Foxes
- Rabbits



Migrant Eagle Population In the Chesapeake Bay



- Estimated >17,000 birds
- Birds arrive from New England and Canada to overwinter
- Communal Roosting sites; 3 within 5mi, 18 within 20mi of NAS Pax River
- Local breeding birds head south for winter (estimated >1500 breeding pairs; 2 pairs at NAS Pax River)
- Birds are beginning to return northward for the warmer months





Local Bald Eagle Concentration Areas



- Areas with trees and high banks that overlook water
- Dependent on weather conditions and availability of food (seasonal; fish in late summer/fall and waterfowl in winter)
- High populations could persist into early spring





Waterfowl

- Currently at annual high population counts
- Migratory arrivals from Canada and New England contribute to population
- Expect high numbers through the end of March, when many will head north
- Most common species:
 - Canada goose
 - Tundra swan
 - Assorted varieties of duck
- Areas of concentration:
 - Runway 32 approach
 - Runway 14 approach
 - Runway 24 approach
 - Golf course
 - Webster OLF and surrounding wetlands
- Highest periods of movement observed:
 - Prior to sunrise
 - Immediately after nightfall
 - Nights with high illumination



Blackbirds

- Includes the following species:
 - Blackbirds
 - Starlings
 - Grackles
 - Cowbirds
- Tend to roost in communal flocks with multiple species combined
- Hazards include:
 - Dawn/dusk short migrations involving massive flocks of up to 500,000 birds
 - Daytime dispersal into smaller flocks (10,000-20,000 birds) to feed in short grass areas
 - Airport infields
 - Golf courses
 - Usually encountered below 500' AGL



Deer



- Annual fawning season is approaching
- Expect increases in airfield deer population
- Activity on the airfield proper should still be low due to increasing food supplies near bedding areas
- Expect activity to increase substantially during summer crop farming in the vicinity of the airfield
 - Crops are planted strategically to prevent deer crossing runways
 - No guarantees, always expect the worst



Airfield Threat Zones



Enclosure 1:
Map of Wildlife Potential and Imminent Threat Zones

Potential Threat

Imminent Threat

Water Reclamation Facility

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Population Controls

- Per NAS PAX BASH Instruction, we do not tolerate wildlife in the imminent threat zone.
 - Primary: Non-lethal dispersal
 - Secondary: Lethal removal
- We make every effort to disperse all wildlife in and around the airfield via auditory and visual means.
- AFD, N45, and USDA conduct airfield sweeps to harass and disperse wildlife and prevent birds and animals from using the airfield as habitat.
- Wildlife removal by BASHWG personnel is authorized at all times when deemed appropriate.
- Population control is augmented by hunting activity.



Dispersal Information



- AFD scheduled BASH sweeps are performed as follows.....
 - Every 3 hours in the middle of the day. (weekday)
 - Every 45 minutes for three hours from sunrise. (weekday)
 - Every 45 minutes two hours before sunset or until securing flight operations for the day. (weekday)
 - Same times as above for weekends during any flight operations.
- AFD additionally provides on-call response when requested by ATC for dispersal and/or retrieval of wildlife remains



Dispersal Methods

- Dispersal methods employed include:
 - Vehicular intimidation - driving towards the animal, AKA “bumping”
 - Pyrotechnics – pistol-fired auditory harassment devices
 - Vehicle horn

NOTES:

- BASHWG personnel use all three above methods for dispersal with all methods being equally effective.
- During BASH sweeps, AFD concentrates on the active runway before sweeping the inactive runways.



ATC Information

- Based on visual observation and received reports, ATC updates BASH Codes via real-time radio transmissions and ATIS.

Color	Wildlife Concentration IVO PAX	Strike Risk	Response
Green	Light	Low	None Required
Yellow	Moderate	Medium	Spot Control
Red	Heavy	High	AFD Dispatched to Disperse

- ATC also operates a network of propane cannons throughout the airfield environment to provide auditory harassment in coordination with aircraft arrivals and departures



Tenant Responsibilities



- Observe and Report
 - PIREPS for the following:
 - High bird concentrations
 - Wildlife on runway
 - Near miss
 - Strike
 - Submit FAA Bird Strike Report (accessed from FAA website) as soon as possible after incident (so details remain fresh)
- Evaluate and Comply
 - Respond appropriately to ATIS BASH Codes and ATC advisories
 - Conduct real-time risk assessment, consider delaying takeoff or adjusting flight to avoid high-risk areas