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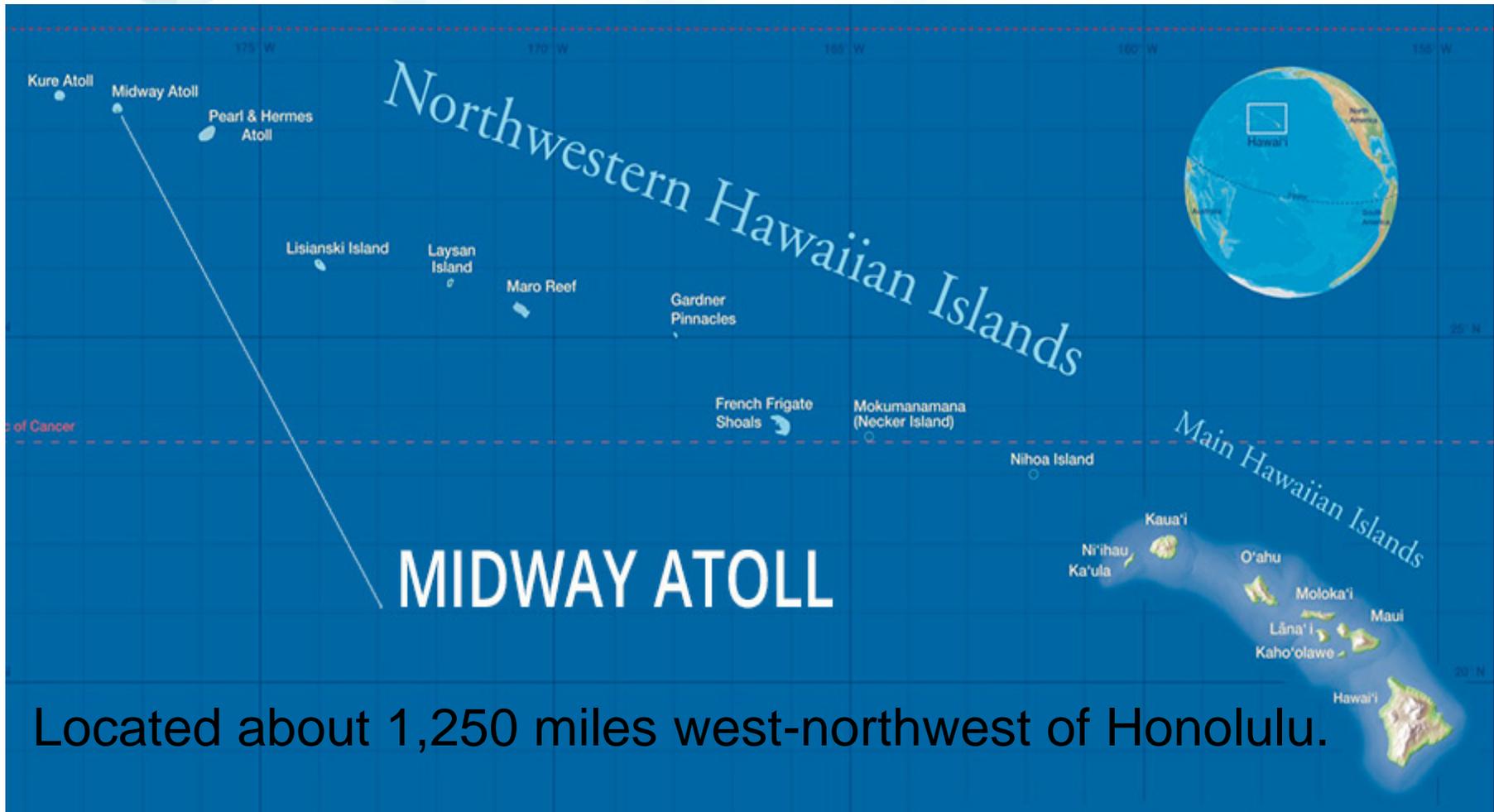
# **Midway Atoll Wildlife Hazard Management in a National Wildlife Refuge**

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**FAA**  
Office of Airports

# Midway Atoll



# Midway Atoll



Sand Island is 1.8 miles (2.9km) long by 1.2 miles (1.9km) wide or approx. 1,100 acres.

# Quick History:

- 1867-Midway is annexed by the U.S. Gov't
- 1938-the U.S. Navy starting developing the island in preparation for war.
- June 1942-the Battle of Midway between the U.S. and Japan.



# Quick History:

- In 1988, the U.S. Fish and Wildlife Services established an “Overlay” National Wildlife Refuge.
- 1993 marked the closure of the Naval Air Facility on Midway Island and the transfer to Fish and Wildlife Services.
- Approx 50 people live on the island full-time, with researchers and interns visiting to study the plants and wildlife on the island.



# Henderson Field



# Extended Operations ETOPS

ETOPS is an ICAO term for Extended Range Twin-Engine Operations.

Federal Regulation 121.161:

**(1) Two-Engine Airplanes.** These are flights whose planned routing contains a point farther than 60 minutes flying time from an adequate airport at an approved one-engine inoperative cruise speed under standard conditions in still air.

**(2) Passenger-Carrying Airplanes with More Than Two Engines.** These are flights whose planned routing contains a point farther than 180 minutes flying time from an adequate airport at an approved one-engine inoperative cruise speed under standard conditions in still air.

# Extended Operations (ETOPS)



Midway is identified as an ETOPS airfield for the central Pacific Ocean.

# Emergency Landing

June 2011- Cracked Windshield



380 Passengers and Crew  
2 Birds struck when landing - damaging wing

# Emergency Landing

August 2012



Marine F/A -18  
Mechanical Issue

# Emergency Landing

July 2014



United Flight  
Strong electrical odor  
348 passengers

# Midway Atoll NWR



# Island Wildlife:

- 2 million migratory seabirds nest on the Midway Islands
- 18 different species including 2 listed under ESA



# Bird Strike Hazards



# Bird Strike Hazards



# Mitigation Strategies

- Altering flight schedules
  - ✓ Night flights November-July

HOWEVER-night flights need to occur after 9:00pm



# Mitigation Strategies

- Enhancing habitat away from AOA
- Removal of ironwood trees within 1,000 ft (300m) of runway.



# Mitigation Strategies

- Clear vegetation from paved areas 500 ft from centerline.
  - ✓ Manual removal
  - ✓ Burning
  - ✓ Herbicides (limited)



# Mitigation Strategies

- Maintain shrub habitat 1000 ft of runway centerline-the vegetation acts as a natural barrier for monk seals reaching runway.



# Mitigation Strategies

- Bird spikes-not useful



# Procedures for Approaching Aircraft

- Prior to aircraft landing:
  - ✓ a sweep is done of taxiway and runway and any birds are harassed or physically removed from the area
  - ✓ Airport ops/ARFF will survey the frequency of birds flying over a section of runway and relay into to pilot including altitude estimate

# Procedures for Approaching Aircraft

- Lights are turned off or kept to a minimum-birds are attracted to light or are blinded and disoriented by it. The approaching aircraft also turns off all interior lights.



# Mitigation Strategies

- Harassment of birds is allowed and done mainly with trucks and horns.
- Technically, the USFWS could issue a depredation permit



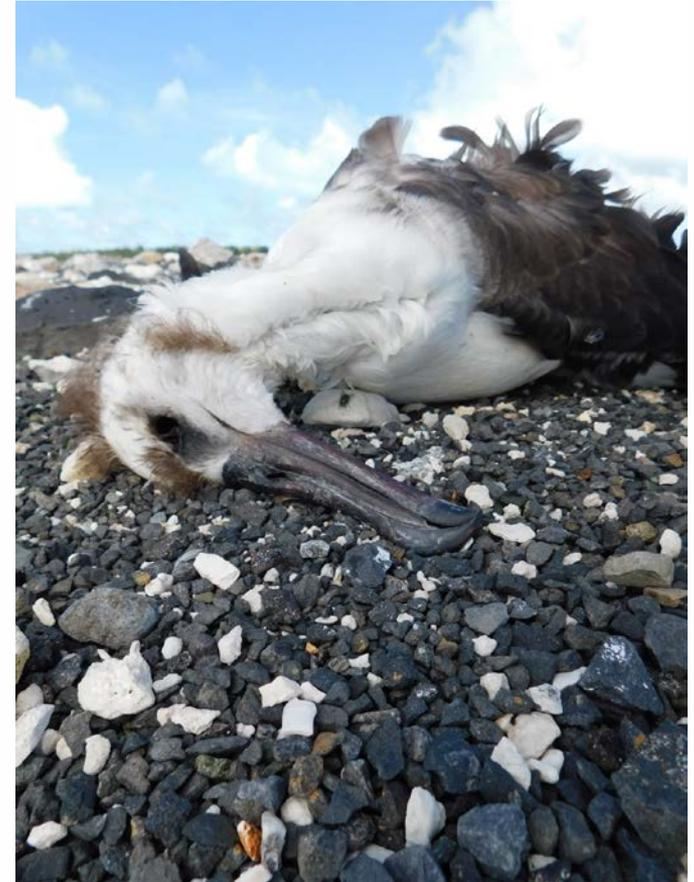
# Mitigation Strategies

USFWS currently preparing a new WHA and will update their WHMP.



# Strike Statistics

- 2002-2018: 95 strikes reported.
- 14 with multiple birds
- 10 caused damage
- Average strikes per year: 5-6
- Average flights per year: 31
- Most strikes are on approach (31)





# Questions?



[https://www.faa.gov/airports/airport\\_safety/wildlife/](https://www.faa.gov/airports/airport_safety/wildlife/)