

# ***Wildlife Hazard Management and Military Aviation***

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## WHM in Military Aviation

### A Single Bird Takes Down the U.S. Navy's 'Doomsday' Plane

Built for nuclear war, but not random bird strikes.

By Kyle Mizokami Oct 23, 2019



U.S. AIR FORCE PHOTO BY JOEH PLUEGER

### Goa: MiG crash happened due to bird-hit, pilots displayed presence of mind

A MiG-29K fighter aircraft crashed in Goa soon after it took off for a training mission. Both the pilots have managed to eject safely.



Asian News International  
Panaji  
November 17, 2019 UPDATED: November 17, 2019 06:40 IST



Visual from the MiG crash site on Saturday. (Photo: ANI)

### USMC F-35B SUSTAINED MORE THAN \$2 MILLION IN DAMAGE FROM A BIRD STRIKE DURING TAKEOFF

May 15, 2019 Latest News 3,010 Views

LIVE



**BREAKING NEWS**

15:35



## ***WHM in Military Aviation***

WBA gathers a number of Subject Matter Experts (SMEs) and military personnel involved in Wildlife Hazard Management in military aviation

Many SMEs work for both civil and military aviation

Therefore it is obvious we share knowledge and experience.



# ***CIVIL vs. MILITARY AVIATION DIFFERENCES***



## ***WHM in Military Aviation***

Differences (site, region, country specific) :

- Air Operation dynamic is often irregular in military aviation
- Military aircraft often fly lower and faster (increase impact energy)
- BS impact is higher due to Energy level generated in higher speed



Differences (site, region, country specific):

- Military aircraft often flying in formation
- Often flying at tree top level, or general below 2,000 ft AGL
- Potential greater impact on wildlife





## LOW-MEDIUM



Fast and straight

## IMPACT ON WILDLIFE

## HIGH



Slow, low and often turns



# ***CIVIL vs. MILITARY AVIATION***

## ***SIMILARITIES***





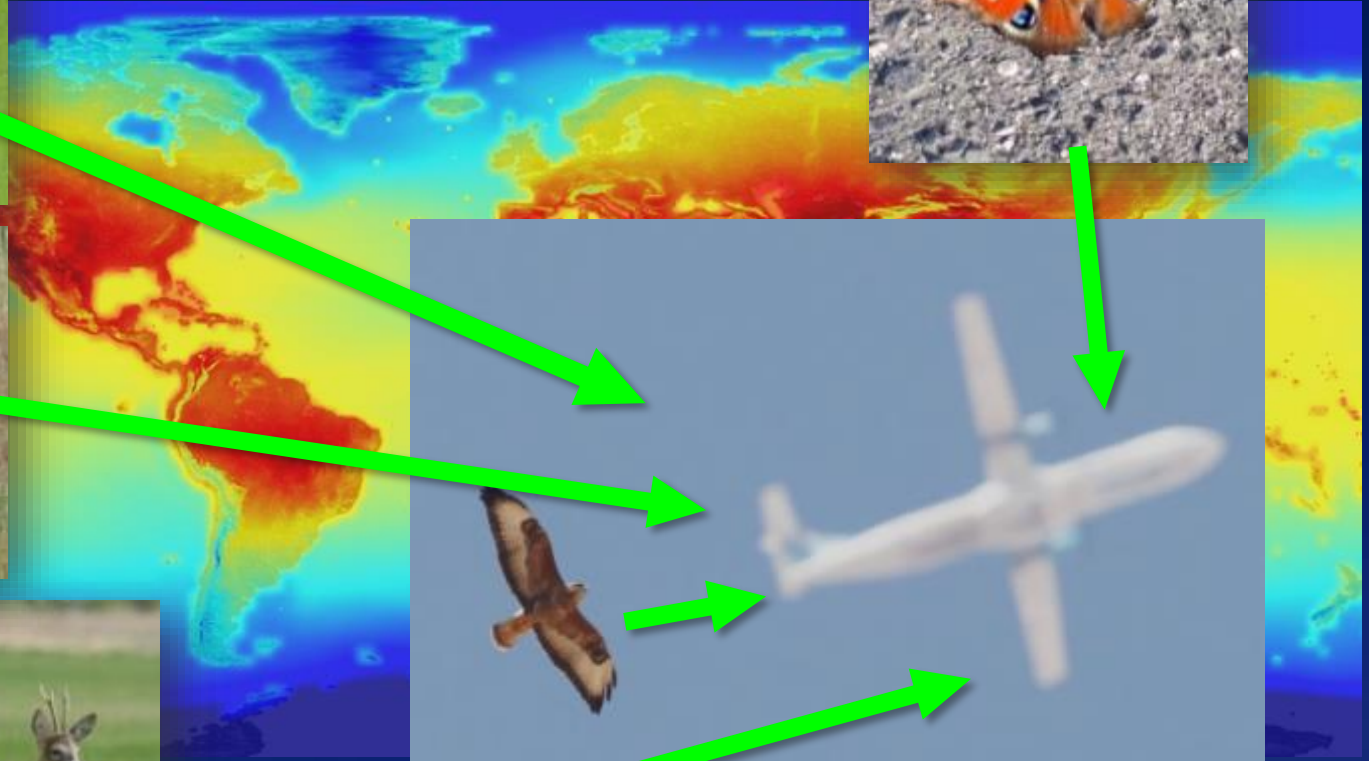
## WHM in Military Aviation

WILDLIFE SPECIES  
RESPOND VARIES

VOLNULABRE FOR  
CLIMAT CHANGES

DYNAMIC SITUATION

ANTROPOGENIC CHANGES



INCREAS IMPACT ON  
CIVIL AND MILITARY AVIATION



## DYNAMIC SITUATION

Bird/Wildlife Strike Prevention Conference

Warsaw, Poland 2018



### Current

- Large bird migration to agricultural areas
- Shifting wintering areas more north
- habituation
- **Increased risk**

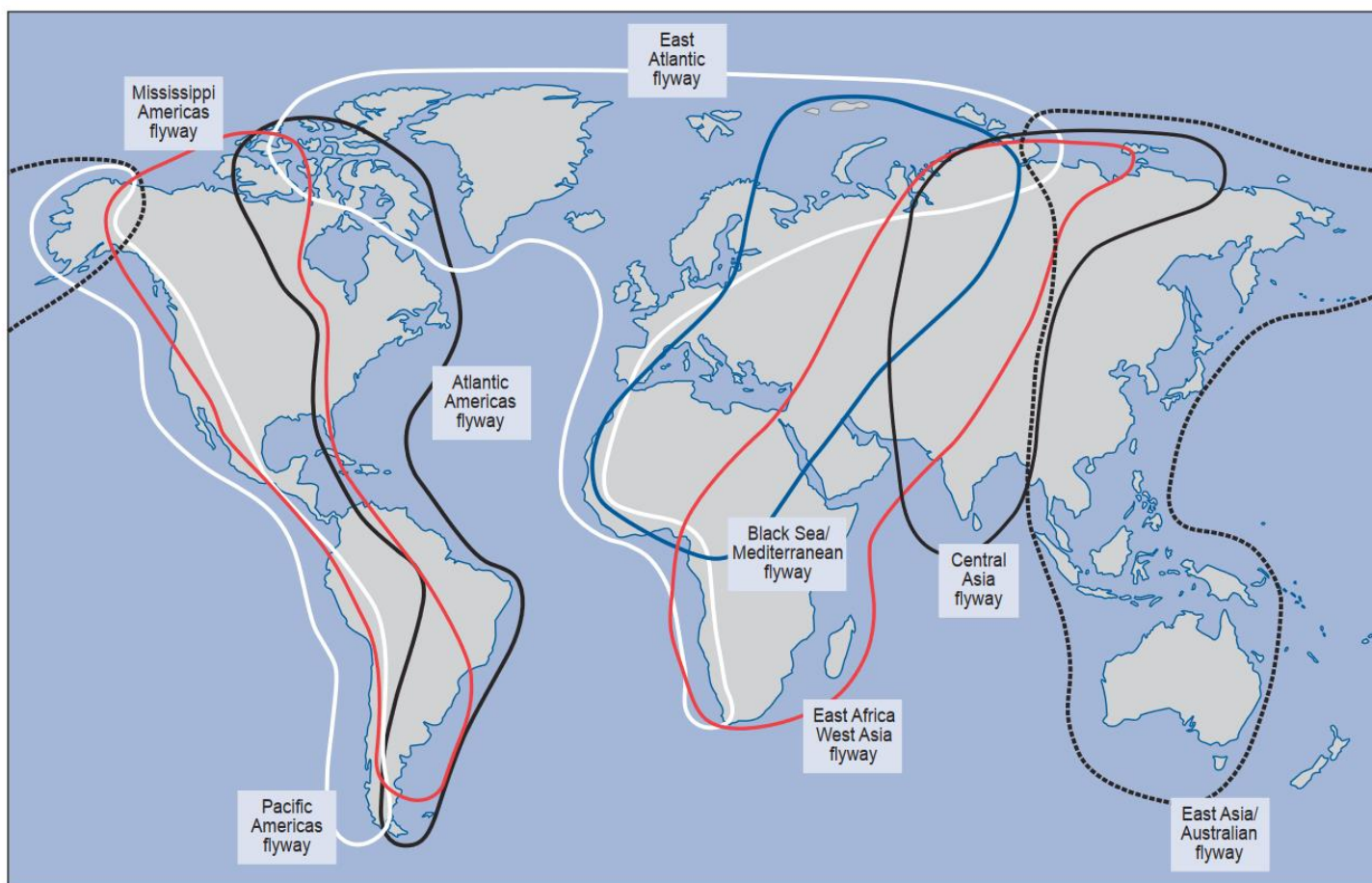
### 2030

- Changes in dynamic large scale migration
- Increased wintering close to urban areas
- Increase habituation
- **Increased risk**

**CONSTANT INCREASING RISK DUE TO ANTROPOGENIC CHANGES**

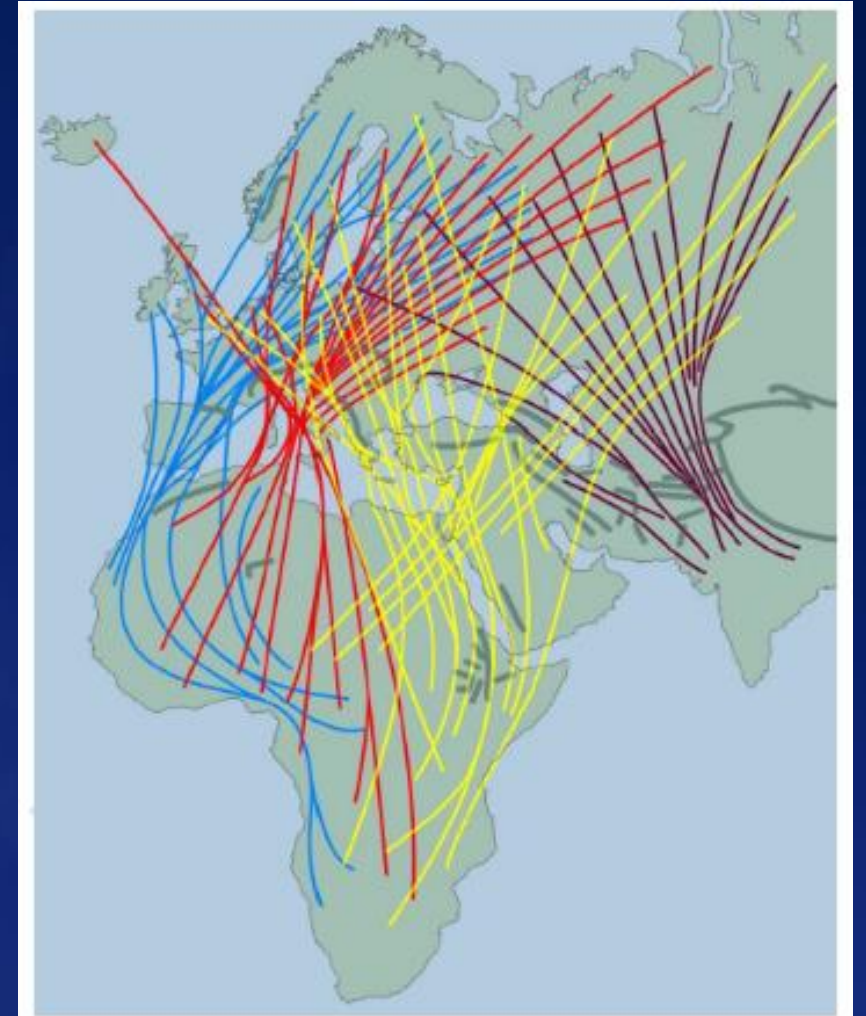


## WHM in Military Aviation



**Figure 1.** Example of generalized flyways. In this case flyways of waders (shorebirds) are depicted, as compiled by the Wader Study Group. Courtesy Rodney West.

Veen, J., Yurlov, A.K., S.N. Delany, Mihantiev, A.I., Selivanova, M.A., Boere, G.C. 2005. An atlas of movements of Southwest Siberian waterbirds. Wetlands International, Wageningen, The Netherlands



Busse et al. 2014. Evolution of the Western Palearctic passerine migration pattern. The Ring 36 (2014).





## WHM in Military Aviation



On 29 November 1975 above the Ivory Coast in West Africa, Boeing 747 at 37,900 ft AMSL reported bird strike into the engine, making the aircraft an emergency landing. The engines got seriously damaged



## ***WHM in Military Aviation***







**Cranes  
vs.  
Mi-14**

## Exposed to Habituation



**Buzzard  
vs.  
Human afford**



## ***WHM in Military Aviation***

**Participating nations agree  
that the wildlife strike prevention measures should serve,  
besides the safety of flight, the environment as much as possible.**



**NATO STANAG 3879**

**PRIORITY - SAFETY**





# ***CIVIL vs. MILITARY AVIATION***

## ***HOW TO RESPOND ?***



We can consider a few options.....



## ***WHM in Military Aviation***

- Use published documents of ICAO, ACI, EASA, ACRP, FAA
- Adopt efficient WHM Program that works in civil aviation
- Cooperation with civil aviation SMEs



- Cooperation with CAA (MAA – CAA)
- Monitor risk level using the same KPI



## ***WHM in Military Aviation***

- Increase awareness in military including decision makers (high rank officers)
- Include WH Risk in curriculum for military ATC and Pilots during basic training



## ***WHM in Military Aviation***

- Work together with allies countries and SMEs
- Share information with allies





## ***WHM in Military Aviation***

- There is a lot of information and numerous documents published and available to download
- There are many tools and procedures used in civil aviation WHM Programs that could be easily adapted to military aviation





***Thank you very much for your attention***

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World  
Birdstrike  
Association

