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## Risk Species In 12 ASA Mexican Airports Under Tropical, Arid, Semideciduous and Urban Conditions

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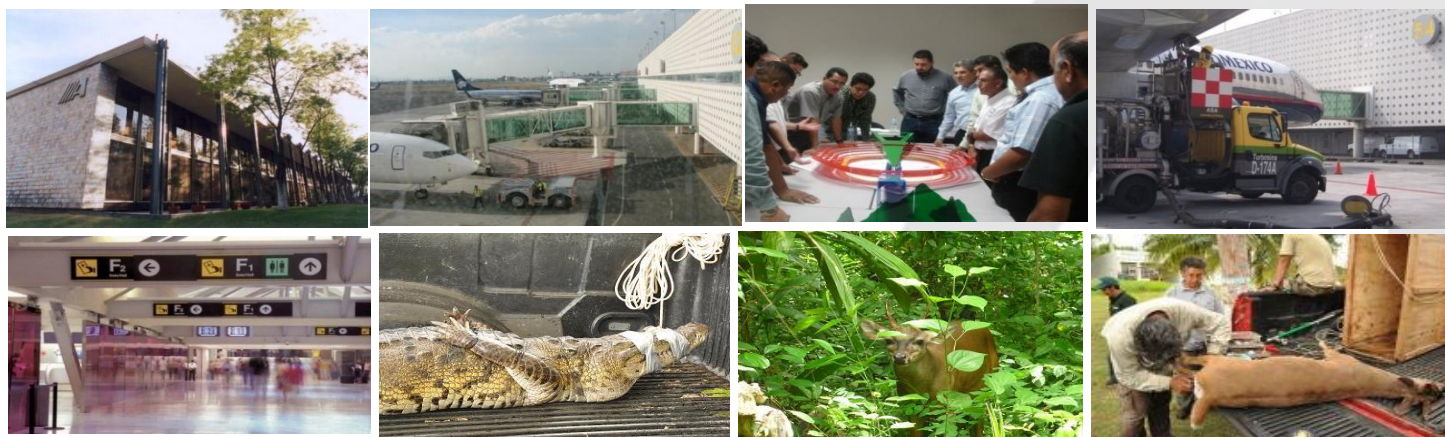
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## 2011 Bird Strike North America Conference



**Risk species in 12 ASA Mexican airports under tropical, arid, semideciduous, wetlands and urban conditions.**

**Arturo Ortiz, Norma Fernández-Buces, Jorge García-Burgos,  
Magdalena Colunga, Sergio López-Noriega**

**September, 2011**

# 12 ASA-network airports



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# Megadiverse countries



**70% of the world biodiversity in 17 countries**

**Mexico** represents at least 10% of world's biodiversity (64,878 species)

★ **1st**  
**reptiles**  
(989 species)

★ **2nd**  
**mammals**  
(439 species)

★ **11th**  
**birds**  
(> 1,100 species)

★ **900 endemic**  
**species**



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# Law protected species within airports in Mexico



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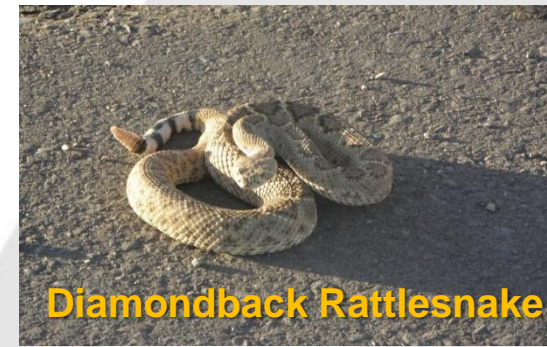
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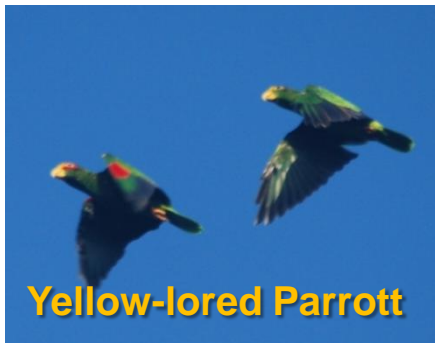
Regal-horned Lizard



Rail



Diamondback Rattlesnake



Yellow-lored Parrot

NOM – 059 – SEMARNAT – 2010

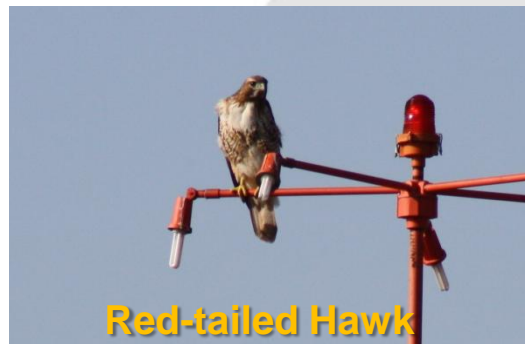
Wildlife Law by:  
The Ministry of Environment and  
Natural Resources (SEMARNAT)



Jamaican Parakeet



Texas Tortoise



Red-tailed Hawk



Greater-earless Lizard



# Vegetation in some Mexican airports



## Native vegetation:

1. Deciduous forest
2. Evergreen forest
3. Mangroves
4. Semiarid vegetation (Bush)
5. Wetlands



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# Site conditions at some airports in Mexico



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**CTM. Tropical evergreen vegetation**



**CME. Tropical vegetation and urban conditions**



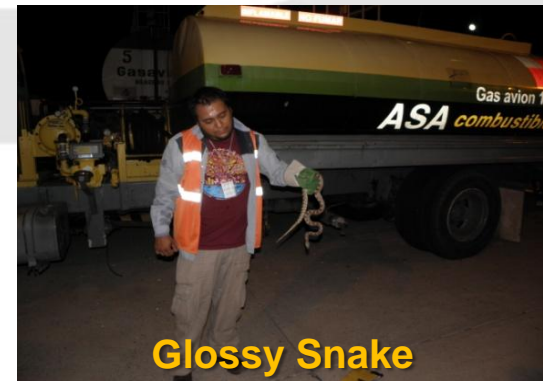
**PXM. Semideciduous vegetation**



**CEN. Arid vegetation**



# Wildlife found in some Mexican airports





# High Hazard species in 12 ASA Mexican airports



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Cattle Egret



Turkey Vulture



Black Vulture



Crested Caracara



White-tailed Kite



Northern Harrier



White-winged Dove



Mourning Dove



Great-tailed Grackle



Coyote



Dog



# High Hazard species differ from each airport



Common Paureque



Cliff Swallow



Mexican Mud Turtle



Nilgai



Jackrabbit & Rabbit



Black Bird



Gray Fox



Rock Pigeon



Great Egret



Cane Toad



Barn Swallow



Tree Swallow





# High Hazard: domestic animals within Mexican airports



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# Hazard species in 12 ASA Mexican airports

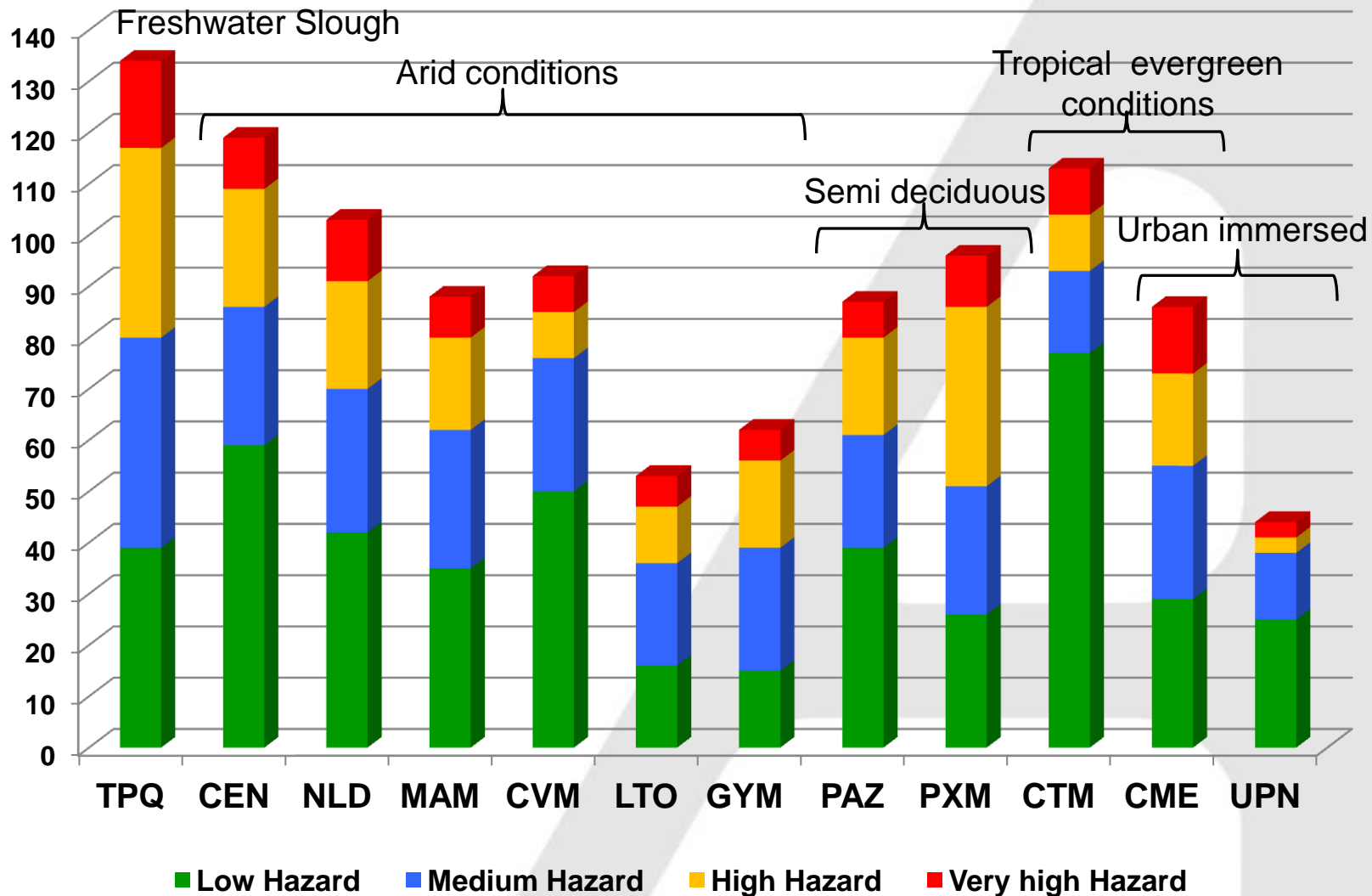


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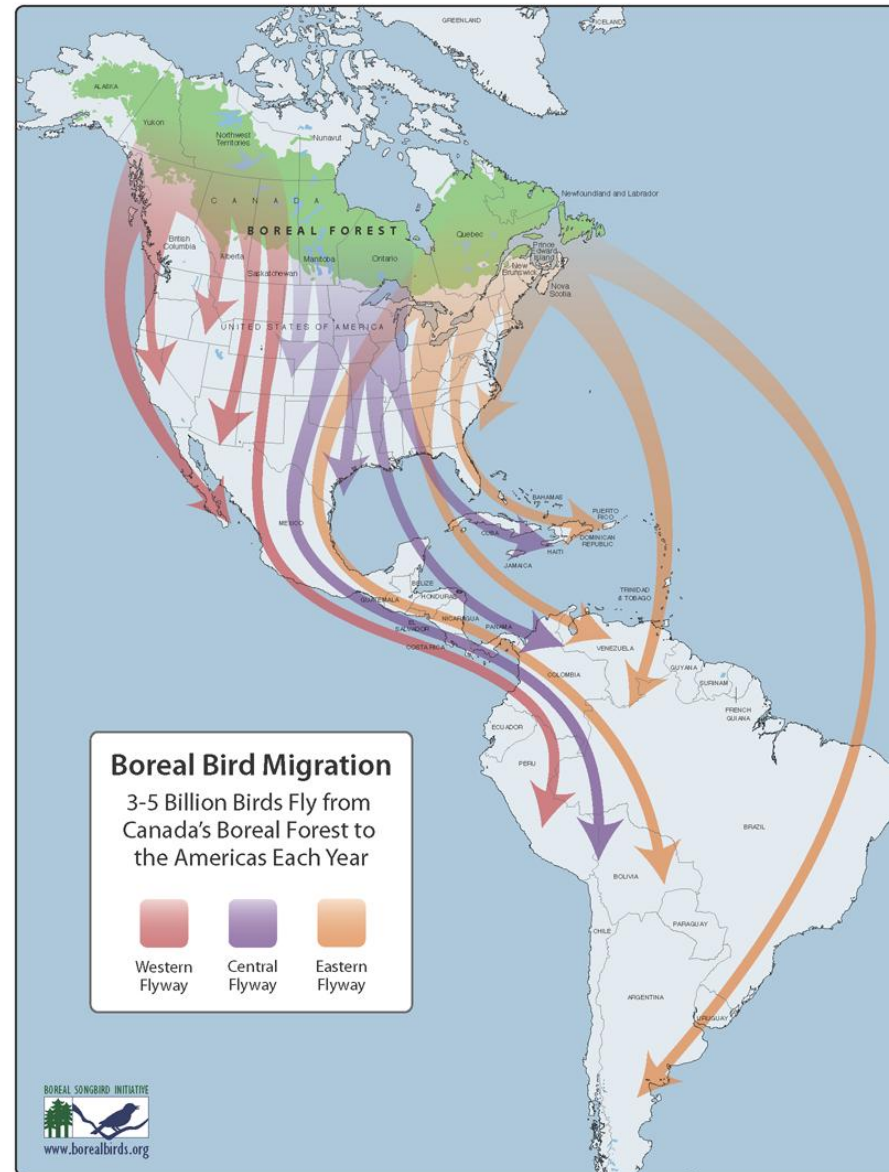


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# Birds migratory routes



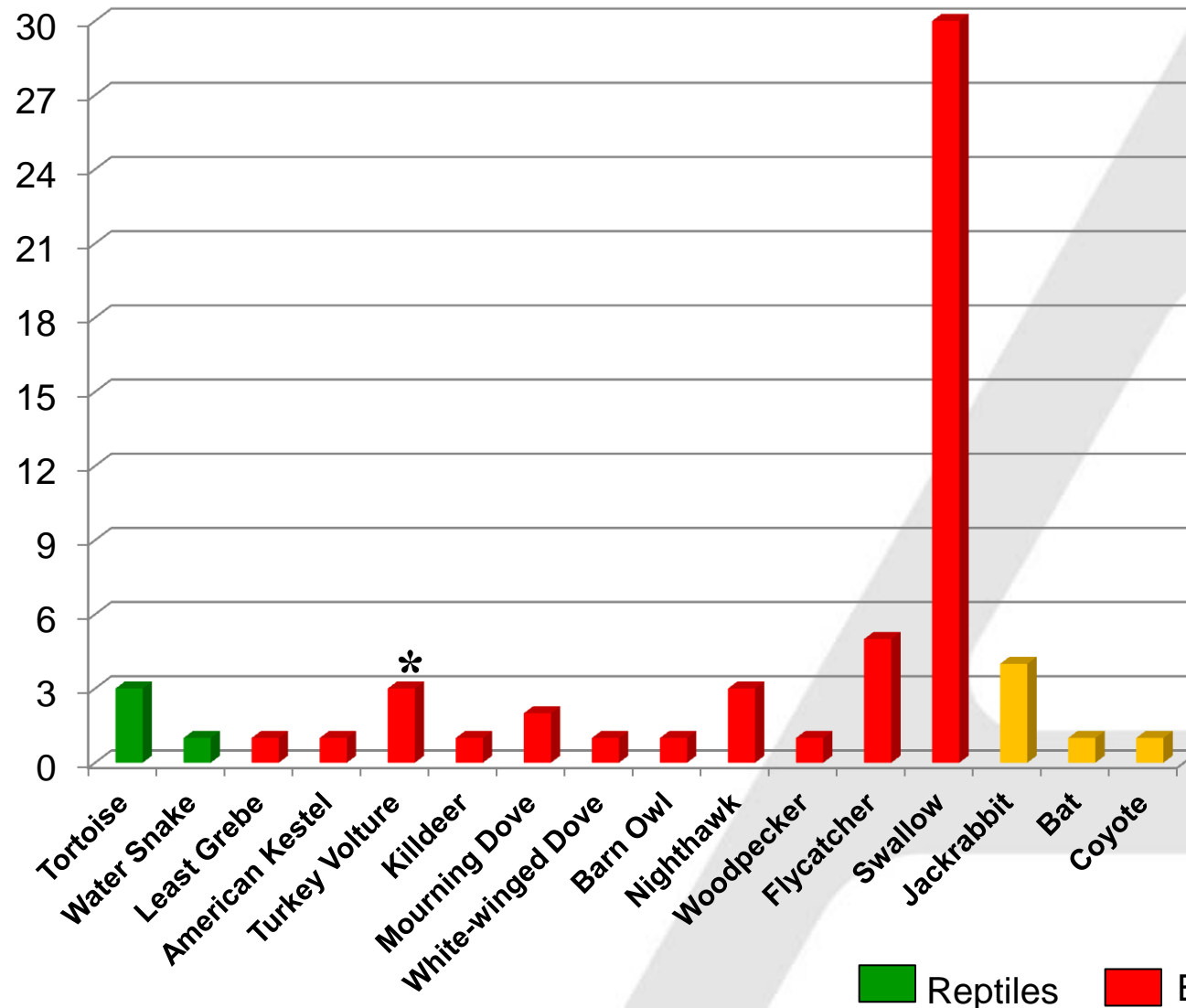
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# Wildlife strikes registered in 12 Mexican airports



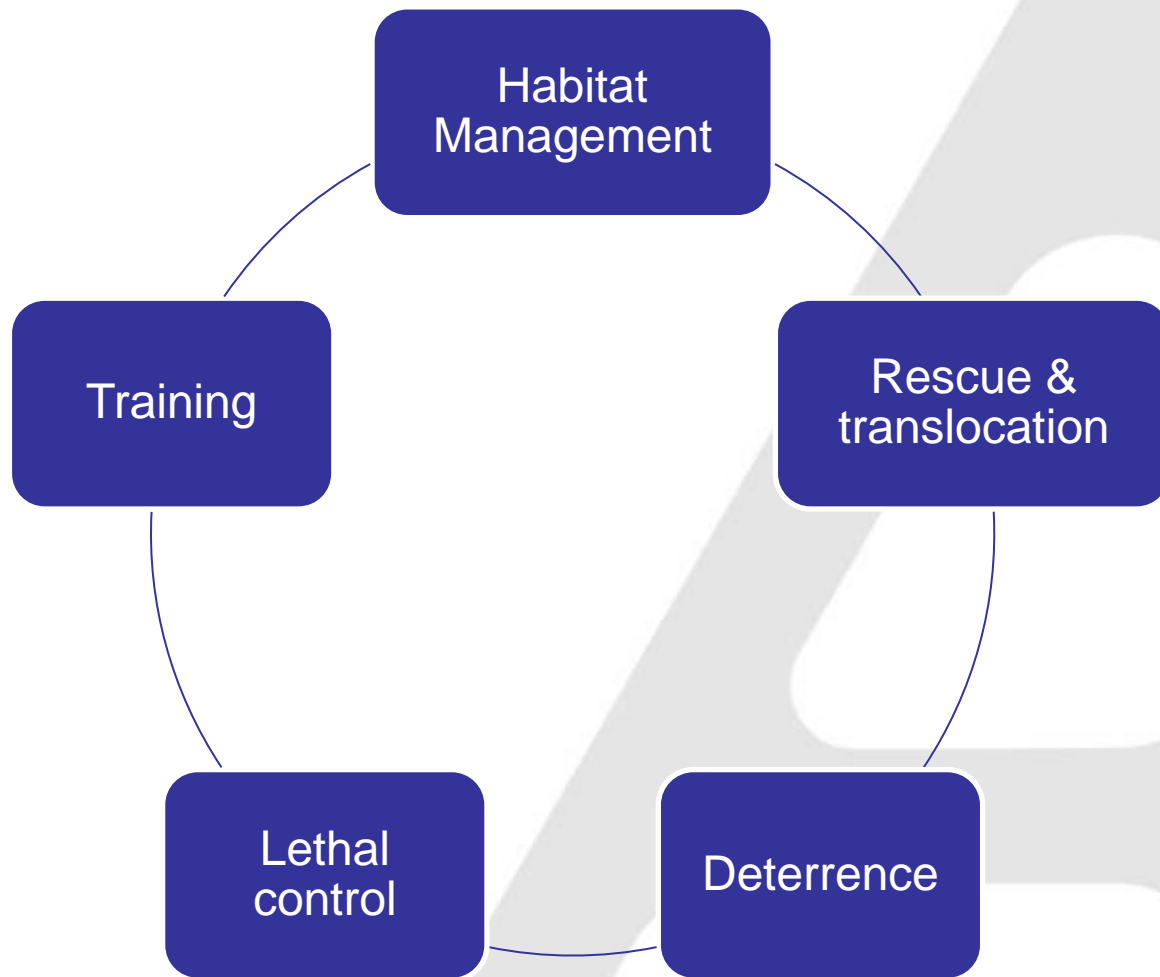
\* High Hazard bird in USA

3 year period: 2008 - 2010





# ASA's five-pillar strategy



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# 1. Habitat management

- Fruit and seed removal
- Sanitary carcass burial with caustic lime (inside and outside the airport)
- Empty nest removal
- Gap fill in the jet ways
- Net placement and incorporation of a concrete base on the perimeter fencing





## 2. Rescue and relocation of wildlife

- The Ministry of Environment and Natural Resources (SEMARNAT) does not allow to kill any wildlife
- ASA then requests a permit from SEMARNAT to relocate wildlife



### 3. Deterrence of wildlife

- Chasing and harassment of animals
- Audio repellents
- Visual repellents





## 4. Lethal control

- Eggs removal
- Nestlings sacrifice
- Domestic and introduced species sacrifice
- Animals deliver to the anti-rabies center



## 5. Airport and Government Agencies staff training

- ASA provides constant trainings for airport personnel
- ASA is in constant communication with the Aeronautical and Environmental Authorities
- ASA creates awareness on wildlife hazards even outside airport boundaries



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## 5. Workshops for people



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# Federal, state, and local governmental agencies



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# Conclusions

- In Mexico the Ministry of Environment and Natural Resources does not carry-out wildlife hazard management services
- The high biodiversity and several species protected by Environmental Law impact the wildlife management strategies
- In Mexico we must take into consideration not only the wildlife but the social and economic conditions
- Our databases are recent, we need more information in order to be able to perform better analysis
- The airports with the most abundant hazardous species are those along bird migratory routes. Hence, the wildlife management programs must consider the Migratory Bird Treaty (USA-Canada-Mexico)
- Based on our experience in these 12 airports the best hazardous wildlife management must consider the use of different control methods simultaneously



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# Thank you for your attention!

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