

**VANAMITRA**



**CENTER FOR  
AIRPORT WILDLIFE MANAGEMENT  
AND RESEARCH**

**Bangalore, INDIA**

**[www.vanamitra.org](http://www.vanamitra.org)**

# Nature Conservation vs Flight Safety

## THE INDIAN STORY



# A Quick Introduction to VANAMITRA



**CENTER FOR AIRPORT WILDLIFE MANAGEMENT AND  
RESEARCH**

**A Wildlife Conflicts Management, Research and Education  
Trust specialized in Bird Aircraft Strike Hazard Management  
(BASHM)**



A Wildlife Conflicts Management, Research and Education Trust specialized in Bird Aircraft Strike Hazard Management (BASHM).

Based in Bangalore, Karnataka, India.

Authorized by the State Forest Department and Recognized by the Department of Environment, Ecology and Forests and supported by the Karnataka Biodiversity Board.

# Vanamitra's joint project with the Forest Department on Leopard Cubs Rehabilitation

## Below, One of the orphaned Leopard Cubs



# Leopard Cubs Rehabilitation

One of the orphaned Leopard Cubs - Fully Grown!



# Leopard Cubs Reunion



# Peacocks Relocation Project with Forest Department in Tamilnadu.



Various Species of Birds, Vanamitra has worked with



# Various Species of Birds, Vanamitra has worked with



Various Species of Snakes, Vanamitra has worked with



# Various Mammals Vanamitra has worked with





# COMMUNITY ENROLLMENT



## **VANAMITRA & COMMUNITY ENROLLMENT**

Train & Sensitize Multiple Stake Holders towards Conservation.

# Vanamitra's Snake Management Training Program to Officials of the Forest Department









# **BIRD AIRCRAFT STRIKE HAZARD MANAGEMENT (BASHM)**



# VANAMITRA & BIRDSTRIKE MANAGEMENT (BASHM)

Vanamitra is a Consultant to various International Airports in India

- ❖ Bengaluru International Airport Limited
- ❖ Delhi International Airport Limited
- ❖ GMR Hyderabad International Airport Limited
- ❖ Chennai International Airport



Recognized by the Directorate General of Civil Aviation (DGCA),  
CAA of INDIA.



Member of the National Bird Strike Control Committee (NBCC) in  
India.



# **BASHM**

**CLARITY & FOCUS ON  
PRIMARY OBJECTIVE : (VISION)**

## **FLIGHT SAFETY**

**MODE OF OPERATION  
(MISSION):**

**ZERO COMPROMISE  
ON PRIMARY OBJECTIVE**

# Case Study – Airport in Forest



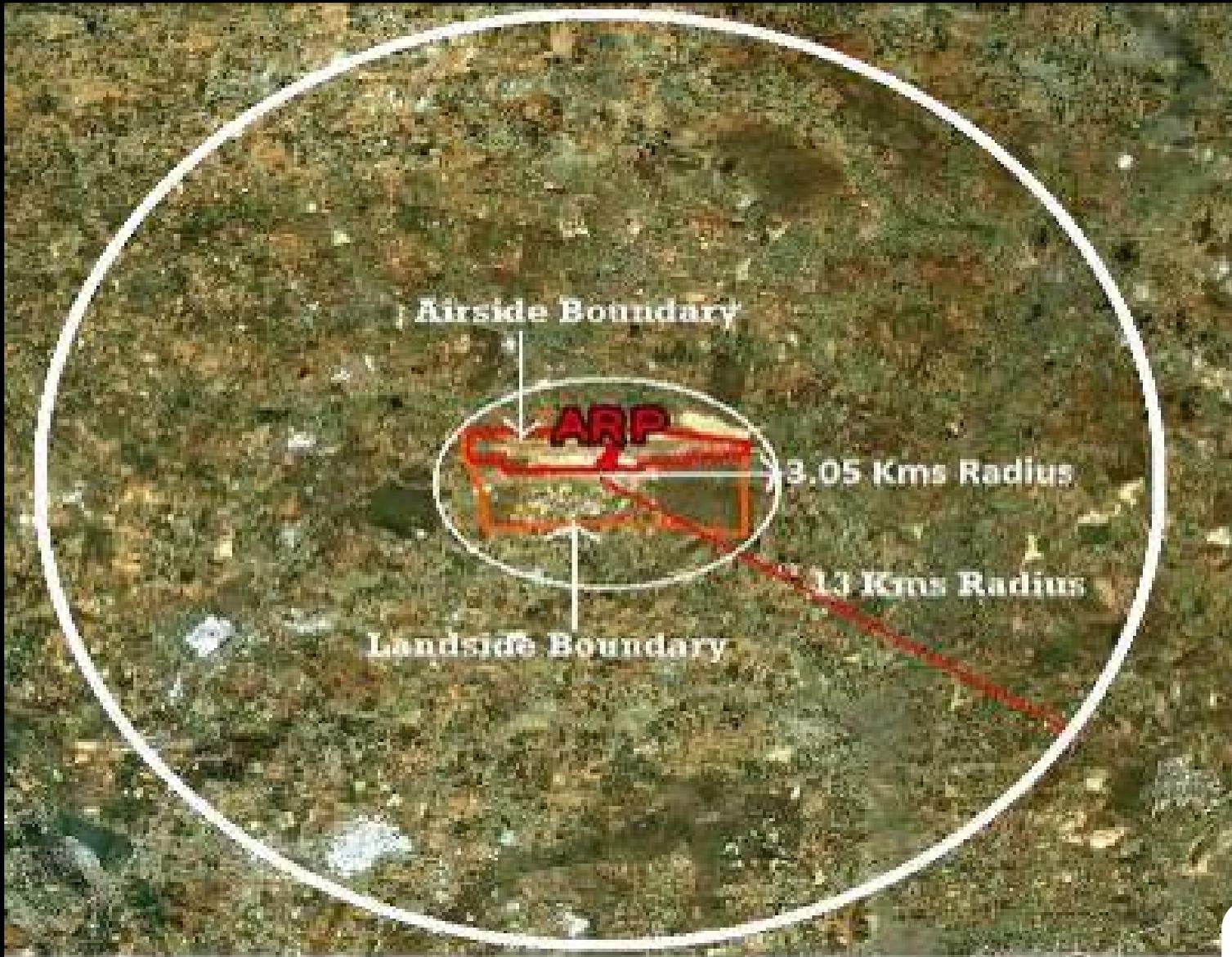
# Airport Environment we worked with

5500+Acres / 2225+ Hectares / 8.5 Square Miles of Natural Water Catchment Area for surrounding villages

2500+ Acres, 4.7 Square Miles of pure Jungle – Breeding grounds for close to 100 Species of Birds, Wild Boars

- ❖ 191 Species of Birds (202 in 13 Kms)
  - ❖ 17 Species of Snakes
  - ❖ 13 Species of Mammals
  - ❖ 66 Species of Butterflies
  - ❖ 250+ Species of Plants
- 
- ❖ 16 Water Bodies inside Airport area
  - ❖ 10+ Large Lakes within 13 Km Radius
  - ❖ 130 Water collection Points during Monsoon
  - ❖ Open Waste Dumps all over in 13 Km Radius
  - ❖ Richly Cultivated Agriculture Lands all around starting right from the Airside Compound wall
  - ❖ A Bird Sanctuary within 37 Miles from Airport





# Hazard Zones Explained



# Water bodies within Airport



08/10/2019 10:20

08/10/2019 10:20

# Carcass & Offal Dumping in 13 Kms Area

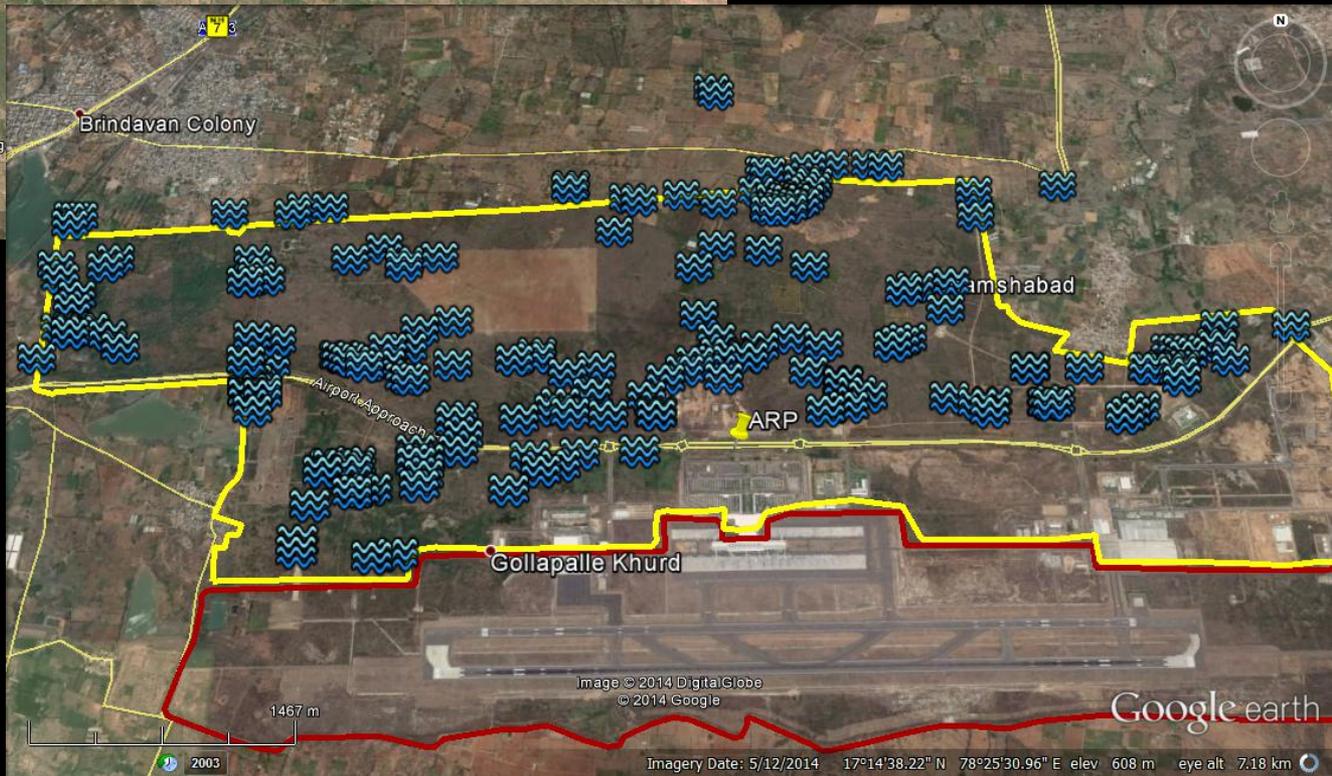




**Carcass & Offal Dumping in 13 Kms Area**

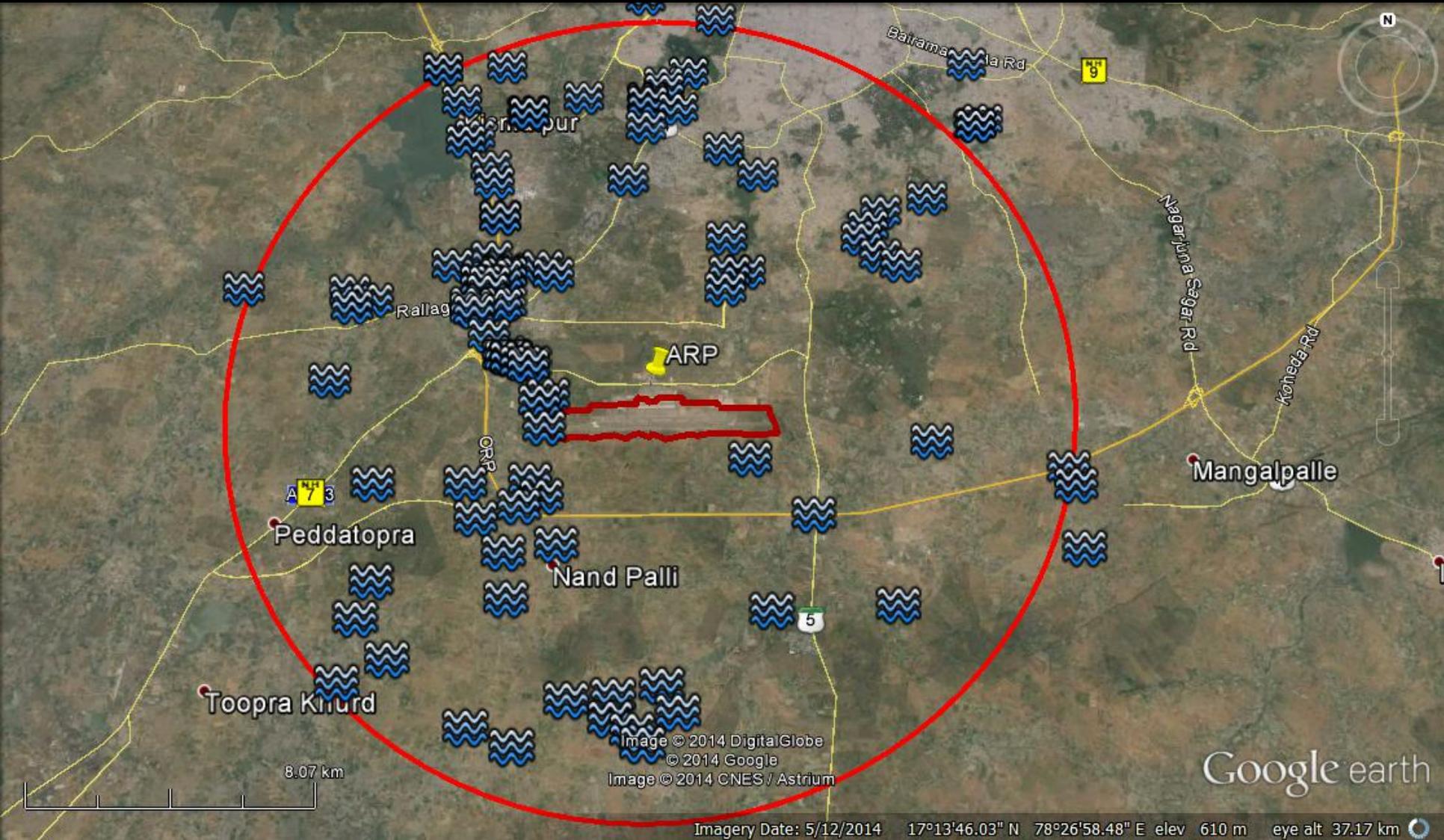


# Water Bodies & Stagnations in Airport





# Water Bodies in 13 Kms Radius



## Before WHA



42 Strikes in 5 Years without Including Suspected  
and Unconfirmed Strikes

## After WHA

- ✓ 6 Bird Strikes within 6 Months of Starting WHA
- ✓ 0 Bird Strikes within 4 Months of Implementing Interim WHMP
- ✓ 1 Bird Strike for the Next 2 Months

## What we actually Did

- ❖ Assessed & Classified Risk
- ❖ Communicated Management Plan
- ❖ Sensitized as well as Trained
- ❖ Involved Stake Holders (External & Internal)
- ❖ Demonstrated Control Possibility

# **Our Conservation Story at Airports**

# **Our Method**

**Ecological Control of Birds/Wildlife**

**Managing without Damaging**

**WHY CONSERVE?**

# **INDIA** is a

## ❖ Mega Diversity Nation

Having 11% of flora and 6.5% of fauna of the world

## ❖ 2<sup>nd</sup> Largest Population.

We occupy 2.4% of the World's Land Surface Area which is Home to 17.5% of the World's Population.

## ❖ Rapid Development & Rapid Destruction

**Bio Diversity Conservation, hence, is a Fundamental Necessity for Ecological Security – Air, Water, Food, Climate etc. of Future Generations.**

# Some of our Conservation Efforts at Airports

# ECO FRIENDLY MEASURES

## 1. SNAKES

No Killing. No Relocation if found within Airport area, except for Passenger areas.

Contribution: Reduces Bird Population, Reduces Bird Attractants such as Reptiles, Rodents, Insects.



Red Sand Boa

Protected under Schedule 1 of  
Wildlife Protection Act of India

The famous “Double Engine”

Which one is the head?



# ECO FRIENDLY MEASURES

The Red Sand Boa is a Schedule 1 Species as per Indian Wildlife Protection Act 1972, the same level as a Royal Bengal Tiger.



Red Sand Boa

Protected under Schedule 1 of  
Wildlife Protection Act of India



Royal Bengal Tiger

# ECO FRIENDLY MEASURES

## 2. Bird Eggs - Egg Removal instead of Egg Oiling

Lapwing Eggs, Peafowl Eggs Removed from Runway Strips

Tie up with Rehabilitators. Incubate, Hatch, Rehabilitate and Release Elsewhere Far away in a suitable Habitat



Peafowl Chicks



Red Wattled Lapwing Chicks

Peafowl Chicks



Red Wattled Lapwing Chicks



Peacock



Red & Yellow Wattled Lapwings

# ECO FRIENDLY MEASURES

## 3. When Habitats elsewhere are destroyed, Airports can look Attractive to Birds/Wildlife

Hussain Sagar Lake, Hot Spot of Migratory Birds from Europe & Central Asia got severely Polluted. Migratory Birds Started Shifting towards the Lakes nearer to the Airport.

- Better Habitats elsewhere can make the Airports look less attractive.
- Partner with Forest Department, NGOs etc. to sustain healthy Habitats elsewhere.



# ECO FRIENDLY MEASURES

Hotspot of Migratory Birds  
from Europe & Central Asia

Lake A

17.5 Kilometers /  
10.87 Miles



Lake B

10 Kilometers /  
6.2 Miles

Airport

Image © 2014 DigitalGlobe  
Image © 2014 CNES / Astrium

Google earth

Imagery Date: 5/12/2014 17°18'14.71" N 78°25'10.77" E elev 1830 ft eye alt 17.62 mi

# ECO FRIENDLY MEASURES

## 4. Montagu's Harrier – Migrant to India & Africa

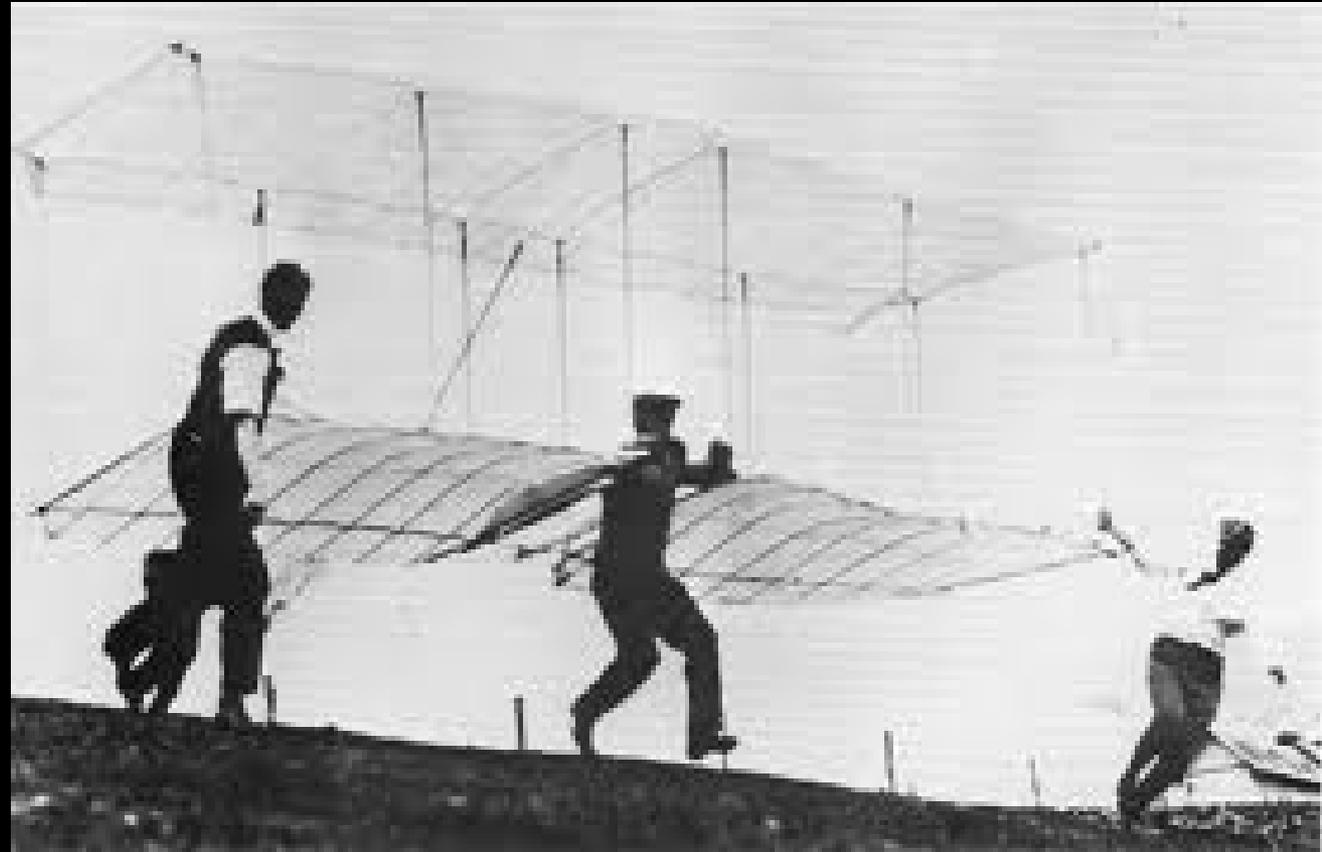
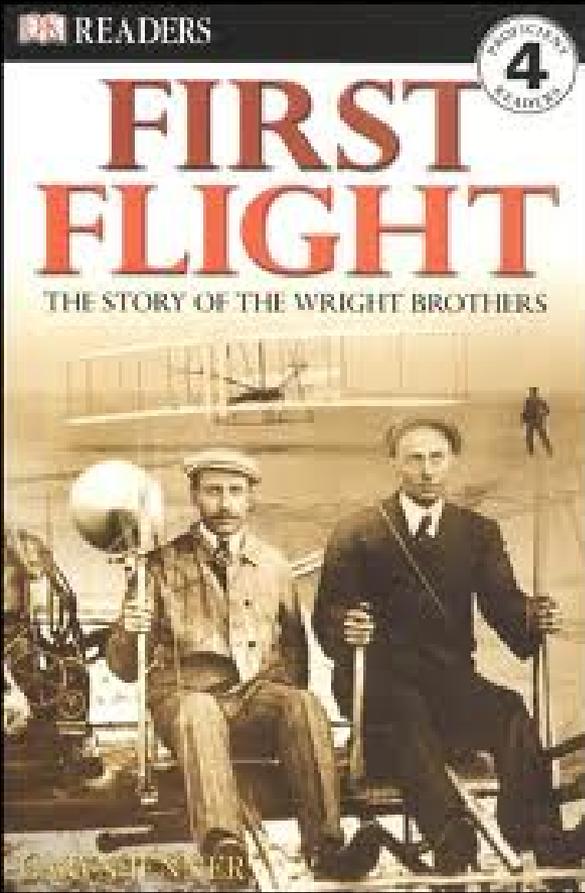
Responsibility to Conserve Species beyond Borders



Airport Authorities Alerted. Habitat Modifications & Deterrence Measures Suggested.

**WHY CONSERVE?**

**Conservation is a Fair Game**



**Until 7th September 1905 there were No Bird Strikes Reported anywhere in the World.**

**From 1905, Bird Strikes started increasing every Year.**



## Air Traffic

In 1905

1?

In 2014

Millions of Movements

## World Population

In 1905

1 Billion

In 2014

7 Billion

**And Still Increasing...**

# Birds

150 Million Years of Flight

– Zero Strikes on Humans  
Ecosystems, Habitats Improved

# Humans

109 Years of Flight

–Thousands of Birds Struck out  
Thousands more Killed & Culled  
Ecosystems, Habitats Disappeared



# EMOTIONS MAKE US ALIVE



# EMOTIONS ARE ALIKE



# SUPER POWERFUL ENGINEERING CAPABILITIES



# SUPER POWERFUL ENGINEERING CAPABILITIES



# SIMPLE & EFFICIENT ENGINEERING CAPABILITIES





# Humans vs Birds

Is NOT

One Live Being vs Another Thing

But

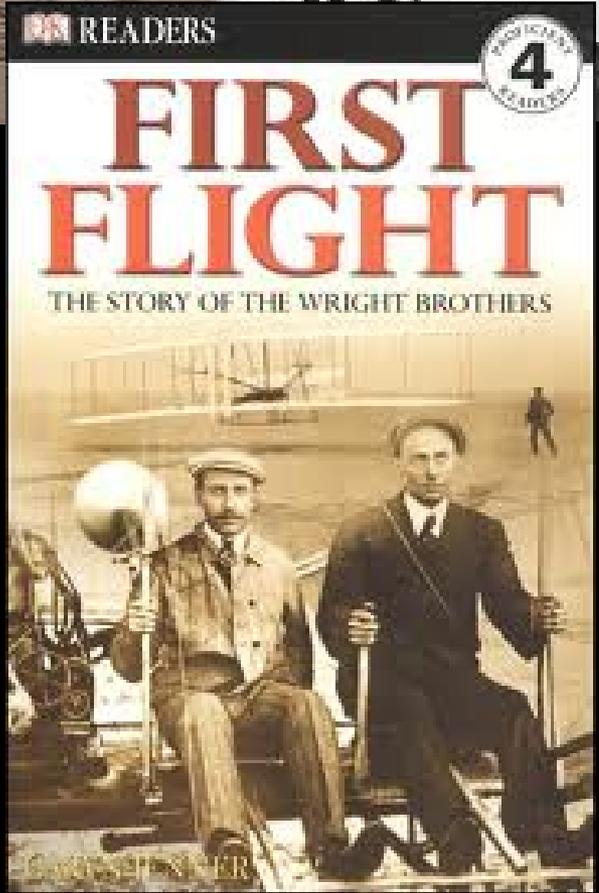
One Superior Being vs Another Simple Being

**BE FAIR for God's Sake!**



**Conservation is Evolution**

Aviation Industry is the best example







# Evolution from Killing to Control



**Screamer Shen**

**50 SCREAMER SHEN Cartridges**  
 (Range: 100 to 240 feet)  
 25 mm. (1") Wide

ALWAYS USE THE PROPER SAFETY PRECAUTIONS FOR ALL FIREARMS.

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 Overland Park, Kansas 66211  
 Phone: 913-667-8888

Manufactured by Reed-Joseph

REED-JOSEPH INTERNATIONAL COMPANY  
 10000 W. 10th Street, Suite 100  
 Overland Park, Kansas 66211  
 Phone: 913-667-8888





**THE  
BRIGHTEST  
IDEA  
in  
BIRD  
CONTROL**

**Still Evolving...**



**Conservation is Return of Debt**

Birds have been providing Ecological Services to the World, of which we are FREE Beneficiaries

Now, Birds are providing Livelihood to Biologists, Engineers, Managers, Field Staff, Manufacturers, Sales Staff etc.. Who are involved in Bird Strike Management

We Owe THEM.

Nature is the Sole Giver. Nature provides us & Sustains.

For every Single Heart Beat of ours, We Owe Nature .

We are liable to Nature more than to our Employers be they  
Airport Operators or Regulators or whomever.

We Owe Nature Primarily

Conservation is Debt Clearance

**Conservation is Holistic Thinking  
(INCLUSIVE)**

# An Integrated and Holistic Approach

Economical

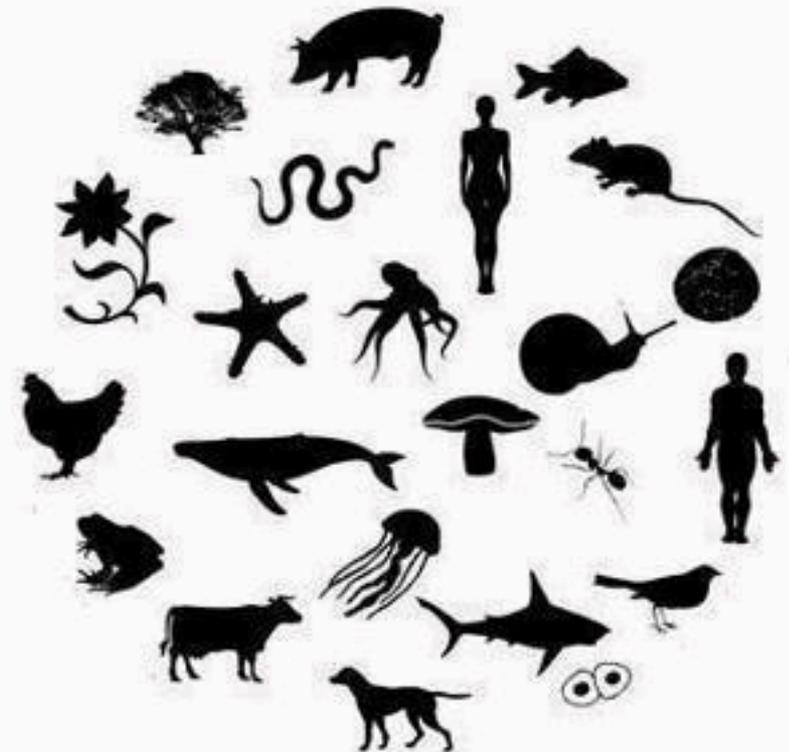
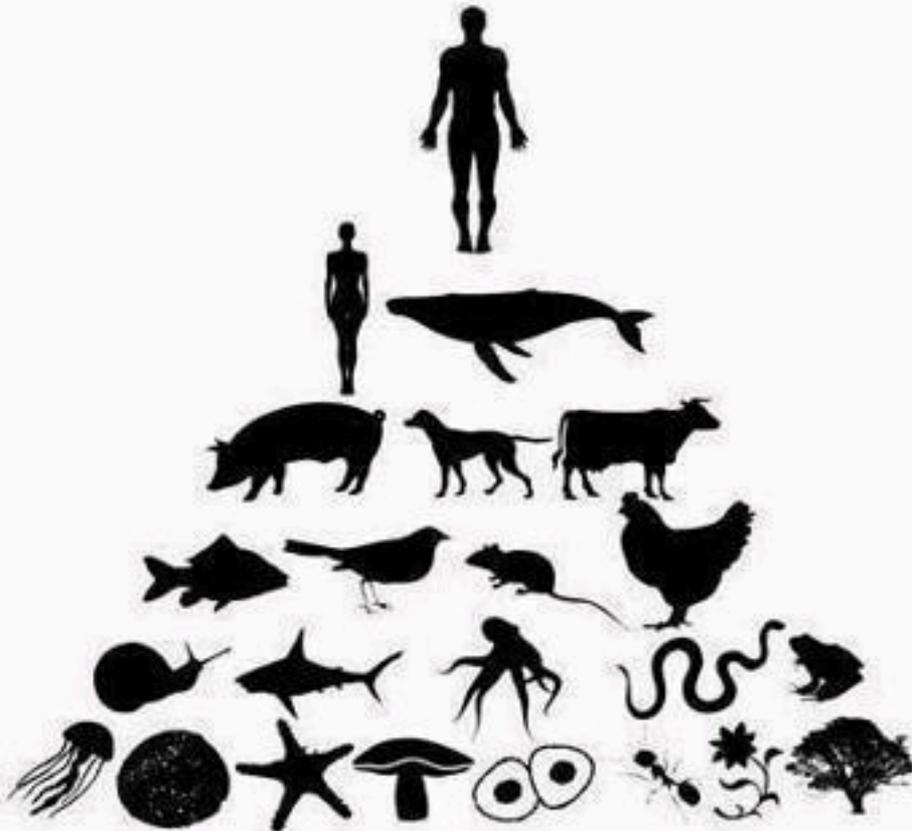
vs

Ecological

## EGO

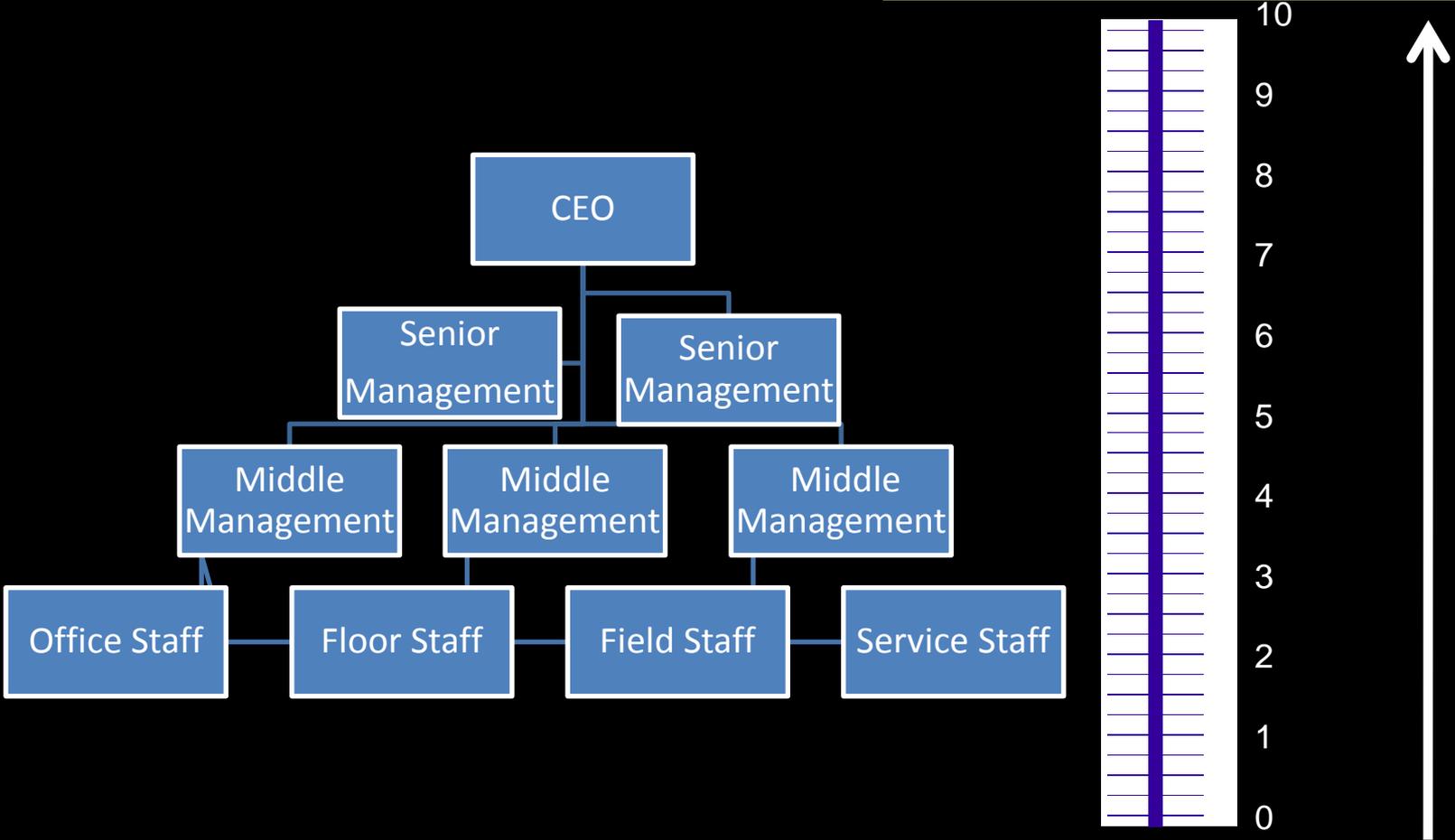
SHIFT

## ECO



# CONSERVATION IS HOLISTIC THINKING (NOT IN SILOS)

Sensitive, Inclusive, Holistic,  
Responsible, Visionary



Higher you go, the more Sensitive, Relevant, Responsible and Visionary you have to be.

**Conservation is Seeing Beyond  
Visionary**

**Leaders are Visionaries.**

**Leaders are Game Changers.**

**Rest are Followers.**

**Leaders are Visionaries.**

**Leaders are Game Changers.**

**Rest are Followers.**



So...

# So...

If one Apple can continue to change our World, why can't You ?



Adam



Isaac Newton



Steve Jobs

**BELIEVE !**

**DARE TO LEAD !**



**Think Different**

**You are Trigger Happy ?**

So are they...  
People really don't need a Biologist to Kill



16<sup>th</sup> Century



18<sup>th</sup> Century



Barack Obama

If you don't know the way to a  
Eco-Friendly solution, it does not  
mean it doesn't exist... it just  
means, you are yet to find it.

**NATURE CONSERVATION  
IS  
OUR CHILDREN'S FUTURE**

**We are just 2 Steps out of the Cave.**

- USDA Biologist Mike Begier's Dad

We Still have a Long way to go...



**Thank you!**

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