



Bird Hazards to Aircrafts in Cochin Naval Airstation (CNAS) INS Garuda, Kochi , Kerala, India (2012-2014)

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Flight Landings at CNAS involved in Birdstrikes (2012-2014)

- **Types** : Govt of India flights – Indian Navy, Coast Guard, Govt Guests, Joint International exercises held at CNAS.

Aircraft Types

Dorniers DO:

224,226,227,228,244,
758,755, 778, 783,784

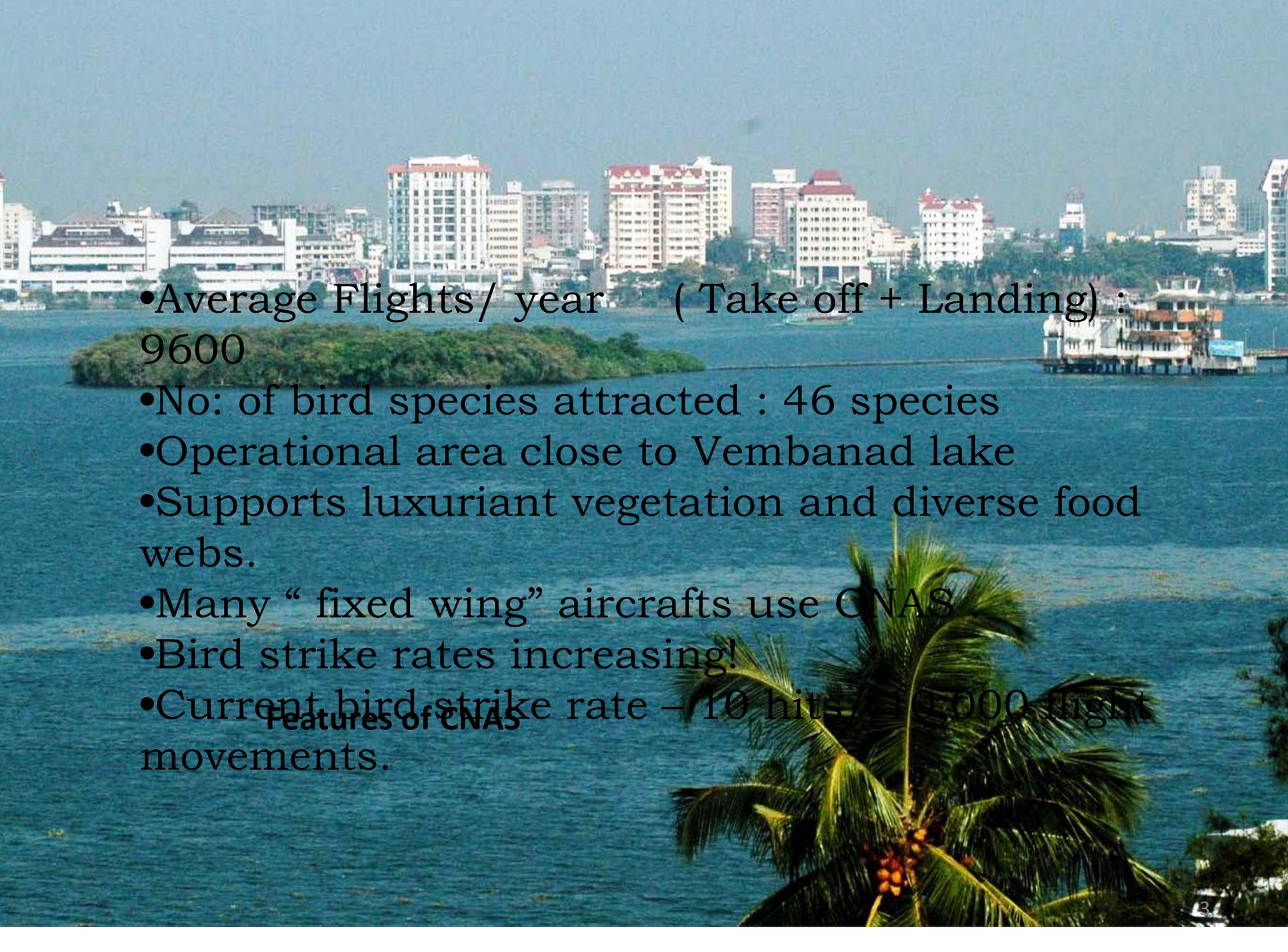
AU: 704, 705,706,708

HV : 923

SV : 906

Chetaks : 412,476,809

US 906 & Seakings

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- Average Flights/ year (Take off + Landing) : 9600
 - No: of bird species attracted : 46 species
 - Operational area close to Vembanad lake
 - Supports luxuriant vegetation and diverse food webs.
 - Many “ fixed wing” aircrafts use CNAS
 - Bird strike rates increasing!
 - Current bird strike rate – 10 hits/10,000 flight movements.

Features of CNAS

Birds which hit aircrafts during 2012-2014

Naval trainees have identified the following birds involved in incidents:

- a. Red Wattled Lapwings - 06
- b. Crane - 02
- c. Owl - 01
- d. Black Kite - 07
- e. Brahminy Kites - 01
- f. Bat - 01
- g. Unidentified - 15

Total Bird & Bat Hits - 33

** We are trying for Government's financial support for studying diversity & ecology of birds of CNAS!!*

Bird Hits by Day & Night

Period	Day	Night	Total
1999-2012	30	51	81
2012-2014	17	8	33

- Till 2012 an unoccupied civilian enclave building was attracting owls & bats.
- Demolished after our intervention. This has resulted in decreased owl & bat strikes

Stages when strikes occurred

Period : 2012 - 2014

Take – off	5
Flying	2
Landing	2
Landing Roll	2
Post flight inspection	3
All other situations	19

Period : 1999-2012

Take- off	13
Landing	11
Total Hits	81

How CNAS Benefits by interacting with IBSC (now WBA)

- Between 1994-2014 we disseminated information on Bird strike control that was discussed at IBSC meetings to CNAS.
- Few Examples of productive steps initiated:
- In 1991 on first look at this aerodrome, observed a jungle bordering runway; non-functional fences & buildings.
- On our suggestion, various SFO's removed them.
- CNAS effectively operated Zon guns
- Yet to use Border Collies.

Control Measures taken by CNAS

- ✓ Regular cutting of grass & shrubs bordering runways
- ✓ Pruning of trees
- ✓ Bird Proofing hangars with nets and aversion agents
- ✓ Spotting & clearing of birds from ATC and the ground
- ✓ Chasing of birds from vehicles equipped with Vorex's pistols and shotguns.

Control measures – contd

- ✓ Zon guns placed on sides of runways
- ✓ Removal of insects from runways with mechanical sweepers
- ✓ Spraying insecticides on unpaved operational area
- ✓ Ground nets placed around the airfield
- ✓ Solar powered fences rigged around the points of touch down

One example of a strange animal strike

- On 8 Dec 2010 a Calicut – Sharjah Airbus did not take off as smoke emanated from the engine.
- On investigation – found a wild palm civet had entered the engine .
- Damage caused – engine blades were in bits
- Incidentally, civets invade attics of houses in Calicut District.
- But, this was the first invasion on an airplane!!

Reasons for increasing bird strikes on aircrafts

- General decrease in the extent of wild habitat caused by urbanization
- Accumulation of wastes of different kinds close to runways
- Increase in the number of fixed wing aircrafts operating in Cochin Naval Aerodrome

Our suggestions for more non violent bird control

- Conduct a properly funded well staffed study on the ecology, behavior & bio diversity of birds.
- Spent over INR 10,00,000 (US\$ 17,000) till date from personal funds but unable to get to the depth of the issue.
- As Cochin improves to be a smart city, the cost of living is sky rocketing!!

Suggestions contd

- Attempt achieving “ zero waste “ around the airport
- Minimize vegetation cover
- Ensure Flight Safety Officers a tenure of atleast 2-3 years at a station
- Use Border Collie Dogs for birds control
- Stress on non violent methods of control of birds ; as birds could control undesirable dangerous insects
- For future aerodromes in Kerala, avoid building new aerodromes in ecologically fragile areas like drainage, basins of rivers and recharge areas.



Thank You for your attention and time !!!

This is well appreciated.