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Tools for Birds' Ecological Carrying Capacity Management at Airports

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2011 BIRD STRIKE NORTH AMERICA CONFERENCE

PROGRAM BY DAY | TUESDAY, SEPTEMBER 13, 2011

Session 4: Management of Habitats on and off the Airport Part 1

11:00 AM – 12:30 PM

Oakes South Room

Moderator: Scott Snow

Tools for birds' ecological carrying capacity management at airports

11:00 AM

✓ Ofer Bahat

An airport should be looked at as an ecological environment which holds a variety of resources, with different availability for birds. Two year study at an IAF airbase clearly demonstrated the correlation between the ecological characteristics of various niches and the bird species which exploit the available resources at these niches. Based on these results, the present paper proposes management as a major tool for the reduction of carrying capacity for birds at the different niches. The management techniques should include general steps which address a variety of bird species. However, in addition, species specific measures that address the ecological needs of a species in order to significantly reduce the availability of its ecological resources should also be implemented. The management tools may include simple techniques such as removal of debris (used as raptor hunting posts), removal of trees (used as hunting posts, nesting, or roosting). In addition, decrease of vegetation using environmentally-friendly methods (such as coverage of open areas to prevent seed development) and prevention of open water reservoirs use by birds should also be considered. Moreover, the proposed approach prioritizes highest carrying capacity areas at the airport and its vicinity. These areas should be managed side by side with the use of intensive detection methods (e.g. cameras and radars) along with intensive deterrence activities (e.g. acoustic and visual). The combination of the management and control activities at high priority ecological niches provides the best outcome in the reduction of bird activity at these prioritized areas.

Risk Fauna Management in Mexico: ASA Airports Experiences

11:30 AM

✓ Magdalena Colunga

An Integrated Fauna Management Plan (IFMP) has been a very successful experience over the past 6 years in Mexican airports. Fifteen out of eighteen ASA airports so far are applying such Plans and nowadays, we observe important results in the reduction of fauna strike risk. The IFMP considers four basic stages: Diagnose, proposal of management measures within a Management Plan, the execution of such plan and a Training Program. We present our results for three ASA airports: Matamoros (MAM), Ciudad Obregon (CEN) and Nuevo Laredo (NLD), discussing their differences, particular problems involved and fauna management solutions and results. Daily monitoring of fauna within airport boundaries was done, personnel interviews, and trap cameras for fauna identification were used. Also, attractors in the nearby

area within a ratio of 13 km around each airport were identified and monitored. Fauna species composition for each airport was obtained and scaled within five classes according to their implied risk considering their size, abundance, behavior, frequency and previous reports. Protected species were identified as they required special management measurements. Management plans were defined and applied for each airport considering a general phase (habitat management) and a specific phase (capture and relocation or control measures). Also, more than 100 ASA members were trained considering all field and desk activities involved in the IFMP and a data base for each airport, as well as a national data base are being developed. We conclude that management actions have been successful in reducing risk fauna incidence within airport boundaries.

You Can't Fight Progress... Or Can You?

12:00 PM

Lauren Caister

Almost inevitably, land development around airfields eventually leads to proposed developments that may potentially act as bird attractants (e.g. landfills, quarries, lakes and ponds), which will predictably increase the bird strike hazards already faced at these locations. Oftentimes, airfields would prefer to block these types of developments entirely. Unfortunately it is generally not practical to achieve this goal. The first reaction of the airfield is typically to attempt to outright prevent the construction of these proposed developments. This may, however, not be the best reaction. An adversarial and obstructive stance can often lead to extensive legal battles, poor public relations, and protracted disputes over the development that can negatively impact all parties. This presentation will look at using a cooperative, rather than an oppositional, method of dealing with new wildlife attractions on lands surrounding airfields. Specifically we will discuss the utilization of letters/contracts of agreement between the owning entity of the airfield and the owners of the proposed development. Several case studies will be examined to illustrate how these arrangements should be drafted, as well as why supporting these developments, while counterintuitive, may ultimately produce a better and safer end result than taking a hostile stance.

Networking Lunch

12:30 PM – 1:30 PM

Oakes North Room & Foyer



Tools for Birds' Ecological Carrying Capacity Management at Airports

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Management applications for airports

- Based on previous ecological studies, it is proposed to use active management as a major tool for the reduction of carrying capacity for birds at specific ecological niches.
- The management techniques should include general steps which address a variety of bird species, e.g. removal of debris (used for example as raptor hunting posts) or removal of trees (used as hunting posts, or for nesting and roosting).
- In addition, species specific measures that target the ecological needs of selected species should also be implemented, in order to significantly reduce the availability of their ecological resources (e.g. prevention of perching by owls on lamps and signs along runways).



Management applications for airports (2)

- Decrease of vegetation development using environmentally-friendly methods (such as coverage of open areas to prevent seed development) should be considered at specific areas with very high carrying capacity and thus intensive bird activity.
 - Prevention of open water reservoirs use by birds should also be considered. Net coverage is an option when relatively small reservoirs are concerned.
 - Similar policy should be implemented concerning any other ecological niche with high carrying capacity or other factors that attract birds.
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Prioritization

In view of the limited resources and manpower that is usually available for management activities, it is highly important to prioritize habitats based on their carrying capacity for birds and their proximity to aircraft activity and hence potential hazard.

The proposed approach prioritizes highest risk areas at the airport and its vicinity. These areas should be managed side by side with the use of intensive detection methods (e.g. cameras and radars) along with intensive deterrence activities (e.g. acoustic and visual).

The combination of the management and control activities at high priority areas, may provide a better outcome in the reduction of bird risks at these prioritized areas.

Management steps aimed to reduce bird activity at airports:

- **Analysis of biological, topographical and weather data:** This analysis forms the baseline tool to understand the threats and provide a risk management plan with threats prioritization.
- **Management Planning:** This step should be based on the above analysis, in order to target the highest threats with the management tools.
- **Bird detection and activity monitoring:** Detection should cover all the high priority areas, using radars or cameras, and provide on-line monitoring of birds' activity at the prioritized areas of the airport and the CTR area. The detection data should be distributed to any desired location (e.g. control tower).

Management steps aimed to reduce bird activity at airports (2):

- **Deterrence:** Deterrence of birds at high prioritization areas using harassing and non-lethal methods (e.g. acoustic and visual) should be considered.
- Any method which is based on human labor (e.g. use of guns or trained dogs) suffers from long response time and lack of personnel to cover the entire prioritized areas.
- The deterrence elements should be situated and used according to the birds' major activity areas.

Thank you very much!

