Emerging Wildlife Control Technologies

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TONI Birdstrike Prevention

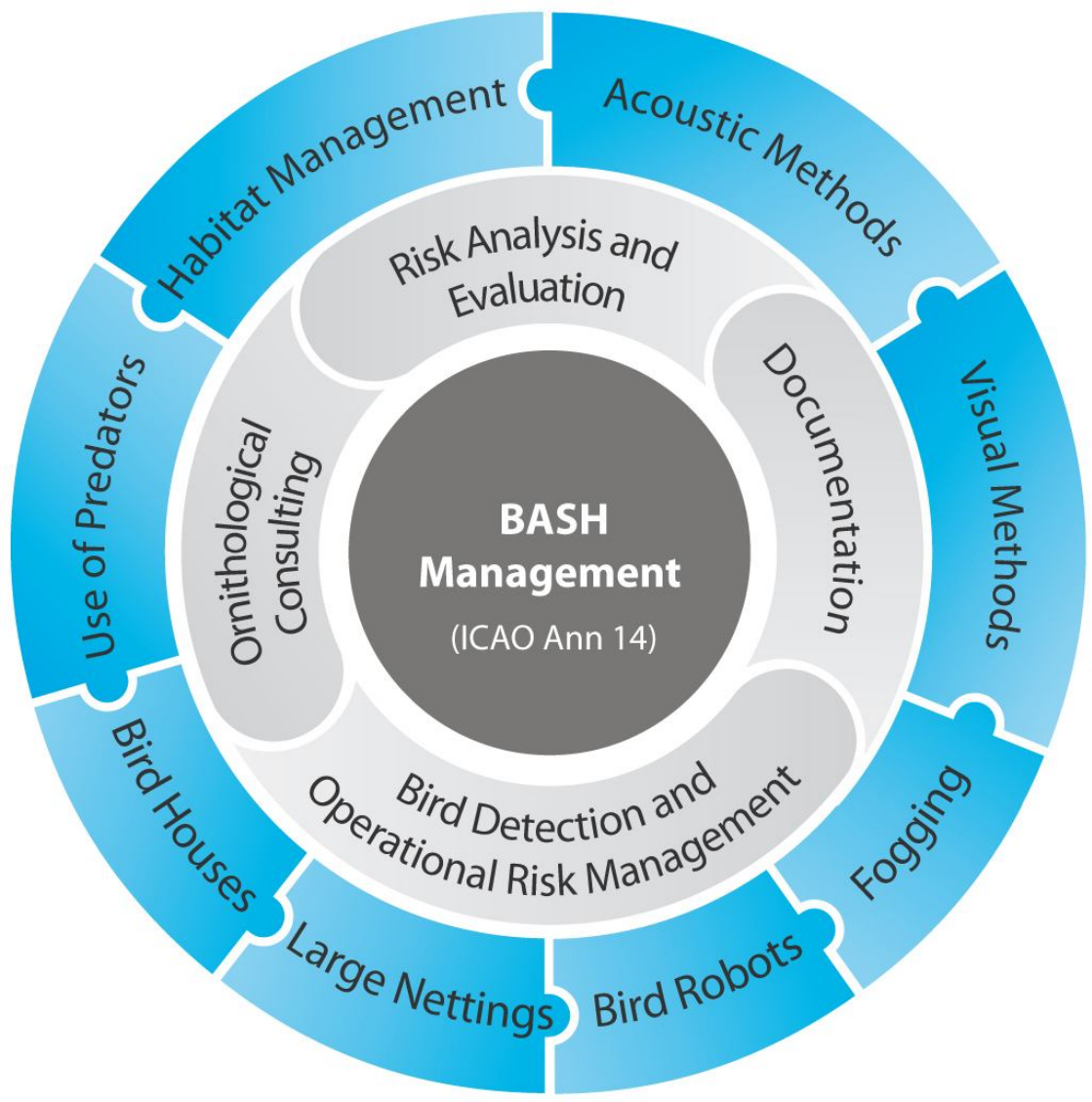
Overview – TONI Bird Control Solutions

TONI founded 2001, with airport unit begun 2009

Philosophy: wildlife (esp. bird) control as evolving process

- Habituation always possible; therefore new approaches and solutions always needed

TONI specializes in finding new wildlife control methods, and novel applications for existing technologies



Established Methods of Wildlife Control

Lethal Control

- Result is definitive (= effective?)
- Potentially dangerous
- Limited area of effect

Pyrotechnics

- Larger area of effect
- Still potentially dangerous

Bioacoustics

- Harmless
- Available in variety of models for diverse applications
- Must be customized to particular widlife situation

Visual Methods - Lasers

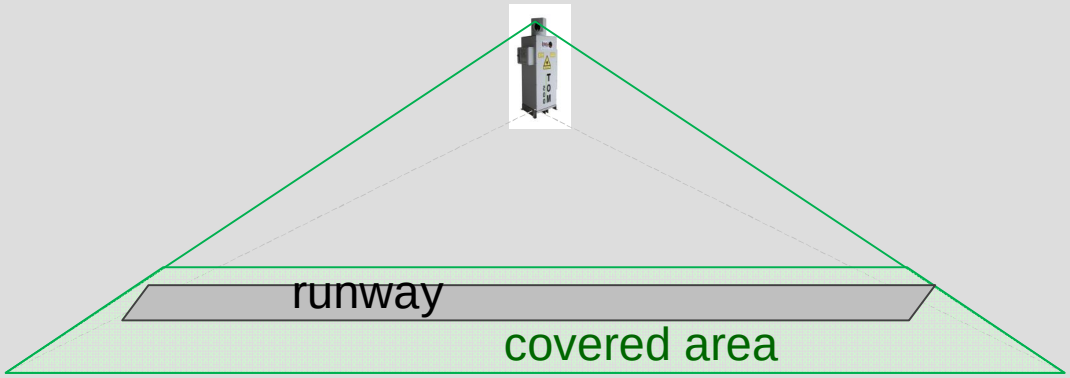
"New" on regulatory timescale

Many advantages

- Silent, simple, safe
- Very large area of coverage
- Low habituation
- Effective on many species

Considerations

- Strict regulations on proper use
- Concerns over power ratings
- Effective range varies based on ambient light



Visual Methods – Robotic Birds of Prey

Offers benefits similar to falconry

- Provokes instinctive reaction (low habituation risk)
- One unit can cover large area

Robots under complete control of pilot/technician

- Can be directed towards/away from specific targets and areas

Special considerations

- Time-intensive training and usage
- Weather-sensitive

Several models available, each with pros/cons

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Acoustic Methods – Acoustic Hailing Devices

Broadcast sound in focused beam

- Up to 3,000 m in directed beam
- Plays any sound: bioacoustics, alert tones, etc.

Originally developed for military applications

Available in handheld, tripod- or vehicle-mounted configurations

Two makes: LRAD and HyperSpike

- HS holds world record for volume produced: up to 182.2 dB

Acoustic Methods – Gas Cannons

Well-established technology

- Propane charge generates loud blast
- Long used in agriculture (limited coverage)

New models devoted to airfield use

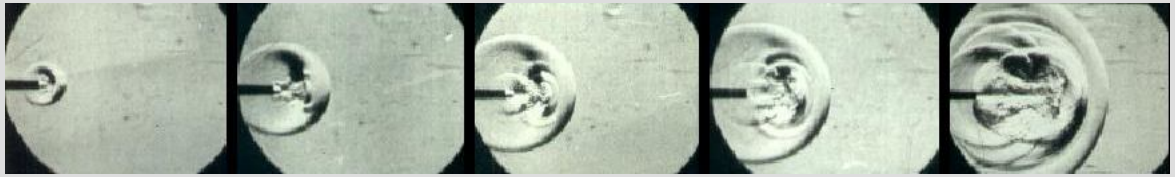
- Low profile
- Weather-resistant, solar-powered, transportable
- Cover areas up to 80,000 m²

Remote control and networking capabilities

- Operate singly or in groups (up to 80 at a time)
- Remote control displays important information, e.g. remaining fuel level

Purivox DA-RC System

Acoustic Methods – Shockwave Generator



Pulse Detonation Technology

- Special detonation pattern produces aerial pressure waves
- Change in air pressure frightens birds

Effective long-range (500 m or greater)

- Cone of effect, instead of radius

Available in many configurations

- Single or multiple (networked) units
- Automatic or manual firing
- Stationary or trailer-mounted
- Many barrel options (e.g. curved, forked)

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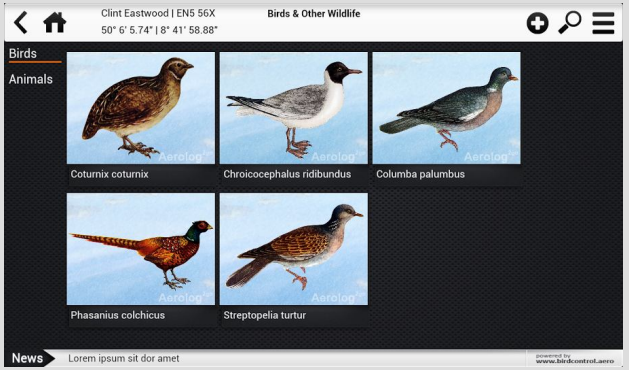
The Importance of Documentation

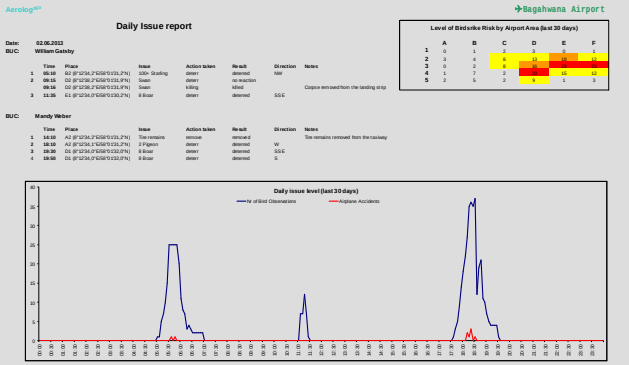
Proper documentation facilitates many aspects of wildlife control

- Determining degree of habituation to particular routines/techniques
- Assessing effectiveness of new wildlife control measures
- Protecting from litigation

Documentation traditionally on paper; now possible on mobile devices (e.g. tablet)

- Streamlines and simplifies documentation and reporting procedures
- Increases data security
- Combines BCU functions with other duties





Considerations for Emerging Wildlife Tech

Many new bird control technologies coming available

- Not only deterrence, but detection and documentation systems
- Move towards automated systems

Balance between cost and quantified improvement

No “silver bullet” : different solutions suited to particular situations

- No tool exists (yet) which is completely autonomous
- Effectiveness depends on use and implementation

The most important task: testing new technologies for best area of use

Thank you for your attention!

More Information:

www.birdstrike.de (Aviation)
www.birdcontrolsolutions.net (Industry)

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