A Human Altered Landscape

Toward 10 Billion

New projections by the United Nations suggest the world’s population may surpass 10 billion by 2100 — with Asia and Africa far and away the most populous regions.

6 billion people

WORLD POPULATION

Source: United Nations
Urban Centers Grow
Birds in Decline
Anthropogenic Impacts

*Longcore et al. 2013 - An Estimate of Avian Mortality at Communication Towers in the United States and Canada*
Building Glass

Collisions with buildings kill an average of 600 million birds each year.
Mortality at Multiple Scales

- Residences – 253 Million birds/year
  - 123 Million homes (2 birds/yr)

- Low Rise – 339 Million birds/year
  - 15 Million buildings (22 birds/yr)

- High Rise – 508,000 birds/year
  - 20,900 buildings (24 birds/yr)
Why Birds Collide with Glass

- Birds do not see clear or reflective glass
  - Poor contrast sensitivity (compared to humans)
- Reflections create illusion of habitat or open sky
Day Vs Night

- Daytime collisions – reflections, attraction to interior plants, or escape routes
- Nighttime collisions – attracted to and disoriented by lights
Solutions

• Behavioral

• Immediate – low to no cost

• Long-term – glass structure and building architecture
Behavioral Changes

• Turn off interior lights at night
• Use daytime cleaning services
• Shades ½ down in day – closed at night
• Move interior plants away from windows
Immediate – Low or no Cost

Exterior Modifications
• Timers on exterior lighting
• Replace steady burning exterior lighting
• Down-shield lighting
• Exterior landscape design

Interior Modifications
• Motion sensors
Immediate – Low or no Cost

Glass Marking

• Stickers, strips, and films
• Soap
Long-Term

Glass Marking
- Screens and netting
- Etching and Fritting
- New Technologies and Glass types
  - Glazing, UV reflecting
How do solutions tie into the Federal Government?

**MBTA & Federal Agencies**
- It is the government’s duty to lead in the protection of this international resource

**Executive Order 13186**
- Birds have economic and ecological value
- U.S agencies have obligations to implement the Treaties
- Federal Agencies that may have negative effects (own actions and permitted actions) must develop an MOU
EO 13186 and US FWS

• We provide training opportunities
• We provide guidance and technical assistance
• We lead coordination and implementation of the EO with a Council of representatives from Federal Agencies
Council for the Conservation of Migratory Birds

- An interagency Council to oversee the implementation of the Executive Order
- Council members are Bureau Directors/Administrators
- Council staff coordinate with FWS regularly (in much the same way as ISWG)
Who Participates on the Council?
Goals of the Council

- Promote interagency collaboration for bird conservation
- Improve opportunities for effective conservation of migratory birds
- Recognize positive impacts federal agencies have on bird populations
- Ensure successful implementation of conservation responsibilities
What about these MOUs?

Agencies are required to complete an MOU

... If actions may have negative effect on birds

• MOU’s describe how agencies will reduce impacts, and,

• clarify direction and expectations for bird conservation at the agency
MOU: Important Points

• Evaluate agency-specific impacts
• Provide solutions to achieve successful outcomes
• Promote education, international efforts, training and more…
• Develop coordination process
Which agencies have MOUs?

**Signed MOUs**
- U.S. Forest Service
- Bureau of Ocean Energy Management
- National Park Service
- Bureau of Land Management
- Federal Energy Regulatory Commission
- National Marine Fisheries Service
- Animal and Plant Health Inspection Service
- Department of Energy
- Department of Defense
- U.S. Coast Guard

**MOUs in Development**
- Environmental Protection Agency
- Office of Surface Mining
- Federal Highways Administration
- U.S. Customs and Border Protection
- U.S. Army Corps of Engineers

Is YOUR Agency on this List?
2012-2015 Theme
Facilities Management

• Last year, every agency was given information and tools on how to make facilities “bird friendly”
  – E.g., lighting and glass issues

• 2015: Focus on Implementation
Next Steps for Facilities Management

• Identify cost and energy savings that are directly associated with bird-safe measures
• Continue to incorporate these measures into MOUs with federal agencies
• Develop a culmination product from the Council at the end of 2015
Questions for Discussion

• What is your agency currently doing?
• What do you think your agency is willing to do?
• How solutions translate into a mechanism of policy?
  – LEED Credit 55: Bird Collision Deterrence?
  – GSA Pilot or guidance?
  – New Federal lease requirements/requests?
  – CEQ Standards?
Other Questions?