

TOWARD WILDLIFE-FRIENDLY WIND POWER: A FOCUS ON THE GREAT LAKES BASIN

**Hilton Toledo and Dana Conference Center, Toledo, Ohio
Lucas Auditorium
June 27-29, 2006**

Conference Notes: Tuesday, June 27, 2006

Intro remarks

Manville presentation

Thresher presentation

Q: Feathering concept? How quickly can you get to standstill? Does this put too much stress on machine if done frequently?

A: Blades are basically flat to the wind when operational. But if you pitch it right into the wind, you generate no lift on the blades. Most machines now have pitch control. Can stop it in 2-3 revolutions. Typically haven't worried too much about this quick change in stress—hasn't been a constraint thus far.

Q: Lighting restrictions?

A: Generally, red strobe lights on top; anything over 199 ft above ground level (AGL) needs pilot warning light. Gehring's presentation tomorrow will have more details.

Q: How to get power to offshore transmission lines?

A: Typically trench, depending on what the bottom is like. Not cheap, but it's pretty simple technology. If rocky bottom, then may just lay cable on bottom—but need armor (to avoid catching the cable while fishing)

Q: How much sound do turbines produce?

A: Old turbines had gear box noise, etc. New turbines: swishing sound, only when near turbine. Not very loud.

Q: Guywires?

A: Still an issue with met. towers but not with new turbines (generally monopoles). But note that freestanding towers are more expensive.

Hoar Presentation
Larkin presentation

Beason presentation

Q: Voids in research: how would you prioritize key issues?

A: (1) color tendencies, (2) movements and patterns of movement—how does the speed of an object affect a bird's ability to detect motion?

Q: Have there been studies of auditory sensitivity? Could we use auditory signal from turbines?

A: Yes, there have been studies. 1-200 Hz on bottom, 200-500 Hz on top end. Birds can't hear ultrasound, but pigeons etc can hear very low frequencies, etc.

Q: Recommendations for modifications to make wind turbines more visible?

A: We don't have enough info to make recommendations. Especially for North American species: only one we've looked at is the bobolink.

Thelander presentation

Q: Have bird populations changed because of Altamont?

A: Not really in terms of waves of migrants. But yes, problems with golden eagles, etc. Local birds have become accustomed to turbines—maybe those that survived are those with hunting patterns that avoid turbine danger?

Q: In the Oaxaca project, what motivated concern about birds?

A: World Bank negotiating environmental documents. Mexican government took its own initiative to engage academics. Thoughtful review. Idea of purchasing radar station to operate on-site to detect migration pulses. Collaboration: operators agreed to possibility of shutdowns if data warrant them.

Kunz presentation

Tuttle presentation

Q: Is there a central resource to help develop database of info on bats?

A: Encourage people to call Bats and Wind Energy Cooperative. But also some basic observations we all can take home: (1) more kills on forested ridges, (2) fewer kills the further you get from forest.

Q: What can natural resource agencies do to help?

A: Be well-informed. Keep up-to-date on the Cooperative's activities. Encourage agencies not to stake out extreme positions; try to work with industry to reach solutions.

Arnett presentation

Gannon presentation

Q: Is ice formation a problem?

A: (audience member) Yes. But we can put cone structure around the pole to deflect moving ice.
(Alex Hoar) It is a key concern.

Pruett presentation

Q: Can wind farms be placed on native prairie? In Canada, if you say you won't allow wind farm on native prairie, then landowner will plow the land and *then* put up a wind farm.

A: Good question. Could see a similar scenario in Oklahoma, where most land is privately owned.

Petrie presentation

Q: What's the influence of water depth on habitat use?

A: Smaller species have to forage close to shore. Long-tail ducks can forage farther from shore. But almost all foraging within 40 m of shore.

Q: Are there additive issues for sea ducks that also live in Atlantic areas where sand mining is occurring? (e.g., for beach replenishment)

A: In general, sea ducks are in decline. Many factors. Hard to know what's causing the decline.

Q: Has Canada done any post-construction studies?

A: Not that he knows of, but Canada doesn't have many farms constructed yet, especially those proposed in Ontario. Lake Ontario projects still not complete. Even pre-construction monitoring hard to do because got notification just 8 months before construction.

Q: What about European studies?

A: Good point. Lots of European data we need to mine (e.g., literature on whistling swans). Don't want to reinvent the wheel.

Shieldcastle presentation

Q: Who made the recommendations for the buffer zones shown in the map?

A: Ohio DNR, working with FWS