

Tools for Siting to Avoid and Minimize Impacts

Landscape Assessment Tool

&

American Wind Wildlife Information Center

February 2015

AWWI Mission

Groundbreaking Collaboration:

- *To facilitate timely and responsible development of wind energy while protecting wildlife and wildlife habitat*

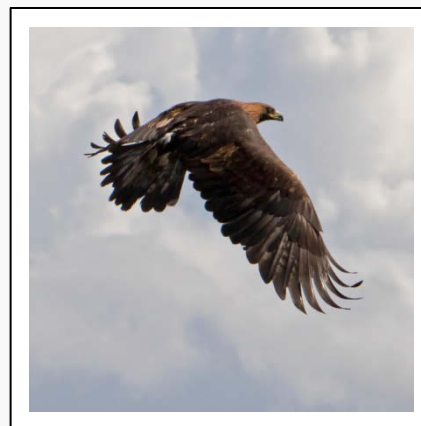
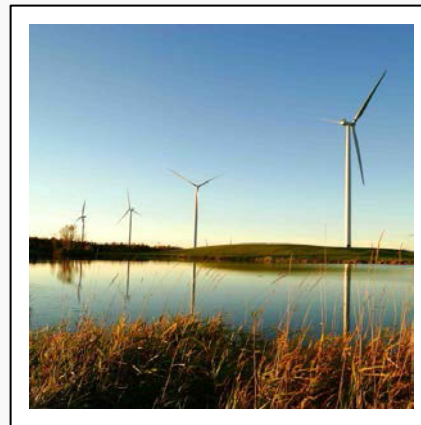
“The beauty of AWWI is that it affords a forum – based on science – where industry, ENGOs, and states can come together and develop the relationships needed to solve wind-wildlife challenges and ultimately get us to a sustainable energy future.”

Scott Davis

Director of Conservation, Central Division

The Nature Conservancy

AWWI Board Chair





Who is AWWI?

Leadership and Commitment

Industry

- American Wind Energy Association
- Berkshire Hathaway Energy
- Clean Line Energy Partners
- DTE Energy
- Duke Energy Renewables
- EDF Renewable Energy
- EDP Renewables
- Enel Green Power
- First Wind
- GE Power & Water
- Iberdrola Renewables
- Infinity Wind Power
- MAP Royalty
- OwnEnergy
- Pacific Gas & Electric Co.
- Pattern Energy Group
- Renewable NRG Systems
- RES Americas
- TradeWind Energy
- Vestas Americas

Environmental, State, and Science Organizations

- Association of Fish and Wildlife Agencies
- Defenders of Wildlife
- Environmental Defense Fund
- National Audubon Society
- National Wildlife Federation
- Natural Resources Defense Council
- Sierra Club
- The Nature Conservancy
- The Wilderness Society
- Union of Concerned Scientists

Landscape Assessment Tool (LAT)

Preliminary Landscape-Level Screening (Tier 1)

Wind and Wildlife
Landscape Assessment Tool



Take User Survey

Species Data

Search:

Enter species name

Browse:

Species Ty...

Others Layers

- Migration Count Data
- Wind Power
- Disturbance
- ☐ Protected Areas
- The Nature Conservancy Priority Areas
- Audubon Important Bird Areas

Streets Topo Imagery

bing™

esri

POWERED BY

1000+ Species Data Layers

Wind and Wildlife Landscape Assessment Tool



Take User Survey

Species Data

Search:

Enter species name

Browse:

Bird

Common Name

Scientific Name

American Wigeon

American Wigeon (Anas americana)

Available Data

Summer Distribution

Winter Distribution

Year Round Distribution

Clear

Opaque

Zoom to Selection

Clear Selection

Others Layers

Migration Count Data

Wind Power

Disturbance

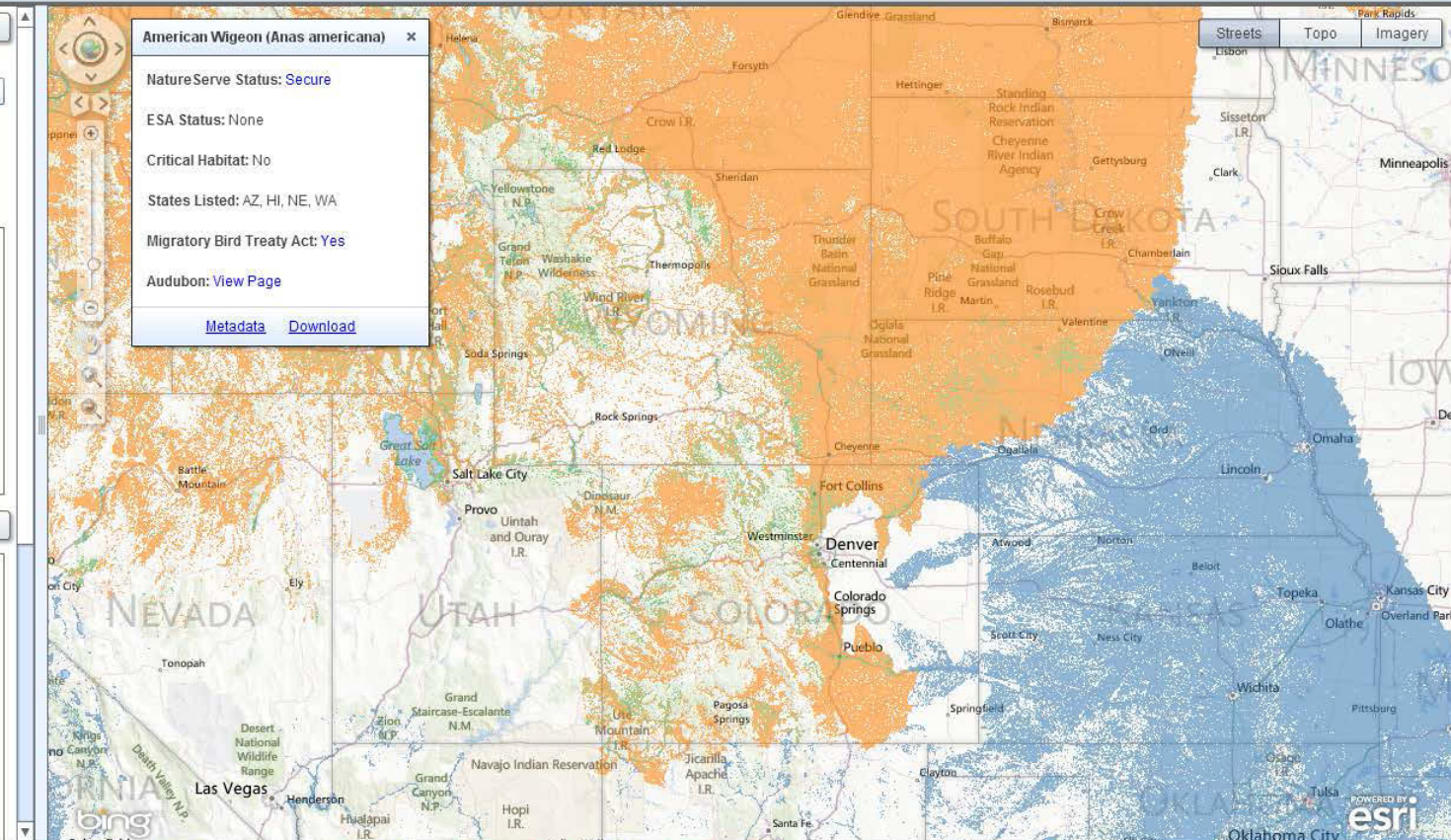
Protected Areas

The Nature Conservancy Priority Areas

TNC's U.S. Priority Areas

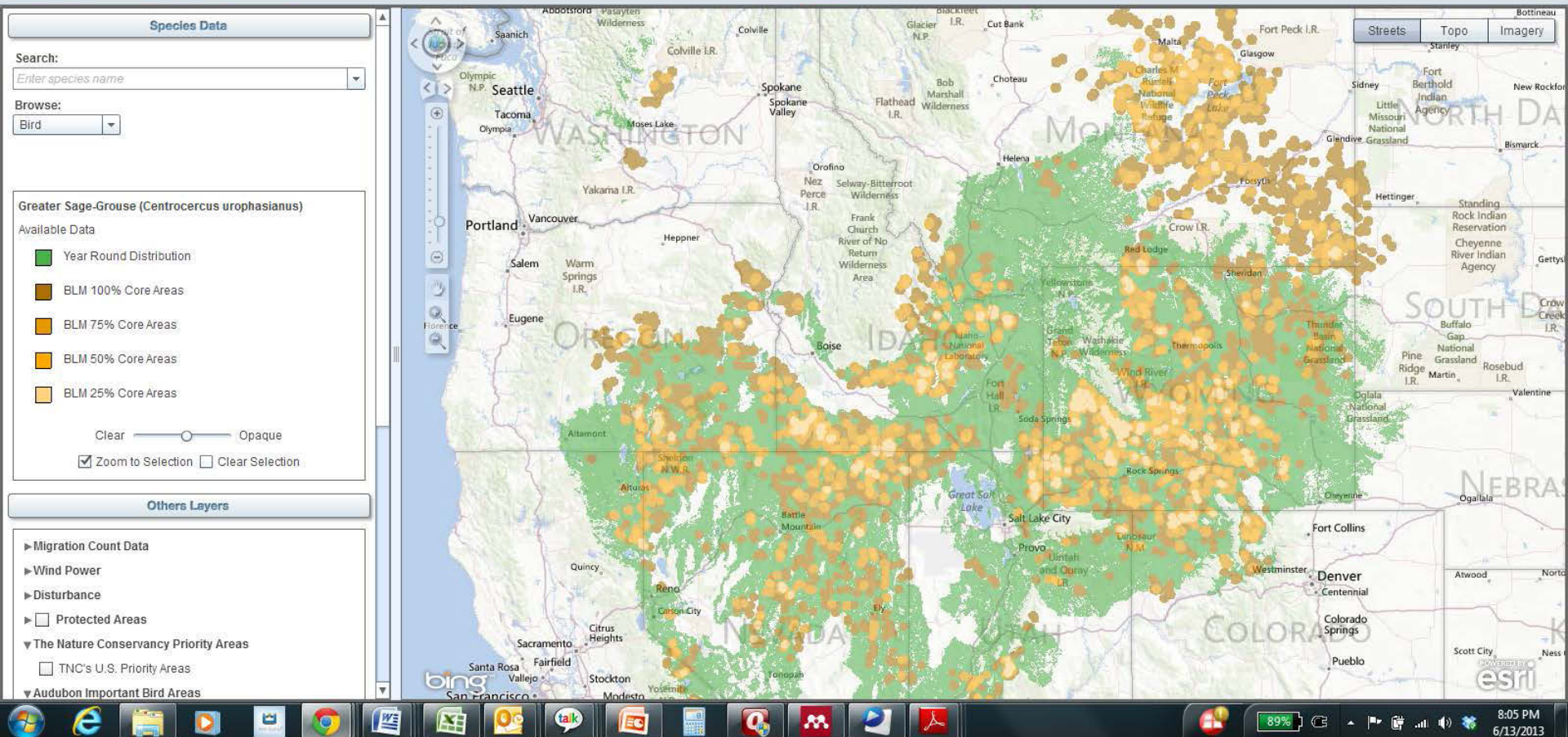
Audubon Important Bird Areas

Important Bird Areas



1000+ Species Data Layers (cont'd)

Wind and Wildlife Landscape Assessment Tool



TNC and Audubon Priority Conservation Areas

Wind and Wildlife
Landscape Assessment Tool



Take User Survey

Streets Topo Imagery

Other Layers

- Migration Count Data
- Wind Power
- Disturbance
- ☐ Protected Areas
- ▼ The Nature Conservancy Priority Areas
 - ☒ TNC's U.S. Priority Areas
- ▼ Audubon Important Bird Areas
 - ☒ Important Bird Areas

Legend

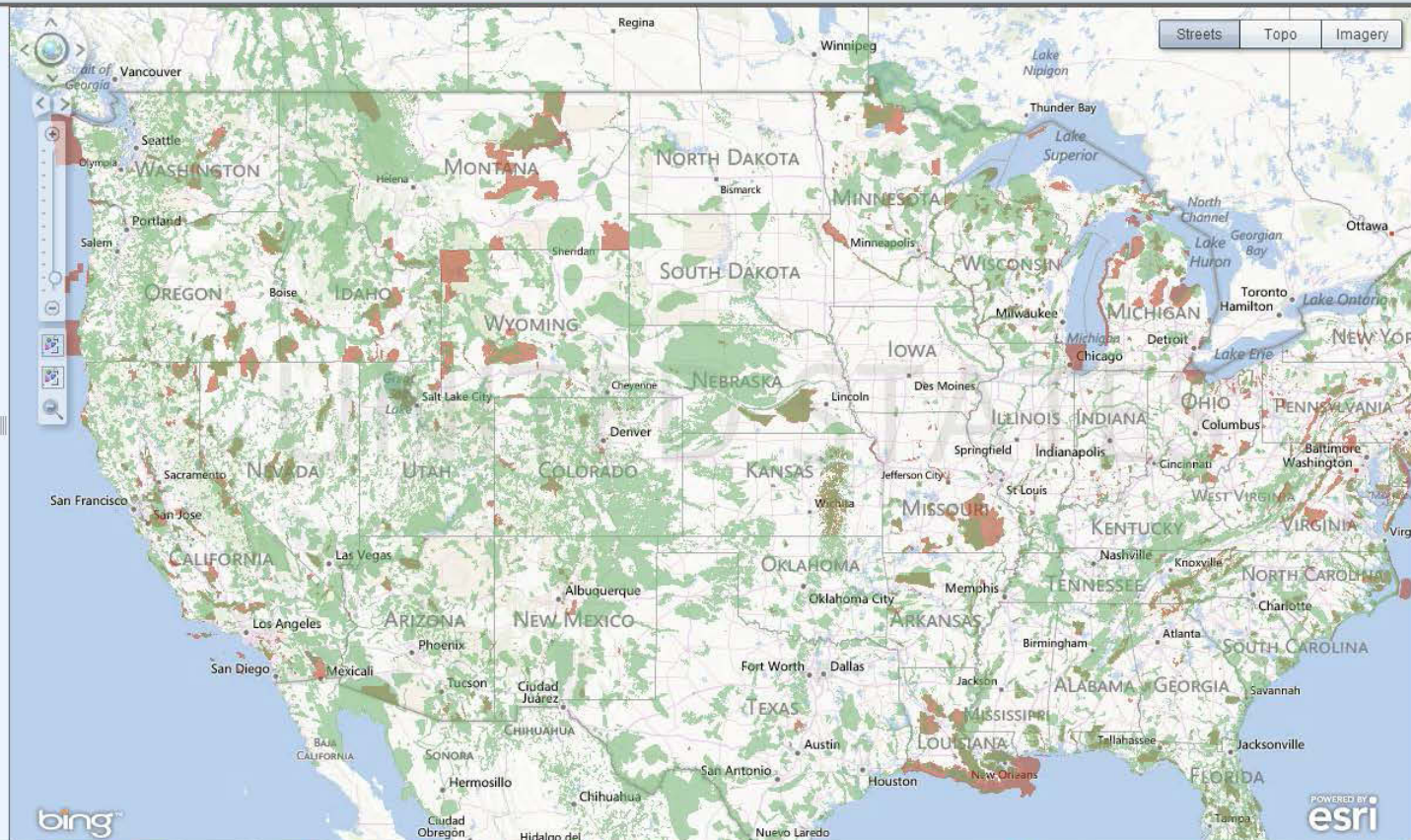
Important Bird Areas



TNC's U.S. Priority Areas



Clear Opaque



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Protected Areas Database

Wind and Wildlife
Landscape Assessment Tool



Take User Survey

Species Data

Search:

Enter species name

Browse:

Species Ty...

Protected Areas

Protected Areas Database of the
United States (PADUS) version 1.2 -
USGS National Gap Analysis
Program

☐ Show Labels

[View Metadata](#)

[Download Data](#)

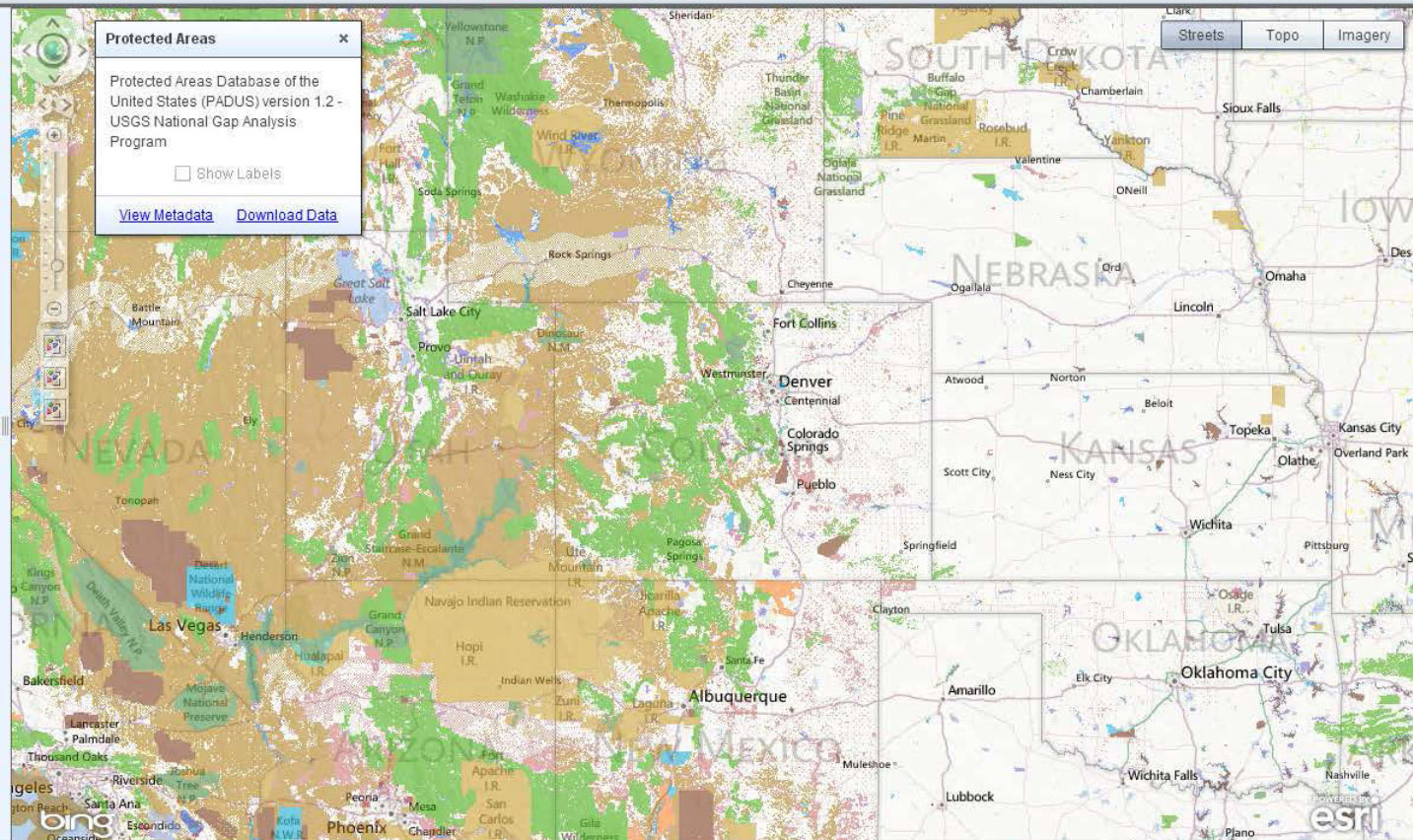
Others Layers

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Legend

Protected Areas Database of the US

- Tribal Land
- Bureau of Land Management (BLM)



Reporting function: Tier 1 & preparation for Tier 2

Wind and Wildlife
Landscape Assessment Tool



Take User Survey

Species With Available Distribution Models					
Species	Informal Tax	NatureServe Status	Endangered Species Act Status	Migratory Bird Treaty Act	Issue
Hoary Bat (<i>Lasiurus cinereus</i>)	Bat	Secure	None	No	Mortality Concern
Little Brown Myotis (<i>Myotis lucifugus</i>)	Bat	Secure	Species of	No	Mortality Concern
Silver-haired Bat (<i>Lasionycteris noctivagans</i>)	Bat	Secure	Species of	No	Mortality Concern
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Bird	Secure	Threatened	Yes	Vulnerable
Bewick's Wren (<i>Thryomanes bewickii</i>)	Bird	Secure	None	Yes	Vulnerable
Black Oystercatcher (<i>Haematopus bachmani</i>)	Bird	Secure	None	Yes	Vulnerable
Blue Grouse (<i>Dendragapus obscurus</i>)	Bird	Secure	None	No	Vulnerable
Blue-winged Teal (<i>Anas discors</i>)	Bird	Secure	None	Yes	Avoidance/Management concern
Brewer's Sparrow (<i>Spizella breweri</i>)	Bird	Secure	None	Yes	Vulnerable



Present in State but No Data	
Species	Informal Tax
Cascade Torrent Salamander (<i>Rhyacotriton</i>)	Amphibian
Columbia Torrent Salamander (<i>Rhyacotriton kezeri</i>)	Amphibian
Larch Mountain Salamander (<i>Plethodon larselli</i>)	Amphibian
Southern Torrent Salamander	Amphibian

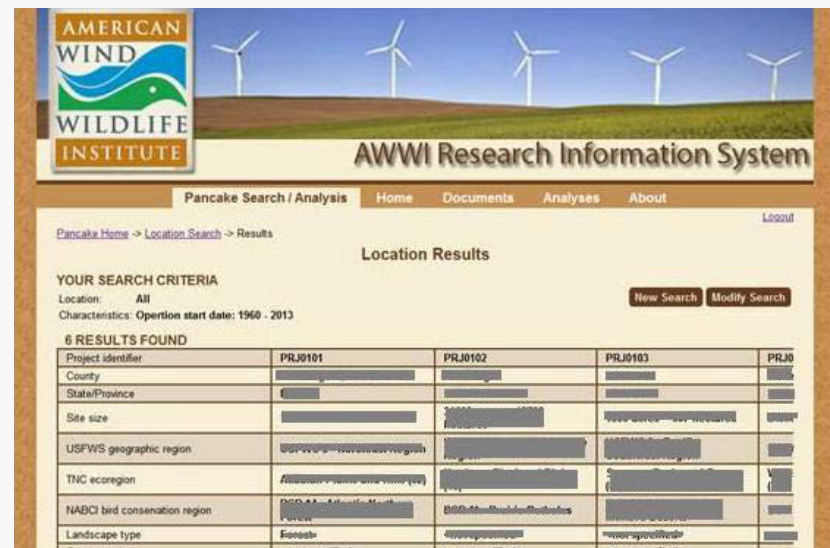
American Wind Wildlife Information Center (AWWIC)



Credit-Joshua Mayer, Flickr



- **Goal:**
 - Collect and securely house industry wind-wildlife data for scientific analysis
 - Increase understanding of wind's energy impacts on wildlife and identify strategies that avoid and minimize those impacts



Summary: AWWIC Development Strategy

Pilot: *Fatality Data Only*

Build out

Analysis & Results

Prototype
AWWIC

Post-
Construction
Fatality Data

Literature
Database

Policies for
Database
Management
& Access

Data
Contribution

Analysis

Comprehensive
AWWIC

Complete Post-
Construction
Data

Complete Pre-
Construction
Data

Literature &
Research
Database

Data
Contribution

Analysis

Results Will:

- Ensure studies measure right variables
- Improve predictions of risk
- Reduce cost and increase certainty in siting & operation
- Facilitate adherence to Wind Energy Guidelines
- Streamline permitting of wind energy projects
- Inform policy & conservation practices

Completed

Completion: Q2 2015

Completion: 2016

Ongoing



AWWIC: Siting and Permitting Applications

- Serve as secure and confidential repository for risk and impact assessment data
- Support consistent data collection and management protocols as appropriate
- Provide comparable data potentially reducing need for data collection
- Refine pre-construction risk assessment – collect the right data
- Recommendations for duration and intensity for post-construction monitoring

Contact AWWI

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