

***Exhibit 4:***  
***NRC Report on Wetlands, Waterways,  
Vegetation, and Wildlife (Preliminary)***



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January 9, 2009

Mr. Don Miller  
EcoEnergy, LLC  
725 Main Avenue North  
Harmony, MN 55939

**RE: *EcoHarmony West – Preliminary Natural Resources Assessment, Fillmore County, MN,  
NRC Project # 007-0230-01-008***

Dear Mr. Miller:

Per your instructions, Figures 1, 2, 3, and 4 in the subject document show a project boundary that was revised on January 7, 2009. The original document is dated August 12, 2008. The revised boundary, as shown on the cited figures, are the only changes made to the original document. The new boundary reflects changes recently made to the project boundary by EcoEnergy Wind LLC.

Sincerely,

***Natural Resources Consulting, Inc.***

William Poole  
Senior Principal Scientist

Enclosure:



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August 12, 2008

Mr. Don Miller  
EcoEnergy, LLC.  
725 Main Avenue North  
Harmony, MN 55939

**RE: *EcoHarmony West – Preliminary Natural Resources Assessment, Fillmore County, MN,  
NRC Project # 007-0230-01-008***

Dear Mr. Miller:

The following is a preliminary natural resources assessment of for the proposed EcoHarmony West wind farm.

### **Surface Water and Floodplain Resources**

#### **a. Description**

Within the EcoHarmony West project area there is a topographic divide in the form of a ridgeline that generally runs east/west. Because of this landscape feature, surface water runoff typically flows either north or south and is conveyed through a series of small streams that originate at the heads of valleys situated along either side of the ridgeline (Figure 1). These relatively small tributary streams ultimately connect to larger river systems outside of the overall project boundary. These water features are portrayed on Figure 2 and include a number of named creeks, unnamed streams and intermittent streams. The named streams include:

- Deer Creek
- Elliott Creek
- Partridge Creek
- Pine Creek
- Upper Iowa River

The Minnesota Department of Natural Resources and/or the U.S. Army Corps of Engineers maintain jurisdiction over navigable waterbodies such as streams, rivers, lakes, ponds and, in some circumstances certain ditches. There are no identifiable lakes within the project boundary.

According to the most current (2006) Minnesota Impaired Waters List there are no impaired waters within or adjacent to the project area. In addition, there are no designated state or national wild, scenic or recreation rivers within the project area. No FEMA flood insurance rate maps are available for Fillmore County.

**b. Impacts**

Typically, the construction of wind turbines and associated infrastructure such as substations, temporary construction access and permanent access roads results in land disturbance. This type of land disturbance has the potential to impact water resources by means of soil erosion. Also, the impervious surface resulting from these facilities has the potential to increase surface water runoff and subsequent erosion. The wind turbines will be sited within high points on the landscape and the access roads will be designed to avoid wetlands and waterways to the greatest extent practicable.

**c. Impact Avoidance/Minimization**

Erosion control Best Management Practices will be implemented during land disturbing activities to avoid impacts to surface water resources. Temporary disturbance areas will return to pre-construction agricultural land practices or will be re-vegetated in order to stabilize disturbed soils thereby limiting soil erosion. The additional impervious surface associated with each of the proposed 134 turbines will increase surface water runoff. However, each of these facilities will be separated by relatively large distances and will be surrounded by vegetation. Therefore, cumulative impacts of increased stormwater runoff volume will be widely distributed and isolated and is expected to have minimal impacts to surface water resources. If temporary construction routes or permanent access roads need to cross regulated streams, the design and permitting of such crossing structures will be coordinated with the appropriate regulatory agencies.

**Wetlands**

**a. Description**

The orthophotography and National Wetland Inventory data layer presented on Figure 3 provide an approximate visual perspective of the wetland resources occurring within the project area. Based on this information it appears that most wetlands in this geographic area are confined to the narrow riparian corridors associated with the creeks and streams described in the previous section of this document. Field verification efforts will be conducted to better characterize the type and extent of wetlands to assist with turbine and associated infrastructure design and layout. The following table provides a breakdown of the wetland categories occurring within the project boundary quantifies the spatial area of each wetland type and provides the percent land cover within the project boundary.

<b>Wetland Type</b>	<b>Acreage</b>	<b>Percentage</b>
Freshwater Emergent Wetland	289.935	0.514
Freshwater Forested/Shrub Wetland	48.823	0.086
Freshwater Pond	62.355	0.11
Other	0.545	0.001
Riverine	21.563	0.038

**b. Impacts**

Because less than 0.75% of the project area is comprised of wetlands and wind turbines are typically located on the higher elevation portions of the landscape, wetland impacts are expected to be minimal if any. Temporary construction activities such as burying cable, equipment access and permanent access roads will be planned to avoid wetlands to the greatest extent practicable.

**c. Impact Avoidance/Minimization**

The Minnesota Board of Water & Soil Resources and/or the U.S. Army Corps of Engineers maintain jurisdiction over wetland protection. If construction access, underground cable routes and permanent access roads are unable to be designed to avoid temporary or permanent wetland impacts, the extent of impacts will be minimized as much as possible and the area of impact will be quantified. The appropriate regulatory agencies will be consulted, a mitigation plan be developed and any required permits will be obtained.

**Vegetation**

**a. Description**

Based on the USGS GAP Analysis data, topography and orthophotography review, agricultural cropland comprises the greatest percentage of land cover within the project boundary (Figure 4). Forested and grassland areas are widely distributed and relatively small in size compared to other areas outside of the project boundary. The forested areas tend to be associated with steep topography adjacent to the various waterways. These are the areas less suited for farming. The following table summarizes the land cover present within the project area, quantifies the acreage of each cover type and provides the percent of overall area each cover type occupies within the project area.

<b>GAP Land Cover</b>	<b>Acreage</b>	<b>Percent</b>
Aquatic	8.023	0.014
Aspen/White Birch	3.336	0.006
Cropland	39078.29	69.213
Developed	745.435	1.32
Grassland	14212.64	25.173
Lowland		
Deciduous	472.345	0.837
Lowland Shrub	34.026	0.06
Maple/Basswood	187.92	0.333
Marsh	33.137	0.059
Oak	1578.106	2.795
Silver Maple	6.246	0.011
Upland Deciduous	61.157	0.108
Upland Shrub	40.294	0.071

**b. Impacts**

The areas proposed for wind turbine construction and the vegetation that will be impacted is primarily agricultural in nature. Because row crops are planted on an annual basis and forage crops such as hay, alfalfa, etc. are easily restored following construction activities, such impacts are expected to be relatively small and temporary. The areas of temporary disturbance will include the work space required for constructing the turbines, construction access to and in between turbines, and cabling routes between each turbine. The area of permanent vegetation loss will be associated with facility access roads and the wind turbine footprints. Wind turbine placement within forested areas is typically avoided because of the reduced wind speeds associated with this cover type. Also, the long-term operation and maintenance of the turbines will not impact vegetation.

**c. Impact Avoidance/Minimization**

Outside of the permanent vegetation loss associated with the wind turbine footprint, gravel apron and facility access roads, topsoil will be redistributed where agricultural crops can be planted as usual and areas not proposed for crops will be planted to permanent vegetation cover. The type of permanent cover will be negotiated with the affect landowner.

**Wildlife**

**a. Description**

As previously described, the majority of the project area and surrounding landscape is used for agricultural purposes with crop land comprising a significant portion of the vegetative cover. Scattered patches of grassland, forested hillsides and wetlands make up the remaining wildlife habitat within the project boundary. Based on the geographic range and the habitat available within the project boundary and surrounding area, there is a host of wildlife species that will occupy this area on a seasonal or year round basis. A list of species likely to reside in the area on an annual or seasonal basis is included in Appendix A.

Avian and bat species are of particular interest in the vicinity of wind energy projects. There have been a number of pre-construction and post-operation studies conducted throughout the United States, including Minnesota and surrounding states, to document bird and bat use and subsequent fatality impacts to these species. In general, results of these studies indicate that the degree of such impacts may be correlated with historic migratory corridors and/or the habitat composition within and adjacent to the project area. Project specific pre-construction avian surveys are currently being conducted to identify the seasonal bird use within the project area. This survey effort will document the species composition and relative abundance of birds using or passing through the project area throughout the year. Also, a desktop avian and bat screening analysis will be conducted as part of the overall environmental analysis for the proposed project.

A number of mammal species have adapted to and thrive in agricultural landscapes that contain a mosaic of habitat types including crop land. The row crops provide seasonal cover and food for some species during the summer and fall months prior to harvesting, and waste grain remaining on the ground after harvest can provide migrating waterfowl and other wildlife with food leading into winter. The scattered forests, grasslands and wetlands provide the limited long-term cover and food. Species typical of this landscape include a variety of rodents such as squirrels, rabbits and mice, white-tailed deer, red fox, coyote, raccoon, woodchuck and striped skunk.

A number of reptile and amphibian species are likely to be found in the project area. However, most of these will be associated with the wetlands, waterways and forest habitats. For example, most turtle and frog species will be associated with streams, ponds and wetlands. Depending on the species, snakes can be found in a variety of habitats including wetlands, forests and grasslands. However, agricultural crops are not a preferred habitat type.

**b. Impacts**

*General Wildlife Impacts*

Wind turbines and associated infrastructure has a relatively small footprint on the landscape and will typically be located in existing agricultural fields thereby minimizing impacts to the most suitable wildlife habitat. The disturbance resulting from construction-related activities will be temporary and is expected to have minimal affects to the local wildlife.

*Avian and Bat Impacts*

Upon completion of a desktop avian and bat screening analysis and the year-long bird survey currently underway, an assessment of potential impacts to birds and bat can be determined for this project location. Based on similar studies that have been conducted in Minnesota and Iowa, results indicate that when properly located, bird and bat fatalities are minimal and do not significantly impact the overall population of these species.

**c. Impact Avoidance/Minimization**

The location of the proposed wind energy facility was selected due to the favorable wind resource in this area and the open landscape that minimizes interference of the wind. As a result of this landscape and the agricultural land use practices, there is a lack of habitat that would typically attract large numbers of birds and bats. Also, the wind turbine and associated infrastructure layout will be designed to avoid the wetland and woodland habitat that has the highest likelihood of attracting birds and bats. Based on these considerations, impacts to these species are expected to be minimal.

**Rare and Unique Natural Resources**

**a. Description**

The Minnesota Department of Natural Resources (DNR) was requested by letter on

07/08/2008 to query the Natural Heritage Inventory (NHI) database for a list of rare natural features known to occur in the project area. Results of the NHI review are included in Appendix B. Furthermore, direct consultation in the form of a meeting with department staff regarding specific species was held on 10/27/2008.

To determine if any Federally listed species are potentially present within the project area, a Section 7 (a) (2) consultation of the U.S. Fish and Wildlife Service database (USFWS; <http://www.fws.gov/midwest/endangered/section7/sppranges/index.html>); was accessed on 10/30/2008). An excerpt of the results including Fillmore County is included in Appendix C.

**b. Impacts**

As with most wind energy facilities in the Midwest, turbines are typically placed in largely agricultural landscapes. As such, suitable habitat for rare species is typically limited and impact potential is typically low. An endangered and threatened species screening analysis will be conducted prior to final project design and if the screening analysis identifies potential for certain species to be present a habitat assessment will be conducted to verify habitat suitability. If warranted, species specific surveys may be conducted. Information collected from the screening analysis described above will be used to identify potential impacts.

**c. Impact Avoidance/Minimization**

If suitable habitat or documented occurrences for state and/or federally protected species are identified within the proposed project boundary and in close proximity to project-related disturbance, the project developer will consult with the appropriate natural resource agencies to collaboratively determine the most appropriate impact avoidance/minimization measures.

Sincerely,

*Natural Resources Consulting, Inc.*



William Poole  
Senior Principal Scientist

Enclosure:

## FIGURES

Figure 1.  
Project Location and  
Topography  
EcoHarmony - West



**Location**

Fillmore Co., MN



0 1 2 Miles

**Project Information**  
Project Number : 007-0230-01-008  
Modified January 7, 2009

**Legend**

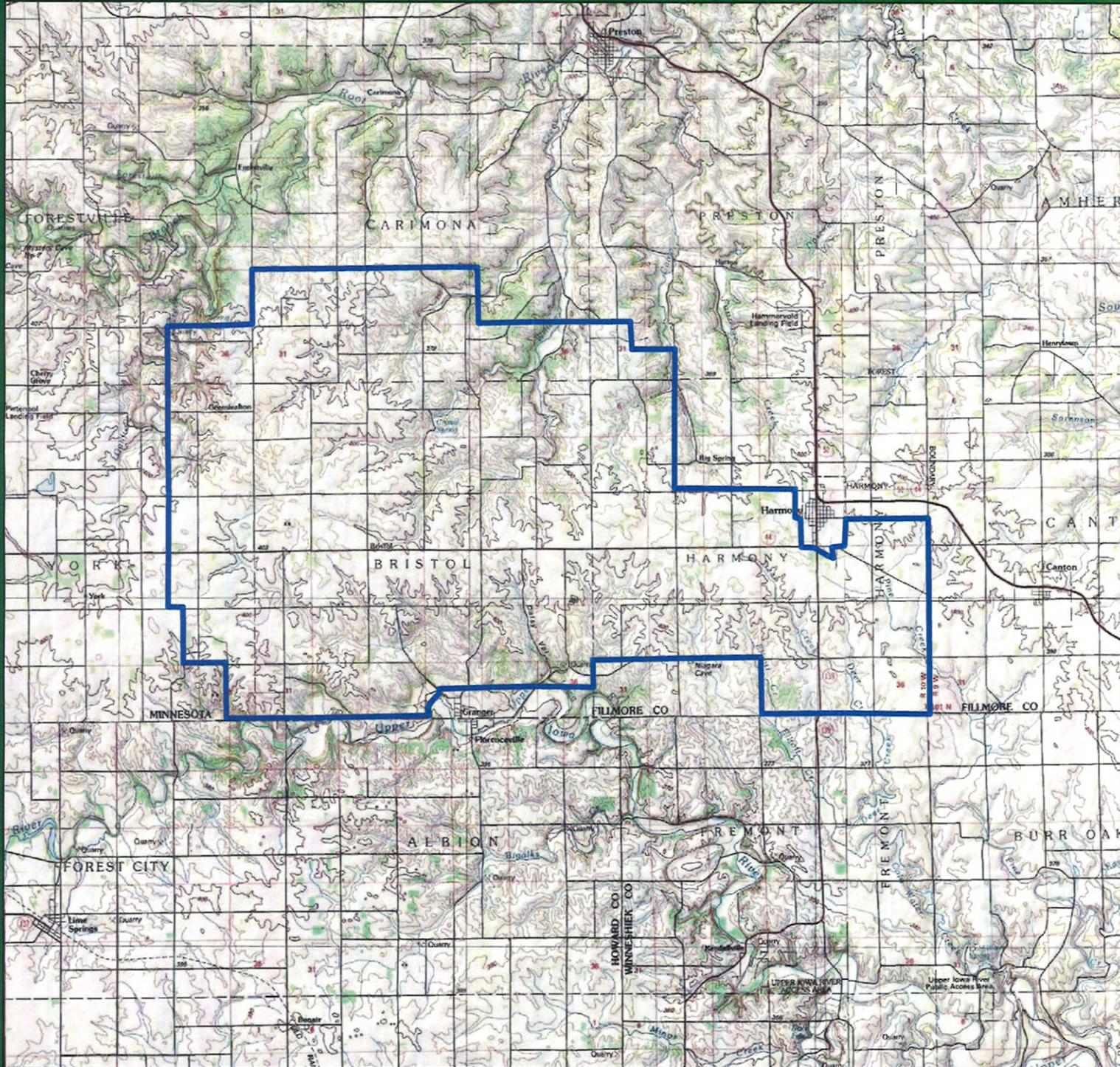
 Project Area

USGS 7.5' Canton, Greenleaf, and Harmony Topographic Quadrangles



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The information presented in this map document is advisory and is intended for reference purposes only.  
EcoHarmony\_Topo 8x11.mxd Map Created by A. Archer

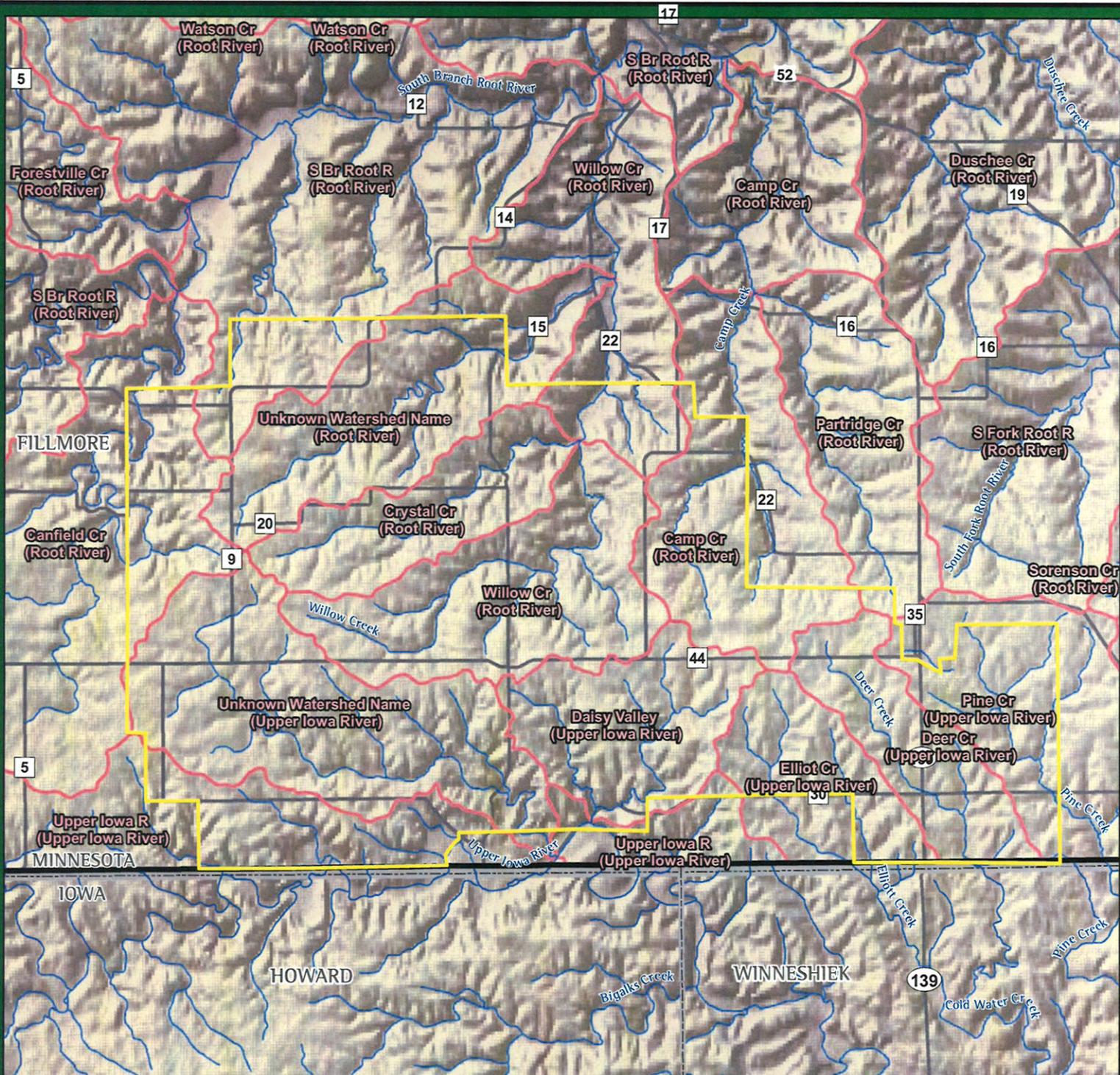


Figure 2.  
Surface Waters  
EcoHarmony - West



**Location**  
Fillmore Co., MN

0 1 2 Miles

**Project Information**  
Project Number : 007-0230-01-008  
Modified January 7, 2009

**Legend**

- Minnesota Watersheds
- ~ Waterbody
- ~ Streams
- State Line

Data Sources Include: US FWS, MN DNR, USGS.

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EcoHarmony\_West\_Surface Waters 8x11.mxd Map Created by B. Costanza

Figure 3.  
National Wetland  
Inventory Data  
EcoHarmony - West



Location

Fillmore Co., MN



0 1 2 Miles

Project Information

Project Number : 007-0230-01-008  
Modified January 7, 2009

Legend

- Project Area
- NWI Wetlands
- Waterbody
- Streams
- State Line
- County Line

Data Sources Include: US FWS, USGS, MN DNR  
Orthophotography: 2005 NAIP



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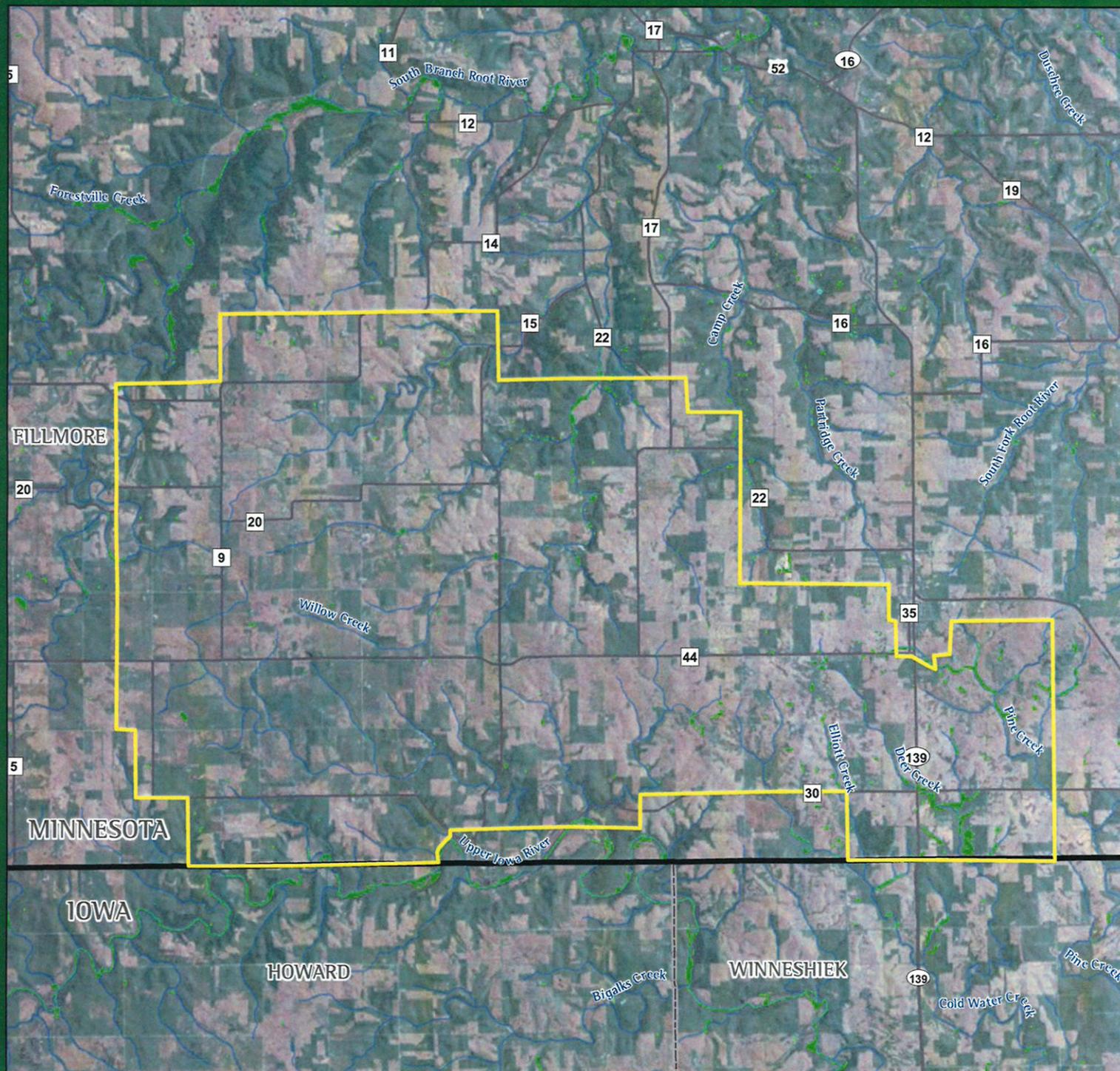
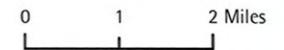


Figure 4.  
USGS GAP Analysis Data  
EcoHarmony - West



Location

Fillmore Co., MN



Project Information

Project Number : 007-0230-01-008  
Modified January 7, 2009

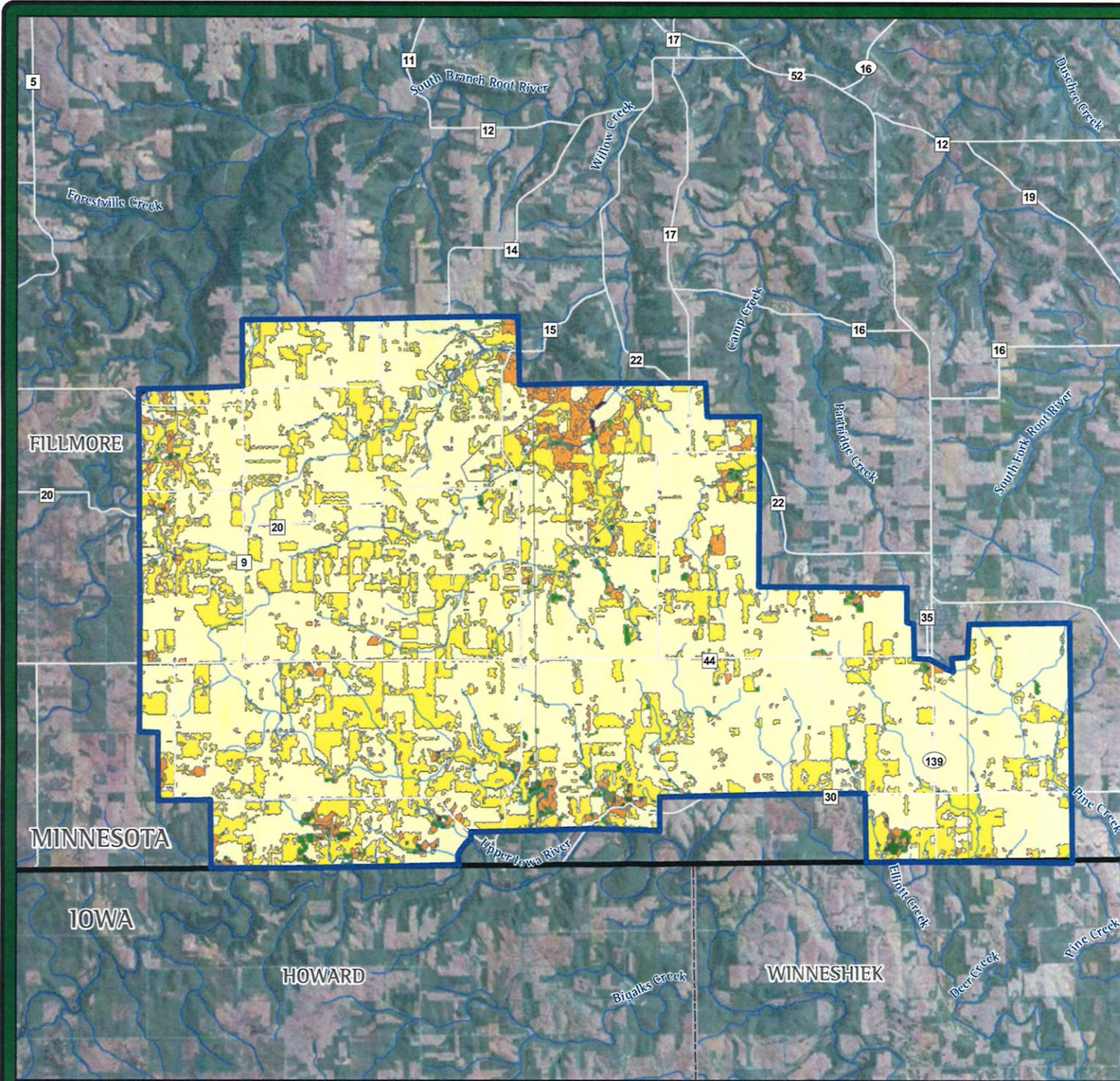
Legend



Data Sources Include: MN DNR, USGS.  
Orthophotography: 2005 NAIP



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EcoHarmony\_West\_GAP 8x11.mxd Map Created by B. Costanza

## APPENDIX A

**EcoHarmony Wind Farm  
Wildlife Species Potentially Occurring in the Project Area**

<b>REPTILES AND AMPHIBIANS</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Northern Brown Snake	<i>Storeria dekayi</i>
Northern Red Bellied Snake	<i>Storeria occipitomaculata</i>
Eastern Plains Garter Snake	<i>Thamnophis radix radix</i>
Common Garter Snake	<i>Thamnophis sirtalis</i>
Western Fox Snake	<i>Elaphe vulpina vulpina</i>
Bullsnake	<i>Pituophis melanoleucus</i>
Timber Rattlesnake	<i>Crotalus horridus</i>
Blue Racer	<i>Coluber constrictor</i>
Eastern Hognose	<i>Heterodon platirhinos</i>
Eastern Milk Snake	<i>Lampropeltis triangulum</i>
Smooth Green Snake	<i>Ophedrys vernalis</i>
Blue Spotted Salamander	<i>Ambystoma laterale</i>
Eastern Tiger Salamander	<i>Ambystoma tigrinum tigrinum</i>
American Toad	<i>Bufo americanus</i>
Gray Tree Frog	<i>Hyla versicolor</i>
Wood Frog	<i>Rana sylvatica</i>
Northern Cricket Frog	<i>Acris crepitans</i>
<b>BIRDS</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Wood Duck	<i>Aix sponsa</i>
Turkey Vulture	<i>Cathartes aura</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Sharp-Shinned Hawk	<i>Accipiter striatus</i>
Red Tailed Hawk	<i>Buteo jamaicensis</i>
Broad-Winged Hawk	<i>Buteo platypterus</i>
Wild Turkey	<i>Meleagris gallopavo</i>
Mourning Dove	<i>Zenaida macroura</i>
Yellow Billed Cuckoo	<i>Coccyzus americanus</i>
Black Billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Screech Owl	<i>Otus asio</i>
Great Horned Owl	<i>Bubo virginianus</i>
Barred Owl	<i>Strix varia</i>
Saw-Whet Owl	<i>Aegolius acadicus</i>
Whip-Poor-Will	<i>Caprimulgus vociferus</i>
Common Nighthawk	<i>Chordeiles minor</i>
Chimney Swift	<i>Chaetura pelagica</i>
Ruby-Throated Hummingbird	<i>Archilochus colubris</i>
Common Flicker	<i>Colaptes auratus</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Red Bellied Woodpecker	<i>Melanerpes carolinus</i>
Yellow Bellied Sapsucker	<i>Sphyrapicus varius</i>
Harry Woodpecker	<i>Picoides villosus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Eastern Phoebe	<i>Sayornis phoebe</i>