

Current Management – Research Needs  
2007

Blue – indicates study currently funded

Species specific research needs

Topic	Further Description
Birds of prey	- Habitat and prey preferences of migratory birds of prey
Carp Bullhead	- Impacts of carp &/or bullhead management on species of greatest conservation need - Management techniques for controlling carp in shallow lakes
Eels Sturgeon	- Eel ladders: Development of eel & sturgeon passage structures for Mississippi Lock & Dam structures
Fish	- Reproductive needs of paddlefish, grass pickerel, Topeka shiners, &/or suite of SGCN fish associated with Missouri River tributaries
Ornate box turtle	- Population assessment in the Loess Hills
Plains pocket mouse	- Population assessment and habitat use in the Loess Hills
Prairie butterflies	- Habitat components and obligate plant hosts for selected declining species - Why are they declining (especially skippers)?
Prairie chickens	- Impacts of trees on lek predations (e.g. how many? What distance) - Minimum area habitat size requirements for a self-sustaining population
Rare fish	- <a href="#">Habitat and water quality requirements of rare fish on the Lower Cedar River</a> (&/or of the suite of SGCN fish associated with Missouri River tributaries)
Reptiles & amphibians	- Habitat status and use of all Iowa herps with emphasis on state and federal T & E species - Impacts of public land management on herps (especially wetland management)
Ruffed grouse	- Habitat suitability and use in NE Iowa - Use of aspen and other early successional habitat
Snakes	- Can created hibernaculas help reverse snake population declines?
West Nile virus	- Occurrence, frequency, and impacts on birds
Quail	- “dirty fields” – comparing chemical vs. organic/no chemical corn impacts on quail numbers
Cerulean warblers	- Does Iowa have suitable breeding habitat to support a population of CEWA?
Bats	- Natural history of bats in Iowa - <a href="#">Impacts of windfarms</a>
Shorebirds	- Impact of current wetland management strategies on shorebirds (in relation to duck habitat management)

Land and water management research needs

<b>Topic</b>	<b>Further Description</b>
<p><b>CRP</b></p>	<ul style="list-style-type: none"> <li>- Do CRP seedings and other management techniques really affect wildlife? <a href="#">Quail &amp; songbirds</a></li> <li>- Relative impacts of CRP on water quality improvement? Benefits to SGCN associated with trout streams, other systems?</li> </ul>
<p>Goat Prairie management</p>	<ul style="list-style-type: none"> <li>- Impacts of tree and shrub encroachment on goat prairies and sensitive species (e.g. timber rattlesnake)</li> <li>- Value of these sites to butterflies &amp; other wildlife</li> </ul>
<p>Effect of prescribed fire</p>	<ul style="list-style-type: none"> <li>- Exclusion &amp; re-introduction of fire on native grasslands</li> <li>- Exclusion &amp; reintroduction of fire on woodlands, savannas, and forests</li> <li>- Effect of fire on butterflies</li> <li>- Management guidelines for fire use and SGCN</li> </ul>
<p>Effect of public land crop and grazing rotation</p>	<ul style="list-style-type: none"> <li>- <a href="#">Pre- and post-management study to address impacts on SGCN (birds &amp; insects)</a></li> <li>- <a href="#">Effects of mowing and grazing on butterflies</a></li> </ul>
<p>Farming practices</p>	<ul style="list-style-type: none"> <li>- Impacts of different farming practices (e.g. organic vs. chemical fertilizer) on songbird, herptile, &amp;/or fish populations</li> </ul>
<p>Land acquisition</p>	<ul style="list-style-type: none"> <li>- How large must core tracts be to conserve species with minimum viable population sizes?</li> <li>- Comparison of large core tracts vs. targeted corridors for aquatic SGCN</li> <li>- Pre- and post-effects of land management techniques</li> </ul>
<p>Restoration and new habitat projects</p>	<ul style="list-style-type: none"> <li>- Identifying faunal differences between native and restored sites (prairie, wetland, savanna)</li> <li>- Feasibility of introducing new species</li> <li>- Sources for amphibian and insect colonizers for new sites</li> <li>- Effectiveness of nitrate removal in restored wetlands</li> <li>- Impacts of hydrologic regime restoration (i.e. is it hydrologic regime or habitat restoration that impacts SGCN?)</li> <li>- Coldwater stream fish species restoration</li> <li>- Warm water stream aquatic species restoration</li> </ul>
<p>Timber harvest</p>	<ul style="list-style-type: none"> <li>- Impacts of timber harvest to create early successional habitat and maintain prairie &amp; Savanna (pre-and post- management studies – neotropical migrants and ruffed grouse, etc.)</li> <li>- Are Iowa forests sources or sinks for interior forest nesting birds like the cerulean warbler?</li> <li>- Determining a suitable deer density that balances public demand with impacts on forest birds and other taxa</li> </ul>
<p>Wind turbines</p>	<ul style="list-style-type: none"> <li>- Effects on nesting success of breeding birds?</li> <li>- How can turbines be modified so as to not cause bat mortality?</li> </ul>
<p>Urbanization (&amp; habitat changes from historic conditions)</p>	<ul style="list-style-type: none"> <li>- Impacts on SGCN</li> <li>- Are any SGCN benefiting from urbanization?</li> <li>- How do SGCN relate to increases with red foxes in urban areas (&amp; decline of foxes in rural/wild areas)</li> </ul>
<p>Water quality</p>	<ul style="list-style-type: none"> <li>- Impacts of water quality on dragonflies &amp; other SGCN</li> <li>- Are common species declining due to water quality issues (e.g. muskrats, fish)?</li> <li>- Benefits from wetland restoration, hydrologic regime restoration, habitat programs (e.g. CRP) &amp; management actions</li> </ul>

Area specific research needs

<b>Topic</b>	<b>Further Description</b>
GIS and landscape modeling	<ul style="list-style-type: none"> <li>- E.g. – continued development of the Grassland Bird Conservation area model to identify geographic focus areas for habitat protection, restoration, and management</li> <li>- Comparison of corridors vs. core tracts for aquatic SGCN &amp; water quality</li> </ul>
Headwater streams	<ul style="list-style-type: none"> <li>- Community composition, impacts of agricultural runoff, &amp;/or hydrologic regime impacts</li> </ul>
Identifying critical habitat components	<ul style="list-style-type: none"> <li>- Landscape factors affecting species of greatest conservation need (Structural features, landscape configurations, and amounts of habitat)</li> </ul>
Investigative interactions	<ul style="list-style-type: none"> <li>- What is the relative importance of disease, predation, nest parasitism, introduced species, land use, &amp;/or abiotic factors (e.g. climate change)?</li> </ul>
Sinkholes and Algific Talus slopes	<ul style="list-style-type: none"> <li>- ATS sites with rare and endangered species need to have the sinkholes mapped</li> </ul>
Invasive species & impacts on wetland wildlife populations and production	<ul style="list-style-type: none"> <li>- Effects of water level management vs. herbicide &amp; manual removal of canary grass</li> <li>- Effects of water level management vs. pesticide &amp; manual removal of purple loosestrife</li> <li>- Effects of water level management vs. pesticide &amp; manual removal of black willows</li> <li>- Effects of water level management vs. pesticide &amp; manual removal of rough fish</li> </ul>
Shallow lakes program	<ul style="list-style-type: none"> <li>- Benefits to SGCN – shorebirds, dragonflies, amphibians, reptiles, etc.</li> <li>- Short-term impacts to SGCN (e.g. – Blanding’s turtles)</li> </ul>
Lead impacts	<ul style="list-style-type: none"> <li>- Impacts of lead on SGCN</li> </ul>

While all of the above needs (& doubtless others of which we have not listed) are important, special attention may be paid to proposals concerning windfarms, benefits of water quality to wildlife of GCN, and determining proper planting and fire regimes for both prairies and forested areas for SGCN.