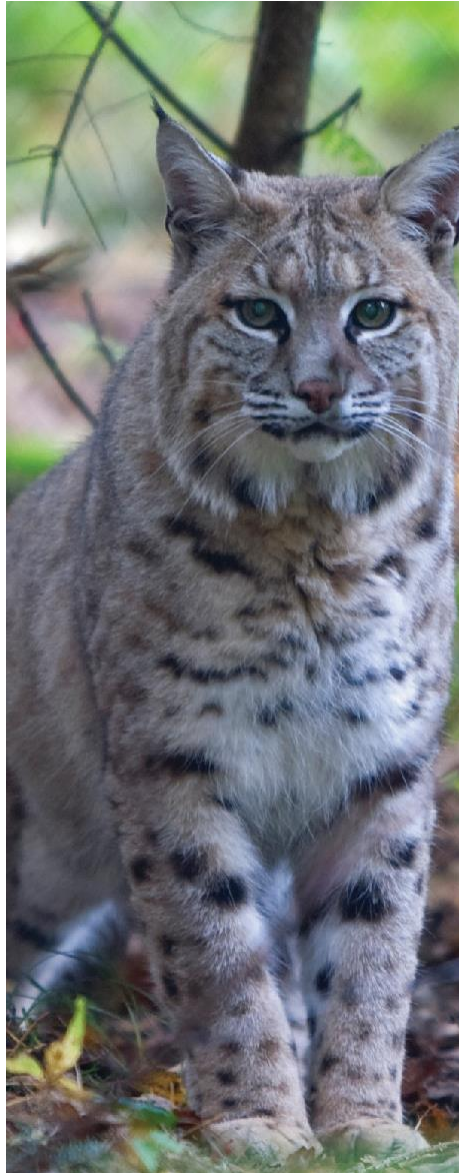


# SWAP | State Wildlife action Plan facilitation





# State Wildlife action Plan facilitation

December 2013

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# SWAP | final recommendation rePort



Conservation doesn't just happen. It takes resources and collaboration.





## state Wildlife action plan overview

Indiana's 2015 State Wildlife Action Plan (SWAP), also known as the Comprehensive Wildlife Strategy, provides a comprehensive overview of conservation in Indiana. The plan identifies needs and opportunities to prevent species from becoming threatened or endangered in the future. Indiana has decided to take a habitat-based approach to wildlife conservation in an effort to avoid division among conservation interest groups that focus on single species conservation efforts. The eight habitat regions for the 2015 SWAP include:

- Agriculture
- Aquatic Systems
- Barren Lands
- Developed Lands
- Forests
- Grasslands
- Subterranean Systems
- Wetlands

The State Wildlife Action Plan must be completed to receive federal funding from programs such as the State and Tribal Wildlife Grants (SWG) program. The goal of the SWG is to prevent endangered species listings. All SWAPs are approved by the U.S. Fish and Wildlife Service (USFWS). Additionally, dedicated funding, such as the Wildlife Conservation and Restoration Program (WCRP), authorizes federal funding to state fish and wildlife agencies for wildlife conservation, recreation, and education; however, while the program is on file, it is not currently being funded.

State Wildlife Action Plans vary in approach from state to state but are developed with the same scope: species and habitat conservation. Indiana's approach to wildlife conservation relies on stakeholder collaboration from the greater conservation community to ensure a multi-scale effort is undertaken. Indiana's current SWAP was approved in 2006.

### exhibit 1: state Wildlife action plan requirements

All State Wildlife Action Plans must account for eight required planning elements in order to be approved by the USFWS (as listed verbatim from IN DNR):

1. the distribution and abundance of species of wildlife, including low and declining populations as each State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of wildlife of the State; (In subsequent discussions, these species were referred to as Species of Greatest Conservation Need or SGCN);
2. the location and relative condition of key habitats and community types essential to the conservation of each State's SGCN;
3. the problems which may adversely affect SGCN or their habitats, and priority research and surveys needed to identify factors which may assist in restoration and improved conservation of SGCN and their habitats;
4. the actions necessary to conserve SGCN and their habitats and establishes priorities for implementing such conservation actions;
5. the provisions for periodic monitoring of SGCN and their habitats, for monitoring the effectiveness of conservation actions, and for adapting conservation actions as appropriate to respond to new information or changing conditions;
6. each State's provisions to review its strategy at intervals not to exceed ten years;
7. each State's provisions for coordination during the development, implementation, review, and revision of its strategy with Federal, State, and local agencies and Indian Tribes that manage significant areas of land or water within the State, or administer programs that significantly affect the conservation of species or their habitats; and
8. each State's provisions to provide the necessary public participation in the development, revision, and implementation of its strategy.

### primary challenges

Key challenges to wildlife conservation for Indiana and its surrounding states include habitat loss/fragmentation, invasive species, and climate change. The updated plan for 2015 will continue to address these concerns by identifying goals and objectives for the next ten years. Additionally, a multi-level conservation scale approach is required to implement the updated SWAP. Conservation involves private landowners, nonprofit organizations, and state and federal agencies; therefore, planning for the collective efforts of Indiana's stakeholders is crucial.

## state Wildlife action plan update: 2013 meeting facilitation

The Indiana Department of Natural Resources (IN DNR) Division of Fish and Wildlife conducted stakeholder meetings to develop recommendations for the 2014 Request for Proposal for technical data collection and continued stakeholder involvement. IN DNR selected Indiana University's Eppley Institute for Parks and Public Lands to coordinate the SWAP's required meetings and stakeholder involvement. The Eppley Institute organized and facilitated a series of regional kick-off stakeholder meetings in Fall 2013, including the promotion, coordination, documentation, and follow-up work associated with these meetings. The process employed by the Eppley Institute strengthened conservation partnerships in the state. The Eppley Institute used its Pathfinder-SM process (see meeting summary report for details) to facilitate the stakeholder meetings.

The Eppley Institute organized three regional stakeholder events. The events were held on Thursday, September 26, 2013; Wednesday, October 2, 2013; and Thursday, October 3, 2013. A total of 150 stakeholders attended the regional events. The September 26 meeting was held at the Indiana Wildlife Federation office in Indianapolis, Indiana; the October 2 meeting was held at O'Bannon Woods State Park in Corydon, Indiana; and the October 3 meeting was held at the Newton Center in Lakeville, Indiana. Organizations represented at the events included Indiana DNR Division of Fish & Wildlife, Central Indiana Land Trust, Purdue University, Sycamore Land Trust, Ducks Unlimited, Duke Energy, The Nature Conservancy, Indiana State University, Indiana DNR State Parks & Reservoirs, and many more friends groups, as well as the State Wildlife Action Plan Advisory and Core Teams (see meeting summary report for full participant listing).

The Eppley Institute conducted an additional web-based stakeholder meeting on Friday, October 4, 2013 with individuals who could not attend a regional meeting. Twenty-one additional stakeholders attended this web-based meeting representing Pheasants Forever, Muskies, Inc., White River State Park, Tippecanoe Watershed Foundation, Brown County State Park, and many other organizations. This alternative meeting allowed the project team to report the initial findings of the three regional meetings along with gathering additional input from the group. The meeting served as a verification meeting, but also provided an opportunity to discover new stakeholder groups to contact moving forward in the planning process.

The Eppley Institute held a stakeholder follow-up meeting on Tuesday, October 29, 2013. The purpose was to provide a comprehensive meeting summary from the three in-person regional meetings and the alternative web-based webinar. The consultant team presented the preliminary framework for action strategies as they relate to the identified emerging themes (conservation community, environment, funding, and citizens).

Please refer to the PathfindersSM summary report for additional information and a more complete meeting synthesis.

## state Wildlife action plan recommendations

### rfp deliverables

As identified through regional stakeholder meetings, it is recommended that the 2014 RFP include the following deliverables in order to fulfill elements 1-8 of the federal requirements (see Exhibit 1: State Wildlife Action Plan Requirements):

deliverable	importance	element(s) Satisfied							
		1	2	3	4	5	6	7	8
Technical Survey	To provide detailed information for Species of Greatest Conservation Need (SGCN).	✓	✓	✓	✓	✓			✓
Regional Stakeholder Meetings	To continue building collaborative conservation stakeholder community and sharing pertinent SWAP information.	✓	✓	✓	✓	✓	✓	✓	✓
Online Forums	To provide regular engagement that allows conservation community to provide continual input.	✓	✓	✓	✓	✓	✓	✓	✓
Social Media	To provide periodic updates and upcoming planning events.							✓	✓
Conservation E-Newsletter	To allow conservation stakeholder community to share success stories, partnership opportunities, and overall pertinent SWAP information.					✓		✓	✓
Conservation Stakeholder Database	To allow conservation stakeholder community to locate partner organizations and to have comprehensive communication database for SWAP communication efforts.							✓	✓
Formative Evaluation Process	To provide opportunity to explore and adjust plan implementation efforts during 10-year window on a regular basis.					✓	✓	✓	✓

## rfp requirements

Items 4 and 5 of the State Wildlife Action Plan (as found in Exhibit 1: State Wildlife Action Plan Requirements) require increased attention in the updated plan. As a response, the 2014 technical survey and process for evaluating the plan's outcomes are the main goals for the 2014 RFP. The 2014 RFP should outline a required format that includes broad conservation goals aided by management strategies/action items and an evaluation component. There were four prominent goals with corresponding action items that were identified through the regional stakeholder meetings (see the Appendix). It should be noted, however, that the four goal areas may not necessarily be the only goals identified for the updated SWAP's focus; instead, those identified goals serve as a starting point for identifying and selecting action items for the plan. The successful contractor(s) should be able to fulfill/aid in the attainment of the identified goals through information gathering related to the corresponding action items while successfully gathering information and identifying additional action item areas.

To ensure the updated SWAP meets its stated goals, it is imperative that the selected project team implement a carefully outlined evaluation process involving two types of evaluation methods: summative and formative. A summative evaluation, which assesses how a plan achieved its stated goals after its expiration, relies on different measurement techniques such as surveys and focus groups to explore how well a plan like the State Wildlife Action Plan was implemented. While very valuable for assessing a program's effectiveness, this approach of a summative evaluation leaves little to no time for efficient plan alteration before the next comprehensive plan is to be developed.

As a result, the use of a formative evaluation, or process evaluation, allows a plan like the State Wildlife Action Plan, to assess while it is in progress and current. This type of evaluation allows officials to gather information and report potential outcomes to decision makers that will guide plan improvement while the plan is in progress. A systematic formative evaluation would allow IN DNR to determine how efficiently the State Wildlife Action Plan is being implemented and allow staff and decision makers to consider altering plan implementation for increased effectiveness over the next ten years. This method of formative evaluation requires IN DNR to establish benchmarks, goals, and objectives in the State Wildlife Action Plan while instituting a continual assessment and alteration process during the plan's implementation. This approach creates a full lifecycle management approach that can be used for Indiana's conservation strategy.

## stakeholder involvement approach

As identified through the regional stakeholder meetings, a comprehensive and multidisciplinary approach to stakeholder involvement is warranted to successfully implement the updated SWAP. To increase and maintain stakeholder communication, an intentional approach that ensures relevancy to each conservation stakeholder is required. For example, communication methods to reach private landowners may be different than techniques to communicate with non-profit conservation partners. The following describes a suggested matrix to successfully develop the suggested RFP deliverables as outlined above:

deliverable	format	involved Partners	approach
1. Technical Survey	1) Web-based  2) Mailed hard copy	1) Universities, Soil and Water Conservation Districts, Indiana Department of Natural Resources, Land Trusts, Non-profits, State Parks and Public Lands, Friends Groups 2) Private landowners and farming/agriculture community	Survey to include detailed questions pertaining to required elements 1-5. Imperative to have section asking for contact information and willingness to take certain action steps. Also, need to have descriptive section explaining overall purpose and intent of technical survey and ways to continue involvement.
2. Regional Stakeholder Meetings	Semi-annual gatherings, less than a full day (with refreshments/lunch)	People identified in the conservation stakeholder database	Use list of 2013 meeting participants for meeting invitation list. Continue to invite people listed in the stakeholder database. Consider utilizing mailed invitations to private landowners and farming/agriculture community.
3. Online Forums	1) Open chat forum 2) Directed/prompted discussion topics	Emphasis on stakeholders who have not attended in-person stakeholder meetings.	Use technical survey to continue gathering contact information from private landowners. Use contact information to send personal invitations to participate in open forums.
4. Social Media	1) Create conservation community group	All stakeholders who participate in in-person meetings are asked to join the group.	Create "State Wildlife Action Plan" group on LinkedIn for individual conservation community members to follow. Utilize Collaborative Environments to post SWAP events and updates.

5. Conservation E-Newsletter	A periodical that contains region-specific news such as: success stories, conservation partnerships, and conservation in your area. Also included are statewide conservation news and upcoming events and happenings.	Small, grassroots conservation entities and private landowners to be highlighted in document. Bigger conservation stakeholders usually have their own method of sharing information. Include large stakeholders but emphasize smaller scales of conservation to ensure their voice is heard.	Solicit and appoint regional points of contact to aid in information gathering. Newsletter would have sections based on North, Central, and Southern regions with discussions regarding each habitat area. Newsletter would also serve as additional mechanism to mention upcoming events/meetings.
6. Conservation Stakeholder Database	Published on Collaborative Environments portal and www.swap.dnr.in.gov	All identified people and organizations that participate directly or indirectly in Indiana's conservation efforts and who share their contact information.	Continuously mine and solicit contact information through social media announcements and e-newsletter. Publish database on SWAP website for viewing ease.
7. Formative Evaluation Process	Iterative document that includes: <ul style="list-style-type: none"> <li>• benchmarks</li> <li>• goals</li> <li>• objectives</li> <li>• monitoring methods</li> </ul>	Already established core and advisory teams.	Utilize core and advisory teams to periodically gather and monitor goal achievement after updated SWAP approval. Use in-person meetings to discuss predetermined metrics and benchmarks. Allow teams to discuss and strategically alter implementation strategies as needed.

## Implementation

The identified deliverables in the previous section are intended to provide a clear picture and approach to Indiana's conservation efforts. During the 2013 facilitation process, the notion of "all scale conservation effort" resonated with participants. There are organizations that have more people, resources, and notoriety in their efforts; however, conservation includes the smallest efforts, private landowners, and everyone in between.

To ensure a wide net is cast with the upcoming State Wildlife Action Plan, deliverables will benefit from an intentional design and implementation process. The most effective engagement efforts recognize that relationships are cultivated over time and extend well beyond the publication of the plan. The following provides a process description for each deliverable:

### 1. Technical survey

- a. Formulate a working group consisting of at least 1-2 stakeholders representing different conservation scales within Indiana to help create a tool that is used by everyone
- b. Obtain mailing addresses of rural property owners to create a statistically valid mail survey

### 2. Regional stakeholder meetings

- a. Use Key Partner Group, with three Division of Fish and Wildlife staff, to lead a sub-committee responsible for planning meetings

### 3. Online discussion forums

- a. Use one prompted discussion topic every month to stimulate dialogue
- b. Use an open forum to allow stakeholders to communicate freely with DNR and other stakeholders
  - i. If an open forum question is more appropriately answered by a conservation stakeholder other than Fish and Wildlife, provide the opportunity for the conservation partner to answer the question and create dialogue

### 4. Social media use

- a. Use to highlight events and interesting conservation news in between e-newsletter publications
- b. Post one news article/story per week to "Indiana Conservation" group
- c. Use Collaborative Environments in lieu of LinkedIn if user interactivity is deemed more appropriate through that mechanism

### 5. Electronic news feature

- a. Appoint regional points of contact responsible for collecting conservation news
- b. Use e-newsletter as a mechanism to disseminate funding opportunities, new conservation partnerships, and updates to Indiana's planning efforts
- c. Use e-newsletter to publish formative evaluation results to stakeholder community
  - i. Regional stakeholder meetings revealed that many stakeholders wanted to know what the successes and failures were of the previous plan because they were not updated throughout the last process

### 6. Stakeholder database

- a. Publish database on Collaborative Environments so stakeholders can search for conservation partners in their geographic area and areas of conservation interest
- b. Provide tagline at bottom of every planning-related email that solicits action to submit contact information to the conservation database

6. Formative evaluation

- a. Use Core and Advisory Teams to discuss, establish, and assign responsibilities to conduct formative evaluation mechanisms after the plan is implemented
  - i. Utilize periodic satisfaction and awareness surveys
  - ii. Establish benchmarks for Species of Greatest Conservation Need (SGCN)
  - iii. Establish goals and objectives for specific habitat regions
  - iv. Report evaluation metrics on a biannual basis in the conservation e-newsletter
- b. Utilize university partners in evaluating conservation efforts
  - i. Ball State University
  - ii. Indiana State University
  - iii. Indiana University
  - iv. Indiana University-Purdue University Fort Wayne
  - v. Indiana University-Purdue University Indianapolis
  - vi. Manchester College
  - vii. Purdue University

Proposed calendar	task	Stakeholder engagement	duration
January	Release RFP	Create social media group. Create online forum portal. Partner database published.	~3 weeks
February	Award Contract		~2 weeks
Late February	<b>Project Initiation:</b> Establish project budget, project plan, and hold project team meeting.	Begin gathering information for stakeholder e-newsletter via online discussion forum.	~1 week
March	<b>Survey Development:</b> Review existing technical survey and create new survey based on needed data.	Conduct pre-survey webinar. Online open discussion forum.	~4 weeks
April	<b>Technical Survey:</b> Release online and written mail survey.	Online open discussion forum related to technical survey.	~3 – 4 weeks
May	<b>Survey Analysis:</b> Review gathered data and look for missing information or incomplete data.	Distribute stakeholder e-newsletter.	~4 weeks
June – July	<b>Stakeholder Meetings:</b> Conduct regional stakeholder meetings to validate survey results and receive omitted data.	Online open discussion forum.	~8 weeks
August – September	<b>Finalize Data Synthesis:</b> Synthesize technical survey data and regional stakeholder meeting information.	Webinar to provide final synthesis. Begin gathering information for stakeholder e-newsletter via online discussion forum.	~8 weeks
October – December	<b>Prepare for Plan Development and Implementation:</b> Create formative evaluation methods for plan implementation.	Distribute stakeholder e-newsletter. Hold regional stakeholder meetings to enlist partner conservation actions.	~12 weeks

## conclusion

The 2014 RFP should include a combination of a technical survey, in-person meetings, and electronic/virtual discussion forums. To maximize stakeholder engagement, a mixed-methods approach will allow for increased conservation community involvement. Additionally, utilizing social media and virtual discussion forums can enhance citizen participation. A formal marketing or communications plan should be developed beyond the suggestions put forth in this document.

In-person meetings should also be continued as a communication tool between the IN DNR project staff and the larger stakeholder community. Participation may have been limited during the 2013 stakeholder meetings due to having only one regional meeting time. The alternative web-based meeting showed a conservation community interest in participating in online discussions. An online revolving discussion forum, such as weekly/monthly prompted discussions, may prove to be a useful tool to increase partner communication moving forward.

A centerpiece of discussion during the 2013 regional meetings was the creation of a partner database. The conservation community is eager to learn where, when, and how other partners are working within Indiana. Additionally, it was mentioned that having an understanding of partnering agencies, particularly their mission statements, is critical to enhancing a state conservation ethic that occurs at all levels.

It is also recommended that IN DNR staff be designated to implement the updated State Wildlife Action Plan. A dedicated staff may prove useful for several reasons. First, responsibility for a formative evaluation of the plan can be attributed to a person or persons. Second, having a dedicated staff will create familiarity within the conservation community of who they know to be the face associated with Indiana's conservation strategy. This will allow for a personal relationship to develop along with an understanding of who to go to with questions.

Finally, it is imperative that a formative evaluation process be established that allows for continual updates and dialogue within Indiana's conservation community. Meeting participants often asked questions related to lessons learned and what worked/did not work from the last plan. There is a desire to remain engaged with the plan throughout its implementation, and mechanisms must be put into place that allow for periodic monitoring of the plan's goals and objectives and periodic sharing of results with stakeholders.

# aPPendiX

## Emerging Themes with Corresponding Action Items

<b>theme</b>	<b>Environment</b>
<b>Goal 1</b>	<b>Increase conservation habitat and land.</b>
<b>action Strategies</b>	
<ul style="list-style-type: none"> <li>• Acquire sites that target species with the greatest conservation need</li> <li>• Improve acres of habitat of greatest conservation need</li> <li>• Identify critical habitat areas and establish priorities</li> <li>• Identify invasive areas and species, eradicate and control, and evaluate</li> </ul>	

<b>theme</b>	<b>Funding</b>
<b>Goal 2</b>	<b>Identify and acquire alternative and stable long-term funding sources</b>
<b>action Strategies</b>	
<ul style="list-style-type: none"> <li>• Lead a campaign for a conservation tax(es)</li> <li>• Lobby individual federal legislators to keep conservation in Farm Bill, passed and ongoing</li> <li>• Provide economic incentives to landowners/corporations (e.g., tax incentives, conservation easements)</li> </ul>	

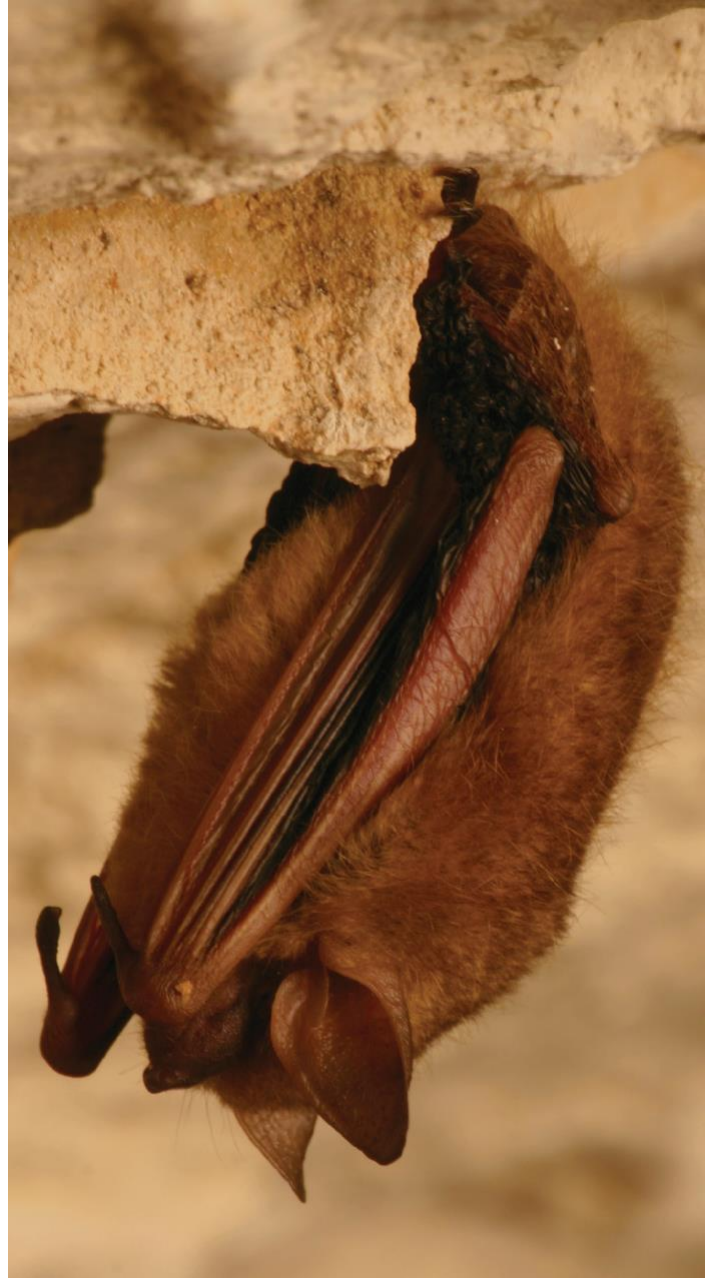
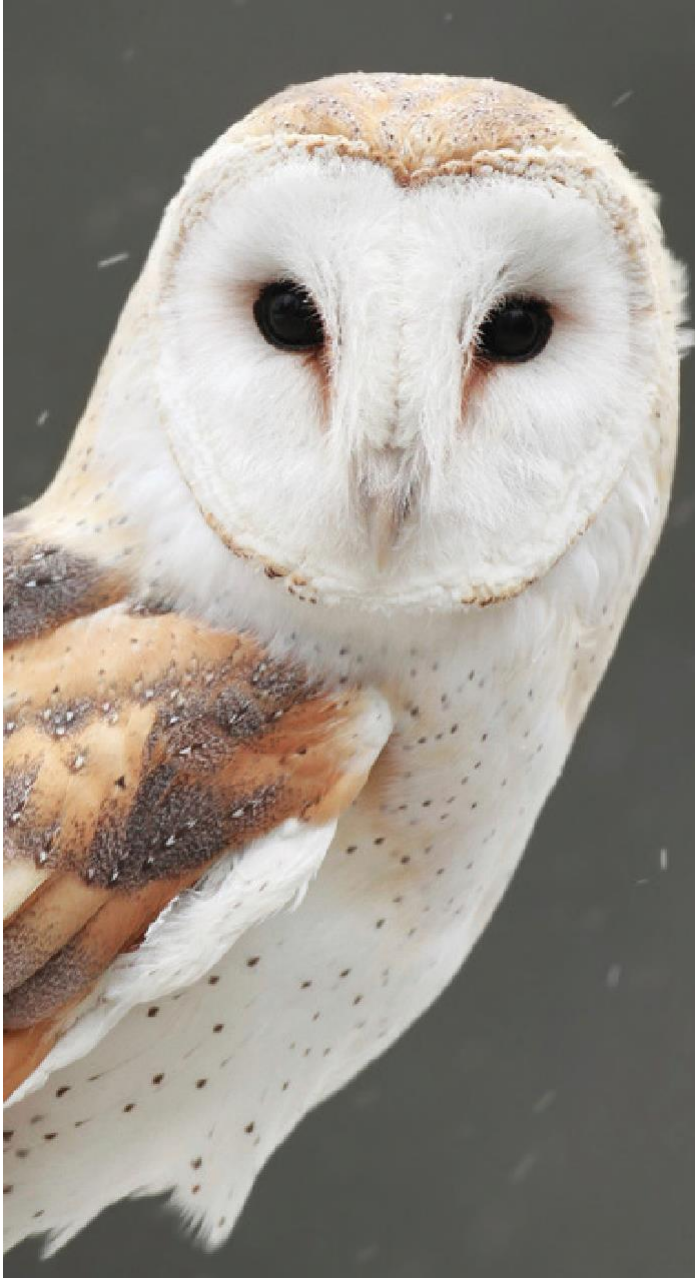
<b>theme</b>	<b>Conservation Community</b>
<b>Goal 3</b>	<b>Identify conservation partners and create communication platforms</b>
<b>action Strategies</b>	
<ul style="list-style-type: none"> <li>• Designate a State Wildlife Action Plan coordinator</li> <li>• Develop a marketing plan to “sell” Indiana natural resources</li> <li>• Create a communication plan that uses common language, allows for regular meetings/interfaces, identifies goals of partners, and identifies stakeholders inside and outside conservation community</li> </ul>	

<b>theme</b>	<b>Citizens</b>
<b>Goal 4</b>	<b>Increase conservation action by the general public</b>
<b>action Strategies</b>	
<ul style="list-style-type: none"> <li>• Increase outdoor labs at schools by increasing awareness of funding</li> <li>• Identify and educate land owner programs for habitat and working lands</li> <li>• Increase literacy through K-12 programs and training for teachers</li> </ul>	





# SWAP | PatHfinderS<sup>Sm</sup> SUmmarY



Conservation doesn't just happen. It takes resources and collaboration.



## about pathfinders<sup>SM</sup>

Pathfinders<sup>SM</sup> is a facilitated workshop of stakeholders who gather together to focus on the role, functions, and priorities of an organization or initiative, in this case the Indiana Department of Natural Resource Fish & Wildlife, and its State Wildlife Action Plan (SWAP) initiative. The name Pathfinders<sup>SM</sup> has been chosen to reflect the role of those attending the workshop to discover and show others a path or way forward. The workshop is designed to form consensus around choices that will inform a technical survey, or other means of a systematic information gathering method, in 2014.



There were three regional stakeholder Pathfinders<sup>SM</sup> events:

date	location	region
Thursday, September 26, 2013	Indiana Wildlife Federation, Indianapolis, Indiana	Central
Wednesday, October 2, 2013	O'Bannon Woods State Park, Corydon, Indiana	South
Thursday, October 3, 2013	Newton Center, Lakeville, Indiana	North

A total of 150 participants attended a regional event. Organizations represented at the events included: Indiana DNR Division of Fish & Wildlife, Central Indiana Land Trust, Purdue University, Sycamore Land Trust, Ducks Unlimited, Duke Energy, The Nature Conservancy, Indiana State University, Indiana DNR State Parks & Reservoirs, and many more friends groups, as well as the State Wildlife Action Plan Advisory and Core Teams (see the Appendix for a full listing of participating organizations).

An additional web-based meeting was conducted on Friday, October 4, 2013 with stakeholders who could not attend a regional meeting. Twenty-one additional stakeholders attended representing Pheasants Forever, Muskies, Inc., What River State Park, Tippecanoe Watershed Foundation, and many other organizations. This alternative meeting allowed the project team to report the initial findings of the three regional meetings along with gathering additional input from the group. The meeting served as a verification meeting, but also provided an opportunity to discover new stakeholder groups to contact moving forward in the planning process.

This general summary of the Pathfinders<sup>SM</sup> events recaps the activities of the in-person workshops, with supporting information from the web-based meeting, and identifies the themes and findings that emerged out of the group work. A discussion of common themes is presented as a conclusion.

## regional pathfinders<sup>SM</sup> WorkShops

### Where We are: a perspective on the state Wildlife action plan (sWap)

This module consisted of a panel discussion by Julie Kempf (SWAP co-coordinator) and two additional stakeholders depending on the meeting location. Panel members included:

- Central: Mike Sertle (Ducks Unlimited, Inc.) and John Bacone (IDNR – Nature Preserves)
- South: Chris Gonso (IDNR – Forestry) and Ginger Murphy (IDNR – State Parks & Reservoirs)
- North: Randy Showalter (National Wild Turkey Federation) and Justin Harrington (IDNR – State Parks & Reservoirs)

The purpose of this activity was to have the panel provide their perspectives on the State Wildlife Action Plan. The perspectives focused on providing background information for the planning process, describing the habitat groups that have been synthesized for the meetings, and introduce the four emerging themes to the stakeholders (environment, funding, conservation community, and citizens). In addition, panelists were able to represent their own organization/agency's unique position on why the new plan is important to their conservation efforts and the conservation efforts of the entire state. Each panelist had approximately six minutes to present their perspective. Upon completion, workgroups were prompted with the question, "What did you hear and what one question do you have?" Below is a brief synopsis of the information shared at the workshops. The first categorization is for the information the groups' heard followed by the collective synthesis of the types of questions asked to the panel.

#### What We Heard:

- Background information for the plan consisting of:
  - o Required for funding
  - o Habitat-based, landscape level plan
  - o Focused management approach
  - o Involves planning for species of greatest conservation need (SGCN)
- Needs for the plan as identified from the panel:
  - o Collaboration from conservation community
  - o Assess plan effectiveness
  - o Public involvement
  - o Dedicated/reliable funding sources
  - o Highly usable, actionable plan to help manage habitat

### Questions for the Panel:

- Garnering engagement:
  - o Process for engaging citizenry?
  - o Receiving buy-in from other conservation partners (e.g., agriculture industry, private landowners, etc.)?
  - o How to continue to achieve stakeholder engagement?
- Funding:
  - o What are the funding objectives?
  - o Dedicated funded staff?
  - o How to secure additional funding?
- Previous plan:
  - o Lessons learned?
  - o What worked?
  - o What didn't work?
- Current plan implementation:
  - o Who implements the plan?
  - o Who ensures the plan reaches the ground?
  - o How will this plan be different than the last?
  - o How will this plan trickle down to the local level?
  - o Is the current plan focused on habitat or SGCN? Both?

Participants asked one question of their choice to any panel member. All questions were addressed with some questions deferred to later in the day because they directly related to one of the pre-planned activities. In this case, the group was allowed to select another question. Participants expressed their satisfaction with the activity, the answers received, and the context provided which made the proceeding activities easier to understand.

### themes exploration

Participants were asked to consider the four emerging themes that were presented in the panel discussion and that were also outlined in their meeting packets. They were then asked to develop a list of past projects that contributed to a local, regional, or statewide conservation strategy and current available resources their organizations have that could contribute to a conservation strategy. Most responses reflected these concepts as they related to the four emerging themes:

#### Environment

- Invasive Species Control
  - o Species removal
  - o Research and monitoring
- Water Quality
  - o Dam Removal
  - o West Bogs Renovation
- Habitat Management
  - o Least Tern-Cane Ridge Wetland Reserve Program
  - o Farm Bill programs
  - o Land acquisition
  - o Succession control
  - o Conservation easements

#### Conservation Community

- Education and Outreach
  - o Workshops
  - o Programs
    - Backyard wildlife certification
    - HRI Healthy Rivers Initiative
    - Goose Pond
- Partnerships
  - o Lake associations
  - o Conservancy districts
  - o Private landowners
  - o Universities
  - o Land trusts
  - o Public support

## *Funding*

- Federal
  - 319 grant (Clean Water Act Section 319)
  - Farm Bill
  - Wildlife & Sport Fish Restoration Program (WSFR)
  - United States Department of Agriculture (USDA)
  - State & Tribal Wildlife Grants (SWG)
  - Great Lakes Restoration Initiative (GLRI)
- Local
  - Indiana Office of Community & Rural Affairs (OCRA)
- Private
  - Cost-share agreements
  - Private donations (e.g., Bass Pro Shops, Lilly)
  - Foundations
  - Research grants through universities
  - User fees

## *Citizens*

- Utilizing Locals
  - Volunteers
  - Environmental groups
  - Friends groups
- Outreach
  - Natural resource education
  - Hunter education
  - Social media
  - Citizen science
- Programs
  - Conservation Reserve Program
  - Wetland Reserve Program
  - 4H
  - FFA
  - Learning Tree

## *Available Resources*

1. Partnerships
  - Land acquisition
  - Habitat management and planning
  - Acquiring data
  - Market-based approaches
  - Resource and monitoring
  - Connectivity
2. Outreach and Education
  - User recruitment and retention
  - Local habitat programs
  - Local conservation programs
3. Knowledge and Expertise
  - Credibility
  - Research capacity
  - Legal clout
4. Funding
  - Cost share agreements
  - Foundations
  - Grants
  - Donations
  - License fees
  - Additional federal funding
  - Friends Groups

## Working lunch

For this working lunch exercise, each table of participants considered the question, “What do you perceive is needed to improve existing partnerships, resources, or programs focused on resource for conservation?” Groups were asked to think about the past and current resources identified from the last activity and the themes that had emerged so far during the planning process. The results were analyzed and categorized into seven major nodes or themes.

### Needed Improvements

1. Communication and Information Sharing
  - o Create partner communication tool or platform
  - o Create a ListServ
  - o Develop a common language
  - o Hold annual meetings
  - o Remove silos (create knowledge of ongoing projects, resources, who is doing what)
  - o E-Newsletter
  - o Share success stories
  - o List of entities Collaborative Conservation Efforts and Management Approaches
  - o Integrative strategies
  - o Regional/habitat teams
  - o Develop common goals and objectives
  - o Conservation at all scales
  - o Focus on big picture
2. Community Outreach and Conservation Value
  - o Understanding cumulative effects of conservation
  - o Work with schools
  - o Articulate and justify economic and ecological benefits to for-profits, landowners, and citizen
  - o Regular public engagement opportunities
3. Partnerships
  - o Expand circle of influence with non-traditional resource management groups and broad base public support
  - o Understand mission statements among different conservation groups
  - o Focus on specific goals with involving volunteers
  - o Determine partner expectations from DFW/DNR
4. Funding and Dedicated Staff
  - o Diversify funding sources
  - o Evaluate proper funds distribution
  - o Create a funding table (e.g., who has what and where is it coming from)
  - o New funding sources (e.g., conservation tax, monetary incentive for landowners to allow hunting access on private lands)
  - o Establish coordinator(s)
    - Volunteer management
    - SWAP implementation
    - Facilitating partnerships
    - Citizen science
5. Data-driven Decision-Making
  - o Base conservation on science, not emotion
  - o Use evaluation methods to stop doing things that do not work and keep doing things that do work
  - o More information regarding endangered species distribution and negative effects of invasives
  - o Better understanding of human-wildlife conflicts
6. Political Nexus
  - o Cultivate the ear of legislation, county commissioners, and land-use groups
  - o Encourage partners to advocate for more conservation resources

## planning for the future

In this exercise, tables were to formulate broad SWAP goals based on anything they have heard during the day’s events and organized by the four emerging themes. Groups were reminded to consider time and resources. The four themes are listed below followed with commentary regarding the common goal areas.

**Environment** – acquiring land and increasing acres for biodiversity and species of greatest need was a strong goal theme. Subthemes included connecting management into larger systems, encouraging appropriate land use, increasing amount of conservation on private lands, invasive species management, setting measures of success, and prioritizing management approaches.

**Funding** – identifying and acquiring alternative and stable long-term funding sources was a strong goal theme. Subthemes included increasing non-consumptive users, increasing contributions to voluntary events, increasing efficiency through lobbying efforts and networking, develop prioritized funding strategies through developed funding goals, and retention of funding through demonstration of mutual benefit and success stories.

**Conservation Community** – identifying conservation partners and creating communication platforms were strong goal themes. Subthemes included creating buy-in through public outreach and marketing conservation resources, bridging the State Wildlife Action Plan with other initiatives, establishing a dedicated staff for SWAP, and constantly identifying new stakeholders and current resources/projects.

**Citizens** – increasing conservation action by the general public was a strong goal theme. Subthemes included incorporating existing and new social media, enhancing Citizen Science, recruiting new users by articulating the benefits of conservation and how they benefit all, and bridging the overall gap between private landowners, agriculture, and entire conservation community.

### **action strategies**

The final exercise required groups to develop action items for specific goals. Participants were asked to identify who would be responsible for each action and a timeframe for completion. After actions were developed, individuals were asked to vote on their preferred items. The most popular action items are summarized below:

#### *Land/Habitat*

- Acquire sites that target species with the greatest conservation need; assigned to DNR and partners and to be conducted annually (Theme: Environment – Goal: Improve and acquire habitat).
- Improve acres of habitat of greatest conservation need; assigned to DNR and partners and to be conducted annually (Theme: Environment – Goal: Improve and acquire habitat).
- Identify critical habitat areas and establish priorities; assigned to DFW/IDEM with citizen input and to be completed by 2017 (Theme: Environment – Goal: Improve water quality).
- Identify invasive areas and species, eradicate and control, and evaluate; assigned to Biologists and private conservation districts and to be completed immediately (Theme: Environmental – Goal: Exotic/invasive control).

#### *Legislation*

- Lead a campaign for a conservation tax; assigned to all conservation partners and to be completed by 2020 (Theme: Funding – Goal: Stable and increased funding for conservation).
- Lobby individual federal legislators to keep conservation in Farm Bill, passed and ongoing; assigned to NGOs and individuals and is to be an ongoing process (Theme: Environment – Goal: Maximize conservation practices on private land).
- Provide economic incentives to landowners/corporations (e.g., tax incentives, conservation easements); assigned to legislative action and to be completed by 2015 (Theme: Environment – Goal: Increase land base for conservation).

#### *Marketing and Communication*

- Designate a State Wildlife Action Plan coordinator; assigned to DFW and to be completed by 2014 (Theme: Conservation Community – Goal: Stronger conservation partnerships).
- Develop a marketing plan to “sell” Indiana natural resources; assigned to DNR and to be completed by 2015 (Theme: Citizens – Goal: Recruit new users).
- Create a communication plan that uses common language, allows for regular meetings/interfaces, identifies goals of partners, and identifies stakeholders inside and outside conservation community; assigned to SWAP coordinator and partners and to be completed by 2015 (Theme: Conservation Community – Goal: Big picture).

#### *Outreach and Education*

- Increase outdoor labs at schools by increasing awareness of funding; assigned to federal grant programs and to be completed by 2014 (Theme: Citizens – Goal: Make wildlife important to urban populations).
- Identify and educate land owner programs for habitat and working lands; assigned to NGOs, Farm Bureau, federal grant programs and to be completed immediately (Theme: Environment – Goal: Maximize conservation practices on private land).
- Increase literacy through K-12 programs and training for teachers; assigned to Fish & Wildlife, conservation organizations, and volunteers and to be an ongoing effort (Theme: Citizens – Goal: Build public support for fish and wildlife conservation).

#### *Funding*

- Seek permanent funding; assigned to dedicated SWAP staff/DNR and to be completed by 2016 (Theme: Conservation Community – Goal: Public relations/marketing to public/businesses and universities and legislators).

## conclusion

Although three meetings were held in different regions, the conversations revolved around central topics. The resulting discussions were similar in nature and the Environment theme received the most attention in terms of action items; however, the other three themes were well represented. In addition to the four themes, seven categories emerged from the Needed Improvements activity that provides the basis for the popular action items listed in this document.

The alternative web-based meeting provided information that supported the results presented in this document. Stakeholders were given polling options to rate how much of a priority the most prevalent regional meeting action items were to them. The polling options found no information that did not result from the stakeholder meetings. In addition, comments and questions received during the web-based meeting reflected the questions presented from the first group exercise and needed improvements denoted in the working lunch exercise above.

A stakeholder survey will be distributed as the next engagement phase and the instrument will ask questions related to the categories list in this document as well as gather additional feedback for the final recommendation report. Moving forward, the recommendations derived from the public engagement process will serve as a framework for drafting a Request for Proposal (RFP) for a 2014 systematic data collection method.



# aPPendiX

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## participating organizations

### central meeting

Amos Butler Audubon	Indiana National Wild Turkey Federation
Central Indiana Land Trust	Indiana Native Plant & Wildflower Society
Ducks Unlimited, Inc.	Indiana State Department of Agriculture
Duke Energy	Indiana State University
Eagle Creek Park Foundation	Indiana Wildlife Federation
Eastern Tallgrass Prairie & Big Rivers, LLC.	Natural Resources Conservation Service
Fishable Indiana Streams for Hoosiers (FISH)	Purdue University
Graybrook Lake Conservancy District	Quality Deer Management Association
Greene County Soil & Water Conservation District	Red-tail Land Conservancy
IDNR - Fish & Wildlife	Remenschneider Associates, Inc.
IDNR - Nature Preserves	The Nature Conservancy
IDNR - Reclamation	U.S. Fish and Wildlife Service
Indiana Farm Bureau	

### south meeting

Daviess-Martin Joint County Parks and Recreation Department	Indiana Forest Alliance
Harrison-Crawford State Forest	Indiana Parks & Recreation Association
IDNR - Fish & Wildlife	O'Bannon Woods State Park
IDNR - Forestry	Patoka Lake
IDNR - Reclamation	The Nature Conservancy
IDNR - State Parks & Reservoirs	

### north meeting

DJ Case & Associates	Indiana University-Purdue University Fort Wayne
IDNR - Fish & Wildlife	Izaak Walton League
IDNR - Law Enforcement	Manchester University
IDNR - Reclamation	National Wild Turkey Federation
IDNR - State Parks & Reservoirs	Northwest Indiana Steelheaders
Indiana Native Plant & Wildflower Society	Taltree Arboretum & Gardens

### alternative Web-based meeting

Brown County State Park	Pheasants Forever
IDNR - Fish & Wildlife	Tippecanoe Watershed Foundation
Muskies, Inc.	White River State Park



# SWAP | central meeting



Conservation doesn't just happen. It takes resources and collaboration.



# Panel #1

tablename	comments	Poster number
Carson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Partnerships (government and NGOs)</li> <li>- Funding</li> <li>- Landscape planning</li> <li>- Species of greatest conservation need (GCN)</li> <li>- Habitat and science based</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- What about urban and suburban landscapes and SWAP?</li> <li>- What are the funding objectives?</li> </ul>	1
Leiber	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Maintain eligibility \$</li> <li>- Habitat based (regional)</li> <li>- Partnership and collaboration</li> <li>- Heritage database critical</li> <li>- Science based</li> <li>- Focused management</li> <li>- Landscape level</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How continue partnership after SWAP developed?</li> <li>- How get buy-in from those outside focus areas?</li> </ul>	2
Pinchot	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- F&amp;W lead coordination of SWAP</li> <li>- Leveraging funding is key</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Dedicated funded staff?</li> <li>- Detailed action plans?</li> </ul>	3
Thorea	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Partnerships</li> <li>- Stretching dollars</li> <li>- Involving citizens</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How high in government is this important? Buy-in?</li> <li>- Will there be a prioritized areas of conservation?</li> <li>- How to keep stakeholders involved after plan complete?</li> </ul>	4
Emerson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Collaboration</li> <li>- Ties everyone together</li> <li>- Localized focus moving this direction (60 habitats to 8)</li> <li>- Landscapes</li> <li>- Habitat</li> <li>- 4 principle goals (conservation community, environment, funding, citizens)</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Is collaboration about standardizing approach or about building a toll so we can learn about conservation community approaches?</li> <li>- We heard a lot about landscape and habitat but nothing about species? Where is the species intersection? Any targeted species?</li> </ul>	5A/5B

Leopold	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Covers all species</li> <li>- No \$ without it</li> <li>- Landscape changes</li> <li>- Building partnerships with science</li> <li>- Need plan to be successful</li> <li>- Partnerships critical must have something in it</li> <li>- Need to assess effectiveness</li> <li>- 4 goals (funding, citizens, environment, partnerships)</li> <li>- Due 2015</li> <li>- Needs vary by region</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How will SWAP be stepped down locally?</li> <li>- How were habitat types chosen?</li> <li>- How will efforts be prioritized?</li> <li>- What areas of the SWAP are in most need of revision?</li> <li>- Is there a progress report of SWAP accomplishment to date?</li> </ul>	6A/6B          6C/6D
Deam	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Stakeholder involvement makes SWAP more effective</li> <li>- Funding</li> <li>- Habitat based</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Priorities on species or locations?</li> <li>- Quantitative approach so strong personalities don't influence decisions?</li> <li>- Representative? Are all stakeholder groups involved? (ex., nongame representation).</li> </ul>	7
Muir	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- 4 goals (funding, increased collaboration, environmental management, citizen involvement)</li> <li>- Organization: habitat based</li> <li>- Needs: increase scope and secure fed funding for next 10 years</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Lessons learned in past 10 years? Successes? Failures?</li> </ul>	8
Lacey	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Funding</li> <li>- Collaboration</li> <li>- Conservation actions (science-based)</li> <li>- Partnerships</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Who will implement? (business/private interests)</li> <li>- How will we track?</li> </ul>	9
Roosevelt	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Secure funding</li> <li>- Work collaboratively</li> <li>- Landscape scale</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How are we to work collaboratively?</li> <li>- What projects are funded? (habitat priorities)</li> <li>- How to maximize access greater funds for state? (increase share)</li> </ul>	10

# eXerciSe #2

tablename	themes	Poster number
Roosevelt	<p><u>Environment/Conservation Community:</u></p> <ul style="list-style-type: none"> <li>- Lake association encourage farmers to use conservation practices (e.g., no till filter strips, etc.) sediment control, fish/WL habitat</li> <li>- SWCD/NRCS</li> <li>- Watershed boards</li> <li>- Conservancy district</li> </ul> <p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>- Private – Lilly</li> <li>- Local government – county, OCRA</li> <li>- Federal</li> </ul> <p><u>Citizens:</u></p> <ul style="list-style-type: none"> <li>-Locals valued the lake as a focal point for recreation</li> </ul>	11A
	<p><u>Resources:</u></p> <ul style="list-style-type: none"> <li>- Property management</li> <li>- Grants</li> </ul>	11B
Lacey	<p><u>Environment:</u></p> <ul style="list-style-type: none"> <li>- Ongoing public lands management private – DNR</li> </ul> <p><u>Conservation Community:</u></p> <ul style="list-style-type: none"> <li>- Backyard wildlife certification (City of Zionsville)</li> <li>- Conservation education and outreach – IWF</li> </ul> <p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>- NWTf – funding from non-profit to government agency</li> </ul> <p><u>Citizens:</u></p> <ul style="list-style-type: none"> <li>- Invasive species removal</li> </ul>	12
Muir	<p><u>Environment:</u></p> <ul style="list-style-type: none"> <li>- Least Tern-Cane Ridge Wetland Reserve Program – Fed</li> <li>- Land and Water – Duke, DNR-Staff</li> <li>- Farm Bill programs – NRCS</li> </ul> <p><u>Conservation Community:</u></p> <ul style="list-style-type: none"> <li>- HRI Healthy Rivers Initiative</li> <li>- Goose Pond</li> <li>- Public and private funds</li> <li>- Experts and staff support</li> <li>- Garnering public support and awareness</li> </ul>	13A
	<p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>- See other headings</li> <li>- Creativity and science knowledge to justify</li> </ul> <p><u>Citizens:</u></p> <ul style="list-style-type: none"> <li>- Eagle-viewing days – duke</li> <li>- Environmental cleanups</li> <li>- River festivals</li> <li>- Backyard Habitat Program</li> <li>- Users and volunteers</li> <li>- Environmental groups</li> <li>- Citizens</li> </ul>	13B

Deam	<p><u>Environment:</u></p> <ul style="list-style-type: none"> <li>- Ducks Unlimited – 27,000 acres conserved</li> <li>- Private land owner – 280 acres in conservation easement and classified forest; and leveraged neighbor land</li> <li>- Purdue – provide technical information</li> <li>- DFW – buy and manage land throughout the state</li> </ul> <hr/> <p><u>Conservation Community:</u></p> <ul style="list-style-type: none"> <li>- Ducks Unlimited: Work with all state, federal, nonprofit and for profit organizations</li> <li>- Private land: work with CILTI and Classified Forest; call upon organizations like Audubon to conduct bird surveys</li> <li>- Purdue: niche – Wabash River Conservation Group; work with many stakeholders (ex., timber/forestry, wildlife, and fisheries)</li> <li>- DFW: Work and partner with many individuals and organizations and agencies</li> </ul> <hr/> <p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>- Ducks Unlimited: Invest \$15 million in DU money and \$30 million in federal grant money since 1998</li> <li>- Private land: Obtains Equip grant for weed treatment</li> <li>- Purdue: provides non-federal match for research grants acquires various funding through many sources \$4-5 million</li> <li>- DFW: Various federal and state funds</li> </ul> <hr/> <p><u>Citizens:</u></p> <ul style="list-style-type: none"> <li>- Ducks Unlimited: 15,000 members statewide, actively involved in legislation and policy</li> <li>- Purdue: Outreach programs</li> <li>- DFW: Work for citizens of entire state</li> </ul>	14
Leopold	<p><u>DFW:</u></p> <ul style="list-style-type: none"> <li>- Land acquisition</li> <li>- Habitat management and planning</li> <li>- Species management/survey monitoring</li> <li>- Outreach/education</li> <li>- License dollars federal \$, partner \$, heritage trust \$, nongame fund, BNT</li> <li>- Science technical assistance</li> <li>- Network</li> <li>- Legal clout</li> <li>- Statutory authority</li> </ul>	15A
	<p><u>Farm Bureau/Ag Groups:</u></p> <ul style="list-style-type: none"> <li>- Working lands programs</li> <li>- Nutrient management/out of field management practices</li> <li>- Water quality improvements</li> <li>- Drainage improvements</li> <li>- Cover cropping</li> <li>- Water resource planning</li> <li>- Check off \$, state/fed \$, partner \$</li> <li>- Outreach/education – citizen goal</li> </ul>	15B
	<p><u>Private Landowner:</u></p> <ul style="list-style-type: none"> <li>- Passion for resource</li> <li>- Willingness to participate – model for participation</li> <li>- Conservation easements</li> <li>- Recreation</li> <li>- Habitat for all species</li> <li>- 96% of land base</li> <li>- Market-based approaches</li> </ul>	15C
	<p><u>Academia:</u></p> <ul style="list-style-type: none"> <li>- Species management</li> <li>- Research and monitoring</li> <li>- Partnerships</li> <li>- \$ Sources varied but include state/fed/private \$</li> <li>- Outreach/info sharing</li> </ul>	15D



Emerson	<p><u>Funding:</u></p> <ul style="list-style-type: none"> <li>- WSFR funding for land acquisition</li> <li>- 319 grant</li> <li>- cost share agreements</li> </ul>	16A
	<p><u>Environment:</u></p> <ul style="list-style-type: none"> <li>- Protected 1,200 acres</li> <li>- Conservation practices to meet federal permit requirements</li> <li>- Habitat certification program</li> </ul> <p><u>Conservation Community:</u></p> <ul style="list-style-type: none"> <li>- 319 grant</li> </ul> <p><u>Citizens:</u></p> <ul style="list-style-type: none"> <li>- 319 grant</li> <li>- Private lands technical assistance</li> </ul>	
	<p><u>Resources:</u></p> <ul style="list-style-type: none"> <li>- Revolving loan (conservation community)</li> <li>- Grant programs (conservation community)</li> <li>- Landowner partnership/involvement (Environment and Citizens)</li> <li>- Expertise assistance (Funding and Environment)</li> <li>- Cost share/grant development (Conservation community)</li> <li>- Regional collaboration (Environment)</li> </ul>	16B
Carson	<p><u>ISDA:</u></p> <ul style="list-style-type: none"> <li>- Soil and water conservation – private landowners</li> <li>- Federal grants</li> <li>- Clean water Indiana</li> </ul>	17A
	<p><u>Audubon:</u></p> <ul style="list-style-type: none"> <li>- IBA – 41 sites throughout Indiana</li> <li>- Engage citizen scientists (habitat restoration, planning, science-based surveys)</li> <li>- Grants</li> </ul> <p><u>Land Trust:</u></p> <ul style="list-style-type: none"> <li>- Holding managed easements and other land</li> <li>- Connectivity</li> <li>- Urban areas and agriculture areas</li> <li>- Utilize volunteers for restoration/removing invasive species</li> </ul>	
	<p><u>INPAWS:</u></p> <ul style="list-style-type: none"> <li>- Education and outreach about native plants</li> <li>- Grants – landowners – native plants</li> </ul> <p><u>DFW:</u></p> <ul style="list-style-type: none"> <li>- LARE</li> <li>- Private lands</li> <li>- Public lands</li> <li>- Wildlife diversity and research</li> <li>- Fisheries</li> <li>- Environmental review</li> <li>- Grants</li> <li>- Contaminants</li> <li>- Conservation education</li> <li>- Outreach and public relations</li> </ul>	17B
Pinchot	<ul style="list-style-type: none"> <li>- Backyard Habitat program (Carmel parks and Zionsville – hubs)</li> <li>- Funding: donations etc., litigation funds (mitigation)</li> <li>- Citizens, education, volunteers</li> <li>- Land acquisition</li> <li>- Bicentennial Trust, IHT</li> <li>- Foundations/individuals</li> </ul>	18

Leiber	<p><u>Past Projects:</u></p> <ul style="list-style-type: none"> <li>- Broad public education (INPAWS) (citizen and funding)</li> <li>- Data to support conservation – university research (env. and cons. comm)</li> <li>- Partners for F&amp;W – USFWS (private lands) (env., cons. comm. and funding)</li> <li>- Public lands – DFW (all 4 themes)</li> <li>- Grants: maximize limited state funds, 75% fed 25% state</li> </ul>	19
Thoreau	<ul style="list-style-type: none"> <li>- Non-game tax check off (funds and grants)</li> <li>- IWF – IN Cons. Alliance (citizens)</li> <li>- DFW – joint projects/partnerships (NGO’s) other funding citizens, habitat</li> <li>- TNC/DFW – partnerships</li> <li>- Land/habitat preservation (HRI, Goose Pond)</li> <li>- Technical expertise to governmental agencies NRCS-FSA, SAFE program</li> <li>- Purdue/universities – research/student chapter projects/volunteers, extension</li> </ul>	20

## Working Lunch – needed improvements

table name	comments	Poster number
Pinchot	<ul style="list-style-type: none"> <li>- Ensure financed long term coordinator in position</li> <li>- Silos – too many – intra and inter organizational</li> <li>- Legislation (state house legislators)</li> <li>- Must recognize value of public lands and environment</li> <li>- Need more data on endangered species distribution and negative effects overabundant/alien species</li> <li>- Citizen science</li> </ul>	21
Muir	<ul style="list-style-type: none"> <li>- Articulate and justify benefits to for profits, landowners, and all citizens (economic, ecological, public value)</li> <li>- Create a personnel/communication tool (platform to identify human and other resources across participating organizations and enable information sharing, will promote message consistency, and enhance old/build new partnerships)</li> <li>- Creative funding – think outside the box</li> <li>- Official mechanism to promote and enable collaborative brain-storming (social media)</li> <li>- Assigned coordinator to ensure commitments are kept/continual prioritizing mechanism</li> </ul>	22A  22B
Carson	<ul style="list-style-type: none"> <li>- Communication/networking with all partners</li> <li>- ID group representatives</li> <li>- ListServe/“membership” directory</li> <li>- Knowledge of ongoing project</li> <li>- Contacting public – various groups (green stewardship)</li> <li>- GIS interactive map – layers</li> </ul>	23
Deam	<p>Barriers to Participation:</p> <ul style="list-style-type: none"> <li>- Communication (lack of PR, misconceptions)</li> <li>- Narrow focus on organization</li> <li>- Small groups may feel helpless</li> <li>- Division between consumptive and nonconsumptive users</li> </ul> <p>Recommendations for Improvement:</p> <ul style="list-style-type: none"> <li>- Explicit outreach by organizations (flowchart, more clear mission statement, web fact)</li> <li>- Improved cross-organization communication tool</li> <li>- Improved and continued education on multi-species habitat conservation (ex. waterfowl and shorebirds)</li> <li>- Partner expertise</li> <li>- Interest matrix</li> </ul>	24

Leopold	- Be more diverse	25A
	- Public/partner support	
	- Connection of people to nature	25B
	- Tie efforts at landscape scales to local scale	
	- Get everyone to understand cumulative effects	
	- Integration of conservation efforts	25C
	- Find synergy that results in multiple conservation benefits	
	- Engage university social science staff	
	- Maintain communication among partners	25D
	- Make sure partners tell their story	
	- Integrate conservation strategies	
	- Stop doing things that do not work	
	- Use adaptive management	
	- Messages to youth	
Emerson	- Standard reporting format	26
	- Common language for collaboration and capacity and science	
	- Reason to collaborate	
	- SWAP coordinator/panel	
	- True SWAP partnership (umbrella)	
	- Public relations – get the word out!!	
Thoreau	- Need regional/habitat teams (by eco-region/watersheds)	27
	- Annual SWAP meetings (periodic) to track progress/report	
	- Have a conservation congress annual or biannual	
	- Broaden management goals to multispecies (landscape level)	
	- E-newsletter	
Leiber	- Improve communication between partners	28
	- Improve communication with public even though may not be partners – garner support	
	- Bring all partners together occasionally – Southern Indiana Conservation Happenings (statewide or regional, who organize?)	
	- Priority areas may pull more partners from those areas (could help with funding)	
	- All users pay to support resource	
Lacey	- Seek buy-in (common ground, shared vision)	29
	- Improve communications (ongoing stakeholder meetings, know what each other group is doing)	
	- Promote successful non-profit models	
	- Focus on areas of agreement	
	- Outdated statutes/policies	
	- Education	
Roosevelt	Existing Partnerships:	
	- Communication – central SWAP website, partners could identify projects	
	- Focus on big picture (i.e., focus on shared end results not motivations; we think SWAP can serve a role here!	
	Existing Resources:	30
	- Coordinate resources – through better communication	
	- Use SWAP to secure other funding/resources priority areas/grant funding	

# eXercise3: Goals

tablename	theme	Goals	Poster number
Leiber	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Reassess species fitting into habitats</li> <li>- Control invasives to maximize native species diversity</li> <li>- Plan ID habitat in right places</li> <li>- Improve restoration and mitigation techniques</li> <li>- Improve science to make better management decisions</li> <li>- Focus on landscape scale and not individual species</li> </ul>	1, 2
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Maximize value of dollar</li> <li>- Search for alternative funding sources</li> <li>- Balanced approach funding from consumptive and non-consumptive users</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Make wildlife important to urban populations</li> <li>- Education about harm of invasives</li> </ul>	
	<u>Conservation Communities</u>	<ul style="list-style-type: none"> <li>- Emphasis on adaptive management</li> <li>- Bring diverse stakeholders together to solve management challenges (deer vs. native plants)</li> </ul>	
Pinchot	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Stable or increasing population – all species of greatest conservation need</li> <li>- Private landowners maximizing conservation practices on land</li> <li>- Have agreed measurable benchmarks</li> <li>- Acquire land – additions within areas of conservation need</li> <li>- Protecting and maintain preserving existing resources</li> </ul>	1,2,3
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- A better educated public/elected officials citizens</li> <li>- Program for citizen science</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Obtain 25% of funds via non-government means</li> <li>- All users of resource contribute financially</li> </ul>	
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Align all conservation plans</li> <li>- Increase # working partners by 25%</li> <li>- Robust and self-sustaining</li> </ul>	
Muir	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Shoreline restoration</li> <li>- No new state-listed species (healthy wildlife populations)</li> <li>- State-wide strategic approach for permanent protection of conservation land/connect fragmented land</li> </ul>	1,2
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Articulate economic benefits of participation, promote</li> <li>- Lock-in active participation</li> <li>- Maximize involvement by effective advertisement to local entities (marketing)</li> <li>- Stronger conservation partners</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Create tools to promote private landowner collaboration and provide leadership opportunities</li> <li>- Increase public support for wildlife</li> <li>- Identify common interest between consumptive and non-consumptive users/interest groups</li> </ul>	

Deam	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Enhance biodiversity</li> <li>- Habitat quality improvement</li> <li>- Secure ecosystem functions for human survival</li> <li>- Enhance ecosystem resilience and sustainability</li> <li>- T&amp;E species recovery</li> <li>- Prevention of introduction and establishment of exotics and invasives</li> <li>- Develop efficient monitoring program to determine impact of climate change</li> </ul>	1
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Enhance communication</li> <li>- Obtain technical support to develop BMP to address wildlife diseases</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Science-driven BMP's</li> <li>- Sustain/increased commitment to conservation funding</li> <li>- Obtain sufficient funding to control overabundant/destructive species</li> <li>- Identify and enhance conservation infrastructure and funding capacity</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Dedicated focus on youth conservation education</li> </ul>	
Thoreau	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Stabilize or enhance species of greatest concern</li> <li>- Stabilize or enhance or connect existing habitat types</li> </ul>	1,2
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Generate support from administrators and lawmakers</li> <li>- Establish SWAP as the unified vision for natural resource conservation in Indiana</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Generate adequate resources to implement plan</li> <li>- Maintain eligibility</li> <li>- Prioritized strategies</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Generate/maintain partnerships to reach goals</li> <li>- Citizen participation</li> <li>- Develop a conservation ethic among citizens</li> </ul>	
Roosevelt	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Improve property management</li> </ul>	1
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Get all partners to see the big picture and know how to get engaged</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Maximize funding used for stewardship and land management</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Recognition and incorporation/adoption of existing plans</li> <li>- Increase functionality of SWAP to diverse groups without making it too generic</li> </ul>	
Carson	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Create recreation per government roadmap</li> <li>- List of statewide (metrics) measurable conservation/habitat objectives</li> </ul>	1,2
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Continual coordination of conservation efforts (workflow)</li> <li>- ID all partners</li> <li>- Method to report accomplishments</li> <li>- Public relations/marketing to public and universities/colleges and businesses</li> <li>- Regional/statewide conservation summit—networking/communication</li> <li>- Dedicated staff for SWAP (umbrella)</li> <li>- GIS statewide habitat and species info—visual and interactive</li> <li>- How does each organization fit in and contribute</li> <li>- How will SWAP affect my organization</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Search for private/public funding opportunities and set % goals</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Infographic/one page for public buy-in (state fair/HOE)</li> </ul>	

Lacey	<u>Environment</u>	- Improve existing habitat and acquire	1
	<u>Conservation Community</u>	- Stop conflicts and solve problems - Partner development - Accountability, feedback, oversight and management of SWAP	
	<u>Funding</u>	- Improve nongame funding	
Emerson	<u>Environment</u>	- Develop a mechanism to test success/progress of the overall SWAP - Develop a functional regional planning geography	1
	<u>Conservation Community</u>	- Develop a core list of partners that can leverage/contact/work with associated groups. - Develop a communication process between/amongst partners	
	<u>Funding</u>	- Meet the technical requirements for SWAP, address baseline issues and keep the document alive	
	<u>Citizens</u>	- Develop branding for SWAP. Getting the word out – social media. - Effectively engage private individuals/landowners	
Leopold	<u>Environment</u>	- Do something influential or innovative. Get something that models success - Update list of species of greatest need - Update guild list - Define the measure of success - Identifying and acting at appropriate scale – beyond state borders	A,B,C,D,E
	<u>Conservation Community</u>	- Model a new way to do conservation - Bridge SWAP with other initiatives - ID common ground among partners - Consistent schedule of collaborative meetings - ID & list partner groups and interest - Tie SWAP to land use planning - Development of new partnerships	
	<u>Funding</u>	- Access to broad base of \$ support - Refocus existing monitoring - Acquire funding for monitoring	
	<u>Citizens</u>	- Consistent schedule of collaborative meetings - SWAP awareness among municipalities, general public, other land use agencies	

# eXerciSe4: Smart (# of voteS in ParentHeSeS)

## Goal: make Wildlife imPortant to Urban PoPULationS

table name	actionS	WHO	WHen	Poster number
Leiber	Increase outdoor labs at schools by increasing awareness of funding (28)	FWS, HASTI, INPAWS, Industry grants, DNR-WET, WILD, Go Fishing	June 2014	1
	HOE	DNR Cons. Comm.	Annually	

## Goal: maXimize valUe of dollar

Leiber	Find alternative funding sources (14)	DNR, foundations, individuals, corporations, NGO	Always	2
	Avoid duplication of effort by meeting together (4)	DNR and divisions meet together, cons. orgs.	Quarterly annually	
	Develop ranking system for SWG funds (11)	DNR SWAP team, FWS	By 2015	

## Goal: maXimize conServation PracticeS on Private land

Pinchot	Lobby individual federal legislators to keep conservation in Farm Bill, passed and ongoing (38)	NGOs and Individuals	Now, continual, especially every 4 years	1
	Identify and educate land owner programs for habitat and working lands available (27)	NGOs, Farm Bureau, NRCS, FSA, DNR, SWCD	Now, ongoing	
	Funding landowner incentives (10)	NGOs, Farm Bureau, NRCS, FSA, DNR, SWCD	Now, ongoing	
	Hire more regional biologists (6)	NCO state		

## Goal: robUSt and Self-SUStainiNG citizen Science and volUnteer ProGram

Pinchot	Select suitable programs – CSs (4)	DNR		2
	Training programs (developed and implemented)	NGO, DNR	Within 1 year	
	Hire volunteer coordinator	DNR	ASAP (within year)	
	Recruit additional volunteers (1)	Coordinator, NGOs, DNR	ASAP (within year)	
	Increase # volunteers 10% annually		5 year goal 50% inc. volunteers	
	C.Sc. Webpage (opportunities and training)	DNR, NGOs		

## Goal: StronGer conServation PartnerSHiPS

Muir	List of participating organizations by category (clearly organized with comprehensive TOC)	SWAP, all	6 months	1
	Designate a SWAP coordinator (36)	DFW	1 year	
	Schedule regular meetings for SWAP participants	Coordinator	Annual, beginning 2016	
	SWAP newsletter – monthly? web-site, online collaborative tool	Coordinator	Ongoing, 6 months after coordinator is hired	

## Goal: lock-in active ParticiPation

Muir	Set expectations - Sales pitch – what are you doing? What have you accomplished?	Coordinator	Ongoing	2
	Avenue for recognition - Attractive marketing (make it sexy)	All	Ongoing/annual	
	Friendly competition - Advertise who is doing what, who's doing the best job, guilt non-participants (google model operating)		Ongoing	

## Goal: identifY and enHance conServation infraStrUctUre and fUndinG caPacitY

Deam	Identify potential partners (2)	SWAP Leadership	2015	1
	Self-assess capacity of partners (current and future)	Partners	2015	
	Synthesize of all capacity	SWAP Leadership	2015	
	Information dissemination (federal agencies and partners)	SWAP Leadership	2016	

## Goal: Prevention of introdUction and eXPanSion of eXotic/invaSive SPecies

Deam	Engage invasive species committees to identify threats and to help them disseminate information (26)	DNR, Conservation partners	ASAP	2
	Risk Assessment (2)	University under direction of committee	ASAP	
	Prioritization			
	Policy making – seek funding	Legislature	2015-2016	
Management (Containment and/or eradication)	All partners	ASAP		



## Goal: eStabliSH SWaP aStHe Unified viSion for natUral reSoUrcE conSeRvatiOn in indianA

Thoreau	Complete SWAP good vision (1)	SWAP Committee	2015	1
	Buy-in by partners, mobilize partners to generate support (2)	SWAP Committee, partners	2015-2016	
	Governor proclamation	DNR Executives	2015-2016	
	Develop Citizen Communication Plan (4)	SWAP Advisory Team	2015-2016	

## Goal: Stabilize and enHance and connect eXiStinG HabitattYPeS

Thoreau	Establish habitat baselines (2)	DNR, USFWS, NRCS	2014	2
	Identify target areas (7)	Regional or sub committee	2015	
	Prioritize projects and funding (6)	Regional or sub committee	2015	
	Detailed plan (1)	Local sponsor	2015-2016	
	Seek funding (4)	Local sponsor	2015-2016	
	Implement (16)	Local sponsor	2020	

## Goal: biGPictUre

Roosevelt	Create communication plan (21)	SWAP Coordinator	2015	1
	Use common language	Partners	2015	
	ID overlapping goals of partners	Partnes	2015 and ongoing	
	ID stakeholders outside conservation community (from communications plan)	SWAP Coordinator	2014	

## Goal: increaSe fUncTionaliTY of SWaP

Roosevelt	ID users of SWAP (11)	SWAP Team	2013/14	2
	Provide drafts to interested parties for feedback and how it could be applied	SWAP team and partners	2013/14	
	Outreach campaign and increase awareness (funding for commercials, HOE/fair, brochures @ DNR properties)	DNR	2013/14	

### Goal: dedicated Staff

Carson	Funding (18)	Private foundations and conservation community,	2015	1
	Create representative panel to hire staff	DNR and funding partners	2015	
	Seek permanent funding		2016	
	Office space/facilities	DNR	2015	
	Define responsibilities of position (work profile)	DNR and funding partners	2015	

### Goal: Public relations/marketing to Public/bUSineSSeS and UniverSitieS and leGiSlatorS

Carson	Create strategic marketing plan (5)	Dedicated SWAP staff	2015	2
	Implement marketing plan (3)	Partners, DNR, NGOs, etc.	2015	
	Organize regional meetings for conservation congress	Partners, DNR, NGOs, etc.	2016	
	Seek permanent funding (31)	Dedicated SWAP staff	2016	
	Social media plan	Dedicated SWAP staff	2015	
	Seek media contacts	Dedicated SWAP staff	2015-2016	
	Seek corporate partners (1)	Dedicated SWAP staff	2015	
	University site visits/internships	Dedicated SWAP staff	2015	

### Goal: indePendent overSiGHt/SWaP

Lacey	Establish "board" (16)	Conservation Stakeholders	2015, annually	1
	Review progress reports from DFW/SWAP			

### Goal: imProve and acqUire Habitat

Lacey	Acquire sites that target species with the greatest conservation need (61)	DNR and partners	Annually	2
	Improve acres of habitat of greatest conservation need (44)	DNR and partners	Annually	

## Goal: effectiveLY enGaGe Private individUaIS/landOWners

Emerson	Develop a SWAP brand that private individuals recognize (15)	Core Team	March 2016	1
	Develop a group engagement format that includes 20% participation from private individuals/landowners	Advisory Committee	2018	
	Document continued participation of 50%	Advisory Committee	2019	
	Maintain a satisfaction index of 75%	Advisory Committee	2020	

## Goal:develoP acommUnicatioNSProceSSbetWeen/amonGStPartners

Emerson	Develop master list of partners (17)	Core Team	ASAP	2
	Test minimum of 3 social media mechanisms for partner communication, select most effective	Contract?	Contract?	
	Survey partners for effectiveness annually	Advisory Team	Advisory Team	
	Develop a web application to share performance info	Advisory team/contract	Advisory team/contract	

## Goal: define tHe meaSUre of SUcceSS

Leopold	ID overall objectives	Each partner	Now	1
	Compile list of objectives	Advisory team	December 2013	
	Agree on common objectives	Partners and advisory team	Spring 2014	
	Agree on the metrics (12)	Partners with technical expertise	By final draft	
	ID relevant partners (8)	All of us	Now – SWAP submitted to USFWS	
	Common language development (7)	Advisory team	Now – early 2014	
	Review of measures of success by conservation community (1)	Partners	Prior to final draft	

## Goal: identify and act at ProPer Scale

Leopold	ID proper scale to meet objective(s) for species or habitat (8)	Technical experts	Start 2016 after plan adoption	2
	Figure out who is active at that scale and who has authority to act	DNR, USFWS, Conservation partners	Follow	
	ID who is impacted by conservation actions	Partners	Sequentially	
	Bring relevant players together to form consensus on action	LCC	Sequentially	
	ID and overcome barriers to action at appropriate scale	Partners	Sequentially	



# SWAP | SoUtH meetinG




Conservation doesn't just happen. It takes resources and collaboration.



# Panel #1

table name	comments	Poster number
Deam	<p>Questions:</p> <ul style="list-style-type: none"> <li>- How will SWAP help distribute conservation\$</li> <li>- How was the last SWAP used successfully</li> </ul>	1
Carson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- 3 divisions representing how to integrate the SWAP into current conservation efforts</li> <li>- The panel members are a part of the conservation community</li> <li>- Must be habitat based plan</li> </ul>	2
Leopold	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- funding?</li> <li>- Watersheds?               <ul style="list-style-type: none"> <li>- forestry management</li> <li>- how does newer practices impact watershed?</li> </ul> </li> <li>-public involvement</li> </ul> <p>Questions:</p> <ul style="list-style-type: none"> <li>- What's the plan for continued user/stakeholder involvement in the process?</li> </ul>	3
Roosevelt	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Funds (past \$1 million)</li> <li>- Avoid random acts of conservation</li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- What non-NGOs and other non-traditional partners will be involved?               <ul style="list-style-type: none"> <li>- Plan due 2015 g revision</li> <li>- Habitat based g 8 types</li> </ul> </li> </ul> <p>Statewide plan for all partners</p> <ul style="list-style-type: none"> <li>- What part of the plan is being revised g what have we learned from the last plan?</li> <li>- What will be used to get public involved?</li> <li>- Do we have results summarized from previous plan?               <ul style="list-style-type: none"> <li>- Plan covers                   <ul style="list-style-type: none"> <li>o Citizens</li> <li>o Environment</li> <li>o Conservation community</li> </ul> </li> </ul> </li> <li>- Funding</li> </ul>	4a
		4b
Thoreau	<p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- Julie: how will this plan be different than the last one?</li> <li>- What was learned from the last plan? Negatives? Positives?</li> </ul>	5
Lacey	<p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How is funding distributed?</li> <li>- Panel Creditability</li> <li>- Who makes final decision?</li> </ul>	6
Emerson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>- Grant- \$1mil</li> <li>- Build partnerships</li> <li>- Habitat based plan tool for other agencies.</li> <li>- 2015 deadline</li> <li>- 4 Cat:               <ul style="list-style-type: none"> <li>o Eco</li> <li>o # funding</li> <li>o Con. Comm.</li> <li>o Citizens_</li> </ul> </li> </ul> <p><u>Questions:</u></p> <ul style="list-style-type: none"> <li>- How/who/do we get this plan on the ground?</li> <li>- How are private landowners involved?</li> </ul>	7a
		7b

# eXerciSe #2

tablename	themes	Posternumber
Emerson	<p>Species reintroduction                      Habitat improvement Projects (Blue River)                      Go Fishin' in the City                      SAFE</p> <hr/> <p>Environment - technical asst.                      Conservation Community - Facilities/equip                      Funding - \$ funding                      Conservation Community - established part                      Citizen - Public Outreach</p>	#1
Lacey	<ul style="list-style-type: none"> <li>- HEE (Purdue, Fish Wildlife, Forestry) current</li> <li>- Eastern Box Turtle (nongame, Purdue, FWS, sycamore land trust) current</li> <li>- Starve Hallow lake Renovation (forestry, fisheries management/hatch) current.                             <ul style="list-style-type: none"> <li>o Citizens - Hellbender Hustle, Purdue Extension Programs</li> </ul> </li> <li>- Indiana bat - nongame, forestry, USFWS, current</li> <li>- Wood rat - nongame, Purdue, forestry, private lands</li> <li>- Forest Wildlife Project - past</li> <li>- Public access - forestry</li> <li>- Rule/Regulation promulgation</li> <li>- Implementation - prop managers, biologist</li> </ul>	#2
Thoreau	<p><u>Fisheries</u></p> <ul style="list-style-type: none"> <li>- Technical expertise</li> <li>- \$</li> <li>- Partnerships</li> </ul> <p><u>Parks</u></p> <ul style="list-style-type: none"> <li>- Volunteers (citizens) g grant opportunities. Ex: warbler nesting box project</li> <li>- Environment</li> </ul> <p><u>Wildlife</u></p> <ul style="list-style-type: none"> <li>- Environment (working with species groups; surveys)</li> <li>- Also citizens groups</li> <li>- \$</li> <li>- Habitat management</li> </ul> <p><u>IFA(Indiana forest alliance)</u></p> <ul style="list-style-type: none"> <li>- Environment</li> <li>- Citizens (bringing different opinions &amp; interest)</li> <li>- Conservation groups</li> </ul> <p>Common Threads!                      -habitat (the details of this can look a lot different, but the same base can exist!)</p> 	#3



Roosevelt	<u>Environment</u> <ul style="list-style-type: none"> <li>- Managing habitat &amp; species</li> <li>- Use of renewable resources mgmt.</li> <li>- Buying land- conservation easements</li> <li>- Multiple partners manage use</li> <li>- CWMA to control invasive on private land</li> <li>- HRI</li> <li>- Columbia Mine</li> <li>- Communication of technical services &amp; conservation values</li> <li>- West Bogs Renovation</li> <li>- Research &amp; monitoring <ul style="list-style-type: none"> <li>○ HEE</li> </ul> </li> </ul>	#4a
	<u>Conservation Community</u> <ul style="list-style-type: none"> <li>- DU g land acquisition</li> <li>- TNC</li> <li>- West Bosg state and local</li> <li>- American Chestnut Foundation</li> <li>- Slow the Spread- many partners</li> <li>- Universities</li> <li>- Species Restoration</li> <li>- HOE</li> <li>- Goose Pond</li> </ul>	#4b
	<u>Funding</u> <ul style="list-style-type: none"> <li>- BNT</li> <li>- Private foundations</li> <li>- Heritage trust</li> <li>- Private company support</li> <li>- WSFR                   - SWG</li> <li>- USDA                   - GLRI</li> <li>- User Fees             - Tax Check off</li> <li>- Farm Bill</li> </ul>	#4c
	<u>Citizens</u> <ul style="list-style-type: none"> <li>- Natural Resource Education Programs</li> <li>- Recruitment retention</li> <li>- Hunter education</li> <li>- Youtube/social media</li> <li>- WRP/CRP</li> <li>- Forestry program</li> <li>- Citizen science <ul style="list-style-type: none"> <li>○ Breeding bird survey</li> </ul> </li> <li>- WET                   - WILD</li> <li>- 4-H                    - Learning Tree</li> <li>- FFA</li> </ul>	#4d

Leopold	<p><u>Past:</u>  <u>Conservation Community</u></p> <ul style="list-style-type: none"> <li>- IN Bass federation/ NWTF</li> <li>- Partnerships (labor/money)</li> <li>- Land trusts</li> </ul> <p><u>Funding</u></p> <ul style="list-style-type: none"> <li>- Bass pro donations</li> <li>- Creative funding strategies</li> <li>- Shared/non-traditional sources</li> </ul> <p><u>Citizens</u></p> <ul style="list-style-type: none"> <li>- Individuals in these organizations</li> <li>- Friends group</li> <li>- Citizen science (specific DNR position)</li> <li>- Input on decision process</li> <li>- Connect public to resource w/ sustainable trails</li> </ul> <p><u>Ecosystems</u></p> <ul style="list-style-type: none"> <li>- Land acquisitions <ul style="list-style-type: none"> <li>o BNT</li> </ul> </li> <li>- Heritage Trust</li> <li>- HRI <ul style="list-style-type: none"> <li>o Habitat restoration</li> </ul> </li> </ul>	#5
Carson	<p><u>Past Projects</u></p> <ul style="list-style-type: none"> <li>- North American waterfowl plan (4 themes)</li> <li>- Healthy rivers initiative (4 themes)</li> <li>- Goose Pond- (4 themes)</li> <li>- Friends Groups (3 themes)</li> <li>- Hardy lake Raptor Program Support (4 themes)</li> <li>- HEE (Hardwood ecosystem experiment) (4 themes)</li> <li>- NBCI &amp; other NGO's (4 themes)</li> <li>- Summer bat Monitoring -4 themes</li> </ul> <hr style="border-top: 1px dotted black;"/> <ul style="list-style-type: none"> <li>- Expertise/man power: partnerships, Farm Bill</li> <li>- \$</li> <li>- Land</li> <li>- Interpretive programs/ education outreach</li> </ul>	#6
Deam	<p><u>Past:</u>  <u>Healthy rivers initiative</u>  Survey and monitoring of endangered and threatened species  Retention and recruitment events- which need to continue?</p> <p><u>Available resources:</u></p> <ul style="list-style-type: none"> <li>- Current and new land acquisitions</li> <li>- Knowledgeable DNR staff</li> </ul>	#7



Lacey	<ul style="list-style-type: none"> <li>- List of entities</li> <li>- Better communication between entities</li> <li>- What resources do entities have? (land, people, money, etc.)</li> <li>- Goals of entities- how can we work together?</li> <li>- List of possible things for volunteers to do</li> <li>- Consider hiring on person to be in charge of volunteers/volunteer programs. Must have established leader and set rules/ everyone involved must understand roles</li> <li>- Focus on specific goal with involving volunteers</li> </ul>	#7a
	<ul style="list-style-type: none"> <li>- New funding source</li> <li>- Tax on outdoor materials</li> <li>- Monetary incentive for landowner to allow hunting access on private lands</li> <li>- Lack of manpower able to show results for projects <ul style="list-style-type: none"> <li>○ Ex: goose pond. Locals probably see benefits of this</li> </ul> </li> </ul>	#7b

## eXercise3: Goals

table name	theme	Goals	Poster number
Emerson	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Strengthen existing</li> <li>- Build new partnerships</li> </ul>	1/3
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Alternative sources</li> <li>- Web based funding listing</li> </ul>	
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Improve habitat connectivity on a landscape level</li> <li>- Reduce and restrict invasive sp. - Consistent ranking of threats and needs by qualifies individuals</li> </ul>	2/3
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Increased knowledge &amp; buy-in</li> <li>- Post Montgomery retirement</li> <li>- Vol. TV host!</li> </ul>	3/3
Lacey	<u>Funding</u>	<ul style="list-style-type: none"> <li>- New funding source</li> </ul>	Lacey 1/3
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Buy-in to our goals</li> <li>- Combat apathy</li> <li>- Education</li> <li>- Promote citizen advocacy</li> </ul>	
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Identify target species/ habitat</li> <li>- Rate significance</li> <li>- Improving water quality</li> <li>- Recommended mitigations</li> <li>- Assess success or failure</li> <li>- Invasive species management</li> <li>- Integrate game and nongame management</li> </ul>	Lacey 2/3
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Better communication</li> <li>- Create buy-in</li> <li>- More collaboration</li> </ul>	3/3

Deam	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Conservation corridors for animals</li> <li>- Control invasive species &amp; awareness</li> <li>- Increase ruffed grouse habitat</li> <li>- Restore wetlands</li> <li>- Re-establish fence rows</li> <li>- Reduce sediment load in streams</li> <li>- Dam removals</li> <li>- Pollution controls</li> </ul>	1
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Interagency cooperation</li> <li>- Improve school curriculum</li> <li>- Encourage field trips/days/public outreach</li> <li>- Develop media relations materials</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Additional taxes on outdoor products</li> <li>- Earmark \$ from- special product sales (tags and stamps)</li> <li>- Additional fees on hunting licenses</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Means for programs &amp; properties to display success stories</li> </ul>	
Roosevelt	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Maintain forum engagement</li> <li>- Expand to nontraditional partners</li> </ul>	1
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Marketing/showcasing Benefits/ accomplishments</li> <li>- Increase land base for conservation</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- More effective engagement of politicians</li> <li>- Develop list of sources/willing participants</li> <li>- Sustainable/untouchable/long-term funding</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Recognizes public perception</li> <li>- Create a stakeholder mentality</li> <li>- Local access to SWAP</li> </ul>	
Leopold	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Inform/reduce impacts of invasives</li> <li>- Tear down <u>silos</u></li> <li>- Marketing our resources</li> </ul>	1
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Interested/engaged</li> <li>- Farmers/private land owner involved</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Broadening support by connecting legis. and outside funders</li> <li>- Wider funding sources (camping, wildlife watchers, etc.)</li> </ul>	
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Identify/restore critical ecosystems</li> <li>- Landscape management approach</li> <li>- Management vs. preservation</li> <li>- Maintain/do species inventory</li> </ul>	
Thoreau	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Maintain and increase native biodiversity</li> <li>- Promote more habitat (contiguous – quantity and quality), strategic rather than opportunistic</li> </ul>	1
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Promote more habitat</li> <li>- Land donations</li> <li>- Strengthening partnerships (yearly statewide and regional conservation group convergence!)</li> </ul>	
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Sales tax to fund conservation</li> <li>- Strategic land acquisition (contiguous)</li> <li>- More money for invasive species control</li> <li>- Tying economics to conservation</li> <li>- Events! Field days.</li> </ul>	
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Exposure/conservation ethic as framework/grassroots action</li> <li>- Sales tax/lump sums?</li> <li>- Land donation/CRP</li> <li>- Organized events to engage with folks/share what we're up to</li> <li>- Field days on project success (with lunch!)</li> </ul>	

Carson	<u>Funding</u>	- Permanent stable SWG funding source - Investigate new funding sources (sales tax, landowner money incentives for access)	1
	<u>Environment</u>	- Baseline inventories - Invasive species control	
	<u>Conservation Community</u>	- Active/interactive engagement - Develop common objectives	
	<u>Citizens</u>	- Raise awareness/create interest	

## eXerciSe4: Smart (# of voteS in ParentHeSeS)

### Goal: develoP alternate fUndinG SoUrceS

table name	actionS	WHo	WHen	Poster number
Emerson	Web based listing of needs/projects (16)	DNR	2015	#1
	Web based listing of avail. \$ grants.com			
	Conservation tax (23)	All cons. Partners	2020	
	Legacy/estate planning	TNC, CC's	2015	
	Landowner License- min fee	Fish/wild	2015	

### Goal: conStant rankinG

Emerson	Develop baseline of threats	CC	2015, bi-cent rpt.	#2
	Cause and effect	CC	2015-2017	
	Remedies	CC	2015-2029	
	Measurement & reporting	CC	2015-2020	
	Annual Report	CC	2015-2025	

### Goal: inteGratinG Game and non-Game manaGement

Lacey	Select representative species (13)	FW biologist	Now	#1
	Identify "special needs" SGCN	Nongame		
	Cross training (11)	DNR		

## Goals: citizen education

Lacey	Move HOE to different regions every year (9)	DRN admin	Now	#2
	Surveys to assess effectiveness of programs Did they buy a license afterwards? (2)	?	2015+	
	Assess which programs are working (14)	?	2015+	

## Goal: increase Ruffed Grouse Habitat

DEAM	Public outreach (4)	F&W and USFS Forestry Other states private cons. Groups	3-5 yrs.	#1
	Identify suitable habitat	F&W Forestry Private landowners USGS Military sites	2-3y.	
	Identify management Tech + needs – Cost +funding (2)	Other states F7W Forestry Ruffed Grouse Soc.	1-3 y.	
	Implement habitat management & coordinate w/ all landowners(15)	same		
	Re-evaluate			

## Goal: encourage Public Outreach With School Groups

Deam	Develop education program for schools Contact Schools (17)	F&W, State Parks, Forestry Public outreach coordinator	1-3y. Ongoing	#2
	Field Day (3)	F&W	School yr.	

## Goal: create conservation ethic

Roosevelt	Template to schools for engaging in outdoor labs	IDNR/ local school systems/ existing NGO programs	2015-?	#1
	Outdoor curriculum part of school standards(9)	Legislative		
	Marketing Campaign for special places (5)	IDNR/Dept. of Tourism	2015-?	
	Conservation for better health (4)	Health, Industry	2015-?	

## Goals: increaSe land baSe for conServation

Roosevelt	Provide economic incentives to landowners/corporations i.e.: tax incentives, conservation easements (24)	Legislative action/landowners	2015	#2
	Federal land water conservation fund (increase access to funds) (4)	Fed representation	2015	
	Expand Healthy Rivers Initiative (14)	IDNR Legislative	now	
	PR funds & BNT to land conservation (2)	IDNR legislative	Now	
	Support classified forest and wild lands  Providing incentive for population density  Reduce sprawl (21)	IFwort	Now	

## Goal: tearinG doWn SiloS

Leopold	Hire a SWAP Coordinator(s) (2)	DFW	2014	#1
	Interactive website (3)	DNR	2015	
	Put together regular meetings between conservation agencies & universities	SWAP Coordinator	Annual, begins 2015	
	Regular meetings in DNR between staff (20)	DFW, SPR Forestry, NP	2014	
	Funding support for professional meetings	Division Directors Alliance	2015	
	Between public & staff? (1)	All	Ongoing	



## Goal: creatinG an intereSted/enGaGed PUBlic

Leopold	Consumptive R&R – continue	DFW	2015	#2
	General education programs	DNR/conservation groups	2015	
	Bio blitz	Universities/DNR	2015	
	Smartphone apps/workshops to ID wildlife/hunt/fish	DFW	2015	
	Local workshops for habitat development for farmers	DNR/Extension		
	Marketing campaign for public lands (25)	SWAP Coordinator		
	New incentives for private land-owners (5)	SWAP Coordinator	2015	

## Goal: Stable and increaSeD fUndinG for conSeRvation

Thoreau	Inventory of funding opportunities (existing) (1)	Partners	Start now!	#1
	Identify potential funding sources (i.e., grants, sales taxes)	Partners	After #1! (2014)	
	Leading a campaign for a conservation sales tax	Non-agency Partners (i.e., NWF, TNC)	Now - 2018	
	Non-agency leader in #3 – puts strategic (marketing) plan together (64)			
	Grassroots support to carry out plan	Everyone!	Now into future	

## Goal: decreaSeD fraGmentation

Thoreau	Strategic purchasing (4)	Conservation Community	2015	#2
	Priority areas based on connectivity and availability of land (26)	Conservation Community	2015	
	Minimum sizes for species & habitat (1)	Conservation Community	Now	
	Clearinghouse of who owns what (3)	Conservation Community	Now	

## Goal: raise aWareneSS/create intereSt (citizenS)

Carson	SWAP Facebook (3)	IDNR F&W	2014	#1
	Inform government and NRC elected officials of SWAP (9)	Conservation Community	2015	
	Incorporate SWAP in conservation education	Educators	2015+	
	Engage Indiana Farm Bureau (14)	Conservation Community	2015	

## Goal: baSeLine inventorieS (environment)

Carson	Prioritize inventory needs (ex, plant surveys = IDNR Nature Preserves) (19)	Technical Experts	1-3 years	#2
	Conduct inventories (2)	Technical Experts	2 years	
	Create shareable database among conservation community	Technical Experts	After above action	
	Analyze and monitor (2)			

# SWAP | northH meetingG



Conservation doesn't just happen. It takes resources and collaboration.



# Panel #1

table name	comments	Poster number
Leopold	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Single species conservation projects actually benefit whole communities</li> <li>• Plan is useful &amp; versatile</li> <li>• DNR and NGOs can both use it</li> <li>• Tool for setting priorities_</li> </ul> <p><u>Question:</u></p> <p>- How can we use this plan to gain access to more money?</p>	1
Lacey	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Linking projects to T &amp; D Species</li> <li>• SWAP gives people a tool to help manage habitat</li> <li>• Habitat Based plan_</li> </ul> <p><u>Question:</u></p> <p>- How does SWAP facilitate funding for management for species other than SGCM?</p>	2
Roosevelt	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Collaborative Consultation</li> <li>• Landscape Level</li> <li>• Bigger than DNR</li> <li>• Revision due 2015</li> <li>• Required for funding</li> <li>• Core Team/Advisory team</li> <li>• SGCN</li> <li>• Habitat based</li> <li>• Themes (4) Env. Cons. Comm. Funding, Citizen</li> <li>• Leveraging for additional \$/Mgmt_</li> </ul> <p><u>Questions:</u></p> <ol style="list-style-type: none"> <li>1. What is (the) process for engaging citizenry?</li> <li>2. How do we get buy-in from the agriculture industry?</li> <li>3. How will core advisory team communicate with people not at meetings?</li> </ol>	3a  3b  3c  3d
Carson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Multiple groups working towards common goals</li> <li>• Management of single species can benefit many other species.</li> </ul> <p><u>Question:</u></p> <p>- Do we know enough about the life history of rare and endangered species?</p>	4
Emerson	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Track record of results.</li> </ul> <p><u>Question:</u></p> <p>- How do we raise more state-matched \$?</p>	5
Deam	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• Species of Greatest Concern Habitat Enhancement</li> <li>• Reliable funding <ul style="list-style-type: none"> <li>○ Appropriation</li> <li>○ More permanent approach</li> </ul> </li> <li>• Availability of funding for others_</li> </ul> <p><u>Question:</u></p> <p>- How is money obtained through SWAP?</p>	6
Thoreau	<p><u>What we heard:</u></p> <ul style="list-style-type: none"> <li>• About process, and examples, plan.</li> </ul> <p><u>Question:</u></p> <p>- What is not in the old plan that you would like to see the new plan have?</p>	7

# eXerciSe#2-tHemeS

table name	comments	Poster number
Thoreau	<p>CRP-Farm Bill (Funding &amp; Environment) (Citizens &amp; CC)</p> <p>Managing the diversity @ Jasper Piteski (sp)</p> <p>Is good for game &amp; non-game species (Citizens &amp; Environment)</p> <p>Providing nursery stock for reforestation (Funding, environment, cc, citizens)</p> <p>Reintroduction of Trumpeter Swans (Funding, environment, cc, citizens)</p> <p>Stocking Fish-Trout &amp; Salmon (Funding, environment, cc, citizens)</p>	8a
Thoreau	<p>NGO Land holder</p> <ul style="list-style-type: none"> <li>-Forest</li> <li>-Wetlands</li> <li>-Prarie</li> </ul> <p>Provide: Outreach, education, research</p> <ul style="list-style-type: none"> <li>*Oak tree preservation</li> </ul> <p>Monitoring publicly owned resources</p> <p>DNR-Repository of expertise</p>	8b
Deam	<p>Collaboration with Non-Game Org</p> <p>Benefits from Projects-Go back to More Projects</p> <p>All Projects Benefiting all species</p> <p>Farm Bill benefits</p> <p>Partners Allocate Money</p> <ul style="list-style-type: none"> <li>-PF</li> <li>- DV</li> </ul> <p>F &amp; W staff oversee project</p> <p>Joint venture on Kankakee</p> <ul style="list-style-type: none"> <li>-WRP</li> <li>-Lots of opposition</li> </ul>	9a
Deam	<p>Additional Resources</p> <ul style="list-style-type: none"> <li>-License plate funds</li> </ul> <p>Find more funding source</p> <p>Birdwatcher funds</p> <p>Agency vs NGO</p> <ul style="list-style-type: none"> <li>-Strengths and weaknesses of each</li> </ul> <p>Special Interest Groups</p> <p>How do you sell a project to gain (the) most interest?</p> <p>How do you engage special interest groups for money?</p>	9b
Emerson	<p>-Watershed Programs</p> <ul style="list-style-type: none"> <li>-Related to ALL themes</li> </ul> <p>NPWS recruiting individuals to work on common projects (community)</p> <p>Friends of KANK</p> <ul style="list-style-type: none"> <li>-Film-Everglades of the North (community, citizens, funding)</li> </ul> <p>Fisheries Creel/Statewide Angler Survey (community)</p>	10a
	<p>Michigan City School Program</p> <ul style="list-style-type: none"> <li>-Program adopt an environmental curriculum</li> </ul>	10b

Carson	<p><u>Env</u></p> <ul style="list-style-type: none"> <li>● Invasive Control</li> <li>● Succession Control</li> <li>● Habitat Management</li> <li>● Multi-spp Mgmt</li> <li>● Dam Removal</li> <li>● Water Quality</li> </ul> <p><u>CC</u></p> <ul style="list-style-type: none"> <li>● Education &amp; Outreach</li> <li>● Event, programs, workshops</li> <li>● Farm Bill</li> </ul> <p><u>Funding</u></p> <ul style="list-style-type: none"> <li>● Local user-groups</li> <li>● Funding partners</li> <li>● Farm Bill</li> <li>● Agency Funding (319)</li> <li>● SFR</li> <li>● Game &amp; Non-Game Organizations</li> <li>● Private Foundations</li> </ul> <p><u>CIT</u></p> <ul style="list-style-type: none"> <li>● Finding common ground-conflicting groups <ul style="list-style-type: none"> <li>○ Ag vs. hunters vs. non-hunters vs. lake users</li> </ul> </li> </ul>		11
Roosevelt	Theme	Project	12a
	Environment	Habitat Management	
	Citizen	Work with public - Nuisance work	
	Cons/ Comm	Previous SWAP survey to ID needs	
	Cons, Comm, Funding, Citizens, Env	MWTF funding projects and R/R events @ Roush	
	Funding	Seed w/donating Seed to FWA for food plots	
	Funding, Env. Cons. Comm	Participation with partners in NAWCA project grant	
	Available Resources -People -Tech expertise -Land -SWG, License \$, fed grant \$, check-off, donations, -Tax abatements		12c
	-Farm Bill -HRI-BNT -Pvt. Co\$ -Foundation \$ -Partnership networks -human dimensions Research & Expertise -outreach & community		12d
	Media Relations What Resources do we need? -Political connections -Buy-n from agriculture -public support & respect		12e

Lacey	Project	Theme	13a
	Habitat management practices	All	
	Land acquisition	All	
	Technical Assistance (private lands) Participate in fed funded projects NAWAC etc.	All	
	Research, Tech assistance, on land, regional, statewide projects		
	Available Resources <ul style="list-style-type: none"> <li>- Knowledge</li> <li>- Equipment</li> <li>- Funding</li> <li>- Credibility</li> <li>- Manpower/time</li> <li>- Research Capacity</li> <li>- Education &amp; Outreach</li> </ul>		13b
Leopold	<ul style="list-style-type: none"> <li>- Cisco-cold water community (eco)</li> <li>- Invasive species management-ecosystems</li> <li>- Hunter/angler recruitment-citizens</li> <li>- Looking for alternative funding (DFW)</li> <li>- Fish stocking <ul style="list-style-type: none"> <li>- Angler recruitment/retention</li> <li>- Ecosystem management (predator/prey)</li> <li>- Habitat management</li> </ul> </li> <li>- NR Fisheries-coordination with Muskie anglers (cons community)</li> <li>- PF, QF on game bird areas (acquisition/management)</li> </ul>		11a
	<ul style="list-style-type: none"> <li>- Continue working with other organizations to acquire more habitat (DFW, Cons, Community)</li> <li>- Coordination with municipalities to increase river health (HRI)</li> <li>- Providing in-kind support to research projects (cons community)</li> <li>- Data acquisition</li> <li>- Educational events partnering with other organizations (cc, citizens)</li> </ul>		

## Working Unch- needed imProvements

table name	comments	Poster number
Roosevelt	<u>Needs to improve partnerships/resources/programs?</u> <ul style="list-style-type: none"> <li>- Political connections</li> <li>- Communications network <ul style="list-style-type: none"> <li>a. partners not knowing what is going on</li> </ul> </li> <li>- Public support and respect</li> <li>- Engage gen. public with programs</li> </ul>	15a
	<ul style="list-style-type: none"> <li>- Take advantage things people are interested in (clean H2O, clean air, Hunger Games, Archery)</li> <li>- Personal Contacts</li> <li>- Disney Movie <ul style="list-style-type: none"> <li>a. animals as real animals</li> </ul> </li> </ul>	15b
	<ul style="list-style-type: none"> <li>- Better understanding of reason for human-wildlife conflicts</li> <li>- ID and address gaps in conservation</li> </ul>	15c
Carson	<ul style="list-style-type: none"> <li>- Diversity within partnerships</li> <li>- More volunteers</li> <li>- Sharing success stories</li> <li>- better communication <ul style="list-style-type: none"> <li>a. Local networking</li> <li>b. more meetings</li> <li>c. Intentionally engage those who are most difficult</li> <li>d. Get the right people at the table</li> <li>e. Get by-in through education and understanding the other side's view</li> </ul> </li> </ul>	16

St. Joe & Kankakee River Commissions  
 Lake Michigan Costal Program



Leopold	<ul style="list-style-type: none"> <li>- Concrete ways to public can help g “shopping list”</li> <li>- Reduce overall public apathy</li> <li>- Better communication between conservation organizations</li> <li>- Determine what public/partners expect from DFW/DNR</li> <li>- Trust of the DNR</li> <li>- Expectation management</li> <li>- Recognition of strengths/weaknesses of partners</li> <li>- Diversification of partners</li> <li>- Funding</li> </ul>	17a
		17b
Lacey	<u>Improving Partnerships</u> <ul style="list-style-type: none"> <li>- Education &amp; communication</li> <li>- Work with schools to educate youth about various programs</li> <li>- Concentrate on urban and agriculture to enhance buy in</li> <li>- Let people know they have options to help big picture even though they feel too small</li> <li>- Take time to engage and know out supporters</li> <li>- List our supporters and understand their mission</li> </ul>	18a
		18b
Thoreau	<ul style="list-style-type: none"> <li>- What can we share b/t entities</li> <li>- g What resources can or cannot be shared</li> <li>- What can we improve on the interface of communication b/t the partners</li> <li>- Improve the sharing &amp; mgmt. of knowledge</li> <li>- Professional participation @ the regional and national level</li> <li>- Cultivate the ear of the legislation, county commissions, land-use groups</li> </ul>	19a
	<hr/> <ul style="list-style-type: none"> <li>- Expand out circle of influence with non-traditional resource management groups and broad base public support</li> </ul>	19b
Emerson	<ul style="list-style-type: none"> <li>- Suggestions for improvement:</li> <li>+ need a set of common goals</li> <li>- But who decides?</li> <li>- In conservation alliance</li> <li>- State-wide/regional</li> <li>- Stewardship network</li> <li>- Market the resource</li> </ul>	20a
	Ex/ <ul style="list-style-type: none"> <li>- Natural hertg. Of Indiana (film)</li> <li>- Pure MI advents.</li> <li>- Everglades of the north (film)</li> </ul>	20b
Deam	<u>Improvements?</u> <ol style="list-style-type: none"> <li>1. Communication</li> <li>2. Sharing Info</li> <li>3. Approval From All</li> <li>4. Competiveness               <ol style="list-style-type: none"> <li>a. Agency</li> <li>b. NGO’s</li> </ol> </li> <li>5. More buy in from non-contributors</li> <li>6. Recruitment/retention</li> <li>7. Support/education of average person</li> <li>8. Awareness @ national (political connection) level</li> <li>9. Education Programs For               <ol style="list-style-type: none"> <li>a. Youth</li> <li>b. Women</li> <li>c. Disabled</li> <li>d. People who have no involvement</li> </ol> </li> </ol>	21a
		21b

# eXerciSe3: Goals

tablename theme	Goals	Poster number	
Lacey	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Use existing money to get more funding</li> <li>- Appropriate use of funds</li> <li>- Be more transparent with our goals and objectives</li> <li>- Clarify mutual benefit</li> <li>- Identify potential sources of funding (networking)</li> <li>- Develop new source of permanent state funding for conservation</li> </ul>	Lacey Goals 1/4
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- ID stakeholders/ Partners (networking)</li> <li>- Know partners missions</li> <li>- Create formal way to organize partners</li> <li>- Enhance flexibility using partners</li> <li>- Get partners to accept ownership in conservation</li> </ul>	Lacey goals 2/4
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Education outreach why cons. Is important for everyone</li> <li>- Individual buy in to conservation</li> <li>- Promote our programs &amp; how they benefit all</li> <li>- Educate political leaders</li> </ul>	Lacey goals 3/4
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Land acquisition</li> <li>- Proper management of land</li> <li>- Prioritize</li> <li>- Invasive species proactive</li> </ul>	Lacey goals 4/4
Thoreau	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Managing wildlife diseases</li> <li>- Reduce new invasive species</li> <li>- Increase land holdings</li> <li>- Maintain/increase species diversity</li> <li>- Maintain healthy systems</li> <li>- Establishing survey standards</li> <li>- Setting measures of success for evaluations (are we there yet?)</li> <li>- Connecting management units into larger systems</li> <li>- Working with adjoining land owners to further our management goals</li> </ul>	1/4
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Increase partnership with ag/business entities</li> <li>- Identify common goals between groups</li> <li>- Understand strengths/resources/expertise of various con. orgs</li> <li>- Continuous /sustained engagement of various con. Orgs</li> <li>- Improve interface between outreach/education &amp; con org.</li> <li>- Recruit/increase volunteers/citizen scientists</li> </ul>	2/4
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Leveraging multiple revenue sources on focused projects</li> <li>- Broading/devifing/alternative funding sources</li> <li>- Distinguishing requiremens that come with various funding sources</li> <li>- Continue recruit and retain anglers/hunter &amp; people who value resources</li> <li>- Showing benefits for non-consumptive users</li> </ul>	3/4
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Build public support thru education</li> <li>- Increase understanding of the human dimension, component the public who value &amp; resources</li> <li>- Raising level of conservation n education of children</li> <li>- Showing benefits of conservation to non-consumptive groups</li> <li>- Identifying the groups that may value resources</li> </ul>	4/4

Carson	<u>Funding</u>	<ul style="list-style-type: none"> <li>- ID sources <ul style="list-style-type: none"> <li>o Local, state, federal</li> <li>o GFO's ,private</li> <li>o * Innovative, new sources</li> <li>o Grants</li> <li>o Donations</li> <li>o Wills &amp; trusts</li> </ul> </li> <li>- Lobby efforts</li> <li>- User fees</li> </ul>	1/2
	<u>Citizen</u>	<ul style="list-style-type: none"> <li>- Increase public awareness</li> <li>- Common-cause</li> <li>- Engage non-trad users w/ hands on activities</li> <li>- Public opinion-change</li> <li>- Legislative actions</li> <li>- * Bridge gap between ag and habitat</li> <li>- * Knowledge mgnt</li> </ul>	1/2
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Represent constituently through proper regulation</li> <li>- * Improve water quality</li> <li>- Habitat development/restoration</li> <li>- Exotic spp. Control</li> <li>- Appropriate population control</li> <li>- Reintroduction of extirpated spp/</li> <li>- Encourage appropriate land use</li> <li>- Enhance recreational opportunities</li> </ul>	2/2
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- * improve communication/ networking</li> <li>- * Educating stakeholders <ul style="list-style-type: none"> <li>o Share success</li> </ul> </li> </ul>	2/2
Leopold	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Engage citizenry</li> <li>- Educate citizens</li> <li>- Retain active users</li> <li>- Recruit new users</li> <li>- Marketing</li> </ul>	1/3
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- Alternative sources?</li> <li>- New partners/match?</li> <li>- Increase efficiency</li> <li>- Increase funding</li> </ul>	1/3
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Identify all potential partners</li> <li>- Engage said partners</li> <li>- Improve communications</li> <li>- Recruit users to more activity in the conservation community</li> </ul>	2/3
	<u>Ecosystems/Environment</u>	<ul style="list-style-type: none"> <li>- Inventory existing ecosystems</li> <li>- Satisfy demand for consumptive users</li> <li>- Satisfy demand for non-consump. uses</li> <li>- Increase imperiled species</li> <li>- Keep common spp. Common</li> <li>- Increase/conserves/critical/deficient/imperiled <ul style="list-style-type: none"> <li>o improve habitats</li> </ul> </li> <li>- Increase access to all users/citizens <ul style="list-style-type: none"> <li>o Distribution of publicland</li> </ul> </li> <li>- Improve river health /water quality</li> </ul>	2/3 and 3/3

Deam	<u>Funding</u>	<ul style="list-style-type: none"> <li>- broaden knowledge of sources</li> <li>- Sustainable source</li> <li>- Permanent source</li> <li>→ Diversify</li> <li>- Recruit/retent</li> <li>- Partnership leveraging</li> </ul>	1/4
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Communicatie/sharing</li> <li>- Engagement</li> <li>- Recruitment g public to Ngo g NGO to agency</li> <li>- Goal sharing</li> <li>- Broaden def. of comm.</li> <li>- <u>DEFINE</u> →</li> </ul>	2/4
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Increasing conservation awareness</li> <li>- Buy in of entire idea</li> <li>- Incorporate new social media</li> <li>- Create advocates *</li> </ul>	3/4
	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Water quality*</li> <li>- Protection/enhancement</li> <li>- Restoration</li> <li>- Focus area</li> <li>- Forest halth</li> <li>- Continuing education</li> <li>- Invasice/succssion</li> <li>- Connectivity of conserv. Efforts</li> </ul>	4/4
Emerson	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Prioritize watersheds</li> <li>- Develop system of conservation lands all eco-types</li> <li>- Monito &amp; address invasives</li> <li>- Identify lands that need to be protected "for species"</li> <li>- Expand &amp; manage buffers</li> </ul>	#22a
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Ongoing collaborative stakeholders communication <ul style="list-style-type: none"> <li>o Annual, regional, etc.</li> </ul> </li> </ul>	#22b
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- More promotion of program</li> <li>- New sources of funds <ul style="list-style-type: none"> <li>o Comm foundations</li> <li>o Corporations</li> </ul> </li> <li>- Seek interns/staff for fundraising</li> </ul>	#22b
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- More conservation education</li> <li>- Monitor publicopion</li> <li>- Increase media outreach</li> <li>- Promote success stories</li> </ul>	#22c

Roosevelt	<u>Environment</u>	<ul style="list-style-type: none"> <li>- Maintain current levels of habitat</li> <li>- Maintain population levels of common species</li> <li>- Increase or enhance #s of SGCN</li> <li>- Increase habitat connectivity</li> <li>- Increase amount of conservation on private land</li> <li>- Increase access to conservation lands</li> </ul>	0/5 and 1/5
	<u>Conservation Community</u>	<ul style="list-style-type: none"> <li>- Increase # people engaged in cons. Comm</li> <li>- Increase awareness of less conspicuous wildlife</li> <li>- Increase communication among cons. Comm.</li> <li>- Increase networks</li> <li>- ID new partners</li> <li>- ID &amp; address gaps in conservation</li> </ul>	2/5 and 3/5
	<u>Funding</u>	<ul style="list-style-type: none"> <li>- ID new sources</li> <li>- ID ways to leverage existing funds</li> <li>- Get \$ out of non consumptive users</li> <li>- Increase contributions to voluntart events</li> <li>- Check off lic. Plate</li> </ul>	4/5
	<u>Citizens</u>	<ul style="list-style-type: none"> <li>- Increase awareness of less conspicuous wildlife</li> <li>- Get more people to pay into cons. Efforts</li> <li>- Increase conservation action by general public</li> <li>- Get more people to care about conservation</li> </ul>	5/5

## eXerciSe 4: Smart (# of voteS in ParentHeSeS)

Goal: develop neW SoUrceS of PermaNent State fUndinG for conServation

table name	actionS	WHO	WHen	Poster number
Lacey	ID potential sources of funding (tax, user fees, lic. Plates, etc.) (25)	DNR & Partners	2015	#1
	Research support (politicians, public)	DNR & Partners	2015	
	Acquire partnership support (1)	DNR & Partners	2015	
	Set up fund acquisition task force (8)	DNR & Partners	2015	
	Research other states that have systems in place	DNR & Partners	2015	

## Goal: land acqUisition

Lacey	Prioritize Critical areas/goals (15)	Partners DNR	(2015)	#2
	Buy Land (39)	Partners & state	As it comes available	
	Set up land acquisition task force (0)	DNR & Partners	2015 After prioritization	
	Develop management plans for potential sites (3)	DNR	As needed	

## Goal: citizenS: bUild PUBLIC SUPPort for fiSH & Wildlife conServation

Thoreau	Education: <ul style="list-style-type: none"> <li>- Recruit/retention skill set (29)</li> <li>- Literacy, wet/wild K-12, training for teachers</li> </ul>	F&W Cons. Org. volunteers	Continuing	#1
	<ul style="list-style-type: none"> <li>- Political bodies (5)</li> <li>- leaders</li> </ul>	F&W Tall tree volunteer	Continuing	
	<ul style="list-style-type: none"> <li>- Citizen scientists (6)</li> <li>- Bridging learning through active participation</li> <li>- active lifestyle; realization of quality of life</li> </ul>	F&W All of the above	Continuing	

## Goal: maintain/increaSe Health environmental SYStemS

Thoreau	<ul style="list-style-type: none"> <li>- identify funding to increase holdings</li> <li>- prioritize acquisition targets</li> <li>- focus on sensitive environments ie: wetlands (4)</li> </ul>	F&W Con/ org	Continuing	#2
	<ul style="list-style-type: none"> <li>- build political support (2)</li> </ul>	F&W Con/ org	Continuing	
	<ul style="list-style-type: none"> <li>- create measures to evaluate success (5)</li> </ul>	F&W Con/ org	Continuing	

## Goal: encoUraGe aPProPriate land USE

Carson	<ul style="list-style-type: none"> <li>- habitat/land use (5) inventory map</li> </ul>	DNR Fed/State/Local IDEM	Continuous- w/ annual reports	#1
	<ul style="list-style-type: none"> <li>- develop programs for specific regions (2)</li> </ul>	USACE NRCS	Continuous- w/ annual reports	
	<ul style="list-style-type: none"> <li>- offer incentives(3) ie: monetary tax reduction for habitat and land use</li> </ul>	<ul style="list-style-type: none"> <li>- Soil &amp; water (SWD)</li> <li>- Wetland conservation programs</li> </ul>	Continuous- w/ annual reports	
	EDUCATE (2)			

## GoalS: eXotic/invaSive control

Carson	Identify area and species	Biologist Private District cons.	Immediately	#2
	Irradiation and control	Self & professionally	Seasonal sensitivity Immediately	
	Follow up treatment & inspections	Self & professionally	As needed	

### Goals: recrUit neW USerS

Leopold	Increase intro. To shooting events- by 50% above current level (3)	DFW/ conservation clubs	2015	#1
	Increase beginner hunting workshops (spp specific) by 25% over current level (3)	DFW	2015	
	Increase beginner angling events by 25% over current level (1)	DFW/ conservation clubs/mun.	2015	

### Goals: recrUit neW USerS

Leopold	Develop a marketing plan to “sell” IN natural resources (35)	DNR	2015	#2
	Provide ad space to partners in H&T/F guides (1)	DFW	2015	
	Nongame/system education of current users- increase interest/passion (retention) (12)	DFW (WR, ng, fish)	2015	

### Goals: imProve Water qUality

Deam	1 I.D. Critical habitat and establish priorities (39)	DFW/IDEM With citizen input	2017	#1
	1 I.D. Critical habitat and establish priorities (39)	DFW/IDEM/Universities/USDA	2017	
	3) education/ implementation (13)	DFW/ IDEM/ USD/ SWCD/ NGO's	Continuous education Implement 2017	

### Goals: create citizen advocatES

Deam	1) Identify potential appropriate constituents	DFW Numerous NGO's	Now	#2
	2) Develop educational strategies	Contractor		

### Goals: Promote media

Emerson	Identify/promote success (13)	IDNR + Partners	Continual	#2
	Expand network of media connection (3)	IDNR + Partners	Continual	
	Tie to tourism and recreation (6)	all	Continual	
	Identify regional media contacts (PR) – create list			

## Goals: onGoInG collaborative StakeHolder commUnication

Emerson	Identify stakeholder (3)	IDNR (SWAP_	2015	#1a
	Establish districts (planning region) (1)	IDNR (SWAP)	2015	
	Determine/create communication channels(1)	District	2015	
	Plan Regional megs (1)	District	2015	
	Plan state mtgs. (5) Hold mtgs	IDNR District Leaders	2015	
	Brief Partners on state wide meeting	IDNR District Leaders		#1b

## Goals: identify & address GaPS in conServation efforts

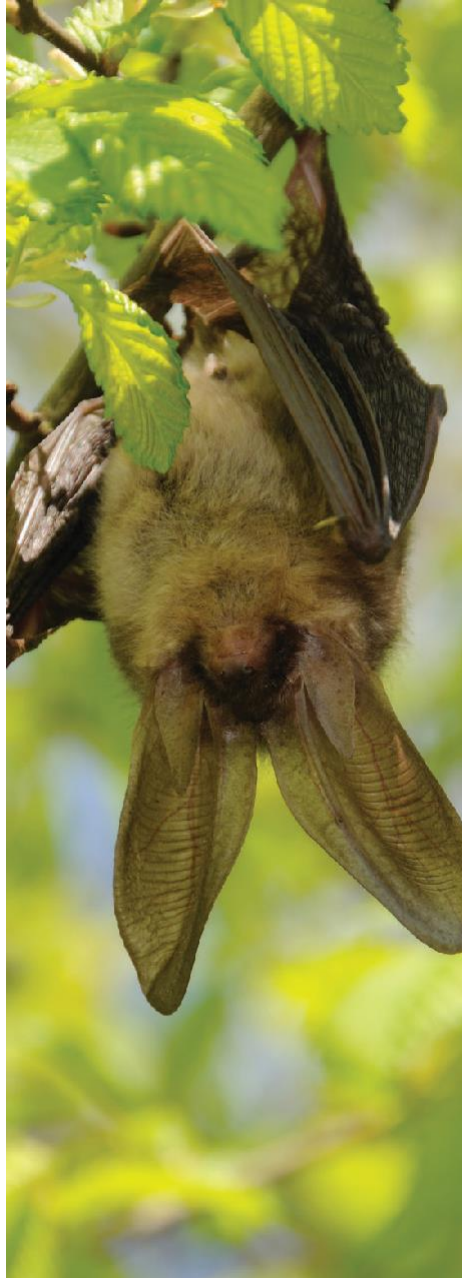
Roosevelt	- Survey conservation groups (15)	DNR	2014	#1
	- Synergize effort overlaps between groups (14)	Applicable conserve. Groups	2015- on	
	- ID SGCN in gaps	DNR	2015	
	- Develop conserve. plans for "orphaned" species (2)	DNR	2015	
	- Encourage action by conservation groups (4)	DNR	2015	

## Goals: increaSe commUnication amonG conS. orGanizations

Roosevelt	Evaluate outreach efforts (HOE, BOW, R&R, Cons. Ed) (13)	All partners by program	Ongoing	#2
	Create database of partners projects (16)	National effort ?	ASAP	
	Use social media to share activities/ ideas (4)	Each partner	Now into future	



# SWAP | alternative cyber meeting



Conservation doesn't just happen. It takes resources and collaboration.

# Indiana's State Wildlife Action Plan Kick-Off Webcast

URL: [connect.iu.edu/swap](http://connect.iu.edu/swap)

Conference Line: (800) 940-6112 or (812) 856-3600

Pin: 000986#

October 4, 2013

## Webinar Basics: Editing Your Name

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2. Click **Edit My Info...**

3. Enter your **full name** and **organization**

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IN Fish & Wildlife - SWAP (PowerPoint) - Adobe Connect

Meeting Layouts Pods Audio

Host

Attendee List

Chat

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Austin Hochstetler

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Sync



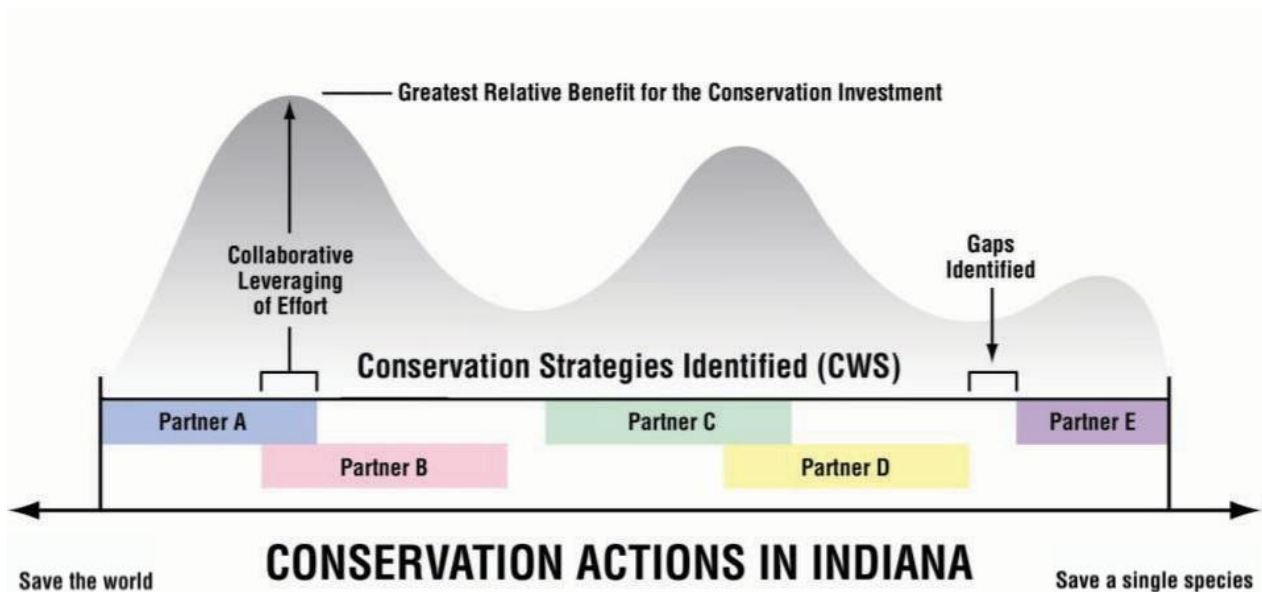
October 4, 2013

# Indiana's Vision

Indiana's State Wildlife Action Plan will be a national leader in guiding a diverse conservation community towards the shared goal of enhancing and conserving fish and wildlife resources.



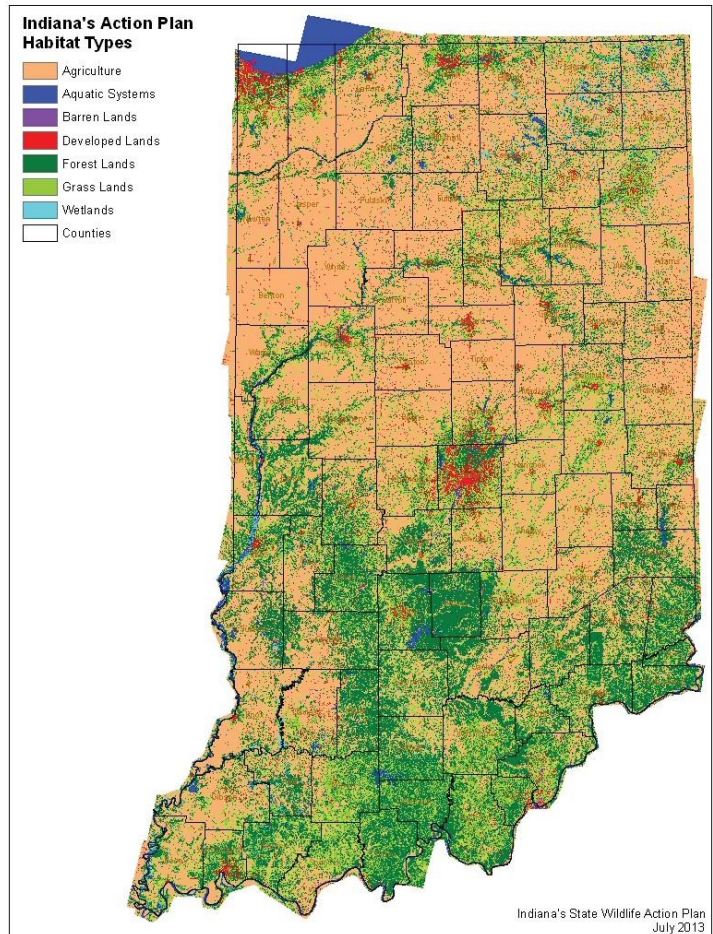
## Maximize Partnerships & Efforts



Identify conservation needs, existing partners, resources.  
Partnership overlaps identified = greater benefit  
Gaps identified = more resources needed

# Indiana's Habitats

- 60 habitats identified in 2005
- 8 major habitat types



## Major Habitat Types

- Agriculture
- Aquatic Systems
- Barren Lands
- Developed Lands
- Forests
- Grasslands
- Subterranean Systems
- Wetlands

# Four Emerging Themes

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## □ Citizens

- refers to the public opinions and interests of Indiana, who all play a role in the state's natural resources in ways they might not even realize, such as consumption of resources, political opinions, or though recreation.

## □ Conservation Community

- refers to the collective groups of organizations and people who are involved in some way with conservation or natural resources.

# Four Emerging Themes Cont...

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## □ Environment

- anything related to natural features or environmental conditions, such as fish, wildlife, plants, habitats, water quality, watersheds, ecosystems, landscapes, changing climate, invasive species, etc.

## □ Funding

- the monetary support for activities related to conservation or natural resources.



## 2013

- Follow-up report from kick-off meetings
- Check out the State Wildlife Action Plan website.  
[www.swap.dnr.in.gov](http://www.swap.dnr.in.gov)
- Continue to collect potential partner information on the website
- Participate in the partner survey




## 2014

- Results of partner survey shared
- Technical survey to identify threats and potential actions for both species of greatest conservation need and habitats
- Results of technical survey shared
- Partner meetings to discuss actions and priorities
- Set actions and priorities for each region



# 2015 & Beyond

- Public meetings to share the actions and priorities
- State Wildlife Action Plan document completed and submitted to the Feds
- Take action
- Measure success

- 
- Questions at this time?
    - Please “raise hand” using the SET STATUS icon located at the top of the screen. Please use the drop down arrow to select “raise hand” feature.
    - We will call upon you one at a time to ask your question over the phone.
    - Reminder: Please continue to mute/unmute your phone.



# Thank You!

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**State Wildlife Action Plan Website**

swap.dnr.in.gov



# SWAP | Stakeholder follow-UP meeting



Conservation doesn't just happen. It takes resources and collaboration.

# Indiana's State Wildlife Action Plan Stakeholder Follow-up Meeting

URL: [connect.iu.edu/swap](http://connect.iu.edu/swap)

October 29, 2013

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Meeting Layouts Pods Audio

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Host  
Austin Hochstetler

Attendee List

Presenters (0)  
Participants (0)

Chat (Everyone)

Chat

Presentation

Indiana's State Wildlife Action Plan  
Stakeholder Follow-up Meeting

URL: [connect.iu.edu/swap](http://connect.iu.edu/swap)

October 29, 2013

Everyone Sync

Indiana's State Wildlife Action Plan:  
Regional Meeting Summary

October 29, 2013

# Stakeholder Meetings

## Four Meetings:

- 9/26: Central
- 10/2: South
- 10/3: North
- 10/4: Web-based



## Descriptives:

- Approximately 170 stakeholders involved
- Participants spanning:
  - DNR divisions
  - State parks
  - Non-profit agencies
  - Friends groups
  - Academic institutions
  - General public - unaffiliated

# Where We Are: A Perspective

## What We Heard

- Background Info:
  - Required for federal funding
  - Habitat-based, landscape level plan
  - Focused management approach
  - Planning for species of greatest conservation need (SGCN)

## Questions?

- Garnering engagement
- Funding
- Lessons learned from previous plan
- Implementing this current plan

## Past/Current Conservation Projects

- Environment
  - Invasive species control
  - Water quality
  - Habitat management
- Conservation Community
  - Education and outreach
  - Partnerships



# Past/Current Conservation Projects

## □ Funding

- Federal
- Local
- Private

## □ Citizens

- Utilizing locals
- Outreach
- Programs



# Available Resources/Capacity



- Partnerships
- Outreach and education
- Knowledge and expertise
- Funding



# Needed Improvements

1. Communication and information sharing
2. Collaborative conservation efforts and management approaches
3. Community outreach and instilling conservation value
4. Partnerships
5. Funding and dedicated staff
6. Data-driven decision making
7. Political nexus

# Planning for the Future

- Environment
  - acquiring land and increasing acres for biodiversity and species of greatest need (SGCN)
- Funding
  - identifying and acquiring alternative and stable long-term funding sources

# Planning for the Future Continued...

- Conservation Community
  - identifying conservation partners and creating communication platforms
- Citizens
  - increasing conservation action by the general public

## Action Strategies (1 / 5)

- Land/Habitat
  - Acquire sites that target species with the greatest conservation need
  - Improve acres of habitat of greatest conservation need
  - Identify critical habitat areas and establish priorities
  - Identify invasive areas and species, eradicate and control, and evaluate

## Environment

## Action Strategies (2/5)

- Legislation
  - Lead a campaign for a conservation tax
  - Lobby individual federal legislators to keep conservation in Farm Bill, passed and ongoing
  - Provide economic incentives to landowners/corporations (e.g., tax incentives, conservation easements)

**Conservation Community,  
Citizens, Funding**

## Action Strategies (3/5)

- Marketing and Communication
  - Designate a State Wildlife Action Plan coordinator
  - Develop a marketing plan to “sell” Indiana natural resources
  - Create a communication plan that uses common language, allows for regular meetings/interfaces, identifies goals of partners, and identifies stakeholders inside and outside conservation community

**Conservation  
Community, Citizens**

## Action Strategies (4/5)

---

- Outreach and Education
  - Increase outdoor labs at schools by increasing awareness of funding
  - Identify and educate land owner programs for habitat and working lands
  - Increase literacy through K-12 programs and training for teachers

## Conservation Community, Citizens

## Action Strategies (5/5)

---

- Funding
  - Seek permanent funding

## Funding

# Conclusion(s)

---

- Central topics
  - Four emerging themes validated
- “Needed Improvements” has strong link to goals and action items identified

# Next Steps

---

- Stakeholder survey
- Recommendation report

# In Closing...

---

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**State Wildlife Action Plan Website**

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# SWAP | Promotional materials



Conservation doesn't just happen. It takes resources and collaboration.





# SWAP | Introduction and contacts

*Conservation doesn't just happen. It requires resources and collaboration.*



Thank you for your interest and participation in Indiana's State Wildlife Action Plan. The future of Indiana's natural resources depends on you. Whether you are a researcher who provides information about species and habitats, a land manager who decides daily what actions to implement, a consumer of natural resources, or someone who simply likes to see our natural resources improve over time, you are vital to ensuring the future of our natural resources.

There are numerous ways to be involved, and Indiana's Action Plan is just one way to shape our state's fish and wildlife resources. Your feedback and interactions are invaluable and we appreciate the time you devoted to this significant effort.

Please visit [SWAP.dnr.IN.gov](http://SWAP.dnr.IN.gov) for more information about the Action Plan, including notes from past meetings and the entire Plan from 2005. This site is where you can find up-to-date information about the process and ways to get involved.

We would like to recognize the folks who have been critical to the revision of the State Wildlife Action Plans so far. The Core Team consists of staff within the Indiana Division of Fish and Wildlife. Taking actions to ensure the future of our state's fish and wildlife resources begins within the Division. The Core Team represents the diversity of programs within the division, are critical to shaping the plan and ensuring the completion of the revised Action Plan. The Division can't do this alone though, as many agencies, organizations, and people affect the fish, wildlife, and the habitats they depend on. Thus, an Advisory Committee was established to represent the diversity of organizations that have influence on our natural resources. They are essential in providing feedback and guidance on the direction of the Action Plan.



Get involved and stay updated at [swap.dnr.IN.gov](http://swap.dnr.IN.gov)

For information, contact Julie Kempf ([jkempf@dnr.IN.gov](mailto:jkempf@dnr.IN.gov)) or Amanda Wuestefeld ([awuestefeld@dnr.IN.gov](mailto:awuestefeld@dnr.IN.gov)).



## Core Team:

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Steve Donabauer, Northern Fisheries Research Biologist  
Brant Fisher, Nongame Aquatic Biologist  
Kent Hanauer, Private Lands Wildlife Biologist  
Nate Levitte, Pigeon River FWA Property Manager  
Adam Phelps, Waterfowl Research Biologist  
Sam Whiteleather, Sugar Ridge FWA Property Manager  
Shannon Winks, Private Lands Wildlife Biologist

## Advisory Committee:

Dan Arndt, Duke Energy  
John Bacone, Indiana DNR, Nature Preserves  
David Bausman, Indiana State Department of Agriculture  
Greg Beilfuss, Indiana DNR, Outdoor Recreation  
Ramona Briggeman, Indiana DNR, Reclamation  
Cliff Chapman, Indiana Land Protection Alliance  
Kevin Crane, Indiana Department of Environmental Management  
Andrew DeWoody, Purdue University, Department of Forestry & Natural Resources  
Gary Dinkel, U.S. Forest Service  
Chris Gonso, Indiana DNR, Forestry  
Justin Harrington, Indiana DNR, State Parks and Reservoirs  
Laura Hilden, Indiana Department of Transportation  
Liz Jackson, Indiana Forest & Woodland Owners Association  
Jeff Kiefer, U.S. Fish and Wildlife Service  
Raoul Moore, Indiana Forest & Woodland Owners Association  
Mike Mycroft, Indiana DNR, State Parks and Reservoirs  
Brian Nentrup, Pheasants Forever  
Mark Reiter, Indiana DNR, Fish and Wildlife  
Joe Robb, U.S. Fish and Wildlife Service  
Justin Schneider, Indiana Farm Bureau  
Mike Sertle, Ducks Unlimited  
John Shuey, The Nature Conservancy  
Barb Simpson, Indiana Wildlife Federation  
Terry Smith, American Electric Power  
Stacy Sobat, Indiana Department of Environmental Management  
Mark Stacy, Indiana DNR, Reclamation  
Dave Stratman, U.S. Natural Resources Conservation Service  
Robert Swihart, Purdue University, Department of Forestry & Natural Resources

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Thank you again for your participation. We look forward to working with you.

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# SWAP | Indiana's state Wildlife action Plan

*Conservation doesn't just happen. It requires resources and collaboration.*



*The forest habitat is home to such species as the Great Horned Owl.*

## SWAP

*Creating positive change for Indiana's fish and wildlife through the work we do together is virtually limitless.*



*Indiana's aquatic systems are home to such species as the plains leopard frog.*

### The Vision

Indiana's State Wildlife Action Plan (SWAP) is a habitat-based model that incorporates all fish and wildlife species within the state. It identifies the condition of Indiana's wildlife species and habitats, the problems they face, and the actions needed to ensure the long-term success of these species and habitats. Efforts to revise Indiana's SWAP will expand and improve upon the existing information. More importantly, the SWAP will focus on strengthening partnerships to accelerate conservation in the state.

Indiana's SWAP will be a national leader in guiding a diverse conservation community toward the shared goal of enhancing and conserving fish and wildlife resources.

### A Track Record of Success

Indiana's SWAP has:

- Brought more than \$12 million since 2001 to Indiana for species of greatest conservation need.
- Protected species and habitats for Allegheny Wood Rat, Eastern Hellbender, Lake Sturgeon, Eastern Box Turtle, and many other species.
- Guided statewide conservation efforts for sister organizations and for programs like the Farm Bill.
- Created quality habitat across the state.

### Forging a Path for Future Success

By the end of 2015, Indiana will have revised the SWAP to:

- Be fully integrated throughout the state's diverse conservation community.
- Increase collaboration and bridge efforts among natural resource professionals and stewards.
- Continue protecting species of greatest conservation need.
- Establish a way to collectively track conservation activities and successes.

Creating positive change for Indiana's fish and wildlife through the work we do together is virtually limitless.



# SWAPs | State Wildlife action Plans

## *A Bold New Direction for Conservation*



In order to receive funds through the Wildlife Conservation and Restoration Program and the State Wildlife Grants Program, Congress charged each state and territory with developing a wildlife action plan. These proactive plans, known technically as “comprehensive wildlife conservation strategies,” assess the health of each state’s wildlife and habitats, identify the problems they face, and outline the actions that are needed to conserve them over the long term. The state wildlife action plans help conserve wildlife and vital natural areas before they become more rare and more costly to restore. As our communities grow, the SWAPs help us fulfill our responsibility to conserve wildlife and the lands and waters where they live for future generations.

All 50 States and five U.S. territories developed a State Wildlife Action Plan (SWAP) in 2005. State Wildlife Action Plans outline the steps that are needed to conserve wildlife and habitat before they become too rare or costly to restore. Taken as a whole, they present a national action agenda for preventing wildlife from becoming endangered. States are required to review and revise their state wildlife action plans at least every ten years.



# SWAPs | State Wildlife Action Plans overview



## Who developed the Wildlife Action Plans?

Primary responsibility for wildlife management has always rested with the States, so they have had the formal authority for developing and implementing the SWAPs. State fish and wildlife agencies have developed these strategic action plans by working with a broad array of partners, including scientists, sportsmen, conservationists, and members of the community. Working together, with input from the public, these diverse coalitions have reached agreement on what needs to be done for the full array of wildlife in every State.

## What do the Wildlife Action Plans look like?

The SWAPs are all required to assess the condition of each State's wildlife and habitats, identify the problems they face, and outline the actions that are needed to conserve them over the long term. By drawing together all of the scientific data, the SWAPs identify what needs to be done in each State to conserve wildlife and the natural lands and waters where they live— with benefits for both wildlife and people. Each SWAP reflects a different set of local issues, management needs, and priorities, so no two look alike. However, the States have been working together and with the U.S. Fish and Wildlife Service (USFWS) to ensure nationwide coordination.

## What Kinds of Actions are in the Wildlife Action Plans?

The SWAPs identify a variety of actions aimed at preventing wildlife from declining to the point of becoming endangered. By focusing on conserving the natural lands and clean waters that provide habitat for wildlife, the plans have important benefits for wildlife and people. In addition to specific conservation projects and actions, the plans describe many ways that we can educate the public and private landowners about effective conservation practices. Finally, the plans also identify the information we need in order to improve our knowledge about what kinds of wildlife are in trouble so we can decide what action to take.

## Action Plans with Deliverable Results

What makes the SWAPs different from other plans that have been drafted over the years? A focus on results for all wildlife in every State. These plans are proactive and address the needs of all wildlife in every State. By outlining the steps that need to be taken now, the SWAPs can save us money over the long term. Taken together, they create—for the first time—a nationwide approach to keeping wildlife from becoming endangered. Thus, the States play a major role in the federal endangered species program. Preventing costly endangered species listings is both cost effective and helps prevent populations from becoming too rare to restore. The USFWS endangered species program website features stories and videos of State and federal partnership to prevent and restore endangered species.

## 8 Required Elements

Congress identified eight required elements to be addressed in each state's wildlife action plan. Congress also directed that the plans must identify and be focused on the species in greatest need of conservation yet address the full array of wildlife and wildlife-related issues.

- (1) Species:** Information on the distribution and abundance of species of wildlife, including low and declining populations as the state fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the state's wildlife; and,
- (2) Habitats:** Descriptions of extent and condition of habitats and community types essential to conservation of species identified in (1); and,
- (3) Threats:** Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats; and,
- (4) Conservation Actions:** Descriptions of conservation actions proposed to conserve the identified species and habitats and priorities for implementing such actions; and,
- (5) Monitoring Species & Effectiveness:** Proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions; and,
- (6) Review & Revision:** Descriptions of procedures to review the plan at intervals not to exceed ten years; and,
- (7) Partnerships with Land Management Agencies & Tribes:** Plans for coordinating the development, implementation, review, and revision of the plan with federal, state, and local agencies and Indian tribes that manage significant land and water areas within the state or administer programs that significantly affect the conservation of identified species and habitats.
- (8) Public Participation:** Broad public participation is an essential element of developing and implementing these plans, the projects that are carried out while these plans are developed, and the species in greatest need of conservation.

*From The Association of Fish and Wildlife Agencies: <http://teaming.com/state-wildlife-action-plans-swaps>*



# History & Background | Indiana's state Wildlife Action Plan

*Conservation doesn't just happen. It requires resources and collaboration.*

## timeline

### 2005

Indiana's first State Wildlife Action Plan published. It was known then as Indiana's Comprehensive Wildlife Strategy. Since then, over \$8 million in federal funding from the State Wildlife Grant program has come to Indiana for wildlife and conservation purposes.

### Late 2011

Leaders with Indiana Division of Fish and Wildlife recognized the need to further develop and implement the Action Plan within and outside of the agency. In concurrence with the required revision due in 2015, Amanda Wuestefeld and Julie Kempf were appointed project leaders for the Action Plan. The task assigned is two-fold: 1) complete the revision according to federal regulations in order to continue receiving funding and 2) use the Action Plan as a way to increase collaboration among partners and advancing effective conservation beyond Division programs.

### 2012-2013

To focus on greater implementation of the Action Plan with the Division of Fish and Wildlife, a Core Team consisting of ten members representing numerous parts of the division was formed in 2012. As the State Fish and Wildlife Agency, this team is also responsible to make sure the revised plan is completed in 2015. In 2013, the Advisory Committee was also created to represent the greater conservation community. That is, partners who have influence or use the state's natural resources.

Both the Core Team and the Advisory Committee have been instrumental in providing feedback and guidance on the Action Plan efforts. During the past year, these groups have met several times to have very open and honest discussions about the state of Indiana's natural resources and how the Action Plan can advance conservation. In this packet, you will find summaries of those conversations and ideas that were provided. (Meeting notes are available on DNR's website at [www.swap.dnr.in.gov](http://www.swap.dnr.in.gov).)

### TODAY

The greater conservation community and general public (that's you!) are made aware of the State Wildlife Action Plan efforts. You are asked for your opinions and feedback that will help shape the direction of the Action Plan.

After today's meeting, you or someone in our organization will receive an electronic survey to collect basic information about your organization and the habitats you work with. The survey will also identify programs related to natural resources, and best ways to continue communication and engagement with your organization.

### 2014

Experts on habitats, species, and ecological issues, will be consulted with to collect information in order to identify changes that have occurred since publication of the original Plan in 2005. Specific data sought will include the current status of species and habitats, along with threats to them. These experts will also be consulted on what actions are best to reduce threats and/or to increase or stabilize declining species populations or habitat quality.

The greater conservation community will have an opportunity to review the expert information and comment on it. Focus of feedback will be on what actions are most important, relevant, and feasible for each organization or person.

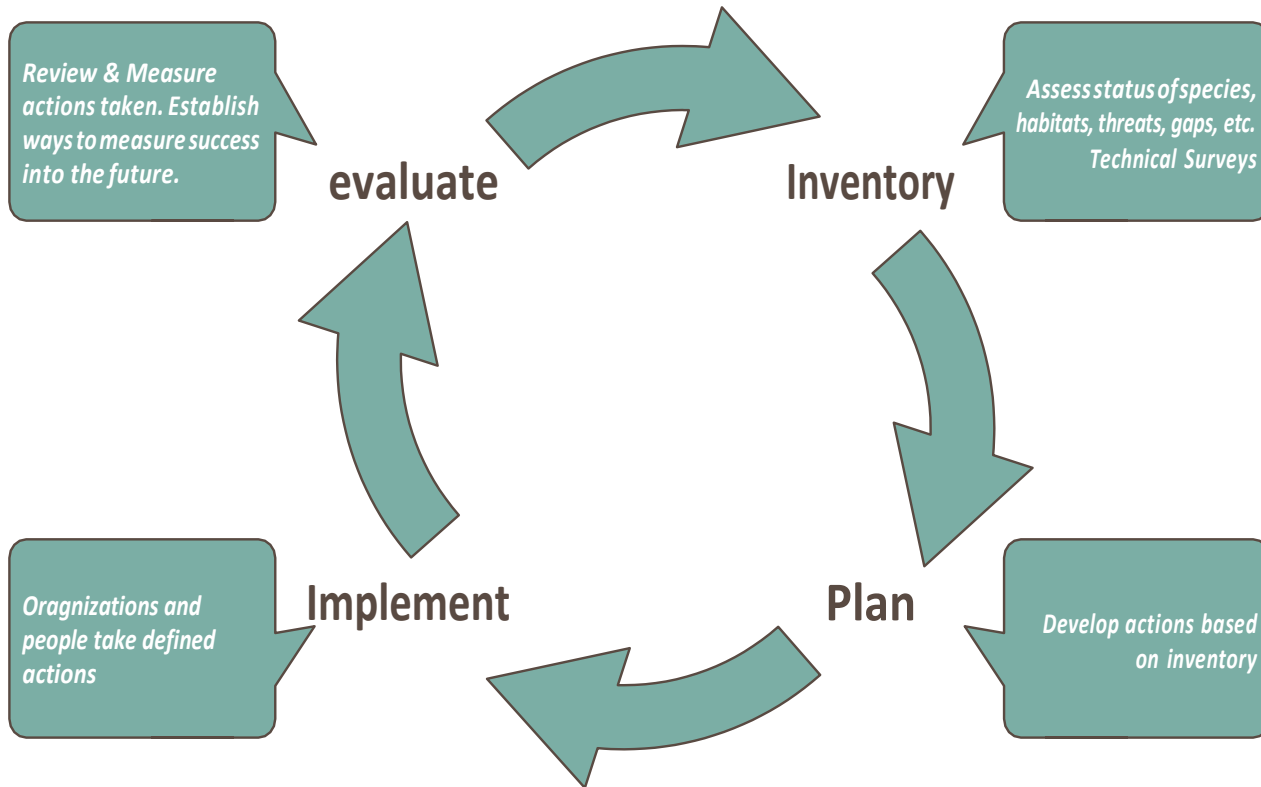
Based on the feedback from all the experts and members of the conservation community, priority actions will be identified. Actions are anticipated to be focused by habitat within each region for greatest relevancy and potential for implementation.

### 2015

Revision of the Action Plan will be finalized and submitted for federal approval to U.S. Fish and Wildlife Service.

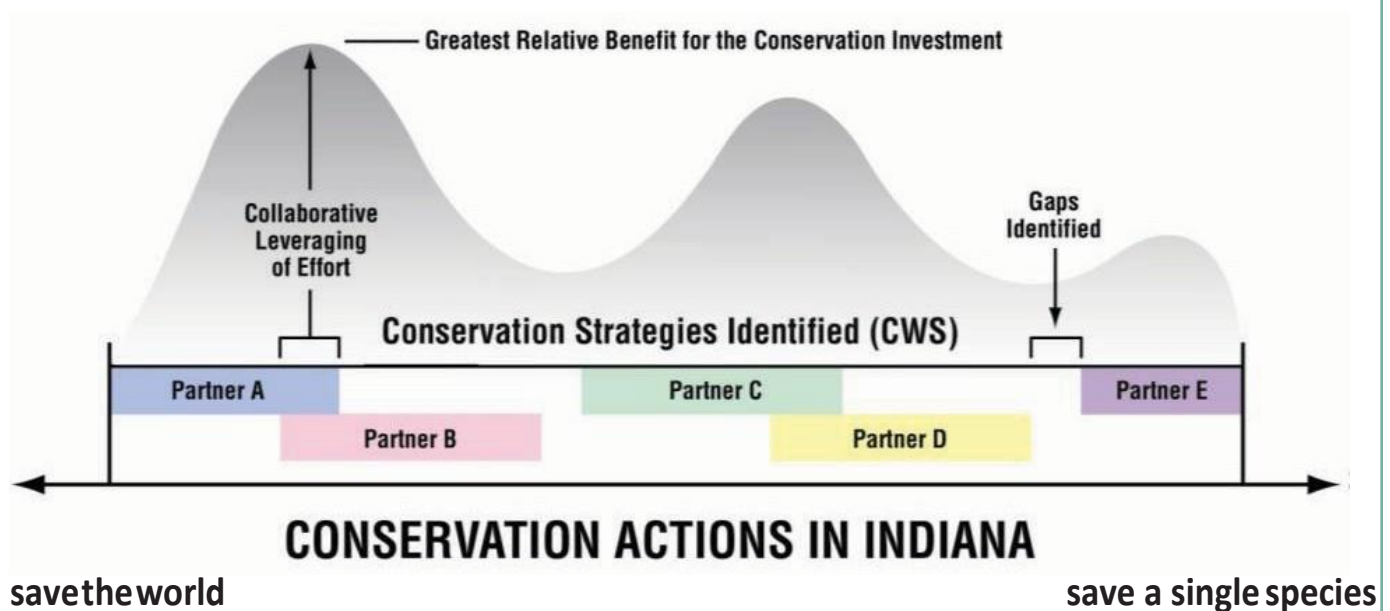
Implementation of the revised Action Plan will begin.

## stages of the state Wildlife action Plan



## the concept Behind india's Wildlife action Plan

Indiana's State Wildlife Action Plan identifies where partners can or do work collaboratively towards a single goal, whether it is driven by habitat or species. Collaboration should lead to greater conservation benefit. Actions based on habitats should also lead to greater conservation benefit than a single species as multiple species can benefit on a single habitat. Identifying gaps are also important so that crucial conservation gaps can be filled in order to advance conservation. This concept originates with the 2005 Plan and remains relevant today.



## Vision & Mission

The Core Team (consisting of Division of Fish and Wildlife staff) worked early to develop a vision and mission about what they wanted the Action Plan to be and where it would take Indiana's community.

**Vision:** Indiana's State Wildlife Action Plan (SWAP) will be a national leader in guiding a diverse conservation community towards the shared goal of enhancing and conserving fish and wildlife resources.

**Mission:** The purpose of Indiana's State Wildlife Action Plan (SWAP) is to manage, conserve, and enhance habitat and population stability for diverse fish and wildlife resources. By 2025, the SWAP will be fully integrated throughout Indiana's conservation community. The SWAP will serve to bridge the efforts of dedicated natural resource professionals and stewards, which will ultimately enrich the quality of life for all Hoosiers.

## strengths & areas for change

The earliest conversations reviewed both the state of natural resources in Indiana and the existing 2005 Action Plan. From those discussions, several areas of strengths and areas needing improvement were identified:

### Strengths

- Federal funds made available for Indiana through the Action Plan
- Opportunities for partnership began to form
- Action Plan established solid foundation for the status of habitats and species
- Plan influenced fish management within Indiana Division of Fish and Wildlife
- Recognition that conservation is bigger than Division of Fish and Wildlife. It takes everyone.

### Areas for Improvement

- Distribute and implement Plan more broadly within and outside of Division of Fish and Wildlife
- Stronger tie back to Division of Fish and Wildlife mission. (Plan was too focused on specific sections.)
- Plan identifies changes for conservation and is acted upon everyone moving toward same goals
- Need to acknowledge studies completed and results achieved
- Need to monitor and report on overall Action Plan goals and objectives

## Positive change for conservation in Indiana

Members of the Core Team and the Advisory Committee come from a variety of areas pertaining to natural resources, such as wildlife and fish biologists, researchers, watershed specialists, land management, regulatory agencies, industry groups, universities, non-profit organizations, and sportsmen's and recreation groups. Coming together presented a unique opportunity because we don't always speak the same language or agree on the specifics. However, when we began the conversations about what we valued about Indiana's natural resources, why we were invested in the Action Plan process, or what we hoped for the future of Indiana's resources, we quickly found a lot of common ground. Many members believe in needs for the conservation community to work more collaboratively towards common goals, to become more effective at conservation—avoiding “random acts of conservation,” and for people to generally care more about our land and resources. It was clear that we all came together to create positive change for Indiana and to accelerate conservation in the state.

## opportunities for Indiana's state Wildlife action Plan

Below is a sample of responses about the types of opportunities that might be presented by Indiana's Wildlife Action Plan.

- Provide guidance on fish and wildlife resources to organizations and people outside of the Division of Fish and Wildlife
- Increase frequency and effectiveness of partnerships
- Concentrate actions on habitats, ecosystems, and landscape conservation
- Expand political support for conservation
- Connect people and wildlife
- Focus where conservation funds are spent to increase effectiveness and avoid “random acts of conservation”
- Generate or leverage funds from sources not previously utilized
- Evaluate and demonstrate conservation successes

## Four Emerging themes for conservation

The Core Team and Advisory Committee were asked to complete the sentence: “We know Indiana has been successful at conserving and managing natural resources when...” The responses varied greatly from specific on-the-ground activities to broad changes at a 10,000-foot level. In general, though, all responses could be characterized within at least one of four different themes, or topics, listed below.

- **Environment** – anything related to natural features or environmental conditions, such as fish, wildlife, plants, habitats, water quality, watersheds, ecosystems, landscapes, changing climate, invasive species, etc.
- **Conservation Community** – refers to the collective groups of organizations and people who are involved in some way with conservation or natural resources.
- **Funding** – this is the monetary support for activities related to conservation or natural resources.
- **Citizens** – refers to the public opinions and interests of Indiana, who all play a role in the state’s natural resources in ways they might not even realize, such as consumption of resources, political opinions, or though recreation.

Whenever the groups met, the topics and issues during the Action Plan discussions always seemed to relate back to these four themes. The themes are also interconnected, as often times, components of the themes related back to the others. The following sections summarize in more detail the conversations for each theme and its significance or relevancy.

### Environment

The environment theme encompasses the natural features and environmental conditions relevant to functional ecosystems and their components. At the heart of State Wildlife Action Plan are the biological and ecological components. The Action Plan is intended to manage, conserve, and enhance habitat and population stability for diverse fish and wildlife resources. Habitats and species are obvious components of the environment, along with environmental conditions or landscape features that affect the presence of habitats and species or the quality of them. Examples include water quality and quantity; habitat size, composition, and functionality; and presence or absence of management activities.

Indiana contains a mosaic of natural communities managed across multiple jurisdictions. Functional and diverse ecosystems depend on a variety of factors, but having them is essential to the fish and wildlife in the state. As the environment is the foundation to fish, wildlife, and their habitats, the environment emerged as an obvious theme for the Action Plan.

### conservation community

Indiana’s conservation community is the collective group of organizations and people who are involved with the state’s natural resources and conservation. It is a broad and diverse group, ranging from public land managers to researchers, from consumptive users to preservation advocates. The conservation community consists of non-profits, for-profits, and government agencies. The Advisory Committee and the organizations they represent is just a sample of the conservation community.

The conservation community is not a formal or organized entity. Conservation is the common ground for the very diverse group, even though each group is driven towards conservation for an equally diverse number of reasons. Opportunities to share with each other are far and few in between. Building the community to form shared vision, goals, and priorities, as well as the opportunity for communication can be very powerful. With a united front, conservation actions can become more consistent and effective, doing and taking conservation to a whole new level. These are the primary reasons why the conservation community concept has been desired within the Core Team and Advisory Committee thus far. Bridging the efforts of dedicated natural resource professionals and stewards across the state begin with a strong conservation community.

## Funding

Money makes the world go round. That is no different when it comes to conservation. All conservation activities have financial support from somewhere. Being able to generate, plan, and direct funds that results in effective conservation is essential. The funding theme refers to the various types of monetary support for activities related to conservation or natural resources.

The State Wildlife Action Plan is a requirement in order for states to receive federal funds from the State Wildlife Grant program. Since the original Action Plan was published in 2005, the State of Indiana has received over \$8 million from this program. This is just a drop in the bucket, however, when you consider the full range of potential. The Action Plan is much bigger and influences conservation and funding from numerous other sources. Programs within the Farm Bill may refer to the Action Plans as a criterion to qualify for funding through the Farm Bill. Private funding programs, such as the Doris Duke Charitable Foundation, have directed funds to projects that tied directly to State Wildlife Action Plans. The high-priority actions listed by habitat within the Action Plan have been used to set property management plans. New legislation may require the Action Plans to be used in new funding programs. The possibilities are endless. Being able to leverage funds to advance conservation is the reason why funding has emerged as reoccurring them for the State Wildlife Action Plan.

## citizens

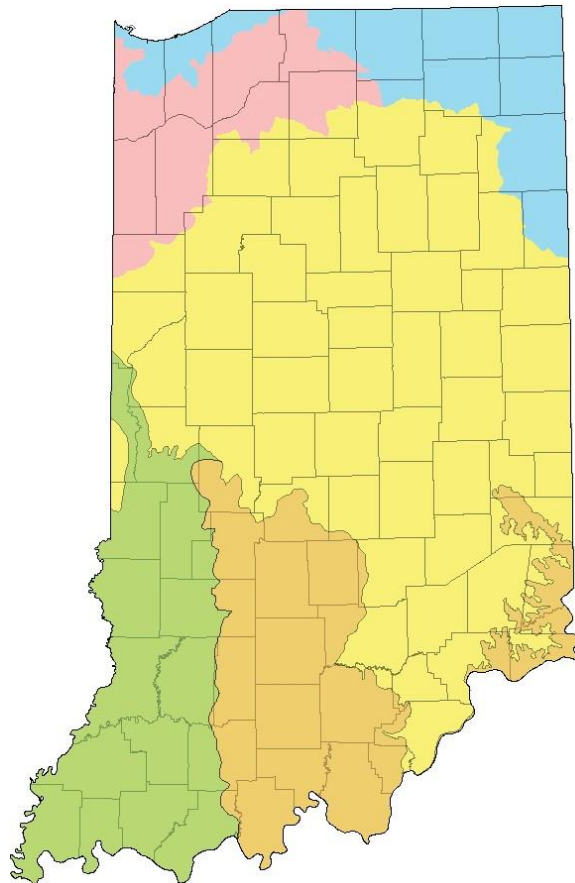
The state's fish and wildlife resources belong to the people of Indiana. The Indiana Division of Fish and Wildlife is charged, by state statute, to "provide for the protection, reproduction, care, management, survival and regulation of wild animals populations..." and to "pursue a program of research and management of wild animals that will serve the best interests of the resources and the people of Indiana."

All citizens have some impact on the state's fish and wildlife resources, either directly or indirectly. A landowner who establishes a prairie or wetland is creating habitat for wildlife, regardless of their motivation. Someone who consumes a lot of energy is likely unaware of the indirect effects their actions may have on the extraction of natural resources and thus potential loss of habitat. The visitors of our public lands who desire more recreational opportunities might result in less habitat, but at the same time, it may also bring a greater awareness of the environment to the people. In general, citizens help spread messages and education, they vote, and they have opportunities to provide input and participate in actions needed to conserve and manage natural resources.

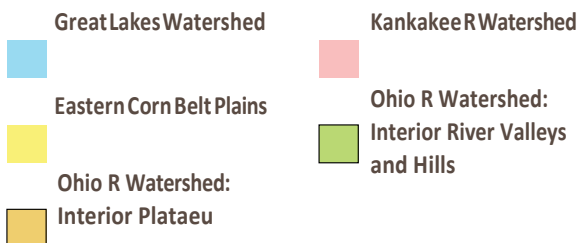
There is no doubt why, then, people have been a reoccurring theme in the Action Plan discussions. Citizen interest, opinions, and engagement matters.



# Planning Regions for Indiana State Wildlife Action Plan (Basemap)



## Legend



Indiana's State Wildlife Action Plan needs to include planning regions to better focus actions and priorities based on regional resources, needs, and threats. The existing State Wildlife Action Plan identifies roughly 60 unique habitat types classified within 8 major habitat categories: agriculture, aquatic systems, barren lands, developed lands, forests, grasslands, subterranean systems, and wetlands. Each habitat category is, for the most part, viewed at the state level. Describing regions within Indiana's Action Plan explicitly recognizes that each habitat type varies across the state, including needs, threats, and actions associated with the habitat. A regional approach will also help identify priorities and focus organizations on most relevant actions for a given area.

The regions for Indiana's State Wildlife Action Plan were chosen to reflect both aquatic and terrestrial systems. It is important to consider both types not only because the Plan examines them, but also because of the need to bridge efforts across programs and organizations when possible to maximize the potential for conservation and management. The regions are broad yet reasonable representations of the wildlife and habitats within each region.

A variety of regional maps for Indiana were reviewed, including multiple watershed classifications using the hydrologic unit codes (HUC), Bird Conservation Regions, Omernik's ecoregions, Bailey's ecoregions, and Homoya's natural regions. For Indiana's State Wildlife Action Plan, regions chosen were first based on the three major watersheds present in Indiana: Kankakee River, Great Lakes, and Ohio River. The Kankakee and Great Lakes regions are adequate representations of their natural communities without further subdivision. However, the Ohio River watershed consists of 2/3rds of Indiana and contains too many differences of wildlife and habitats to be an effective planning region. Therefore, the Ohio River watershed was further divided using Omernik's level 3 ecoregions for southern Indiana: the Interior River Valleys and Hills and the Interior Plateau.

Regions based on Omernik's and Homoya's systems are very similar for southern Indiana. The main difference is another distinct region of southeast Indiana within Homoya's system. Omernik was chosen because the fish, wildlife, and habitats of southeast Indiana are similar enough to central Indiana for planning purposes. Using Omernik is also consistent with the existing plan that incorporates this classification for wadeable/large rivers in the Ohio River drainage area. If a need for a separate southeast Indiana region is identified in the near future, the classification could be modified.

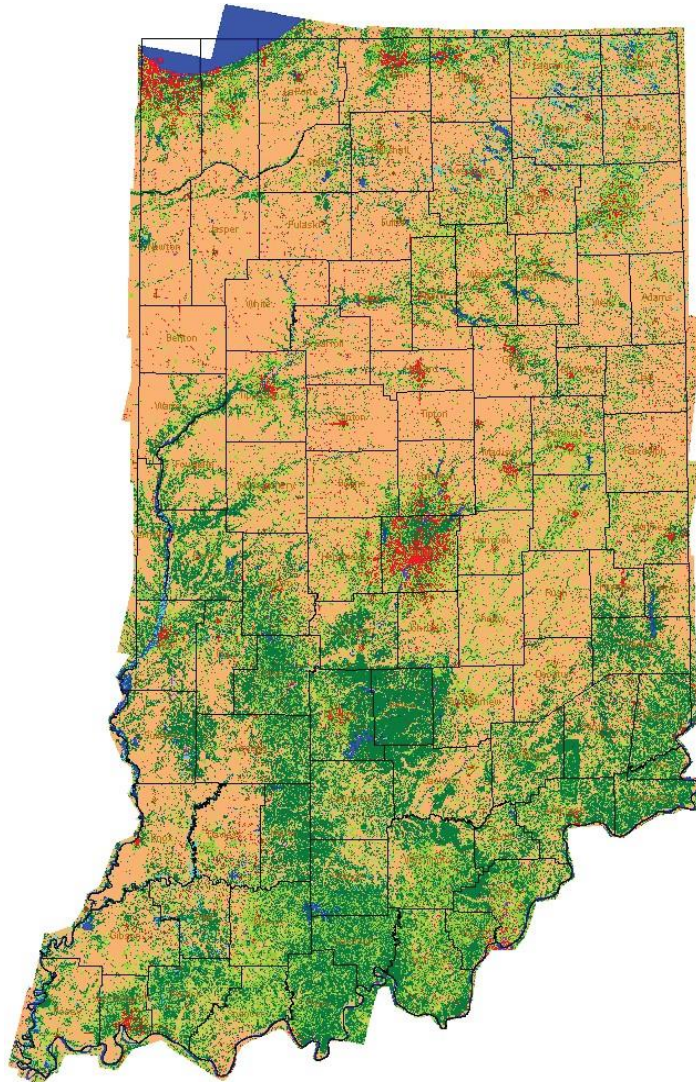
The resulting regional map for Indiana's State Wildlife Action Plan will have 5 planning regions and are presented to the left.

# SWAP All HABitAt types

*A composite of all major habitats found in Indiana.*

## Legend

-  Agriculture
-  Aquatic systems
-  barren lands
-  Developed lands
-  Forest lands
-  Grasslands
-  Wetlands
-  Counties





# Conservation aCtions needs for habitats

*Ranked conservation efforts needed for each major habitat type.*

Conservation Action	All Habitats Combined	Agricultural	Aquatic Systems	Barren Lands	Developed Lands	Forest Lands	Grasslands	Subterranean Systems	Wetlands
<b>Habitat protection on public lands</b>	1	1 (tie)	5	2	3 (tie)	3	2	5	1
<b>Cooperative land management agreements</b> (conservation easements)	2		4	3 (tie)	3 (tie)	8	3	2	3
<b>Habitat restoration on public lands</b>	3	1 (tie)	3	3 (tie)	2	4	4	7 (tie)	4
<b>Habitat restoration incentives</b> (financial)	4	2 (tie)	1	3 (tie)	1 (tie)	7 (tie)	1	7 (tie)	9 (tie)
<b>Land use planning</b>	5		9 (tie)	3 (tie)	1 (tie)	2	7	4	6 (tie)
<b>Habitat protection incentives</b> (financial)	6	1 (tie)	6	3 (tie)	1 (tie)	5 (tie)	10	7 (tie)	7 (tie)
<b>Corridor development/protection</b>	7		8	3 (tie)	3 (tie)	5 (tie)	6	7 (tie)	5
<b>Succession control</b> (fire mowing)	8		10	3 (tie)	1 (tie)	5 (tie)	12		2
<b>Habitat restoration through regulation</b>	9	2 (tie)	9 (tie)	3 (tie)	3 (tie)	6	9 (tie)	7 (tie)	8
<b>Restrict public access and distribution</b>	10		7 (tie)	1	5 (tie)	7 (tie)	8	3	11
<b>Protection of adjacent buffer zone</b>	11		2	3 (tie)	4 (tie)	9 (tie)	13 (tie)	7 (tie)	6 (tie)
<b>Artificial habitat creation</b> (artificial reefs, nesting platforms)	12	2 (tie)	11		1 (tie)		13 (tie)	7 (tie)	7 (tie)
<b>Habitat protection through regulation</b>	13		12		5 (tie)	7 (tie)	11	6	10
<b>Technical assistance</b>	14	1 (tie)	13	3 (tie)	5 (tie)	9 (tie)	9 (tie)	1	12
<b>Selective use of functionally equivalent exotic species in place of extirpated natives</b>	15		14		7	1	5		13
<b>Managing water regimes</b>	16		7 (tie)		4 (tie)	9 (tie)	13 (tie)	7 (tie)	9 (tie)
<b>Pollution reduction</b>	17		7 (tie)	3 (tie)	6	9 (tie)	13 (tie)	7 (tie)	14

# Conservation aCtion needed for speCies in eaCh of the habitats

*Ranked conservation efforts needed for wildlife by each major habitat type.*

Conservation Action	All Habitats Combined	Agricultural	Aquatic Systems	Barren Lands	Developed Lands	Forest Lands	Grasslands	Subterranean Systems	Wetlands
<b>Population management</b> (hunting, trapping)	1		2		3 (tie)	2	1		2 (tie)
<b>Protection of migration routes</b>	2		4	2 (tie)	1	1 (tie)	4		3
<b>Habitat protection</b>	3	1	5	1	3 (tie)	1 (tie)	6	1 (tie)	5
<b>Reintroduction (restoration)</b>	4		1	2 (tie)	6 (tie)				1 (tie)
<b>Stocking</b>	5		6		6 (tie)				1 (tie)
<b>Food plots</b>	6		9 (tie)		3 (tie)	3	5		2 (tie)
<b>Regulation of collecting</b>	7		11 (tie)	2 (tie)	2	4	7 (tie)	1 (tie)	6
<b>Translocation to new geographic range</b>	8		3	2 (tie)	6 (tie)				9 (tie)
<b>Public education to reduce human disturbance</b>	9		11 (tie)	2 (tie)	4	6 (tie)	2	3	9 (tie)
<b>Threats reduction</b>	10		8	3	6 (tie)	5		2	8
<b>Exotic/invasive species control</b>	11	2	12 (tie)	2 (tie)	6 (tie)	6 (tie)	3		7
<b>Population enhancement</b> (captive breeding and release)	12		10	2 (tie)	6 (tie)	6 (tie)			
<b>Limiting contact with pollutants/contaminants</b>	13		11 (tie)	2 (tie)	5	6 (tie)	7 (tie)	4	
<b>Native predator control</b>	14		9 (tie)	2 (tie)	6 (tie)	6 (tie)	7 (tie)		9 (tie)
<b>Culling/selective removal</b>	15		7		6 (tie)	6 (tie)			9 (tie)
<b>Disease and parasite management</b>	16		12 (tie)		6 (tie)	6 (tie)			4

# Problems Affecting Habitats

*Ranked threats to each major habitat type in Indiana.*

Habitat	All Habitats Combined	Agricultural	Aquatic Systems	Barren Lands	Developed Lands	Forest Lands	Grasslands	Subterranean Systems	Wetlands
<b>Habitat degradation</b>	1	2	2	1	2 (tie)	3	1	1	1
<b>Commercial or residential development</b> (sprawl)	2	3	5	4	1	1	4	2	4
<b>Agricultural/Forestry practices</b>	3	4	4	5	7	4	3	4	3
<b>Habitat fragmentation</b>	4	1	8	2 (tie)	8	2	5	6	2
<b>Counterproductive financial incentives or regulations</b>	5	7 (tie)	13	2 (tie)	4	7	6	13	6 (tie)
<b>Point source pollution</b> (continuing)	6	7 (tie)	6	7 (tie)	5	12	10	5 (tie)	6 (tie)
<b>Invasive/non-native species</b>	7	6 (tie)	11	3	10 (tie)	6	7	11	8
<b>Nonpoint source pollution</b>	8	8 (tie)	3	7 (tie)	9	11 (tie)	12	7	5
<b>Successional change</b>	9	5	14	6	12	5	2	12	6 (tie)
<b>Stream channelization</b>	10		1		2 (tie)	10	15	10 (tie)	10
<b>Residual contamination</b> (persistent toxins)	11	8 (tie)	10	8	3	13	8	5 (tie)	12
<b>Drainage practices</b> (stormwater runoff)	12	6 (tie)	7	7 (tie)	6	14	13	9	7
<b>Mining/acidification</b>	13	6 (tie)	12		13	9	9	8	11
<b>Impoundment of water/Flow regulation</b>	14		9		4	11 (tie)	16	10 (tie)	9
<b>Climate change</b>	15		15		11		11	3	13
<b>Diseases</b> (of plants that create habitat)	16		16		10 (tie)	8	14		14

# Problems affecting Wildlife in each major habitat type

*Ranked threats to wildlife by major habitat type in Indiana.*

Habitat	All Habitats Combined	Agricultural	Aquatic Systems	Barren Lands	Developed Lands	Forest Lands	Grasslands	Subterranean Systems	Wetlands
<b>Habitat loss</b> (breeding range)	1	1	1	4 (tie)	8 (tie)	1 (tie)	1	1	1
<b>Habitat loss</b> (feeding etc.)	2	3	2	3	9 (tie)	1 (tie)	2	2	2
<b>Degradation of movement/migration routes</b>	3		4	6	1	2	6	5	5
<b>Dependence on irregular resources</b>	4	2	5	5 (tie)	8 (tie)	10	5	8	3
<b>High sensitivity to pollution</b>	5	7 (tie)	3		3	12	11	4 (tie)	10
<b>Predators</b> (native and domesticated)	6	4 (tie)	9	5 (tie)	9 (tie)	4	4	9	7
<b>Bioaccumulation of contaminants</b>	7	5	7		5	11 (tie)	7	4 (tie)	6
<b>Viable reproductive population size</b>	8		8	1	11	3	9	10	8
<b>Invasive/non-native species</b>	9	4 (tie)	6	7	7	8	3	13	11
<b>Diseases/Parasites</b>	10		10	2	2	5	12	12	13
<b>Specialized reproductive behavior</b>	11		6 (tie)	8 (tie)	12 (tie)	7	13	3	9
<b>Unintentional take</b>	12	8 (tie)	11	8 (tie)	9 (tie)	6	8	6	12
<b>Small native range</b> (high endemism)	13	6 (tie)	14	5 (tie)	14	9	10	7	14
<b>Near limits of natural geographic range</b>	14	6 (tie)	15	4 (tie)	13 (tie)	13	15	11	4
<b>Species overpopulation</b>	15		17		4	14			17
<b>Dependence on other species</b>	16	7 (tie)	12		10 (tie)	18	16		19
<b>Genetic pollution</b> (hybridization)	17	8 (tie)	16		6	16			15
<b>Large home range requirements</b>	18		19	10	13 (tie)	11 (tie)	14	15	16
<b>Unregulated take</b>	19		18	9	10 (tie)	15	18	14	18
<b>Regulated hunting/fishing pressure</b> (too much)	20		13		12 (tie)	17	17		20

# Indiana's species of Greatest conservation need

## State

**STATE ENDANGERED:** Any animal species whose prospects for survival or recruitment within the state are in immediate jeopardy and are in danger of disappearing from the state. This includes all species classified as endangered by the federal government that occur in Indiana.

**SPECIAL CONCERN:** Any animal species requiring monitoring because of known/suspected limited abundance or distribution or because of a recent change in legal status or required habitat.

## Federal

**FEDERALLY ENDANGERED:** Any species that is in danger of extinction throughout all or a significant portion of its range. Designated with (FE).

**FEDERALLY THREATENED:** Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Designated with (FT).

**FEDERAL CANDIDATE:** These species have been submitted for review for protection under the Federal Endangered Species Act. If added to the federal list, they will automatically be considered a state endangered species. Designated with (FC).

### State Endangered

Gray Myotis (FE)  
Indiana Myotis (FE)  
Evening Bat  
Swamp Rabbit  
Franklin's Ground Squirrel  
Allegheny Woodrat

Myotis grisescens  
Myotis sodalis  
Nycticeius humeralis  
Sylvilagus aquaticus  
Spermophilus franklinii  
Neotoma magister



Ground Squirrel

### State Endangered

Trumpeter Swan  
American Bittern  
Least Bittern  
Black-crowned Night-Heron  
Yellow-crowned Night-Heron  
Osprey  
Northern Harrier  
Peregrine Falcon  
Black Rail  
King Rail  
Virginia Rail  
Common Moorhen  
Whooping Crane (FE)  
Piping Plover (FE)  
Upland Sandpiper  
Least Tern (FE)  
Black Tern  
Barn Owl  
Short-eared Owl  
Loggerhead Shrike  
Sedge Wren  
Marsh Wren  
Golden-winged Warbler  
Kirtland's Warbler (FE)  
Cerulean Warbler  
Henslow's Sparrow  
Yellow-headed Blackbird

Cygnus buccinator  
Botaurus lentiginosus  
Ixobrychus exilis  
Nycticorax nycticorax  
Nyctanassa violacea  
Pandion haliaetus  
Circus cyaneus  
Falco peregrinus  
Laterallus jamaicensis  
Rallus elegans  
Rallus limicola  
Gallinula chloropus  
Grus americana  
Charadrius melodus  
Bartramia longicauda  
Sternula antillarum  
Chlidonias niger  
Tyto alba  
Asio flammeus  
Lanius ludovicianus  
Cistothorus platensis  
Cistothorus palustris  
Vermivora chrysoptera  
Dendroica kirtlandii  
Dendroica cerulea  
Ammodramus henslowii  
Xanthocephalus xanthocephalus

## Mammals

Smoky Shrew  
Pygmy Shrew  
Star-nosed Mole  
Southeastern Myotis  
Little Brown Myotis  
Northern Myotis  
Silver-haired Bat  
Eastern Pipistrelle  
Red Bat  
Hoary Bat  
Rafinesque's Big-eared Bat  
Plains Pocket Gopher  
River Otter  
Least Weasel  
Badger  
Bobcat

### Special Concern

Sorex fumeus  
Sorex hoyi  
Condylura cristata  
Myotis austroriparius  
Myotis lucifugus  
Myotis septentrionalis  
Lasionycteris noctivagans  
Perimyotis subflavus  
Lasiurus borealis  
Lasiurus cinereus  
Corynorhinus rafinesquii  
Geomys bursarius  
Lontra canadensis  
Mustela nivalis  
Taxidea taxus  
Lynx rufus

## Birds

Great Egret  
Mississippi Kite  
Bald Eagle  
Sharp-shinned Hawk  
Red-shouldered Hawk  
Broad-winged Hawk  
Sandhill Crane  
American Golden-Plover  
Solitary Sandpiper  
Greater Yellowlegs  
Ruddy Turnstone  
Buff-breasted Sandpiper  
Short-billed Dowitcher  
Wilson's Phalarope  
Common Nighthawk  
Whip-poor-will  
Black-and-white Warbler  
Worm-eating Warbler  
Hooded Warbler  
Western Meadowlark

### Special Concern

Ardea alba  
Ictinia mississippiensis  
Haliaeetus leucocephalus  
Accipiter striatus  
Buteo lineatus  
Buteo platypterus  
Grus canadensis  
Pluvialis dominica  
Tringa solitaria  
Tringa melanoleuca  
Arenaria interpres  
Tryngites subruficollis  
Limnodromus griseus  
Phalaropus tricolor  
Chordeiles minor  
Caprimulgus vociferus  
Mniotilta varia  
Helmitheros vermivorum  
Wilsonia citrina  
Sturnella neglecta

### State Endangered

Northern Brook Lamprey	Ichthyomyzon fossor
Lake Sturgeon	Acipenser fulvescens
Redside Dace	Clinostomus elongatus
Pallid Shiner	Hybopsis amnis
Greater Redhorse	Moxostoma valenciennesi
Northern Cavefish	Amblyopsis spelaea
Bantam Sunfish	Lepomis symmetricus
Variagate Darter	Etheostoma variatum
Channel Darter	Percina copelandi
Gilt Darter	Percinaevides

### State Endangered

Fanshell (FE)	Cyrogenia stegaria
White Catspaw (FE)	Epioblasma obliquata perobliqua
Northern Riffleshell (FE)	Epioblasma torulosa rangiana
Tubercled Blossom (FE)	Epioblasma torulosa torulosa
Snuffbox	Epioblasma triquetra
Longsolid	Fusconaia subrotunda
Pink Mucket (FE)	Lampsilis abrupta
White Wartback (FE)	Plethobasus cicatricosus
Orangefoot Pimpleback (FE)	Plethobasus cooperianus
Sheepnose (FC)	Plethobasus cyphus
Clubshell (FE)	Pleurobema clava
Rough Pigtoe (FE)	Pleurobema plenum
Pyramid Pigtoe	Pleurobema rubrum
Fat Pocketbook (FE)	Potamilus capax
Rabbitsfoot	Quadrula cylindrica cylindrica

### State Endangered

Hellbender	Cryptobranchus alleganiensis
Green Salamander	Aneides aeneus
Four-toed Salamander	Hemidactylium scutatum
Red Salamander	Pseudotriton ruber
Crawfish Frog	Lithobates areolatus

### State Endangered

Alligator Snapping Turtle	Macrochelys temminckii
Eastern Mud Turtle	Kinosternon subrubrum
Spotted Turtle	Clemmys guttata
Blanding's Turtle	Emydoidea blandingii
Hieroglyphic River Cooter	Pseudemys concinna
Ornate Box Turtle	Terrapene ornata
Scarlet Snake C	Emphora coccinea
Kirtland's Snake	Clonophis kirtlandii
Copperbelly Water Snake (FT†)	Nerodia erythrogaster
Smooth Green Snake	Opheodrys vernalis
Southeastern Crowned Snake	Tantilla coronata
Butler's Garter Snake	Thamnophis butleri
Cottonmouth	Agkistrodon piscivorus
Timber Rattlesnake	Crotalus horridus
Massasauga (FC)	Sistrurus catenatus

† Only the northern population of copperbelly water snake is federally threatened.

## Fish

### Special Concern

Pugnose Shiner	Notropis anogenus
Bigmouth Shiner	Notropis dorsalis
Longnose Dace	Rhinichthys cataractae
Longnose Sucker	Catostomus catostomus
Northern Madtom	Noturus stigmosus
Ohio River Muskellunge	Esox masquinongy ohioensis
Cisco	Coregonus artedi
Lake Whitefish	Coregonus clupeaformis
Trout-perch	Percopsis omiscomaycus
Slimy Sculpin	Cottus cognatus
Western Sand Darter	Ammocrypta clara
Spotted Darter	Etheostoma maculatum
Cypress Darter E	theostoma proeliare
Tippecanoe Darter	Etheostoma tippecanoe
Banded Pygmy Sunfish	Elassoma zonatum

## Mollusks

### Special Concern

Wavyrayed Lampmussel	Lampsilis fasciola
Round Hickorynut	Obovaria subrotunda
Ohio Pigtoe	Pleurobema cordatum
Kidneyshell	Ptychobranchus fasciolaris
Salamander Mussel	Simpsonaias ambigua
Purple Lilliput	Toxolasma lividus
Ellipse	Venusta concha ellipsiformis
Rayed Bean (FC)	Villosa fabalis
Little Spectaclecase	Villosa lienosa
Pointed Campeloma	Campeloma decisum
Swamp Lymnaea	Lymnaea stagnalis

\* It is illegal to take or possess live mussels and mussel shells of any species of native mussel from the waters of Indiana.

## amphibians

### Special Concern

Common Mudpuppy	Necturus maculosus
Streamside Salamander	Ambystoma barbouri
Blue-spotted Salamander	Ambystoma laterale
Northern Cricket Frog	Acris crepitans
Plains Leopard Frog	Lithobates blairi
Northern Leopard Frog	Lithobates pipiens

## reptiles

### Special Concern

Eastern Box Turtle	Terrapene carolina
Mud Snake	Farancia abacura
Rough Green Snake	Opheodrys aestivus
Western Ribbon Snake	Thamnophis proximus



Support the conservation of Indiana's nongame and endangered species by donating to the Nongame Fund. The money you donate goes directly to the protection and management of more than 750 wildlife species in Indiana. Look for the eagle logo on your Indiana state tax form to donate all or part of your refund. Or to donate directly write to:

Nongame Fund  
402 W. Washington St. Rm W273  
Indianapolis, IN 46204.

# STATE WILDLIFE ACTION PLANS

## Preventing Wildlife from Becoming

# ENDANGERED

*A State and Federal Partnership for Conserving Species & Ecosystems*

### State Wildlife Grants

The **State and Tribal Wildlife Grants Program** provides federal money to every state and territory for cost-effective conservation aimed at preventing wildlife from becoming endangered and keeping common species common. For more than a decade, states and their partners have used this program to combat invasive species, protect natural areas, restore habitat, conduct research, and implement monitoring programs that will provide better data on imperiled species and their habitats. The highly accountable program supports an existing infrastructure for addressing wildlife needs and has created thousands of jobs employing biologists, private contractors, and construction workers in rural and urban communities nationwide.

Funding through the **State and Tribal Wildlife Grants Program** enables the implementation **State Wildlife Action Plans**.



These plans, which have been developed by every state and territory, are a primary tool for keeping fish and wildlife healthy and off the list of federally threatened and endangered species. **State Wildlife Action Plans** are unique in that they were developed by the nation's top wildlife conservationists in collaboration with private citizens and community partners.

Each state and territory receives on average about \$1.2 million annually in apportioned funds through the program. Competitive grants are made available to tribes and to states for multistate projects. Although **State Wildlife Action Plans** have demonstrated continued successes in conserving fish and wildlife, complete effectiveness is limited without full implementation. **The principal barrier to implementation of the plans is a lack of sustainable funding. It is estimated that full implementation would exceed \$1 billion annually.** Funding for full implementation, however, is unattainable in the current financial climate. **At minimum, restoring funding to \$90 million is needed to maintain the current levels of success for this program.**



**TEAMING WITH WILDLIFE**  
*a natural investment*

The more than 6,300-member **Teaming With Wildlife Coalition** includes state fish and wildlife agencies, wildlife biologists, hunters, anglers, birdwatchers, hikers, nature-based businesses and other conservationists who support the goal of restoring and conserving our nation's wildlife.

#### Steering Committee

*American Fisheries Society  
Association of Fish and Wildlife Agencies  
Association of Zoos and Aquariums  
Congressional Sportsmen's Foundation  
Izaak Walton League of America  
National Audubon Society  
National Wild Turkey Federation  
National Wildlife Federation  
The Nature Conservancy  
Theodore Roosevelt Conservation  
Partnership  
The Wildlife Society  
Wildlife Conservation Society  
Wildlife Management Institute*



For more information regarding ongoing efforts to conserve our nation's wildlife visit [www.teaming.com](http://www.teaming.com)





## Investing in State Fish & Wildlife Conservation

### IMPORTANCE OF WILDLIFE CONSERVATION

The viability of fish and wildlife populations is essential to the future of the ecosystems to which they contribute and on which we depend for services, such as providing clean water through watershed protection, protecting our communities through flood prevention, and maintaining clean air through carbon sequestration. It is only through diverse representation of wildlife populations and the functions they sustain that our nation's ecosystems remain healthy and productive for future generations. In the United States, fish and wildlife are a protected public resource, held in trust for all citizens. This is not solely the duty of one level of government; effective and efficient wildlife management requires a strong state and federal partnership.

All entities – ranging from policymakers to biologists – have a responsibility to be stewards of our nation's fish and wildlife and the habitats on which they depend.

### PROTECTING OUR NATURAL HERITAGE

At the beginning of the 20<sup>th</sup> century, Congress recognized its role as stewards of our nation's fish and wildlife and passed the Pittman-Robertson and Dingell-Johnson Acts in 1950 and 1963, respectively, dedicating an excise tax on firearms, ammunition, and sport fishing equipment to the conservation of wildlife. These acts have provided state fish and wildlife agencies with over \$10 billion in formula-based funding for the conservation of game species and serve as a model for successful collaboration between federal and state governments.

### A MAJOR GAP

Despite the success of these programs, many fish and wildlife species continue to decline. More than 95% of fish and wildlife held in public trust by the states are neither hunted nor fished and have no dedicated source of conservation funding.

While federally listed endangered and threatened species receive coverage, the vast majority of fish and wildlife species are left outside the purview of federal funding. The stewardship of the nation's fish and wildlife therefore falls heavily on the states, creating an imbalance in the state-federal partnership.



**Grants Program**, which, for the first time, provided funding to state fish and wildlife agencies for the management of nongame species. The funding was distributed to states with the condition that each state develop a **State Wildlife Action Plan**.

Development of **State Wildlife Action Plans** in every state and territory was a historic accomplishment in 2005. At last, a comprehensive national plan was in place to conserve America's wildlife that opened doors for landscape-level coordination and planning.

The implementation of this national planning strategy to prevent endangered species listings and to keep common species common can only be accomplished if funded. **At minimum, restoring funding to \$90 million is needed to maintain the current levels of success for this program.**

### BRIDGING THE GAP –

#### STATE WILDLIFE ACTION PLANS

In 2001, Congress created the **Wildlife Conservation and Restoration Program** and **State and Tribal Wildlife**



**Teaming With Wildlife**  
444 North Capitol Street, NW Suite 725  
Washington, DC 20001  
[www.teaming.com](http://www.teaming.com)



# AGRICULTURE | HABITAT SUMMARY

*Agricultural habitat is defined as lands devoted to commodity production, including intensively managed non-native grasses, rowcrops, fruit and nut-bearing trees. Nearly 55% of Indiana is agriculture.*



Eastern Bluebird

## Representative Species of Agriculture

The agricultural habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of agriculture.

- Western Harvest Mouse
- Killdeer
- Eastern Bluebird
- Brown-headed Cowbird
- Tiger Salamander
- Eastern Milksnake
- Horned Lark
- European Starling
- Common (Black) Kingsnake



Barn Owl

## Species of Greatest Conservation Need (SGCN) in Agriculture

SGCN are animal species whose populations are rare, declining, or vulnerable.

- Crawfish Frog
- Northern Leopard Frog
- Sandhill Crane
- Eastern Spadefoot
- Plains Leopard Frog
- Ornate Box Turtle
- Barn Owl

More than half of Indiana's land area is classified as agriculture. Agricultural areas are represented above by the dots throughout the state.



## Threats to SGCN in Agriculture

- Habitat loss (breeding range)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Habitat loss (feeding/foraging areas)
- Predators (native or domesticated)
- Invasive/non-native species
- Bioaccumulation of contaminants
- Small native range (high endemism)
- Near limits of natural geographic range
- High sensitivity to pollution
- Dependence on other species (mutualism, pollinators)

## Threats to Agriculture

- Habitat fragmentation
- Mining/acidification
- Habitat degradation
- Drainage practices (stormwater runoff)
- Commercial or residential development (sprawl)
- Invasive/non-native species
- Agricultural/forestry practices
- Counterproductive financial incentives or regulations
- Successional change
- Point source pollution (continuing)

## Top High-Priority Conservation Actions for Agriculture

### Habitat protection through regulation

- Work with the State Chemist Office and others to develop herbicide and pesticide label directions that are protective of SGCN.
- Support compliance with all state and federal environmental regulations relative to agricultural lands.

### Habitat protection on public lands

- Support the use of agricultural/environmental BMPs on public lands to support the conservation of SGCN as a demonstration for private agricultural interest.
- Ensure herbicides and pesticides are applied according to label directions and to avoid contaminating the aquatic environments in which all amphibians and the species that depend upon them.

### Habitat restoration on public lands

- Encourage the use of restoration programs such as Farm Bill programs on public agricultural lands.

### Habitat protection incentives (financial)

- Support programs and practices, such as the Farm Bill Programs, that promote the use of soil and wildlife conservation BMPs for the benefit of SGCN.

## Top High-Priority Conservation Actions for SGCN in Agriculture

### Habitat Protection

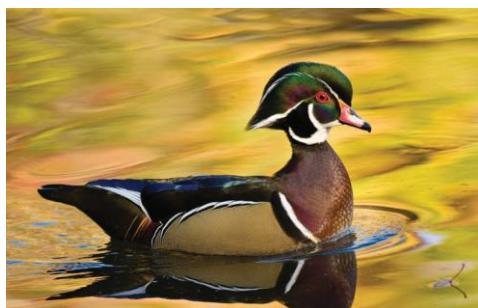
- Provide technical support to rural planning efforts to retain wildlife values of rural landscapes.

### Exotic/invasive species control

- Work with the agricultural industry to avoid and minimize the use and spread of exotic invasive species to conserve more natural habitats for SGCN.

# AQUATIC SYSTEMS | HABITAT SUMMARY

**Aquatic systems habitat comprises of all water, both flowing and stationary.  
Only 2.36% of Indiana is covered by aquatic systems.**



Wood Duck

## Representative Species of Aquatic Systems

The aquatic system habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of aquatic systems. There are 67 representative species for various aquatic systems in Indiana. Below is a sample of representative species. The entire list can be found online at <http://www.in.gov/dnr/fishwild/7599.htm> in the Aquatic Systems habitats summary.

- Beaver
- Osprey
- Least Darter
- Ring-Billed Gull
- Lake Trout
- Channel Catfish
- Clubshell
- Smallmouth Bass
- Redspotted Sunfish
- Northern Pike
- Wood Duck
- Two-Lined Salamander



Plains Leopard Frog

## Species of Greatest Conservation Need (SGCN) in Aquatic Systems

SGCN are animal species whose populations are rare, declining, or vulnerable. There are 70 SGCN for aquatic systems in Indiana. Below is a sample of species of greatest conservation need. The entire list can be found online at <http://www.in.gov/dnr/fishwild/7599.htm> in the Aquatic Systems habitat summary.

- \* Hellbender
- \* Plains Leopard Frog
- Variegated Darter
- Least Tern
- Piping Plover
- Little Spectaclecase
- Northern Riffleshell
- Cisco (Lake Herring)
- Rayed Bean
- Snuffbox
- Blanding's Turtle
- Alligator Snapping Turtle

## Threats to Aquatic Systems

- Stream channelization
- Habitat degradation
- Nonpoint source pollution (sedimentation and nutrients)
- Agricultural/forestry practices
- Commercial or residential development (sprawl)
- Point source pollution (continuing)
- Drainage practices (stormwater runoff)
- Habitat fragmentation
- Impoundment of water/flow regulation
- Residual contamination (persistent toxins)

## Threats to SGCN in Aquatic Systems

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Specialized reproductive behavior or low reproductive rates
- Invasive/non-native species
- Bioaccumulation of contaminants
- Viable reproductive population size or availability
- Predators (native or domesticated)
- High sensitivity to pollution

## Top High-Priority Conservation Actions for Aquatic Systems

- | Habitat | restoration  | incentives | (financial) |
|---------|--|------------|-------------|
|         | <ul style="list-style-type: none"> <li>• Promote the retention and development of sloughs, oxbows, and backwater habitats to benefit the banded pygmy sunfish, bantam sunfish and cypress darter in the lower Wabash River drainage.</li> </ul>  |            |             |
|         | <p><b>Protection of adjacent buffer zone</b></p> <ul style="list-style-type: none"> <li>• Promote the establishment and maintenance of buffers on all aquatic systems to control sedimentation and to benefit aquatic SGCN, especially the blue spotted salamander, four-toed salamander, and plains leopard frog, ellipse, swamp</li> </ul>   |            |             |
|         | <ul style="list-style-type: none"> <li>lymnaea, bigmouth shiner and pallid shiner.</li> <li>• Provide grassy, shrubby, and/or woody riparian cover along rivers and streams for resting, denning, and loafing sites for otters.</li> </ul>   |            |             |
|         | <p><b>Habitat restoration on public lands</b></p> <ul style="list-style-type: none"> <li>• Create nesting islands for least terns in appropriate areas.</li> <li>• Restore wetland habitats in floodplain areas to provide alternative habitats for aquatic species. Target wetlands in close proximity to rivers and streams.</li> </ul>  |            |             |
|         | <p><b>Cooperative land management agreements (conservation easements)</b></p> <ul style="list-style-type: none"> <li>• Promote the protection of aquatic systems for SGCN by encouraging public and private entities to enter into cooperative land management agreements and conservation easements. Provide technical assistance on the species that benefit from such protection and potential enhancement measures.</li> </ul> |            |             |

## Top High-Priority Conservation Actions for SGCN in Aquatic Systems

- Reintroduction (restoration)**
- Support the development and implementation of practical mussel restoration and evaluation techniques for use in appropriate situations for the restoration of extirpated or nearly extirpated mussel species, i.e., longsolid, orange-foot pimpleback, pink mucket, pyramid pigtoe, rough pigtoe, tubercled blossom, white catspaw and white wartyback.
  - Monitor the abundance and distribution of newly restored aquatic-system-dependent species such as the river otter and osprey.
- Population management**
- Determine factors affecting the distribution and relative abundance of rare aquatic-based wildlife such as the river otter.
  - Refine and improve survey and monitoring programs for aquatic wildlife species such as river otters, mussels species and osprey.
  - Implement harvest strategies (season dates, trap set techniques, etc.) to maximize take of targeted species and minimize unintentional take of otters.
  - Determine age-specific reproductive parameters for river otters and mussel species.
- Translocation to new geographic range**
- Support the development of technical assistance materials to heighten public awareness of the dangers of releasing aquatic species in new geographical areas (even SGCN).
  - Track shifts in species geographic range for correlation to global warming trends and new ecological relationships.

# BARREN LANDS | HABITAT SUMMARY

All barren lands habitats are characterized by bare rock, gravel, sand, silt, clay or other earthen material, with little or no “green” vegetation present, regardless of its inherent ability to support life. Vegetation, if present, is more widely spaced and scrubby than that in the “green” vegetated categories; lichen cover may be extensive. The habitat encompasses the following sub-types: bare dunes, cliffs, rock outcrops and active quarries. Only 0.19% of Indiana is barren land.

## Representative Species of Barren Lands

The habitat guild for barren lands is represented by several species. These representative species “paint a reasonable mental picture” of barren lands.

- Rough-Winged Swallow
- Lark Sparrow
- Piping Plover
- Six-Lined Racerunner
- Green Salamander
- Black Vulture
- Allegheny Woodrat
- Eastern Phoebe

## Species of Greatest Conservation Need (SGCN) in Barren Lands

SGCN are animal species whose populations are rare, declining, or vulnerable.

- Crawfish Frog
- Green Salamander
- Plains Leopard Frog
- Piping Plover
- Allegheny Woodrat

## Threats to Barren Lands

- Habitat degradation
- Counterproductive financial incentives or regulations
- Habitat fragmentation
- Invasive/non-native species
- Commercial or residential development (sprawl)
- Agricultural/forestry practices
- Successional change
- Nonpoint source pollution (sedimentation and nutrients)
- Point source pollution (continuing)
- Drainage practices (storm water runoff)

## Threats to SGCN in Barren Lands

- Viable reproductive population size or availability
- Diseases/parasites (of the species itself)
- Habitat loss (feeding/foraging areas)
- Habitat loss (breeding range)
- Near limits of natural geographic range
- Small native range (high endemism)
- Predators (native or domesticated)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Invasive/non-natives species



Left to right: Piping Plover, Black Vulture

## Top High-Priority Conservation Actions for Barren Lands

### Restrict public access and disturbance

- Minimize human and domestic pet use in areas used by foraging piping plovers and at sites with potential breeding habitat.

### Habitat protection on public lands

- Protect Lake Michigan sand dunes and allow natural dune processes to provide foraging areas and potential nesting habitat for piping plovers.
- Maintain large diameter, mast-producing tree species in proximity to woodrat colonies.
- Enter into cooperative agreements for management of woodrat habitats on State Forest and State Park/Reservoir properties.
- Investigate crayfish abundance, distribution and other factors impacting crayfish frog colonies to develop land management practices for crayfish frogs.

### Protection of adjacent buffer zone

- Provide for the development and/or maintenance of a forested buffer area around the bluffs occupied or suitable for occupancy by green salamanders.
- Provide buffer of mature forested habitats adjacent to cliff lines containing woodrat colonies.

## Top High-Priority Conservation Actions for SGCN in Barren Lands

### Habitat protection

- Protect Lake Michigan sand dunes and allow natural dune processes to provide foraging areas and potential nesting habitat for piping plovers.
- Ensure silvicultural techniques allow for an adequate annual supply of hard mast for Allegheny woodrats.
- Protect bluff lines and sparsely vegetated clay and sandy moist soil for the green salamander, crayfish frog and plains leopard frog, respectively.

### Regulation of collecting

- Investigate the role of intentional and/or unintentional take on the viability of SGCN in barren lands.

# DeveLoPeD LANDS | HABITAT SUMMARY

*Developed lands are defined as highly impacted lands, intensively modified to support human habitation, transportation, commerce and recreation. This habitat encompasses the following subhabitat types: golf courses, industrial lands and roads/rails/bridges. Nearly 3.7% of Indiana is developed.*



Cliff Swallows

## Representative Species of Developed Lands

The developed lands habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of developed lands.

- Bullfrog
- House Mouse
- Norway Rat
- Kirtland's Snake
- Canada Goose
- Mallard
- American Robin
- Eastern Bluebird
- Peregrine Falcon
- European Starling
- Rock Pigeon
- Cliff Swallow



Peregrine Falcon

## Species of Greatest Conservation Need (SGCN) in Developed Lands

SGCN are animal species whose populations are rare, declining or vulnerable.

- Eastern Spadefoot
- Common Nighthawk
- Peregrine Falcon
- Kirtland's Snake
- Smooth Greensnake

## Threats to Developed Lands

- Commercial or residential development (sprawl)
- Habitat degradation
- Stream channelization
- Residual contamination (persistent toxins)
- Counterproductive financial incentives or regulations
- Impoundment of water/flow regulation
- Point source pollution (continuing)
- Drainage practices (stormwater runoff)
- Agricultural/forestry practices
- Habitat fragmentation

## Threats to SGCN in Developed Lands

- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Diseases/parasites (of the species itself)
- High sensitivity to pollution
- Species overpopulation
- Bioaccumulation of contaminants
- Genetic pollution (hybridization)
- Invasive/non-native species
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Habitat loss (breeding range)
- Predators (native or domesticated)

*Indiana's developed lands constitute 3.69% of Indiana, or 1,404 square miles (898,674 acres). While developed lands are sprinkled liberally throughout the state, particularly above Interstate 70, they are concentrated in areas that include Gary, South Bend, Fort Wayne, Indianapolis, Evansville, and Louisville, KY. There are fewer developed lands in south-central Indiana.*



Legend  
■ Developed Lands  Indiana Counties

## Top High-Priority Conservation Actions for Developed Lands

### Habitat protection incentives (financial)

- Encourage the use of gravel on flat-roofed buildings to provide nesting habitat for common nighthawks.

### Habitat restoration incentives (financial)

- Encourage the use of private funding sources for the development of open spaces in urban environments.

### Artificial habitat creation (artificial reefs, nesting platforms)

- Erect and maintain nesting boxes for peregrine falcons at industrial areas along Lake Michigan.

### Succession control (fire, mowing)

- Provide cover for smooth greensnakes and Eastern spadefoot toads by leaving unmowed areas during the growing season.

### Land use planning

- Provide technical assistance to and encourage urban/industrial/transportation/recreation land use planners to provide open spaces, use rock cover and provide connecting corridors for the benefit of SGCN, especially spadefoot toads, Kirtland's snake and smooth greensnake.

## Top High-Priority Conservation Actions for SGCN in Developed Lands

### Protection of migration routes

- Investigate methods to minimize the adverse impacts of man-made structures on SGCN, especially migrating birds.

### Regulation of collecting

- Develop technical assistance materials that promote leaving SGCN in the natural environment.

# ForeSTS | HABITAT SUMMARY

The forest habitat guild is defined as a plant community extending over a large area and dominated by trees, the crowns of which form an unbroken covering layer or canopy. Almost 23% of Indiana is covered by forests. This habitat includes: deciduous, early forest stage, evergreen, floodplain forests, forested wetlands, mature or high canopy stage, old forest stage, pole stage, pre-forest stage, riparian wooded corridors/streams, suburban, upland and urban forests.



Great Horned Owl

## representative Species of Forests

The forest habitat guild is represented by several wildlife species. These representative species "paint a reasonable mental picture" of forests.

- Spotted Salamander
- Wood Frog
- Great Horned Owl
- Eastern Chipmunk
- Fox Squirrel
- Red Bat
- White-Tailed Deer
- Southern Flying Squirrel
- Bobcat
- Eastern Box Turtle
- Red-Eyed Vireo
- Wood Thrush
- Whip-Poor-Will
- White-Eyed Vireo
- Prairie Warbler
- Ruffed Grouse
- Field Sparrow
- Eastern Towhee
- Pine Warbler
- Sharp-Skinned Hawk
- Cerulean Warbler
- Yellow-Throated Warbler
- Pileated Woodpecker
- Allegheny Woodrat
- Timber Rattlesnake
- Tuffed Titmouse
- Red-Shouldered Hawk
- American Robin
- Baltimore Oriole



Bobcat

## Species of Greatest Conservation Need (SGCN) in Forests

SGCN are animal species whose populations are rare, declining, or vulnerable. There are 44 SGCN for forests in Indiana. Below is a sample of species of greatest conservation need. The entire list can be found online at

<http://www.in.gov/dnr/fishwild/7599.htm> in the Forests habitat summary.

- Blue-spotted Salamander
- Bobcat
- Four-toed Salamander
- Eastern Pipistrelle
- Green Salamander
- Eastern Red Bat
- Red Salamander
- Evening Bat
- Bald Eagle
- Gray Myotis
- Barn Owl
- Hoary Bat
- Black-and-white Warbler
- Indiana Myotis
- Black-crowned Night-Heron
- Least Weasel
- Broad-winged Hawk
- Cerulean Warbler

Almost 23% of Indiana is forested, comprising 8,686 miles<sup>2</sup> (more than 5.5 million acres). While forest lands dot the landscape in Northern Indiana (24%), heavier concentrations of woodlands follow the hillier geography of West Central (21% woodlands), South Central (46% woodlands) and Southeastern Indiana (9% woodlands).



## Threats to Forests

- Commercial/residential development (sprawl)
- Habitat fragmentation
- Habitat degradation
- Agricultural/forestry practices
- Successional change
- Invasive/non-native species
- Counterproductive financial incentives or regulations
- Diseases (of plants that create habitat)
- Mining/acidification
- Stream channelization

## Threats to SGCN in Forests

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Viable reproductive population size or availability
- Predators (native or domesticated)
- Diseases/parasites (of the species itself)
- Unintentional take/ direct mortality (e.g., vehicle collisions, power line collisions, by catch, harvesting equipment, land preparation machinery)
- Specialized reproductive behavior or low reproductive rates
- Invasive/non-native species
- Small native range (high endemism)

## Top High-Priority Conservation Actions for Forests

### Land use planning

- Maintain or create landscapes dominated by forest in order to provide for needs of area sensitive species such as bald eagle, black-and-white warbler, black-crowned night-heron, broad-winged hawk, cerulean warbler, common nighthawk, hooded warbler, Mississippi kite, red-shouldered hawk, sharp-shinned hawk, whip-poor-will, worm-eating warbler, and yellow-crowned night-heron.
- Work with local units of government for protection and management of forested habitats.
- Encourage the retention of forested corridors to connect forest blocks for SGCN, especially Indiana bat and timber rattlesnake.

### Habitat protection on public lands

- Provide technical assistance to management plan development and implementation for state and federal forest properties.

## Top High-Priority Conservation Actions for SGCN in Forests

### Habitat protection

- Protect forest habitat especially forest in close proximity to wetlands, rocky glades or connecting corridors between forest blocks for copperbelly water snakes, rough green snakes, scarlet snakes, southeastern crowned snakes and timber rattlesnakes
- Determine what constitutes high quality foraging and roosting habitat for forest dwelling bats.
- Implement silvicultural strategies that provide for a continuous supply of large, dead and/or dying deciduous trees to provide roost sites for crevice-dwelling bats such as the Indiana bat.

### Protection of migration routes

- Investigate forest distribution in Indiana and provide adequate forestlands for migrating birds and bats.

# GrASSIANdS | HABITAT SUMMARY

*Grasslands are defined as open areas dominated by grass species. This habitat includes early successional areas, farm bill program lands, fescue, haylands, pasture, prairies, reclaimed minelands, savanna, vegetated dunes and swales, and shrub/scrub.*



Badger

## representative Species of Grasslands

The grasslands habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of grasslands.

- Crawfish Frog
- Eastern Spadefoot
- Eastern Meadowlark
- Northern Harrier
- Eastern Mole
- Red Fox
- Badger
- Bull Snake
- Ornate Box Turtle
- Cottontail Rabbit
- Short-Tailed Shrew
- Franklin's Ground Squirrel
- Red-Winged Blackbird
- Northern Bobwhite
- Grasshopper Sparrow
- Bobolink
- Dickcissel
- Savannah Sparrow
- Eastern Wood-Pewee
- Red-Headed Woodpecker



Ornate Box Turtle

## Species of Greatest Conservation Need (SGCN) in Grasslands

SGCN are animal species whose populations are rare, declining or vulnerable.

- Blue-spotted Salamander
- Barn Owl
- Crawfish Frog
- Henslow's Sparrow
- Eastern Spadefoot
- Loggerhead Shrike
- Northern Leopard Frog
- Northern Harrier
- Plains Leopard Frog
- Sedge wren
- Blanding's Turtle
- Short-eared Owl
- Butler's Garter Snake
- Upland Sandpiper
- Kirtland's Snake
- Western Meadowlark
- Ornate Box Turtle
- Badger
- Smooth Green Snake
- Bobcat
- Spotted Turtle
- Franklin's Ground Squirrel
- Western Ribbon Snake
- Least Weasel
- American Bittern
- Plains Pocket Gopher

## Threats to Grasslands

- Habitat degradation
- Successional change
- Agricultural/forestry practices
- Commercial or residential development (sprawl)
- Habitat fragmentation
- Counterproductive financial incentives or regulations
- Invasive/non-native species
- Residual contamination (persistent toxins)
- Mining/acidification
- Point source pollution (continuing)

*Over 15% of Indiana is in grasslands constituting prairies and reclaimed mine lands. Those areas are primarily in southern, central and extreme northern parts of the state. Grasslands comprise more than 5,800 miles<sup>2</sup> or 3.7 million acres.*



## Threats to SGCN in Grasslands

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Invasive/non-natives species
- Predators (native or domesticated)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Bioaccumulation of contaminants
- Unintentional take/direct mortality (e.g., vehicle collisions, powerline collisions, bycatch, harvesting equipment, land preparation machinery)
- Viable reproductive population size or availability
- Small native range (high endemism)

## Top High-Priority Conservation Action for Grasslands

### Habitat restoration incentives (financial)

- Support farm programs that convert row-crop areas to grasslands to benefit a variety of birds including American bittern, barn owl, Henslow's sparrow, loggerhead shrike, northern harrier, sedge wren, short-eared owl, upland sandpiper, western meadowlark.
- Develop large-scale grassland restoration projects on reclaimed strip mined lands and assess their effectiveness for providing habitat for area-sensitive bird (SGCN) species.

## Top High-Priority Conservation Actions for SGCN in Grasslands

### Population management

- Determine distribution and relative abundance of grassland-dependent SGCN such as badger and Franklin's ground squirrel.
- Develop survey and monitoring programs for grassland-dependent SGCN such as badgers and Franklin's ground squirrels.

### Public education to reduce human disturbance

- Develop and promote implementation of BMPs that limit disturbance to nesting grassland birds (SGCN), especially on public conservation lands.

# SUBTERRANEAN SYSTEMS | HABITAT SUMMARY

*Surface openings of subterranean features reaching as far as natural light can penetrate (i.e., twilight zone) and connected underground rooms and passages beyond natural light penetration. This habitat encompasses the following sub-types: caves and cave entrances.*

## Representative Species of Subterranean Systems

The Subterranean Systems habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of subterranean systems.

- Eastern Pipistrelle
- Indiana Myotis
- Cave Salamander
- Longtail Salamander
- Four-Toed Salamander
- Northern Cavefish

## Species of Greatest Conservation Need (SGCN) in Subterranean Systems

SGCN are animal species whose populations are rare, declining or vulnerable.

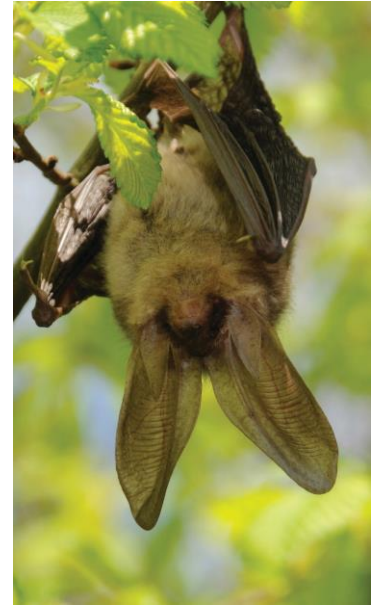
- Green Salamander
- Four-toed Salamander
- Northern Cavefish
- Gray Myotis
- Indiana Myotis
- Rafinesque's Big-eared Bat
- Eastern Pipistrelle
- Little Brown Myotis
- Northern Myotis
- Southeastern Myotis

## Threats to Subterranean Systems

- Habitat degradation
- Commercial or residential development (sprawl)
- Climate change
- Agricultural/forestry practices
- Residual contamination (persistent toxins)
- Point source pollution (continuing)
- Habitat fragmentation
- Nonpoint source pollution (sedimentation and nutrients)
- Mining/acidification
- Drainage practices (stormwater runoff)

## Threats to SGCN in Subterranean Systems

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Specialized reproductive behavior or low reproductive rates
- High sensitivity to pollution
- Bioaccumulation of contaminants
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Unintentional take/ direct mortality (e.g., vehicle collisions, power line collisions, by catch, harvesting equipment, land preparation machinery)
- Small native range (high endemism)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Predators (native or domesticated)



Left to right: Eastern Pipistrelle, Rafinesque's Big-eared Bat

## Top High-Priority Conservation Actions for Subterranean Systems

### Technical assistance

- Develop educational materials for landowners in karst topography about relationships between surface activities and subterranean systems.

### Cooperative land management agreements (conservation easements)

- Promote the use of cooperative land agreements to protect sensitive karst features for greensalamanders, four-toed salamander and subterranean systems that support northern cavefish and bat species of greatest conservation need.

### Restrict public access and disturbance

- Post signs at important cave sites to reduce/eliminate unauthorized human visitation.
- Erect physical barriers (i.e., fences, gates) where needed to protect important cave sites.

### Land-use planning

- Identify surface recharge areas for cave systems to identify sources of potential threats.

### Habitat protection on public lands

- Develop land management plans protective of subterranean systems and permit recreation use consistent with the conservation of SGCN.

## Top High-Priority Conservation Actions for SGCN in Subterranean Systems

### Habitat protection

- Protect wet areas around seeps and springs for the benefit of four-toed salamanders.
- Protect the water quantity and quality in subterranean streams to benefit northern cavefish populations.
- Inventory subterranean systems cave-dependent SGCN such as the Indiana bat and southeastern bat.
- Restrict human access to caves during seasonal use by Indiana bats and other cave-dwelling species. Erect physical barriers (gates, fences) as needed.

### Regulation of collecting

- Provide public notification materials throughout the karst region of Indiana regarding the adverse consequences of collecting or disturbing subterranean system SGCN.

# WETLANDS | HABITAT SUMMARY

**Wetlands include areas shallowly flooded temporarily or permanently to cover the base of plants but not prolonged inundation of the entire plant. Only 0.91% of Indiana is covered by wetlands. This habitat includes: emergent, ephemeral, forested, herbaceous marsh, mudflats, and permanent and shrub/scrub wetlands.**



Muskrat

## Representative Species of Wetlands

The wetlands habitat guild is represented by several species. These representative species "paint a reasonable mental picture" of wetlands.

- Red-Winged Blackbird
- Common Yellowthroat
- Mallard
- Sora
- American Bittern
- Sedge Wren
- Canada Goose
- Great Blue Heron
- Marbled Salamander
- Spotted Salamander
- Plains Leopard Frog
- Star-Nosed Mole
- Yellow-Throated Warbler
- Western Chorus Frog
- Muskrat
- Spotted Turtle
- Eastern Massasauga
- Killdeer
- Least Sandpiper
- Green Heron
- Willow Flycatcher
- Spring Peeper
- Blanding's Turtle
- Copperbelly Water Snake



Wading Egret

## Species of Greatest Conservation Need (SGCN) in Wetlands

SGCN are animal species whose populations are rare, declining, or vulnerable.

- Blue-spotted Salamander
- Black-crowned Night-heron
- Crawfish Frog
- Common Moorhen
- Eastern Spadefoot
- Golden-winged Warbler
- Four-toed Salamander
- Great Egret
- Northern Leopard Frog
- King Rail
- Plains Leopard Frog
- Least Bittern
- Blanding's Turtle
- Marsh Wren
- Butler's Garter Snake
- Sandhill Crane
- Copperbelly water Snake
- Sedge Wren
- Cottonmouth
- Virginia Rail
- Massasauga
- Whooping Crane
- Spotted Turtle
- Yellow-crowned Night-heron
- Western Mud Snake
- Yellow-headed Blackbird
- Western Ribbon Snake
- Bobcat
- American Bittern
- River Otter
- Black Rail
- Star-nosed Mole
- Black Tern
- Swamp Rabbit

## Threats to Wetlands

- Habitat degradation
- Habitat fragmentation
- Agricultural/forestry practices
- Commercial or residential development (sprawl)
- Nonpoint source pollution (sedimentation and nutrients)
- Point source pollution (continuing)
- Successional change
- Counterproductive financial incentives or regulations
- Drainage practices (stormwater runoff)
- Invasive/non-native species

## Threats to SGCN in Wetlands

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Near limits of natural geographic range
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)

## Top High-Priority Conservation Actions for Wetlands

### Habitat protection on public lands

- Conserve and manage diverse wetlands on public lands for the benefit of SGCN, including mammals, birds, amphibians and reptiles.

### Succession control (fire, mowing)

- Manage plant succession using water level manipulation, fire, and other methods to conserve diverse wetlands for the benefit of SGCN, including mammals, birds, amphibians and reptiles.

### Cooperative land management agreements (conservation easements)

- Support the use of cooperative land management agreements to conserve and protect privately owned wetlands for the conservation of wetland SGCN.

### Habitat restoration on public lands

- Restore wetlands on public lands for the benefit of SGCN, including mammals, birds, amphibians and reptiles.
- Create wetland areas for black terns.
- Support the planting of appropriate native plant stocks to accelerate and enhance wetland restorations and to use for demonstration purposes.

### Corridor development/protection

- Promote the development and protection of wetland complexes, including connecting wetland habitats for the benefit of copperbelly water snakes and other SGCN.

### Land use planning

- Provide technical assistance to land-use planners that promotes the values and benefits of wetlands.

### Protection of adjacent buffer zone

- Promote the protection of adjacent buffer zones around wetlands to protect the wetlands and ameliorate benefits to SGCN.

## Top High-Priority Conservation Actions for SGCN in Wetlands

### Reintroduction (restoration)

- Determine feasibility of restoring wetland-dependent SGCN such as the swamp rabbit and star-nosed mole.

### Population management

- Determine distribution and relative abundance of rare wetland-dependent wildlife such as the swamp rabbit and star-nosed mole.
- Develop survey and monitoring programs for rare species associated with wetland habitats such as swamp rabbits and star-nosed moles.
- Investigate the impact of regulated species (e.g., raccoons and coyotes) on populations of Blanding's turtle, spotted turtle, and other wetland-dependent SGCN.

### Protection of migration routes

- Target the restoration, protection and acquisition of wetlands to provide for the needs of migrating SGCN.

### Disease/parasite management

- Investigate suspicious mortality or disease in wetland species to determine risk to wetland-dependent SGCN and appropriate protective measures.





# Indiana State Wildlife Action Plan

[Click Here For More Information](#)



# Save The Date

## Indiana State Wildlife Action Plan



**Conservation doesn't just happen.  
It takes resources and collaboration.**

### Background

The Indiana Division of Fish and Wildlife is beginning the process of updating the State Wildlife Action Plan. Indiana's Action Plan is a habitat-based model that incorporates all fish and wildlife species within the state. It identifies the condition of Indiana's wildlife species and habitats, the problems they face, and the actions needed to ensure their long-term success.

### Your Involvement

Partner input is crucial to this process. You have been identified as a key partner to this collaborative planning effort. We would like to take this opportunity to invite you to attend one of three stakeholder meetings. **We need your success stories and your assistance in shaping the future and establishing outcomes that we all believe are vital to the natural resource community at large.**

### Meeting Dates

Three meeting dates have been scheduled, each in a distinct geographical region for ease of attendance:

- Central Indiana** Thursday, September 26, 2013
- Southern Indiana** Wednesday, October 2, 2013
- Northern Indiana** Thursday, October 3, 2013

The exact time and location for the meetings will be updated shortly; however, if you know what meeting date and region suit you the best, please do not hesitate to RSVP today!

\*For those unable to attend any of the in-person meetings, an alternative input forum will be available at a later time. To receive maximum benefit, we strongly encourage in-person participation.

### RSVP

Please visit <http://b3.caspio.com/dp.asp?AppKey=311a10001b8ebccacaa46a4a7a7> to register your attendance at one of the three meetings (or the alternative input forum). Additional information about the meetings is also available on the website at [www.swap.dnr.in.gov](http://www.swap.dnr.in.gov).

### INDIANA'S STATE WILDLIFE ACTION PLAN ADVISORY COMMITTEE

American Electric Power  
Ducks Unlimited, Inc  
Duke Energy  
Indiana Department of Environmental Management  
Indiana Department of Natural Resources  
Indiana Department of Transportation  
Indiana Farm Bureau  
Indiana Forest & Woodland Owners Association  
Indiana Land Protection Alliance  
Indiana State Department of Agriculture  
Indiana Wildlife Federation  
Natural Resources Conservation Service  
Pheasants Forever  
Purdue University, Department of Forestry & Natural Resources  
The Nature Conservancy  
U.S. Fish and Wildlife Service  
U.S. Forest Service



# YOU'RE INVITED



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Central*	Southern	Northern
September 26, 2013	October 2, 2013	October 3, 2013
9:00am – 3:00pm	9:00am – 3:00pm	9:00am – 3:00pm
Indiana Wildlife Federation (Sol Center)**	O'Bannon Woods State Park (Group Camp)**	Newton Center**
708 E. Michigan St. Indianapolis, IN 46202	7234 Old Forest Road SW Corydon, IN 47112	601 N. Michigan St. Lakeville, IN 46536

\*Free parking on North and East sides of building

\*\*Lunch will be provided during each meeting

For those unable to attend any of the in-person meetings, an alternative input forum will be available at a later time. To receive maximum benefit, we strongly encourage in-person participation.

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- Indiana Wildlife Federation
- Natural Resources Conservation Service
- Pheasants Forever
- Purdue University, Department of Forestry & Natural Resources
- The Nature Conservancy
- U.S. Fish and Wildlife Service
- U.S. Forest Service



# Stakeholder Follow-up Meeting



## Indiana State Wildlife Action Plan

Conservation doesn't just happen. It takes resources and collaboration.

### MEETING DETAILS

Thank you to all those who participated in a regional stakeholder meeting for the State Wildlife Action Plan. Over 150 stakeholders in Indiana's conservation community shared their opinions, thoughts, and expertise. At this time, an online stakeholder follow-up meeting is scheduled. This meeting will present the preliminary results from the regional meetings and allow for subsequent discussion. If you were not able to participate in one of the regional meetings, that is okay because this meeting is for everyone!

For more information regarding the Indiana State Wildlife Action Plan please visit [www.swap.dnr.in.gov](http://www.swap.dnr.in.gov).

#### Virtual Meeting

Tuesday, October 29, 2013

1:00-3:00pm EDT

Adobe Connect URL

<https://connect.iu.edu/swap/>

\*Log in by typing your first and last name followed by your organization/agency's name into the "Guest" option.

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Natural Resources Conservation Service  
Pheasants Forever  
Purdue University, Department of Forestry & Natural Resources  
The Nature Conservancy  
U.S. Fish and Wildlife Service  
U.S. Forest Service





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