

## Appendix E-66: Emergent

### 6. Please rank the following threats to the Wildlife in Emergent Wetland Habitats in Indiana.

	<b>Critical threat</b>	<b>Serious threat</b>	<b>Somewhat of a threat</b>	<b>Slight threat</b>	<b>No threat</b>	<b>Unknown</b>	<b>Response Total</b>
Invasive/non-native species	0% (0)	0% (0)	50% (4)	25% (2)	25% (2)	0% (0)	<b>8</b>
High sensitivity to pollution	0% (0)	0% (0)	38% (3)	50% (4)	13% (1)	0% (0)	<b>8</b>
Bioaccumulation of contaminants	0% (0)	13% (1)	38% (3)	38% (3)	0% (0)	13% (1)	<b>8</b>
Predators (native or domesticated)	0% (0)	38% (3)	0% (0)	38% (3)	25% (2)	0% (0)	<b>8</b>
Dependence on other species (mutualism, pollinators)	0% (0)	0% (0)	0% (0)	13% (1)	88% (7)	0% (0)	<b>8</b>
Diseases/parasites (of the species itself)	0% (0)	0% (0)	25% (2)	63% (5)	13% (1)	0% (0)	<b>8</b>
Regulated hunting/fishing pressure (too much)	0% (0)	0% (0)	13% (1)	0% (0)	88% (7)	0% (0)	<b>8</b>
Species over population	0% (0)	25% (2)	13% (1)	0% (0)	63% (5)	0% (0)	<b>8</b>
Unintentional take/ direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)	0% (0)	0% (0)	13% (1)	38% (3)	50% (4)	0% (0)	<b>8</b>
Unregulated collection pressure	0% (0)	0% (0)	0% (0)	0% (0)	100% (8)	0% (0)	<b>8</b>
Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)	0% (0)	25% (2)	38% (3)	13% (1)	25% (2)	0% (0)	<b>8</b>
							<b>88</b>

### 7. Please also rank these threats to the Wildlife in Emergent Wetland Habitats in Indiana.

	<b>Critical threat</b>	<b>Serious threat</b>	<b>Somewhat of a threat</b>	<b>Slight threat</b>	<b>No threat</b>	<b>Unknown</b>	<b>Response Total</b>
Habitat loss (breeding range)	25% (2)	38% (3)	13% (1)	25% (2)	0% (0)	0% (0)	<b>8</b>
Habitat loss (feeding/foraging areas)	25% (2)	25% (2)	13% (1)	38% (3)	0% (0)	0% (0)	<b>8</b>
Small native range (high endemism)	0% (0)	0% (0)	0% (0)	0% (0)	100% (8)	0% (0)	<b>8</b>
Near limits of natural geographic range	0% (0)	0% (0)	0% (0)	0% (0)	100% (8)	0% (0)	<b>8</b>
Large home range requirements	0% (0)	0% (0)	0% (0)	12% (1)	88% (7)	0% (0)	<b>8</b>
Viable reproductive population size or availability	0% (0)	0% (0)	0% (0)	25% (2)	75% (6)	0% (0)	<b>8</b>
Specialized reproductive behavior or low reproductive rates	0% (0)	0% (0)	0% (0)	13% (1)	88% (7)	0% (0)	<b>8</b>
Degradation of							

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movement/migration routes  
(overwintering habitats, nesting  
and staging sites)

Genetic pollution (hybridization)	0% (0)	0% (0)	38% (3)	13% (1)	50% (4)	0% (0)	<b>8</b>
Unknown	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	<b>1</b>
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	<b>1</b>
<b>Total Respondents</b>							<b>74</b>

### 8. Other threats to the Wildlife in Emergent Wetland Habitats in Indiana.

1. X
2. Continued loss and degradation of emergent wetland habitat in portions of the state due to development and poor agricultural practices.
3. Unknown
4. Human interaction with species, trapping, relocation, scarring  
Reproductive intervention by humans
5. Devaluing of species due to overpopulation  
restricted management options

**Total Respondents 5**

### 9. Please briefly describe the top two threats to the Wildlife in Emergent Wetland Habitats in Indiana identified above.

1. Loss of shallow marshes due to drainage for development & farming.  
Loss of winter feed due to fall tillage.
  2. Habitat loss through annual cycle  
predators
  3. Loss of habitat due to development and poor agricultural practices.  
Degradation of habitat by invasive plant species.
  4. Unknown
  5. Water Quality  
Human intervention during nesting process.
  6. overpopulation  
urbanization
  7. continuing loss and/or degradation of emergent wetlands
- possible disease outbreaks due to large concentrations of birds often in small areas

**Total Respondents 7**



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**12.** Please briefly describe the top two HABITAT threats to the Wildlife in Emergent Wetland Habitats in Indiana identified above.

1. Commercial or residential development by filling or draining wetlands.  
Stream and lake "renovation" have degraded habitat back to where it was when the original habitat destruction occurred.
2. agricultural practices  
drainage practices
3. Loss of habitat due to development and poor agricultural practices.  
Degradation of plant community by exotic plants invading wetland habitats.
4. Development encroachment on some colonies  
Destruction of nesting trees
5. Canada Geese are their own worst enemy. Their concentrations by large numbers of geese on small wetlands have the capacity to pollute the water and cause increased erosion due to their feeding habits.  
The destruction of natural wetland habitats by development, agriculture and continued road construction.
6. Agriculture  
urban sprawl
7. presently little or no protection of isolated wetlands  
  
- habitat degradation due to increased sediment/nutrient loads

**Total Respondents      7**

**13.** What current monitoring efforts by state agencies are you aware of for the Wildlife in Emergent Wetland Habitats in Indiana?

	<b>Yes, these efforts occur</b>	<b>Not aware of these efforts occurring</b>	<b>Response Total</b>
Statewide year-round monitoring conducted by state agencies	63% (5)	38% (3)	<b>8</b>
Statewide once a year monitoring conducted by state agencies	50% (3)	50% (3)	<b>6</b>
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies	50% (3)	50% (3)	<b>6</b>
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies	50% (3)	50% (3)	<b>6</b>
Regional or local year-round monitoring conducted by state agencies	33% (2)	67% (4)	<b>6</b>
Regional or local once a year monitoring conducted by state agencies	17% (1)	83% (5)	<b>6</b>
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies	17% (1)	83% (5)	<b>6</b>

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Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by state agencies	33% (2)	67% (4)	<b>6</b>
		<b>Total Respondents</b>	<b>50</b>

### 14. What current monitoring efforts by other organizations are you aware of for the Wildlife in Emergent Wetland Habitats in Indiana?

	<b>Yes, these efforts occur</b>	<b>Not aware of these efforts occurring</b>	<b>Response Total</b>
Statewide year-round monitoring conducted by other organizations	0% (0)	100% (8)	<b>8</b>
Statewide once a year monitoring conducted by other organizations	25% (2)	75% (6)	<b>8</b>
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations	13% (1)	88% (7)	<b>8</b>
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations	13% (1)	88% (7)	<b>8</b>
Regional or local year-round monitoring conducted by other organizations	0% (0)	100% (8)	<b>8</b>
Regional or local once a year monitoring conducted by other organizations	13% (1)	88% (7)	<b>8</b>
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations	13% (1)	88% (7)	<b>8</b>
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations	38% (3)	63% (5)	<b>8</b>
		<b>Total Respondents</b>	<b>64</b>

### 15. How crucial are these monitoring efforts by state agencies for the conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

	<b>Very crucial</b>	<b>Somewhat crucial</b>	<b>Slightly crucial</b>	<b>Not crucial</b>	<b>Unknown</b>	<b>Response Total</b>
Statewide year-round monitoring conducted by state agencies	50% (4)	0% (0)	13% (1)	25% (2)	13% (1)	<b>8</b>
Statewide once a year monitoring conducted by state agencies	17% (1)	17% (1)	33% (2)	17% (1)	17% (1)	<b>6</b>
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies	0% (0)	0% (0)	50% (3)	50% (3)	0% (0)	<b>6</b>
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies	0% (0)	17% (1)	0% (0)	67% (4)	20% (1)	<b>6</b>
Regional or local year-round monitoring conducted by state agencies	17% (1)	33% (2)	0% (0)	33% (2)	17% (1)	<b>6</b>

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Regional or local once a year monitoring conducted by state agencies	0% (0)	33% (2)	17% (1)	33% (2)	17% (1)	<b>6</b>
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies	0% (0)	0% (0)	40% (2)	60% (3)	0% (0)	<b>5</b>
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	83% (5)	17% (1)	<b>6</b>
<b>Total Respondents</b>						<b>49</b>

<b>16.</b>	How crucial are these monitoring efforts by other organizations for the conservation of the Wildlife in Emergent Wetland Habitats in Indiana?					
	<b>Very crucial</b>	<b>Somewhat crucial</b>	<b>Slightly crucial</b>	<b>Not crucial</b>	<b>Unknown</b>	<b>Response Total</b>
Statewide year-round monitoring conducted by other organizations	13% (1)	13% (1)	0% (0)	38% (3)	38% (3)	<b>8</b>
Statewide once a year monitoring conducted by other organizations	0% (0)	25% (2)	25% (2)	13% (1)	38% (3)	<b>8</b>
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations	0% (0)	0% (0)	13% (1)	50% (4)	38% (3)	<b>8</b>
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	50% (4)	50% (4)	<b>8</b>
Regional or local year-round monitoring conducted by other organizations	13% (1)	0% (0)	13% (1)	38% (3)	38% (3)	<b>8</b>
Regional or local once a year monitoring conducted by other organizations	0% (0)	13% (1)	13% (1)	38% (3)	38% (3)	<b>8</b>
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations	13% (1)	0% (0)	13% (1)	38% (3)	38% (3)	<b>8</b>
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations	13% (1)	0% (0)	13% (1)	38% (3)	38% (3)	<b>8</b>
<b>Total Respondents</b>						<b>64</b>

**17.** Regional or local state agency monitoring for the Wildlife in Emergent Wetland Habitats in Indiana.

- At present only when a permit for work in a wetland is applied for. Smaller more numerous wetlands have little oversight.
- Selected State Fish and Wildlife Areas and Reservoir properties operated by the Department of Natural Resources conduct counts during the fall migration period.

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3. State wide for existing and new colonies every 5 years
4. Fish and Wildlife areas and Reservoirs as part of the weekly Waterfowl survey from Aug to Jan.
5. weekly waterfowl counts at selected sites
  - neck collar observations statewide as encountered
  - mid winter waterfowl survey of selected sites

**Total Respondents** 5

### 18. Regional or local monitoring by other organizations for the Wildlife in Emergent Wetland Habitats in Indiana.

1. Some wildlife species are not monitored. Habitat changes requiring permits are checked by, IDNR, IDEM, ACOE (in some cases).
2. Not aware of any efforts.
3. unknown
4. Lake associations busineeses and anyone living around a emergent wetland with a yard with Canada Goose complaints will monitor populations in order to prove they have a problem so they can destroy nests or eggs.
5. christmas bird count

**Total Respondents** 5

### 19. Please list organizations that are monitoring the Wildlife in Emergent Wetland Habitats in Indiana.

1. To some extent: Waterfowl USA, Ducks Unlimited, The Nature Conservancy, The Audubon Society.
2. Not aware of any organizations.
3. Indiana Department of Natural Resources, Division of Fish & Wildlife
4. Div of Fish and Wildlife  
Div of Reservoirs.
5. Audubon
  - US Fish and Wildlife Service

**Total Respondents** 5

### 20. What are the current monitoring techniques for the Wildlife in Emergent Wetland Habitats in Indiana?

**Not used but**      **Not used and not**

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			possible with existing technology and data	possible with existing technology and data	feasible		
Radio telemetry and tracking	0% (0)	14% (1)	71% (5)	0% (0)	0% (0)	14% (1)	<b>7</b>
Modeling	29% (2)	14% (1)	14% (1)	0% (0)	0% (0)	43% (3)	<b>7</b>
Coverboard routes	0% (0)	0% (0)	25% (1)	0% (0)	0% (0)	75% (3)	<b>4</b>
Spot mapping	20% (1)	0% (0)	0% (0)	0% (0)	0% (0)	80% (4)	<b>5</b>
Driving a survey route	86% (6)	14% (1)	0% (0)	0% (0)	0% (0)	0% (0)	<b>7</b>
Reporting from harvest, depredation, or unintentional take (road kill, bycatch)	86% (6)	14% (1)	0% (0)	0% (0)	0% (0)	0% (0)	<b>7</b>
Mark and recapture	43% (3)	29% (2)	14% (1)	0% (0)	14% (1)	0% (0)	<b>7</b>
Professional survey/census	50% (3)	50% (3)	0% (0)	0% (0)	0% (0)	0% (0)	<b>6</b>
Volunteer survey/census	50% (2)	25% (1)	0% (0)	0% (0)	0% (0)	25% (1)	<b>4</b>
Trapping (by any technique)	29% (2)	29% (2)	14% (1)	0% (0)	0% (0)	29% (2)	<b>7</b>
Representative sites	40% (2)	20% (1)	20% (1)	0% (0)	0% (0)	20% (1)	<b>5</b>
Probabilistic sites	0% (0)	25% (1)	25% (1)	0% (0)	0% (0)	50% (2)	<b>4</b>
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	<b>0</b>
<b>Total Respondents</b>							<b>70</b>

### **21.** Other monitoring techniques for the Wildlife in Emergent Wetland Habitats in Indiana.

1. X
2. aerial surveys
3. unknown
4. aerial surveys

**Total Respondents**

**4**

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**22.** What one or two monitoring techniques would you recommend for effective conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

1. Nesting & brood counts state wide.

2. aerial survey  
banding

3. Continue current state surveys every 5 years

4. Mark and recapture. Means to track species movement and association with non target species and times of interaction with non target spp.

Mark and harvest. Same as above but also eliminates and reduces concentrations in non desirable areas.

5. aerial surveys  
banding and neck collaring

6. banding and/or neck collaring. Procedures in place, nationally accepted, good national data base maintained.

- weekly waterfowl counts at selected sites. Samples most of the major concentration areas. Very good historical data for trend analysis.

**Total Respondents 6**

**23.** What current HABITAT inventory and assessment efforts or activities by state agencies are you aware of for the Wildlife in Emergent Wetland Habitats in Indiana?

	<b>Yes, these efforts occur</b>	<b>No effort that I'm aware of</b>	<b>Response Total</b>
Statewide annual inventory and assessment conducted by state agencies	0% (0)	100% (8)	<b>8</b>
Statewide once a year inventory and assessment conducted by state agencies	0% (0)	100% (8)	<b>8</b>
Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	13% (1)	87% (7)	<b>8</b>
Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	25% (2)	75% (6)	<b>8</b>
Regional or local year-round inventory and assessment conducted by state agencies	0% (0)	100% (8)	<b>8</b>
Regional or local once a year inventory and assessment conducted by state agencies	0% (0)	100% (8)	<b>8</b>
Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	100% (8)	<b>8</b>
Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	13% (1)	87% (7)	<b>8</b>
		<b>Total Respondents</b>	<b>64</b>

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**24.** What current HABITAT inventory and assessment efforts or activities by other organizations are you aware of for the Wildlife in Emergent Wetland Habitats in Indiana?

	Yes, these efforts occur	No effort that I'm aware of	Response Total
Statewide year-round inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Statewide once a year inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations	38% (3)	63% (5)	8
Regional or local year-round inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Regional or local once a year inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (8)	8
Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations	25% (2)	75% (6)	8
	<b>Total Respondents</b>		<b>64</b>

**25.** How crucial are these HABITAT efforts by state agencies for the conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

	These efforts are very crucial for this HABITAT	These efforts are somewhat crucial for this HABITAT	These efforts are slightly crucial for this HABITAT	These efforts are not crucial for this HABITAT	Unknown	Response Total
Statewide annual inventory and assessment conducted by state agencies	38% (3)	0% (0)	13% (1)	38% (3)	13% (1)	8
Statewide once a year inventory and assessment conducted by state agencies	17% (1)	0% (0)	17% (1)	50% (3)	17% (1)	6
Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	33% (2)	0% (0)	50% (3)	17% (1)	6



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once a year but still regularly scheduled) inventory and assessment conducted by other organizations

Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations

0% (0)	25% (2)	13% (1)	25% (2)	38% (3)	<b>8</b>
<b>Total Respondents</b>					<b>64</b>

### 27. Regional or local state agency HABITAT inventory and assessment for the Wildlife in Emergent Wetland Habitats in Indiana.

1. On state land.
2. Do not occur to my knowledge.
3. unknown
4. isolated wetlands law

**Total Respondents 4**

### 28. Regional or local HABITAT inventory and assessment by other organizations for the Wildlife in Emergent Wetland Habitats in Indiana.

1. None that I am aware of.
2. Do not occur to my knowledge.
3. unknown
4. - Indiana wetland inventory maps  
- county aerial photos for NRCS  
- soils mapping county maps

**Total Respondents 4**

### 29. Please list organizations that are monitoring this HABITAT for the Wildlife in Emergent Wetland Habitats in Indiana.

1. None that I am aware of.
2. Do not occur to my knowledge
3. unknown
4. - US Fish and Wildlife Service  
- Natural Resource Conservation Service  
- Indiana Department of Environmental Management

**Total Respondents 4**

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**30.** What are the current monitoring techniques for the Wildlife in Emergent Wetland Habitats in Indiana.

If a technique is not applicable to the Wildlife in Emergent Wetland Habitats, do not select a response in that row.

	Frequently used	Occasionally used	Not used but possible with existing technology and data	Not used and not possible with existing technology and data	Not economically feasible	Unknown	Response Total
GIS mapping	13% (1)	25% (2)	38% (3)	0% (0)	0% (0)	25% (2)	<b>8</b>
Aerial photography and analysis	25% (2)	13% (1)	38% (3)	0% (0)	0% (0)	25% (2)	<b>8</b>
Systematic sampling	0% (0)	13% (1)	38% (3)	0% (0)	0% (0)	50% (4)	<b>8</b>
Property tax estimates	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (6)	<b>6</b>
State revenue data	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (6)	<b>6</b>
Regulatory information	17% (1)	50% (3)	0% (0)	0% (0)	0% (0)	33% (2)	<b>6</b>
Participation in landuse programs	0% (0)	38% (3)	25% (2)	0% (0)	0% (0)	38% (3)	<b>8</b>
Modeling	0% (0)	13% (1)	38% (3)	0% (0)	0% (0)	50% (4)	<b>8</b>
Voluntary landowner reporting	0% (0)	25% (2)	25% (2)	0% (0)	0% (0)	50% (4)	<b>8</b>
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (3)	<b>3</b>
<b>Total Respondents</b>							<b>69</b>

**31.** Other HABITAT inventory and assessment techniques for the Wildlife in Emergent Wetland Habitats in Indiana.

1. X

2. unknown

3. I am not aware of any inventory or assessment techniques used specifically for Canada Goose Habitat in Indiana.;  
SurveyAnswerTextNull

**Total Respondents      3**

**32.** What one or two HABITAT inventory and assessment techniques would you recommend for effective conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

1. Wetlands should be monitored by overhead photo methods with ground truth checks.  
This should occur on a regular basis with aggressive enforcement against illegal wetlands destruction

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2. spring aerial surveys

3. none

4. GIS mapping would be the most cost affective means for creating an inventory of emergent plant spp. that would support Canada Geese in emergent wetlands

Systemnatic water sampling of high use areas would determine nutrient loading and water quality. US Fish and Wildlife Service Draft Environmental Impact Statement, Resident Canads Goose Management, Feb.2002.;

SurveyAnswerTextNull

5. aerial surveys  
reports from state fwms

6. analysis of county aerial photos as these are done on a somewhat regular basis

- updating and ground truthing Wetland Inventory maps

**Total Respondents 6**

**33.** What is the current body of science for the Wildlife in Emergent Wetland Habitats in Indiana?

		Response Total	Response Percent
Complete, up to date and extensive		1	25%
Adequate		1	25%
Inadequate		1	25%
Nonexistent		1	25%
Other (please explain below)		0	0%
<b>Total Respondents</b>		<b>4</b>	

**34.** Please provide a citation (title, author, date, publisher) that would give the best overview of the Wildlife in Emergent Wetland Habitats in Indiana, if available. This resource may be used if further detail is needed.

		Response Total	Response Percent
Title	1. Spring Breeding Duck Survey	2	100%
	2. Unknown		
Author	Kristen Chodachek	1	50%
Date	2003	1	50%
Publisher	IDNR	1	50%
<b>Total Respondents</b>		<b>2</b>	

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**35.** If possible, please provide a second citation (title, author, date, publisher) that would give another good overview of the Wildlife in Emergent Wetland Habitats in Indiana. This resource may also be used if further detail is needed.

		Response Total	Response Percent
Title	1. Waterfowl Ecology & Management	2	100%
	2. Unknown		
Author	Compiled by: Ratti, Flake, Wentz	1	50%
Date	1982	1	50%
Publisher	The Wildlife Society	1	50%
<b>Total Respondents</b>		<b>2</b>	

**36.** What is the current HABITAT body of science for the Wildlife in Emergent Wetland Habitats in Indiana?

		Response Total	Response Percent
Complete, up to date and extensive		0	0%
Adequate		3	75%
Inadequate		0	0%
Nonexistent		1	25%
Other (please explain below)		0	0%
<b>Total Respondents</b>		<b>4</b>	

**37.** Please provide a citation (title, author, date, publisher) that would give the best HABITAT overview of the Wildlife in Emergent Wetland Habitats in Indiana, if available. This resource may be used if further detail is needed.

		Response Total	Response Percent
Title	1. Waterfowl & Wetlands- Integrated Review	2	100%
	2. Unknown		
Author	Edited : Bookhout	1	50%
Date	1979	1	50%
Publisher	The Wildlife Society	1	50%
<b>Total Respondents</b>		<b>2</b>	

**38.** If possible, please provide a second citation (title, author, date, publisher) that would give another good HABITAT overview of the Wildlife in Emergent Wetland Habitats in Indiana. This resource may also be used if further detail is needed.

Response Total	Response Percent
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Appendix E-66: Emergent

Title	Creating Freshwater Wetlands	1	100%
Author	Hammer	1	100%
Date	1997	1	100%
Publisher	CRC Press	1	100%
<b>Total Respondents</b>			<b>1</b>

39. What are the research needs for the Wildlife in Emergent Wetland Habitats in Indiana?							
	Urgently needed	Greatly needed	Needed	Slightly needed	Not needed	Unknown	Response Total
Life cycle	0% (0)	13% (1)	13% (1)	13% (1)	63% (5)	0% (0)	8
Distribution and abundance	0% (0)	13% (1)	63% (5)	0% (0)	25% (2)	0% (0)	8
Limiting factors (food, shelter, water, breeding sites)	13% (1)	25% (2)	25% (2)	13% (1)	25% (2)	0% (0)	8
Threats (predators/competition, contamination)	0% (0)	13% (1)	63% (5)	13% (1)	13% (1)	0% (0)	8
Relationship/dependence on specific habitats	13% (1)	0% (0)	38% (3)	0% (0)	50% (4)	0% (0)	8
Population health (genetic and physical)	0% (0)	0% (0)	50% (4)	13% (1)	38% (3)	0% (0)	8
Other (please specify below)	0% (0)	33% (1)	0% (0)	0% (0)	33% (1)	33% (1)	3
<b>Total Respondents</b>							<b>51</b>

40. Other research needs for the Wildlife in Emergent Wetland Habitats in Indiana.	
1. X	
2. unknown	
3. Research is needed to justify extending or modifying the hunting seasons to eliminate the problem of the so called nuisance goose in urban areas, around lakes and golf courses.	
4. food availability throughout annual cycle ways to deter use	
5. impact of high snow goose populations on Canada geese nesting sites	
- develop more effective dispersal, relocation or removal techniques gor maxima geese	
<b>Total Respondents</b>	
<b>5</b>	

41. What are the HABITAT research needs for the Wildlife in Emergent Wetland Habitats in Indiana?							
	Urgently needed	Greatly needed	Needed	Slightly needed	Not needed	Unknown	Response Total



## Appendix E-66: Emergent

range							
Protection of migration routes	38% (3)	38% (3)	0% (0)	13% (1)	13% (1)		<b>8</b>
Limiting contact with pollutants/contaminants	0% (0)	63% (5)	13% (1)	13% (1)	13% (1)		<b>8</b>
Public education to reduce human disturbance	0% (0)	75% (6)	0% (0)	13% (1)	13% (1)		<b>8</b>
Culling/selective removal	0% (0)	50% (4)	0% (0)	50% (4)	0% (0)		<b>8</b>
Stocking	13% (1)	0% (0)	0% (0)	87% (7)	0% (0)		<b>8</b>
Other (please specify below)	0% (0)	0% (0)	50% (1)	0% (0)	50% (1)		<b>2</b>
						<b>Total Respondents</b>	<b>129</b>

### 44. Other current conservation practices for the Wildlife in Emergent Wetland Habitats in Indiana.

1. X
2. unknown

**Total Respondents 2**

### 45. What one or two specific practices would you recommend for more effective conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

1. Restoring wetlands & providing quality upland nesting cover adjoining these wetlands.  
Reduce fall tillage near wetlands.
2. Habitat protection throughout annual cycle
3. continue 5 year surveys
4. Modification of hunting seasons and opening of urban areas to hunting to reduce numbers of so called nuisance geese populations in leu of nest destruction and egg shaking.; SurveyAnswerTextNull
5. Enhancement of migratory/staging habitat  
enhancement of breeding habitat where populations do not conflict with landuse
6. develop practices and procedures to increase harvest of local birds

**Total Respondents 6**

### 46. How well do the following conservation efforts address the HABITAT threats to the Wildlife in Emergent Wetland Habitats in Indiana?

	<b>Very well</b>	<b>Somewhat</b>	<b>Not at all</b>	<b>Not used</b>	<b>Unknown</b>	<b>Response Total</b>
Habitat protection through regulation	25% (2)	75% (6)	0% (0)	0% (0)	0% (0)	<b>8</b>
Habitat protection on public lands	75% (6)	25% (2)	0% (0)	0% (0)	0% (0)	<b>8</b>
Habitat protection incentives (financial)	38% (3)	50% (4)	0% (0)	0% (0)	13% (1)	<b>8</b>

## Appendix E-66: Emergent

Habitat restoration through regulation	38% (3)	38% (3)	13% (1)	0% (0)	13% (1)	<b>8</b>
Habitat restoration on public lands	63% (5)	38% (3)	0% (0)	0% (0)	0% (0)	<b>8</b>
Habitat restoration incentives (financial)	38% (3)	50% (4)	0% (0)	0% (0)	13% (1)	<b>8</b>
Artificial habitat creation (artificial reefs, nesting platforms)	38% (3)	50% (4)	0% (0)	13% (1)	0% (0)	<b>8</b>
Selective use of functionally equivalent exotic species in place of extirpated natives	0% (0)	38% (3)	13% (1)	38% (3)	13% (1)	<b>8</b>
Succession control (fire, mowing)	50% (4)	38% (3)	0% (0)	13% (1)	0% (0)	<b>8</b>
Corridor development/protection	38% (3)	38% (3)	0% (0)	25% (2)	0% (0)	<b>8</b>
Managing water regimes	38% (3)	63% (5)	0% (0)	0% (0)	0% (0)	<b>8</b>
Pollution reduction	0% (0)	100% (8)	0% (0)	0% (0)	0% (0)	<b>8</b>
Protection of adjacent buffer zone	50% (4)	50% (4)	0% (0)	0% (0)	0% (0)	<b>8</b>
Restrict public access and disturbance	13% (1)	88% (7)	0% (0)	0% (0)	0% (0)	<b>8</b>
Land use planning	57% (4)	43% (3)	0% (0)	0% (0)	0% (0)	<b>7</b>
Technical assistance	13% (1)	88% (7)	0% (0)	0% (0)	0% (0)	<b>8</b>
Cooperative land management agreements (conservation easements)	50% (4)	25% (2)	0% (0)	0% (0)	25% (2)	<b>8</b>
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	<b>1</b>
					<b>Total Respondents</b>	<b>136</b>

### 47. Other current HABITAT conservation practices for the Wildlife in Emergent Wetland Habitats in Indiana.

1. X
2. unknown

**Total Respondents      2**

### 48. What one or two specific HABITAT practices would you recommend for more effective conservation of the Wildlife in Emergent Wetland Habitats in Indiana?

1. Regulations are needed to protect small wetlands.  
Habitat restoration programs for private land owners. (Financial help)
2. Habitat protection incentives  
habitat protection regulations
3. continue efforts to protect and enhance wetland and riparian habitats.
4. Control of plant species that spread by vegetative means that from thick colonies such as cattail.
5. food plots  
refuge areas
6. providing additional financial incentives on private lands for easements to protect existing wetlands or to restore

## Appendix E-66: Emergent

wetlands

**Total Respondents 6**

**49.** Do you have any additional comments or information on the Wildlife in Emergent Wetland Habitats that you feel would be useful in the development of the Indiana Comprehensive Wildlife Strategy?

1. Indiana needs to take a more active role in protecting and restoring emergent wetlands. Probably the upward spiral of land value will insure the loss of our last quality habitat. To this date jobs and revenue are number one on our priorities. We will destroy any stream or wetland for a new residence, more agricultural production, or a factory. I fear we may be to late. As I see what has occurred during my 35 year as a land manager in Indiana I sometimes feel we have already lost the battle.

2. no

3. no

4. In Indiana we need to consider two distinct groups of Canada geese. I have tried to address both groups in the information provided above.

The geese migrating down from the traditional nesting grounds in Canada face high snow goose populations, degradation and destruction of existing wetlands, short stopping and a warming winter weather pattern. These have had a severe influence on traditional migration patterns and routes.

The Maxima geese being yearround residents are much more prone to goose - human conflicts. Also tend to gather in large numbers on small water bodies leading to possible disease outbreaks.

**Total Respondents 4**