

Appendix E-3: Aquatic Systems

12. Please briefly describe the top two HABITAT threats to the Wildlife in Aquatic Systems Habitat in Indiana identified above.

Habitat degradation & fragmentation

1. Urban sprawl and regulations that allow loss of habitat. The human/beaver interface usually results with either the habitat being eliminated or the beaver being eradicated.

2. urbanization

Water pollution not only impacts otter reproduction (see previous section), but may also impact the quantity/quality of aquatic prey for otters. Loss of wetland habitats reduces amount of suitable habitat for otters.

Total Respondents 4

13. What current monitoring efforts by state agencies are you aware of for the Wildlife in Aquatic Systems Habitat in Indiana?

| | Yes, these efforts occur | Not aware of these efforts occurring | Response Total |
|---|---------------------------------|---|-----------------------|
| Statewide year-round monitoring conducted by state agencies | 50% (2) | 50% (2) | 4 |
| Statewide once a year monitoring conducted by state agencies | 25% (1) | 75% (3) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies | 25% (1) | 75% (3) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Regional or local year-round monitoring conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Regional or local once a year monitoring conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by state agencies | 0% (0) | 100% (4) | 4 |
| | | Total Respondents | 32 |

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14. What current monitoring efforts by other organizations are you aware of for the Wildlife in Aquatic Systems Habitat in Indiana?

| | Yes, these efforts occur | Not aware of these efforts occurring | Response Total |
|--|--------------------------|--------------------------------------|----------------|
| Statewide year-round monitoring conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Statewide once a year monitoring conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Regional or local year-round monitoring conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Regional or local once a year monitoring conducted by other organizations | 25% (1) | 75% (3) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations | 25% (1) | 75% (3) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations | 25% (1) | 75% (3) | 4 |
| | Total Respondents | | 32 |

15. How crucial are these monitoring efforts by state agencies for the conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

| | Very crucial | Somewhat crucial | Slightly crucial | Not crucial | Unknown | Response Total |
|---|--------------|------------------|------------------|-------------|----------|----------------|
| Statewide year-round monitoring conducted by state agencies | 50% (2) | 0% (0) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Statewide once a year monitoring conducted by state agencies | 25% (1) | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Regional or local year-round monitoring conducted by state agencies | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Regional or local once a year monitoring conducted by state agencies | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by state agencies | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |

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monitoring conducted by state agencies

Total Respondents 32

16. How crucial are these monitoring efforts by other organizations for the conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

| | Very crucial | Somewhat crucial | Slightly crucial | Not crucial | Unknown | Response Total |
|--|---------------------|-------------------------|-------------------------|--------------------|----------------|-----------------------------|
| Statewide year-round monitoring conducted by other organizations | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Statewide once a year monitoring conducted by other organizations | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Regional or local year-round monitoring conducted by other organizations | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (4) | 4 |
| Regional or local once a year monitoring conducted by other organizations | 25% (1) | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations | 0% (0) | 0% (0) | 25% (1) | 0% (0) | 75% (3) | 4 |
| | | | | | | Total Respondents 32 |

17. Regional or local state agency monitoring for the Wildlife in Aquatic Systems Habitat in Indiana.

State and county highway dept. monitor beaver activity only as flooding of roadways occur. IDNR property monitor and attempt to eliminate problems associated with flooding of adjacent private property. State Furbearer Biologist tracks and monitors trapping harvest data.

IDNR personnel monitor otter mortality (road-kills, trap-related, etc.) at a statewide level. Also, IDNR personnel conduct winter bridge/stream surveys for otter sign. These are conducted on a county basis at a statewide level.

Total Respondents 2

18. Regional or local monitoring by other organizations for the Wildlife in Aquatic Systems Habitat in Indiana.

Brodman, Saint Joseph's College
Cortwright, IUN

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None that I am aware of.

Total Respondents **2**

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19. Please list organizations that are monitoring the Wildlife in Aquatic Systems Habitat in Indiana.

Brodman, Saint Joseph's College
Cortwright, IUN
IDNR

Total Respondents 2

20. What are the current monitoring techniques for the Wildlife in Aquatic Systems Habitat in Indiana?

| | 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 |
|---|-----------------|-------------------|---|---|---------------------------|----------|-----------------------------|
| Radio telemetry and tracking | 0% (0) | 0% (0) | 50% (2) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Modeling | 0% (0) | 25% (1) | 50% (2) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Coverboard routes | 0% (0) | 0% (0) | 33% (1) | 33% (1) | 0% (0) | 33% (1) | 3 |
| Spot mapping | 0% (0) | 0% (0) | 33% (1) | 0% (0) | 0% (0) | 67% (2) | 3 |
| Driving a survey route | 25% (1) | 0% (0) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Reporting from harvest, depredation, or unintentional take (road kill, bycatch) | 75% (3) | 0% (0) | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 4 |
| Mark and recapture | 0% (0) | 0% (0) | 75% (3) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Professional survey/census | 50% (2) | 25% (1) | 25% (1) | 0% (0) | 0% (0) | 0% (0) | 4 |
| Volunteer survey/census | 0% (0) | 25% (1) | 50% (2) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Trapping (by any technique) | 50% (2) | 25% (1) | 25% (1) | 0% (0) | 0% (0) | 0% (0) | 4 |
| Representative sites | 0% (0) | 33% (1) | 33% (1) | 0% (0) | 0% (0) | 33% (1) | 3 |
| Probabilistic sites | 0% (0) | 33% (1) | 33% (1) | 0% (0) | 0% (0) | 33% (1) | 3 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (1) | 1 |
| | | | | | | | Total Respondents 45 |

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21. Other monitoring techniques for the Wildlife in Aquatic Systems Habitat in Indiana.

Techniques currently in use in Indiana appear to be covered by the selections above.

Total Respondents 1

22. What one or two monitoring techniques would you recommend for effective conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

Aquatic surveys and minnow traps

Regulated trapping.

1. Stream surveys for otter sign.
2. Reporting (number, location, etc.) of unintentional take and biological data obtained from recovered specimens (reproductive parameters).

REFERENCE: Melquist, W.E., P.J. Polechla, Jr., and D. Towell. 2003. River Otter. Pages 708-734 in Wild Mammals of North America: biology, management, and conservation. 2nd edition. G.A. Feldhamer, B.C. Thompson, and J.A. Chapman (eds.), John Hopkins University Press, Baltimore, MD, 1216 pages.

Total Respondents 3

23. What current HABITAT inventory and assessment efforts or activities by state agencies are you aware of for the Wildlife in Aquatic Systems Habitat in Indiana?

| | Yes, these efforts occur | No effort that I'm aware of | Response Total |
|---|--------------------------|-----------------------------|----------------|
| Statewide annual inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Statewide once a year inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies | 25% (1) | 75% (3) | 4 |
| Regional or local year-round inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Regional or local once a year inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies | 0% (0) | 100% (4) | 4 |
| | Total Respondents | | 32 |

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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 Aquatic Systems Habitat 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% (4) | 4 |
| Statewide once a year inventory and assessment conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Regional or local year-round inventory and assessment conducted by other organizations | 0% (0) | 100% (4) | 4 |
| Regional or local once a year inventory and assessment conducted by other organizations | 25% (1) | 75% (3) | 4 |
| Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations | 25% (1) | 75% (3) | 4 |
| Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations | 25% (1) | 75% (3) | 4 |
| | Total Respondents | | 32 |

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28. Regional or local HABITAT inventory and assessment by other organizations for the Wildlife in Aquatic Systems Habitat in Indiana.

1. Brodman, Saint Joseph's College in NW Indiana
Cortwright, IUN in Brown County

Total Respondents **1**

29. Please list organizations that are monitoring this HABITAT for the Wildlife in Aquatic Systems Habitat in Indiana.

See #27.

Total Respondents **1**

30. What are the current HABITAT inventory and/or assessment techniques for the wildlife in Aquatic Systems Habitat in Indiana?

| | 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 | 0% (0) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Aerial photography and analysis | 0% (0) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Systematic sampling | 25% (1) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Property tax estimates | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 25% (1) | 50% (2) | 4 |
| State revenue data | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 25% (1) | 50% (2) | 4 |
| Regulatory information | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 0% (0) | 75% (3) | 4 |
| Participation in landuse programs | 0% (0) | 0% (0) | 25% (1) | 25% (1) | 0% (0) | 50% (2) | 4 |
| Modeling | 0% (0) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Voluntary landowner reporting | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 0% (0) | 75% (3) | 4 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (1) | 1 |
| Total Respondents | | | | | | | 37 |

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31. Other HABITAT inventory and assessment techniques for the Wildlife in Aquatic Systems Habitat in Indiana.

No responses were entered for this question.

Total Respondents 0

32. What one or two HABITAT inventory and assessment techniques would you recommend for effective conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

Systematic sampling & GIS

GIS technology appears to be the most feasible means for inventory and assessment of otter habitat at a statewide scale. I suspect analysis of aerial photos could be useful also, perhaps at a local scale. Unfortunately, I do not have any references.

Total Respondents 2

33. What is the current body of science for the Wildlife in Aquatic Systems Habitat in Indiana?

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

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

Title = Amphibians and reptiles from 23 counties of Indiana.;

Author = Robert Brodman;

Date = 2003;

Publisher = Proceedings of the Indiana Academy of Science, 112: 43-54.

Title = Ten- to eleven-year population trends of two pond-breeding amphibian species, red-spotted newts and green frogs.
In Status & Conservation of Midwestern;

Author = Spencer Cortwright;

Date = 1998;

Publisher = University of Iowa Press, Iowa City

Title = Mammals of Indiana;

Author = Russell E. Mumford/ John Whitaker, Jr.;

Date = 1982;

Publisher = Bloomington Indiana University Press

Title = Indiana River Otter Reintroduction Program, 2000-2001;

Author = Scott A. Johnson;

Date = November 2001;

Publisher = Internal report, Indiana Department of Natural Resources, Bloomington, IN

Title = Restoring river otters in Indiana;

Author = Scott A. Johnson and Kim A. Berkley;

Date = 1999;

Publisher = Wildlife Society Bulletin 27:419-427.

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

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36. What is the current HABITAT body of science for the Wildlife in Aquatic Systems Habitat in Indiana?

| | | Response Total | Response Percent |
|------------------------------------|---|-------------------|---------------------|
| Complete, up to date and extensive | | 0 | 0% |
| Adequate |  | 2 | 50% |
| Inadequate |  | 1 | 25% |
| Nonexistent | | 0 | 0% |
| Other (please explain below) | Unknown - I suspect it exists, just not of aware of who or where!! | 1 | 25% |
| Total Respondents | | 4 | |

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

Title = Mammals of Indiana;
 Author = Russell E. Mumford;
 Date = 1982;
 Publisher = Bloomington Indiana University Press

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

| | | Response Total | Response Percent |
|--------------------------|--|-------------------|---------------------|
| Title | | 0 | 0% |
| Author | | 0 | 0% |
| Date | | 0 | 0% |
| Publisher | | 0 | 0% |
| Total Respondents | | 0 | |

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39. What are the research needs for the Wildlife in Aquatic Systems Habitat in Indiana?

| | Urgently needed | Greatly needed | Needed | Slightly needed | Not needed | Unknown | Response Total |
|---|------------------------|-----------------------|---------------|------------------------|-------------------|----------------|--------------------------|
| Life cycle | 0% (0) | 0% (0) | 25% (1) | 25% (1) | 25% (1) | 25% (1) | 4 |
| Distribution and abundance | 0% (0) | 50% (2) | 25% (1) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Limiting factors (food, shelter, water, breeding sites) | 25% (1) | 0% (0) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Threats (predators/competition, contamination) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Relationship/dependence on specific habitats | 25% (1) | 0% (0) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Population health (genetic and physical) | 0% (0) | 50% (2) | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (1) | 1 |
| | | | | | | | Total Respondents |
| | | | | | | | 25 |

40. Other research needs for the Wildlife in Aquatic Systems Habitat in Indiana.

Relationship(s) between population levels and population indices

Total Respondents **1**

41. What are the HABITAT research needs for the Wildlife in Aquatic Systems Habitat in Indiana?

| | Urgently needed | Greatly needed | Needed | Slightly needed | Not needed | Unknown | Response Total |
|---|------------------------|-----------------------|---------------|------------------------|-------------------|----------------|--------------------------|
| Successional changes | 0% (0) | 0% (0) | 25% (1) | 25% (1) | 25% (1) | 25% (1) | 4 |
| Distribution and abundance (fragmentation) | 25% (1) | 0% (0) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Threats (land use change/competition, contamination/global warming) | 25% (1) | 25% (1) | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 4 |
| Relationship/dependence on specific site conditions | 0% (0) | 25% (1) | 0% (0) | 50% (2) | 0% (0) | 25% (1) | 4 |
| Growth and development of individual components of the habitat | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 25% (1) | 25% (1) | 4 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (1) | 1 |
| | | | | | | | Total Respondents |
| | | | | | | | 21 |

42. Other HABITAT research needs for the Wildlife in Aquatic Systems Habitat in Indiana.

No responses were entered for this question.

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Total Respondents 0

43. How well do the following conservation efforts address the threats to the Wildlife in Aquatic Systems Habitat in Indiana?

| | Very well | Somewhat | Not at all | Not used | Unknown | Response Total |
|---|-----------|----------|------------|----------|----------|-----------------------------|
| Habitat protection (use below for details) | 25% (1) | 75% (3) | 0% (0) | 0% (0) | 0% (0) | 4 |
| Population management (hunting, trapping) | 50% (2) | 25% (1) | 0% (0) | 25% (1) | 0% (0) | 4 |
| Population enhancement (captive breeding and release) | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Reintroduction (restoration) | 25% (1) | 0% (0) | 0% (0) | 50% (2) | 25% (1) | 4 |
| Food plots | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Threats reduction | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 50% (2) | 4 |
| Native predator control | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Exotic/invasive species control | 0% (0) | 0% (0) | 0% (0) | 50% (2) | 50% (2) | 4 |
| Regulation of collecting | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 50% (2) | 4 |
| Disease/parasite management | 0% (0) | 0% (0) | 0% (0) | 50% (2) | 50% (2) | 4 |
| Translocation to new geographic range | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Protection of migration routes | 0% (0) | 25% (1) | 0% (0) | 25% (1) | 50% (2) | 4 |
| Limiting contact with pollutants/contaminants | 0% (0) | 50% (2) | 0% (0) | 25% (1) | 25% (1) | 4 |
| Public education to reduce human disturbance | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Culling/selective removal | 25% (1) | 0% (0) | 0% (0) | 50% (2) | 25% (1) | 4 |
| Stocking | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (2) | 2 |
| | | | | | | Total Respondents 66 |

44. Other current conservation practices for the Wildlife in Aquatic Systems Habitat in Indiana.

No responses were entered for this question.

Total Respondents 0

45. What one or two specific practices would you recommend for more effective conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

Habitat protection

Regulated trapping and nuisance animal control policies

Protection of aquatic and riverine habitats is essential. More programs or efforts to restore lost or degraded systems would be beneficial. Educational programs aimed to reduce incidental take would also benefit others.

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systems would be beneficial. Educational programs aimed to reduce incidental take would also benefit otters especially where population densities are lower.

Total Respondents **3**

46. How well do the following conservation efforts address the HABITAT threats to the Wildlife in Aquatic Systems Habitat in Indiana?

| | Very well | Somewhat | Not at all | Not used | Unknown | Response Total |
|--|------------------|-----------------|-------------------|-----------------|----------------|------------------------------------|
| Habitat protection through regulation | 0% (0) | 75% (3) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Habitat protection on public lands | 75% (3) | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Habitat protection incentives (financial) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Habitat restoration through regulation | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Habitat restoration on public lands | 50% (2) | 50% (2) | 0% (0) | 0% (0) | 0% (0) | 4 |
| Habitat restoration incentives (financial) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Artificial habitat creation (artificial reefs, nesting platforms) | 0% (0) | 0% (0) | 0% (0) | 50% (2) | 50% (2) | 4 |
| Selective use of functionally equivalent exotic species in place of extirpated natives | 0% (0) | 0% (0) | 0% (0) | 75% (3) | 25% (1) | 4 |
| Succession control (fire, mowing) | 0% (0) | 0% (0) | 0% (0) | 50% (2) | 50% (2) | 4 |
| Corridor development/protection | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Managing water regimes | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Pollution reduction | 0% (0) | 75% (3) | 0% (0) | 0% (0) | 25% (1) | 4 |
| Protection of adjacent buffer zone | 25% (1) | 25% (1) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Restrict public access and disturbance | 0% (0) | 0% (0) | 0% (0) | 25% (1) | 75% (3) | 4 |
| Land use planning | 0% (0) | 25% (1) | 0% (0) | 0% (0) | 75% (3) | 4 |
| Technical assistance | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Cooperative land management agreements (conservation easements) | 0% (0) | 50% (2) | 0% (0) | 0% (0) | 50% (2) | 4 |
| Other (please specify below) | 0% (0) | 0% (0) | 0% (0) | 0% (0) | 100% (1) | 1 |
| | | | | | | Total Respondents 69 |

47. Other current HABITAT conservation practices for the Wildlife in Aquatic Systems Habitat in Indiana.

No responses were entered for this question.

Total Respondents **0**

48. What one or two specific HABITAT practices would you recommend for more effective conservation of the Wildlife in Aquatic Systems Habitat in Indiana?

Habitat protection

Appendix E-3: Aquatic Systems

Proper land use planning, at a watershed scale, would not only benefit otters but other aquatic and riparian species. Strict enforcement of existing pollution regulations, and if needed, development of stricter laws would be beneficial.

Total Respondents 2

Appendix E-3: Aquatic Systems

- 49.** Do you have any additional comments or information on the Wildlife in Aquatic Systems Habitat that you feel would be useful in the development of the Indiana Comprehensive Wildlife Strategy?

Newts have a spotty distribution in Indiana. We need to better understand the factors that lead to this.

The IDNR reintroduction program appears to have successfully restored otters in select watersheds throughout the state. Populations are established near release sites, have expanded to adjacent habitats, and colonized areas not originally targeted for restoration. Public interest in this species remains high and the otter can serve as a profile species for wetland and riverine protection.

Total Respondents 2