

## SHRUB/SCRUB WETLAND HABITATS NARRATIVE

### Habitat description

Wetlands are areas where the soil or substrate is periodically saturated with or covered with water as defined by Cowardin et al.

*Shrub/scrub wetlands* are areas where shrubland vegetation accounts for 25 to 100 percent of the cover and the soil or substrate is periodically saturated with or covered with water.

### Problems affecting species and habitats

#### Species threats

The respondent listed no "critical threat", but cited the following as "serious threat" to wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Genetic pollution (hybridization)

The respondent listed the following as "somewhat of a threat" to wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Invasive/non-native species
- Predators (native or domesticated)
- Near limits of natural geographic range
- Viable reproductive population size or availability
- Genetic pollution (hybridization)

The respondent listed the following as "slight threat" to wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Unintentional take/direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)
- Small native range (high endemism)
- Specialized reproductive behavior or low reproductive rates

The respondent listed no other threats to wildlife in shrub/scrub wetland habitats in Indiana.

The respondent listed top threats to wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Loss of early succession habitat
- Hybridization with blue-winged warbler

#### Habitat threats

The respondent listed the following as "serious threat" to shrub/scrub wetland habitats in Indiana:

- Successional change

The respondent listed as "somewhat of a threat" to shrub/scrub wetland habitats in Indiana (not ranked):

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- Commercial or residential development (sprawl)
- Counterproductive financial incentives or regulations
- Habitat degradation
- Agricultural/forestry practices

The respondent listed the following as “slight threat” to shrub/scrub wetland habitats in Indiana (not ranked):

- Habitat fragmentation
- Impoundment of water/flow regulation

The respondent listed no other threats to shrub/scrub wetland habitats in Indiana.

The respondent listed top threats to shrub/scrub wetland habitats in Indiana (not ranked)

- Loss of early successional woody habitat
- Habitat loss due to development

## **Additional research and survey efforts**

### **Current body of research**

#### Species research

The respondent stated that the current body of science for wildlife in shrub/scrub wetland habitats is inadequate.

Respondents identified the following citations (title, author, date, publisher) that would give the best overview of wildlife in shrub/scrub wetland habitats in Indiana.

Title = BNA Account - Golden-winged Warbler;

Author = JL Confer;

Date = 1992;

Publisher = American Ornithologists' Union

Title = Birds of Indiana;

Author = R Mumford and C. Keller;

Date = 1984;

Publisher = Indiana University Press

#### Habitat research

The respondent stated that the current body of science for shrub/scrub wetland habitats is inadequate.

Respondents identified the following citations (title, author, date, publisher) that would give the best overview of shrub/scrub wetland habitats in Indiana.

Title = see previous sources

## Research needs

### Species research

The respondent indicated that the following research for wildlife in shrub/scrub wetland habitats in Indiana is "greatly needed" (not ranked):

- Limiting factors (food, shelter, water, breeding sites)
- Threats (predators/competition, contamination)
- Relationship/dependence on specific habitats
- Population health (genetic and physical)

The respondent ranked the following research for wildlife in shrub/scrub wetland habitats in Indiana is "needed" (not ranked):

- Life cycle
- Distribution and abundance

The respondent cited no additional research needs for wildlife in shrub/scrub wetland habitats in Indiana.

### Habitat research

The respondent indicated that the following research for shrub/scrub wetland habitats in Indiana is "greatly needed" (not ranked):

- Successional changes
- Relationship/dependence on specific site conditions
- Growth and development of individual components of the habitat

The respondent listed the following research as "needed" for shrub/scrub wetland habitats in Indiana (not ranked):

- Distribution and abundance (fragmentation)
- Threats (land use change/competition, contamination/global warming)

The respondent cited no additional research needs for shrub/scrub wetland habitats in Indiana.

## Conservation actions necessary

### Species actions

The respondent indicated that none of the listed conservation efforts address threats to wildlife in shrub/scrub wetland habitats in Indiana "very well." The following efforts address threats "somewhat" (not ranked):

- Habitat protection
- Threats reduction
- Regulation of collecting
- Protection of migration routes
- Public education to reduce human disturbance

The respondent listed no other current conservation practices for wildlife in shrub/scrub wetland habitats in Indiana.

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The respondent recommended the following for more effective conservation of wildlife in shrub/scrub habitats in Indiana (not ranked):

- Habitat protection
- Habitat manipulation

### Habitat actions

From a list of conservation efforts presented, the respondent said the following addresses threats to shrub/scrub wetland habitats in Indiana "very well:"

- Succession control (fire, mowing)

The respondent stated that the following efforts address threats to shrub/scrub wetland habitats in Indiana "somewhat" (not ranked):

- Habitat protection through regulation
- Habitat protection on public lands
- Habitat protection incentives (financial)
- Habitat restoration on public lands
- Habitat restoration incentives (financial)
- Corridor development/protection
- Protection of adjacent buffer zone
- Restrict public access and disturbance
- Land use planning
- Technical assistance
- Cooperative land management agreements (conservation easements)

The respondent listed no other current conservation practices for shrub/scrub wetland habitats in Indiana.

The respondent recommended the following practices for more effective conservation of shrub/scrub habitats in Indiana (not ranked):

- Retard succession to desired habitat stage
- Incentives to conserve shrubby habitats

## **Proposed plans for monitoring**

### **Current monitoring**

#### Species monitoring

The respondent was aware of no monitoring efforts by state agencies for wildlife in shrub/scrub habitats in Indiana.

The respondent noted the following monitoring effort by other organizations for wildlife in shrub/scrub habitats in Indiana:

- Statewide once-a-year monitoring

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The respondent listed no monitoring efforts by state agencies or other organizations as “very crucial” for conservation of wildlife in shrub/scrub wetland habitats in Indiana. The respondent listed as “somewhat crucial” the monitoring effort conducted by other organizations:

- Statewide once-a-year monitoring

The respondent listed no regional or local monitoring by state agencies for wildlife in shrub/scrub wetland habitats in Indiana.

The respondent listed the following regional or local monitoring by other organizations for wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Federal Breeding Bird Survey statewide
- May Day bird count
- Summer bird count

The respondent listed the following organizations that monitor wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- USGS
- Birding groups

The respondent listed the following “frequently used” monitoring techniques for wildlife in shrub/scrub wetland habitats in Indiana (not ranked):

- Driving a survey route
- Volunteer/survey census

The respondent stated that the following techniques are “occasionally used” (not ranked):

- Modeling
- Spot mapping
- Mark and recapture
- Professional survey/census
- Trapping (by any technique)
- Representative sites
- Probabilistic sites

The respondent stated that “radio telemetry and tracking” are “not used but possible with existing technology and data” for wildlife in shrub/scrub wetland habitats in Indiana. The respondent listed no techniques that are “not economically feasible.”

The respondent listed no monitoring techniques for wildlife in shrub/scrub wetland habitats in Indiana.

### Habitat inventory and assessment

The respondent was aware of no inventory and assessment efforts by state agencies for shrub/scrub wetland habitats in Indiana.

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The respondent listed the following inventory and assessment effort is conducted by other organizations for shrub/scrub wetland habitats in Indiana:

- Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment

The respondent ranked no efforts by state agencies or other organizations as “very crucial” for conservation of shrub/scrub wetland habitats in Indiana. Listed as “somewhat crucial” is the following monitoring technique conducted by other organizations:

- Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment

The respondent listed no regional or local inventory and assessment by state agencies for shrub/scrub wetland habitats in Indiana.

The respondent listed the following regional or local inventory and assessment by other organizations for shrub/scrub wetland habitats in Indiana:

- Statewide aerial imagery

The respondent cited the following organizations that monitor shrub/scrub wetland habitats in Indiana:

- USDA

The respondent cited no inventory and assessment techniques for shrub/scrub wetland habitats in Indiana that are “frequently used,” “not used but possible with existing technology or data” or “not economically feasible.” The respondent listed the following techniques as “occasionally used” (not ranked):

- GIS mapping
- Systematic sampling
- Modeling

The respondent offered no other inventory and assessment techniques for shrub/scrub wetland habitats in Indiana.

### **Recommended monitoring**

#### Species monitoring

The respondent recommended the following monitoring technique for effective conservation of wildlife in shrub/scrub wetland habitats in Indiana:

- Spot mapping in appropriate habitats

#### Habitat inventory and assessment

The respondent recommended the following inventory and assessment technique for effective conservation of shrub/scrub wetland habitats in Indiana:

- Aerial/satellite imagery coupled with modeling