



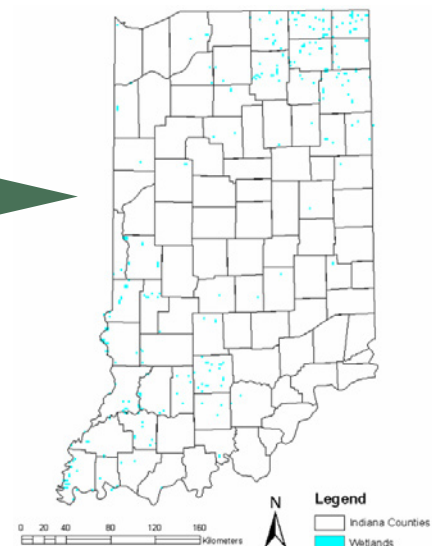
WETLANDS HABITAT SUMMARY



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.



Less than 1% of Indiana remains in wetlands. Indiana's wetlands comprise 222,550 or 348 miles². Today, wetlands are dotted throughout south-central, west-central, and northeastern Indiana.



Indiana's State Wildlife Action Plan

Representative Species of Wetlands

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

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

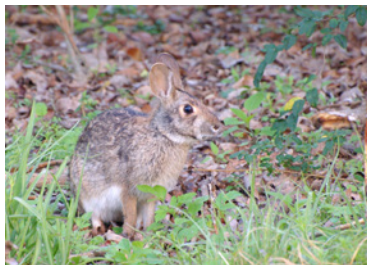


Left to right: *Muskrat, Spring Peeper and Great Blue Heron*

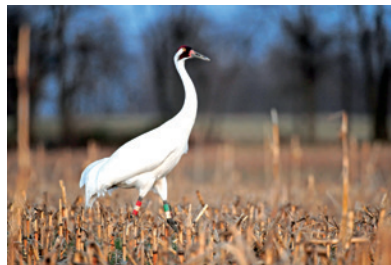
Species of Greatest Conservation Need (SGCN) in Wetlands

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

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



Glenn E. Wilson



Left to right: *Swamp Rabbit, Whooping Crane and Massasauga*

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

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.

Habitat protection incentives (financial)

- Cooperate with programs (Wetland Reserve Program) and organizations (Ducks Unlimited) that provide financial incentives to private landowners to develop and/or protect wetlands.

Artificial habitat creation (artificial reefs, nesting platforms)

- Provide nesting platforms in appropriate wetlands for black terns.

Habitat restoration through regulation

- Provide technical assistance to regulatory programs regarding wetlands beneficial to SCGN for evaluation of projects conducted under state permit or receiving public funds, especially in regarding minimizing adverse impacts or mitigation.

Adaptive Management

- Modify survey and monitoring, research and other conservation actions and activities in response to new information to improve habitat conservation efficiency for SGCN.

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)

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.

Habitat protection

- Conserve and manage a variety of wetland types for the benefit of SGCN, including mammals, birds, amphibians, and reptiles.

Regulation of collecting

- Investigate the role or intentional and/or unintentional take on the viability of reptile and amphibian SGCN populations.

Exotic/invasive species control

- Reduce invasive plants in wetlands using water-level manipulation, fire, herbicides, and other methods for the benefit of SGCN, including mammals, birds, amphibians, and reptiles.

Threats reduction

- Investigate threats (e.g., exotic species competition, loss of wetland diversity, dependence on other species such as burrowing crayfish) to wetland-dependent SGCN.

Adaptive Management

- Modify survey and monitoring, research and other conservation actions and activities in response to new information to improve conservation efficiency for SGCN.

