

# WADEABLE/LARGE RIVERS

IN THE EASTERN CORN BELT/INTERIOR

PLATEAU ECOREGIONS

OF THE OHIO RIVER DRAINAGE

(OHIO RIVER/E.C.-I.P)

**DNR**

Indiana Department  
of Natural Resources

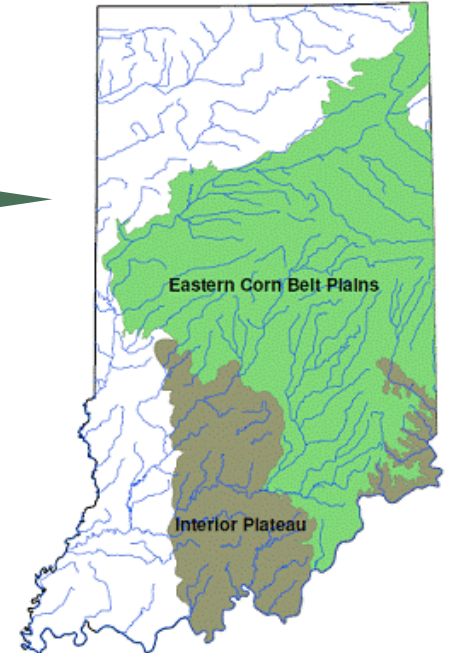


## HABITAT SUMMARY

*Wadeable/large rivers are those having a drainage area of  $> 19 < 2,000 \text{ mi}^2$ . This habitat is defined by streams of the Ohio River drainage within the Eastern Corn Belt ecoregion and Interior Plateau ecoregion. The Eastern Corn Belt ecoregion is found in central and east-central Indiana; the Interior Plateau ecoregion is found in south-central and southeastern Indiana. The streams of the Eastern Corn Belt ecoregion are highly influenced by the extensive agriculture that dominates the ecoregion. The Interior Plateau ecoregion includes Indiana's karst region and the most rugged terrain of Indiana.*



*Indiana's stationary and free-flowing aquatic habitats are spread throughout the state, covering 2.36% of Indiana or 899 miles<sup>2</sup> (575,151 acres). This particular aquatic habitat includes large rivers associated with the Ohio River drainage area that are within the Eastern Corn Belt and Interior Plateau ecoregions. The map highlights these ecoregions. The Ohio River forms the southern border of Indiana.*



### Representative Species for Ohio River/E.C.-I.P

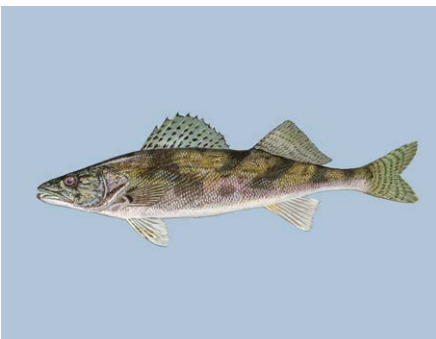
This habitat guild for wadeable/large rivers for Ohio River/E.C.-I.P. is represented by several species.

These representative species “paint a reasonable mental picture” of this habitat type.

Channel Catfish  
Shovelnose Sturgeon  
Northern Hogsucker  
Rock Bass  
Southern Redbelly Dace  
Steamside Salamander  
River Cooter

Sauger  
Fanshell  
Orangethroat Darter  
Cylindrical Papershell  
Clubshell  
Two-Lined Salamander  
Hellbender

Blue Sucker  
Hickorynut  
Eastern Sand Darter  
Spike  
Smallmouth Bass  
Alligator Snapping Turtle



**From left to right:** Sauger (Duane Raver, USFWS), Rock Bass, and Channel Catfish (Duane Raver, USFWS)

# Indiana's State Wildlife Action Plan

## Species of Greatest Conservation Need (SGCN) in Lake Michigan

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

Hellbender	Purple Lilliput	Gilt Darter
Rabbitsfoot	Ohio River Muskellunge	Rayed Bean
Spotted Darter	Round Hickorynut	Variegate Darter
Salamander Mussel	Clubshell	Sheepnose
Kidneyshell	Snuffbox	Little Spectaclecase
Wavyrayed Lampmussel	Northern Riffleshell	



From left to right: Sheepnose (no stripe), Gilt Darter, and Hellbender

## Threats to Ohio River/E.C.-I.P

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

## High-Priority Conservation Actions for Ohio River/E.C.-I.P

### Protection of adjacent buffer zone

- Promote all public and private initiatives that support the development and maintenance of vegetative (native vegetation) drainage paths and riparian corridors to maintain the ecological health and ecological function of Ohio River/E.C.-I.P. streams.

### Pollution reduction

- Develop and/or distribute BMPs that target pollution reduction to protect Ohio River/E.C.-I.P. aquatic systems that support or could support kidneyshell, little spectaclecase, purple lilliput, rayed bean mussels and wavyrayed lampmussel.

**Corridor development/protection**

- Promote the establishment and protection of vegetated (native vegetation) riparian corridors for all Ohio River/E.C.-I.P. streams to provide suitable habitat for SGCN.

**Habitat restoration incentives (financial)**

- Support the implementation of existing and the development of new financial incentive programs that promote the use of BMPs for restoration of drainage paths in the Ohio River E.C.-I.P. aquatic systems to provide quality habitat for SGCN dependent on this system.

**Habitat protection incentives (financial)**

- Support the implementation of existing and the development of new financial incentive programs that promote the use of BMPs to protection drainage paths in the Ohio River E.C.-I.P.

**Habitat protection through regulation**

- Provide technical assistance (relative to the distribution, life history and ecology of SGCN and their habitat) to regulatory agencies that administer laws and rules to protect habitat.

**Habitat restoration through regulation**

- Provide technical assistance (relative to the habitat requirements of SGCN) to regulatory agencies that administer laws and rules that seek to avoid, minimize and mitigate habitat loss.

**Habitat restoration on public lands**

- Employ BMPs and develop new techniques for the restoration of Ohio River/E.C.-I.P. aquatic systems on public lands. Provide demonstration technical assistance opportunities to the public to promote restoration in other areas.

**Habitat protection on public lands**

- Employ BMPs and develop new techniques for the protection of Ohio River/E.C.-I.P. aquatic systems on public lands. Provide demonstration technical assistance opportunities to the public to promote protection in other areas.

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

- Create or protect nesting islands for least terns in appropriate areas.

**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 Ohio River/E.C.-I.P

- High sensitivity to pollution
- 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)
- Invasive/non-native species
- Specialized reproductive behavior or low reproductive rates
- Viable reproductive population size or availability
- Predators (native or domesticated)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)
- Bioaccumulation of contaminants

## High-Priority Conservation Actions for SGCN in Ohio River/E.C.-I.P

### Reintroduction (restoration)

- Coordinate with multi-state efforts to develop and implement restoration protocols for the Northern riffleshell mussel. (This may be the only viable method of reestablishing this species now thought to be extirpated.)
- Provide for the evaluation of reintroduction efforts for any SGCN.

### Habitat protection

- Cooperate with all ongoing efforts to protect the Blue River from all threats (impoundment, siltation, point source and non-point source pollution, etc.) for the benefit of the hellbender and other SGCN.
- Promote the protection of clean, rocky riffles that are currently inhabited by gilt, spotted and variegated darters to help maintain their populations.

### Limiting contact with pollutants/contaminants

- Maintain up-to-date, accurate records of the location of SGCN to use to avoid and minimize the placement of high-risk facilities near sensitive populations.

### Translocation to new geographic range

- Investigate the impact of impoundments on the distribution of species and determine the feasibility/necessity of recreating ecological assemblages in appropriate areas.

**Population management**

- Investigate regulatory processes for protecting the Ohio River muskellunge from take in its native range to support self-sustaining populations of this SGCN.

**Population enhancement (captive breeding and release)**

- Support the development and implementation of practical mussel restoration and evaluation techniques for use in appropriate situations for the restoration of clubshell, rabbitsfoot, round hickorynut, sheepsnose and snuffbox, mussel and other mussel species that have very limited distribution in Indiana.
- Support the long-term evaluation of population enhancement activities.

**Threats reduction**

- Cooperate and support efforts to identify and minimize chemical and physical alteration threats to Ohio River /E.C.-I.P. aquatic systems. Provide technical assistance to help avoid or minimize detrimental impacts to SGCN.

**Exotic/invasive species control**

- Cooperate with and provide technical assistance to the Aquatic Nuisance Species Program in the detection of invasive, exotic species, species control and control measure evaluation aspects of the program.

**Regulation of collecting**

- Investigate the relationship between mudpuppy harvest and salamander mussel population viability to determine if harvest regulation might be warranted to protect the SGCN mussel.

**Adaptive Management**

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

