

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

Early Coordination/Environmental Assessment

DNR #: ER-15921-1 Request Received: November 17, 2011

Requestor: Federal Highway Administration
Janice Osadczuk
575 North Pennsylvania Street, Room 254
Indianapolis, IN 46204

Project: Louisville-Southern Indiana Ohio River Bridges Supplemental Draft Environmental Impact Statement (SDEIS)

County/Site info: Clark

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

Regulatory Assessment: This proposal will require the formal approval for construction in a floodway under the Flood Control Act, IC 14-28-1. Please submit a copy of this letter with the permit application.

Natural Heritage Database: The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish & Wildlife Comments: We strongly recommend an alternative for the east end bridge with lower environmental impacts than A-15. Alternative A-15 would result in some of the highest environmental impacts of all the alternatives considered and is likely to result in significant environmental harm. Due to the substantial amount of cut and fill required, the forested valley adjacent to the quarry on the north side of the Ohio River would be substantially impacted both by direct and indirect impacts. We strongly recommend an alignment that avoids this area.

The East End bridge crosses densely forested areas on the Indiana side of the river containing several headwater streams. Headwater streams are important habitats for wildlife such as amphibians, reptiles and aquatic macroinvertebrates, and have a strong influence on the health of downstream river segments (the Ohio EPA maintains a website devoted to headwater streams and issues affecting them at www.epa.state.oh.us/dsw/wqs/headwaters/). Cut and fill construction methods typically used to cross valleys can cause significant environmental impacts. If the current alignment is not changed, the road footprint across the forested valleys and uplands east of Utica should be minimized through the use of retaining walls and bridges.

The SDEIS does not propose sufficient mitigation for non-wetland forest habitat impacts in the floodway. On page 5-189, mitigation proposed for impacts to "riparian vegetation" consists of purchasing existing woodland at a 1:1 ratio for preservation or revegetation at a 1:1 ratio of "upland woodland" to mitigate forested habitat lost in Indiana as a result of the project. Preservation of existing wooded habitat is acceptable depending on the site conditions below and is typically at a 10:1 ratio:

- a) Size of the area to be preserved (usually 5 acres minimum);
- b) Quality and/or uniqueness of the resource;
- c) Proximity of the site to existing habitat;
- d) Ecological value of the site; and
- e) Demonstrable threat to the resource.

**State of Indiana
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Early Coordination/Environmental Assessment

Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

1) Forest and Wetland Habitat:

Impacts to non-wetland forest under one (1) acre should be mitigated at a 1:1 ratio, while impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. Impacts to wetlands should be mitigated at the appropriate ratio as well according to the 1991 INDOT-IDNR-USFWS wetland MOU.

2) Stream Crossings:

For purposes of maintaining fish passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure.

The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. A level area of natural ground under the structure is ideal for wildlife passage. Wildlife passage under the bridge can be facilitated with a flat area (not riprap-covered) above the normal water level if channel clearing is planned. If no suitable flat area is possible under the bridge, side-slopes or bridge abutments requiring armoring should be armored with a smooth-surfaced material such as cabled-concrete block mats or other similar smooth-surfaced materials instead of riprap.

3) Bank Stabilization:

Establishing vegetation along the banks is critical for stabilization and erosion control. In addition to vegetation, some other form of bank stabilization may be needed. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection while not compromising the benefits to fish and wildlife. The following is a link to a USDA / NRCS document that outlines many different bioengineering techniques for streambank stabilization:

<http://directives.sc.egov.usda.gov/17553.wba> (Choose Handbooks; Title 210 Engineering; National Engineering Handbook; Part 650 Engineering Field Handbook. Choose Chapter 16 from next window).

Minimize the use of riprap in the channel and on the banks and use alternative erosion protection materials whenever possible. Where riprap must be used, we recommend placing only enough riprap to provide stream bank toe protection, such as from the toe of the bank up to the ordinary high water mark (ohwm). From the ohwm to the top of the bank, we recommend using erosion control blankets or turf reinforcement mats instead of riprap as these are compatible with vegetation growth and provide equal or better erosion control protection than riprap. The use of erosion control blankets, turf reinforcement mats, and other similar materials seeded with a native plant seed mix will allow a natural, vegetated stream bank to develop.

**State of Indiana
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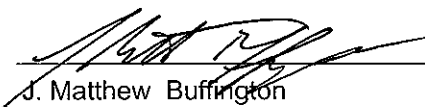
Early Coordination/Environmental Assessment

Additional measures that should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources, include the following, and will be a requirement of a permit:

1. Revegetate all bare and disturbed areas with a mixture of native grasses, sedges, wildflowers, and native shrub and hardwood tree species as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants (e.g. crown-vetch).
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.
5. Do not construct any temporary runarounds or causeways.
6. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
7. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
8. Post "Do Not Mow or Spray" signs along the right-of-way.
9. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
10. Seed and protect all disturbed slopes that are 3:1 or steeper with biodegradable heavy-duty erosion control blankets (follow manufacturer's recommendations for selection and installation; seed and apply mulch on all other disturbed areas).

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please do not hesitate to contact the above staff member at (317) 232-4160 or 1-877-928-3755 (toll free) if we can be of further assistance.


J. Matthew Buffington
Environmental Supervisor
Division of Fish and Wildlife

Date: January 12, 2012

