

## Threatened and Endangered Species Summary of Technical Memorandum

An investigation for species that are listed as threatened, endangered, or state special concern was conducted during three periods: May 22-26 and August 14-18, 2000, and June 4-7, 2001. A linear corridor approximately one mile in width and including US-131 was investigated. The corridor extended from the junction of Interstate 80/90 and US-131 at the south terminus, to Null Road north of Three Rivers, Michigan. The study area was selected by the Michigan Department of Transportation to evaluate potential improvement alternatives for US-131.

Four areas were identified as unique high quality habitats, as noted in **Table A.3**. Three listed plant species and five listed animal species were discovered during the threatened and endangered species investigation (**Tables A.4** and **A.5**). In addition to listed species sighted during the study, potential habitat exists within the study area for two other listed plants and seven listed animal species (**Tables A.4** and **A.5**).

**Table A.3 Unique High Quality Habitats Found/Observed in Study Area**

Bog	Site 8*	SG <sup>1</sup>
Bog	Site 25	SG
Fen Complex	Site 36	SG
Wet Floodplain Forest	Site 9	SG

**Table A.4 Listed plant species Found/Observed in Study Area**

<i>Carex trichocarpa</i>	Site 25	SSC <sup>2</sup>
<i>Rhynchospora macrostachya</i>	Site 8	SSC
<i>Zizania aquatica aquatica</i>	Site 12	ST <sup>3</sup>
<i>Berula erecta</i>	Site 9 & 36**	ST
<i>Poa paludigena</i>	Sites 8 & 25**	ST

**Table A.5 Listed Animal Species Found/Observed in the Study Area**

Prothonotary Warbler	Site 9	SSC
Yellow-throated Warbler	Site 9, 33**	SSC
Eastern Box Turtle	Site 9	SSC
Loggerhead Shrike	Site 27	SE <sup>4</sup>
Blanding's Turtle	Site 20	SSC
Eastern Massasauga	Site 9**	SE, FEc <sup>5</sup>
Copperbelly Water Snake	Site 9**	FEc <sup>5</sup> , SSC
Karner Blue Butterfly	Site 7**	FE <sup>6</sup>
Blazing Star Borer	Site 2**	SSC
River Redhorse	Sites 12 and 38**	ST
Lake Herring	Site 36**	ST
Snuffbox	Site 12, 37, and 38**	SE
Purple Wartyback	Sites 12, 37, and 38**	SSC

1 SG = State listed as a protected habitat.

2 SSC = Species of special concern at the state level.

3 ST = State threatened

4 SE = State endangered

5 FEc = Federally listed as a candidate

6 FE = Federally listed

\* Note: For site locations see **Figure 4.10** at the end of **Section 4.0**.

\*\*Based on available suitable habitat; species not observed.

The relationships of the sites of concern to the Practical Alternatives are listed below:

- **Site 2 – site avoided** (potential habitat for the Blazing Star Borer, state special concern).
- **Site 7 – habitat avoided** (potential habitat for the Karner Blue Butterfly, federally endangered). This species would not likely be affected because the Practical Alternatives propose crossing the habitat at existing crossings.
- **Site 8 – site avoided** (bog; *Rynchospora macrostachya*, state special concern; and potential habitat for *Poa paludigena*, state threatened).
- **Site 9 – affected** (state-protected habitat; Prothonotary Warbler, state special concern; Yellow-throated Warbler, state special concern; Eastern Box Turtle, state special concern; potential habitat for *Berula erecta*, state threatened; potential habitat for Eastern Massasauga, state special concern; and potential habitat for the Indiana Bat, state special concern). All alternatives with the exception of PA-5 and PA-5 MOD will affect Site 9. Recommended mitigation measures are provided in the “Preliminary Mitigation Measures” section.
- **Site 12 – affected** (*Zizania aquatica aquatica*, state threatened, and potential habitat for River Redhorse, state threatened). There is only a moderate probability that *Zizania aquatica aquatica* would be affected, because the species was not observed in the immediate vicinity of the proposed areas of impact. The proposed river crossings may affect the River Redhorse. Recommended mitigation measures are provided in the “Preliminary Mitigation Measures” section.
- **Site 20 – site avoided** (Blanding’s Turtle, state special concern).
- **Site 25 – site avoided** (bog; *Carex trichocarpa*, state special concern, and potential habitat for *Poa paludigena*, state threatened).
- **Site 27 – site avoided** (Loggerhead Shrike, state endangered).
- **Site 33 – site avoided** (potential habitat for the Yellow-throated Warbler, state special concern).
- **Site 36 – site avoided** (fen; potential habitat for *Berula erecta* and Lake Herring, state threatened).
- **Site 37 – site avoided** (potential habitat for Snuffbox, state endangered, and Purple Wartyback, state special concern).
- **Site 38 – habitat avoided** (potential habitat for the Snuffbox, state endangered; Purple Wartyback, state special concern; and River Redhorse, state threatened). These species would not likely be affected because the Practical Alternatives propose crossing the habitat at existing crossings. However, mitigation measures are proposed to ensure proper erosion control and timing of construction near the river.

In summary, a portion of Site 9 will be affected under all the Practical Alternatives except for PA-5 and PA-5 MOD, and Site 12 will be affected under all of the Practical Alternatives.