

Jeopardy Assessment

Broad Incidental Taking Authorization For sites classified as Tier 2 Sites of Moderate Conservation Value for the Butler's Gartersnake

Background

The state-threatened Butler's gartersnake is the smallest of the five Wisconsin gartersnake species. Both sexes of this species reach maturity during their second full year and females deliver 4-19 live-born young in mid to late summer. The Butler's gartersnake is a colonial species that is restricted to several southeastern counties in Wisconsin. This species requires a moderately open to open canopy habitat, preferably with both upland and wetland habitat. Butler's naturally hibernate in open-canopy wetlands (sedge meadows, fringes of cattail marshes, etc.) but are also known to occupy sites that provide other means for successful overwintering (i.e. old landfills where conditions provide access below the frostline and where adequate moisture exists).

The Butler's gartersnake was listed as a state-threatened species in 1997 for two primary reasons: extensive habitat loss within its very limited range; intergradation with a similar species, the eastern plains gartersnake *Thamnophis radix*. Habitat loss leads the list of threats. Habitat fragmentation has caused populations to become isolated, potentially compromising their genetic integrity. Additional habitat losses will further hamper recovery efforts unless enough sites can be identified and preserved to perpetuate this species.

Intergradation with the plains gartersnake likely continues at the periphery of the Butler's known range, particularly at the southern and western edges of its range, but is expected to lessen as habitat fragmentation isolates populations. This will, in turn, create other management challenges in dealing with the long-term survival of the Butler's gartersnake.

Surveys and monitoring since the snake's listing in 1997 reveal that Butler's can occur in large numbers on relatively small sites (i.e. 400+ snakes detected on a 20-acre site with less than 50% suitable [open canopy] habitat). At sites where Butler's have been well surveyed, their populations tend to show a healthy age-class structure, indicating that regular recruitment is occurring at those locations. Surveys have also demonstrated that Butler's can occur on disturbed and degraded sites.

Range limits for the Butler's gartersnake may be further refined as additional information on genetics and taxonomy becomes available. Changes in range limits may necessitate re-assessing jeopardy policies, by either relaxing or tightening allowable take.

In summary, the Butler's gartersnake is a fast-maturing species with potentially high annual recruitment. The habitats required for this species have and are continuing to be lost due to development pressures within southeastern Wisconsin. Relatively large populations can potentially be sustained on relatively small sites (under 20 acres), which may or may not be degraded, but as these sites become further isolated, their populations may suffer from genetic stagnation. The long-term future of this species remains unclear and the protection of all sites considered valuable for long-term conservation of the species should continue.

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The Butler's Gartersnake Conservation Strategy (<http://www.dnr.state.wi.us/org/land/er/review/Butler/>) focuses conservation efforts for the Butler's gartersnake on sites with significant conservation value (Tier 3 sites). It was determined by the Department and other experts in herpetology and population dynamics that Tier 3 sites contain sufficient size and quality of habitat to maintain the status and recovery of the snake for the long-term. It was further determined that sites of minimum and moderate conservation value (Tier 1 and Tier 2 sites),

though containing suitable habitat and snakes, do not contribute to the long-term conservation of the snake because they are isolated, too small and usually of poor quality (see Strategy for definitions). As a result, the Department and other conservation organizations are focusing significant conservation efforts on Tier 3 sites by requiring conservation measures that will protect and enhance the sites.

In October 2004, the Department authorized the taking of snakes that are present within Tier 1 sites, stating “sites classified as Tier 1 - Minimal Conservation Value are regarded as not contributing to the overall conservation of the species because the habitat they contain is either isolated from other patches, too small to support a population long-term, or of poor quality.” The Department is now proposing to authorize the take of snakes within Tier 2 sites since it is expected that Tier 2 sites also do not contribute to the long-term conservation of the snake and thus do not warrant the same protection as sites with significant long-term conservation value.

The Butler’s Conservation Team and the Department determined that sites with moderate long-term conservation value do not warrant protection if at least 65 sites classified as having significant conservation value (Tier 3 sites) can be permanently protected. The Department has identified 124 potential Tier 3 sites and has confirmed the presence of Butler’s on 47 of these sites. Of the 47 documented Butler’s sites, 27 occur on public lands with compatible conservation goals. The Department is currently pursuing their long-term protection through management agreements. The remaining privately owned Tier 3 sites will be protected through proactive conservation efforts by local land trusts and through the requirements of the Butler’s Gartersnake Conservation Strategy. The Strategy requires the protection of all suitable habitat on Tier 3 sites until 65 significant long-term conservation sites are permanently protected.

No conservation measures are required for projects covered under this proposed incidental take authorization because the loss of snakes is not expected to have a negative effect on the overall status and recovery of the species. Voluntary actions that would protect and/or enhance the snake are available and recommended for use at the discretion of the project applicant.

The Department recognizes the importance of ensuring the protection of 65 Tier 3 sites and the ongoing research and survey work for the snake. As such, the Department will reevaluate this jeopardy assessment and reconsider the appropriateness of the proposed incidental take authorization. If it appears that there are not sufficient Tier 3 sites to achieve the long-term conservation of the snake, then the Department will reconsider this authorization and its effect on the status and recovery of the snake.

In conclusion, the Department has determined that the loss of individuals at Tier 2 sites are unlikely to jeopardize the status or recovery of the state population of the Butler’s gartersnake, or the whole plant-animal community of which they are a part of, for the following reasons:

- Tier 2 sites do not contribute to the long-term conservation of the Butler’s gartersnake;
- a sufficient number of Tier 3 sites appear to be available for conservation;
- and the implementation of the Butler’s Gartersnake Conservation Strategy should provide adequate conservation for 65 Tier 3 sites.