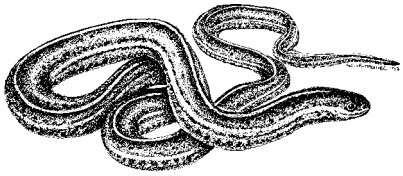
Butler's Gartersnake
Proposed Incidental Take Authorization



For Projects Involving Habitat of Tier 2 - Moderate Conservation Value according to the Butler's Gartersnake Conservation Strategy

July 12, 2005

Table of Contents

I. Introduction

This State Agency Consultation, as provided for under s. 29.604, Wis. Stats., is for the proposed authorization of incidental taking (mortality) of the state listed Butler's gartersnake (*Thamnophis butleri*). This Consultation is intended to provide broad taking coverage for activities that may impact Butler's gartersnakes that are not expected to inhibit or compromise the long-term conservation and recovery of the species.

The Butler's gartersnake was listed as a State-threatened species in 1997 due to extensive habitat loss within its very limited range and the intergradation with a similar species, the eastern plains gartersnake (*Thamnophis radix*). Since that time, the Department has increased its understanding of the habitat requirements of the snake and the continued loss of suitable snake habitat. Conflicts between land development and snake conservation continue due to the coincidence of the snake's limited range with the rapidly developing metropolitan Milwaukee area. Between 1997 and June 2005, forty-two projects around the state have been authorized for incidental take of a state-listed species. Over 60 percent (26 projects) of the authorizations have been for the Butler's gartersnake. No other species has had more than one authorization thus far. The rarity of the snake and the continued development pressure necessitates a conservation strategy that will ensure the long-term conservation of the species while at the same time streamlining regulatory reviews.

On March 31, 2005 the Department finalized the Butler's Gartersnake Conservation Strategy (http://dnr.wi.gov/org/land/er/review/Butler/). The strategy was developed in partnership with a team of

specialists with expertise in Butler's gartersnake biology, landscape ecology and ecological planning. The Strategy was presented to a group of stakeholders including planners, county governments, land trusts and developers to obtain their feedback on the strategy.

The goal of the Strategy is to secure the long-term protection of the Butler's gartersnake. The primary component of the Strategy is a classification system that categorizes into three tiers sites that support, or have the potential to support, the snake. The strategy classifies suitable habitat areas for the snake based on size, isolation from other suitable sites, and habitat quality (current condition and threats to the condition). This allows for the identification of the sites most likely to contribute to the snake's long-term conservation. The three tiers are Tier 1 (sites of minimal conservation value), Tier 2 (sites of moderate conservation value) and Tier 3 (sites of significant conservation value). See the Conservation Strategy for definitions of each Tier.

In August 2004, the Bureau of Endangered Resources conducted a formal workshop to determine, based on current data, how many populations would be needed to secure the species in the long term. The workshop included department and external experts, with expertise ranging from herpetology to conservation biology and population ecology. The result of this science-based process indicated that:

- 65 viable populations must be protected to insure the long-term protection of the Butler's Gartersnake.
- Tier 3 sites are the only category believed to support viable populations over the long term.
- Tier 1 and 2 sites are important for individual snake populations but do not contribute to the overall conservation of the species because their habitat is either isolated from other patches, too small, or of poor quality.

Current analysis of suitable habitat within the snake's range indicates that there are a sufficient number of sites to reach the target of 65 Tier 3 sites. However, many of the sites with suitable habitat have not been surveyed to confirm presence or absence of individual snakes. This number will be reviewed based on new information brought to bear from fieldwork, research and other sources.

Because of the likelihood that a sufficient number of Tier 3 sites will be protected through the Conservation Strategy, the Department issued a broad incidental take authorization for all Tier 1 sites in October of 2004. The loss of individuals at Tier 1 sites is not expected to have a negative effect on the overall status and recovery of the species because the sites do not offer long-term conservation value for the snake. No conservation measures are required for projects covered under this authorization but voluntary actions are recommended. See the final authorization at http://dnr.wi.gov/org/land/er/take/TierOneButler's.htm.

This current Authorization proposes incidental take authorization for activities that may permanently affect suitable habitat that provides moderate conservation value (Tier 2 sites) to the overall status and recovery of the snake. Incidental take that occurs under this Authorization is not expected to have a negative effect on the overall status and recovery of the species because only Tier 3 sites support long-term viable populations. However, recognizing the conservation value they do provide, the Department recommends a set of voluntary measures that serve to protect snakes and their habitat at Tier 2 sites. In addition, all existing wetland/water regulation requirements will apply to these sites.

II. Definitions

Suitable Habitat Patch Size

This is defined as undeveloped areas that include both wetland and adjacent upland habitat. The patch size is not limited to the acreage of the project site only but may continue beyond the project site where suitable habitat is contiguous. To be considered as potential Butler's Gartersnake habitat:

- The wetland habitat may be any classification except permanent open water. Lakes, streams, and deep ponds are not considered suitable, nor are permanent stormwater management ponds. A 100' edge of forested wetland where it abuts or is adjacent to suitable upland habitat is also considered suitable, as crayfish burrows are likely to be present in this habitat.
- the upland habitat must be within 300 feet of over-wintering wetlands AND have intact ground vegetation (grasses, forbs) AND have less than 75% canopy closure. The upland habitat must be directly connected to the wetland in at least one location. Closed canopy forests where ground vegetation is very sparse are not considered suitable, but old fields with significant invasion of woody shrubs and trees is suitable if grasses and forbs are still largely intact. Lawns and fields in active row crops or in crop rotation are not considered suitable. Fields that remain fallow for more than one year may be considered suitable habitat. Pastures will be included as suitable habitat if more than 50% of the acreage had an eight-inch or greater canopy height.

Habitat Quality:

Poor: Habitat is considered to be *poor quality* if more than 75% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or more than 75% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Moderate: Habitat is considered to be *moderate quality* if 50-75% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or 50-75% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Good: Habitat is considered to be *good quality* if less than 50% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or less than 50% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Isolation:

A site that does not exchange genetic material with other sites, due to being physically separated from other suitable habitat patches. Barriers may include *impassable physical structures* (paved roads, parking lots, walls), or *resistant terrain* (mowed lawns, golf courses, forests, agriculture). *Resistant terrain* is land use that a snake could still physically pass through, but would do so only occasionally, with risk of predation, desiccation, and lack of shelter from the elements. Where *resistant terrain* connects suitable habitat patches, *resistant terrain* of over 1000 feet should be considered an impassable barrier.

III. Activities Covered by this Authorization

The Department proposes to authorize the incidental taking of the Butler's gartersnake, subject to the conditions in Paragraph IV, for Tier 2 sites classified as having Moderate Conservation Value for the Butler's gartersnake.

A. Tier 2 Sites - Moderate Conservation Value

All projects that propose activities that will impact the Butler's gartersnake and meet the following criteria are covered under this broad Authorization for incidental take. The acreage calculation for suitable habitat (defined below) includes the total, contiguous, suitable habitat available for the snake, regardless of project boundaries. In most cases the suitable habitat calculation will include habitat beyond the project boundary.

1. All sites that include all or a portion of contiguous suitable habitat that is between 10 and 20 acres with moderate to good habitat quality, OR
2. All sites that include all or a portion of contiguous suitable habitat that is between 20 and 30 acres with poor to moderate habitat quality

The Department, with advice from the Butler's Conservation Team, has determined that sites with moderate long-term conservation value, as defined, do not warrant the same protection as sites with significant long-term conservation value.

However, this authorization is predicated on the ability to protect sufficient number of Tier 3 sites to sustain the Butler's Gartersnake within the State of Wisconsin. This authorization will be reviewed based on new information brought to bear from fieldwork, research and other sources to determine its impact on the ability to provide long-term protection for the snake.

IV. Conditions of the Authorization

Department staff will review the proposed project, screen NHI Data and other available information on the presence/absence of Butler's gartersnakes, and determine if the project may affect a Threatened or Endangered species. If it may, the project will be screened as follows to determine if it meets the conditions outlined for this Authorization.

Condition 1: DNR Review

Department staff will initially review the proposed project through the DNR's permit application review process or through the endangered resources environmental review process, screen NHI Data and other available information on the presence/absence of Butler's gartersnakes, and determine if the project meets the conditions outlined for this Incidental Take Authorization. The Department assumes that Butler's gartersnakes are present at sites that support suitable snake habitat unless the project applicant elects to conduct presence/absence surveys.

Condition 2: CONSERVATION MEASURES:

State statute 29.604 (6r)(a) requires that procedures be established to minimize any adverse effect on the listed species. The Department has determined that the following conservation measures, coupled with the conservation of Tier 3 sites through Conservation Strategy, will ultimately improve the species' status.

Minimization Measures for Moderate Conservation Value Sites

A. All existing wetland/water regulation requirements remain in effect.

B. Voluntary measures should be considered to improve habitat conditions and acreage for snakes on project sites, but are not required. Examples include:

1. Avoiding incidental take of the snake by timing projects in upland habitats to coincide with the snake's over-wintering period (November 6th through March 15th) or;
2. Install trenched-in silt fencing just outside the wetland boundary prior to March 16 to prevent snakes from entering the project site once snakes emerge from hibernation. The fence will need to encompass the construction site on all sides up to 300 feet from any snake overwintering wetlands in order to avoid snake mortality. The fence should be installed with loop-arounds at the ends and at openings in order to redirect the snakes away from them (see Figures 1-3). Fences should be maintained throughout the snake's entire active period (March 16th – November 5th) and especially after significant rain events (3/4-inch downpour or 1.5 inches of rain in any 24-hour period).
3. Redesign project to maximize remaining suitable habitat patch size. This can include building in natural green space, especially including unmanicured upland habitat adjacent to the natural wetlands, including the perimeters of stormwater management ponds.
4. Redesign stormwater management ponds to be retention (hold water temporarily) rather than detention (permanent/semi-permanent) ponds where permissible.
5. Support research that increases our knowledge of snake habitat requirements and management. This could include providing access to your properties by researchers or helping fund this research.
6. Conduct periodic maintenance of the suitable upland habitat area, including either mowing, burning or brush/tree removal with glyphosate applications to cut stems during the snake's inactive period to prevent the habitat from becoming unsuitable habitat (see definition of suitable upland habitat).

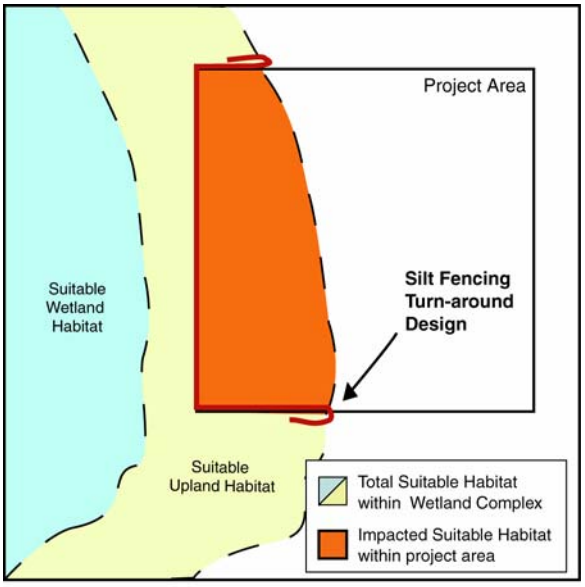


Figure 1. Snake Exclusion Fencing Diagram for Butler's gartersnake

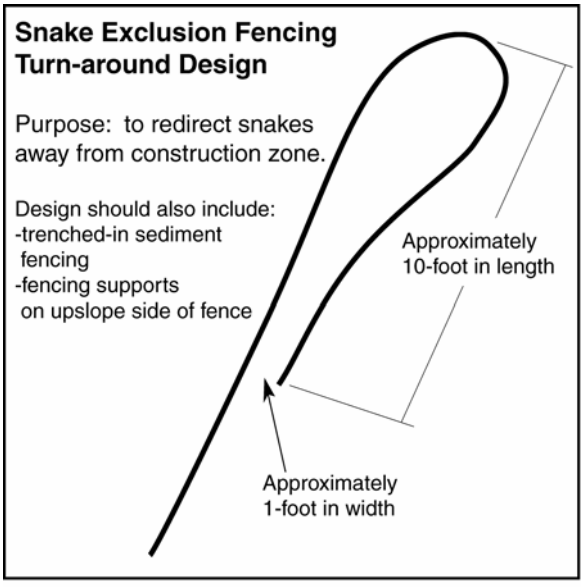


Figure 3. Turn-around Design for Snake Exclusion Fencing

Condition 3: Documentation:

The project proponent that will be impacting a Tier 2 site is required to obtain a letter from the Department, prior to beginning any construction activities, stating that the site is a Tier 2 site and will be covered under the authorization.

Condition 4: Adaptive Management

The Department will apply the principles of adaptive management to the Butler's Gartersnake Conservation Strategy and this Authorization. As the collective knowledge-base of the Butler's gartersnake evolves, the conditions of this Authorization will be reviewed and modified accordingly. The Department may require that a proposed project that would typically be covered under this authorization receive individual incidental take authorization if warranted by unique circumstances (e.g., a temporary disturbance project that threatens a discrete Butler's gartersnake hibernaculum). The Department reserves the right to deny coverage of a project under this authorization if it may effect the long-term status and recovery of the snake.

The Department will continue to pursue the conservation of a sufficient number of Tier 3 sites to ensure the long-term protection of the Butler's gartersnake. 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.

Appendix A - Management Guidance for Butler's Gartersnake Habitat

Periodic vegetation management is necessary to maintain habitat for the Butler's gartersnake. Though not required as part of this Authorization, the following protocols can be used to enhance and maintain habitat for the snake. Further, vegetation is managed as part of some utility maintenance activities that, while it may result in limited take of the snake, maintains open canopy compatible with snake protection.

If the management activity results in recovering, maintaining or improving grassland, prairie or savanna habitats, then incidental take is allowed if the following protocols are followed. If incidental take of Butler's gartersnakes results from the activity, please notify BER so we can reevaluate this guidance.

To maintain suitable habitat for the Butler's gartersnake, partial mowing or burning of the suitable upland habitat should be conducted at least once every 3-5 years to suppress natural succession.

A. Burning:

1. If burning will be done between November 6 – March 15, there are no restrictions.
2. If burning will be done between March 16 – November 5, then only up to 25% of the available grassland habitat for that site *(see definition)* should be burned in any one year.

B. Mowing/Haying:

Herbaceous mowing and brush-mowing should be done as follows:

1. Conduct mowing in small patches in a monthly rotational pattern, with no more than 33% of the available grassland habitat on the site (*see definition)* affected in any one year.
2. Mower blades should be set a minimum of 8 inches off the ground.
3. Conduct when weather conditions are most likely to avoid snake activity:
   - 3.1 during the hottest period of the day when sunny conditions prevail and air temperatures exceed 80° F, OR
   - 3.2 on very cool, overcast days when temperatures are below 50° F

C. Selective Brush/Tree-Cutting:

Selective cutting (i.e. chain saw) may be done without restriction.

D. Grazing:

Light-to-moderate grazing (<1.0 head per acre) may be used in rotations among habitat patches, with no more than 33% of the available habitat on the site *(see definition)* grazed in any one year. Grazing should be discontinued in a patch as soon as 50% of the grasses and forbs in a grazed patch are cropped to 8 inches in height. For heavier grazing, contact Bob Hay (608-267-0849) at the Bureau of Endangered Resources.

E. Herbiciding:

1. To the maximum extent possible, herbiciding should occur during the snake's dormant period (November 6 - March 15).
2. Where active season herbiciding is necessary to control herbaceous vegetation, spot treat, preferably with a low persistence/short half-life herbicide (i.e. Round-up©), using wick, sponge or hand-held spray applications, not broadcast spraying. Basal-bark or cut-stump-treatment methods should be used when treating woody vegetation.