

Guidelines for Recreational Areas within High Priority Blanding's Turtle Sites in the Northeastern United States

Eastern Blanding's Turtle Technical Committee (<http://blandingsturtle.org>)¹ **DRAFT**

Summary.—This document provides an overview of guidelines and conservations for recreational development and management within “High Priority Sites” for Blanding’s turtle conservation in the northeastern United States, based on literature and unpublished data. Blanding’s turtles rely on a diversity of wetland types within broad forested regions of the northeastern United States, and move regularly between wetland and upland habitat features between March and September. Within high-priority habitat mosaics, recreational trails (for both motorized and passive recreation, including ATV/OHRV trails, playing fields, and walking trails) can threaten the persistence of Blanding’s turtle populations by: 1.) increasing the risk of ATV/OHRV “roadkill” of all age classes near and between wetland complexes; 2.) increasing the risk of “roadkill” mortality for nest-searching adult females; 3.) elevating the risk of incidental collection for all age classes; 4.) providing vectors for invasive plant species that can reduce upland and wetland habitat quality; 5.) disturbing nesting females during evening nesting forays. The potential negative influence of recreational trails on Blanding’s turtle populations in High Priority Sites may be mitigated through a combination of management techniques, including: 1.) seasonal closures of ATV/OHRV trails bisecting sensitive wetland areas and turtle movement corridors; 2.) seasonal (24 May to 4 July) or afternoon/evening (>16:00 h) closures to protect nesting females where trails bisect nesting habitat or nesting corridors 2.) permanent closures of ATV/OHRV trails in known and potential nesting areas; 3.) increased, targeted law enforcement presence during sensitive time periods when turtle movements are frequent and relatively predictable (e.g., June); 4.) trail relocation to avoid bisecting sensitive wetland complexes and to avoid separating suitable wetland habitats from suitable nesting habitats.

Background.—Blanding’s turtle (*Emydoidea blandingii*) is of conservation concern in New England, New York, and Pennsylvania. Many populations are expected to decline in abundance and distributional extent as a result of habitat fragmentation and degradation (Compton 2007; NEPARC 2010), and localized extirpations have been documented. Blanding’s turtle is restricted to small, isolated populations in eastern New England, New York, and northwestern Pennsylvania.

Blanding’s turtle populations are often found where high-quality scrub-shrub, emergent, riverine, and vernal pool systems are closely juxtaposed with suitable nesting areas in relatively intact forested regions. The ideal landscape context for Blanding’s turtle management will maintain the connectivity of wetland complexes and suitable nesting habitat, without roads or development within core areas, to minimize risk of adult mortality from crushing or collection. However, these remote and forested land areas are often preferred sites for recreational development, including ATV/OHRV trails (both legal and illegal). Several High Priority Sites for Blanding’s turtle in the Northeast Region are affected to varying degrees by ATV/OHRV use. Effects of OHRV activities on Blanding’s turtle include 1.) increasing the risk of ATV/OHRV “roadkill” of all age classes near and between wetland complexes; 2.) increasing the risk of “roadkill” mortality for nest-searching adult females; 3.) elevating the risk of incidental collection for all age classes; 4.) providing vectors for invasive plant species that can reduce upland and wetland habitat quality; 5.) disturbing nesting females during evening nesting forays.

In many instances, it may be possible to minimize or remove the threats to turtles associated with OHRV use through the selective application of: 1.) seasonal closures of ATV/OHRV trails bisecting sensitive wetland areas and turtle movement corridors; 2.) seasonal (24 May to 4 July) or afternoon/evening (>16:00 h) closures to protect nesting females where trails bisect nesting habitat or nesting corridors 2.)

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Figure 1. In this instance, a major turtle nesting area (the gravel pit at lower right) has been separated from the adjacent wetland habitat (to the left) by illegal ATV/OHRV trails (shown in red), elevating the risk of “roadkill” and collection of nest-searching female turtles in May and June. This management problem can be mitigated in one of several ways. The existing ban of ATVs may be heavily enforced during the nesting season through greater law enforcement presence (in this case, town police). An alternate route could be constructed outside of sensitive areas (yellow line) and formally sanctioned. However, the latter approach would require sustained enforcement of the ATV ban in the gravel pit because the peripheral trail could result in increased use overall, and increased illegal use of the open pit.

permanent closures of ATV/OHRV trails in known and potential nesting areas; 3.) increased, targeted law enforcement presence during sensitive time periods when turtle movements are frequent and relatively predictable (e.g., June); 4.) trail relocation to avoid bisecting sensitive wetland complexes and to avoid separating suitable wetland habitats from suitable nesting habitats.

Blanding's Turtle Active Season: 1 March to 15 September in most years, may vary depending on weather.

Blanding's Turtle Active Nesting Season: 25 May to 4 July in most years, may vary depending on weather.

Blanding's Turtle Staging, Nesting, and Incubation Season: 15 May to 15 September in most years, may vary depending on weather.



Figure 2. In this instance, a former gravel pit (the gravel pit at center) is frequently and extensively disturbed by ATV/OHRVs and is separated along most of its margin from the adjacent wetland habitat (at bottom)) by ATV/OHRV trails (shown in red), elevating the risk of “roadkill” and collection and disturbance of nest-searching female turtles in May and June and preventing recovery of the nesting area to a stabilized condition suitable for Blanding’s turtle nesting. This scenario differs from Figure 1 because this site is within a state-sanctioned and regulated OHRV park. This persistent management problem can potentially be mitigated in one of several ways. The existing ban of ATVs may be heavily enforced during the nesting season through greater law enforcement presence (in this case, the state Fish and Game Department). An alternate route could be constructed outside of sensitive areas (yellow line) and formally sanctioned. As outlined in Figure 1, the latter approach would require sustained enforcement of the ATV ban in the gravel pit because the peripheral trail could result in increased use overall, and increased illegal use of the open pit.

Blanding’s Turtle Dormant Season: 1 November to 28 February in most years, may vary depending on weather²

Summary of Guidelines: Minimize adult mortality risk by avoiding trail development within “core areas” within High Priority Sites. Where possible, re-route ATV/OHRV trails away from nesting area and wetland movement corridors to maintain landscape connectivity for turtles. Where ATV/OHRVs are prohibited, increase law enforcement. Where ATV/OHRV trails bisect nesting and/or wetland habitats for Blanding’s turtle, consider seasonal closures or delayed trail openings. Passive recreation trails should not be sited in sensitive areas such as gravel pits or other known nesting features, where the risk of human/turtle encounters is high. **Most trail/turtle conflicts likely occur in June, when trails are opening and turtles are seeking nesting sites.**



Figure 3. In this instance, a former gravel pit (the gravel pit at center) is also frequently and extensively disturbed by ATV/OHRVs and is separated along most of its margin from the adjacent wetland habitat (to the right and at page top) by ATV/OHRV trails (shown in red), elevating the risk of “roadkill” and collection and disturbance of nest-searching female turtles in May and June and preventing recovery of the nesting area to a stabilized condition suitable for Blanding’s turtle nesting. This scenario differs from Figure 1 because this site is adjacent to a state-sanctioned and regulated OHRV park. This persistent management problem can potentially be mitigated in one of several ways. The existing ban of ATVs may be heavily enforced during the nesting season through greater law enforcement presence (in this case, the state Fish and Game Department). An alternate route could be constructed outside of sensitive areas (yellow line) and formally sanctioned. As outlined in Figure 1, the latter approach would require sustained enforcement of the ATV ban in the gravel pit because the peripheral trail could result in increased use overall, and increased illegal use of the open pit.

Objectives and Guidelines for Recreational Trails in High Priority Blanding’s Turtle Sites

(1) Prevent direct adult mortality caused by ATVs, OHRVs, trucks, bikes, etc.

Elevated adult mortality resulting from crushing by motorized vehicles is a leading cause of population decline at most High Priority Sites, and it is necessary to minimize the risk of off-highway recreational vehicles crushing Blanding’s turtles in areas where the turtles occur with regularity. First, new trails should never be constructed within documented “core areas” used by Blanding’s turtles within High Priority Sites. Further, where existing trails bisect suitable vernal pool or wetland complexes, or separate them from suitable nesting habitat, trails should be closed and relocated to more optimal routes that do not bisect key features (Figure 1). If this is not possible, managers should explore the option of seasonal closures. Specifically, trails should be closed from 25 May to 4 July to protect nesting females where nesting areas are disturbed by trails. And if this is not possible, managers should consider the possibility of closing trails

between 16:00 h and sundown between 25 May and 4 July to protect nest-searching female Blanding's turtles.

(2) Minimize disturbance of adults, particularly nesting females.

Because Blanding's turtle nesting sites are typically large, level, and well-drained, they are frequently used as ATV/OHRV areas or proposed for recreational field development (e.g., soccer fields). ATV/OHRVs disturb nesting female turtles and may crush them. ATV/OHRVs should be excluded from known Blanding's turtle nesting areas through a three-tiered approach including greater enforcement, physical barriers, and alternative route construction. Playing fields present a long-term and persistent management challenge because risk of collection and disturbance while nesting is potentially elevated for the life of the field, which may be several decades. Playing fields should never be sited within documented nesting areas for Blanding's turtle. In instances where they exist already within documented or potential nesting areas in High Priority Sites, managers should consider evening closures from 16:00 h to sundown during the nesting season from 25 May to 4 July. Further, walking trails in known nesting areas should be avoided.

(3) Minimize mortality of nests, hatchlings, and juvenile turtles.

See #1 and #2, above. The Blanding's turtle reproductive period ranges from 15 May, when females may begin to "stage" near nesting areas (Grgurovic 2007) to 15 September, when hatchlings at most communal nesting areas have left the nest and sought cover in surrounding uplands (Jones and Sievert 2012). ATV/OHRV use (legal or illegal) should be prohibited (and the prohibitions enforced) within known or likely nesting areas such as gravel pits or powerlines with stable, coarse, sand- or sand/gravel substrates and sparse or scrubby vegetation in order to minimize mortality of all age classes, including nests and hatchlings, and encourage gradual site stabilization and recovery (see Guidelines for Nest Site Management, EBTTC 2014a and item 4, below).

(4) Maintain the integrity of confirmed and potential nesting habitat.

Blanding's turtles typically nest in coarse sands and gravel stabilized by lichens, bryophytes, cespitose sedges, and small shrubs (see Guidelines for Nest Site Management, EBTTC 2014a). ATV/OHRVs can disturb the area too much and result in unstable, dry substrates (Figure 2, Figure 3). For this reason, several potential nesting areas that could contribute greatly to regional Blanding's turtle conservation efforts are nonfunctional. Greater enforcement of existing laws and a commitment to physical barriers can result in gradual stabilization of gravel pit habitats. More importantly, perhaps: if new ATV/OHRV use is noted within confirmed Blanding's turtle nesting areas, the law enforcement response should be fast and sustained in order to protect the integrity of the site. Further, confirmed or potential nesting areas within High Priority Sites should not be converted to other landuses including (but not limited to) playing fields, recreational facilities, parking lots, or other municipal functions.

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