



BFO Forest Management Guidelines for Informal Section 7 Consultations on Indiana Bats (*Myotis sodalis*) within the State of Indiana

These guidelines were developed by the Bloomington Field Office (BFO) of the U.S. Fish and Wildlife Service (FWS) to conserve the federally endangered Indiana bat (*Myotis sodalis*) and its summer habitat within the State of Indiana. Adherence to these guidelines will result in forest habitat that is suitable for Indiana bat use, but may not represent optimal habitat. Maintaining or creating optimal Indiana bat maternal habitat typically would require more intensive management practices than provided here. This is a working document and periodically will be revised as new data warrant.

Because the risk of incidental take of Indiana bats in forest stands managed in accordance with these guidelines is discountable or insignificant, the BFO typically will provide written concurrence letters to managers seeking Section 7 compliance (i.e., informal consultation will suffice). However, if these management guidelines cannot be followed or conflict with other management goals or directives, then forest managers are strongly encouraged to contact the BFO to discuss all of their options (e.g., greater management flexibility may be achieved via formal Section 7 consultation).

FOREST MANAGEMENT GUIDELINES

1. At least 60% canopy cover (on a stand-by-stand basis, depending on size of stands) shall be maintained after any timber harvest activities.
2. Shagbark hickory (*Carya ovata*) or shellbark hickory (*C. laciniosa*) trees shall not be harvested or manipulated during timber stand improvement (TSI) activities, unless the combined density of these species exceeds 16 trees/acre. If present, at least 16 live shagbark and shellbark hickory (combined) >11" dbh must be maintained per acre.
3. Standing snags shall not be felled/removed, except where they pose a serious human safety hazard (a tree with <10% live canopy should be considered a snag). Snags that have no remaining bark and no visible cracks, splits, or hollows may be felled as well as any snags leaning more than 45° from vertical.
4. The following species of trees have been identified as having relatively high value as potential Indiana bat maternity roost trees:

shagbark hickory (<i>Carya ovata</i>)	eastern cottonwood (<i>Populus deltoides</i>)
shellbark hickory (<i>Carya laciniosa</i>)	northern red oak (<i>Quercus rubra</i>)
bitternut hickory (<i>Carya cordiformis</i>)	post oak (<i>Quercus stallata</i>)
silver maple (<i>Acer saccharinum</i>)	white oak (<i>Quercus alba</i>)
sugar maple (<i>Acer saccharum</i>)	slippery elm (<i>Ulmus rubra</i>)
green ash (<i>Fraxinus pennsylvanica</i>)	American elm (<i>Ulmus americana</i>)
white ash (<i>Fraxinus americana</i>)	black locust (<i>Robinia pseudoacacia</i>)

(Tree species based on literature and unpublished roosting data).

On average, at least 3 live trees per acre >20" dbh (of the high-value species listed above) shall always be maintained in the stand (a tree with <10% live canopy should be considered a snag). These "leave trees" must be the largest trees of the listed species remaining in the stand. An additional 6 live trees per acre >11" dbh (of the species listed above) must also be maintained. The "per acre" requirement can be expressed as the average per acre on a stand-wide basis, depending on the definition of a stand.

If there are no trees >20" dbh to leave, then 16 live trees per acre must be left, and these must include the largest specimens of the listed species remaining in the stand.

5. No timber harvest or TSI activities shall occur within 100 feet of a perennial stream or within 50 feet of an intermittent stream.
6. No felling of trees >3" dbh while Indiana bats may be present from 1 April through 30 September (i.e., trees may be felled from 1 October through 31 March).

PRESCRIBED FIRE GUIDELINES

1. Prescribed burns shall not be conducted from 15 April through 15 September in burn areas containing potential bat roost trees/snags >3" dbh.
2. Temporary fire breaks shall be created/maintained around any known Indiana bat primary maternal roost trees that fall within a proposed burn area prior to the burn.

NOTE: If any of these guidelines cannot be followed or additional clarification is needed, then please contact the BFO.

NOTE: If proposed forest/timber management actions or prescribed burns will occur within a 5-mile radius of a known Indiana bat hibernaculum, then please contact the BFO for additional guidance. Indiana bat hibernacula in Indiana are known to occur in Crawford, Greene, Harrison, Lawrence, Martin, Monroe, Orange, and Washington counties.