

APPENDIX C

Indiana bat biological opinions including form of incidental take and amount exempted.

PROJECTS	USFWS OFFICE AND DATE BO ISSUED	INCIDENTAL TAKE (IT) FORM	TAKE EXEMPTED or SURROGATE MEASURE TO MONITOR
Shawnee National Forest LRMP	ILFO April 30, 1992	IT by killing or injury	10 individual bats from timber harvest or timber management activities over 10 years; 10 bats over 10 years from mist netting or other monitoring activities
Fort Leonard Wood Master Plan, Ongoing Mission	CMFO December 31, 1996	IT by harming	Number not determined, no measures given, however if RPM's are implemented no take would occur
Cherokee National Forest LRMP	TNFO January 1997	IT by killing harming or harassing	1300 acres
Relocation of US Army Chemical School & US Military Police School to Fort Leonard Wood, Missouri	CMFO	IT by harming, harassing, killing	56 hibernating bats from fog oil and TPA smoke pots; summer bats difficult to determine sub-lethal take
Daniel Boone National Forest LRMP	TNFO April 1997	IT by killing, harming, or harassing	4500 acres
Ozark-St. Francis National Forest LRMP	ARFO June 25, 1998	IT by killing, harming or harassing	Annual 8000 acres of timber harvest in hardwoods, 11000 acres harvest of pine and pine/hardwoods; 30000 acres of prescribed burning
Construction of New Training Facilities at Fort Knox, KY	TNFO October 1998	IT by killing, harming or harassing	2000 acres
Construction of a Qualification Training Range at Fort Knox, KY	TNFO October 1998	IT by killing, harming or harassing	80 acres
Proposed stream bank stabilization at Yano Range and upgrade of the Wilcox Tank Range at Fort Knox, KY	TNFO April 1999	IT by loss of summer roosting, foraging, and maternity habitat	1800 acres
Ouachita National Forest LRMP	ARFO April 26, 1999	IT by killing, harming or harassing	40,000 acres commercial harvest; 3,000 acres wildlife management & road construction. reconstruction; 24,000 acres thinning; 200,000 acre prescribed burning

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Mark Twain National Forest LRMP	CMFO June 23, 1999	IT by killing, harming, or harassing	Timber harvest – 20,000 acres per year (py); Prescribed fire - 12,000 acres py; Wildlife habitat improvement -2000 acres py; Timber stand improvement – 4000 acres py; Soil & water improvement – 150 acres py; Range management – 50 acres py; Mineral exploration & development – 50 acres py; Wildfire fire lines – 50 acres py; Special use – 50 acres py; Road construction – 25 acres py
Supplement for Proposed Bridges & Alignments Modifications to Kentucky Lock Addition Project	TNFO January 2000	IT by killing, harming or harassing	No more than 20% of available suitable habitat
National Forests in Alabama	ALFO December 10, 1999	IT by killing, harming or harassing	No more than 100 trees
Green Mountain National Forest LRMP	WVFO 2000	IT by harming or harassing	300 acres
White Mountain National Forest LRMP	WVFO 2000	IT by farming or harassing	1,500 acres
Nantahala and Pisgah National Forests LRMP Amendment #5	2000	IT by killing, harming, or harassing (killing least likely)	4,574 acres py
Hazard Tree Removal and Vegetation Management Program at Mammoth Cave National Park	TNFO June 2000	IT by loss of roosting habitat, direct mortality or by forcing bats to abandon tree	No measure of take given
Salvage Harvest Necessitated by 1998 Storm Damage on the Daniel Boone National Forest	TNFO July 2000	IT by killing, harming, or harassing	3,100 acres
National Forests in Alabama Re-initiation	ALFO January 23, 2001	IT by killing, harming or harassing	Level of take changed for southern pine beetle suppression areas – upper limit of 65 suitable roost trees

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Hoosier National Forest LRMP	BFO June 13, 2001	IT by harm	Pine clear cuts – 578 acres; Pine shelterwood cuts – 391 acres; Pine thinning – 408 acres; Hardwood group selection cuts – 777 acres; HW single tree selection cuts – 100 acres; HW even aged salvage cuts – 518 acres; Prescribed fire treatment – 7000 acres; Forest openings maintenance – 3311 acres; Timber stand improvement – 2264 acres; Special use permits – 286 acres; Wildfire management – 250 acres; road construction – 16 acres; hazard tree removal – 100 trees; trail construction – 15 miles
Wayne National Forest LRMP	ROFO September 20, 2001	IT by harm	Permanent loss of habitat – 2504 acres; Alteration of habitat 8102 acres plus 125 trees
Ozark-St. Francis National Forest Prescribed Fire Plan (an amendment to June 1998 LRMP BO)	ARFO March 21, 2002	IT by loss of roost trees and potential roost trees	Prescribed fire - 153,000 acres py
Huron-Manistee National Forest LRMP	ELFO June 13, 2003	IT by killing, harming, or harassing	0-65 bats; Timber harvest – 350 acres; Prescribed fire – 2648 acres
Great Smoky Mountains National Park Prescribed Burning	TNFO August 12, 2003	IT by loss of suitable roosting or foraging habitat	One maternity colony
Construction, Operation, and Maintenance of Alternative 3C of Interstate 60 from Indianapolis to Evansville	BFO December 3, 2003	IT by harming, killing	Summer action area: permanent direct & indirect loss of up to 1527 acres of forested habitat and 40 acres of non-forested wetlands. Winter action area: permanent loss of up to 947 acres of forest habitat surrounding 10 known hibernacula. Death by vehicle collisions: 10 Indiana bats py
Daniel Boone National Forest Revised LRMP	KYFO March 20, 2004	IT by killing, harming, or harassing	Green tree harvest – 4000 acres; Salvage/sanitation – 350 acres; Prescribed burning during summer – 50000 acres
Upper Mississippi River – Illinois Waterway System Navigation Feasibility Study	RIFO, Marion Suboffice, & TCFO August 2004	IT by injury, death, harming or harassing	511 acres of forested habitat annually for 50 years. Less than 20 bats per year.

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Department of the Army 88 th Regional Readiness Command, US Army Reserve Center	ROFO April 14, 2005	IT by harming or harassing	18 acres of high quality roosting and foraging habitat
Construction, Operation, and Maintenance of the U.S. 33 Nelsonville Bypass	ROFO April 15, 2005	IT by harming, death, injury	No more than 10 Indiana bats
Big Monon Ditch Reconstruction Project	BFO May 24, 2005	IT by harming and harassing	Permanent loss of 75 acres of occupied summer habitat
Biological Opinion – Impacts of the Laxare East and Black Castle Contour Coal Mining Projects on the Indiana bat	WVFO 2005	IT in the form of harm due to habitat loss, degradation and fragmentation, Harassment during active mining, Permanent loss of foraging loss and roosting habitat, habitat fragmentation and degradation, permanent loss of streams and their associated watering and prey base for Indiana bats, long term alteration of streams	No more than 40 adult females and their pups; up to 100% of a colony; 2199 acres, 917 acres, 11.95 stream miles
Section 10(a)(1)(b) Permits – research/collecting permits	Region 3 1996-2005	59 permits issued	Amount of take varies by permit. Most permits (especially those for mist net surveys) specify that bats must be released unharmed. Permits for winter surveys also minimize the potential for killing bats. Very few Indiana bats are likely killed by this type of work; however, stress is a factor.