

APPENDIX C MANAGEMENT INDICATOR SPECIES (MIS)

The Forest Service identified fourteen management indicator species (MIS) for the Green Mountain National Forest for the 1987 Land and Resource Management Plan (Plan). MIS are vertebrate or invertebrate species selected for monitoring habitat conditions on the Forest, because their population changes are believed to indicate the effects of management activities (36 CFR 219.19(a)(1)). These species, along with their habitat types and conditions, are listed in Appendix C of the 1987 Plan (USDA 1987: pp.C.03-C.04) and in Table 3.6 of the Draft Environmental Impact Statement (DEIS) (USDA 1985: p.3.39).

In general, MIS in the revised Forest Plan focus on habitats subject to active structural manipulation, such as creation of temporary openings, regeneration of aspen or oak stands, or enhancement of riparian habitat. Habitat changes that take place through natural processes, like progression through the various seral stages of early successional habitat, will be assessed through the Monitoring and Evaluation program. Similarly, the revised Forest Plan does not carry forward MIS for habitats that receive high levels of protection and are subject to little or no active habitat manipulation, such as wetlands (American bittern, tree swallow) or alpine/subalpine forest (blackpoll warbler). These habitats and species will be addressed through the Monitoring and Evaluation Program. Table C-1 describes the disposition of each of the MIS from the 1987 Plan under the revised Forest Plan. MIS for the revised Forest Plan are linked to two major resource issues and to three other important habitat concerns. The revised MIS address issues or conditions directly associated with active habitat manipulation (see DEIS Section 3.6 Wildlife and Wildlife Habitat). Table C-2 lists MIS for the revised Forest Plan.

Representative habitat	Indicator species	Disposition
Regenerating northern hardwoods	Chestnut-sided warbler	Not carried forward as MIS. Replaced with American woodcock as MIS for early successional habitat. Temporary openings suitable as singing grounds for American woodcock will develop rapidly into suitable habitat for chestnut-sided warblers.
Mature and over-mature northern hardwoods	Barred owl	Not carried forward as MIS. MIS in the revised Plan focus on habitats subject to active structural manipulation. Un-fragmented mature forest will develop from allowing natural processes take place. Changes in habitat and in wildlife use in these areas will be examined through the monitoring program rather than as MIS.
Regenerating and young softwoods	Snowshoe hare	Not carried forward as MIS. This species will be monitored relative to softwood regeneration and deer wintering habitat.

Table C-1: continued.		
Representative habitat	Indicator species	Disposition
Mature and over-mature softwoods	Blackpoll warbler	Not carried forward as MIS; alpine/ subalpine habitat is protected, not subjected to management activity. Blackpoll warblers will be monitored along with Bicknell's thrush and other high-elevation bird species.
	White-tailed deer	Carried forward as MIS for deer wintering habitat.
Regenerating pioneers	Ruffed grouse	Carried forward as MIS for aspen and birch.
Young pioneers	American beaver	Not carried forward as MIS. Beaver activity will be monitored on the GMNF.
Mature and over-mature pioneers	Yellow-bellied sapsucker	Not carried forward as MIS. Replaced by American woodcock as MIS for early successional habitat and ruffed grouse as MIS for aspen and birch. Mature and over-mature pioneers will succeed naturally from these habitats.
Regenerating oaks	Chestnut-sided warbler	Not carried forward as MIS. Monitoring and evaluation of oak regeneration directly can provide better assessment than chestnut-sided warbler as MIS.
Mature and over-mature oaks	Gray squirrel	Carried forward as MIS for oak and pine
Permanent grass/forb openings	American woodcock	Carried forward as MIS for early successional habitat.
Cold-water streams	Brook trout	Retained as MIS for aquatic-riparian habitat.
Beaver flowage	Tree swallow	Not carried forward as MIS; wetland habitat protected, not subjected to management activity.
Marshy wetland:	American bittern	Not carried forward as MIS; wetland habitat protected, not subjected to management activity.
Remote cliff	Peregrine falcon	Not carried forward as MIS; remote cliff habitat protected, not subjected to management activity.

Table C-2: MIS for the revised Forest Plan linked to resource issues or habitat types	
Major issue or habitat	MIS
Deer wintering habitat	white-tailed deer
Early successional habitat	American woodcock
Aspen-birch	ruffed grouse
Oak-pine	gray squirrel
Aquatic-riparian habitat	brook trout

Literature Cited

US Department of Agriculture. 1985. Draft Environmental Impact Statement: Land and Resource Management Plan. Green Mountain National Forest. Rutland, Vermont.

US Department of Agriculture. 1987. Land and Resource Management Plan. Green Mountain National Forest. Rutland, Vermont.