

Green Mountain and Finger Lakes National Forests - Changes to Monitoring Questions from Fiscal Years 2006 to 2024

Resource Name	Forest	Monitoring Item	2007 Monitoring Guide Monitoring Question <i>Detailed Monitoring Question</i>	FY06-13 Monitoring Trends Report Recommendation	FY14-16 M&E Report Recommendation	FY17-18 M&E Report Recommendation	FY19 Status	FY19-24 Management Question <i>Detailed Monitoring Question</i>
Air	GMNF	Air Particulate	To what extent are air quality and atmospheric deposition affecting sensitive components of the forest ecosystem? <i>What is the composition of particles in the air, and how are the levels of particulates changing over time?</i>	No change to question.	No change to question.	No change to question.	No change to question.	To what extent are air quality and atmospheric deposition affecting sensitive components of the forest ecosystem? <i>What is the composition of particles in the air, and how are the levels of particulates changing over time?</i>
Aquatic Ecosystems	GMNF	Fish and Aquatic Organism Passage	To what extent have Standards and Guidelines been applied? <i>Are culvert rehabilitation projects resulting in improved fish passage at stream crossings? Are road construction and maintenance activities resulting in improved or replaced culverts designed to water and debris, and allow free movement of resident aquatic life?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019 and replaced by Stream Function monitoring item for both GMNF/FLNF. Forest Service staff does not have the capacity to meaningfully monitor these indicators in a way that effectively informs Forest Plan effectiveness. More feasible indicators related to Required Element 1 will address this monitoring item as much as possible.	Not applicable.
Aquatic Ecosystems	Both	Fish Habitat	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question beginning 2019.	How well do Forest Plan components conserve or improve fisheries habitat? <i>To what extent are management activities conserving or improving fisheries habitat?</i>
Aquatic Ecosystems	GMNF	Fish Habitat and Stream Channel Stability	To what extent is Forest management affecting water quality, quantity, flow timing, and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland habitats? <i>How are fish habitat and stream channels changing over time?</i>	No change to question.	Consider removing this question from the monitoring program or developing an alternative to address monitoring related to Forest-wide Goal 6 in the Forest Plan.	Consider removing this monitoring question from the Monitoring Program or find an alternative to address monitoring related to Forest-wide Goal 6 in the Forest Plan. Stream geomorphic assessments do not provide information whether management is effective in maintaining or achieving progress toward Forest Plan goals, objectives and desired conditions.	Removed from monitoring program beginning 2019.	Not applicable.
Aquatic Ecosystems	GMNF	Focal Species (Brook Trout)	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question developed to address required Monitoring Element 3 beginning 2017: <i>Are the ecological sustainability and diversity of natural communities present and functioning on the GMNF? Does the headwater streams ecosystem provide a full array of riparian and aquatic communities and stream channel types supported by the varied physiographic conditions across the Forest?</i>	No change to question.	Required Element 3: the status of focal species to assess the ecological conditions required under § 219.9 (see FSH 1909.12, chapter 30, Section 32.13c). <i>Does the headwater streams ecosystem provide a full array of riparian and aquatic communities and stream channel types supported by the varied physiographic conditions across the Forest?</i>
Aquatic Ecosystems	FLNF	Pond Habitat	To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>Are habitat quality and quantity being maintained in FLNF ponds? Is aquatic vegetation encroaching upon more of the surface area of ponds? Are water control structures well maintained and support adequate water levels in ponds?</i>	No change to question.	No change to question	No change to question	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	How well do Forest Plan components conserve or improve ecosystem function and water quality in ponds? <i>To what extent are management activities improving ecosystem function and water quality in ponds?</i>
Aquatic Ecosystems	FLNF	Range Impacts	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question beginning 2019.	How well do Forest Plan components limit impacts from livestock on ecosystem function and water quality in streams where grazing is authorized? <i>To what extent are management activities mitigating impacts to streams from grazing livestock?</i>
Aquatic Ecosystems	Both	Stream Function	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question beginning 2019.	How well do Forest Plan components provide desirable aquatic organism passage and stream function conditions? <i>To what extent are management activities ensuring stream crossing structures allow desirable fish habitat and stream function conditions such as aquatic organism passage and passage of water and debris associated with high flows?</i>
Aquatic Habitat	GMNF	Sedimentation/ Substrate Embeddedness	To what extent have Forest Plan Objectives been attained? <i>Are substrate embeddedness and sedimentation levels within the range described in the Forest Plan and providing high quality spawning and rearing habitat for native fish species and macroinvertebrates?</i>	No change to question.	Consider removing this question from the monitoring program or develop an alternative to address monitoring related to Forest-wide Goal 4 in the Forest Plan.	Consider removing this question from the monitoring program or develop an alternative to address monitoring related to Forest-wide Goal 4 in the Forest Plan. Stream substrate monitoring is not likely to provide the best assessment of stream health at the forest-wide scale.	Removed from monitoring program beginning 2019.	Not applicable.

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Aquatic Habitat	GMNF	Water Temperature in Streams	To what extent is Forest management affecting water quality, quantity, flow timing, and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland habitats? <i>Are summer water temperatures in upland streams suitable to maintain native fish species and have they changed over the planning period?</i>	No change to question.	Consider removing this question from the monitoring program or developing an alternative to address monitoring related to Forest-wide Goal 4 in the Forest Plan.	Consider removing this question from the monitoring program or develop an alternative to address monitoring related to Forest-wide Goal 4 in the Forest Plan.	Removed from monitoring program beginning 2019. Forest Service staff does not have the capacity to meaningfully monitor these indicators in a way that effectively informs Forest Plan effectiveness. More feasible indicators related to Required Element 1 will address this monitoring item as much as possible.	Not applicable.
Aquatic Population - Streams	GMNF	Atlantic Salmon Restoration - Salmon Productivity and Habitat Quality	To what extent have Forest Plan Objectives been attained? <i>Are Atlantic salmon populations being maintained and how are salmon parr and smolt production changing over time?</i>	This question should be modified or removed from the monitoring program depending on decisions made by Forest Service fisheries staff in collaboration with the Connecticut River Atlantic Salmon Commission.	See trends report recommendation.	Removed question from monitoring program beginning 2014.	Not applicable.	Not applicable.
Aquatic Population - Streams	FLNF	Pond Fisheries	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Are fish populations in ponds maintained at levels to sufficiently support recreational fisheries or natural reproduction. If not, is supplemental stocking or habitat improvement required?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Forest Service staff does not have the capacity to meaningfully monitor these indicators in a way that effectively informs Forest Plan effectiveness. More feasible indicators related to Required Element 1 will address this monitoring item as much as possible.	Not applicable.
Fire	Both	Fire Agreements	To what extent have Forest Plan Objectives been attained? <i>How many agreements for fire management have been developed and maintained with outside partners?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Cooperative Fire Agreements are signed and monitored at the regional level and we currently do not have the ability or capacity to enter into agreements with individual municipalities. Statewide Cooperative Fire Response Agreements provide a mechanism to support municipal departments if needed.	Not applicable.
Fire	Both	Fire Prevention	To what extent have Forest Plan Objectives been attained? <i>How many wildfires were suppressed with no reportable accidents/ injuries or damage to private property? How many acres of private property burned from fires with ignition on Forest Service land?</i>	No change to question.	No change to question.	Replaced question with Wildfire Occurrence monitoring item beginning 2017.	Not applicable.	Not applicable.
Fire	Both	Hazardous Fuels	To what extent have Forest Plan Objectives been attained? <i>To what extent have hazardous fuels been reduced?</i>	No change to question.	No change to question.	No change to question.	No change to question.	Not applicable.
Fire	Both	Prescribed Fire	What are the effects of management practices prescribed by the 2006 Forest Plan? <i>Is prescribed fire being effectively used as a tool to meet management objectives set forth in the Forest Plan? Are prescribed burns meeting the fire effect objectives set forth in each burn plan?</i>	Refine the monitoring question to better ascertain the level of monitoring needed to ensure resource objectives are met.	No change to question.	Incorporated into the new combined Prescribed Fire and Wildland Fire Use monitoring item starting in 2017.	Reverted back to 2016 question with modifications beginning 2019.	To what extent is prescribed fire benefitting resources? <i>Is prescribed fire restoring and/or maintaining desired vegetation composition and structure?</i>
Fire	Both	Prescribed Fire and Wildland Fire Use	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	The Prescribed Fire and Wildland Fire Use monitoring items were combined into one item with a modified question starting in 2017: What are the effects of management practices using fire as a resource tool? <i>Did wildland fires managed for resource benefit and prescribed fires successfully meet objectives set forth in the Forest Plan and the Fire Management Plan? Did the fire function as a natural ecosystem process to restore and/ or maintain natural plant communities? Are the forests actively reintroducing fire into historically fire adapted landscapes?</i>	Removed from monitoring program beginning 2019. The wildland fire component to this question has little utility given its infrequent occurrence.	Not applicable.
Fire	Both	Wildfire Occurrence	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	Replaced the Fire Prevention monitoring item beginning 2017: To what frequency do wildfires occur? <i>How many wildfires occurred on NFS land? How many total acres? How many human-caused wildfires? How many wildfires in the Wildland Urban Interface (WUI)? Is there a Fire Danger Operating Plan in place?</i>	Revised question beginning 2019.	To what frequency do wildfires occur? <i>How many wildfires occurred on National Forest System (NFS) land?</i>

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Fire	Both	Wildland Fire Use	<p>What are the effects of management practices prescribed by the 2006 Forest Plan?</p> <p><i>Do wildland fires managed using Wildland Fire Use successfully meet objectives set forth in the Forest Plan and the Fire Management Plan? Did the fire stay within the allowed management areas and the Fire Management Plan? Did the fire stay within the allowed management areas and fire behavior parameters presenting low risk to firefighter and public safety? Did the fire function as a natural ecosystem process to restore and/or maintain natural plant communities? Were hazardous fuels reduced?</i></p>	No change to question.	No change to question.	Incorporated into the prescribed fire and wildland fire use monitoring item starting in 2017.	Not applicable.	Not applicable.
Forest Health	Both	Increase of Destructive Insects and Diseases	<p>Are insect and disease levels compatible with objectives for maintaining healthy forest conditions?</p> <p><i>To what extent have destructive insects and disease organisms increased?</i></p>	No change to question.	No change to question.	<p>Selected to address required Monitoring Element 6 beginning 2017.</p> <p>No change to question.</p>	Revised question beginning 2019.	<p>Required Element 6: Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area (see FSH 1909.12, chapter 30, Section 32.13e).</p> <p><i>To what extent are insects and disease organisms impacting forest conditions?</i></p>
Forest Health	GMNF	Measurement of Oak Growth within the Escarpment	<p>Are insect and disease levels compatible with objectives for maintaining healthy forest conditions?</p> <p><i>What effect has gypsy moth defoliation caused overtime to the growth and productivity of the oak timber resource in the Escarpment Management Area?</i></p>	No change to question.	No change to question.	<p>Removed question from monitoring program beginning 2017.</p> <p>Not reported since 2007. No major gypsy moth defoliation has occurred in over 20 years. Growth and productivity in oak stands in the escarpment are most limited by density and competition. There are many potential stressors to oak stands on the GMNF, however gypsy moth is currently a more minor threat. The health of oak forests and associated plant communities can be addressed with the Forest Health: Increase of Destructive Insects and Diseases monitoring item.</p>	Not applicable.	Not applicable.
Forest Health	Both	Tree Health	<p>To what extent are air quality and atmospheric deposition affecting sensitive components of the forest ecosystem?</p> <p><i>How is tree health changing over time from the influence of acid deposition, climate change, invasive species and other environmental problems, in combination and separate from land management practices? Is this affecting the longevity of long-lived tree species and their ability to produce high quality wood products on long rotations?</i></p>	No change to question	No change to question.	<p>Selected to address required Monitoring Element 6 beginning 2017.</p> <p>LEMP monitoring data has not been sufficient to address this monitoring question.</p> <p>Consider removing from monitoring program beginning 2019.</p>	Removed from monitoring program beginning 2019.	Not applicable.
Heritage	Both	Heritage Resource Program Objectives	<p>To what extent have Forest Plan Objectives been attained?</p> <p><i>Have Heritage Resource program management objectives related to: backlogged site evaluations; meeting curation guidelines; developing a Geographic Information Systems (GIS) model for prehistoric site locations; increasing partnerships for Section 110 activities; consulting with State Historic Preservation Officers (SHPO) and Tribes; and incorporating heritage components into historic building management plans been addressed?</i></p>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	<p>How well do Forest Plan components provide protection and stewardship for significant heritage resources?</p> <p><i>How many acres surveyed and how many sites protected during Forest project National Historic Preservation Act, Section 106 clearance?</i></p>
Heritage	Both	Heritage Resource Site Protection	<p>To what extent have Forest Plan Objectives been attained?</p> <p><i>Have Heritage Resources across GMNF/FLNF been inventoried and protected?</i></p>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	<p>How well do Forest Plan components provide protection and stewardship for significant heritage resources?</p> <p><i>How many National Historic Preservation Act, Section 110 activities have been completed?</i></p>
Heritage	Both	Heritage Resource Standards and Guidelines	<p>To what extent have Forest Plan Objectives been attained?</p> <p><i>Have heritage resources within the "Areas of Potential Effect" of GMNF/FLNF-sponsored projects (undertakings) been protected and managed according to Forest Plan Standards and Guidelines?</i></p>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	<p>How well do Forest Plan components provide protection and stewardship for significant heritage resources?</p> <p><i>How many projects were reviewed under National Historic Preservation Act, Section 106?</i></p>
Human Dimensions	GMNF	Contract Sizes to Local Economies	<p>To what extent have Forest Plan Objectives been attained?</p> <p><i>What is the range of dollar amounts and board feet in contracts? Who has been awarded the contract?</i></p>	No change to question.	No change to question.	No change to question.	No change to question	<p>To what extent have management activities supported regional and local economies?</p> <p><i>What is the range of dollar amounts and board feet in timber sale contracts? Who has been awarded the timber sale contract?</i></p>
Human Dimensions	GMNF	County Income by Employment Sector	<p>To what extent have Forest Plan Objectives been attained?</p> <p><i>To what extent is the GMNF contributing to the economic health of local economies?</i></p>	No change to question.	No change to question.	<p>No change to question.</p> <p>Consider removing from monitoring program beginning 2019 because it is too difficult to track accurately to provide meaningful economic information.</p>	Removed from monitoring program beginning 2019.	Not applicable.

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Human Dimensions	Both	Forestry Education Sites	To what extent have Forest Plan Objectives been attained? <i>Were sites established on the Forest for forestry education?</i>	Remove question from monitoring program because its intent is redundant with the Teacher Professional Development in Forest Stewardship monitoring item question.	See trends report recommendation.	Removed question from monitoring program beginning 2017 because it is redundant with the Teacher Professional Development in Forest Stewardship monitoring item.	Not applicable.	Not applicable.
Human Dimensions	GMNF	Other Agencies, Organizations, and Groups Coordination	To what extent have Forest Plan Objectives been attained? <i>Has the Forest Service improved communication and collaboration with federal and State agencies, regional commissions, town governments, and other local organizations?</i>	Remove question from monitoring program because it is redundant with the Partnerships Maintenance and Enhancement monitoring item question.	See trends report recommendation.	Removed question from monitoring program beginning 2017 because it is redundant with the Partnerships Maintenance and Enhancement monitoring item question.	Not applicable.	Not applicable.
Human Dimensions	Both	Partnerships Maintenance and Enhancement	To what extent have Forest Plan Objectives been attained? <i>Are partnerships active and effective on the GMNF/FLNF and are Forest Service personnel participating in partnership activities?</i>	No change to question.	No change to question.	No change to question.	Slightly revised question beginning 2019.	To what extent are partnerships maintained and enhanced? <i>Are partnerships active and effective to help meet Forest Plan goals and objectives, and are Forest Service staff participating in partnership activities?</i>
Human Dimensions	Both	Payments to Towns	To what extent have Forest Plan Objectives been attained? <i>What was the amount paid to each GMNF/FLNF town through Payments in Lieu of Taxes (PILT), 25 percent fund or Secure Schools? What type of communications has occurred on this topic with each town?</i>	No change to question.	No change to question.	No change to question.	Slightly revised question beginning 2019.	To what extent have Forest programs supported regional and local economies? <i>How much funding was paid to towns through Payment in Lieu of Taxes (PILT) and Secure Rural Schools (SRS) payments?</i>
Human Dimensions	Both	Teacher Professional Development in Forest Stewardship	To what extent have Forest Plan Objectives been attained? <i>Did teacher professional development in Forest stewardship occur?</i>	No change to question.	No change to question.	No change to question.	Slightly revised question beginning 2019.	To what extent have Forest programs provided a diverse range of information and education opportunities? <i>Was educator development or support in forest stewardship offered?</i>
Invasive Species Population	Both	Non-native Invasive Species	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>To what extent are non-native invasive species impacting other Forest resources?</i>	No change to question.	No change to question.	No change to question.	No change to question.	How well do Forest Plan components prevent and control the spread of non-native invasive plants? <i>To what extent are non-native invasive species impacting other Forest resources?</i>
Lands	Both	Land Ownership Adjustment	To what extent have Forest Plan Objectives been attained? <i>To what extent has the GMNF/FLNF land base been adjusted through purchase, exchange, transfer, interchange, boundary adjustment and donation?</i>	No change to question.	No change to question.	No change to question.	No change to question.	Has Forest land ownership been adjusted to meet future needs and improve management effectiveness? <i>To what extent has the Forest's land base been adjusted through purchase, exchange, transfer, interchange, boundary adjustment and donation?</i>
Lands	Both	Special Uses - Lands	To what extent have Forest Plan Objectives been attained? <i>Is the Forest improving its administration of existing authorizations?</i>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	How well do Forest Plan components ensure special use permits are properly administered? <i>Are special use permit authorizations administered to standard?</i>
Program Management	Both	Costs of Plan Implementation	How close are actual costs to projected costs? <i>To what extent is the Forest Service providing a mix of products, services, and amenities?</i>	Consider removing question from monitoring program because monitoring project costs are not strongly tied to any Forest Plan component and it does not provide enough meaningful or accurate information to warrant its retention. Additionally, tracking management activity outputs is redundant with the Outputs Accomplished - Other Resources monitoring item.	See trends report recommendation.	See trends report recommendation.	Removed from monitoring program beginning 2019. Monitoring project costs are not strongly tied to any Forest Plan component and it does not provide enough meaningful or accurate information to warrant its retention. Combining management costs for GMNF and FLNF further diminished reporting accuracy. Additionally, tracking management activity outputs is redundant with the Outputs Accomplished - Other Resources monitoring item.	Not applicable.
Program Management	Both	Desired Future Conditions	What are the effects of management practices prescribed by the 2006 Forest Plan? <i>What activities have occurred in management areas? How have these management actions helped to achieve the desired future condition of the management area? Have activities occurred that detract from the desired future condition of the management area?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Incorporated with new Project Implementation monitoring item.	Not applicable.
Program Management	Both	Innovative, Coordinated Management and Energy Conservation	To what extent have Forest Plan Objectives been attained? <i>How many projects have been completed or undertaken that demonstrate innovative management practice, coordinated vegetation management as a tool to accomplish other resource objectives, and how the Forest is reducing the amount of energy used through conservation and use of renewable energy sources?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Monitoring since 2006 did not provide meaningful information.	Not applicable.

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Program Management	Both	Outputs Accomplished - Other Resources	How close are actual outputs and services to projected outputs and services? <i>How do actual outputs compare to those projected in Forest Plan Appendix D, Proposed and Probable Practices, specifically related to heritage, recreation, roads, vegetation, rare, ecological, wildlife, and fisheries resources?</i>	No change to question.	No change to question.	Selected to address required Monitoring Element 7 beginning 2017. No change to question.	Slightly revised question beginning 2019.	Required Element 7: Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities (see FSH 1909.12, chapter 30, Section 32.13f; and FSH 1909.12, chapter 10, section 13.1). <i>How do actual resource and service accomplishments compare to those projected in the Forest Plan Appendix D, Proposed and Probable Practices?</i>
Program Management	Both	Project Implementation	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question beginning 2019. Combined Desired Future Conditions monitoring item and Standards and Guidelines - Implementation and Effectiveness Monitoring monitoring item into one monitoring item.	How well are project activities moving resources toward desired future conditions? <i>Are project activities improving desired future conditions? Are Forest Plan Standards and Guidelines, and project specific design criteria and mitigation measures effective at achieving desired results?</i>
Program Management	Both	Standards and Guidelines - Implementation and Effectiveness Monitoring	To what extent have Standards and Guidelines been applied? <i>Are standards, guidelines, and mitigation measures being implemented on projects consistent with Forest Plan and project NEPA direction? Are these measures effective at achieving the desired results? Are there other measures that could be more effective?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Incorporated with new Project Implementation monitoring item.	Not applicable.
Program Management	Both	Standards and Guidelines Compliance	To what extent have Standards and Guidelines been applied? <i>Did any project require guideline modification or a Forest Plan amendment to modify a standard? If so, what was the project? Which standard or guideline was changed? What was the rationale for the change?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. This monitoring item is redundant with the Standards and Guidelines - Implementation and Effectiveness Monitoring monitoring item.	Not applicable.	Not applicable.
Range	FLNF	Animal Unit Months	To what extent have Forest Plan Objectives been attained? <i>Are we maintaining forage production sufficient to support approximately 10,000 Animal Unit Months (AUMs) annually?</i>	No change to question.	No change to question.	No change to question.		
Range	FLNF	Watering Facilities Functional	To what extent have Forest Plan Objectives been attained? <i>Are we providing functioning livestock watering facilities to support approximately 10,000 Animal Unit Months (AUMs) annually?</i>	No change to question.	No change to question.	No change to question.		
Rare Plants Population	GMNF	Ginseng Population Trends	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What are the trends in ginseng plant size and distribution/occurrence on National Forest System lands?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. This question has never been reported since 2006. American Ginseng (<i>Prenanthes trifoliolata</i>) is a RFSS. Their population viability and trends can be tracked with the Sensitive Plant Population Trends monitoring item.	Not applicable.	Not applicable.
Rare Plants Population	Both	Sensitive Plant Population Trends	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What are the population trends for sensitive plants on the GMNF/FLNF? To what extent is management sustaining or enhancing habitat conditions for populations?</i>	No change to question.	No change to question.	Selected to address required Monitoring Element 4 beginning 2017. No change to question.	Revised question beginning 2019.	Required Element 4: The status of a select set of the ecological conditions required under § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern (see FSH 1909.12, chapter 30, Section 32.13b). <i>What are the population trends for sensitive plants (increasing, decreasing, or stable)? To what extent are management activities affecting conditions for sensitive plant populations?</i>
Recreation	GMNF	Catamount Trail Designation	To what extent have Forest Plan Objectives been attained? <i>Is the Forest making progress on the designation of the Catamount Trail?</i>	Remove this question from the monitoring program since the designation of the Catamount Trail across NFS lands has been completed.	See trends report recommendation.	Removed question from monitoring program beginning 2008 after completion of Catamount Trail on NFS lands.	Not applicable.	Not applicable.
Recreation	GMNF	Comprehensive Trail Planning	To what extent have Forest Plan Objectives been attained? <i>To what extent has the Forest completed comprehensive trail planning for the GMNF?</i>	No change to question but may remove it pending completion of the GMNF Comprehensive Trail Strategy.	No change to question.	Removed question from monitoring program beginning 2016 after the completion of the GMNF Comprehensive Trail Strategy in 2015.	Not applicable.	Not applicable.

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Recreation	Both	Effects of Vehicle Use Off Roads	What are the trends in the illegal use of vehicles off roads? <i>Is the use of vehicles off roads causing considerable adverse effects on resources or other forest visitors; how effective are forest management practices in managing vehicle use off roads?</i>	Consider removing this question from the monitoring program or modify to focus on more meaningful trends.	See trends report recommendation.	Question modified beginning 2017 to focus on snowmobile use impacts to other forest users: <i>Is the use of vehicles off roads causing considerable adverse effects on resources or other forest visitors; how effective are forest management practices in managing vehicle use off roads?</i> <i>What is the effect of snowmobile use on the quality of recreation experienced by other forest users?</i>	Removed from monitoring program beginning 2019. Although effects of illegal use is a natural resource concern, identifying the amount of illegal or user conflict use is extremely difficult to monitor accurately. Relying on law enforcement incidents increases inaccurate reporting given the low level of patrol capacity.	Not applicable.
Recreation	Both	Equity	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question developed to address required Monitoring Element 5 beginning 2017 (This monitoring question replaced the ROS Setting monitoring item): <i>Is the Forest providing recreation equity to serve a diverse public?</i> <i>Is there disproportionate utilization of recreation resources by demographic?</i>	Removed from monitoring program beginning 2019. This question provided redundant information reported from the Recreation Visitor Satisfaction monitoring item.	Not applicable.
Recreation	Both	Partner Contributions	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question beginning 2019.	To what extent are partners contributing to management of recreation facilities and trail systems? <i>What is the trend in partner contributions towards the improvement, maintenance and operation of the Forest Recreation Sites and Trails System.</i>
Recreation	Both	Recreation Facility Maintenance	To what extent have Forest Plan Objectives been attained? <i>Is the Forest reducing deferred maintenance on developed recreation facilities and sites. Is the Forest increasing the number of recreation facilities that are maintained to standard.</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Forest Service staff do not have the capacity access past data from NRM and are not updating recreation site data frequently enough to report numbers with accuracy.	Not applicable.
Recreation	Both	Recreation Opportunity Spectrum (ROS) Settings	To what extent are ROS settings being provided? <i>Is the Forest moving toward the desired future condition for ROS settings?</i>	No change to question.	No change to question.	Initially selected to address required Monitoring Element 5, but replaced with Equity monitoring item beginning 2017. The ROS monitoring question was difficult to address and had never been reported since 2006. Only projects which have a positive effect toward the desired ROS, or no effect at all, are approved for implementation. Without a complete inventory of the existing ROS settings, it is not feasible to determine the amount of change which has occurred.	Not applicable.	Not applicable.
Recreation	Both	Recreation Visitor Satisfaction	To what extent have Forest Plan Objectives been attained? <i>Are we providing high quality recreation services that meet the expectations of the public?</i>	No change to question.	No change to question.	Selected to address required Monitoring Element 5 beginning 2017. Although there is no recommended change to this monitoring question, more qualitative data such as narratives based on site specific project analyses and monitoring can improve monitoring conclusions.	Slightly revised question beginning 2019.	Required Element 5: The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives (see FSH 1909.12, chapter 30, Section 32.13d). <i>To what extent are management activities providing high quality recreation services that meet the expectations of the public?</i>
Recreation	Both	Scenic Integrity Objectives	To what extent have Scenic Integrity Objectives been attained? <i>Has the Forest transitioned from the current Visual Management System to the Scenery Management System?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. This "yes/no" question does not provide useful information.	Not applicable.
Recreation	Both	Special Uses - Recreation	To what extent have Forest Plan Objectives been attained? <i>Is the Forest helping to provide a diverse range of high-quality, sustainable recreation opportunities by improving its administration of existing authorizations?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because recreation special use permit tracking is addressed in the Special Uses - Lands monitoring item. No report has been provided for this question since it was developed in 2006.	Not applicable.	Not applicable.
Recreation	Both	Trail Maintenance	Is the quality of the Forest Service trail system and recreation facilities being improved through operation and maintenance? <i>Is the amount of deferred maintenance on the GMNF/FLNF trail system being reduced?</i>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	Is the quality of the Forest Service trail system being improved through operation and maintenance? <i>How many miles of trail are maintained annually and how many trail miles are meeting standard?</i>

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Recreation	Both	Trends in Trail Partnerships	To what extent have Forest Plan Objectives been attained? <i>How well is the Forest using partnerships to assist in the operations and maintenance of the Forest trail system?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Reporting was not consistent from Volunteer Service Reporting database without a dedicated Volunteer Coordinator position.	Not applicable.
Recreation	Both	Visual Quality Objectives	To what extent have Forest Plan Objectives been attained? <i>Is the GMNF/FLNF being managed in accordance with the Forest Plan Visuals Standards and Guidelines (S&Gs) and are the Visuals S&Gs and any additional site-specific design criteria effective in helping to meet the Visual Quality Objectives (VQOs)?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. This question is difficult to evaluate effectively without a dedicated Landscape Architect position. NEPA compliance specific to visual resources can be addressed with the Project Implementation monitoring item.	Not applicable.
Soils	GMNF	Long Term Soil Quality and Soil Productivity	To what extent have Standards and Guidelines been applied? Are the effects of Forest management, including prescriptions, resulting in significant changes to productivity of the land? <i>How are soil/site quality and productivity changing over the long term, in response to factors such as acid deposition, climate change, invasive species, other environmental problems, and forest management?</i> <i>More specifically: A) Are soil nutrient levels changing, and are the changes affecting soil/site productivity? B) What toxins exist in the soil (e.g. from the atmosphere), and how are they changing in quantity and type over time? Is this affecting productivity? C) Are forest management activities affecting soil/site productivity?</i>	No change to question.	No change to question.	Revised monitoring questions beginning 2017 to provide more meaningful and focused information: Are the effects of atmospheric deposition and climate change resulting in significant changes to productivity of the land? <i>How are soil/site quality and productivity changing over the long term, in response to factors such as acid deposition, climate change, invasive species, other environmental problems?</i> <i>More specifically: A) Are soil nutrient levels changing, and are the changes affecting soil/site productivity? B) What toxins exist in the soil (e.g. from the atmosphere), and how are they changing in quantity and type over time? Is this affecting productivity?</i>	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction. Selected to address required Monitoring Element 6 for both GMNF/FLNF beginning 2019 (moved from "Other Retained Monitoring" questions to "Required Monitoring Element").	Required Element 6: Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area (see FSH 1909.12, chapter 30, Section 32.13e). <i>Within site plots how are soil/site quality and productivity changing over the long term, in response to factors such as acid deposition, climate change, invasive species, and other environmental problems?</i> <i>How are management activities potentially mitigating or exacerbating changes in soils?</i> <i>More specifically:</i> <i>1) Are soil nutrient levels changing, and are the changes affecting soil/site productivity?</i> <i>2) What toxins exist in the soil (e.g. from the atmosphere), and how are they changing in quantity and type over time? Is this affecting productivity?</i>
Soils	FLNF	Grassland Soil Productivity, Condition, and Quality	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New questions beginning 2017: Are the effects of forest management resulting in significant changes to soil productivity? <i>Are the effects of forest management resulting in significant changes to grassland soil/site productivity, condition, and quality?</i>	Revised question beginning 2019.	How well do Forest Plan components maintain or restore the natural, ecological functions of the soil? <i>Are the effects from management activities resulting in significant changes to soil productivity?</i>
Soils	Both	Soil Quality Standard Compliance	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question developed to address required Monitoring Element 8 beginning 2017 : Are the effects of Forest management, including prescriptions, resulting in significant changes to productivity of the land? <i>How are soil quality and productivity changing in response to forest management?</i>	Slightly revised question beginning 2019.	Required Element 8: The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)) (see FSH 1909.12, chapter 30, Section 32.13g). <i>To what extent are management activities impacting soil quality and productivity?</i>
Soils	Both	Soil/Water Standards and Guidelines, Mitigation Measure, and Soil Quality Standard Compliance	To what extent are Forest Service management and restoration activities maintaining or improving soil quality? <i>Were Forest Plan Standards and Guidelines (S&Gs) and mitigation measures implemented on selected projects, and to a lesser extent, were they effective in protecting the soil, water and wetland resources? Are soil quality standards met?</i>	No change to question.	No change to question.	Question modified beginning 2017 to eliminate redundancy with Soil Quality Standard Compliance monitoring item: <i>To what extent have Standards and Guidelines and Mitigation Measures been applied? How often are BMPs implemented and effective?</i> <i>Were Soil and Water Standards and Guidelines (S&Gs), mitigation measures, and Best Management Practices(BMPs) implemented on selected projects, and were they effective in protecting the soil, water and wetland resources?</i>	Removed from monitoring program beginning 2019. Redundant with required Monitoring Element 2 related to water quality improvement, and Fish Habitat monitoring item.	Not applicable.
Terrestrial Ecological Units	Both	Ecological Type Mapping and Representation	To what extent have Forest Plan Objectives been attained? <i>To what extent are ecological types on the Forest represented within the ecological reference area network? To what extent do ecological types recognized on the Forest accurately represent the diversity of ecosystems and potential natural vegetation on the Forest?</i>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	How well do Forest Plan components maintain or restore ecological processes and systems within desired ranges of variability? <i>What proportion are ecological types on the Forest represented within the ecological reference area network?</i>

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Terrestrial Wildlife Habitat	GMNF	Deer Wintering Areas	To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>Are Standards and Guidelines improving quality of softwood cover in Deer Wintering Areas (DWAs)? Are Standards and Guidelines improving availability and quality of browse in and near DWAs? Is the occupancy of DWAs changing over time?</i>	Modify or remove this question from the monitoring program. Monitoring should focus on the abundance, quality, and availability of softwood habitats that provide suitable cover, and on early-successional habitats that provide browse for deer, not on attempting to monitor deer use of site-specific areas or deer population trends.	Modify or remove this question from the monitoring program.	Removed question from monitoring program beginning 2017. This monitoring question has not been reported since 2008, and is no longer considered a critical Forest Plan component to track.	Not applicable.	Not applicable.
Terrestrial Wildlife Habitat	GMNF	Early Successional Habitat	To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>Are temporary and permanent openings used by early successional habitat species? What are short- and long-term changes in structural components and use of openings of different sizes?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item. Not reported since 2009.	Not applicable.	Not applicable.
Terrestrial Wildlife Habitat	FLNF	Grassland Habitat	To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>What are the conditions of grasslands and pastures on the FLNF? What are the vegetative conditions and wildlife use patterns of grazed and non-grazed grasslands? Do maintenance programs produce desired conditions?</i>	No change to question.	No change to question.	No change to question.	Revised question beginning 2019.	How well do Forest Plan components contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>What are the conditions of grasslands and pastures? What are the grassland bird use patterns of grazed and non-grazed grasslands?</i>
Terrestrial Wildlife Habitat	FLNF	Grassland Ecosystem	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question developed to address required Monitoring Element 3 beginning 2017. <i>Are the ecological sustainability and diversity of natural communities present and functioning on the FLNF? Does the grasslands ecosystem provide a full array of habitat types across the Forest and align with the Forest Plan for overall abundance?</i>	No change to question.	Required Element 3: The status of focal species to assess the ecological conditions required under § 219.9 (see FSH 1909.12, chapter 30, Section 32.13c). <i>Does the grasslands ecosystem provide a full array of habitat types across the Forest and align with the Forest Plan for overall abundance?</i>
Terrestrial Wildlife Habitat	Both	Management Indicator Species Habitat Trends	To what extent do Forest Service Management activities contribute toward restoration and maintenance of habitat for native and desirable non-native species? <i>What are habitat trends for MIS? To what extent is Forest Service management accomplishing desired distribution of age class and habitat type as desired and outlined in Forest Plan objectives?</i>	Remove this question from the monitoring program. Consideration of Management Indicator Species are no longer a required per the 2012 planning rule, and is no longer a reliable measurement of population viability trends.	Removed question from the monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Terrestrial Wildlife Habitat	Both	Wildlife Reserve Trees	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Are we retaining the best individual trees and snags? How do they persist/improve/degrade over time? How well did retained future trees and snags develop over time?</i>	No change to question.	No change to question.	Consider removing question from monitoring program because routine project monitoring shows reserve trees and snags are adequately retained.	Removed from monitoring program beginning 2019.	Not applicable.
Terrestrial Wildlife Population	Both	Bald Eagle	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do we have bald eagles on/near the GMNF/FLNF? Are they nesting? Are they nesting successfully? Do they need site-specific protection or habitat management?</i>	Consider removing this question from the monitoring program until bald eagles are confirmed to be nesting on NFS lands.	Removed question from the monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Terrestrial Wildlife Population	GMNF	Bicknell's Thrush	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What is the population trend of Bicknell's thrush on the GMNF and adjacent lands?</i>	No change to question.	No need to change question.	No change to question.	Removed from monitoring program beginning 2019. Replaced by Sensitive Species monitoring item.	Not applicable.
Terrestrial Wildlife Population	GMNF	Common Loon	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do we have common loons on/near the GMNF? Are they nesting? Are they nesting successfully? Do they need protection or habitat management?</i>	No change to question.	No need to change question.	No change to question.	Removed from monitoring program beginning 2019. Replaced by Sensitive Species monitoring item.	Not applicable.

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Terrestrial Wildlife Population	Both	Management Indicator Species Population Trends	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What are population trends of MIS? To what extent are MIS responding to Forest Service management of suitable habitat?</i>	Remove this question from the monitoring program. Consideration of Management Indicator Species are no longer a required per the 2012 planning rule, and is no longer a reliable measurement of population viability trends.	Removed from monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Terrestrial Wildlife Population	FLNF	Northern Goshawk	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What is the population trend of northern goshawks on the FLNF and adjacent lands?</i>	Consider removing this question from the monitoring program because it is unlikely to provide meaningful information.	Removed from monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Terrestrial Wildlife Population	GMNF	Peregrine Falcon	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What is the population trend of peregrine falcons on the GMNF and adjacent lands?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Replaced by Sensitive Species monitoring item.	Not applicable.
Terrestrial Wildlife Population	GMNF	Regional Forester Sensitive Species - Odonates and Lepidopterans	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do odonate and lepidopteran, listed as a Regional Forester Sensitive Species, occur on the GMNF? What type of habitats do they occur in? Where on the Forest do they occur? Do they need protection or habitat management?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Replaced by Sensitive Species monitoring item.	Not applicable.
Terrestrial Wildlife Population	Both	Threatened, Endangered, and Sensitive Species - (wood turtle, Jefferson and blue-spotted salamanders)	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What are the population trends of wood turtle, Jefferson salamander, blue-spotted salamander, and four-toed salamander on the GMNF/FLNF and adjacent lands? Do they need protection or habitat management?</i>	Consider modifying this monitoring question to focus on wetland habitats instead of the herpiles species. Forest Service staff can monitor wetlands but lack the expertise to directly monitor herpiles.	See trends report recommendation.	Modified monitoring item beginning 2017 to reflect there are no threatened or endangered herpiles on GMNF. Add spotted turtle (<i>Clemmys guttata</i>) beginning 2019 to reflect it is a new RFSS.	Removed from monitoring program beginning 2019. Replaced by Sensitive Species monitoring item.	Not applicable.
Terrestrial Wildlife Population	Both	Threatened, Endangered, and Sensitive Species - Bats	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do Indiana and eastern small-footed bats roost, forage, hibernate on the GMNF/FLNF? Do they need protection or habitat management?</i>	Consider changing this monitoring question to include additional bat species, specifically the northern long-eared bat, little brown bat, and tri-colored bat.	Consider changing the monitoring question to "Have TES bats continued to use the landscape post-WNS?".	Consider changing the detailed monitoring question to "Are bats continuing to persist on the landscape?" and develop measurement indicators accordingly to more meaningfully determine what extent Forest Service management activities contribute toward population viability for native and desired non-native species	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Are threatened, endangered, and sensitive bat species continuing to persist on the landscape?</i>
Terrestrial Wildlife Population	Both	Threatened, Endangered, and Sensitive Species - Mammals (wolf, cougar, lynx)	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do gray wolves, eastern cougars, or Canada lynx occur on or near the GMNF/FLNF?</i>	Consider removing this question from the monitoring program since the presence of these species on GMNF at any time in the foreseeable future is unlikely.	Removed question from monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Terrestrial Wildlife Population	GMNF	Wildlife in Remote Areas	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>What differences exist between wildlife use of more or less remote areas of the GMNF? Within the remote areas, what differences exist between wildlife use of areas that undergo or prohibit habitat management?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wildlife populations in remote areas were too difficult to monitor and this question was not providing useful information.	Not applicable.	Not applicable.
Terrestrial Wildlife Population	FLNF	West Virginia White	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>Do West Virginia whites occur on FLNF? Do they need protection or habitat management?</i>	No change to question.	Removed question from monitoring program beginning 2014.	Not applicable.	Not applicable.	Not applicable.
Vegetation	Both	Age Class Distribution	To what extent have Forest Plan Objectives been attained? <i>To what extent are management actions and natural processes moving age class structure of lands managed using even-aged silvicultural systems toward desired objectives in Table 2.2-2 in the revised Plan?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Aspen-Birch and Early Successional Habitat	To what extent have Forest Plan Objectives been attained? <i>How many acres are being treated with varying management actions to maintain and increase aspen-birch and regenerating forest?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Conversion of Hardwoods to Mixedwood and Softwoods	To what extent have Forest Plan Objectives been attained? <i>How many acres are being treated with varying management actions that will likely result in an increase in mixedwood and softwood forests on ecologically suitable sites?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest-wide Habitat Composition monitoring item.	Not applicable.	Not applicable.

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Vegetation	Both	Forest Structure	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question incorporating several existing questions related to habitat composition to address required Monitoring Element 2 beginning 2017: To what extent have Objectives been attained? To what extent are management actions and natural processes leading to increased structural diversity within forested stands and across forested landscapes, moving areas toward desired objectives identified under Goal 2 of the Forest Plan?	No change to question.	Required Element 2: Status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems (see FSH 1909.12, chapter 30, Section 32.13b). To what extent are management activities and natural processes leading to increased structural diversity within forested stands and across forested landscapes, moving areas toward desired objectives identified under Goal 2 of the Forest Plan?
Vegetation	Both	Forest-wide Habitat Composition	To what extent have Forest Plan Objectives been attained? To what extent are management actions and natural processes moving Forest composition toward desired objectives in table 2.2-1 of the revised Plan?	No change to question.	No change to question.	New question starting 2017 incorporating several existing questions related to habitat composition.	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	To what extent are management activities maintaining and restoring quality, amount, and distributions of habitats to desired levels? To what extent are management activities and natural processes moving forest composition and age classes toward Forest Plan objectives (Tables 2.2-1 and 2.2-2)?
Vegetation	Both	Late-Successional Forest	To what extent have Forest Plan Objectives been attained? How many acres are there within the old forest age class, and how many acres are developing late successional forest characteristics?	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Oak and Oak-Pine Forest Maintenance and Restoration	To what extent have Forest Plan Objectives been attained? How many acres are being treated with varying management actions that will likely result in the maintenance and restoration of oak and oak-pine forests, and oak within oak-northern hardwood forests?	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest-wide Habitat Composition monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Oak Regeneration	To what extent have Forest Plan Objectives been attained? How many acres were treated to encourage oak regeneration?	No change to question.	Required Element 2	Removed question from monitoring program beginning 2017 because it is redundant with Forest-wide Habitat Composition monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Outputs Accomplished - Volume and Acres of Timber Offered and Sold	How close are actual outputs and services to projected outputs and services? How do actual outputs compare to those projected in Forest Plan Appendix D, Proposed and Probable Practices, specific to timber offered and sold?	No change to question.	No change to question.	No change to question.	Slightly revised question beginning 2019.	To what extent are management activities providing sustainable supply of forest products? How do actual outputs compare to those projected in Appendix D, Proposed and Probable Practices, specifically related to timber offered and sold?
Vegetation	GMNF	Permanent Upland Openings	To what extent have Forest Plan Objectives been attained? How many acres are being treated with varying management actions to maintain and increase upland opening habitats?	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest-wide Habitat Composition monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Rare or Outstanding Natural Areas	To what extent have Forest Plan Objectives been attained? To what extent are rare and outstanding biological, ecological, or geological features on the GMNF/FLNF being protected, maintained, or enhanced?	Consider combining this question with the Ecological Type Mapping and Representation monitoring question and changing the monitoring and reporting frequency to 5 years.	No change to question.	No change to question.	Slightly revised question beginning 2019.	How well do Forest Plan components protect rare or outstanding biological, ecological, or geological areas? To what extent are rare and outstanding biological, ecological, or geological features being protected, maintained, enhanced, or threatened?
Vegetation	Both	Regeneration Harvest Opening Size	Are maximum size limits for harvest areas appropriate, and should these limits be retained? Is the maximum opening size for even-aged harvesting being met and are we accomplishing resource objectives? Are we meeting wildlife habitat regeneration objectives in both size and quantity of openings by habitat types?	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Shelterwood with Reserves	What are the effects of management practices prescribed by the 2006 Forest Plan? Can the shelterwood w/reserves method be used to: 1) maintain the big tree character in visually sensitive areas or to convert low quality stands to uneven-aged structure, 2) the ability to leave good quality, wind-firm trees of sufficient number, size, and distribution to maintain a pleasing overstory, and 3) the ability to retain the overstory until the regenerated stand is commercially thinned in 40-60 years?	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Vegetation	Both	Stocking Level	Are harvested lands adequately re-stocked according to Forest Plan goals? Are lands adequately re-stocked according to stocking surveys?	No change to question.	No change to question.	No change to question.	Slightly revised question beginning 2019.	Are harvested lands adequately restocked according to National Forest Management Act requirements? Are lands adequately restocked within five years of a regeneration harvest or site preparation activities?

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Vegetation	Both	Suited Timber Lands	To what extent is timber management occurring on lands suitable for such production? <i>Are lands termed unsuitable for timber production adequately described and mapped?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. Lands considered suited for timber production have remained static since the 2006 Forest Plan revision beyond slight changes from the 2011 Forest Plan amendment to reallocate remnants of the Wilderness Study Area Management Area (MA) to other MAs and acquisition of lands. In the absence of technological advancement in ground-based harvest equipment or additional soil design criteria that would affect suitability for timber production, lands considered suitable for timber production are assumed to not have substantially changed. A thorough consideration of growing site conditions, slope, soil characteristics, and equipment capabilities will occur to revisit lands considered suitable for timber production when the Forest Plan is revised.	Not applicable.
Vegetation	Both	Sustainability of Special Forest Product Gathering	To what extent have Forest Plan Objectives been attained? <i>How many and what special forest products (SFPs) do people gather? How many require permits, and how many permits were issued annually, for which products/species? How many requests for permits were denied? How many SFPs are being evaluated for permit requirements?</i>	No change to question.	No change to question.	No change to question.	Removed from monitoring program beginning 2019. The only indicator for this question is permits issued and these represent an extremely small amount of actual gathering of forest products. Monitoring of forest health for maple tapping permits does occur but otherwise there is no available monitoring data for the sustainability of any permitted or unpermitted harvest of special forest products.	Not applicable.
Vegetation	Both	Trends in Vegetative Community Composition	To what extent are Forest Service management activities contributing toward population viability for native and desired non-native species? <i>How the vegetation composition is changing over time from the influence of acid deposition, climate change, invasive species and other environmental problems, in combination and separate from land management practices?</i>	No change to question.	No change to question.	Replaced question with new Forest-wide Habitat Composition monitoring item beginning 2017.	Not applicable.	Not applicable.
Vegetation	Both	Uneven-aged Management	To what extent have Forest Plan Objectives been attained? <i>How many acres of land suitable for timber management were treated using uneven-aged silvicultural systems to create multi-age conditions, and what proportion of the annual harvest acres do these acres represent? What proportion of the lands suitable for timber management has an uneven-aged prescription?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017 because it is redundant with Forest Structure monitoring item.	Not applicable.	Not applicable.
Water	Both	Forest-wide Water Quality	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question developed to address required Monitoring Element 1 beginning 2017 . To what extent are environmental stressors and Forest management affecting water quality and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland habitats? <i>What is the existing status of watershed biological, chemical, and physical integrity on the Forest, and how are management activities affecting them?</i> Consider changes to this monitoring question and measurement indicator that would more readily demonstrate water quality conditions at the forest-wide scale. Specifically, since a Forest Plan Goal 4 objective states management will "Meet or exceed all State Water Quality Standards, including biotic standards", modification of monitoring indicators should be derived from State measurement criteria (such as water quality classifications, waterbody impairment status, and approved Total Maximum Daily Loads for impaired waterbodies).	Revised question beginning 2019 to be more meaningful, efficient, and effective to address Forest Plan direction.	Required Element 1: Status of select watershed conditions (see FSH 1909.12, chapter 30, Section 32.13a). <i>To what extent are management activities maintaining or restoring watershed functions?</i>
Water	Both	Forest-wide Water Quality Monitoring	To what extent is Forest management affecting water quality, quantity, flow timing, and the physical features of aquatic, fisheries, riparian, vernal pool, and wetland habitats? <i>What is the existing status of water quality on the GMNF/FLNF, and how are our management activities affecting water quality?</i>	No change to question.	See monitoring report for detailed recommendations for changes to monitoring question related to measuring water quality, quantity, and flow timing.	Replaced with new Forest-wide Water Quality Monitoring, and Forest-wide Water Quantity and Flow monitoring items beginning 2017. This question was separated into two monitoring questions focusing on different measurement indicators (water quality and water quantity & flow).	Not applicable.	Not applicable.

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Resource Name	Forest	Monitoring Item	2007 Monitoring Guide Monitoring Question <i>Detailed Monitoring Question</i>	FY06-13 Monitoring Trends Report Recommendation	FY14-16 M&E Report Recommendation	FY17-18 M&E Report Recommendation	FY19 Status	FY19-24 Management Question <i>Detailed Monitoring Question</i>
Water	Both	Forest-wide Water Quantity and Flow	Not applicable.	Not applicable. New question beginning 2017.	Not applicable. New question beginning 2017.	New question beginning 2017: To what extent are environmental stressors and Forest management affecting water quantity and flow timing? <i>What is the existing status of water quantity and flow timing on National Forest System lands, and how are our management activities affecting them?</i> Consider removing this monitoring question from the monitoring program. Given the limited capacity for monitoring stream discharge, this monitoring question does not appear to be well suited to help decide whether management is meeting Forest Plan direction, or what impacts climate change may have on forest resources. Related indicators such as regional precipitation and temperature patterns may be appropriate in addressing the climate-related stressors but are not likely useful in determining whether plan components are effective and appropriate and whether management is effective in maintaining or achieving progress toward Forest Plan objectives and desired conditions.	Removed from monitoring program beginning 2019. Redundant with required Monitoring Element 1.	Not applicable.
Water	Both	Water Quality	Not applicable.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	Not applicable. New question beginning 2019.	New question developed to address required Monitoring Element 2 beginning 2019.	Required Element 2: Status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems (see FSH 1909.12, chapter 30, Section 32.13b). <i>To what extent are management activities conserving or improving water quality?</i>
Wild and Scenic Rivers	GMNF	Wild and Scenic Rivers	To what extent are eligible Wild and Scenic Rivers managed to preserve their outstandingly remarkable values? <i>Are agency activities on eligible National Wild and Scenic Rivers consistent with the Outstandingly Remarkable Values for which the river segment was determined eligible?</i>	No change to question.	No change to question.	No change to question.	No change to question.	To what extent are eligible Wild and Scenic Rivers managed to preserve their outstandingly remarkable values? <i>Are management activities within the eligible National Wild & Scenic River management area consistent with the Outstandingly Remarkable Values for which each river segment was determined eligible?</i>
Wilderness	GMNF	Wilderness Areas Managed to Standard	To what extent have Forest Plan Objectives been attained? <i>How many wilderness areas are managed to national standards?</i>	No change to question.	No change to question.	Revised question beginning 2017: To what extent have Objectives been attained? <i>How are wilderness areas trending to meet the national Wilderness Stewardship Performance?</i> This question replaces all previous wilderness related monitoring questions. The 10-Year Wilderness Stewardship Challenge is complete and obsolete. This revised question is based on a new national wilderness program initiated in 2015 and includes the most recent best available science related to wilderness management. The new national measure is Wilderness Stewardship Performance Measures.	Revised management question beginning 2019.	To what extent are management activities meeting the intent of the Wilderness Act? <i>Are wilderness areas trending to meet the national Wilderness Stewardship Performance?</i>
Wilderness	GMNF	Wilderness Character - Natural (biophysical conditions)	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the trends of selected biophysical conditions and processes sensitive to human threats?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Natural (human threats)	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the trends of human threats to natural conditions?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Primitive Recreation	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the status and trends of outstanding opportunities for primitive recreation?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.

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Wilderness	GMNF	Wilderness Character - Solitude	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the status and trends of outstanding opportunities for solitude?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Unconfined Recreation	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the status and trends of outstanding opportunities for unconfined recreation?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Undeveloped (inholdings)	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the status and trends of inholdings?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Undeveloped (motorized and mechanical transport)	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the status and trends of the use of motorized equipment and mechanical transport?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Undeveloped (permanent improvements)	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the trends of physical evidence of modern human occupation or modification?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Character - Untrammeled	To what extent is Wilderness managed to preserve its Wilderness character? <i>What are the trends of actions that control or manipulate the community of life in wilderness?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Field Presence	To what extent have Forest Plan Objectives been attained? <i>To what extent has staff been in the field monitoring wilderness boundaries and providing public education and outreach?</i>	No change to question.	No change to question.	Removed question from monitoring program beginning 2017. Wilderness monitoring is covered by revised Wilderness Areas Managed to Standard monitoring item.	Not applicable.	Not applicable.
Wilderness	GMNF	Wilderness Study Areas	What are the effects of management practices prescribed by the 2006 Forest Plan? <i>Are Wilderness Study Areas being managed to maintain roadless characteristics pending legislation as to their designation?</i>	Discontinue monitoring question since the Wilderness Study Area Management Area is no longer part of the Forest Plan.	Removed question from monitoring program beginning 2012.	Not applicable.	Not applicable.	Not applicable.