

Commenter	Comment	Forest Service Response
Mike McGlenn	Stock users are not accurately reflected by NVUM studies.	The National Visitor Use Monitoring program is a national program with standardized questions and protocols. It is done every five years on each National Forest. However, the MBS is currently attempting new methods to count users that should more accurately reflect stock use than NVUM does.
WildEarth Guardians	Suggested evaluation question: Are BMPs implemented before, during, after construction or reconstruction activities to protect water quality and aquatic health?	The monitoring program has been revised to include a question addressing whether or not BMPs were planned and implemented at project scales for various management activities. Monitoring questions have also been clarified regarding whether BMPs are effective both during and after project implementation.
WildEarth Guardians	Suggested evaluation question: What percent of needed BMPs at older project sites or roads have been installed?	A sampling of project sites are monitored within the forest during and after project implementation, and this has been clarified in the Monitoring Indicators section. However, it is beyond the capability of the MBS to effectively monitor BMP implementation and effectiveness for every current and past project site or road segment. Multi-year Forest Service BMP monitoring and evaluation is summarized annually and reported at a regional level; these reports include information from actual monitored sites. One goal of implementing the regional BMP program is for each forest to put into regular practice those BMPs which are demonstrated to conserve aquatic and riparian resources, understanding the limited ability of each forest to monitor BMP implementation and effectiveness locally.
WildEarth Guardians	Suggested evaluation question: Are the new BMPs installed at older sites or roads meeting the objective of protecting water quality?	Part of the goal of the forest plan monitoring program is to document how the Forest has incorporated the National BMP Monitoring Program, and through that process to utilize the results of BMP monitoring to adapt the Forest's management where appropriate to better protect aquatic and riparian resources. This has been clarified under Monitoring Issue i.1, while the component of this goal that is specific to roads is addressed under Monitoring Issue vii.4, Transportation and Road Management.
WildEarth Guardians	Consider monitoring BMP effectiveness at recreation sites as well.	There will be recreation sites monitored as part of the BMP site selection, as well as other non-road projects. Some of these are listed in the Goal section of Monitoring Issue i.1.
WildEarth Guardians	For WCF condition indicators, outline which are targeted for improvements with which essential projects, and if an indicator will remain unchanged after all projects are implemented, that should be clearly stated.	The Evaluation Questions have been updated to reflect how effective essential projects are at improving watershed conditions and whether or not key indicators which are influencing watershed conditions are improving over time.

Commenter	Comment	Forest Service Response
WildEarth Guardians	Suggested evaluation question: Which of the 12 watershed condition indicators rated as “poor” will not change after all essential projects have been implemented?	The Monitoring Indicators have been revised to better demonstrate their link to the Evaluation Questions.
WildEarth Guardians	Suggested evaluation question: Miles of road addressed for all roads within at-risk and impaired watersheds according to the WCF roads and trails indicator, and within watersheds contributing to sediment or temperature impairment under section 303(d) of the Clean Water Act? Or Percentage of road miles decommissioned in a subwatershed with a “poor” WCF roads and trails indicator?	The Sampling Methods have been revised to better reflect WCF reassessment procedures for evaluating all key indicators. Reassessment could include evaluating the indicator for 303d listed streams if monitoring data over a 5 year period demonstrates significant information valuable to the reassessment or if the State of Washington updates their 303d listed streams. In addition, given that roads are one of the more influential attributes that influence watershed condition on the Forest, we will be reassessing that during our 5 year WCF implementation cycle as well.
WildEarth Guardians	Suggested evaluation question: Number of Watershed Restoration Action Plans (WRAPs) where all identified road work has been completed and where the roads and trails indicator has been moved from “poor” to “fair” or from “fair” to “good”?	The Forest will not be able to claim an accountability accomplishment for one watershed improved until all essential projects identified in the watershed restoration action plan are implemented. The reassessment portion of WCF will allow us to evaluate how much of an effect implementing those essential projects had on both the roads attribute and overall condition score.
WildEarth Guardians	Suggested evaluation question: "Are any key indicators at the 5th and 6th field watershed scales improving?"	The Evaluation Questions and Monitoring Indicators have been revised to demonstrate that classification of the key indicators would be the primary determinant of the degree to which we are achieving the goal of this Monitoring Issue. Given that roads are one of the more influential attributes that influence watershed condition on the Forest, we will be reassessing that attribute during our 5 year WCF implementation cycle.
WildEarth Guardians	It would be useful if the MBS monitoring tied with the regional monitoring. Suggested evaluation question: Are projects targeted to provide measurable benefit to NWFP monitoring by enhancing vegetation growth in riparian zones and implementing road decommissioning projects?	The regional NWFP monitoring program (Aquatic and Riparian Evaluation and Monitoring Program, or AREMP) also incorporates evaluations regarding effects of roads on watershed condition. AREMP is able to draw upon WCF reassessment results as a comparison to those watersheds that the AREMP team samples across the region. Watershed restoration actions such road decommissioning are conducted to be consistent with the NWFP.
WildEarth Guardians	Suggested evaluation questions: What percent of salmon and trout passage barriers have been fixed? Are salmon and trout utilizing previously inaccessible habitat?	Addressing man-made barriers to fish passage is a part of the current evaluation question. ARMEP incorporates other aspects as a part of evaluating aquatic habitat quality as well. The question of species utilizing habitat above previous man-made barriers is more appropriately evaluated at the project scale.
WildEarth Guardians	What percent of the Forest’s fish-bearing streams have human-created fish passage barriers and in what percent have these barriers been remedied through Aquatic Organism Passage projects, bridge construction or culvert	Although most of the road crossing structures on fish bearing streams have been evaluated to determine the status of passage, there may still be data gaps on the Forest where passage determinations are unknown. These aspects are also part of the habitat fragmentation evaluation as part of the WCF

Commenter	Comment	Forest Service Response
	removal? What percent of roads are improved to be hydrologically disconnected from streams? Indicators should include miles of fish-bearing streams restored, miles of fish-bearing streams in need of restoration, miles of habitat above the barrier that was reconnected.	assessment. Which allows aspects of passage to be accounted for in the larger WCF condition class determinations. Aside from Forest Plan Monitoring the Forest may engage in summarizing accomplishments overtime to account for and demonstrate the effective use of focused watershed restoration funding, such as CMLG. Those products would be shared with our partners instrumental in accomplishing such restoration.
WildEarth Guardians	Suggested evaluation question: Are water quality parameters for water temperature within state water quality standards? Is there an overall changing trend in temperature?	The MBS lacks funding and staff to monitor and analyze these parameters across the forest. However, we do draw upon water temperature and other water quality monitoring performed by the State and others within and adjacent to the MBS. Where such monitoring indicates that conditions are deteriorating, particularly with regard to aquatic species of concern, the MBS will use these results to implement measures that are within the Forest's purview and ability, including but not limited to Monitoring Issues i.1 and i.2.
WildEarth Guardians	What percentage of the forest service road system is closed due to storm damage? Is there an overall changing trend?	A monitoring issue related to roads has been added to the monitoring program.
WildEarth Guardians	Additional proposed monitoring issue: Is the Sustainable Roads Strategy being implemented as envisioned?	The interim forest plan monitoring program is intended to meet 2012 planning rule requirements for forest plan monitoring. Monitoring issues in the program were selected to address implementation and effectiveness of the 1990 forest plan. The Sustainable Roads Strategy was developed in 2015 to respond to agency direction for travel analysis but did not amend the forest plan and monitoring of the SRS would not meet current forest plan monitoring needs. Road issues and water quality issues are addressed by monitoring issues included in the final forest plan monitoring program.
Pilchuck Audubon Society	Question 1: What has the Forest learned in the way of process from the past two decades of Forest Plan monitoring, and how will it do things differently to address what it has learned or been unable to learn?	The 2012 Planning Rule requires that each Forest Plan monitoring program must contain one or more monitoring questions and associated indicators as outlined in 36 CFR Part 219.12(5). Therefore, the proposed Forest Plan monitoring program meets the requirements stated in the 2012 Planning Rule. Many components of the previous forest plan monitoring program were not carried over to this revised interim monitoring program because they are no longer relevant based on current conditions, obsolete sampling methods, new agency direction, etc. (e.g., monitoring new road construction).
Pilchuck Audubon Society	Question 2: Given the above question, how will the proposed new process function during those times when funding is inadequate and monitoring cannot be done and reports not issued? Question 3: To what extent will the MBS have the latitude to set priorities for monitoring and reporting? . . . Consideration should be given to adding and	A primary objective of the revision is to ensure that the Forest can accomplish what is set out in the revised plan. Many indicators were removed or scaled back to ensure funding will be adequate for completing the monitoring described under this revised program. The 2012 Planning Rule requires a biennial report that addresses the monitoring questions in the plan. These questions were included because they are within the Forests capacity to

Commenter	Comment	Forest Service Response
	highlighting these two parameters in the new Forest Monitoring Plan, so that the chances of adoption and implementation are enhanced.	respond to. However, if future modifications to the monitoring program are need based on resources (including funding and on the ground resource conditions) those changes will include public involvement prior to being implemented.
Pilchuck Audubon Society	Question 4: Are the 10 components of each Monitoring item adequate to support collection of meaningful monitoring data, which will in turn support meaningful evaluation and reportings?	The 2012 Planning Rule requires that each Forest Plan monitoring program must contain one or more monitoring questions and associated indicators as outlined in 36 CFR Part 219.12(5). Therefore, the proposed Forest Plan monitoring program meets the requirements stated in the 2012 Planning Rule. Further, the 2012 Planning Rule provides discretion for the Responsible Official to set the scope and scale of the Forest Plan monitoring program (36 CFR Part 219.12(4)). The monitoring program is interim monitoring program designed to address implementation and effectiveness of the existing forest plan, to the extent feasible, until a new land and resource management plan is developed.
Pilchuck Audubon Society	<p>Question 5: How does this new approach to Forest Plan monitoring provide the foundation to support Adaptive Management on the Mt. Baker-Snoqualmie NF specifically?</p> <ul style="list-style-type: none"> • Are the selected Monitoring Issues the correct ones to support Adaptive Management? • Do the selected Monitoring Indicators support the input needed for Adaptive Management? • How does the “Threshold of Variability” relate to the Forest’s Adaptive Management approach? <p>A brief but clear section on Adaptive Management should be added to the Draft Plan to explain to the public just how the Forest sees this relationship between its future monitoring and Adaptive Management. The discussion could address the question of how the Forest managers intend to pursue implementation of the 2012 planning rule, and its implementation of Adaptive Management under a 1990 Forest Plan that does not mention Adaptive Management.</p>	As described above, the proposed Forest Plan monitoring program meets the requirements stated in the 2012 Planning Rule for developing an interim monitoring program. Other requirements of the 2012 planning rule will be incorporated in MBS forest management once forest planning revision is initiated. However, the specific evaluation questions are designed to more accurately inform management decisions under the existing forest plan by evaluating whether management actions are contributing to the goals and desired conditions identified in the forest plan. The approach involving monitoring questions and indicators for each of the eight monitoring categories is required by the 2012 Planning Rule. Reporting on the monitoring questions will help inform management decisions but a complete adaptive management strategy for the Forest is outside the scope of this effort. The 2012 Planning Rule requires that each Forest Plan monitoring program must contain one or more monitoring questions and associated indicators as outlined in 36 CFR Part 219.12(5). Additional elements were included by the monitoring plan team to assist with meaningfully assessing forest plan implementation and effectiveness, but these elements are not required components under the planning rule. The descriptive text at the beginning of the monitoring program was revised to clarify.
Pilchuck Audubon Society	Question 6: What is the definition of “Forest Health?” Is a more scientific term preferable? . . . “Monitoring Issue (vi.2): Forest Health.” As stated above, this term should be replaced by a current scientifically precise term. And the three	The monitoring issue description is intended to summarize the theme of the evaluation questions but is not a required plan component and has no specific meaning of relevance to the monitoring program. Here "forest health"

Commenter	Comment	Forest Service Response
	<p>indicators are again very narrow, limited to “stressors such as insects, disease, animal damage, and air pollution.” There are so many more dimensions to ecosystem resilience than these that deserve consideration as indicators.</p>	<p>describes evaluation questions related to forest disease outbreaks and infestations.</p>
<p>Pilchuck Audubon Society</p>	<p>Question 7: How does “Evaluation Period” relate to “Reporting Period?”</p>	<p>The evaluation periods will vary based on sampling methods used for each of the indicators (with some data available annually and others less frequently), all monitoring questions will be evaluated on a biennial basis coinciding with preparation of the biennial monitoring report required under the 2012 planning rule. Text referring to "reporting period" has been removed from each monitoring issue, for clarification.</p>
<p>Pilchuck Audubon Society</p>	<p>Question 8: Are better examples available of format and content for the MBS to adopt or emulate?</p>	<p>The MBS referenced numerous updated transitional monitoring programs across Region 6. As described above, the only required elements under the 2012 planning rule are one or more monitoring questions and associated indicators for each of the eight monitoring categories as outlined in 36 CFR Part 219.12(5).</p>
<p>Pilchuck Audubon Society</p>	<p>Consider the following indicators for climate change and stressors:</p> <ul style="list-style-type: none"> • Timing and amounts of stream flows and stream temperatures • Trends in vegetation location, composition and structure • Trends in snowpack depth, water content and snowmelt timing • Qualitative discussion of restoration efforts to increase landscape and patch size resiliency, and biological diversity • Number of post-disturbance projects that have taken climate change into account 	<p>Most of climate change analysis and monitoring for the Forest is conducted by RMRS out of Boise, ID which include 2 programs: NorWest stream temperature modeling effort and National Forest contributions to streamflow. These efforts are performed at a scale beyond the Forest Plan area and evaluate larger predicted trends under various climate change scenarios. These data sets are incorporated into the AREMP monitoring program to display NWFP monitoring trends and conditions.</p> <p>The MBS lacks funding and staff to monitor and analyze these parameters across the forest. However, we do draw upon water temperature, streamflow, and other monitoring performed by the State, USGS, and others within and adjacent to the MBS. Where such monitoring indicates that conditions are deteriorating, particularly with regard to aquatic species of concern, the MBS will use these results to implement measures that are within the Forest's purview and ability, including but not limited to Monitoring Issues i.1 and i.2. Additional climate change monitoring and research for the north cascades ecosystem is being conducted both within the MBS and on adjacent public lands. See e.g. US Department of the Interior, North Cascades National Park, Glacier Monitoring Program (https://www.nps.gov/noca/learn/nature/glacial-mass-balance1.htm). Current Forest Service direction is to include consideration of climate change in all project-level planning efforts.</p>

Commenter	Comment	Forest Service Response
Pilchuck Audubon Society	“(vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities: Social and economic outputs.” One monitoring item the MBS appears to lack that other Forests propose is social and economic issues, along with indicators such as this. As an urban-interface National Forest where the human dimension of ecosystem management is prominent, it would seem that the MBS should consider adding such a component and indicator.	The Responsible Official has the discretion to determine the most appropriate monitoring issues for each category. Although the category "Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities" doesn't require consider of social and economic outputs specifically, socio-economic factors are indirectly addressed through consideration of timber products, the forest transportation system, Tribal concerns, etc. Current monitoring and assessment of social and economic outputs from the forest is conducted at the Regional level. In 2016 the Region 6 Social Scientist/Economist prepared a report summarizing the economic contributions for each forest and grassland in the region. These and other similar efforts will continue to inform management decisions on the Mt. Baker-Snoqualmie National Forest.
Matt Baerwalde, Snoqualmie Tribe	Include Chinook, steelhead, and bull trout.	The monitoring program has been revised to include these species as part of the identification of focal fish species.
Matt Baerwalde, Snoqualmie Tribe	for Monitoring Issue (ii.2): Fish Habitat; the Threshold of Variability is “Condition scores show positive trends.” What happens if it doesn’t show a positive trend? There should be adaptive management built in to work on a short, effective time scale.	The 2012 Planning Rule requires that each Forest Plan monitoring program must contain one or more monitoring questions and associated indicators as outlined in 36 CFR Part 219.12(5). The monitoring program meets 2012 planning rule requirements for a transitional monitoring plan, which does not require adaptive management measures be identified. However, the specific evaluation questions are designed to more accurately inform management decisions under the existing forest plan by evaluating whether management actions are contributing to the goals and desired conditions identified in the forest plan.
Matt Baerwalde, Snoqualmie Tribe	for (iii) – The status of focal species to assess the ecological conditions required under 219.9. Can we add bull trout? Also, see first question above. What about other listed species found downstream of MBSNF in the Snoqualmie? At what population level are species monitored? Across the whole forest, by watershed, by SASI stock, etc?	Bull trout will be included as part of focal fish species. Monitoring for fish species on the National Forest is conducted in conjunction with external partner agencies managing various aspects of fisheries. Monitoring data is shared across those various agencies. Such information can then be used to inform fish distribution evaluations in support of this monitoring plan.
Matt Baerwalde, Snoqualmie Tribe	for (i) – The status of select watershed conditions; again, what are the spatial constraints of a “watershed” in this project? It should include the entire watershed, not just stop at the imaginary line of the MBSNF boundary.	Following the 2012 planning rule requirements, the monitoring program covers the forest plan area. In this case it is the boundaries within the Mt. Baker-Snoqualmie National Forest. The monitoring units are 6th Code HUCs (sub-watersheds) within the MBS boundary. In some cases, monitoring could determine that problematic watershed conditions are influenced by activities outside of National Forest System lands. In such cases, the MBS will work with

Commenter	Comment	Forest Service Response
		partners and other stakeholders to address the issue as part of a multi-party management effort.
Matt Baerwalde, Snoqualmie Tribe	for (ii) – The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems. Monitoring Issue (ii.1): Forest Ecosystem Structure and Function; but this should not stop at the NF boundary. . . . Also, does “Trend toward increasing high functioning Late-Successional Reserves” refer strictly to the functional ‘quality’ so to speak? It should include both quality and quantity (on a whole-watershed basis, including outside MBSNF boundaries).	Although the monitoring program is intended to inform management decisions on National Forest System lands, the Forest recognizes that for many resources and questions, watershed scale analysis is appropriate. Where watershed-scale information is available to address this monitoring evaluation question, it will be considered. Quantity of late successional habitat is included in the consideration of total area of old forest.
Matt Baerwalde, Snoqualmie Tribe	for (vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area. Monitoring Issue (vi.1): Invasive Plants in Wilderness Areas; Do the sampling methods include sampling for new infestations? It should. If it’s just monitoring known site, I’m not sure how that gets to the question. If so, how is that sampling conducted, i.e. at what level of sampling intensiveness?	Not only will known infestations be monitored but additional surveys will be conducted to detect new infestations. This is consistent with the Early Detection Rapid Response method presented in the Mt. Baker-Snoqualmie National Forest Invasive Plant Treatment Final EIS (March 2015).
Tulalip Tribes	We would like to see the amendment of the plan expanded to include monitoring of supply, access, and availability of important resources as well as the integrity of tribal harvest and cultural use	The 2012 Planning Rule requires that each Forest Plan monitoring program contain one or more monitoring questions and associated indicators as outlined in 36 CFR Part 219.12(5). This revised monitoring program is not an amendment to the Forest Plan, it merely updates the monitoring program to include evaluation questions and indicators that address implementation and effectiveness of the 1990 forest plan. The Monitoring issues identifies and their associated questions and indicators were chosen because they correspond to components of the 1990 forest plan. The MBS will continue to coordinate with the Tulalip Tribes to address treaty resource needs.
Tulalip Tribes	Effectively adapting management to climate change requires measuring more direct climate change variables. We recommend monitoring watershed conditions and variables such as snowpack, precipitation, stream flow, water storage, as well as surface, air, and water temperature, which are real-time climate change variables with major ecosystem effects measurable over shorter time scales.	Many of the metrics mentioned in the comment are being address through fish habitat/water quality monitoring. Additional climate change variables are being monitored at the watershed scale by the University of Washington Climate Impacts Group. In addition, the USGS Northwest Climate Science Center and USFS Climate Change Resource Center provide access to many of the datasets and analyses required to address this comment.
Tulalip Tribes	Monitor adverse impacts from recreational activities. Are recreational uses limiting the integrity, supply, or access to	The Forest will continue to work towards improved coordination and consultation with Tribes to ensure access to treaty resources. the monitoring

Commenter	Comment	Forest Service Response
	treaty resources and harvest?" . . . Visitor use is a major stressor on the forest ecosystem, this stressor should be addressed in Monitoring Issue (vi.2) Forest Health by amending the forest plan goal to include "visitor impacts" under the list of stressors. We also suggest adding a fourth Evaluation Question: "What are the ecological impacts of vehicle, off road vehicle, pedestrian, non-motorized vehicle, and other forms of visitor presence in the forest?"	program has been revised to include Tribal consultation. The Forest does not currently have the capacity to assess and monitor the impacts from specific types of visitor use. This interim monitoring plan will help inform future Forest management decisions (including decisions regarding motorized vehicle access, recreational access, etc.) by providing information about the status and trends of sensitive species and habitat including wilderness areas, threatened and endangered species, and aquatic habitats.
Tulalip Tribes	Monitoring Issue (ii.2): Fish Habitat under monitoring indicators, emphasis should be given to water temperature and hydrologic budgets, including water storage and stream flows. (especially in context of climate change)	Most of our climate change analysis is conducted by RMRS out of Boise, ID which include 2 programs: NorWest stream temperature modeling effort and National Forest contributions to streamflow. These efforts are performed at a scale beyond the Forest Plan area and evaluate larger predicted trends under various climate change scenarios. These data sets are incorporated into the AREMP monitoring program to display NWFP monitoring trends and conditions. The MBS lacks funding and staff to monitor and analyze these parameters across the forest. However, we do draw upon water temperature, streamflow, and other monitoring performed by the State, USGS, and others within and adjacent to the MBS. Where such monitoring indicates that conditions are deteriorating, particularly with regard to aquatic species of concern, the MBS will use these results to implement measures that are within the Forest's purview and ability, including but not limited to Monitoring Issues i.1 and i.2.
Tulalip Tribes	Add monitoring for bull trout.	The final forest plan monitoring program has been revised to include bull trout monitoring.
Tulalip Tribes	Add question "How is increased recreational use contributing to the spread of invasive species in the wilderness areas?"	This is a question which we plan to address through the monitoring questions and indicators in the plan. For example, as the climate changes, the public will be able to access the wilderness areas early in the season potentially increasing the opportunity for invasive plants to spread and become established.
Tulalip Tribes	Previous monitoring reports include the review of Tribal Consultation practices.	The final forest plan monitoring program has been revised to include tribal consultation as an evaluation question.
Tulalip Tribes	Previous monitoring reports included monitoring of deer, elk, and mountain goats.	The final forest plan monitoring program has been revised to include monitoring of deer, elk, and mountain goats.
Tulalip Tribes	<i>Monitoring Issue (vii.1): Timber Production</i> , are integral to tribal gathering rights. We propose an Evaluation Question asking "What is the status of SFP population, distribution, and harvest?"	The Forest currently monitors special forest products collection permits but does not have capacity to develop monitoring of special forest products. The Forest will continue to work with the Tulalip Tribes in their development and implementation of huckleberry monitoring. Additionally, the Northwest Forest

Commenter	Comment	Forest Service Response
		<p>Plan Interagency Regional Monitoring Program monitors the effectiveness of the Northwest Forest Plan by addressing questions that include: "Do American Indians have access to and use of forest species, resources, and places important for cultural, subsistence, or economic reasons, particularly those identified in treaties?"; and "For those trust resource identified in treaties with American Indians, what are their conditions and trends?". See Northwest Forest Plan The First 15 years (1994-2008): Effectiveness of the Federal-Tribal Relationships at http://www.reo.gov/monitoring/reports/15yr-report/tribal/index.shtml; Northwest Forest Plan the First 20 Years (1994-2003). Strengthening the Federal-Tribal Relationship: A Report on Monitoring Consultation under the Northwest Forest Plan available at http://www.reo.gov/monitoring/reports/20yr-report/NWFP%20-%20Strengthening%20the%20Federal-Tribal%20Relationship%20WEB.pdf.</p>