# MAC Project – Monitoring Questions

## Based on Purpose and Needs from the Proposed Action of the MAC Project

The proposed action will be developed to meet the following purpose and needs of the Project:

* **1. Reduce safety hazards across public lands.**
	+ 1.1) Reduce the risks of wildfire to communities and their assets within and adjacent to USFS-managed lands.
	+ 1.2)Increase firefighter and public safety by improving and maintaining safe ingress/egress routes for fire personnel, equipment, and the public.
* **2. Restore ecosystem health and resilience.**
	+ 2.1) Increase forest resilience to natural disturbances and stressors, including large-scale wildfires, insect and disease, drought, and climate change.
	+ 2.2) Improve and protect plant and wildlife habitat and biodiversity, including but not limited to conserving special-status species.
	+ 2.3) Improve and protect watershed integrity, water yield, and water resources, including water supply and water quality.
	+ 2.4) Reduce the spread of non-native, invasive species.
* **3. Promote a fire-resilient landscape.**
	+ 3.1) Reestablish fire processes and support the safe and effective use of fire management strategies.
	+ 3.2) Incorporate Traditional Ecological Knowledge into management activities.
* **4. Maintain and support local economies.**
	+ 4.1) Provide jobs and forest products from restoration and management activities.
	+ 4.2) Protect or enhance ecosystem services, such as water yield, carbon sequestration, wildlife habitat, and recreation

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## Based on Purpose and Needs from the Proposed Action of the MAC Project

Using the SMART criteria (Specific, Measurable, Achievable, Relevant, Time-bound), here is a list of **monitoring questions** tailored to the purpose and needs of the project:

### **1. Reduce safety hazards across public lands**

**1.1 Wildfire Risk Reduction**

* *Have fire-prone areas within and adjacent to USFS-managed lands seen a measurable reduction in fuel loads (e.g., tons per acre) within the past 12 months?*
* *What percentage of at-risk communities adjacent to USFS lands have received wildfire mitigation treatments in the last year?*

**1.2 Safe Ingress/Egress Routes**

* *How many miles of ingress/egress routes have been improved or maintained to meet fire safety standards within the last 18 months?*
* *Have fire response times improved by at least 10% in treated areas over the last fire season?*

### **2. Restore ecosystem health and resilience**

**2.1 Forest Resilience**

* *What percentage of treated forest areas shows improved resilience indicators (e.g., species diversity, canopy density, basal area) one year after intervention?*
* *Have treated areas experienced fewer large-scale disturbances (e.g., wildfire, insect outbreaks) compared to untreated areas over the last 2 years?*

**2.2 Habitat & Biodiversity**

* *Has there been at least a 10% increase in population or habitat quality indicators for special-status species in treated areas within 3 years?*
* *What is the change in vegetation cover types supporting native biodiversity in treated areas after 12 months?*

**2.3 Watershed Integrity**

* *Have water quality parameters (e.g., turbidity, temperature, nutrient levels) improved in monitored watersheds post-treatment within the past year?*
* *What percentage of treated watersheds show increased water yield or stable hydrologic function compared to baseline data?*

**2.4 Invasive Species**

* *What is the reduction in invasive species cover or population density in treated areas within 1 year of intervention?*
* *Have follow-up monitoring treatments been implemented in at least 80% of previously treated areas within 18 months?*

### **3. Promote a fire-resilient landscape**

**3.1 Fire Process Reestablishment**

* *What acreage has been treated with prescribed fire or allowed to burn under managed conditions within the past 2 years?*
* *Has the fire return interval in treated areas approached the historical norm within 5 years?*

**3.2 Traditional Ecological Knowledge (TEK)**

* *How many management activities have incorporated Traditional Ecological Knowledge in the planning or execution phases in the past year?*
* *Have local Indigenous communities participated in at least 3 planning or monitoring meetings annually?*

### **4. Maintain and support local economies**

**4.1 Jobs and Forest Products**

* *How many local jobs (including contracts) have been created or maintained through restoration and management activities over the past year?*
* *What volume of forest products (e.g., timber, biomass) has been sustainably harvested from restoration areas in the last 12 months?*

**4.2 Ecosystem Services**

* *Have key ecosystem services (e.g., water availability, carbon storage, recreation use) improved or remained stable in at least 75% of treated areas over the last 2 years?*
* *Has carbon sequestration potential increased in restored areas as measured by biomass or soil carbon data within 3 years of treatment?*