



United States Department of the Interior

NATIONAL PARK SERVICE

Yosemite National Park
P. O. Box 577
Yosemite, California 95389

IN REPLY REFER TO:
L7615 (YOSE-PM)

Memorandum

To: Jim Roche, Project Manager, Yosemite National Park

From: Superintendent, Yosemite National Park

Subject: NEPA and NHPA Clearance: Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation (53528)

The Executive Leadership Team has reviewed the proposed project and completed its environmental assessment documentation, and we have determined the following:

- There will not be any effect on threatened, endangered, or rare species and/or their critical habitat.
- There will not be any effect on historical, cultural, or archeological resources.
- There will not be serious or long-term undesirable environmental or visual effects.

The subject proposed project, therefore, is now cleared for all NEPA and NHPA compliance requirements as presented above. Project plans and specifications are approved and construction and/or project implementation can commence.

For the proposed project actions to be within compliance requirements during construction and/or project implementation, the following mitigations must be adhered to:

- The project proponent will avoid previously recorded archeological resources in the project area. If unrecorded archeological resources are identified during project implementation, the project proponent will immediately stop work and notify the park archeologist.
- Ensure sensors are installed in locations to avoid or minimize visual impacts from public use areas.

For complete compliance information see PEPC Project 53528.

//Don L. Neubacher//
Don L. Neubacher

Enclosure (with attachments)

cc: Statutory Compliance File

*The signed original of this document is on file at the
Environmental Planning and Compliance Office in
Yosemite National Park.*

Letter of Compliance Completion - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation -
PEPC ID: 53528



Categorical Exclusion Form

Project: 2014-029 Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation

PEPC Project Number: 53528

Project Description:

The proposed project strives to quantify the amount and location of snow accumulation in the Mariposa Grove. This component consists of installing automatic snow depth and soil moisture measurement sites within the Mariposa Grove of Giant Sequoias to capture the variability of snow depth temporally and spatially. Sequoia groves are likely critically dependent on snow fall for water and climate warming is likely to have a substantial impact on the amount of snow that falls in the grove and consequentially the available soil moisture. The proposed installations will complement similar instrumentation along the Tioga Road. Coupled with computer modeling, this instrumentation will facilitate quantification of changes in snowfall patterns now and under estimated future climate conditions.

Proposed installations would consist of ten snow depth measurement 'nodes'. Each node would consist of a ten foot long 2-inch diameter aluminum pole anchored with a U-channel post pounded into the soil. A snow depth sensor would be mounted to the end of a three foot cross piece mounted to the top of each pole. Each pole would also contain a 10 x 10 inch solar panel, a 10 x 10 x 5 inch datalogger box, a 7 x 7 x 6 inch white solar shield housing for temperature and humidity sensors, and associated conduit for wiring along the pole. After consideration of cultural and visual resources, the 10 nodes would be located to effectively sample different aspects and canopy cover within a discrete area of the grove.

At three of the nodes, a four foot deep by one and a half foot square hole would be dug to insert soil moisture sensors at depths of 4, 12, 24, and 36 inches. This would allow for tracking soil moisture response to snow melt and/or rainfall. All installations would complement an existing weather tower in the Upper Mariposa Grove. Installations would remain in place for up to ten years to collect data over a range of wet and dry years. The Division of Resources Management and Science will be responsible for instrumentation removal upon completion of the project.

Project Locations:

Mariposa County, CA

Mitigations:

- The project proponent will avoid previously recorded archeological resources in the project area. If unrecorded archeological resources are identified during project implementation, the project proponent will immediately stop work and notify the park archeologist.
- Ensure sensors are installed in locations to avoid or minimize visual impacts from public use areas.

Describe the category used to exclude action from further NEPA analysis and indicate the number of the category (see Section 3-4 of DO-12):

C.5 Installation of signs, displays, kiosks, etc.

Categorical Exclusion Form - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation -
PEPC ID: 53528

On the basis of the environmental impact information in the statutory compliance file, with which I am familiar, I am categorically excluding the described project from further NEPA analysis. No exceptional circumstances (e.g. all boxes in the ESF are marked "no") or conditions in Section 3-6 apply, and the action is fully described in Section 3-4 of DO-12.

Superintendent: Don L. Neubacher//

Date: 10/31/14

Don L. Neubacher

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National Park Service
U.S. Department of the Interior

Yosemite National Park
Date: 10/15/2014

ENVIRONMENTAL SCREENING FORM (ESF)

DO-12 APPENDIX 1

Date Form Initiated: 10/15/2014

Updated May 2007 - per 2004 Departmental Manual revisions and proposed Director's Order 12 changes

A. PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2014-029 Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation
PEPC Project Number: 53528
Project Type: Other Study (STU)
Project Location:
 County, State: Mariposa, California **District:** CA19
Project Leader: Jim Roche

Is project a hot topic (controversial or sensitive issues that should be brought to attention of Regional Director)? No

B. RESOURCE EFFECTS TO CONSIDER:

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
1. Geologic resources – soils, bedrock, streambeds, etc.		Negligible			At ten of the monitoring sites a "U" channel fence post will be pounded into the ground. Three sites will have a 1.5 foot square hole dug four feet deep to install the soil moisture sensors.
2. From geohazards	No				
3. Air quality	No				
4. Soundscapes	No				

Environmental Screening Form (ESF) - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation - PEPC ID: 53528

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
5. Water quality or quantity	No				
6. Streamflow characteristics	No				
7. Marine or estuarine resources	No				
8. Floodplains or wetlands	No				
9. Land use, including occupancy, income, values, ownership, type of use	No				
10. Rare or unusual vegetation – old growth timber, riparian, alpine	No				
11. Species of special concern (plant or animal; state or federal listed or proposed for listing) or their habitat	No				
12. Unique ecosystems, biosphere reserves, World Heritage Sites	No				
13. Unique or important wildlife or wildlife habitat	No				
14. Unique or important fish or fish habitat	No				
15. Introduce or promote non-native species (plant or animal)	No				

Environmental Screening Form (ESF) - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation - PEPC ID: 53528

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
16. Recreation resources, including supply, demand, visitation, activities, etc.	No				
17. Visitor experience, aesthetic resources		Negligible			Equipment will be installed in locations that minimize visual intrusions to the Mariposa Grove visitors.
18. Archeological resources		Negligible			
19. Prehistoric/historic structure	No				
20. Cultural landscapes	No				
21. Ethnographic resources		Negligible			Ethnographic resources are present; these resources will be avoided.
22. Museum collections (objects, specimens, and archival and manuscript collections)	No				
23. Socioeconomics, including employment, occupation, income changes, tax base, infrastructure	No				
24. Minority and low income populations, ethnography, size, migration patterns, etc.	No				
25. Energy resources	No				

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
26. Other agency or tribal land use plans or policies	No				
27. Resource, including energy, conservation potential, sustainability	No				
28. Urban quality, gateway communities, etc.	No				
29. Long-term management of resources or land/resource productivity	No				
30. Other important environment resources (e.g. geothermal, paleontological resources)?	No				

C. MANDATORY CRITERIA

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
A. Have significant impacts on public health or safety?		No		
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and		No		

Environmental Screening Form (ESF) - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation - PEPC ID: 53528

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
other ecologically significant or critical areas?				
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?		No		
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?		No		
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?		No		
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?		No		
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?		No		
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?		No		
I. Violate a federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment?		No		
J. Have a disproportionately high and adverse effect on low income or minority populations		No		

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
(Executive Order 12898)?				
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?		No		
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		No		

For the purpose of interpreting these procedures within the NPS, any action that has the potential to violate the NPS Organic Act by impairing park resources or values would constitute an action that triggers the DOI exception for actions that threaten to violate a federal law for protection of the environment.

D. OTHER INFORMATION

1. Are personnel preparing this form familiar with the site? Yes
- 1.A. Did personnel conduct a site visit? No
2. Is the project in an approved plan such as a General Management Plan or an Implementation Plan with an accompanying NEPA document? No
3. Are there any interested or affected agencies or parties? No
4. Has consultation with all affected agencies or tribes been completed? Yes
5. Are there any connected, cumulative, or similar actions as part of the proposed action? (*e.g., other development projects in area or identified in GMP, adequate/available utilities to accomplish project*) Yes

E. INTERDISCIPLINARY TEAM SIGNATORIES

<u>Interdisciplinary Team</u>	<u>Field of Expertise</u>
Don L. Neubacher	Superintendent
Michael Gauthier	Chief of Staff
Kathleen Morse	Chief of Planning
Randy Fong	Chief of Project Management
Jeffrey Hilliard	Chief of Administration Management

Environmental Screening Form (ESF) - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation - PEPC ID: 53528

Ron Borne Linda C. Mazzu Kris Kirby Tom Medema Kevin Killian Jim Roche Lisa Acree Renea Kennec	Chief of Facilities Management Chief of Resources Management & Science Chief of Business and Revenue Management Chief of Interpretation and Education Chief of Visitor and Resource Protection Project Leader Acting Environmental Planning and Compliance Program Manager NEPA Specialist
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F. SUPERVISORY SIGNATORY

Based on the environmental impact information contained in the statutory compliance file and in this environmental screening form, environmental documentation for this stage of the subject project is complete.

Recommended:

Compliance Specialists	Date
<u>//Renea Kennec//</u> Compliance Specialist – Renea Kennec	<u>10/27/14</u>
<u>//Madelyn Ruffner//</u> Compliance Program Manager – Madelyn Ruffner	<u>10/28/14</u>
<u>//Randy Fong//</u> Chief, Project Management – Randy Fong	<u>10/29/14</u>

Approved:

Superintendent	Date
<u>//Don L. Neubacher//</u> Don L. Neubacher	<u>10/31/14</u>

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PARK ESF ADDENDUM

Today's Date: October 15, 2014

PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2014-029 Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation
PEPC Project Number: 53528
Project Type: Other Study (STU)
Project Location:
County, State: Mariposa, California **District:** CA19
Project Leader: Jim Roche

PARK ESF ADDENDUM QUESTIONS & ANSWERS

ESF Addendum Questions	Yes	No	N/A	Data Needed to Determine/Notes
SPECIAL STATUS SPECIES CHECKLIST				
Listed or proposed threatened or endangered species (Federal or State)?		No		
Species of special concern (Federal or State)?		No		
Park rare plants or vegetation?		No		
Potential habitat for any special-status species listed above?		No		
NATIONAL HISTORIC PRESERVATION ACT CHECKLIST				
Entail ground disturbance?	Yes			At ten of the monitoring sites a "U" channel fence post will be pounded into the ground. Three sites will have a 1.5 foot square hole dug four feet deep to install the soil moisture sensors.
Are any archeological or ethnographic sites located within the area of potential effect?	Yes			Archeological and ethnographic resources are present; these resources will be avoided.
Entail alteration of a historic structure or cultural landscape?	Yes			Equipment will be installed in locations that minimize visual intrusions to the Mariposa Grove visitors.

ESF Addendum Questions	Yes	No	N/A	Data Needed to Determine/Notes
Has a National Register form been completed?	Yes			Mariposa Grove Historic District
Are there any structures on the park's List of Classified Structures in the area of potential effect?	Yes			Mariposa Grove Museum
WILD AND SCENIC RIVERS ACT CHECKLIST				
Fall within a wild and scenic river corridor?		No		
Fall within the bed and banks AND will affect the free-flow of the river?		No		
Have the possibility of affecting water quality of the area?		No		
Remain consistent with its river segment classification?			N/A	
Fall on a tributary of a Wild and Scenic River?		No		
Will the project encroach or intrude upon the Wild and Scenic River corridor?		No		
Will the project unreasonably diminish scenic, recreational, or fish and wildlife values?		No		
WILDERNESS ACT CHECKLIST				
Within designated Wilderness?		No		
Within a Potential Wilderness Addition?		No		



ASSESSMENT OF ACTIONS HAVING AN EFFECT ON HISTORIC PROPERTIES

A. DESCRIPTION OF UNDERTAKING

1. **Park:** Yosemite National Park

2. Project Description:

Project Name: 2014-029 Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation

Prepared by: Renea Kennec **Date Prepared:** 10/14/2014 **Telephone:** 209-379-1038
PEPC Project Number: 53528

Area of potential effects (as defined in 36 CFR 800.16[d])
Mariposa Grove Historic District; Mariposa Grove Museum

3. Has the area of potential effects been surveyed to identify historic properties?

☐ No
☒ Yes

Source or reference: Cultural Landscape Inventory; Mariposa Grove Museum National Register Nomination

4. Potentially Affected Resources:

Archeological Resources Notes: Archeological sites present in the project area.

Historical Structures/Resources Affected:

Name and number(s): Mariposa Grove Historic District
NR status: 8 - Within a Register-eligible district

Name and number(s): Mariposa Grove Museum **LCS** 5806 **Asset** WA04725

Cultural Landscapes Affected:

Name and number(s): Mariposa Grove Historic District
NR status: 8 - Within a Register-eligible district

Ethnographic Resources Affected Notes: Project will avoid ethnographic resources.

5. The proposed action will: (check as many as apply)

☐ No Destroy, remove, or alter features/elements from a historic structure

<u>No</u>	Replace historic features/elements in kind
<u>No</u>	Add non-historic features/elements to a historic structure
<u>No</u>	Alter or remove features/elements of a historic setting or environment (inc. terrain)
<u>Yes</u>	Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
<u>No</u>	Disturb, destroy, or make archeological resources inaccessible
<u>No</u>	Disturb, destroy, or make ethnographic resources inaccessible
<u>Yes</u>	Potentially affect presently unidentified cultural resources
<u>No</u>	Begin or contribute to deterioration of historic features, terrain, setting, landscape elements, or archeological or ethnographic resources
<u>No</u>	Involve a real property transaction (exchange, sale, or lease of land or structures)
	Other (please specify): _____

6. Supporting Study Data:

(Attach if feasible; if action is in a plan, EA or EIS, give name and project or page number.)

B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

[X] Anthropologist

Name: Jennifer Hardin

Date: 10/09/2014

Comments: Submitted for Tribal Review on September 8, 2014 to identify potential impacts to ethnographic resources and historic properties with religious and cultural significance. No comments received as of October 9, 2014

Check if project does not involve ground disturbance []

Assessment of Effect: No Potential to Cause Effect No Historic Properties

Affected X No Adverse Effect Adverse Effect Streamlined Review

Recommendations for conditions or stipulations: Submitted for Tribal Review on September 8, 2014 to identify potential impacts to ethnographic resources and historic properties with religious and cultural significance. No comments received as of October 9, 2014

Doc Method: Park Specific Programmatic Agreement

[X] Archeologist

Name: Sonny Montague

Date: 09/02/2014

Check if project does not involve ground disturbance [☐]

Assessment of Effect: ☐ No Potential to Cause Effect ☒ No Historic Properties

Affected ☐ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations: The project proponent will avoid previously recorded archeological resources in the project area. If unrecorded archeological resources are identified during project implementation, the project proponent will immediately halt work, notify the Park Archeologist, and proceed as directed by the Park Archeologist.

Doc Method: Park Specific Programmatic Agreement

[X] Historical Architect

Name: Gabrielle Harlan

Date: 10/02/2014

Check if project does not involve ground disturbance [☐]

Assessment of Effect: ☐ No Potential to Cause Effect ☒ No Historic Properties

Affected ☐ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

Doc Method: Park Specific Programmatic Agreement

[X] Historical Landscape Architect

Name: Kevin McCardle

Date: 10/08/2014

Check if project does not involve ground disturbance [☐]

Assessment of Effect: ☐ No Potential to Cause Effect ☐ No Historic Properties

Affected ☒ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations: Monitors will be placed in areas visually minimally intrusive to areas of public use

Doc Method: Park Specific Programmatic Agreement

No Reviews From: Curator, Historian, 106 Advisor, Other Advisor

C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

1. Assessment of Effect:

☐ No Potential to Cause Effects
☐ No Historic Properties Affected
☒ No Adverse Effect
☐ Adverse Effect

2. Documentation Method:

Assessment of Effect Form - Mariposa Grove Distributed Soil Moisture And Snow Depth Sensor Installation -
PEPC ID: 53528

☐ A. STANDARD 36 CFR PART 800 CONSULTATION

Further consultation under 36 CFR Part 800 is needed.

☐ B. STREAMLINED REVIEW UNDER THE 2008 SERVICEWIDE PROGRAMMATIC AGREEMENT (PA)

The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

APPLICABLE STREAMLINED REVIEW Criteria
(Specify 1-16 of the list of streamlined review criteria.)

☐ C. PLAN-RELATED UNDERTAKING

Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 2008 Servicewide PA and 36 CFR Part 800.
Specify plan/EA/EIS:

☒ D. UNDERTAKING RELATED TO ANOTHER AGREEMENT

The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR 800.7 or counterpart regulations.

1999 Programmatic Agreement

☐ E. COMBINED NEPA/NHPA Document

Documentation is required for the preparation of an EA/FONSI or an EIS/ROD has been developed and used so as also to meet the requirements of 36 CFR 800.3 through 800.6

☐ G. Memo to SHPO/THPO

☐ H. Memo to ACHP

SHPO/THPO Notes:

3. Additional Consulting Parties Information:

Additional Consulting Parties: No

4. Stipulations and Conditions:

Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

5. Mitigations/Treatment Measures:

Measures to prevent or minimize loss or impairment of historic/prehistoric properties:
(Remember that setting, location, and use may be relevant.)

- Assessment of Effect - The project proponent will avoid previously recorded archeological resources in the project area. If unrecorded archeological resources are identified during project implementation, the project proponent will immediately stop work and notify the park archeologist.
- Ensure sensors are installed in locations to avoid or minimize visual impacts from public use areas.

D. RECOMMENDED BY PARK SECTION 106 COORDINATOR:

Acting Historic Preservation Officer:

Kimball

Koch

//Kimball Koch//

Date: 10/15/14

E. SUPERINTENDENT'S APPROVAL

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

Superintendent: //Don L. Neubacher//

Date: 10/31/14

Don L. Neubacher

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Yosemite National Park.*