

## Innovative Finance for National Forests Full Proposal Application

Congratulations on being selected to submit a full proposal to the *Innovative Finance for National Forests (IFNF)* program. We recognize that this process is time consuming and we value the thought and effort required for your application.

**Deadline:** Tuesday February 18, 2020, 8:00 p.m. EST.

### Application Guidelines:

- Copy this form to your computer before beginning so you can save your work
- Read through the entire form before crafting your responses
- Stay within the character limits (character limits include spaces)

Reference the IFNF Request for Proposals for information on the program objectives, criteria for awards, and definition of success: <http://www.ifnfgrants.org/>.

Please note, your project may fall into more than one focus area or may also involve multiple stages of finance tool development (design, develop, implement, and refine).

### Program Contacts:

Please reach out to any of the following contacts if you have questions or wish to discuss your proposal further. These contacts may also be helpful with connections and guidance on project development at the National Forest level.

- Program Coordinator: Jeff Lerner, [jalanlerner@gmail.com](mailto:jalanlerner@gmail.com); 202-236-1883
- National Partnership Office: Tommie Herbert, [catherine.herbert@usda.gov](mailto:catherine.herbert@usda.gov); 540-905-9531
- National Partnership Office: Cindy McArthur, [cindy.mcarthur2@usda.gov](mailto:cindy.mcarthur2@usda.gov); 808-744-2792
- National Forest Foundation: Marcus Selig, [mselig@nationalforests.org](mailto:mselig@nationalforests.org); 720-437-0290
- National Forest Foundation: Spencer Plumb, [splumb@nationalforests.org](mailto:splumb@nationalforests.org); 928-961-2486

**Submission:** Please send completed full proposals to Peter Stangel, [peter@usendowment.org](mailto:peter@usendowment.org).

### Required Attachments:

- USFS letter of support

### Optional Attachments:

- Project map
- Additional letters of support

FULL PROPOSAL APPLICATION	
<b>Project Name</b>	
<b>Lead Applicant Name</b>	
Entity Type (Check one)	
State agency Local government Tribal Nation Non-profit organization For-profit company or consultant College or University	
<b>Project Manager</b>	
<b>Email</b>	
<b>Phone Number</b>	
<b>Address</b>	
<b>Website</b>	
<b>Project Summary:</b> Concisely present your project idea. This should be a stand-alone “elevator pitch” that presents a compelling vision that includes, in this order: 1) the problem you address, 2) your proposed solution, 3) financial tool to engage private sector finance, and 4) projected outcomes during the course of the IFNF project period and beyond, if appropriate. (1000 characters)	
<b>Funding Requested:</b>	
IFNF Fund Request (nearest \$1,000)	
Match (Source/Amount)	

<b>National Forest System and USFS Contacts:</b> Please provide the USFS unit, program and Point of Contact associated with your project.	
USFS Unit/Program/Geography	
Additional USFS Unit/Program/Geography	
Additional USFS Unit/Program/Geography	
USFS Point of Contact Name and Title	
USFS Point of Contact Email	
USFS Point of Contact Phone	

<p><b>National Forest System Nexus:</b> Describe, in detail, the specific role the USFS will play in your finance project. How does your project help the National Forest System (NFS)? Describe any connections to existing NFS projects or initiatives (e.g. Landscape Scale Restoration project). How has your team engaged with USFS staff on the proposed project? (1500 characters)</p> <p><b>Note: Remember to include a USFS leadership letter of support with your application package.</b></p>
<div></div>

<b>Project Description:</b>	
Focus Area (Check at least one)	
<input type="checkbox"/> Forests as watershed infrastructure <input type="checkbox"/> Sustainable recreation infrastructure <input type="checkbox"/> Forest product market infrastructure	
Jurisdiction and Ownership (Check one)	
<input type="checkbox"/> National Forest System lands only <input type="checkbox"/> Adjacent lands only <input type="checkbox"/> Cross-boundary combination of NFS and adjacent lands	
Project stage of development (Check at least one)	
<input type="checkbox"/> Design <input type="checkbox"/> Develop <input type="checkbox"/> Implement <input type="checkbox"/> Refine	
Please explain your reasoning for choosing this stage of development. (500 characters)	

**Finance Tool:** Describe, in detail, your strategy for attracting financing for this project. Please address each question in your response: What is the finance tool you are proposing and how will it work? How much financing is needed to implement on-the-ground activities to solve the problem (i.e. this is not your IFNF grant funds request)? What is driving market demand for a solution (i.e. regulation, municipal targets, avoided costs, tourism spending, corporate sustainability, etc.)? What are the proven or potential revenue streams that will repay investors (please estimate a rate of return if possible)? (3000 characters)

**Project Readiness and Implementation Capacity:** Describe your project's readiness including on-the-ground activities. Please address each question in your response: What implementation instruments and specific authorities support your work on NFS and adjacent lands? If your project applies to USFS lands, are NEPA approved projects ready to go? If not, please describe their status and estimate timing to readiness. Does the local capacity exist for implementation (USFS units, local implementers, local community buy-in, etc.)? (1500 characters)

**Measurable Outcomes:** Describe, in detail, the metrics you will use to measure economic, environmental, and/or social outcomes from this project, including the entity responsible for measurement. (1500 characters)

**Project Maturity:** Describe, in detail, how far your IFNF funding request will advance your proposed project. If this funding won't complete the project, how far will it go along the stages of development (define, develop, implement, refine)? Will your finance tool itself provide enough funding to solve the problem or will it need other funds or to be repeated (e.g. multiple bond issuances will be needed to have the desired landscape impact)? (1000 characters)

**Sustainability:** Does your finance tool provide resources for ongoing forest land management or maintenance of recreational facilities? (1000 characters)

**Timeline and Deliverables:** Please provide the timeline and deliverables for your project. *Note that IFNF grant dollars may only extend up to 4 years (2020 to 2023).* (750 characters)

**Path to Scale:** Discuss how this project, once implemented, can provide a long-term solution with potential for replication. Where else do you see your finance tool being applied in a similar context or to address other challenges? (1000 characters)

**Barriers to Success:** What are the two to three biggest challenges you anticipate to successful completion of this project, and what are your plans to address these challenges? (1000 characters)



**Project Team:** Describe your team members, their qualifications/experience, and their specific roles in this project. (1000 characters)

**Previous Success:** Describe any experience your organization and project team has had with private-sector finance projects like what you propose. Provide specific information about partners worked with (please note any experience working with USFS), measurable outcomes, returns generated, and challenges overcome. (1000 characters)

**Responses to Pre-Proposal Questions:** In our invitation to submit a full proposal, we asked additional questions specific to your project. Please paste the IFNF team's question at the top of each answer and use the space below for your responses. (3000 characters)

Budget:					
Innovative Finance for National Forests Grant Program					
Organization Name					
Project Name					
<ul style="list-style-type: none"> <li>This form only includes funds received under the IFNF Grant Program; do not include outside funds.</li> <li>Only complete budget years applicable to your grant period (e.g., Year 1 and 2 for two years of funding under this grant).</li> <li>Please Provide your Indirect Cost Rate (ICR) policy (if applicable)</li> </ul>					
Project Budget by Year					
Category	Year 1	Year 2	Year 3	Year 4	Total Project Budget
Personnel	\$	\$	\$	\$	\$
Fringe Benefits	\$	\$	\$	\$	\$
Travel	\$	\$	\$	\$	\$
Equipment (> \$5,000)	\$	\$	\$	\$	\$
Supplies	\$	\$	\$	\$	\$
Contractual	\$	\$	\$	\$	\$
Other	\$	\$	\$	\$	\$
Total Direct Costs	\$	\$	\$	\$	\$
Indirect %*					
Indirect Costs*	\$	\$	\$	\$	\$
Total	\$	\$	\$	\$	\$
<p>*See the Endowment Policy on Indirect Cost Rate Recovery:  <a href="https://www.usendowment.org/wp-content/uploads/2019/03/policy-indirect_cost_rate.pdf">https://www.usendowment.org/wp-content/uploads/2019/03/policy-indirect_cost_rate.pdf</a></p>					
<p><b>Budget Narrative:</b> Please provide a summary of activities and costs the grant will support (e.g. feasibility study, finance mechanism transaction structuring, legal analysis, landowner engagement, USFS capacity, implementation, monitoring, etc.) as well as how the funds will be used among your project team. (1000 characters)</p>					

**Anything Else We Should Know? (1500 characters)**



File Code: 1580  
Date: February 14, 2020

Jeff Lerner  
IFNF Program Coordinator  
908 East North Street  
Greenville, SC 29601

Dear Jeff:

The Inyo National Forest is home to some of the best recreational opportunities in the Eastern Sierra and I am passionate about finding innovative solutions to overcome the challenges we have with our infrastructure. I am pleased to be collaborating with the Mammoth Lakes Trails and Public Access Foundation on the Innovative Finance for National Forests grant for the Inyo National Forest Campground Project.

This opportunity has the potential to shape the way the Forest Service approaches the refurbishment and modernization of campgrounds and other recreation infrastructure. We have long struggled to find the capital required to eliminate deferred maintenance and make improvements. By reaching outside of our federal capabilities, we are tapping into resources that are lined up waiting to help us with our mission. This grant will identify ways in which we can maximize our potential and structure it for success.

The federal land managers, counties, and local communities in the Eastern Sierra all share a common interest in the recreational resources of the region and we are working together so the use, enjoyment, and development of these resources is done in a responsible and sustainable way. We are excited to be engaged with the local governments through the Eastern Sierra Sustainable Partnership. Projects such as this one are setting the example of how to succeed collaboratively, across boundaries, as a region.

I fully support the efforts proposed in this grant application and we will continue to be a value-added partner as it moves forward. I am committed to supporting this effort through this business plan development, through implementation, and beyond into the future operation of our refurbished campgrounds.

Thank you for your consideration of this project.

Sincerely,

TAMERA RANDALL-PARKER  
Forest Supervisor

cc: Nora Gamino, John Wentworth





# BOARD OF SUPERVISORS COUNTY OF INYO

P. O. DRAWER N • INDEPENDENCE, CALIFORNIA 93526  
TELEPHONE (760) 878-0373  
email: [dellis@inyocounty.us](mailto:dellis@inyocounty.us)



February 11, 2020

Jeff Lerner  
Innovative Finance for National Forests Program Coordinator  
US Endowment for Forestry and Communities  
908 East North Street  
Greenville, SC 29601

Via email: Jeff Lerner, [alanlerner@gmail.com](mailto:alanlerner@gmail.com)  
Peter Stangel, [peter@usendowment.org](mailto:peter@usendowment.org)

Dear Mr. Lerner,

Please accept this letter of support from Inyo County for the Innovative Finance for National Forests grant application titled "Inyo National Forest Campgrounds," being submitted on behalf of the Inyo National Forest and other regional partners by the Mammoth Lakes Trails and Public Access Foundation.

In California's Eastern Sierra, federal public land agencies share common destinies with the gateway communities they serve. Recently, Inyo County has joined with these communities and our Federal partners to establish a unique public-public partnership with the U.S. Forest Service called the Eastern Sierra Sustainable Recreation Partnership (ESSRP). Campgrounds in the region are ripe for major overhauls. For example, all campgrounds in Inyo County are in dire need of repair or replacement of infrastructure including water systems and structures. The major regional readiness gap is a feasibility and profitability study – the purpose of this IFNF grant application – to analyze the proposed campground project for potential financing opportunities from alternative capital resources.

Inyo County looks forward to working with the Innovative Finance for National Forests Program and our regional partners in the ESSRP on the "Profitability Study," should the grant be awarded, and to bringing new sources of capital investment to the public landscape that defines our region.

Thank you for your consideration of this project.

Sincerely,

Matt Kingsley, Chair  
Inyo County Board of Supervisors



Jennifer Kreitz ~ District One    Fred Stump ~ District Two    Bob Gardner ~ District Three  
John Peters ~ District Four    Stacy Corless ~ District Five

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## BOARD OF SUPERVISORS COUNTY OF MONO

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P.O. BOX 715, BRIDGEPORT, CALIFORNIA 93517  
(760) 932-5533 • FAX (760) 932-5531  
*Shannon Kendall, Clerk of the Board*

February 11, 2020

Jeff Lerner  
Innovative Finance for National Forests Program Coordinator  
US Endowment for Forestry and Communities  
908 East North Street  
Greenville, SC 29601

Via email: Jeff Lerner, [jalanlerner@gmail.com](mailto:jalanlerner@gmail.com)

Dear Jeff,

Please accept this letter of support from the Mono County Board of Supervisors for the Innovative Finance for National Forests (IFNF) grant application titled "Inyo National Forest Campgrounds," being submitted on behalf of the Inyo National Forest and other regional partners, by the Mammoth Lakes Trails and Public Access Foundation.

In California's Eastern Sierra, federal public land agencies share common destinies with the gateway communities they serve. Recently, the Mono County Board of Supervisors has joined with these communities and our Federal partners to establish a unique partnership with the U.S. Forest Service called the Eastern Sierra Sustainable Recreation Partnership (ESSRP). The hope of this IFNF grant application is to take advantage of this opportune timing in order to overhaul campgrounds in the region. Concessionaire permits on the Inyo National Forest will expire on December 31, 2021 – the purpose of this grant application is a "Profitability Study" that would analyze the proposed campground project for potential financing opportunities from alternative capital resources.

The Mono County Board of Supervisors looks forward to working with the Innovative Finance for National Forests Program and our regional partners in the ESSRP on the "Profitability Study", and to bringing new sources of capital investment to the public landscape that defines our region.

Thank you for your consideration of this project.

Sincerely,

Stacy Corless, Chair  
Mono County Board of Supervisors

CC Via Email: Peter Stangel, [peter@usendowment.org](mailto:peter@usendowment.org)



**Town of Mammoth Lakes**

*Town Manager's Office*

*437 Old Mammoth RD, Suite 230*

*P.O. Box 1609 Mammoth Lakes, CA 93546*

*Phone (760) 965-3601, Fax 934-7493*

*www.townofmammothlakes.ca.gov*

February 6, 2020

Jeff Lerner  
Innovative Finance for National Forests Program Coordinator  
US Endowment for Forestry and Communities  
908 East North Street  
Greenville, SC 29601

Via email: Jeff Lerner, [jalanlerner@gmail.com](mailto:jalanlerner@gmail.com)  
Peter Stangel, [peter@usendowment.org](mailto:peter@usendowment.org)

Dear Jeff,

Please accept this letter of support from the Town of Mammoth Lakes for the Innovative Finance for National Forests grant application titled "Inyo National Forest Campgrounds", being submitted on behalf of the Inyo National Forest and other regional partners by the Mammoth Lakes Trails and Public Access Foundation.

In California's Eastern Sierra, federal public land agencies share common destinies with the gateway communities they serve. Recently, Mammoth Lakes has joined with these communities and our Federal partners to establish a unique public-public partnership with the U.S. Forest Service called the Eastern Sierra Sustainable Recreation Partnership (ESSRP). Campgrounds in the region are ripe for major overhauls. A number of campgrounds exist within the Town's Municipal Boundary, as nearly 75% of the property in Town is Forest Service lands. The campgrounds are in need of improvements. The timing is opportune to restructure concession permit(s) to accommodate potential financial returns to investors as the concessionaire permits on the Inyo National Forest, for example, expire on December 31, 2021. The major regional readiness gap is a "Profitability Study" – the purpose of this IFNF grant application - to analyze the proposed campground project for potential financing opportunities from alternative capital resources.

The Town looks forward to working with the Innovative Finance for National Forests Program and our regional partners in the ESSRP on the "Profitability Study", should the grant be awarded, and to bringing new sources of capital investment to the public landscape that defines our region.

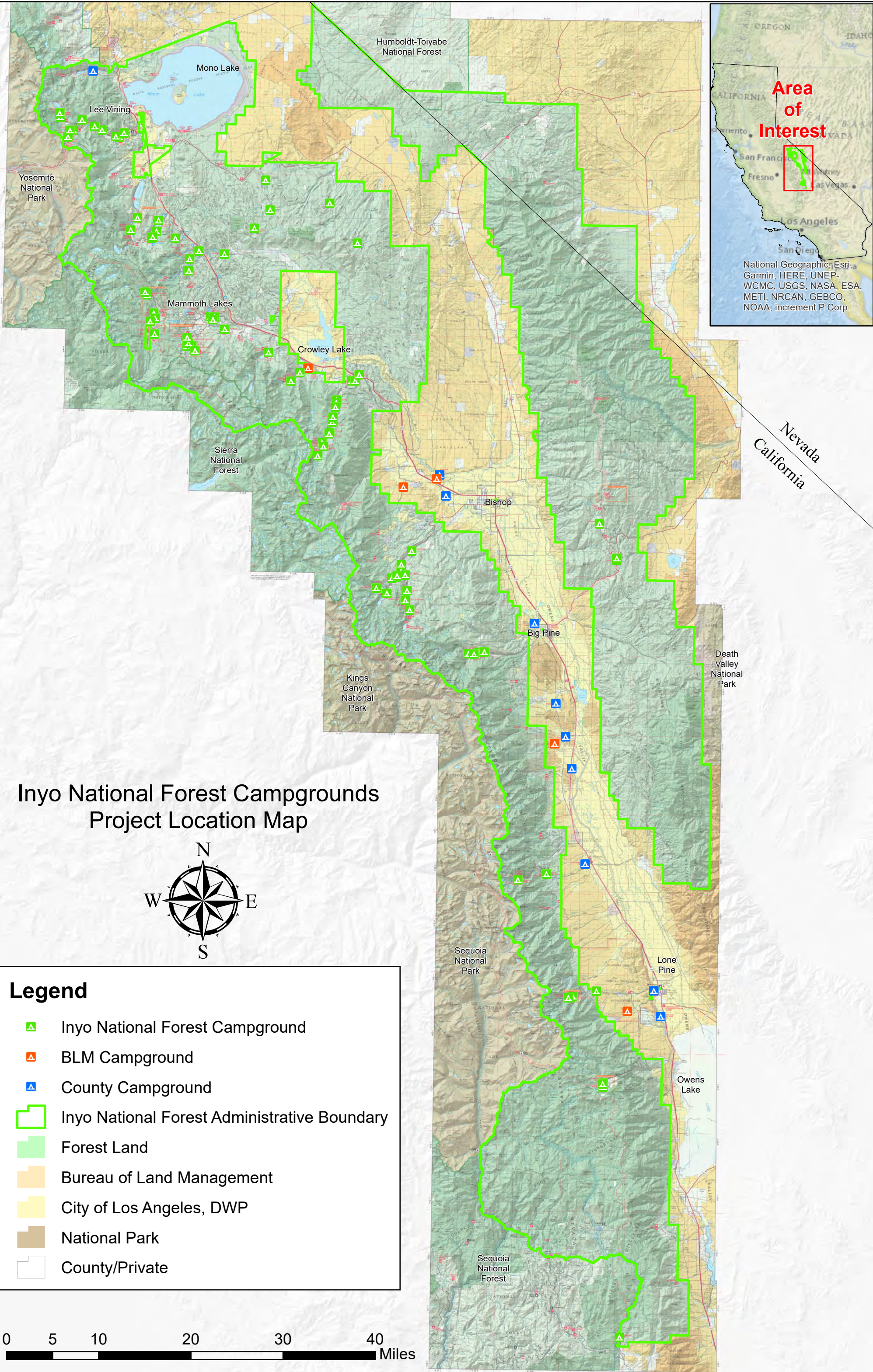
Thank you for your consideration of this project.

Sincerely,

Daniel C. Holler  
Town Manager

CC: Town Council



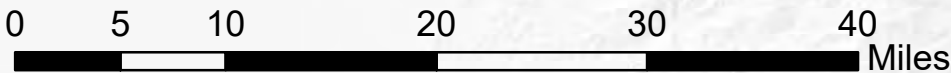


# Inyo National Forest Campgrounds Project Location Map



## Legend

- Inyo National Forest Campground
- BLM Campground
- County Campground
- Inyo National Forest Administrative Boundary
- Forest Land
- Bureau of Land Management
- City of Los Angeles, DWP
- National Park
- County/Private





# EASTERN SIERRA SUSTAINABLE RECREATION PARTNERSHIP: CLIMATE ADAPTATION & RESILIENCE ASSESSMENT

## Project Understanding

The Eastern Sierra Sustainable Recreation Partnership (ESSRP) is a non-funded challenge cost share agreement<sup>1</sup> between Mono County and the Town of Mammoth Lakes, California and the USDA Forest Service Pacific Southwest Region, Inyo National Forest and Intermountain Region, Humboldt-Toiyabe National Forest, established in July 2018. In the spring of 2019, the Sierra Nevada Conservancy (SNC) Governing Board authorized \$618,750 of Proposition 68 funding to go to the Town of Mammoth Lakes (on behalf of the regional partnership) to administer the Sustainable Recreation and Tourism Initiative (SRTI) which is being led by the Mammoth Lakes Trails and Public Access Foundation (MLTPA) and the Town of Mammoth Lakes (Town) on behalf of regional partners which currently include Mono County, Inyo County, Alpine County, the City of Bishop, the Town of Mammoth Lakes, the Inyo National Forest, and the Humboldt Toiyabe National Forest.

The Sustainable Recreation and Tourism Initiative identifies four project “tracks” including the “Climate Adaptation & Resilience Assessment.”<sup>2</sup> The Climate Adaptation and Resilience Assessment will include a climate change vulnerability assessment and adaptation strategy for the Eastern Sierra focused primarily on outdoor recreation while also valuating the region’s natural resources and outdoor recreation and tourism economy. The assessment will help inform future investment in sustainable recreation and tourism programs and projects.

## Project Team

The consultant project team includes PlaceWorks, Atlas Planning Solutions, and ICF. PlaceWorks will serve as the prime consultant and manage the consultant project team. PlaceWorks will lead Tasks 1, 2, and 4. Atlas Planning Solutions will support project coordination and meetings and provide expertise on wildfire fire hazard assessment and mitigation in support of all tasks. ICF will lead Task 3, the natural capital assessment.

The Town of Mammoth Lakes is contracting with PlaceWorks to provide Climate Adaptation Resilient Assessment services as part of the larger SRTI. Per its contract with the Town of Mammoth Lakes for services related to the SRTI, MLTPA will serve as the primary point of contact for PlaceWorks and the consultant project team. Additional services included in MLTPA’s contract for the SRTI include overall project management and coordination of all four SRTI project “tracks”, along with preparation of all Proposition 68 grant reporting documents for review and submittal by the Town of Mammoth Lakes to the Sierra Nevada Conservancy (SNC). MLTPA’s contract for the Town for services related to SRTI also

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<sup>1</sup> A description of the U.S. Code on challenge cost-share agreement authority, 54 USC 101701, can be found at, <https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title54-section101701&num=0&edition=prelim>.

<sup>2</sup> The Eastern Sierra Sustainable Recreation Partnership. 2018. Accessible at, <https://www.essrp.org/>.

includes liaison efforts with the ESSRP, with staff of the Town, and services specific to the Climate Adaptation Resilient Assessment to be identified by the Project Team, including communications and outreach and efforts to identify and provide data and documents that may be of value to the Project Team.

## Draft Scope of Work

### Task 1. Review plans and resources

The consultant project team is familiar with the Town of Mammoth Lakes' plans and resources and those of partner agencies that the team reviewed as part of the Resilient Mammoth Lakes project. The project team is not as familiar with federal and regional adaptation studies and land management plans completed since the adoption of Resilient Mammoth or that represent areas outside of the Resilient Mammoth Lakes project area. To increase our familiarity with federal and regional efforts, the consultant project team will review plans, studies, and resources of partners in the ESSRP as an initial step of this Climate Adaptation & Resilience Assessment. The review will include the recently-completed Inyo National Forest Land Management. The PlaceWorks team will review these documents and will work with MLTPA to identify any additional plans and resources that are relevant to climate change and recreational activities in the region including those of the Los Angeles Department of Water and Power, CALTRANS District 9, and the five National Park Service units that share the regions geography. MLTPA will provide PlaceWorks with any existing and applicable GIS files for use by the consultant team.

#### Deliverables:

- List of plans and resources for team confirmation
- Matrix summarizing plan review, including key content, findings, and data relevant to the vulnerability assessment
- Map of the project area that identifies regional partners and applicable/appropriate project boundaries, including federally managed lands and lands managed by the LA Department of Water and Power. These regional partners include: Inyo County, CA, Mono County, CA, and Alpine County, CA; the Town of Mammoth Lakes, CA, the City of Bishop, CA; two USFS forests in two USFS regions: Inyo National Forest in USFS Region 5 (Pacific Southwest) and portions of Humboldt-Toiyabe National Forest in USFS Region 4 (Intermountain); and including units of the National Park Service with sustainable recreation and tourism interests in the region, including Death Valley National Park, Devils Postpile National Monument, Manzanar National Historic Site, Sequoia & Kings Canyon National Parks, and Yosemite National Park.

### Task 2. Identify Climate Scenarios and Prepare Climate Change Vulnerability Assessment

The PlaceWorks team will prepare a climate change vulnerability assessment that focuses on the primary assets of outdoor recreation and tourism and their associated assets, systems, services, and populations, including the visitor audience. The climate change vulnerability assessment will be informed by the previously prepared vulnerability assessment for the Resilient Mammoth Lakes project

as well as other recently prepared assessments. We anticipate use of the future climate hazard regimes in the region prepared and assessed as part of Resilient Mammoth Lakes though we will expand the geography of the area to be assessed. The Resilient Mammoth Lakes project is based on the most up-to-date and best available climate science data for the region. The data has been vetted by the state through the Fourth Climate Change Assessment and is publicly available. The assessment will assess recreation assets such as the Mono Lake Tufa State Natural Reserve, Yosemite National Park, and the Inyo National Forest as discrete regional assets. The assessment will include scoring for impact (how severe the effects of climate change may be on the population or asset) and for adaptive capacity (the ability of the population or asset to resist or recover from the effects of climate change) to assess vulnerability. The project team will prepare a briefing report of the findings that will be included as a chapter in the final report.

#### Deliverables:

- Draft and final list of climate change effects and hazards, populations, and assets.
- Draft and final vulnerability Assessment scoring matrix (impact, adaptive capacity, and vulnerability as applicable).
- Draft and final briefing report.
- Draft and final maps (map book and/or web-based maps) and climate data for Task 3.

## Task 3. Natural Capital Assessment

ICF will lead the team's work on Task 3. ICF will estimate the value of ecosystem services provided by the landscape included in the ESSRP as mapped in Task 1 on an annual basis, assuming current conditions. Following the baseline assessment, ICF will assess the future value of ecosystem services inclusive of climate and land management considerations. ICF will select three key land management activities for the analysis based on input from the Town and ESSRP stakeholders.

### Task 3.1 Baseline Assessment of Ecosystem Services

The baseline assessment contains three distinct steps to evaluate and estimate the annual value of ecosystem services under current, or baseline.

#### Step 3.1a: Identify Relevant Ecosystem Services

The first step is to identify the ecosystem services provided by affected lands. For this task we will adopt the framework used by the Millennium Ecosystem Assessment (MEA) which groups ecosystem services into four main categories. The MEA classification of ecosystem services is commonly accepted and widely used in studies seeking to estimate the value of ecosystem services. The MEA classification is also useful for natural capital assessments as the grouping of ecosystem services by MEA is based in part by the benefits that ecosystem services provide to human beings and thus to the economic values that human beings ascribe to them:

- *Provisioning services* provide products that are used directly by people, such as food, fuel, timber, and fresh water;

- *Regulating services* are outputs from the normal functioning of ecosystems that benefit people in direct ways, such as climate change mitigation, water purification, and pollination services;
- *Cultural services* provide benefits to people through experiences, such as spiritual enrichment, cognitive development, and recreational opportunities; and
- *Supporting services* are processes that are necessary for the production of other ecosystem services, such as the cycling of nutrients through an ecosystem, habitat provision, and soil formation.

We will use information on the ecosystem services in each of these categories that are provided by different land types along with information on the land types present in the affected area to gain an understanding of the ecosystem services provided by the ESSRP landscape as mapped in Task 1 and the total acreage of the lands providing the various ecosystem services.

### Step 3.1b: Identify Quantification Methods and Conduct Benefit Transfers

Next, we will determine an approach for the valuation of each ecosystem service provided by the ESSRP landscape as mapped in Task 1. Economists utilize a variety of qualification methods depending on the ecosystem characteristics, including market data (for provisioning services that result in market goods), revealed preference methods for those linked indirectly to market activity (e.g., hedonic pricing studies that use data on real estate transactions to infer the value of environmental goods or travel cost methods), and stated preference methods (public surveys). Lastly, some ecosystem services mitigate against damages such as risks from wildfires, including smoke from wildfires, and the value of these services can be approximated by the value of the damages they help to avoid, or the costs of measures that would be implemented to protect against possible damages if these ecosystem services were lost.

Due to the limited time and budget available for this assessment, ICF will rely on benefit transfer methods rather than primary data collection. Benefit transfer involves using values of benefits estimated in other studies and customizing or adapting them to match a new study context. Benefit transfer is commonly used in the valuation of ecosystem services due to the time and expense of conducting primary revealed and stated preference studies. Benefit transfer methods have also emerged as a preferred approach for estimating the benefits of mitigation or management activities within an adaptive pathways framework. For each affected ecosystem service we will conduct benefit transfers using the identified source data (data outlined in the published ecosystem valuation literature and in conjunction with MLTPA). ICF's preferred approach will be to conduct benefit function transfers, adjusting for the socioeconomic characteristics of the affected population (which varies by ecosystem service), the characteristics of the ecosystem service, and the change in level of provision of the ecosystem service. For situations where benefit function transfers are not possible, ICF will rely on a more simplified approach of conducting benefit value transfers, which involve a reduced degree of customization and adaptation of existing values.

### Step 3.1c: Quantify and Monetize Ecosystem Services

Next, we will use the results of the benefit transfers conducted in the previous step to quantify and monetize the value of ecosystem services provided by the ESSRP landscape as mapped in Task 1. The

result of the previous step is unit value estimates for the range of affected ecosystem services. ICF will then aggregate these unit values for the affected ecosystem services to estimate the total benefits for each affected land type, based on the ecosystem services provided by a given land type. We will then perform a series of aggregations at different scales to arrive at other total benefit estimate. First, we will aggregate across the types of values that are attributable to an ecosystem service, such as the different types of recreation that could occur at a site. Next, we will aggregate over each population group (users and non-users) by summing the per-unit values for ecosystem services over the number of affected households or individuals in each group. These affected population groups will vary by ecosystem service, with population centers in Los Angeles and Nevada benefiting from some services (e.g., water filtration) and less so from others (e.g., soil creation). For ecosystem services that are aggregated across a population, we will incorporate spatial variability by allowing for distance decay (i.e., for benefits to decrease with increasing distance from the areas providing the ecosystem services). For ecosystem services do not scale by the population (such as those that scale by acres of land or tons of emissions) it is not necessary to aggregate over the affected population. Lastly, we will aggregate values over time by considering the stream of benefits over a defined analysis period and discounting future values to present value terms using a discount rate.

As part of Step 3.1, ICF will provide an interim report that details the assumptions, data sources, results, and conclusions.

### **Task 3.2. Assessment of Ecosystem Services under Sustainable Recreation Development and Climate Change**

In Task 2, ICF will assess the forecasted value of ecosystem services. For a single mid-century year, ICF will establish a single climate change scenario for the study area which ICF will draw from the Vulnerability Assessment. Under the established future scenario, ICF will identify recreation and key land management alternatives from the activities that ESSRP intends to enact.

#### **Step 3.2a: Identify Future Impacts of Sustainable Recreation Development for a Single Climate Scenario**

In Step 1, ICF will utilize the climate scenario drawn from the Vulnerability Assessment to identify the impacts to various ecosystem services. Under the established future scenario, ICF will identify if landcover types are likely to change (e.g., as drier or wetter conditions suit different vegetation types) or become degraded (e.g., ecosystems providing less efficient or damaged services as a result of drier or wetter conditions). ICF will also examine how the climate scenario will impact recreation (e.g., whether less water in lakes and streams would impact water activities such as swimming, fishing, or boating) utilizing recreation data from the United States Forest Service in conjunction with MLPTA.

#### **Step 3.2b: Qualitatively and Quantitatively Assess Impacts of Sustainable Recreation Development for a Single Climate Scenario**

Similar to Task 1, this task will evaluate the impacts identified in Step 1. Evaluation includes the baseline alternative (“no development” by ESSRP) and the “sustainable recreation development” alternatives (recreation and land management activities enacted by ESSRP). During this task, we also will integrate

the alternatives under consideration with any revisions that have been made to the vulnerability assessment. ICF recognizes that there is often uncertainty in climate data, and this may result in a range for economic valuation as we account of this uncertainty in the economic analysis.

### Step 3.2c: Monetize Impacts of Sustainable Recreation Development for a Single Climate Scenario

Similar Task 1, this task will result in estimates of the value of ecosystem services provided by ESSRP lands under each alternative. We will estimate these values under each alternative using a similar process as in Task 1 where unit values for each ecosystem service are aggregated based on the ecosystem services provided by each land type and the acreage of these land types in each alternative. The results of this task will be total estimates of ecosystem services values provided under the “sustainable recreation development” alternatives.

As part of Step 3.2, ICF will provide a final report that details the assumptions, data sources, results, and conclusions for both the baseline and forecast.

### Task 4. Prepare potential climate adaptation strategies

In response to newly-identified and revised issues in the updated vulnerability assessment, and in combination with the natural capital evaluation and other analyses, the PlaceWorks team will identify additional climate adaptation strategies to address specific issues of importance to the ESSRP. Strategies could include policies, projects, programs, operations and maintenance, partnerships, and funding and financing mechanisms. We anticipate that identification of these additional strategies will involve coordination with the regional partners included in the ESSRP, and will include additional external agencies, including state and federal organizations. We will prepare these strategies to support the Town of Mammoth Lakes already identified resilience efforts, but with the intention that they be applicable across the region as mapped in Task 1. This will allow for easier coordination between agencies, which should help lead to a comprehensive regional adaptation approach. The project team will prepare a draft matrix of strategies for review by Sustainable Recreation and Tourism Initiative team – including MLTPA and Town staff - and the identified partners in the ESSRP. Following receipt of consolidated comments, PlaceWorks will prepare a revised matrix of strategies. PlaceWorks assumes the matrix of potential climate adaptation strategies will be integrated into Task 5 of the Sustainable Recreation and Tourism Initiative program and will be revised and refined by the regional partners for future efforts. The PlaceWorks team will work with MLTPA to identify up to 5 “Project Candidates” to be derived from the recommendations of the “Climate Adaptation and Resilience Assessment” for inclusion in Track 4 of the SRTI’s “Project Prioritization and Implementation Plan”, a project deliverable for the Town, MLTPA, and the SRTI.

#### Deliverables:

- Matrix of draft adaptation strategies by type with identification of co-benefits and best practice examples.
- Revised draft adaptation strategies.

- Recommendations of up to 5 “Project Candidates” for inclusion in the SRTI “Project Prioritization and Implementation Plan”, also referred to as “Track 4” of the SRTI.

## Task 5. Project Coordination, Meetings, SRTI Projects, and Final Report

The PlaceWorks team will provide project coordination and management throughout the course of the project. This task includes one in-person kick-off meeting with two members of the PlaceWorks team in-person, regular coordination meetings with the Town and the MLTPA team, and a presentation of the final report to Town Council. Our budget assumes two meetings with the Town and MLTPA will be in-person with others as conference calls or web/video conferences. The PlaceWorks team will provide an in-person presentation to the Town Council. As part of preparation for the Town Council meeting, PlaceWorks will prepare a PowerPoint presentation and support staff with preparation of a staff report. The Town will lead all required noticing for meetings. The Final Report will be approximately 50 pages, including an executive summary, and will document all efforts of the “Climate Adaptation and Resilience Assessment” including efforts by PlaceWorks, Atlas Planning Solutions, and ICF as appropriate.

### Deliverables:

- Staff participation in an in-person kick-off meeting Town staff and MLTPA team.
- Project coordination and management throughout project, includes monthly invoicing.
- Meetings with Town staff, MLTPA team, and regional partners (assumes 2 in-person meetings and other meetings by phone or web conferencing).
- Preparation of Final Report (Draft and Final, electronic) including Executive Summary.
- Presentation to Town Council and/or ESSRP (in-person).
- Preparation of PowerPoint presentation for Town Council and/or ESSRP and Project Team.

## Data Needs

The geographic scope of the project will be defined per the mapping effort identified in the deliverables for Task 1. To complete Task 3, the project team will need data on the physical characteristics and recreational uses of the study area. Physical characteristics include:

- Acreage of land by entity,
- Information on the various land covers, and
- Other ecological characteristics of the land.

Recreational use data includes:

- Number of visitors by entity,
- Recreational uses,
- Number of visitors by recreational use, and
- Revenues generated from various recreational uses.

The data needed to assess impacts includes anticipated impacts by sustainable recreation development as well as trends in recreation and land management under both a “no development” scenario and a



“sustainable recreation development” scenario. Additionally, if the ESSRP has a preferred future year of analysis or climate scenario for the study area, these should also be provided.

## Assumptions

- MLPTA will provide the project team with the data needed to conduct the tasks as described above.
- Data availability, data quality, and sector selection will drive the methods we use and the analysis outcomes we derive.
- For Task 3, ICF will characterize certain elements of the benefits and costs at a high level if necessary or provide a qualitative discussion of benefits or costs it is unable to quantify.
- All deliverables will be electronic.
- Budget for all deliverables assumes one draft and one final version of each deliverable. MLTPA, and the Town as appropriate, will review the draft deliverables and provide one set of consolidated comments, preferably using Track Changes in Word, to PlaceWorks. PlaceWorks will coordinate with the consultant team, MLTPA, and the Town as appropriate, to review the comments and edits, confirm changes, and prepare a final version of the deliverable.
- MLTPA will be responsible for scheduling meetings with project partners and reservation of meeting facilities as applicable.
- Town staff will be responsible for scheduling and noticing related to presentations for the Town Council.

**EXHIBIT "B"**  
**SCHEDULE OF SERVICES**

**Schedule**

The project is anticipated to begin in late February or early March 2020. Estimated project completion is no later than February 2021.

**EXHIBIT "C"**  
**COMPENSATION**

# Proposed Budget

PlaceWorks Team  
Mammoth Lakes Climate Adaptation and Resilience Assessment  
COST PROPOSAL

		PLACEWORKS								SUBCONSULTANTS					Total Budget	
		Seale	Krispi	Protsman	GIS	GRAPHICS	TECH. EDITOR	WP/ CLERICAL	PlaceWorks Hours	PlaceWorks Total	Atlas Planning	ICF	5% Subconsultant Markup	Subconsultant Total		
		PIC/PM	APM	Project Planner							Meetings, Wildfire Mitigation	Economic Valuation				
	Hourly Rate:	\$215	\$145	\$120	\$125	\$100	\$125	\$85								
TASK 1. Review Existing Plans																
1.1	Review existing federal, state, regional, and local plans	4	8	16					28	\$3,940	640	0	\$32	\$672	\$4,612	
1.2	Prepare summary matrix	2	4	8					14	\$1,970	0	0	\$0	\$0	\$1,970	
	Task 1. Subtotal	6	12	24	0	0	0	0	42	\$5,910	\$640	\$0	\$32	\$672	\$6,582	
TASK 2. Identify Climate Scenarios and Prepare Climate Change Vulnerability Assessment																
2.1	Prepare vulnerability assessment	16	40	80	8	8	16	16	184	\$24,000	3,200	0	\$160	\$3,360	\$27,360	
	Task 2. Subtotal	16	40	80	8	8	16	16	184	\$24,000	\$3,200	\$0	\$160	\$3,360	\$27,360	
TASK 3. Natural Capital Assessment																
3.1	Baseline Assessment of Ecosystem Services	2	4						6	\$1,010	0	0	\$0	\$0		
3.2	Assessment of Ecosystem Services under Sustainable Recreation Development and Climate Change	2	4						6	\$1,010	0	0	\$0	\$0		
	Task 3. Subtotal	4	8	0	0	0	0	0	12	\$2,020	\$0	\$55,614	\$2,781	\$58,395	\$60,415	
TASK 4. Prepare Potential Climate Adaptation Strategies																
4.1	Research and compile example best practices to address vulnerabilities	2	8	20					30	\$3,990	1,280	0	\$64	\$1,344	\$5,334	
4.2	Prepare draft adaptation strategy matrix	6	14	30					50	\$6,920	960	0	\$48	\$1,008	\$7,928	
	Task 4. Subtotal	8	22	50	0	0	0	0	80	\$10,910	\$2,240	\$0	\$112	\$2,352	\$13,262	
TASK 5. Project Coordination, Meetings, and Final Report																
5.1	Project Kick-off meeting	8	12	8					28	\$4,420	1,280	0	\$64	\$1,344	\$5,764	
5.2	Project coordination and management	12	8						20	\$3,740	1,440	0	\$72	\$1,512	\$5,252	
5.3	Meetings with MLTPA, Town staff, regional partners	10	16	10					36	\$5,670	3,840	0	\$192	\$4,032	\$9,702	
5.4	Final Report and Presentation	8	10	16		8	12	16	70	\$8,750	1,280	0	\$64	\$1,344	\$10,094	
	Task 5. Subtotal	38	46	34	0	8	12	16	154	\$22,580	\$7,840	\$0	\$392	\$8,232	\$30,812	
	Labor Hours Total	72	128	188	8	16	28	32	472							
	Labor Dollars Total	\$15,480	\$18,560	\$22,560	\$1,000	\$1,600	\$3,500	\$2,720		\$65,420	\$13,920	\$55,614	\$3,477	\$73,011	\$138,431	
EXPENSES																
PlaceWorks Reimbursable Expenses (assumes 2 in-person meetings)															\$3,000	
ICF Reimbursable Expenses (assumes 1 site visit)															\$916	
Atlas Planning Reimbursable Expenses (mileage for 4 in person meetings/trips)															\$1,600	
Expenses Total															\$5,516	
Total Labor and Expenses																\$143,947