

# Innovative Finance for National Forests

## Request for Proposals

### Pre-proposals—Due Monday October 21<sup>st</sup>, 2019

#### Introduction

*Innovative Finance for National Forests* is a program for local communities and stakeholders looking for new ways of funding healthy forests, project developers who can help connect investment capital to forested landscapes, and Forest Service managers and collaborators with projects that are ripe for private investment capital. *Innovative Finance for National Forests* program success is developing, refining, or scaling tools, templates, and approaches that direct private investment capital to improve the health of the National Forest System through projects that deliver environmental and social outcomes *and* financial returns. Project activities may take place on the National Forest System, on adjacent state, private or tribal lands, or across boundaries provided outcomes of project activities contribute to the health of Forest Service ownership.

The *Innovative Finance for National Forests* program is a new approach. It provides grants to engage investment capital to complement existing philanthropic or public resources to meet National Forest System needs and the mission of the USDA Forest Service. It is funded by and administered by the USDA Forest Service (USFS) National Partnership Office (NPO), National Forest Foundation (NFF), and U.S. Endowment for Forestry and Communities (Endowment).

The *Innovative Finance for National Forests* grant program welcomes both fully developed concepts and discussion/joint development of nascent ideas. Many concepts may require significant input and support. *Innovative Finance for National Forests* program contacts are available to connect finance, land management, and Forest Service colleagues and to assist with concept development.

Interested parties are encouraged to contact one of the below to discuss ideas or opportunities.

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, [mseelig@nationalforests.org](mailto:mseelig@nationalforests.org); 720-437-0290

#### Background

Our National Forests are a treasure that benefit all citizens, but they face numerous and growing challenges that jeopardize the ecologic, economic, and social benefits these landscapes provide. The impacts of catastrophic wildfire, drought, flooding, and insect and disease disturbance are increasingly severe, exacerbated by rising temperatures and growing development pressures. The scale of need far outpaces the capacity of appropriations and traditional philanthropy to fund necessary work.

These challenges require exploring new approaches to finance land management. One nontraditional approach is to connect the investment sector—those with intent to generate a measurable, beneficial social or environmental impact alongside a financial return—with specific needs on National Forests and adjacent working lands. Investors have significant private capital to deploy for natural resource challenges but, unlike traditional philanthropy, expect environmental *and* financial returns.

## HOW CAN HEALTHY FORESTS DELIVER A FINANCIAL RETURN?

The answer to this question is simple in concept, challenging in practice, and critical to understand before engaging with the *Innovative Finance for National Forests* program. Financial returns are derived from money made or money saved. Some of the examples below are relevant for federal and non-federal ownership, some are relevant only for the latter.

Examples of **money made** include:

- Layer financial flows from protected forests (ex: easement, hunting lease, timber)
- Sale of environmental market credits (ex: carbon, wetlands, streams)
- Enhancing public benefits from conservation outcomes (ex: property values, tax revenues)

Examples of **money saved** include:

- Activities that support healthy forests and make business operations more efficient
- Reducing risks of impacts or costs of impacts from disturbances through healthy forests

To provide a return on investment, entities that make or save money as a result of a project must commit to dedicate a portion of made or saved money back to the up-front investor. The amount of up-front investment to make a project happen must be less than the amount of money made or saved from the project activities.

### Grant Program Overview

The *Innovative Finance for National Forests* grant program seeks to:

- Engage investment capital in partnership models with the promise of future financial returns from project beneficiaries, such as water utilities and municipalities;
- Support tools and solutions that promise improved financial sustainability for land management and community development;
- Deliver measurable social, ecological, and financial outcomes to beneficiaries;
- Chart a path to address landscape-level challenges on National Forests and adjacent lands; and,
- Generate lessons learned to incorporate into agency management and decision making.

*Innovative Finance for National Forests* is a planned \$4 million, five-year, competitive grant program. Grant funds will be awarded to applicants in multi-year contracts based on agreed milestones. Forest Service units and programs cannot receive funding directly.

There is a two-stage application process:

- 1) A brief pre-proposal using the application form provided (<http://www.ifnfgiants.org/>). Potential applicants are encouraged to contact the staff listed above to discuss a project concept prior to submitting a pre-proposal.
- 2) An invited full proposal with more details on your project and the strategies you will employ to attract private investment. Timeframe and funding details below. Full proposals may be invited after discussion and due diligence on pre-proposals.

The application process is interactive. The staff listed above look forward to discussing project concepts with interested applicants.

Grants are anticipated to range from \$100,000 to \$500,000. It is expected that grant awards for projects in earlier stages (Design, Develop) will include requests below or on the lower end of this range. Please discuss variance from this range with one of the contacts listed above.

Applicants whose full proposals are approved in 2020 must complete proposed objectives and milestones within a maximum four-year contract period; shorter contracts are acceptable. If a multi-year grant is awarded, funds will be renewable annually based on grantee performance determined by a yearly review.

Most proposals will require USFS engagement at the local level to support on-the-ground project implementation. *Innovative Finance for National Forests* program staff can help with these connections where needed. If proposals direct capital to work on public lands, please include at least initial ideas on legal authorities/ precedent allowing for implementation for IFNF program staff to provide feedback.

### **EXAMPLES OF PRIVATE INVESTMENT IN THE NATIONAL FOREST SYSTEM**

In 2017, the Forest Service began working with Blue Forest Conservation (BFC), a public benefit corporation, to develop and implement the **Forest Resilience Bond (FRB)**. The FRB is a financial vehicle that aggregates payments from downstream beneficiaries of forest restoration activities (water utilities and large-scale water consumers, hydroelectricity generators, carbon emitters, etc.) to reimburse upfront capital investors. This model, with its large-scale upfront investment, allows for more rapid implementation of restoration activities than would be possible through incremental funding approaches such as appropriations. BFC launched its first FRB pilot project in November 2018, to restore forest health in the North Yuba River watershed on the Tahoe National Forest. With aggregated multi-year payments from the Yuba County Water Agency, the State of California and the NFF, the FRB accessed over \$4 million in private capital to improve 15,000 acres of National Forest lands over the next three to four years. The NFF is the primary implementation partner, carrying out projects such as ecological forest thinning, meadow restoration, prescribed burns, and invasive plant treatments that improve forest and watershed health. As work is accomplished, payments from the beneficiaries of the work's outcomes will be made back to the FRB to deliver a modest, sub-market rate of return.

In 2018, on the Wayne National Forest in Ohio, the Forest Service and NFF contracted with Quantified Ventures, a capital firm, to assess the feasibility of **Pay for Success (PFS)** to support recreation infrastructure development. Like the FRB, PFS provides upfront capital for activities that will produce social, ecological and economic benefits. The repayment of that upfront investment, however, is tied to the successful achievement of expected, quantifiable outcomes. If realized, PFS would provide over \$5 million in upfront investment to finance the development of the Bailey's Mountain Biking Trail System, an 88-mile trail network near Athens, Ohio. As a mountain biking destination within 250 miles of 35 million people, Bailey's is predicted to increase visitation and drive new economic opportunities for nearby gateway communities. Local governments would repay the investors based on increased visitation, and an associated expected increase in tax revenue from tourism spending. Although the necessary agreements are not yet in place for this project, there is a high-level of community support for the project.

## Grant Program Requirements

Projects must meet the following requirements.

### Focus Areas

Applicants must propose finance tools to address one or more of the following Focus Areas:

- 1) Forests as watershed infrastructure;
- 2) Sustainable recreation infrastructure; and,
- 3) Market-based approaches that drive these two focus areas and/or that promote forest health.

*Forests as watershed infrastructure:* The National Forest System and adjacent forested landscapes are an important network of built and natural infrastructure that support clean and abundant drinking water, watershed resilience to natural and human disturbance, and aquatic habitat. Demands on forests to support healthy watersheds and deliver public benefits are increasing in the face of changing conditions.

*Sustainable recreation infrastructure:* National Forest System and adjacent forested landscapes provide a range of recreation opportunities that serve a diverse American public as they connect to nature and access outdoor experiences. It is important that the new and existing infrastructure facilitating these experiences is well-maintained, financially and economically sustainable.

*Market-based approaches that drive these two focus areas and/or that support forest health.* National Forest System and adjacent forested landscapes are active in and dependent upon markets for timber products, non-timber forest products, and forest-dependent products such as water and recreation. Market-based approaches (supply-chains, consumer-driven, wood utilization, etc.) can create sustainable and systemic change. Improvements to forest products market infrastructure can provide social, ecological, and financial outcomes at the landscape level, at the facility, and for the consumer.

### Jurisdiction and Ownership

Projects must benefit the long-term health and resilience of the National Forest System. Finance tools may be applicable to either National Forest System Lands, or adjacent state, private and tribal lands or a project with some cross-boundary combination of both NFS and adjacent lands.

### Stages of Development

Applications will be accepted for one or more of the following phases:

- *Design:* Initial due diligence on a financing concept, identifying on-the-ground projects, site scoping, pre-feasibility analysis, USFS unit engagement.
- *Develop:* Stakeholder map, Return on Investment/Cost Benefit Analysis/Avoided-costs analysis, full feasibility analysis, identification of performance metrics, transaction structuring.
- *Implement:* Contracts and agreements, construction, forest treatments, project management, monitoring and evaluation of outcomes, work plans.
- *Refine:* Repeat 'design' and 'implement' stages in new geographies to continue refining proof of concept, technical assistance workshops focused on replicating models in new locations.

## U.S. Forest Service Engagement

Forest Service engagement is critical to success of all *Innovative Finance for National Forests* grants.

- Applications in Develop, Implement, and Refine stages should reference at least one specific USFS agency unit or program as cooperators to host or facilitate activities (e.g. NEPA, timber sale prep, implementation cost-share, and support for local collaboratives/contractors).
- The Forest Service may not receive grant funds directly from this program.
- If required, applicants may request funding for activities that increase local USFS unit capacity and engagement. IFNF staff contacts can help applicants with connections to USFS units or programs and with budget issues related to use of funds for these purposes.

## Match

A minimum of 20% non-federal match of cash or in-kind services is required.

## Eligible Applicants

The following entities are eligible for funding: not-for-profit 501(c) (3) organizations; for-profit companies; tribes; intertribal consortia; state and local government agencies, and; colleges and universities. A single organization or a consortia/team of organizations may apply. Unincorporated individuals are not eligible.

*Innovative Finance for National Forests* does not discriminate on the basis of race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior credible activity.

## Ineligible Activities and Limitations on Activities

- Operations/administration beyond recovered indirect costs;
- Lobbying, litigation or political advocacy. Other limitations on allowable costs may be found at [2 CFR Part 200](#);
- Match for any other federal program;
- Education or research projects without on-the-ground benefits;
- Total project costs in the following areas may not exceed 15% of request: education, interpretation, land management planning (NEPA), convening, scientific research, market standards/tools, and monitoring.

## Application Process

There is a two-stage process for applicants:

- 1) A brief pre-proposal using the application form provided (<http://www.ifnfgiants.org/>).
- 2) Invited full proposals for meritorious pre-proposals.

The application process is interactive. *Innovative Finance for National Forests* staff look forward to working with interested applicants to develop concepts and full proposals.

### *Website and Email*

Pre-proposal forms and additional information is posted on [www.ifnfgiants.org](http://www.ifnfgiants.org).

Please send completed pre-proposal application forms to Peter Stangel, [peter@usendowment.org](mailto:peter@usendowment.org).

### *Webinars and Phone Q&As*

Two informational webinars will be hosted by the National Forest Foundation. These are open to interested applicants and Forest Service colleagues. There is no need to register. Please join by phone 1-800-576-6614 and online at <http://nationalforestfoundation.adobeconnect.com/join/>.

Webinar 1: Thursday, September 26<sup>th</sup> 1pm - 2pm EST

Webinar 2: Tuesday, October 1st 1pm-2pm EST

### *Timeframe and Funding*

- Program Announcement: Week of September 9th, 2019
- Pre-proposal/ concept submission: Monday, October 21<sup>st</sup>, 2019
- Advising, concept development, coaching: September 2019 through February 2020
- Invitations for full proposals: Friday, January 17, 2019
- Full proposal submissions due: Tuesday, February 18, 2019
- Tentative funding decisions: Early April
- Deadlines are available at [www.ifnfgiants.org](http://www.ifnfgiants.org). Late applications will not be considered.

### *DUNS, SAM and OMB Cost Principles*

Subcontractors must provide a current Duns and Bradstreet DUNS number and be registered and up to date in the SAM.gov grantee registration system. Applicants should start this registration process as early as possible to avoid delays in contracting. The purchase of equipment under this funding announcement must comply with the USFS General Terms and Conditions as well as OMB Cost Principles.

### *Indirect Rates*

Information about the Endowment's Indirect Cost Policy can be found [here](#). Please contact Aleta Rogers ([Aleta@usendowment.org](mailto:Aleta@usendowment.org)), Grants and Contract Specialist.

### *Intellectual Property and Sensitive Information*

Please discuss intellectual property concerns with *Innovative Finance for National Forests* staff contacts. It is the intent that final reports from projects funded by this program will be publicly available and that program participants will share deliverables, outcomes, and lessons-learned through webinars. Program contacts will work with grantees to protect sensitive information while also ensuring dissemination of important information that will benefit the health of National Forests.

## Application Review Criteria

Proposals will be judged on the following criteria:

1. **National Forest System nexus**: Defines the NFS challenge to be addressed. Outlines the role of USFS units and preferably secures their endorsement of the project.
2. **Meets the Grant Program requirements and eligibilities**: Focus area, land ownership and stage of development.
3. **Attracts private investment**: Outlines financial tools and the strategies to put them into practice with key stakeholders.
4. **Measurable Outcomes**: Delivers measurable and significant social, ecological, and financial outcomes to a defined set of beneficiaries and presents a framework for monitoring outcomes.
5. **Implementation and Authorities**: Makes clear the use of legal authorities or implementation tools needed to achieve on-the-ground results.
6. **Sustainability**: Has the potential for the project to provide long-term sustainable financing solutions as well as how stewardship practices might be maintained and monitored over time.
7. **Experience**: Previous experience of the project team in financial transactions, partnerships with natural resource agencies or conservation in general.
8. **Budget**: The budget seems reasonable for the proposed activities and suitable matching funds are identified.
9. **Replication and Scale**: Project idea has the potential for replication as well as transferability to other parts of the National Forest System and may be scaled to different sized projects.

## Grant Awards

Successful applicants will enter into an award agreement with the Endowment, making them Endowment sub-recipients. As a recipient of federal funds, sub-recipients must comply with all federal regulations as described in [2CFR Part 200, Uniform Administrative Requirement, and Cost Principles](#).

### *Payment*

Sub-recipients will invoice the Endowment quarterly on a reimbursable basis. If required, an initial advance payment may be requested.

Grant award terms will include defined outcomes and success measures appropriate for the contract period. Funds will be disbursed incrementally as grantees meet agreed-upon outcomes and quantitative/ qualitative project milestones. Grantees are encouraged to revisit and revise their initial milestones as needed throughout the duration of their projects. Grantees are also required to submit interim reports and a final report documenting their achievements and lessons learned.

## Measuring and Reporting Success

Success for the *Innovative Finance for National Forests* program is defined as developing, refining, replicating and/or scaling tools that direct private investment capital to promote the health of the National Forest System.

Applicants will propose metrics for project-level outcomes in the pre and full proposal. IFNF staff will work with applicants to define annual and final project-level outcomes in the grant award contract. View appendix for 'example outcomes from innovative finance projects' in each focus area to generate ideas.

Applicants must report annually on:

- **National Forest System nexus:** Forest Service funding and in-kind staff hours contributed to the project
- **Progress on Outcomes:** Beneficiaries or payors engaged and progress toward social, ecological and financial outcomes.
- **Implementation and Authorities:** Type and number of Grants & Agreements, contract or permit instruments or other implementation tools employed.
- **Budget:** Specific matching contributions (cash and in-kind matching contributions and sources)

Applicants must complete a final report that will also include:

- **Attracting private investment:** Corporate, foundation, or other philanthropic funding contributions. Investors engaged, amount of capital contributed per investor, rate of return or cost of capital (if applicable and possible to share), and investment term through the proposed finance tool.
- **Outcomes:** Social, ecological and financial outcomes and beneficiaries or payors engaged.
- **Replicability and Scalability:** Potential market size (in terms of acres, municipalities, watersheds) for future application of the tool (including evidence and degree of certainty). Potential to be fully funded by investment capital. Potential to deliver blended, market, financial returns within a 10-year timeframe.
- **Lessons Learned:** New ideas or recommendations for improving USFS program management, performance, policy frameworks or partnership approaches.



## Appendix: Examples of Needs and Projects on the National Forest System

National Partnership Office staff have researched project needs on the National Forest System and offer the following examples to inspire thinking. National Partnership Office and National Forest Foundation staff can provide additional information and contacts for specific projects. Nontraditional approaches to funding and addressing these needs are required.

### Forests as Watershed Infrastructure

*Innovative finance models for watershed infrastructure are needed to:*

- a) Repair, replace, or upgrade existing built infrastructure (roads, trails, aquatic organism passage/ culverts, bridges, etc.) on and adjacent to National Forest System lands. As maintenance is deferred, impacts to watersheds increase through sedimentation, channelization, and limited aquatic habitat.
- b) Reduce the risks of catastrophic wildfire, drought, flooding, and insect and disease disturbances. Large-scale proactive forest restoration can reduce the risk and the impact of these disturbances. Landscape scale restoration for watershed enhancement is an underfunded and an urgent priority.
- c) Fund or provide bridge loans for natural disaster response. The costs of disaster response to Forest Service units and forest-dependent communities is increasing. Innovation in funding for disaster response is challenging given annual budget cycles.
- d) Leverage Forest Service tools such as the Good Neighbor Authority, Wyden Amendment, and Joint Chiefs programs that support cross-boundary forest restoration (i.e. treatments on National Forest System and adjacent lands). Partnerships to leverage these tools and introduce new models are needed to better coordinate and connect with adjacent landowners for scaling restoration. Cross-boundary watershed enhancement is a critical priority. Aggregating adjacent land managers and coordinating budgets across deputy areas/ ownerships is a costly and challenging process.
- e) Restore and reforest post-fire lands. Tree planting can be expensive due to site preparation, seedling and planting costs, and monitoring, and dwarfs available funding. There are significant reforestation backlogs and post-wildfire replanting and restoration must be accelerated.
- f) Protect from incompatible development lands that impact forest services. Industrial and urban expansion adds pressure to the functioning of a forested watershed. Funding for USFS acquisition is limited. Protection of key private land parcels from willing sellers contributes to the resilience of NFS ownership and benefits from forested watersheds.
- g) Restore legacy impacts from extractive uses such as mining, oil and gas, and hydroelectric energy. There are 30,000 acid mine drainage sites across National Forest System ownership – many of which lack a responsible party or permittee. These impacts deliver pollutants into drinking water and aquatic systems and may alter hydrology. The cost of addressing impacts far exceeds appropriations.

*Potential outcomes from innovative finance for watershed infrastructure projects:*

- Water quality and flow improvement (reduce sediment, regulate temperature, reduce turbidity)
- Flood plain connectivity, protection, recovery and resilience
- Reduce risk or cost of damages from fire and other natural/ human induced disturbances
- Restore ecological/ hydrologic function following forest disturbances (e.g. fire, storms)
- Balance residual impacts from developments and support forestland protection
- Aquatic habitat improvement
- Adaptation to changing ecological conditions

- Improve fisheries industry and water-related recreation industries

*Potential project activities to be funded by innovative finance for watershed infrastructure:*

- Upgrade and maintain existing infrastructure across National Forest System and adjacent lands
- Install new infrastructure where required
- Hazardous fuels reduction, prescribed burning, vegetation treatments
- Disaster recovery and response scenario planning and technical innovations
- Riparian restoration, channel/ stream restoration, aquatic organism passage, large woody material placement in streams, etc.
- Support cold water fisheries and healthy habitat
- Transition to more sustainable grazing management
- Wetlands creation, enhancement
- Restoration of abandoned mine lands, AMD stranded liabilities, dam removal
- Priority land protection
- Reforestation post-disturbance

*Potential innovative financing for watershed infrastructure:*

- Revolving loan fund for Aquatic Organism Passage and bridge improvements to be repaid through dependable/ secured public disaster recovery and relief funds
- Joint benefits authority bond issuance for cross-boundary hazardous fuels reduction
- Leverage EPA CWA SRFs to achieve FS priority acquisition and unfunded LWCF proposals
- Outcomes-based financing for mine land restoration and acid mine drainage remediation
- Forest Resilience Bond replication
- Landscape-scale strategy for salmon habitat restoration
- Contribute to the design of a template framework for mitigation banking on NFS lands

## **Sustainable Recreation Infrastructure**

*Innovative finance models for recreation projects are needed to:*

- a) Accelerate trail management. Forest Service appropriations support the management of only 50% of established trails. Deferred maintenance costs compound, creating even bigger funding challenges.
- b) Improve energy and water efficiency. New technologies are available to update public recreational facilities to reduce water and energy consumption or expand seasons of potential visitation through weatherproofing. Due to budget limitations, the USFS may not be able to cover upfront investment.
- c) Diversify recreation at ski areas permitted on National Forests. Shorter and more unpredictable winters reduce the viability of sustainable local economies and tourism-related employment. Many ski areas lack access or expertise for creative financing to support diversified recreation through mountain biking and other outfitter/ guide offerings.
- d) Enhance visitor experience. Unclear signage, insufficient parking, and ineffective visitor use planning introduces traffic management and law enforcement costs, and environmental impacts of recreation activities. Enhanced public access, developed recreation site design, signage, and visitor use planning are needed in high use sites to avoid these future costs increasing.
- e) Provide affordable housing for seasonal fire and recreation employees. National Forest System units in communities with high per capita income or high real estate prices also struggle to provide affordable housing and public access for a diversity of tourists and public. The USFS does not have a budget that supports siting, developing, managing affordable housing.

- f) Provide capital for sustainability practices to outfitters, guides, restaurants, and businesses supporting the tourism economy in communities adjacent to National Forests. These small businesses may lack access to capital, marketing strategies, and business planning support to design sustainable enterprises. New legal and financial approaches can support entrepreneurship for vibrant gateway communities to National Forests.
- g) Address public health challenges in communities adjacent to National Forests, which struggle with public health challenges such as mental health disorders, obesity, stress, heart disease, and attention disorders. Individual changes in behavior to increase access and use of the outdoors can address many of these issues. The USFS is not designed to provide financial incentives for outdoor access.

*Potential outcomes from innovative finance for recreation projects:*

- Human health and safety
- Visitor experience improvements and diversification of citizen access
- Water and energy use reduction
- Relieve overcrowding, enhance visitor experience
- Road maintenance/ decommissioning
- Improve local economic development
- Connectivity and reduced emissions through local public transit
- Reduce ecological impacts of recreation
- Local hunting and fishing/ outfitter industry growth
- Enhance local tourism spending

*Potential recreation project activities to be funded by innovative finance:*

- Trail building and maintenance for a variety of uses
- Updating and maintaining existing infrastructure
- Manage visitor flow with signage and transportation planning
- Outfitter/ guide, concessionaire, local business training and guidance
- Innovations in affordable housing design and materials

*Potential innovative financing for recreation:*

- Leverage existing voluntary surcharge funds for financing/ investment projects
- Redevelop under-utilized recreation areas to be more user friendly
- Ballot referenda for trail maintenance and improvement
- Replicate Pay for Success for new recreation infrastructure
- Business incubator for outfitter/ guide entrepreneurship and 'gateway communities' through guidance, loans, new corporate structures, workforce training, collective marketing
- Social impact bond to support low-income access to public lands recreation
- Hospital/ insurance investment strategy for public health and outdoor access

**Market-based Approaches**

*Innovative finance models for wood products are needed to:*

- Conduct assessments of the potential market for a product or service to determine the viability and scalability potential for a new concept. Well defined metrics coupled with realistic goals for customer acquisition and market penetration are critical to determining viability.

- Establish processing facilities with the right site, size, and capacity to adequately serve market demand or support forest restoration. Finance is needed to expand facilities to create the conditions for sustainable forest management.
- Develop innovations to streamline the preparation, implementation, and monitoring of treatments that reduce costs and make resilient forests a more attainable goal. Vegetation and restoration treatments can be costly. Time required to prepare timber treatments, complete NEPA, prepare harvest schedules, contract loggers, and monitor outcomes leads to backlogs in restoration and large discrepancies between potential and actual supply volumes.
- Enhance the network of businesses offering value-added market pathways for timber. Secondary forest products companies can generate demand for additional wood volumes, and therefore additional restoration. Logging workforce has limited access to capital, legal and business advisory services to support marketing, equipment purchasing, staff management, and enterprise incorporation. Innovative legal and financial approaches to supporting logging and forest products businesses are needed.
- Grow a reliable and technically proficient workforce to complete harvesting activities or staff mills in areas of NFS ownership and state, private, and tribal forestland ownership. Funding for training and professional development at the Forest Service is limited.

*Potential outcomes from wood product market-based innovative finance projects:*

- Market analysis (including: market trends, competitor analysis, barriers to entry, SWOT analysis, potential size of market (revenues) and targeted customers)
- Improved long-term supply and efficiency of sustainable forest products;
- Strengthened demand drivers for healthy forest management;
- Expanded/better educated work force and forest products value chain;
- Reduce wood waste, hazardous fuels reduction, incidents of insect and disease;
- Streamlined implementation of cross-boundary restoration;
- Increased municipal tax revenue from mill expansion and secondary forest products businesses;
- Reduced GHG emissions through wood utilization, carbon storage in products, and improved forest management;
- Business development through wood availability; and,
- Social outcomes from innovative uses of wood, such as affordable housing or community space.

*Potential activities for wood product market-based projects:*

- Logger training and workforce development
- Community shared operations equipment; portable equipment for processing
- Diversify and expand existing mill capacity
- Site and build new right-sized processing facilities for long-term local wood supplies
- Investment in district-energy systems to support rural wood economies and renewable biofuels
- Drones/ tablets/ remote sensing to streamline product availability
- Labeling/ certification for local wood markets and locally branded lumber/ furniture, etc.
- Business advisory support
- Competitive analysis including a SWOT Analysis
- Market trends and economic impact study
- Market plan for a new concept
- Pilot test to prove viability

*Potential financing for wood products markets:*

- Integrated investment strategy for mill capacity/ forest protection/ forest health improvement/ workforce development
- Improve and launch a new technological innovation for streamlining efficiency of harvesting or monitoring
- Develop projects for more sustainable value chain of a key forest products dependent corporation
- Strategy for generating returns from a cross-boundary private lands certification enrollment