

**Front Range Roundtable Collaborative Forest Landscape Restoration Project  
Social-Economic Monitoring Scope of Work – DRAFT  
October 2011**

**Introduction**

The Colorado Front Range Landscape Restoration (FR-CFLR) project is intended to accelerate ongoing restoration treatments that provide long-lasting ecological, social and economic benefit across a 1.5 million-acre landscape covering parts of the Arapaho and Roosevelt and Pike and San Isabel National Forests in Colorado. This project, developed collaboratively by the nationally recognized Front Range Roundtable, will facilitate additional treatment of approximately 32,000 high-priority acres on National Forest System (NFS) lands within the Roundtable’s designated 800,000-acre restoration zone and will be enhanced by existing and future treatments on adjacent federal and non-federal lands. A large portion of the 800,000 acre restoration zone is within the wildland urban interface and will be the focus of the 32,000 acres of treatment (Table 1).

Table 1: Acres treated through this proposal

<b>Fiscal Year</b>	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Non-CFLR Restoration Acres</b>	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
<b>Additional Acres with CFLR</b>	1,000	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400
<b>Total Restoration Acres</b>	6,000	8,400	8,400	8,400	8,400	8,400	8,400	8,400	8,400	8,400

More than 70 percent of the forests within this proposal exhibit a high to very high degree of ecological departure from historic norms and are susceptible to uncharacteristic high intensity wildfire and insects and disease. These conditions increasingly threaten human health and well-being, as well as critical ecosystem services throughout the region. Through strategic placement of treatments, the FR-CFLR project plans to restore historic fire regimes, including low intensity wildland fires, with a goal of reducing risks to the ecosystem and communities and lowering suppression costs. Much of the area is deemed critical for protecting communities and municipal watersheds (which supply drinking water to over 75 percent of Colorado’s population) from the impacts of catastrophic fire.

Project treatments will be strategically placed to maximize timely implementation and benefit on the ground. The first three years of treatment will focus on areas within the Roundtable’s restoration zone where: 1) National Environmental Policy Act (NEPA) review is complete; 2) complementary work has already occurred or is underway and can be leveraged for a larger-scale outcome; 3) both ecological and community protection priorities can be simultaneously addressed; 4) work by non-federal partners on adjacent lands will complement management on federal lands; and/or 5) opportunity exists to create jobs and support local economies.

Opportunities for job creation, business support and development, and meaningful biomass utilization are emphasized in the design and implementation of treatments. The effectiveness of our treatments will be monitored through a robust multi-party monitoring protocol designed and implemented in partnership with the Colorado Forest Restoration Institute (CFRI). The monitoring plan can be accessed at: <http://warnercnr.colostate.edu/images/pictures/upload/cfri/Roundtable-CFLRP-Monitoring-Plan-062511.pdf>

This chapter of the monitoring plan focused on social and economic (SE) outcomes of the FR-CFLR. Two sources inform the SE monitoring plan: 1) topics and indicators identified by the CFRL monitoring group, and 2) national CFLR monitoring outcomes and indicators (<http://www.nationalforests.org/conserve/learning/cflrp>).

**Social and Economic Topics and Indicators**

In Spring 2011, a CFLR monitoring group was convened and facilitated by the Colorado Forest Restoration Institute to identify ecological, social, and economic goals and indicators for the project. In June 2011, a set of SE monitoring topic and indicators were identified:

Topic	Indicator
Jobs	<ul style="list-style-type: none"> <li>· Total number of workers employed by the project by county and state, including wage scales and skill level</li> <li>· Indirect jobs gained (all industries)</li> <li>· Type of equipment used: mechanical or manual (indicator of types and pays of job)</li> </ul>
Wood utilization	<ul style="list-style-type: none"> <li>· Number and diversity of wood products and biomass utilization generated from CFLR projects that can be processed by county, state, region, and western multi-state region.</li> </ul>
Communities protected	<ul style="list-style-type: none"> <li>· Number of acres and location of acres mitigated for fire hazard through the creation of defensible space, fuelbreaks or other fuels reduction projects.</li> </ul>
Wildfire behavior & severity	<ul style="list-style-type: none"> <li>· Location of the project's fuels reduction acres in relation to areas considered to be at highest risk from wildfire.</li> </ul>
Public acceptance for increased pace and scale	<ul style="list-style-type: none"> <li>· Acceptance of frequent low intensity of wildfire, prescribed fire and/or other mechanical treatments</li> <li>· Perceived benefits or issues of restoration activities (pace and scale) and other mechanical treatments</li> <li>· Public attitudes toward the project and collaborators</li> </ul>
Reducing costs/barriers to operating and fire fighting	<ul style="list-style-type: none"> <li>· Average (\$/ac) costs of treatment over time</li> </ul>
Collaboration	<ul style="list-style-type: none"> <li>· Level of commitment to collaboration, communication, and group learning</li> <li>· Legitimacy of the Front Range Roundtable collaborative</li> <li>· Extent that stakeholders previously in conflict are now working together</li> <li>· Fairness and transparency and timeliness of information sharing among all participants</li> </ul>

The national CFLR social and economic outcomes and indicators include: jobs and economy; fire costs; collaboration; and leveraged funds.

Implementation of the SE monitoring will be conducted by a collaborative team between the Forest Service's Rocky Mountain Regional Office and CFRI. For 2011-2012 SE monitoring activities, Julie Schaefer and Kawa Ng will represent the Regional Office and Tony Cheng and Kathie Mattor will

represent CFRI. Additional assistance will be recruited when necessary. The team will use the following framework to guide the SE monitoring implementation:

Topic  
Leadership people  
Overall SE topic goals and objectives  
2011-2012 monitoring objectives  
Key questions to be examined  
Protocol  
General approach  
Measurements  
People engaged in measuring  
Data management and archiving  
Plan for communicating findings

## 1) Jobs

Leadership: Kawa Ng, Julie Schaefer

Overall goals and objectives (from FR-CFLR proposal):

- 1) Additional employment in the “woods activities”, increased wood processing capacity and employment, and indirect support and service employment. The combined logging and processing employment would be expected to create 34 additional jobs as a result of the proposed treatments. Employment would be supported for the duration of the proposal or 10 years. If each job has an associated salary of \$35,000 per year, then \$1,190,000 of income will be added to the economy each year of the proposal. The economic multiplier effect would create additional benefits to the local economies.
- 2) Additional three “sides” of logging personnel and equipment and additional wood processing jobs. Each “side” employs approximately eight people and is typically composed of a feller buncher, two skidders, a log loader, a chipper, and 2-3 log trucks

2011-2012 monitoring objectives and timeframes:

- 1) Develop a database for inputting project spending and actual direct jobs data adapted from the University of Oregon’s Ecosystem Workforce Program ‘Economic impacts of restoration calculator.’
- 2) Acquire task order financial information from Forest Service field units for project spending
- 3) Establish an information exchange collaboration with Western Range Reclamation to gather data on direct jobs, equipment, and other expenditures.
- 4) **Items will be completed by January 30, 2012.** Data will be gathered and analyzed throughout CY2012.

Key questions to be examined:

- 1) What is the number of direct jobs per year and over the 10-year life of the CFLR project?
- 2) What are the induced/indirect jobs created per year and over the 10-year life of the CFLR project?
- 3) What proportion of the direct and indirect jobs is associated with counties within the project area vs. outside of the project area?
- 4) What are the estimated economic impacts to counties within the project area?

Protocol:

- 1) Spatial scale: counties within the FR-CFLR project area

- 2) General approach: acquire data from FS contracting and task order documents, and directly from the contractor.
- 3) Measurements: This may depend on the estimated and actual timeframe of each task order. We will start with organizing direct jobs and spending for a calendar year, but may need to adjust the timeframe used to measure the types, duration, and pay of different jobs associated with task orders.

People engaged in measuring: Kawa Ng and Julie Schaefer will locate and gather data from FS documents. Kathie Mattor will gather data from the contractor.

Data management and archiving: Data will be organized in Excel spreadsheet files and archived at CFRI.

Plan for communicating findings: Annual report will be prepared and presented to the Front Range Roundtable, with additional briefing papers distributed to local, state, and national elected officials.

## 2) Wood Utilization

Leadership people: Kathie Mattor and Tony Cheng

Overall SE topic goals and objectives: Increase opportunities for retention and development of diverse wood utilization industries to use material from restoration projects

2011-2012 monitoring objectives: Establish a baseline framework for categorizing types and geographic distribution of wood products and uses from restoration treatments. **Tasks will be completed by January 30, 2012.**

Key questions to be examined:

- 1) What wood products and biomass utilization is being generated from CFLR projects
- 2) Where is the utilization occurring?

Protocol:

- 1) General approach: Draw from contracting and task order documents, and direct communications with the contractor to compile data on types and uses of wood products from CFLR projects.
- 2) Measurements: quantify material by utilization categories, such as sawtimber, post and pole, and woody biomass; identify relative percentage of material going to different users by geographic location.

People engaged in measuring: Kathie Mattor, contractor, other interested parties

Data management and archiving: Excel spreadsheet files developed and stored by CFRI

Plan for communicating findings: Annual report will be prepared and presented to the Front Range Roundtable, with additional briefing papers distributed to local, state, and national elected officials.

## 3) Communities protected

Leadership people: Tony Cheng, Hal Gibbs

Overall SE topic goals and objectives: Community protection is enhanced with increased number of acres treated for defensible space, fuelbreaks, and other fuel reduction projects. This may fit better under the Ecological Monitoring plan.

2011-2012 monitoring objectives: Clarify the objective of “community protection” in the context of vegetation treatments; how to measure the level of “community protection” through different vegetation treatments. ***Vegetation treatments alone do not necessarily result in a “protected” community. Measures to reduce ignitions and structural ignitability, community awareness and preparedness levels, and wildfire incident response/evacuation plans and capacities combine with***

**vegetation treatments to enhance community protection.** This issue needs to be addressed and resolved by the full Front Range Roundtable – perhaps at **4<sup>th</sup> Quarter 2011 or 1<sup>st</sup> Quarter 2012** meeting?

Key questions to be examined:

- 1) What treatment locations, spatial patterns, types, and sizes likely or actually change fire behavior and the ability of firefighters to manage fires near communities?
- 2) What treatment locations, spatial patterns, types, and sizes likely or actually prevent or minimize hazards to communities? In what contexts do treatments have no effect?

Protocol:

- 1) Spatial scale: 6<sup>th</sup> HUC? 1 mile ‘community protection zone’ from highest at-risk communities?
- 2) General approach: Updated treatment maps on federal and non-federal lands. Actual effectiveness analysis is a biophysical question.
- 3) Measurements: See Ecological Monitoring Plan.

People engaged in measuring: Utilize updated treatment maps of Forest Service

Data management and archiving:

Plan for communicating findings: To be determined with Ecological Monitoring team, Forest Service, and Colorado State Forest Service.

#### **4) Wildfire behavior & severity**

Leadership people:

Overall SE topic goals and objectives: This is a biophysical/ecological question better suited for the Ecological Monitoring team.

2011-2012 monitoring objectives:

Key questions to be examined:

Protocol:

General approach: This is more suited to Ecological Monitoring as this is a vegetation and wildfire question

Measurements:

People engaged in measuring:

Data management and archiving:

Plan for communicating findings:

#### **5) Public acceptance for increase pace and scale of treatments**

Leadership people: Tony Cheng and Julie Schaefer

Overall SE topic goals and objectives: People are understand and are willing to accept an increased pace and scale of forest treatments – mechanical and prescribed fire – in the short-term in order to achieve long-term forest health and resilience.

2011-2012 monitoring objectives:

- 1) Review and synthesize existing social science research studying public beliefs and acceptability with regards to mechanical and prescribed fire forest vegetation treatments.
- 2) Explore with CFLR monitoring group and managers what social information or public engagement needs are most relevant in planning, designing, implementing, and monitoring CFLR projects.
- 3) **Above tasks will be completed by end of 1<sup>st</sup> Quarter 2012 (March 31, 2012).**

Key questions to be examined:

- 1) Does the CFLR project change the level of public understanding and acceptance of forest restoration needs along the Front Range?
- 2) How should managers discern between, and communicate with, different segments of the “public” that may be differentially knowledgeable or affected by CFLR projects?

Protocol: To be determined after deciding on relevant social information needs.

- 1) Spatial scale:
- 2) General approach:
- 3) Measurements:

People engaged in measuring:

Data management and archiving:

Plan for communicating findings: Annual report will be prepared and presented to the Front Range Roundtable, with additional briefing papers distributed to land management agencies, elected officials, and media outlets.

## **6) Reduced cost/barriers to operating and fire fighting**

Leadership people: Kawa Ng, Julie Schaefers

Overall SE topic goals and objectives: Over the 10-year project period, the CFLR project reduces average operating and firefighting costs, and removed barriers to cost-efficient operations.

2011-2012 monitoring objectives:

- Identify the information and data needs that comprise R-CAT
- Identify primary operating cost centers
- Select pilot CFLR project area and timeframe to collect and analyze data
- **Tasks will be completed by end of 1<sup>st</sup> Quarter 2012 (March 31, 2012).**

Key questions to be examined:

- 1) Over a 10-year period, does the CFLR project reduce average treatment operating costs?
- 2) Over a 10-year period, does the CFLR project reduce average firefighting costs?

Protocol:

- 1) Spatial scale: possibly 6<sup>th</sup> HUC watershed; to be determined more precisely
- 2) General approach: Collect actual operating costs from operator and field specialists; estimate and verify firefighting costs through R-CAT model.
- 3) Measurement: For operating costs, work with contractor to track actual operating costs over life of a task order or set of task orders within a geographic area. For firefighting costs, collect data required by R-CAT.

People engaged in measuring: Kawa Ng (R-CAT, firefighting costs), Kathie Mattor (contractor operating costs), sale administrators, contractor.

Data management and archiving: Excel spreadsheet files developed and archived at CFRI.

Plan for communicating findings: Annual report will be prepared and presented to the Front Range Roundtable, with additional briefing papers distributed to land management agencies and elected officials.

## **7) Collaboration**

Leadership people: Tony Cheng, Kathie Mattor, Julie Schaefers, Gali Beh

Overall SE topic goals and objectives: The collaborative process exhibits transparency, fairness, timely communication, and group learning; the process advances the Front Range Roundtable's legitimacy and overcomes conflict.

2011-2012 monitoring objectives:

- Reconcile FR-CFLR monitoring group's collaboration indicators with the National Forest Foundation's CFLR Outcomes and Indicators.
- Identify most suitable and efficient measurement methods to answer questions.
- **Tasks will be completed by January 31, 2012. Assessments will be completed in 1<sup>st</sup> Quarter 2012 to gauge collaboration performance for 2011 and in the 4<sup>th</sup> Quarter 2012 to gauge collaboration performance for 2012.**

Key questions to be examined:

- 1) Over the 10-year CFLR period, are a diverse range of interests and organizations committed to the collaborative process?
- 2) Is the Front Range Roundtable process viewed by participants as sufficiently transparent and fair, and fosters timely communication, group learning, and conflict management?
- 3) Is the Front Range Roundtable process viewed by external parties as legitimate?

Protocol:

- 1) General approach: apply qualitative and quantitative methods to gather information on the collaborative performance of the Front Range Roundtable relative to the CFLR project.
- 2) Measurements: Annual measures using mixed-method assessment tools of all FRR participants and a select sample of external parties.

People engaged in measuring: Tony Cheng, Kathie Mattor, Gali Beh (meeting attendance, periodic assessments as the FRR coordinator)

Data management and archiving: Notes, documents, and Excel spreadsheet files will be developed and archived at CFRI.

Plan for communicating findings: Annual report will be prepared and presented to the Front Range Roundtable, with additional briefing papers distributed to land management agencies and elected officials.