Reports, Publications, Presentations, and Grants Associated with the Southwestern Crown Collaborative Monitoring Program

Compiled by the Southwestern Crown Collaborative Monitoring Coordinator. All items available at https://www.swcrown.org/monitoring-1/ or available upon request from cory.davis@umontana.edu.

* Reports and publications directly supported (i.e. funded or letter of support provided) by the Southwestern Crown Collaborative (SWCC). The remaining items are associated with the SW Crown landscape or studies of the collaborative itself, but are not part of the collaborative joint fact-finding efforts of the SWCC and therefore the authors’ work is not necessarily reflective of nor endorsed by the SWCC.

Updated: January 3, 2019

Monitoring - General

Reports (General)

   

   **Executive Summary:** The Meadow Smith and Cooney-McKay projects were two of the initial projects identified for implementation under the Southwestern Crown of the Continent Collaborative (SWCC) Forest Landscape Restoration Project (CFLRP). Several monitoring projects were conducted, pre- and post-treatment, within specific treatment units or across the entire project area including monitoring of: potential fire behavior, fuel loads, old-growth vegetation, tree spatial patterns, the local bird community, and carnivores. Most of the vegetation and fuels objectives were met for both projects, and wood products were provided for local contractors at the same time. Effects on wildlife were less clear. We discuss the outcomes of the projects and provide some recommendations for improving planning documents and monitoring for future projects.


Publications (General)


   **Abstract:** The Collaborative Forest Landscape Restoration Program (CFLRP), established in 2009, encourages collaborative landscape scale ecosystem restoration efforts on United States Forest Service (USFS) lands. Although the USFS employees have
experience engaging in collaborative planning, CFLRP requires collaboration in implementation, a domain where little prior experience can be drawn on for guidance. The purpose of this research is to identify the ways in which CFLRP’s collaborative participants and agency personnel conceptualize how stakeholders can contribute to implementation on landscape scale restoration projects, and to build theory on dynamics of collaborative implementation in environmental management. This research uses a grounded theory methodology to explore collaborative implementation from the perspectives and experiences of participants in landscapes selected as part of the CFLRP in 2010. Interviewees characterized collaborative implementation as encompassing three different types of activities: prioritization, enhancing treatments, and multiparty monitoring. The paper describes examples of activities in each of these categories and then identifies ways in which collaborative implementation in the context of CFLRP (1) is both hindered and enabled by overlapping legal mandates about agency collaboration, (2) creates opportunities for expanded accountability through informal and relational means, and, (3) creates feedback loops at multiple temporal and spatial scales through which monitoring information, prioritization, and implementation actions shape restoration work both within and across projects throughout the landscape creating more robust opportunities for adaptive management.


Abstract: In 2010, the USDA Forest Service created the Collaborative Forest Landscape Restoration Program (CFLRP) to fund implementation of landscape-scale ecological restoration strategies. The program requires landscape projects to engage in collaboration throughout implementation over a 10-year period. A central tension in the program is the extent to which the Forest Service can engage in the collaborative process while retaining authority for management decisions on Forest Service lands and adhering to statutory guidance on collaboration. Drawing on comparative research of the first 10 projects enrolled in the CFLRP, this paper describes how Forest Service personnel navigated this tension and played roles in each collaborative categorized as leadership, membership, involvement, and intermittence. It concludes by suggesting that agency staff engage in collaborative dialogue on substantive issues while operating from an “arm’s length” posture procedurally. This approach can minimize time and energy spent dealing with procedural concerns while allowing agency employees and collaborators to share knowledge, information, ideas, and perspectives to make better-informed decisions as they undertake landscape-scale ecological restoration work.


Abstract: We describe and label four types of monitoring—surveillance, implementation, effectiveness, and ecological effects—that are designed to answer very different questions and achieve very different goals. Surveillance monitoring is designed to uncover change in target variables over space and time; implementation monitoring is designed to record whether management actions were applied as prescribed; effectiveness monitoring is designed to evaluate whether a given management action was effective in meeting a stated management objective; and ecological effects monitoring is designed to uncover unintended ecological consequences of management actions. Public land management agencies have focused heavily on implementation and effectiveness monitoring and very little on the more ecologically oriented surveillance and ecological effects monitoring. Tradeoffs, in the form of unintended ecological consequences, are important to consider in the management of natural resources, yet lack of ecological effects monitoring data has hindered our ability to fully understand these tradeoffs. Our proposed monitoring classification scheme offers practitioners and stakeholders a framework that explicitly identifies the type of monitoring they are conducting. We also suggest that, as a start, the effectiveness and ecological effects of a particular type of management activity can be approached rapidly and relatively inexpensively through use of a chronosequence approach to learning.


Abstract: Ongoing environmental change requires that managers develop strategies capable of achieving multiple objectives in an uncertain future. Active adaptive management (AAM) offers a robust approach to reducing uncertainty while also considering diverse stakeholder perspectives. Important features of AAM include recognition of learning as a management objective, integration of monitoring throughout all aspects of project design and implementation, and use of experimental design in project planning. These features facilitate collaborator engagement and adaptive management based on credible inferences about treatment effects. AAM is not research: the primary goal in AAM is to meet management objectives, one of which is to learn about tradeoffs among alternative management approaches. We outline a pragmatic method to enhance the value of monitoring by incorporating experimental design principles into project planning, including a checklist of key questions for decisionmakers and stakeholders, and illustrate these concepts with an example from the Helena National Forest, Montana, USA.
Abstract. The Yellowstone to Yukon Conservation Initiative (Y2Y) was established over 20 years ago as an experiment in large landscape conservation. Initially, Y2Y emerged as a response to large scale habitat fragmentation by advancing ecological connectivity. It also laid the foundation for large scale multi-stakeholder conservation collaboration with almost 200 non-governmental organizations (NGOs) working together. In recent years, Y2Y has taken on the issue of climate adaptation as climate impacts span large landscapes. Yet, these impacts are highly variable across 25 degrees of latitude and various local topographies. This presents a challenge to climate adaptation implementation methods as the response mirrors the complexity of the impacts. As such, climate adaptation approaches at large scales may require nested landscape methods that vertically coordinate smaller to larger areas of ecological concern, in combination with considerations of multiple temporal scales for specific spatial scales. In the Southwestern region of the Crown of the Continent Ecosystem in the vicinity of the Bob Marshall Wilderness of Montana, the US Forest Service, the Wilderness Society, and their many partners are prototyping large scale resilient forestry through the Collaborative Forest Landscape Restoration Program. Working across 600,000 hectares (1.5 million acres), the Southwestern Crown Collaborative seeks to test various hypotheses about forest conservation and management in the age of changing climate, uncertain futures, and shrinking economies. Drawing from our experience in collaborative forest restoration and management, here we examine the challenges and opportunities relating to climate adaptation implementation and larger scale conservation by focusing on specific lessons learned from a landscape-scale, on-the-ground project within the Y2Y region.

Presentations and Posters (General)

Davis, C. April 2018. Southwestern Crown Collaborative Monitoring Program. Region 6 CFLRP Monitoring Workshop, Bend, OR (invited oral presentation).


**Grants Received (General)**

National Forest Foundation Collaborative Forest Landscape restoration Award Program. 2012. SWCC CFLRP national indicator target development. To the University of Montana (Lead: Cory Davis). Total funds: $10,000.

**Aquatics Working Group**

**Reports (Aquatics)**


**Executive Summary:** This report presents results from three watershed-wide inventories and assessments of roads in the Center Horse and Morrell/Trail project area, Poorman Creek watershed, and Cold Creek watershed in western Montana using the Geomorphic Road Analysis and Inventory Package (GRAIP). GRAIP is a field-based model developed by the Forest Service Rocky Mountain Research Station and Utah State University.

Field inventory and modeling analysis of the public roads in the Center Horse and Morrell/Trail project area, the Poorman Creek watershed area, and the Cold Creek watershed area in the Southwest Crown of the Continent in western Montana using the GRAIP model provided detailed, site specific data on sediment-related watershed impacts from roads. Impacts are both chronic, in terms of annual sediment input to streams, and pulsed, such as during storm events when road connectivity to the channel networks is at its maximum. Inventory data was collected on 779 km (484 mi) of road, including 10,835 drain points, by two field crews during the summer months of 2012 and 2013 (June to October). Additionally, jammer-type logging roads were sampled and their road-stream intersections were surveyed in the Center Horse and Morrell/Trail project area.

The GRAIP model was used to predict sediment risk and sediment-related impacts from roads. The model predicts road to stream hydrologic connectivity, sediment delivery to streams, downstream sediment accumulation, risks of shallow landslides caused by roads, gully initiation risk below drain points, and risks to road-stream crossings (Tables A, B, and C). Inventory data is also used to locate and describe problems with existing drain points. In addition, GRAIP model data will be compared to instream PIBo monitoring for these project areas in a separate document.


**Publications (Aquatics)**


Abstract. Zebra mussels (Dreissena polymorpha) and quagga mussels (D. rostriformis) are two of the world’s most problematic biological invaders, and have spread rapidly in several major N. American drainages since the 1990’s. Their prolific growth and filtering of plankton can severely alter food webs and destroy fisheries. We developed real-time PCR tests for early detection of Dreissenid larvae (veligers) and sloughed cells in plankton tow net samples. We tested the sensitivity of our PCR assays by spiking 2-4 microscopic veligers or low quantities of Dreissenid DNA (< 100 pg; equivalent of < 1 veliger) into plankton tow net samples from each of five Montana lakes. Results showed detection of Dreissenids in all samples, with sensitivity to detect the equivalent of less than 1 veliger. To eliminate possible contamination from laboratory DNA PCR products or mussel tissue and to protect against false positive tests, all tow net DNA extractions were conducted in a separate laboratory. Real-time PCR tests were run with multiple negative controls per PCR and multiple independent PCR amplifications per lake. Real-time PCR further limits the risk of cross-contamination by directly reading the PCR product (from fluorescence of the product) in a closed PCR tube (that is never opened). Finally, we archived a portion of each original field sample (and DNA extract) to allow future verification by microscopy and PCR in independent laboratories, and to allow additional testing (for other invasive species or using new genomic tests) in the future. Our sampling protocol involving dragging a plankton tow net across approximately 43 meters water (e.g., near boats and docks) followed by extraction of DNA from most/all of the sample, should increase sensitivity for early detection of invasive Dreissenids. Our PCR test and environmental (e) DNA sampling and extraction protocols will advance surveillance programs monitoring for Dreissenids (and perhaps other) aquatic invasive species.


Presentations and Posters (Aquatics)


Anne A. Carlson. January 2015. Quantifying the benefits of watershed restoration in the face of climate change: Developing and testing a toolbox for managers that focuses on the impacts of road systems. Webinar to Great Northern Landscape Conservation Cooperative; web link to recording: http://greatnorthernlcc.org/event/529


Black, T., A. Carlson. October 2014. The Relationship between Forest Roads and Aquatic Habitat Conditions in Western Montana, USA. International Union of ForestResearchers World Congress, Salt Lake City, UT (oral presentation).


Al-Chokhachy, R. 2014. Road effects and quantifying the benefits of watershed restoration in the face of climate change. State of the Science presentation to the Columbia River Federal Caucus (oral presentation).
Grants Received (Aquatics)


Wildlife Working Group

Reports (Wildlife)


Executive Summary: The Southwestern Crown of the Continent (SW Crown) is a mostly-forested landscape in the Rocky Mountains of western Montana. The SW Crown was chosen as one of the first ten project areas nationally to be awarded funding under the federal Collaborative Forest Landscape Restoration Program (CFLRP). The CFLRP requires multi-party monitoring to assess the positive or negative ecological, social, and economic effects of restoration projects implemented under the program. The monitoring effort described herein was designed to systematically survey the SW Crown for forest carnivores, particularly focusing on lynx, fisher, and wolverine. The primary objective of monitoring forest carnivores in the SW Crown was to facilitate and coordinate the adaptive management and conservation of wolverines, Canada lynx, and fisher by agency managers across the landscape. This monitoring project was designed to provide a baseline of the current distribution of the focal species in the SW Crown and to allow for tracking changes in that distribution over time.

The SW Crown carnivore project utilizes non-invasive survey methods to maximize the ability to detect multiple species across a large landscape in an efficient and cost effective manner. We conducted snow track surveys and used DNA collection methods (back-tracking, hair snares, and bait stations) developed by researchers with the USFS Rocky Mountain Research Station. In addition, a subset of bait stations was equipped with motion-sensor photo or video cameras to capture the activity of individuals at bait stations. In order to standardize sampling across the SW Crown, a 5 x 5 mile grid was overlaid on the entire landscape with surveys and bait stations deployed systematically in these grid cells. Field seasons were started in the beginning of January and run through the end of March. DNA samples were processed by the Rocky Mountain Research Station and identified to species and individual. Across all four years (2013-2016), we surveyed 82 of the 129 grid cells that fall, at least partially, within the SW Crown, and conducted snow-track surveys on over 1,000 miles each year within those grid cells.

Across the 1.5 million acre SW Crown, lynx were detected in a total of 33 grid cells from 2013-2016. DNA samples identified 39 unique Canada lynx: 23 males and 16 females. Of these animals, 32 were new to regional databases. Survey work also identified an area of regular use for lynx within the Lincoln Ranger District. Over the course of the survey period, wolverines were detected in a total of 52 grid cells with DNA samples identifying 32 unique wolverines: 16 males and 16 females. Wolverines were detected at elevations ranging from 3,409-7,198 feet. Despite intense effort across the SW Crown over the course of four field seasons, the Carnivore Project Monitoring Team did not detect any fisher. The survey methods did, however, lead to the documentation of a suite of other wildlife species across the landscape, including marten, mink, short-tailed weasel, red fox, coyote, wolf, bobcat, mountain lion, and snowshoe hare.
The four years of monitoring effort described in detail in this report have led to significant improvements in our understanding of the (1) current presence/absence and distribution of Canada lynx, wolverine, and fisher across the SW Crown; (2) most effective monitoring protocols for Canada lynx and wolverine, and (3) cost efficiencies associated with monitoring protocols that maximize the detection of multiple species at once. The data and results are currently being used to inform a wide variety of local and regional management efforts.


**Publications (Wildlife)**


**Abstract:** To understand the ecological effects of forest restoration treatments on several old-growth forest stands in the Flathead National Forest of western Montana, USA, we surveyed birds at 72 points in treatment and control stands, and at more than 50 points in each of five potential reference stand conditions. We used a Before–After/Control-Impact design to assess treatment effects based on data collected 3 years before and 2 years after treatment. We also examined the similarity in bird community composition among all stand types by using a nonmetric multidimensional scaling approach. Relative abundances of only a few bird species changed significantly as a result of restoration treatments, and these changes were characterized largely by declines in the abundances of a few species associated with more mesic, dense-forest conditions, and not by increases in the abundances of species associated with more xeric, old-growth reference stand conditions. Thus, bird communities in treated stands were more similar to those in untreated stands of the same forest type than to those found in any of the potential old-growth reference stands. Although more time may be required for some bird species to respond to treatments, our results suggest that treatment plot sizes were either too small to affect bird communities or that the forest type selected for treatment was not within the range of forest types that are well suited for this type of forest restoration.

**Presentations and Posters (Wildlife)**


Vegetation/Fuels/Weeds Working Group

Reports (Vegetation)


   **Executive Summary:** The Meadow Smith and Cooney-McKay projects were two of the initial projects identified for implementation under the Southwestern Crown of the Continent Collaborative (SWCC) Forest Landscape Restoration Project (CFLRP). Several monitoring projects were conducted, pre- and posttreatment, within specific treatment units or across the entire project area including monitoring of: potential fire behavior, fuel loads, old-growth vegetation, tree spatial patterns, the local bird community, and carnivores. Most of the vegetation and fuels objectives were met for both projects, and wood products were provided for local contractors at the same time. Effects on wildlife were less clear. We discuss the outcomes of the projects and provide some recommendations for improving planning documents and monitoring for future projects.


Publications (Vegetation)


   **Abstract:** Collaborative natural resource management has emerged as a means to increase the transparency of decision-making in public lands management and to promote shared learning among stakeholders. We developed a Rapid Forest Assessment (RFA) approach for monitoring key characteristics of forests that capitalizes on the growing interest for citizen science monitoring and can be implemented at larger extents. We chose our variables and methods to maximize field efficiency while maintaining ease of analysis.
We measured trees, fuels, woody debris, understory, horizontal cover, weeds, and soil disturbance. We tested the methods with several student groups and quantified the variability of measures within groups. We also compared model outputs of crown fire risk between RFA data and Forest Inventory and Analysis (FIA) data. RFA plots are less intensive and can be deployed more extensively. The simplicity and efficiency of the RFA make it a useful tool for multi-party monitoring.


**Abstract:** The scientific basis for restoration of fire-excluded western larch/mixed-conifer forests is not as well developed as that for dry fire-frequent forests. We compared the effects of wildfire and restoration (combined thinning and prescribed fire) in fire-excluded western larch forests. In 2012, the wildfire site had more, taller, and more diverse tree regeneration; greater volume of coarse woody debris (CWD); and greater spatial heterogeneity (including more area in large openings) than the restoration site. Management recommendations based on our results include the following: use more intense prescribed fire than was applied to the restoration site we studied; retain abundant CWD on-site after restoration treatment; and create occasional large openings to regenerate larch and emulate the spatial heterogeneity induced by natural wildfire. Our most important finding is the greater dynamism of the wildfire-affected site than of the restored site. At the wildfire site, tree populations are turning over faster, regenerating trees are growing faster, and more CWD is available for decomposition. These contrasting outcomes suggest that a conceptualization of forest restoration that emphasizes static, or at least equilibrium, conditions is not appropriate for western larch/mixed-conifer forests.


**Abstract:** Spatial pattern is an essential attribute of forest ecosystems and influences many ecological processes and functions. We hypothesized that restoration thinning conducted in fire-excluded ponderosa pine (*Pinus ponderosa* Douglas ex P. Lawson & C. Lawson) – western larch (*Larix occidentalis* Nutt.) – mixed-conifer forest would restore spatial patterns characteristic of active fire regime old-growth. We evaluated effects of thinning on spatial patterns and also compared post-treatment patterns with reconstructions of pre-suppression patterns at nearby old-growth reference sites that developed in the historical mixed-severity fire regime. Restoration thinning reduced spatial aggregation and resulted in globally random tree patterns comprised of local tree clumps, openings, and widely spaced single trees, similar to reference conditions. Post-treatment spatial patterns in the replicate treatment units spanned the range of variability bounded by the reference sites. Our analyses indicate that, under certain circumstances, restoration of spatial heterogeneity in unlogged, fire-excluded forests can be achieved by retaining live legacy pre-suppression trees during thinning treatments. However, success is not assured. Restoration of spatial heterogeneity in forests where few live pre-suppression trees remain due to past mortality or harvest, a common condition of candidate restoration sites, presents a greater silvicultural challenge. Thus, we recommend that, as a general rule, managers deliberately address spatial pattern when crafting forest restoration treatment objectives and prescriptions.


**Abstract:** Herbicides are widely used to control invasive non-native plants in wildlands, yet there is little information on their non-target effects, including on native plants that are intended to benefit from the treatment. Effects at the seed stage have been particularly understudied, despite the fact that managers commonly seed native plants immediately after herbicide application. We conducted a greenhouse experiment to explore the effects of two broadleaf-specific herbicides (aminopyralid and picloram) on seedling emergence and biomass for 14 species that grow in dry grasslands of NW North America. For each species, we placed 50 seeds in soil-filled pots that were sprayed with a water control or one of the herbicides at one of two rates (1× and 0.01× of the recommended rate). After 5 weeks, we assessed seedling emergence and dry aboveground biomass per pot. At the recommended rate (1×), both herbicides significantly suppressed seedling emergence and lowered biomass. At the diluted rate (0.01×), the effect of picloram was comparable to the effect at the recommended rate, whereas aminopyralid had no effect. There was no difference in effects of herbicides on native versus non-native species. Although both herbicides are considered to be broadleaf-specific, monocots were just as vulnerable as dicots at the recommended rate. Our results show that herbicides can harm non-native and native plants at the seed stage, alike. Land managers should avoid spraying if recruitment of native species from the seedbank is a goal and should not seed directly after spraying.
Presentations and Posters


Esch, B. September 2013. Multiparty monitoring for collaborative forest restoration: Evaluating rapid forest assessment data as inputs to fire models and as a tool for citizen scientists. The Wilderness Society webinar (online presentation).


Grants Received (Vegetation)


The Wilderness Society. 2013. Piloting a rapid forest assessment program in the Southwestern Crown of the Continent. To the University of Montana (Lead: Cory Davis). Total funds: $24,556.


Socioeconomics Working Group

Reports (Socioeconomics)


**Executive Summary:** A questionnaire and follow-up discussion were used to obtain baseline results regarding fire manager perceptions on a range of topics relevant to wildfire management and costs. Monitoring questions asked fire managers in the Southwestern Crown of the Continent Collaborative Forest Landscape Restoration Project Area whether this large landscape project is expanding options for fire managers from multiple agencies to allow fire to play its historic role in forest disturbance. Quantitative results as well as narratives with summaries from the first round during 2012 are presented. Documentation of the communication materials and questionnaire are also included.


**Executive Summary:** In 2012, the Bureau of Business and Economic Research (BBER) at the University of Montana was contracted to conduct a study of local participation in the Southwestern Crown of the Continent (SW Crown) Collaborative Forest Landscape Restoration Program (CFLRP) project to measure the opportunities and benefits the program is bringing to communities in the region. The BBER used service contract, timber sale contract and agreement records to characterize the number of local entities (businesses, nonprofits, agencies, etc.) involved in meeting the restoration objectives of the CFLRP in the SW Crown. The findings indicate that the SW Crown has robust contractor and nonprofit capacity for engaging in restoration activities while additional opportunities exist for these entities to expand into new and existing areas of work.

The study analyzed CFLRP spending patterns and compared them to similar restoration activities occurring in a 5-county reference area surrounding the SW Crown project boundary. Contract and agreement records from fiscal year 2005 through fiscal year 2011 were analyzed for work occurring in the 5 reference counties and compared to contract and agreement records for work funded through the CFLRP during fiscal years 2010 and 2011. To measure the extent to which local contractors were participating in land management activities funded through the CFLRP as compared to activities in the reference area, the author worked with the SWCC’s socioeconomics monitoring committee and economists with the Forest Service to define four categories of contractors by location: Local, Semi-local, Montana, and Out-of-state.
The study found that annual service contract spending on restoration activities increased from roughly $2 million in fiscal year 2005 to over $5 million in fiscal year 2011. Local contractors were slightly less successful, in terms of dollar value, at capturing CFLRP service contracting opportunities as compared to opportunities in the reference counties. However, when combined with semi-local contractors, this group was significantly more successful in capturing CFLRP opportunities. Capture rates varied significantly according to the type of work being conducted. Local and semi-local contractors captured 82 percent of equipment-intensive contract value and 100 percent of technical contract value, but only 31 percent of labor-intensive and none of the product procurement value. The study also found that the total volume of timber sold annually by the three forests in the reference area (Lolo, Flathead, and Helena National Forests) varied during the period from about 50 million board feet (MMBF) in fiscal year 2005 down to 24 MMBF in fiscal year 2011. Nearly all timber sales in the reference area were purchased by Montana firms, with two purchased by firms whose address could not be located. Of the 28 stewardship contracts sold, one was purchased by an out-of-state firm. Only three timber sales were sold during the first two years of the CFLRP, generating just over 3 million board feet (MMBF) in timber volume, one of which was offered as a stewardship contract.

Finally, the study found that over $2 million was invested through the CFLRP during fiscal years 2010 and 2011 in agreements with 17 local organizations and state and federal agencies. These funds were leveraged by an additional $1.5 million in cash and in-kind donations provided by partner organizations. More than 80 percent of the funds invested through CFLRP went to local non-profits and an additional 17 percent went to various state agencies in Montana. The remaining three percent was split between federal agencies and non-profit organizations in other parts of Montana and the United States.


Executive Summary: Social changes over the past several decades have led to an increase in legislation mandating public participation in public land management. Like most legislation there were no specific requirements on how to achieve this mandate which left the decision up to federal agencies. For the United States Forest Service, public participation models have not been overly successful. The conflict has affected both the public and USFS employees. The latest model of public participation is collaboration. For this study collaboration was compared to deliberative democracy. Deliberative democracy shares many of the same characteristics as collaboration and the theory was used to explain what employees believe about collaboration. For this study, twenty five in depth interviews were conducted to gain information on how USFS employees believed this latest model may have an impact. The questions were aimed at finding out about perceived barriers to collaboration as well as possible benefits. It included finding out the direct impacts of required participation on employees and their jobs. This study also looked at the Collaborative Forest Landscape Restoration Program that requires the USFS to work with a citizen based collaborative in implementing and monitoring forest restoration.


Executive Summary: This report summarizes results from one of the activities specified under “A social assessment in the SWCC area to support social monitoring responsibilities of the CFLRP” provided by the Socioeconomic Monitoring Committee and conducted in spring 2012. As suggested in the above grant and following United States project guidelines, nine people from the three main watersheds involved in the SWCC CFLRP were selected and interviewed on their concerns related to the following topics: 1) views of existing forest conditions in the project area; 2) personal forest product use in the project area; 3) forest aesthetics; 4) concerns related to road use and closure; 5) forest recreational use; 6) trust and commitment to public forest land management; 7) concerns related to wild fire and 8) knowledge of and approval towards the SWCC projects and 9) preferences for public participation and communication with the SW CFLRP.


Executive Summary: The Southwestern Crown Collaborative (SWCC) is tasked with monitoring the effects of forest restoration treatments conducted on National Forest Service (NFS) lands in western Montana. Treatments conducted with Collaborative Forest
Landscape Restoration Program (CFLRP) funds are designed to provide employment, generate saleable products from NFS lands, and generate investments in physical capital (e.g. machinery) and human capital (education/training). This monitoring project was designed to begin to address the following requirements of the Forest Landscape Restoration Act (FLRA): 1) “benefit local economies by providing local employment or training opportunities” and 2) “provide entrepreneurs with the confidence that encourages investment.” An additional goal of this project was to validate or develop more precise parameters for the Treatments for Restoration Economics Analysis Tool (TREAT). This tool will be used by the SWCC to estimate contributions to the local economy from CFLRP funded projects during the 10-year course of the program.

Discussions were held during July and August 2011 with seven contractors funded through CFLRP in fiscal year 2010. The contractors were asked to answer a set of questions developed by the University of Oregon’s Ecosystem Workforce Program and refined by the SWCC Socioeconomics monitoring working group. The list of contractors was generated by the contracting officer of the Lolo National Forest and included all contracts and partnership agreements developed for CFLRP projects in fiscal year 2010. Contractors targeted for a variety of work types were contacted to determine if they were available for a discussion. The discussions were voluntary and conducted with assurances of confidentiality of responses. Jimmie McKay, a graduate student in the University of Montana’s College of Forestry and Conservation, conducted the discussions. Jimmie worked for 30 years in the forest products industry and has considerable experience working with contractors. The numerical responses should be considered estimates as direct quantification of expense and employment records were not conducted.

**Publications (Socioeconomics)**

**Presentations and Posters (Socioeconomics)**


