

1 – Proposed Treatment:

The Crown of the Continent ecosystem in northwest Montana is one of the premier mountain regions of the world containing many of the largest remaining blocks of roadless lands in the contiguous U.S. Its 10 million acres include a remarkable assemblage of high peaks, aspen glades, dense conifer forests, clear and cold rivers, native grasslands, and numerous small communities heavily invested in the land and its health. It also contains thousands of acres of forest lands that have been heavily logged and densely roaded, need ecological restoration, and offer significant opportunities for reducing wildfire risks to communities.

The southwestern sub-region of the Crown of the Continent (hereafter SW Crown), as delineated for this proposal, consists of portions of the Blackfoot, Clearwater, and Swan River watersheds located northeast of Missoula, Montana. It is home to the small communities of Condon, Seeley Lake, Greenough, Ovando, Helmville, Potomac, and Lincoln, various small enclaves of development, and individual forestland homes. The SW Crown encompasses working forests on public and private land, working ranches, pristine lakes and streams, and abundant wildlife. It provides valuable public benefits, including critical wildlife habitat, outstanding hunting, fishing, and other recreational opportunities, biodiversity, clean water, wood and agricultural products, recreational access, landscape connectivity, and other ecosystem services. These benefits support rural jobs and economies and a high quality of life. While much of the landscape is ecologically intact and functioning properly, some of the working forests have been heavily managed and are in significant need of restoration. This juxtaposition makes the SW Crown an ideal landscape in which to implement the Collaborative Forest Landscape Restoration Program (CFLRP) because, by investing in a small portion of this very large landscape, there is a rare opportunity to return most of the landscape to a highly functioning condition. (See <http://www.swcrown.com/maps> for a detailed project map.)

The SW Crown covers 1,449,670 acres. Approximately 70% is public land. The Lolo, Flathead, and Helena National Forests manage 59% of the landscape, including most of the middle and high elevation forested lands. These National Forest System (NFS) lands are primarily forested. Land ownership patterns are in transition due to recent large-scale transfers of Plum Creek Timber Company lands into public and private conservation ownership. These transfers include over 60,000 acres in the Blackfoot, Clearwater, and Swan River watersheds that are now NFS lands and are in significant need of restoration from impacts of noxious weeds, high road densities, and other past management practices. Additional lands will be transferred to the State of Montana and other public and private conservation ownership in the near future. These land conservation deals are the result of community-led partnerships involving over 40 years of collaborative work between public agencies, private industry, nonprofit organizations, recreational interests, and hundreds of residents committed to sustaining working forests and ranchlands, wildlife habitat, water quality, and recreation access in the face of land use changes.

Several forest restoration treatments have already been implemented in the landscape. For example, in 2003 the Seeley Lake Ranger District carried out the Clearwater Stewardship Contract, which was one of the first large, successful restoration projects in the country implemented under the stewardship contracting authority. In addition, over 10,000 acres of fuel reduction has been completed on NFS lands, and the USFS has invested over \$600,000 on road, stream, and weed restoration in the SW Crown. Nearly \$3 million of American Reinvestment and Recovery Act funds are allocated to restoration in this landscape. The local Resource Advisory Committees have also invested \$248,000 in this area. The Montana Forest Restoration

Committee (MFRC; www.montanarestoration.org) has collaboratively developed three restoration projects in the SW Crown over the past three years.

The Seeley-Swan Fuels Mitigation Task Force (Task Force) has assisted private landowners with fuel mitigation projects for the past six years and has worked with its partners to implement over 17,000 acres of fuel mitigation treatments in the Clearwater Watershed. This successful model was extended in 2009 to the Blackfoot Watershed with the creation of the Potomac/Greenough and North Powell Fuel Mitigation Task Forces.

Over 130,000 acres have been placed into conservation easements valued at \$55 million with the help of over 160 landowners. Over 200 landowners have been involved in habitat restoration projects on the landscape that were valued at \$10.5 million and included in-stream and wetland restoration, grazing system improvements, fish passage improvements, and water conservation measures.

The Collaborative's proposed forest landscape restoration plan builds on this and other restoration and collaborative work that has already been completed or initiated. The goals are to restore forest and aquatic ecosystem function, to improve landscape-level biodiversity, resiliency, and adaptability, to enhance recreational experiences, and to reduce risks for those living in the wildland-urban interface (WUI). The following treatment objectives have been developed to achieve these goals:

- Within the WUI, reduce the risk of wildfire by removing fuels, especially small-diameter trees, while maintaining forest structure to protect ecosystem components;
- Outside the WUI, restore forest structure processes and resiliency, promote diversity, establish a mosaic pattern consistent with the mixed-severity fire regime that mimics historical and native landscape conditions, maximize retention of large trees, reintroduce low-severity and low-intensity fire on sites that historically burned in this manner to establish open stands consistent with historical conditions, and remove unnecessary roads;
- Maintain or restore retained forest roads to protect water quality by reducing or preventing sedimentation into lakes and streams. Employ Best Management Practices (BMPs) techniques to prevent or reduce sedimentation to lakes and streams. Maintain access for fire management and suppression, recreation, and other administrative needs;
- Evaluate and adjust future desired conditions relative to the sustainability of forests under predicted climate change;
- Improve watershed health by reestablishing natural stream channels and riparian environments, removing barriers to fish migration, and replacing inadequate culverts and bridges;
- In vegetative treatments, where appropriate, maximize the productive use of forest products.

The Collaborative has identified 10 years worth of restoration projects to complete. Restoration will occur on 199,140 acres of NFS land. Vegetative restoration will treat 80% of the high risk acres identified within the WUI and 50% of the restoration acres identified outside the WUI and prioritized in the landscape strategy. Non-vegetative treatments will restore 937 stream miles, 1050 road miles, and 330 trail miles. Scheduled watershed improvements include the installation of three new fish barriers to protect native fish population integrity, 149 stream crossing structure upgrades, six trailhead improvements, and rehabilitation or restoration of 33 campsites in the Bob Marshall Wilderness Complex to improve water quality. NEPA decisions have been made for projects scheduled for implementation in FY 2010 and FY 2011. Table 1 in the Landscape Strategy details our program of work for FY 2010 and FY 2011.

Restoration project sites have been strategically chosen to include a variety of treatment types and mechanisms. Fuel reduction treatments are largely tied to identified areas that are prioritized in the Community Wildfire Protection Plans (CWPPs) of SW Crown communities and counties. Treatments outside of the WUI will be vegetative restoration projects intended to maximize retention of large trees while maintaining and restoring pre-suppression old growth conditions and a mosaic of size class distribution, and improving resiliency. NFS lands outside the WUI that have at least one of the following characteristics will be prioritized for treatment and analyzed with Strategic Placement of Treatments (SPOT) modeling:

- Low severity and mixed severity fire regime;
- Mature stands or stands with large trees
- Have not recently been disturbed by fire (natural or prescribed); or
- Have not received treatments within the last 100 years.

Vegetative treatments will depend on site-specific conditions, including existing forest structure, and will include viable combinations of selected activities: pre-commercial and commercial thinning and prescribed fire. Consistent with the commitment to adaptive management, the prioritization process (detailed in the landscape strategy) and treatment applications may change in future years to reach the goal of restoring ecological conditions across the landscape. Results from this approach will be evaluated within the context of USFS Regional priorities - the Collaborative is also using the USFS' Region One Integrated Restoration and Protection Strategy dataset (<http://www.fs.fed.us/r1/projects/int-restoration/index.shtml>) to validate the priorities.

Non-vegetative restoration treatments were identified and prioritized by the presence of threatened and endangered species and habitat, presence and densities of exotic species, water quality degradation (Montana Department of Environmental Quality impaired streams list), properly functioning habitat, sediment contribution, and other relevant factors. Site-specific conditions will determine the combination of treatments to be used, including road ripping and obliteration, BMP implementation, exotic species removal, bridge and culvert upgrades and replacement, planting in riparian areas, and stream channel restoration. Treatment activities and locations were developed to provide maximum benefits to the entire landscape, local communities, and public land users. Work is also prioritized to complement restoration work that is occurring on adjacent private, state, and other federal land where cost effectiveness can be maximized by combining treatments and leveraging partnership dollars.

Treatments on non-NFS lands support treatments on NFS lands by combining efforts and funding to work across boundaries in support of a holistic landscape restoration approach. For example, a major private landowner in the Nevada Creek drainage of the Blackfoot Watershed recently completed a stream restoration project and changed grazing pasture management practices. The Montana Department of Fish, Wildlife, and Parks (FWP) and the Big Blackfoot Chapter of Trout Unlimited (BBCTU) are interested in further stream restoration work on adjacent NFS land that will restore the entire stream channel to a properly functioning system.

The full suite of tools available to implement the restoration work will be utilized, focusing on contracts, grants, and agreements that prioritize hiring and training a local workforce. The USFS has a successful history with stewardship contracting and stewardship agreements within the SW Crown. The Collaborative will continue to promote and utilize this tool, as appropriate, in the treatments and projects planned. This method of contracting, using best-value criteria, has assisted this region in hiring locally and increasing work for local contractors and mills, including Pyramid Mountain Lumber and Roundwood West in Seeley

Lake. These contracts also illustrate USFS dedication to and success in multiparty monitoring. Service contracts, participating agreements, volunteers, students, and partnership labor will also be employed, depending on the scope and size of the treatment plan.

Targeted restoration treatments will result in a sustainable landscape that provides a full array of ecosystem services as well as economic and social benefits. Ecosystem diversity will be maintained to support the integrity and complexity of this unique setting while incorporating predicted effects of future climate change. Fish and wildlife habitats will support the full complement of native species and also provide for linkages that connect to other important areas outside the SW Crown. Recreational experiences will be enhanced by improved forest, watershed, and habitat conditions. Forest restoration and fuels management activities will facilitate the reduction of wildfire management costs while reestablishing natural fire regimes. Wood products and by-products will help sustain a sound forest products industry and local economies. Expanded and predictable restoration projects will facilitate investment strategies by local restoration contractors and help diversify local economies.

Partners within the SW Crown Collaborative will monitor treatment implementation and key indicators of their ecological, social, and economic effects. The following indicators of treatment efficacy will initially be monitored:

- Fire and Fuel Dynamics – changes in fuel distributions and potential fire severity and capacity for fire suppression staff to manage wildfires efficiently and safely.
- Biodiversity – plant (nonnative, invasive species), terrestrial animal (land bird), and aquatic animal (fish) indicators.
- Soil and Water – soil movement, water quality and stream flows, and soil productivity.
- Economic effects – contribution of treatments toward job creation and maintenance, impacts of best value contracting, available biomass for energy production, labor income received in communities in the SW Crown landscape, and enhanced non-market values.
- Social implications – attitudes toward aesthetics, appropriateness of forest uses, and level of trust and commitment to public land management operations.

Monitoring will be used in an adaptive management framework to ensure that forest restoration treatments meet ecological, social, and economic objectives. Multi-party monitoring activities will be conducted both before and after treatment applications at regular intervals to determine the response of ecosystem and social indicators.

Restoration treatment success will be measured by movement toward restoration objectives, as assessed through effectiveness monitoring of the indicators listed above, at both project and landscape levels. Information on treatment effectiveness will be collected and analyzed using a variety of methods so that both site-specific and landscape-level improvements may be evaluated. Measures that use remotely sensed data at the landscape level coupled with ecological data from ongoing assessment programs will be applied to recognize how treatments affect landscape phenomena. Other landscape level information will be derived using existing data sets organized and updated by federal and state agencies to evaluate the consequences of treatments on water quality, watershed function, and fish and wildlife habitat. Information will be collected at higher levels of resolution from well-distributed field sample locations to measure site-specific impacts of treatments on resource conditions. The effects of treatments on social conditions and economic opportunities will also be measured. Survey data will be collected on attitudes of contractors, residents and visitors, the number, quality, and location of jobs created, and changes in income from forest harvest and restoration activities.

2 – Ecological Context:

The SW Crown lies within a uniquely intact ecological region. However, despite relatively high ecological integrity, the forest and stream ecosystems have been significantly impacted by human land use and management, invasive species, and climate change. These changes threaten the ability of the region to continue to provide ecosystem services in the future, especially given the uncertainty of climate change. The existing, but strained, ecological integrity of this landscape makes the SW Crown an excellent candidate for landscape-level ecological restoration for several important reasons.

First, forest ecosystems of the SW Crown are biologically diverse relative to other forested regions in the Rocky Mountains. This diversity is the result of the convergence of maritime and continental climatic influences as well as topographic complexity and steep elevation gradients. The current distributions of tree species and forest types in this region depend on topographic, edaphic, and climatic factors, as well as on past land use and natural disturbance. In the SW Crown, mid- and upper-elevation forests are dominated by cool and cold subalpine fir forest types. Douglas fir, Western larch, Ponderosa pine, and Lodgepole pine type forests dominate lower elevations, with a relative abundance and size distribution of species driven by water availability, soil types, past harvesting methods, and fire.

Second, the SW Crown supports an estimated 250 species of birds, 63 species of mammals, five species of amphibians, and six species of reptiles. It provides important habitat for several threatened, endangered, and sensitive species, including the grizzly bear, Canada lynx, gray wolf, wolverine, and fisher. It is also home to black bear, elk, mule deer, moose, mountain lion, bobcat, and a wide variety of small mammals. Further, it provides high quality breeding, nesting, migratory, and wintering habitat for a diversity of bird species, many of which are species of concern in Montana, including the northern goshawk and the flammulated owl. There are currently 12 native fish species, including westslope cutthroat trout (listed as a sensitive species) and bull trout (protected under the Endangered Species Act), and 13 non-native fish species as well as several hybrid salmonids. There are also several sensitive plants within the area, including Howell's Gumweed.

Historically, many ecological processes in the SW Crown have been driven by wildfire, which is believed to be responsible for both the creation and maintenance of habitats for the diversity of native plant and animal species and for increased forest resilience to insect outbreaks. Fire regimes in the area can be classified into four groups based on the mosaic patterns and amount of burned forest left following fire: 1) low severity fires that burned through the understory and killed less than 10% of the overstory trees; 2) high severity fires that burned through the overstory, killing more than 90% of the trees; 3) mixed severity fire regimes that created a mosaic of more than 50% low severity and less than 50% high severity stand conditions (hereafter mixed severity A), and; 4) mixed severity that created a mosaic of more than 50% high severity and less than 50% low severity (hereafter mixed severity B). The Ecosystem Management Research Institute conducted simulation models in 2010 to understand historical fire mosaics in the Blackfoot and Clearwater watersheds, two of the major watersheds located in the SW Crown. Results suggest that, on average, 45% of the area occurred in the low severity fire regime, 21% occurred in the mixed severity A fire regime, 17% occurred in the mixed severity B fire regime, and 17% occurred in the high severity fire regime.

Current vegetation conditions are considerably different from historical conditions for a variety of reasons with resulting significant changes to fire patterns in the area. Past forest management activities have shifted plant communities toward much younger, denser forest

conditions and high severity fire regimes. Fire that would have burned in the understory or in a patchy mosaic historically is now more likely to burn into the crown of the forest across a much larger proportion of the landscape. Land ownership patterns have also had significant consequences for current vegetation patterns.

The consequences of past management and fire exclusion policies in the SW Crown include an increase in Douglas fir in low elevation habitat types, the elimination of a mosaic pattern of vegetation, and lack of regeneration of shade-intolerant species (Ponderosa pine and Western larch). Even-aged Lodgepole pine stands are uncharacteristically abundant across large proportions of the landscape. The lack of stand age diversity throughout the region, coupled with recent increases in winter minimum temperatures, is believed to have exacerbated the severity of the recent mountain pine beetle outbreak affecting many acres of Lodgepole pine and Ponderosa pine in the SW Crown (part of five million acres currently affected in Montana).

The SW Crown Collaborative proposes to address these challenges through extensive fuel mitigation and restoration work in this landscape. The specific goals of the proposed restoration work are to shift stand structure and composition to more closely resemble historical conditions, which adds needed resiliency to these forests in the face of climate change. Restoration, in addition, will alter future conditions so that fires burn with more natural intensities and patterns. The composition, structure, and spatial patterns of some portions of the landscape will be adapted to accommodate predicted increases in fire severity such that additional areas may be managed for low severity and mixed severity A fire regime conditions than occurred historically. The restoration of forest mosaics through planned treatments and reestablishment of fire will ultimately create conditions where forests are more resistant to insect and disease. The establishment of diverse size classes across the landscape while increasing the vigor of old growth trees is expected to reduce the incidence of native insect and disease outbreaks in the future.

The benefits of the proposed restoration work to fish and wildlife populations in the SW Crown are numerous. Linkage zones to address wildlife movement and associated habitat needs will provide connectivity at multiple scales, while three species (grizzly bear, northern lynx, and bull trout) will receive specific attention. Restoration considerations for grizzly bears will focus on maintaining or reducing road densities in important areas and providing suitable linkage zones for travel. Northern lynx will benefit from a restored heterogeneous landscape (required for denning and travel), while restored vegetation conditions will also improve habitat for hares, the lynx's primary prey species. Bull trout will benefit from reduced sediment delivery from an improved road network, through improved riparian zone conditions as streamside forests are protected or restored to desired compositions and structures, and through increased habitat connectivity provided by improved stream crossing structures. Other species will also benefit from the restoration of historical forest conditions, including the habitat created through burned forests (e.g., black-backed woodpecker).

Water quality will be improved primarily by addressing the road network. Unnecessary roads on NFS lands will be decommissioned, especially when in close proximity to streams. Inadequate culverts that block stream passage or are undersized will be prioritized for replacement. Retained roads will be improved to reduce sediment delivery. Streamside zone quality will be enhanced to better function as a filter for sediment inputs and to provide appropriate shading and sources of woody debris. Key watersheds (12 to 14-digit Hydrologic Unit Codes) will be specifically targeted for maintenance and improvement of bull trout and

west-slope cutthroat habitat conditions. Trail networks will be evaluated to identify and remedy any problem areas in terms of sediment delivery.

Other major restoration goals include the control of invasive weeds, reduction of insect and disease outbreaks, and improved connectivity throughout the landscape through the removal of unnecessary roads. A comprehensive weed management program will consist of continued and expanded weed distribution mapping to track widespread invaders and new outbreaks. Once identified, a combination of biological controls and judicious chemical control in strategically selected areas will be used quickly to control weed outbreaks. Weeds will be controlled in vegetative treatment areas, along decommissioned roads, and along remaining road networks. Outbreaks of insects and diseases will be reduced by improving the overall resiliency of the landscape through restoration treatments that will produce forest conditions consistent with historical disturbance processes. Thinned forests restored in low to mid elevations will make remaining trees healthier and better able to resist the outbreak of mountain pine beetles and other insects and diseases. Existing road networks will be evaluated to decommission unnecessary roads while maintaining a functional road system for recreational and management access. Specifically, newly acquired NFS lands will need considerable restoration, particularly in terms of current numbers of roads, amount of invasive species, and altered forest conditions.

Another major goal is to increase the resiliency of the SW Crown to climate change through the adoption of adaptive management strategies. An experimental approach to landscape-level restoration will focus on understanding the effectiveness of specific treatments across the SW Crown through the establishment of an extensive monitoring program. Specifically, statistically reliable information about ecosystem responses to specific management actions across the landscape will be used to inform subsequent choices about management actions at regular intervals. This approach will allow managers to change course in response to actual climate impacts on the landscape during iterative decision-making cycles. Therefore, ecological adaptation will be an integral aspect of the project ensuring the maintenance of ecosystem resilience and function for current and future generations.

In sum, the overarching objectives of the planned treatments are to integrate a landscape strategy that considers social and economic values with ecological resiliency. Through fuel mitigation and vegetation treatments, fire will be restored in much of the landscape that supports the SW Crown's biodiversity and human communities. Road removal and stream restoration will help to ensure that ecosystems and aquatic species have the potential to adapt to future climate change. The removal of exotic species where they occur will increase the integrity, structure, and function of native ecosystems, ultimately reducing existing stressors to native species. Finally, viewing ecological restoration from a landscape perspective, ecological diversity and integrity will be considered at local and regional spatial scales.

3 – Collaboration:

The SW Crown benefits from a thriving culture of collaborative conservation across all land ownerships and has achieved success by community members, agencies, and landowners working together. Collaborative discussions and partnerships between members of SW Crown communities, landowners, and agencies have led to multiple transfers totaling over 60,000 acres of industrial timberland to USFS management. Further, the MFRC has advanced collaborative forest restoration via the Lolo and Lincoln Restoration Committees and received the Gridlock Breaking Award from then Regional Forester Tom Tidwell in 2009.

The SW Crown Collaborative developed out of these successes and out of stakeholders’ shared interest in the future of this landscape. The goal of the Collaborative, which began meeting regularly in July 2009, was to develop a vision for the SW Crown landscape, develop a 10-year restoration strategy to achieve that vision, and implement the strategy. The Collaborative represents diverse interests, including community conservation, economic development, wilderness, federal and state land management agency, timber industry, habitat conservation, land trust, restoration, rural development, and educational interests (Table 1).

Table 1. Southwestern Crown Collaborative Working Group members:

Gary Burnett	Blackfoot Challenge	Megan Birzell	Clearwater Resource Council
Amber Kamps	United States Forest Service	Angela Farr	United States Forest Service
Kevin Riordan	Helena National Forest	Keith Stockman	Region 1
Jim Burchfield	University of Montana	Debbie Austin	United States Forest Service
Jim Lowery		Barb Beckes	Lolo National Forest
Dave Morris		Boyd Hartwig	
Gunnar Carnwath		Tim Love	
Matthew Koehler	Wild West Institute	Travis Belote	The Wilderness Society
Cathy Barbouletos	United States Forest Service	Scott Brennan	
Rick Connell	Flathead National Forest	Joe Kerkvliet	
Brad Gillespie		Bo Wilmer	
John Ingebretson		Anne Carlson	
Rich Kehr		Anne Dahl	Swan Ecosystem Center
Sterling Miller	National Wildlife Federation	Al Christopherson	Rocky Mountain Elk Foundation
Rosalie Cates	Montana Community	Rob Ethridge	Montana Department of Natural
Craig Rawlings	Development Corporation	Tony Liane	Resources & Conservation
Mo Bookwalter	Northwest Connections	Gordy Sanders	Pyramid Mountain Lumber, Inc.
Jon Haufler	Ecosystem Management Research	Marnie Criley	Montana Forest Restoration
Robert Rasmussen	Institute	Jeff Barber	Committee
	Trust for Public Land	Lisa Bay	The Nature Conservancy
Katie Meiklejohn	American Wildlands		

Each working group member has had the opportunity to participate extensively in the work of the Collaborative. The process has also been open to anyone who wants to participate. The group meets once a month to discuss relative overarching issues. Detailed work is conducted between meetings by a subset of participants who volunteer for the task. Documents and decisions are finalized by the entire group using a consensus approach. All stakeholders are given the opportunity to contribute to the Collaborative in their areas of interest and expertise. All have an equal voice in the process of developing and implementing a vision and landscape restoration strategy for the SW Crown.

The Collaborative has accomplished many preliminary goals, including developing a vision statement for the SW Crown and a landscape strategy to achieve that vision. The landscape strategy is based on the best available science and will help to achieve the restoration goals and objectives.

Beyond these tangible accomplishments, however, lies the heart of the Collaborative's success - trust. Building on past successful collaborative efforts, this Collaborative has solidified working relationships built on trust and a shared commitment to the future of the SW Crown. This trust is the single most important factor that will help achieve the landscape restoration goals and objectives. Participants' commitment to this process reduces the likelihood of appeals on projects taking place on public lands and increases the ability to adapt restoration methods when necessary in order to achieve the landscape goals and objectives.

The well-established collaborative relationships within the SW Crown will be instrumental in conducting multi-party monitoring. A newly established SW Crown Collaborative Monitoring Committee (CMC), coordinated by the University of Montana (UM), will provide oversight and coordination of monitoring activities to ensure quality, inclusive participation, and transparent data access for all interested parties. Sustainable inclusive access and collaborative procedures will be adopted. The CMC will hold periodic gatherings of residents throughout the project area to listen to new ideas and refine indicators and measures of landscape change. Data from all monitoring activities will be permanently stored on web sites that can be continuously accessed by participating organizations and the public. Opportunities for electronic feedback and commentary from interested observers will be encouraged. A data manager with GIS expertise will provide accountability and communication services ensuring quality standards and information transferability.

4 – Wildfire:

Historically, wildfire has been the primary disturbance agent in the SW Crown, directly influencing rapid large-scale changes in forest species composition, structure, and spatial distribution. A significant portion of the landscape is influenced by the mixed severity fire regime with variable intensities, ranging from the periodic low intensity, non-lethal events to the infrequent high intensity, lethal stand replacing events. This fire regime was common through the transitional portion of the environmental gradient where the lower elevation, drier sites were dominated by low-severity fire regimes and the higher elevation, moister sites were dominated by the high-severity fire regime. The forested communities and ecosystems in this landscape depend on fire, as experienced in these specific fire regimes, for their continued perpetuation.

Fuel loadings have increased due to a century of fire suppression and the current bark beetle infestation. Some unmanaged timber stands have missed two fire cycles and are now in condition class II, making them capable of producing more frequent high severity events. The bulk of forest fuels are dead standing and downed trees and shrubs, as well as live shade-tolerant true firs, spruce, Lodgepole pine, and Douglas fir. This combination of dead fuel and continuous live vegetation from the forest floor to the upper forest canopy creates a fuels complex that, when ignited under drought-like conditions, has the potential for very active fire behavior defined by rapidly spreading, high-intensity fires with moderate to long-range spotting and a very high resistance to control. The potential for non-lethal surface wildfire to become lethal stand replacing crown wildfire continues to escalate within the untreated stands. The safety of firefighters and the public as well as the losses in ecosystem diversity are of great concern.

Fire intensity is dictated by topography, weather, fuels, and time of season when ignition occurs. Proposed forest fuels reduction and restoration activities, including mechanical and prescribed fire treatments and wildfire managed for resource objectives during normal summer-like conditions will create fuel mosaics and landscape patterns that will increase the ability to manage uncharacteristic wildfire under drought-like or severe weather conditions, thus decreasing the risk of high intensity stand-replacement wildfire. Wildfires will still occur and some will continue to be high intensity, lethal, stand replacing events under severe weather conditions.

Various Collaborative partners have already begun taking steps to reduce the excess accumulation of forest fuels. The entire landscape is covered by three CWPPs that were developed collaboratively through groups such as the Seeley-Swan Fuels Mitigation Task Force, Greenough/Potomac Fuels Mitigation Task Force, and Lincoln Fuels Mitigation Task Force that work in partnership with the Lolo, Helena, and Flathead National Forests. These groups have delineated the WUI across the entire landscape. The CWPPs are the foundation for identifying significant wildfire risks to communities and developing plans to reduce the negative impacts of fire. These documents compiled information that is helpful for responding to fires, reducing the risk of unwanted fires, and furthering the existing coordination and cooperation of the different fire-fighting units. The CWPPs include descriptions of resources, information to assist wildfire risk reduction, and lists of options to help communities reduce and prevent loss from wildfire events.

The Collaborative places high emphasis on reestablishing and maintaining a more natural range of variation in these fire regimes. This will be more difficult in this landscape's mixed severity forests than it would be on a landscape dominated by frequent low severity fire. Within the WUI delineated in the CWPPs, the goals will always be to reduce the risk of high severity fire events and the risk to the public. Outside the WUI, the goal is to reestablish and maintain

natural fire regimes. Restoration treatments will focus on forest species, composition, structure, and spatial distribution. Fuels reduction treatments will focus on reducing the potential for uncharacteristic fire events and reducing resistance to suppression efforts. After initial treatments, naturally ignited wildfires and prescribed fires ignited at intervals consistent with the natural fire regime will be used to maintain the natural forest structure and function across the SW Crown along with possible follow-up mechanical treatments.

Wildfire will remain within a more natural range of variation in the restored landscape according to the fire regime. This implies that fire will burn in a mixed severity manner creating patchy mosaics as described in the ecological context section for most of the SW Crown. In the lower elevation portions of the landscape, fires will burn at low intensity and creep along the forest floor. These fires will burn once every 5 – 25 years. Reduced crown density, increased canopy base height, and reduced amounts of surface fuels will lower wildfire flame lengths and intensities. Crown fire will occur less frequently due to reductions in ladder fuels. Tree mortality during wildfire events will be reduced by focusing thinning treatments on removing smaller, less fire resistant trees, crown spacing, and prescribed fire treatments that consume dead and down fuels.

The Lolo, Helena, and Flathead National Forests derive their fire management direction from multiple plan and policy documents, including each forest's respective Land Management Plan (LMP) and Fire Management Plan (FMP). Each FMP tiers to the LMP for wildfire management direction. Wildfire will continue to be managed commensurate with seasonal fire activity, resource availability, and cost of suppression actions versus the potential environmental losses. Wildfire caused by natural ignitions will be actively managed where resource management objectives can be met. Fire managers will establish a strategy based on topography, weather, fuels, and seasonal conditions under which the fire will be managed.

Restoration treatments, initially more expensive due to current fuel build-ups, will lower the cost of wildfire management over the long-term through reduced future fuel treatment costs and reduced local suppression costs. The cost per acre after treatments to maintain desirable forest conditions that can withstand ground fire under non-extreme weather conditions will be reduced. Cost-effective small diameter and biomass harvest followed by prescribed fire will be used to maintain areas near communities when feasible, while restored areas further from communities will, when weather and fuel conditions permit, be allowed to burn for resource benefits or treated mechanically. Fire managers, due to reduced fire intensity, will have a greater array of tactical responses so that individual fires can be managed with variable levels of resources, potentially reducing costs.

5 – Utilization:

The Collaborative places a high priority on utilizing wood from fuels reduction and restoration treatments to benefit local economies. Prescriptions which permit harvest of sawlogs, small-diameter wood, and woody biomass present significant opportunities for wood utilization to help ensure cost-effective treatments and help sustain the regional forest products industry.

Small-diameter tree and woody biomass (including pulp wood) availability was estimated using Forest Inventory Analysis (FIA). Sawlog volume estimates assume five thousand board feet (MBF) per acre based on figures from recent harvests on the Seeley Lake and Swan Lake Ranger Districts. The data show that size class and forest type interact to determine biomass availability, as summarized in Table 2. The weighted average biomass available on a per acre basis ranges from 4.1 bone dry metric tons (BDT) using trees less than 7” dbh to 15 metric tons using trees less than 11”dbh. Lodgepole pine forest types tend to have the highest tonnages per acre and represent 33% of acres within the WUI but less than 1% of acres outside the WUI.

Table 2. Biomass availability per acre by size and forest type for all lands within the WUI and for lands outside the WUI analyzed with SPOT modeling described in the “Proposed Treatment” section.

Size Class/Forest Type	<7” dbh (bone dry metric tons per acre)	<9” dbh (bone dry metric tons per acre)	<11” dbh (bone dry metric tons per acre)
Douglas fir	4.1	7.6	11.2
Lodgepole	6.1	19.4	29.3
Other	0.5	1.0	1.6
Ponderosa pine	1.1	2.1	4.2
Western larch	4.0	11.4	19.2
Acre weighted average	4.1	7.6	15.0

Vegetative treatments in the SW Crown are prioritized based on two main criteria. Within the high risk areas in the WUI identified by the CWPPs, treatments will focus on reducing the risk of severe fire. Outside the WUI, treatments will focus on restoring natural ecosystem processes. The goal over the next ten years is to treat 80% of high risk acres in the WUI and 50% of the prioritized restoration acres outside the WUI. 50 % of WUI and non-WUI restoration acres will be treated commercially. The remaining 50% will be treated without removing sawlogs or woody biomass. Table 3 delineates the targets and provides estimates of the volume of sawlogs (in MBF) and woody biomass (in BDT) that the USFS can expect to harvest from commercially treated acres over the next decade through the CFLRP.

Table 3. SW Crown priority acres treated, sawlog, and woody biomass harvests (rounded to whole number).

Forest Type	WUI Priority Acres	Restore Priority Acres	Commercial treatment acres in WUI priority acres	Commercial treatment acres in Restore priority acres	Estimated sawlog volume (MBF) commercial treatments WUI & Restore	Estimated woody biomass sawlog trees (logging) (BDT)	Estimated woody biomass from non-sawlog trees <9" dbh (BDT)
Doug. fir mix	18,629	87,090	7,452	21,773	146,121	65,754	111,052
Lodgepole	10,756	289	4,302	72	21,873	9,843	42,434
Other	2,511	77	1,004	19	5,118	2,303	512
P. pine	75	2,484	30	621	3,255	2,930	684
Western larch	1,866	7,711	746	1,928	13,371	6,017	15,243
TOTAL	33,837	97,651	**13,535	24,413	189,738	86,847	**169,924

*** does not total due to rounding*

Note: Figures assume only 50% of total biomass (sawlogs and non-sawlogs) is utilized due to technological and environmental constraints.

Several options are available for the use of sawlogs removed as part of vegetative treatments in the SW Crown. Pyramid Mountain Lumber produces up to 60 million board feet (MMBF) of lumber per year (depending on raw material availability, economics and markets) and is capable of using a finite quantity (based on quality of raw material, economics of manufacture, and market conditions) of small diameter material with tops as small as 5” diameter inside bark small end (dibse). Other sawmills are in Deerlodge, St. Regis, and Townsend. Blackfoot Timber Products and Finnish Lumber compete in niche lumber markets. Log home builders, with favorable market conditions, will utilize sawlog-type material and limited quantities of small diameter material. Local log home builders include Montana Rockies Log Homes and Bard Log Homes, and other log home builders are located in Missoula and the Bitterroot Valley.

Pyramid and other mills may be able to use some of the larger biomass material as well as the harvested sawlogs. Pyramid, for example, can process solid-wood quality Lodgepole logs 9” dbh and 5” dibse and manufacture lumber. Several area manufacturing facilities use small diameter material: Roundwood West in Condon, T&C Fencing in Ovando, and Bouma’s Post Yards in Lincoln. Operating woody-biomass users include a wood pellet mill in Eureka, a medium density fiber board plant in Columbia Falls, and a particleboard plant in Missoula.

The potential exists to expand the use of biomass in the SW Crown. The feasibility of these options relies on a reliable sustainable supply of biomass for the life of the required capital investments (10-20 years), arranging appropriate financing for the projects, and economic conditions. Two utilization expansion options are outlined:

1. The Fuels for Schools and Beyond (FFSB) program promotes the use of forest biomass in small-to-medium scale facilities in Montana. Facilities of this type use only a small amount of biomass compared to what is available in the SW Crown, but they can provide important cost savings to end users by replacing the use of expensive propane, natural gas, or fuel oil. Potential sites for additional FFSB projects include several public schools in the landscape, medical and municipal facilities in Seeley Lake and perhaps other communities, and the USFS facilities in Seeley Lake, Lincoln, and Condon.
2. A combined heat and power (CHP) facility that could produce 1.7 to 17 megawatts (MW) of power has been proposed for the Pyramid Mountain Lumber mill in Seeley Lake. This CHP facility, using typical fuel requirements, would use between 8,800 and 136,000 metric tons per year and produce electricity cost competitive with other renewable energy sources.

It is also likely that a thermal or CHP plant using woody biomass will be installed at the University of Montana’s Missoula campus within the next few years. Estimates of plant size anticipate consumption of several times the amount of biomass consumed by the largest FFSB plant, the University of Montana’s Dillon campus, which consumes 5,000 BDT per year. A feasibility study is also underway to evaluate the potential conversion of several USFS facilities near Missoula’s airport, including the Missoula Technology Development Center, the Fire Sciences Laboratory, and the Aerial Fire Depot and Smokejumper Center.

Based on the existing and potential sawlog and biomass utilization in the SW Crown, USFS revenue from these products is expected to help offset fuel and restoration treatment costs. Current market prices (delivered to the consuming facility) include \$250 and more per MBF for delivered sawlogs, \$22 per BDT for industrial heat and power (hog fuel), \$35-50 per green ton for small to mid-scale boiler fuel, and \$67 per green metric ton for small-diameter trees suitable for pulp and posts and poles.

6 – Investments:

The SW Crown benefits from a rich history of public and private conservation investments. Restoration through the CFLRP will enhance these investments, greatly increasing capacity to restore ecosystem functions and fire management options across all lands throughout the SW Crown while simultaneously reducing future restoration unit costs and contributing to local employment and training opportunities.

Previous investments include conservation easements, habitat restoration, and fuels reduction. These investments include the Blackfoot Community Project (BCP), in which The Nature Conservancy (TNC), working in partnership with the Blackfoot Challenge, purchased more than 89,000 acres of Plum Creek timberland that were later transferred to public and private conservation ownership. Many of the private landowners who purchased some of these conservation lands also included their own acreage in conservation easement protection.

Federal and non-federal investments in and beyond the SW Crown landscape are expected to continue and increase over the next decade. Beyond the requested CFLRP investment, the US Fish and Wildlife Service (FWS) is expected to invest a minimum of \$55 million in the SW Crown through working forest conservation easements associated with its America's Great Outdoors Program. This program will also invest \$131 million in the Rocky Mountain Front region east of the SW Crown for conservation easements aimed at improving wildlife connectivity. In addition, the Natural Resources Conservation Service (NRCS) and Bureau of Land Management (BLM) have restoration activities planned within and adjacent to the SW Crown project area. Further, TNC, in partnership with the Trust for Public Land, recently purchased 71,754 acres of Plum Creek land in the Blackfoot Watershed for more than \$100 million as part of the 310,000-acre Montana Legacy Project (MLP). These MLP acres are slated to be transferred into USFS and State of Montana ownership, and some transfers have already been completed. These land acquisitions, combined with conservation easement purchases, fuels reduction projects, restoration projects, and monitoring activities, are expected to bring an additional \$50 million to the SW Crown and adjacent land in the form of non-federal investments from the Montana Department of Natural Resources and Conservation (DNRC), Montana Department of Fish, Wildlife, and Parks (FWP), The Nature Conservancy (TNC), University of Montana (UM) and private landowners.

Spanning federal, non-federal, and private landowner jurisdictions, numerous partners, including many listed above, have come together under the Multi-Agency Integrated Restoration Strategy to coordinate cross-boundary, landscape-level fuels management and forest restoration projects in the middle Blackfoot Watershed with the intent to extend this work throughout the SW Crown. This collaborative effort involves forest landowners striving to provide more effective fire management and ecosystem function restoration across all lands and is expected to make significant public and private investments in the SW Crown over the next decade. Restoration projects will focus on wildlife habitat improvements, stream restoration, vegetation treatments, and enhancement of recreational opportunities.

Multi-party monitoring, as described in the Collaboration section and the Landscape Strategy, will require a significant investment of time and money to be effective at triggering adaptive management and increasing restoration capacity. The UM has agreed to coordinate monitoring activities and will invest \$300,000 annually to match the CFLRP request. Working with the Collaborative, UM will provide training opportunities for the appropriate local non-profit organizations, schools, and other youth groups to monitor CFLRP projects.

Restoration capacity within the SW Crown will increase and restoration unit costs will decrease as a result of leveraging partnerships and treating high priority acres and adjacent lands. The Collaborative will increase restoration capacity and reduce costs by sharing data and database formats with public and private partners, sharing key resource specialists and scientists across jurisdictions, continuing existing collaborative efforts between multiple public and private stakeholders, focusing restoration efforts on priority lands (across boundaries where possible), and focusing fuels management efforts on priority acres.

After CFLRP treatments, the cost per acre to maintain desirable forest conditions that can handle surface fire under non-extreme weather conditions will be reduced. Cost-effective small diameter and biomass harvest followed by prescribed fire will be used to maintain areas near communities, while restored areas further from communities will, when weather and fuel conditions permit, allow fire to restore ecosystems function. Due to the reduced fire intensity inside and outside treatment areas following fuel reduction activities, fire managers will have a greater array of tactical responses so that individual fires can be managed with variable levels of resources, thus reducing costs. Likewise, road maintenance unit costs will decrease following investments planned to improve and modify the USFS transportation network.

Increased restoration investments will significantly improve the local economies in the landscape by creating much needed jobs. Using the Treatments for Restoration Economic Analysis Tool (TREAT), we estimate that the SW Crown Collaborative will directly contribute 180 full and part-time jobs each of the next 10 years, with 68 from the harvest of commercial forest products, 81 from restoration activities, and 31 from USFS implementation and monitoring. TREAT predicts that there will be \$9.1 million in direct labor income contributions annually in Region 1, including wages and small business net income.

These jobs will create employment opportunities for local small businesses and non-profit organizations in the form of contracts to implement and monitor projects, which will provide a much needed boost to the local rural economies of the communities in the SW Crown. The unemployment rate in the four counties of the SW Crown ranged from a low of 5.8% in Lewis and Clark County to 11.3% in Lake County, compared to an average unemployment rate in Montana of 8.0% (Figures for March 2010, source Montana Department of Labor and Industry, Research and Analysis Bureau). Rural unemployment rates have recently been higher than urban rates, and thus unemployment rates in Seeley Lake, Condon, and Lincoln are probably higher than the rates given above. In 2008, personal income in the four counties of the SW Crown was generally lower than the national average. Powell County's personal income averaged \$24,161 (in 2008) making it one of the poorer counties in the nation. The other counties' incomes are as follows: Lewis and Clark \$38,243; Lake \$27,156; and Missoula \$35,108 (Bureau of Economic Analysis). Training opportunities will also be provided for local entities to ensure that they are competitive in their bids for work in this and other areas.

Prior analysis of the Clearwater Stewardship Contract, implemented on the Seeley Lake Ranger District in 2003-4, shows that small businesses are especially important in the wood products sector of this local, rural economy. Restoration and commercial harvesting will have strong direct impacts on the logging, sawmill, road maintenance and repair, maintenance and construction, architectural, and engineering services. When including indirect and induced (multiplier) economic impacts, the projected annual average effects of the Collaborative are 363 full and part-time jobs and \$14.5 million in Region 1 labor income. This captures the indirect and induced impacts to the sectors listed above as well as the retail trade, services, real estate, food services, wholesale trade, and banking sectors.

7 – Funding Estimate:

FY 2010 Funding Estimate	
Fiscal Year 2010 Funding Type	Dollars/Value Planned
FY 2010 Funding for Implementation	\$1,852,725
FY 2010 Funding for Monitoring	\$205,858
1. USFS Appropriated Funds	\$301,463
2. USFS Permanent & Trust Funds	\$150,000
3. Partnership Funds	\$185,900
4. Partnership In-Kind Funds	\$246,929
5. Estimated Forest Product Value	\$145,000
6. Other (specify)	\$0
FY 2010 Total (total of 1-6 above for matching CFLRP request)	\$1,029,292
FY 2010 CFLRP request (must be equal to or less than above total)	\$1,029,292
Funding off NFS lands associated with proposal in FY 2010 (does not count toward funding match from CFLRP)	
Fiscal Year 2010 Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds (<i>FWS on private lands</i>)	\$212,500
Other Public Funding (<i>NRCS-USDA on private lands</i>)	\$233,000
Private Funding	

FY 2011 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$7,634,185
FY Funding for Monitoring	\$848,243
1. USFS Appropriated Funds	\$2,138,576
2. USFS Permanent & Trust Funds	\$30,000
3. Partnership Funds	\$222,000
4. Partnership In-Kind Funds	\$1,598,771
5. Estimated Forest Product Value	\$493,080
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$4,482,428
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds (<i>FWS on private lands</i>)	\$212,500
Other Public Funding (<i>NRCS-USDA on private lands</i>)	\$233,000
Private Funding	

Southwestern Crown of the Continent Collaborative CFLRP Proposal
Funding Estimate – Page 2

FY 2012 - Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$8,084,335
FY Funding for Monitoring	\$898,259
1. USFS Appropriated Funds	\$1,679,150
2. USFS Permanent & Trust Funds	\$85,335
3. Partnership Funds	\$768,012
4. Partnership In-Kind Funds	\$1,643,815
5. Estimated Forest Product Value	\$806,284
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$4,982,595
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	
Other Public Funding	
Private Funding	

** The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.*

FY 2013 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$8,326,865
FY Funding for Monitoring	\$925,207
1. USFS Appropriated Funds	\$1,849,524
2. USFS Permanent & Trust Funds	\$87,895
3. Partnership Funds	\$791,052
4. Partnership In-Kind Funds	\$1,693,129
5. Estimated Forest Product Value	\$830,473
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$5,252,073
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

** The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.*

Southwestern Crown of the Continent Collaborative CFLRP Proposal
Funding Estimate – Page 3

FY 2014 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$8,576,671
FY Funding for Monitoring	\$952,963
1. USFS Appropriated Funds	\$2,025,010
2. USFS Permanent & Trust Funds	\$90,532
3. Partnership Funds	\$814,784
4. Partnership In-Kind Funds	\$1,743,923
5. Estimated Forest Product Value	\$855,387
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$5,529,635
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

* The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.

FY 2015 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$8,833,971
FY Funding for Monitoring	\$981,552
1. USFS Appropriated Funds	\$2,205,760
2. USFS Permanent & Trust Funds	\$93,247
3. Partnership Funds	\$839,227
4. Partnership In-Kind Funds	\$1,796,241
5. Estimated Forest Product Value	\$881,048
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$5,815,524
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

* The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.

Southwestern Crown of the Continent Collaborative CFLRP Proposal
Funding Estimate – Page 4

FY 2016 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$9,098,990
FY Funding for Monitoring	\$1,010,999
1. USFS Appropriated Funds	\$2,391,932
2. USFS Permanent & Trust Funds	\$96,045
3. Partnership Funds	\$864,404
4. Partnership In-Kind Funds	\$1,850,128
5. Estimated Forest Product Value	\$907,480
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$6,109,989
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

* The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.

FY 2017 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$9,371,960
FY Funding for Monitoring	\$1,041,329
1. USFS Appropriated Funds	\$2,583,961
2. USFS Permanent & Trust Funds	\$98,926
3. Partnership Funds	\$890,336
4. Partnership In-Kind Funds	\$1,905,632
5. Estimated Forest Product Value	\$934,704
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$6,413,560
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

* The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.

Southwestern Crown of the Continent Collaborative CFLRP Proposal
Funding Estimate – Page 5

FY 2018 Funding Estimate	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$9,653,119
FY Funding for Monitoring	\$1,072,569
1. USFS Appropriated Funds	\$2,781,201
2. USFS Permanent & Trust Funds	\$101,894
3. Partnership Funds	\$917,046
4. Partnership In-Kind Funds	\$1,962,801
5. Estimated Forest Product Value	\$962,745
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$6,725,687
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

** The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.*

FY 2019 Funding Estimates	
Fiscal Year Funding Type	Dollars/Value Planned
FY Funding for Implementation	\$9,942,713
FY Funding for Monitoring	\$1,104,746
1. USFS Appropriated Funds	\$2,984,638
2. USFS Permanent & Trust Funds	\$104,951
3. Partnership Funds	\$944,558
4. Partnership In-Kind Funds	\$2,021,685
5. Estimated Forest Product Value	\$991,628
6. Other (specify)	\$0
FY Total (total of 1-6 above for matching CFLRP request)	\$7,047,459
FY CFLRP request (must be equal to or less than above total)	\$4,000,000
Funding off NFS lands associated with proposal in FY (does not count toward funding match from CFLRP)	
Fiscal Year Funding Type	Dollars Planned
USDI BLM Funds	
USDI (other) Funds	*
Other Public Funding	*
Private Funding	

** The Collaborative expects the investment trend from FWS and NRCS in FYs 2010 and 2011 to continue throughout the 10-year CFLRP period.*

Assumptions for Funding – SW Crown

The following documents the assumptions the collaborative used in determining amount/type of treatments, products, product values, funding estimates, and match estimates. The costs of implementation and monitoring are escalated at 3% per year starting in 2011.

Monitoring:

Implementation monitoring is included in project implementation costs. However, effectiveness monitoring with partners, including the University of Montana and many others, is a separate cost, and the Collaborative has agreed to make it 10% of total implementation costs. Currently, a monitoring sub-committee is meeting to develop a monitoring program collaboratively and with partnership funding to derive the match needed. We assume half the monitoring will come from partners, and those expected funds are included in partnership funds contributing to the match.

USFS Appropriated Funds:

The Lincoln, Seeley Lake, and Swan Lake Ranger Districts in the recent past have received approximately \$1.5 million for implementation and monitoring. In all fiscal years in the proposal except FY 2010, additional appropriations will be needed fund the amount of work planned in the SW Crown. (See the Regional Foresters Funding Plan.)

USFS Permanent & Trust Funds:

Permanent and trust funds are assumed to provide 1% of the total implementation and ½ of the monitoring costs.

Partnership Funds:

Based on past and expected partnership funding as committed, the SW Crown assumes partners will bring 9% of total implementation and ½ of the monitoring costs.

Partnership In-Kind Funds:

Based on past and expected partnership funding as committed, the SW Crown assumes partners will bring 14% of total implementation and ½ of the monitoring costs.

Estimated Forest Product Value:

A variety of forest products would potentially be derived from each project within the SW Crown. Forest products could include sawlog-sized trees, small diameter non-sawlog sized trees, and other products such as post and poles and firewood.

The estimated value of these forest products was derived by calculating the potential availability of marketable commercial products that could be removed as a byproduct of vegetation restoration activities. Standard rates, average predicted high bids, as well as the Western Wood Products Association Indices were used to estimate potential product value. These values were reduced to account for logging costs, including felling and bucking (hand or mechanical), skidding, loading, haul, and general administration. Other costs, including road reconstruction and maintenance, site preparation and planting, and agency overhead were not applied to estimate the final forest product value as we expect these costs to be funded through the CFLRP fund itself.

The following are specific assumptions used:

- Tractor yarding: 75% of the volume yarded, average dbh 10 inches, 600 external yarding distance
- Skyline yarding: 25% of the volume yarded, average dbh 10 inches, 800 external yarding distance
- Haul: 50 miles -- 10 miles unpaved, 40 miles paved
- Road maintenance: \$0
- Specified road costs: \$0
- Brush disposal: \$0
- Essential reforestation: \$5 per CCF
- 11% of the volume is assumed to be non-saw timber valued at \$1 per CCF on the stump. The material was moved to the landing but not hauled from the site given assumption of no market. Four projects on the Seeley Lake Ranger District were used to estimate the percentage of non-saw material. The range was 5 – 33% with an average of 11%.

These estimates were compared to the standard appraisal rates and to predicted high bids that had been received on previous projects recently completed by the USFS within the SW Crown to ensure consistency.

- Values used in 2010 and 2011 reflect the sold value or indicated advertised rate for the following projects: Cooney McCay, Auggie, Hemlock Elk, Colt Summit, and Miss ‘n Dog.
- Values used in 2012 through 2019 are \$40 per thousand board feet. This value was escalated at 3% per year beginning in 2012. This estimate was derived from four projects within the SW Crown, and the sold value or indicated advertised rate ranged from \$31/MBF to \$60MBF. Since 2002, stumpage values for USFS logs harvested in Montana have averaged \$87.54 per million board feet, with a range from \$50.55 /MBF to 124.78/MBF, and a median value of \$94.31. The latest available average price is \$50.55/MBF reported for 2008 (Source: <http://www.fs.fed.us/pnw/ppet/76.shtml>, on May 10, 2010), and evidence suggests that stumpage prices have fallen even lower. For example, delivered log prices have fallen from \$439/MBF in the 4th quarter of 2005 to \$246/MBF in the 4th quarter of 2009 (Source: Montana Mill-Delivered Statewide Average Sawlog Prices per Thousand Board Feet, Scribner, Montana Bureau of Business and Economic Research, 2010.) Therefore, it is sensibly conservative to use \$40/MBF as our estimate of forest product value for 2012-2019, particularly given it is lower than the average value during 2002-2008 and about one half of the median value during the same period.

8 – Funding Plan:

The Northern Region supports the purpose of the CFLRA in developing a new model of collaboration and a greater understanding of the public's desires for ecological restoration. By working closely with collaborative partners and providing a dedicated federal match, we can have a significant positive impact on landscape scale ecological restoration.

We have made every effort to review, validate, and verify funding estimates contained within this proposal. Some level of uncertainty will always exist in out-year projections for appropriated funds, permanent and trust funds, estimated forest product value, and partnership funds. We are basing our funding plan and our support on the assumption, as provided for in the act, that work plans and business plans will be firmed up over time to balance actual agency and partner contributions with amounts received from the fund, and to scale work accordingly throughout the ten year period. For example, should agency budgets, estimated product value, or partnership contributions not be fully realized in a given year, we assume the total request for CFLRP funds and the annual plan of work would be adjusted to balance these amounts. This is an important assumption in order to successfully carry out the proposals as well as sustain programs throughout the Region.

The Northern Region has reviewed current budgets for the involved Forests for FY2010 as well as future projections from our Regional Three Year Budget projections. We have carefully reviewed the funding estimates for appropriated funds, permanent and trust funds, and estimated forest product value in Section 7., and find these values to be reasonable and aligned with Forest and Regional capacity to support for implementation and monitoring of this proposal.

We have verified that planning is sufficiently completed for funds requested for FY 2010 and 2011 to be utilized for treatments during those same fiscal years and that funding is available to complete these treatments. The Northern Region, in conjunction with the involved collaborative partners, are committed to the assurance that multiparty monitoring will be funded to assess ecological, social, and economic effects of the proposal for at least 15 years after project implementation commences.

This proposal would require some amount of additional support for planning. By direction, planning dollars cannot be used as part of the agencies contributions and are therefore not itemized in this proposal. The Region is committed to providing additional support to jumpstart planning within the proposal area, and believes some significant efficiencies in the planning process should be realized due to the collaborative nature of the work proposed.

12 – Landscape Strategy:

The SW Crown Collaborative Landscape Restoration Strategy may be found online at <http://www.swcrown.com/strategy>.