

Ecological Restoration Institute Work Plan: Developing Knowledge for West-wide Application Fiscal Year 2013

Prepared for the Executive Team Meeting—March 2, 2012

Calendar year 2011 set a new record for mega fire in the West. The fire season kicked off in May with the Wallow Fire burning over 538,000 acres in Arizona and 15,000 in New Mexico becoming the largest forest fire on record in Arizona. Whereas the Rodeo-Chediski fire in 2002 was considered an outlier at the time, the Wallow, Horseshoe 2, and Monument Fires provide the sobering truth that mega fire is the new norm. The good news in this otherwise cheerless situation is that fuel reduction projects in the wildland-urban interface around the towns of Greer, Alpine and Springerville are credited with reducing the loss of structures and other property. The bad news is that suppression costs exceeded \$100 million, 6,000 people had to be evacuated, and a significant amount of mixed-conifer habitat that is home to Mexican Spotted Owls was damaged or destroyed. Adding further tragedy to the fire season was that intense, post-fire flooding caused significant, additional damage in the White Mountains. In New Mexico the Las Conchas fire exceeded state records for wildfire, threatening Los Alamos National Laboratory (again) and re-burning some areas so intensely that recovery will be a challenge and will likely lead to vegetation type conversions.

These realities reinforce the importance and need for the services performed by the Southwest Ecological Restoration Institutes. Since the '90s the ERI has called for ecologically based forest restoration at the landscape scale. Covington et.al.¹ 1994, predicted in 1994 that the Southwest would begin to experience fire and ecological changes not witnessed during the previous 100 years of forest management. The ERI continues to provide cutting edge science and service to the managers and stakeholders navigating forest restoration in a dynamic and changing environment.

On October 5, 2004, President Bush signed into law the SOUTHWEST FOREST HEALTH AND WILDFIRE PREVENTION ACT, identifying the Ecological Restoration Institute at Northern Arizona University as one of three Institutes in the Southwest established for the purpose of ensuring the best available science is used in the development, implementation and monitoring of forest restoration treatments. Congressional intent was clear, that treatments should incorporate science-based restoration approaches that will simultaneously improve forest health, reduce the threat of unnatural wildfire and provide economic and social benefits to forest communities. To accomplish this goal the statute outlines explicit duties that include:

1. Develop, transfer, apply, monitor, and regularly update practical science-based forest restoration treatments that will improve the health of dry forest and woodland ecosystems and reduce the risk of severe wildfires, in the Interior West;
2. Synthesize and adapt scientific findings from conventional research programs to the implementation of forest and woodland restoration on a landscape scale;
3. Facilitate the transfer of interdisciplinary knowledge required to understand the socioeconomic and environmental impacts of wildfire on ecosystems and landscapes;
4. Collaborate with Federal agencies--

¹ Covington, W.W. , Everett, R.L. , Steele, R. , Irwin, L.L. , Daer, T.A. , Auclair, A.N.D. 1994. Historical and Anticipated Changes in Forest Ecosystems of the Inland West of the United States. *Journal of Sustainable Forestry*. 2(39084):13-63

- a. to use ecological restoration treatments to reverse declining forest health and reduce the risk of severe wildfires across the forest landscape;
 - b. to design, implement, monitor and regularly revise wildfire treatments based on the use of adaptive ecosystem management;
5. Assist land managers in--
- a. treating land with restoration-based applications; and
 - b. using new management technologies (including the transfer of understandable information, assistance with environmental review, and field and classroom training and collaboration) to accomplish the goals identified in--
 - i. the report entitled '10-Year Comprehensive Strategy: A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment' of the Western Governors' Association ;
 - ii. the report entitled 'Protecting People and Sustaining Resources in Fire-Adapted Ecosystems-A Cohesive Strategy' (65 Fed. Reg. 67480); and
 - iii. The National Fire Plan.
6. Provide technical assistance to collaborative efforts by affected entities to develop, implement, and monitor adaptive ecosystem management restoration treatments that are ecologically sound, economically viable, and socially responsible; and
7. Assist Federal and non-Federal land managers in providing information to the public on the role of fire and fire management in dry forest and woodland ecosystems in the Interior West.

Congress intended that the Department of Agriculture work together with the Department of the Interior to facilitate the duties under the Act. However, since 2004 the majority of funding for PL108-317 has come from the U.S. Forest Service. In FY' 13 we are optimistic that financial resources and support from the Department of Interior will be invested in the Institutes in order to meet the identified needs of DOI agencies. Services designed to assist the DOI agencies are represented in red font.

The FY' 13 draft work plan responds to:

- the duties outlined in the Act;
- requests for service identified in ongoing and past needs assessments conducted with all affected entities that include: federal, state and tribal land managers, environmentalists, business representatives, conservationists, public officials and other informed stakeholders. (See Attachments 1,2,3);
- anticipated needs based on over 30 years of research and service in public land management; and,
- Administration, Congressional and Land Management Agency directives that include: ecological restoration at the landscape scale that includes all lands, collaboration, the infusion of the best available science in land management projects, reduction of fire risk to communities and natural resources, watershed conservation and advancing understanding of appropriate management actions in the face of rapidly changing climate conditions.

Each of the following projects was chosen not only to advance place-based restoration in the specific locations in which the work will be accomplished, but also to advance the body of knowledge needed for transfer and application of ecologic and economic restoration and fire management principles throughout the West.

Project 1: Science Support for Collaborative Landscape Scale Restoration

Planning for land management at the scale of ecosystems and the factors that influence them (like fire) has gained support in recent years. However, operationalizing planning and implementation at this scale is still in its earliest stages of testing. The public’s desire to participate in management decisions proactively through collaboration as opposed to reactively after the agency develops a set of recommendations adds a new layer of complexity and a different suite of challenges.

The ERI has provided technical and administrative assistance to stakeholders and land managers involved in landscape scale restoration across the West since 1996. Our science is cited in NEPA documents and used as the foundation for land management from South Dakota to California. The following program of work is designed to continue and broaden that support to meet the needs of collaborative landscape restoration pilot identified as part of the Collaborative Forest Landscape Restoration Act (CFLR), the Four Forest Restoration Initiative (4FRI) and other landscape scale projects.

Science Support for Collaborative Landscape Scale Restoration	
Fulfills Duties under the Act: 1,2,3,4,5,6,7,8	
REQUESTED NEED	REQUEST SOURCE
1.1. Provide support for the Four Forest Restoration Initiative (4FRI), an approved Collaborative Forest Landscape Restoration Program project. Actions include: support for integrating science, monitoring and adaptive management in planning and implementation; assistance in the organization and leadership of the 4FRI Stakeholder Group; assistance to develop landscape planning approaches that are scalable down to the treatment level.	1.Attachment 1-ERI/SWERI Needs Assessment # 1,8, 17
1.2. Provide integrated support with CFRI and NMFWRI to assist the Southwest Jemez, Uncompahgre, and Front Range CFLRP sites.	1.Attachment 1-ERI/SWERI Needs Assessment # 1,8, 17
1.3. Provide support for other CFLRA projects and emerging projects. Share and leverage lessons learned from different projects to help build efficiency and avoid unnecessary reinvention of approaches.	1.Attachment 1-ERI/SWERI Needs Assessment #1,8, 17
1.4. Provide support for the Prescott NF and Coronado NF Forest Planning and Assessment activities	1.Attachment 1-ERI/SWERI Needs Assessment # 26, 27, 80
1.5 Provide facilitation, science and planning support to the Parashant Partnership, BLM and NPS	1.Attachment 1-ERI/SWERI Needs Assessment # 64

Deliverables

1.1) Provide Support for the Four Forest Restoration Initiative (4FRI) a Collaborative Forest Landscape Restoration Act project.

- a. Report on technical assistance for science and monitoring
- b. Report on leadership and technical assistance to steering committee
- c. Report on technical assistance to the landscape strategy working group
- d. Report on GIS support to ID Team for technical analyses

e. Report on IT support for the 4FRI Website and BASECAMP (an online collaborative work space), Website and Administration

1.2) Report on integrated support along with CFRI and NMFWR I to assist the Southwest Jemez, Uncompahgre and Front Ranger CFLR pilots

1.3) Report on science and technical support for other CFLR pilots and emerging projects

a. Identify and provide report on a network of scientists that will work with SWERI to ensure that science products are relevant to local frequent fire forests through publications and outreach

1.4) Report on science and technical support for other National Forests in Arizona

a. Support development and implementation of the Strategic Action Plan development on the Prescott National Forest
 b. Support efforts to advance the FireScape program on the Coronado

1.5) Report on facilitation, science and administrative support to the Parashant Partnership working on management of the Grand Canyon/Parashant National Monument

a. Facilitate and provide scientific, technical, and administrative support to the Parashant Partnership and report on activities

Project 2: Evidence-Based Restoration

Responding to information requests is a core service of the ERI. Based on the questions and the level of detail or knowledge requested, we will invest appropriate levels of effort to identify the answer. For complex questions the ERI applies an evidence-based restoration framework to produce objective answers that meet the highest standards of analysis.

Evidence-based restoration is based on an approach developed by the medical community to analyze the rigor behind recommended medical therapies. Evidence-based restoration is analogous to a medicine in that it assembles, evaluates and weights findings from scientific research, practitioner experience, and gray literature to objectively identify the best evidence for making a particular management decision. Our evidence-based restoration approach can help diminish the controversy over seemingly “conflicting” science by determining the truly “best available science” by analyzing the strength of the evidence presented in scientific studies and other sources.

It is difficult at this time to determine precisely what management questions will become most important to managers or stakeholders in 2013. Management questions will be based on our needs assessment and refined with the affected entity requesting the work.

Evidence-based Restoration	
Fulfills Duties under the Act: 1,2	
REQUESTED NEED	REQUEST SOURCE
2.1 Answer 5 management questions based on an evidence-based restoration framework.	Needs Assessments will inform questions from needs assessments (Attachments 1,2, 3)

Deliverables

2.1) Respond to management question requests using an evidence-based restoration framework.

- a. Deliverable: A rapid or systematic review on a topic to be developed with input from affected entities.
- b. Deliverable: A rapid or systematic review on a topic to be developed with input from affected entities.
- c. Deliverable: A rapid or systematic review on a topic to be developed with input from affected entities.
- d. Deliverable: A rapid or systematic review on a topic to be developed with input from affected entities.
- e. Deliverable: A systematic review of restoration treatments, resilience and the relationship to climate change.

Project 3: Monitoring, Evaluation and Adaptive Management

Monitoring is the foundation to understanding outcomes from forest treatments. Knowing that actions will be monitored creates social license for moving ahead with management in the face of uncertainty. It is also fundamental to the success of adaptive management in relation to the Collaborative Forest Landscape Restoration Act, the new Forest Planning Rule, assessment of natural resource responses to management, and understanding impacts of management on sensitive wildlife species.

At times managers and stakeholders have different views of the level of monitoring needed to inform action. Managers are constrained by budgets and time so they are interested in identifying the most robust monitoring variables at the least cost. Stakeholders and research scientist often develop long wish lists for monitoring that reflects personal preferences and a desire for maximum certainty. Added to the mix is the need to develop monitoring approaches that make sense at the landscape scale and detect change as it unfolds over long time periods.

This project addresses these issues by providing large landscape projects with recommendations based on extensive experience by the ERI and broad monitoring and evaluation knowledge of ERI staff. The work plan also proposes projects that will build from post-Wallow Fire work conducted with FY' 11 and FY' 12 funds and requested by the agencies. In particular these efforts will focus on monitoring post-fire rehabilitation planting with the goal of developing recommendations for stocking levels, spacing, and other variables that will help create composition and structure consistent with restoration and building resilience. In addition, we will continue the work begun in the summer of 2011 to understand restoration approaches appropriate for mixed conifer systems by developing monitoring plots consistent with the ERI **LEARN** network.

The ERI monitors the **LEARN** system of restoration research, demonstration, and applications sites located in Arizona, New Mexico, Colorado, and southwestern Oregon in forests ranging from mixed conifer through ponderosa pine to pinyon-juniper woodlands (Figure 1). The LEARN sites are the longest-established and best-monitored replicated forest restoration demonstration projects in the Southwest. Treatments at new sites and monitoring of existing sites provide a substantial amount of spatially explicit scientific knowledge about forest responses to treatments, effects on potential fire behavior, and changes in wildlife habitat and biodiversity--information that forms the building blocks for landscape-scale treatments.



Figure 1- Map of permanent Long-term Ecological Assessment and Restoration Network (LEARN) and other research sites. These are the longest-established and best-monitored replicated forest restoration demonstration sites in the Southwest.

In FY13 we propose to return to the Mt. Trumbull Ecosystem Restoration Project, initiated in partnership with the Department of Interior-BLM and the Arizona Department of Game and Fish to test restoration approaches for degraded pinyon-juniper ecosystems, invaded grasslands and to re-measure some of the earliest LEARN plots to understand the relationship of ecological restoration treatments, resilience and climate change on ponderosa pine ecosystems.

Water is a precious resource in the Southwest. In order for growth to continue in Arizona municipalities must demonstrate that water resources can support proposed development. In FY’11 and FY’12 the ERI in cooperation with partners is initiating studies and monitoring to understand the relationship of 4FRI forest treatments to surface and ground water. In FY’13 this work will continue using leveraged funds from multiple sources.

Adaptive management is an aspirational goal of contemporary land management. However, how to do adaptive management at large scale over long time periods is not well understood. This conceptual management framework will need ongoing analysis, refinement and transfer to the land management community to ensure that management is intelligent and infused with the best available science and experiential knowledge.

Monitoring, Evaluation and Adaptive Management	
Fulfills Duties under the Act:	
REQUESTED NEED	REQUEST SOURCE
3.1. Technical assistance to help inform biophysical and socio-economic monitoring at CFLR pilots	1. Attachment 2- ERI/4FRI- 17, 20, 22, 23, 28, 30
3.2. Initiation of monitoring plots to determine appropriate post-fire replanting stocking levels and spacing	1. Attachment 1- ERI/SWERI Needs Assessment # 43, 47, 50,
3.3 Preparation and/or implementation of LEARN plots to	1. Attachment 1-

monitor mixed conifer response to different treatments	ERI/SWERI Needs Assessment # 46, 52
3.4 Re-measurement of established LEARN sites to determine biophysical responses to treatments	1. Attachment 1- ERI/SWERI Needs Assessment # 38 2. Attachment 2- ERI/4FRI- 17, 20, 22, 23, 28, 30 2. SWERI/RMRS #8, 17
3.5 Wildlife monitoring. To be determined in cooperation with the Arizona Department of Game and Fish	1. Attachment 2- ERI/4FRI #61,70
3.6 Monitoring water responses to restoration treatments	1. Attachment 2- ERI/4FRI # 6,7,8,9,10,11,12
3.7 Analysis of lessons learned from operationalizing adaptive management	ERI observed need
3.8 Test restoration treatments for degraded pinyon-juniper and grassland ecosystems	Attachment 1 - #62
3.9 Monitoring rare plant responses to 4FRI treatments	Attachment 2 - #32

Deliverables

3.1) Technical assistance to help inform biophysical and socio-economic monitoring at CFLR pilots

a. Deliverable: Report on assistance and outcomes.

3.2) Initiation of monitoring plots to determine appropriate post-fire replanting stocking levels and spacing

a. Deliverable: Report on actions in FY13. (Analysis and results to follow in future years)

3.3) Planning and implementation of a LEARN site to understand biophysical responses to restoration treatments

a. Deliverable: Report on progress in FY13. (Analysis and results to follow in future years)

b. Deliverable: Re-measurement of Mt. Trumbull and draft manuscript on results

3.4) Data collection and analysis on ecological and natural resource responses at sites in LEARN network

a. Deliverable: Topic for analysis will be chosen from needs assessment. Publication in a peer reviewed journal

3.5) Wildlife monitoring of species relevant to needs assessment

a. Deliverable: Report on activities

b. Deliverable: Publication in a peer reviewed journal

3.6) Hydrologic responses to forest restoration

a. Deliverable: Peer reviewed publication

3.7) Lessons Learned from operational experiences applying adaptive management

a. Deliverable: White paper or peer reviewed publication

3.8) Testing Restoration Approaches for degraded Pinyon-Juniper and Sagebrush

- a. Deliverable: Re-measurement of existing PJ treatments at Mt. Trumbull and draft manuscript on results
- b. Deliverable: Study design to expand analysis

3.9) Monitoring rare plant responses to 4FRI treatments

- a. Deliverable: Report on pre-treatment measurements

Project 4: Understanding and Solving the Economic, Social and Political Issues and Opportunities of Ecological Restoration

The biophysical science of restoration is relatively simple when compared to the complexity of understanding and navigating the social, political, and economic issues that influence forest management. Although the science of restoration commands significant attention by managers and stakeholders there are many interests, including elected officials and business, that are eager to see restoration activity translate into jobs, economic development, and social well being in rural communities. **There are also those, such as examiners for the Office of Management and Budget, who question why fire suppression costs continue to skyrocket despite significant investment in hazardous fuels reduction treatments. As they compete within the Executive Branch for agency budgets they need to demonstrate that hazardous fuels reduction treatments make economic sense when compared to other demands.**

Socio-economic issues are changing rapidly in the face of an uncertain economy and declining federal budgets. In the 4FRI project area we anticipate, but cannot fully predict, community reactions to the level of proposed thinning across the Mogollon Rim. In the face of this uncertainty we are proposing several projects based on anticipated need, however, we may need to modify these projects based on developments over the next year. These include: work force training, promotion of payment for watershed services, further development of alternative funding streams to help support forest restoration on public land and a project to assess current public attitudes towards restoration.

Region 3 is the midst of game changing experiment by shifting conventional budget approaches to an Integrated Restoration Resource approach. This experiment is laudable and in theory should help facilitate better coordination of projects to accomplish comprehensive restoration. However, other existing laws, rules and regulations often undermine attempts to accomplish science-based ecological objectives. An analysis of the laws, rules and regulations that impede progress towards landscape scale restoration can set the stage for understanding what policies should be changed to manage at large scales.

Understanding and Solving Social, Political and Economic Issues	
Fulfills Duties under the Act:	
REQUESTED NEED	REQUEST SOURCE
4.1. Provide assistance to support and train the restoration workforce— with particular emphasis on tribes	Counties
4.2. Support efforts to develop payment for watershed services programs	1.Attachment 2-ERI/4FRI Needs Assessment # 7, 107
4.3. Analyze and promote alternative funding streams to support comprehensive ecological restoration	1. Attachment 1-ERI/SWERI #81
4.4. Leverage state funds to assess public attitudes towards restoration	1.Attachment 2-ERI/4FRI Needs Assessment # 19, 106,

	110, 102,
4.5 Analyze laws, rules and regulations that impede forest restoration at the landscape scale	1. Attachment 3-SWERI/RMRS- #51
4.6 Analyzing the Return on Investment for Hazardous Fuel Reduction and Ecological Restoration Treatments	Attachment 2- #85 Attachment 3-#16

Deliverables

4.1) Explore options and follow through developing a restoration-based workforce

- a. Deliverable: Report on actions to develop a restoration workforce. The long term deliverable is the creation of a restoration workforce.

4.2) Provide support for the creation of a Payment for Watershed Program in Flagstaff with the goal of exporting lessons learned from the program west wide

- a. Deliverable: Report on and creation of a PWS in Flagstaff

4.3) Analyze and promote alternative funding mechanisms to support comprehensive ecological restoration

- a. Deliverable: Identification of opportunities to mainstream the value of ecosystem services and actions to promote use of those values.

4.4) Assess public attitudes towards restoration activities—particularly with respect to smoke, log hauling and activity in the woods. The ERI is aware that federal funds cannot be used for polling. We will use leveraged dollars to accomplish this task. However results will be shared broadly across land management agencies.

- a. Deliverable: Survey results

4.5) Analyze laws, rules and regulations that impede forest restoration at the landscape scale

- a. Deliverable: White paper or peer reviewed publication of analysis.
- b. Deliverable: Communication of results to key audiences.

4.6) Full cost accounting of the cost and benefits of hazardous fuels reduction treatments

- a. Deliverable: Report on a full accounting analysis. Continuation of work contracted in FY12

Project 5: State, Tribal and Private Forestry – The All Lands Approach

The enabling legislation for the Southwest Ecological Restoration Institutes is based on an all lands approach. Although PL108-317 is managed through the US Forest Service Congressional intent is clear that the Institutes should provide service to all affected entities including: state, tribal and private land managers.

Arizona is home to diverse forest ecosystems, spanning approximately 27% of the state (over 19 million acres), as well as extensive urban and community forests. These forests contribute to the overall functioning of ecosystems by playing a vital role in cycling water and nutrients, filtering pollutants, producing oxygen, absorbing carbon dioxide, and providing habitat for humans and wildlife.

Consistent with the 2008 Farm Bill (section 8001), the State of Arizona Forestry Division, with assistance from ERI and other partners, completed a statewide assessment of forest resource conditions, trends, and priorities on all forested lands in the state to determine a strategic approach to respond to identified threats

to these valuable ecosystems. The ERI will provide assistance to the state in order to integrate the assessment with other statewide initiatives as well as to help the state use the assessment to attract federal funding through the USFS State and Private Forestry program.

Many of the Native American foresters in Arizona were educated at NAU. This creates a unique foundation and opportunity to help tribes manage forested land. Based on available resources the ERI will provide assistance to Native American communities.

State, Tribal and Private Lands—An All Lands Approach	
Fulfills Duties of the Act:	
REQUESTED NEED	REQUEST SOURCE
5.1. Assist the State of Arizona to implement the Statewide Strategy	1. Attachment 1- ERI/SWERI- #82
5.2. Provide technical assistance to manage state forests	1. Attachment 1- ERI/SWERI- #82
5.3. Provide technical assistance to tribes and private landowners	1. Attachment 1- ERI/SWERI- 60

Deliverables

5.1) Assist the state to implement the Statewide Strategy

- a. Deliverable: Report on technical assistance to implement the statewide strategy

5.2) Provide technical assistance to manage state forests

- a. Deliverable: Report on technical assistance to manage state forests

5.3) Provide technical assistance to tribes and private landowners

- a. Deliverable: Report on technical assistance to **tribes** and private landowners

Project 6: Services to the Intermountain West

The ERI provides knowledge services, information and education to managers, stakeholders, and the public concerned with restoration and conservation of frequent-fire adapted forests across the West. In partnership with the other SWERI members, we leverage the skills and resources of all three institutes for the greatest public benefit.

One of the most important information transfer strategies at the ERI is to work directly with land managers. Public land managers regularly change jobs and individuals retire taking with them the knowledge and experience developed on their local forest. When new employees arrive a knowledge gap exists that the ERI helps to fill. In FY13 we will continue to support knowledge transfer and capacity building within agencies to ensure that the best available science is mobilized to support treatment design and implementation. Where requested we will continue to provide technical assistance to help managers understand the historic and desired forest conditions at a proposed treatment site through preparation of Rapid Assessments (RAP's). Work to support the RAP's includes fulfilling information requests and site visits including on-the-ground training for participants.

The last national conference focused on restoring frequent fire forests of the West was held in 2006. The ERI and SWERI will deliver a national conference in the fall of 2013.

Service to the Intermountain West	
REQUESTED NEED	REQUEST SOURCE
1. Provide support to Forest Service and Department of Interior Land Managers with program planning and implementation	1. Attachment 1- ERI/SWERI- 1, 6, 8, 9, 11, 15, 17, 24,27, 28, 33, 38, 41, 42,45, 47, 48,49, 51, 79
2. Assist with Forest Plan Revisions	1. Attachment 1- ERI/SWERI # 27 By Request
3. Provide information through Website(s)	1. 4FRI Stakeholders, Duty 7
4. Translate scientific information for managers on topics identified by affected entities	1. Attachment 3- SWERI/RMRS- #43
5. Present information to affected entities as requested via field trips and presentations	1. Attachment 3- SWERI/RMRS- #34, 43
6. Educate the general public about forest restoration	1. Attachment 3- SWERI/RMRS- #34, 43
7. Hold a national conference on forest restoration	1 Attachment 1- ERI/SWERI # 15

Deliverables

6.1) Provide support to Forest Service and **Department of Interior Land Managers with program planning and implementation**

- a. Deliverable: Report on technical assistance to Forest Service and **Department of Interior** land managers (this includes field trips, Rapid Assessments, science support and workshops)

6.2) Assistance with Forest Plan Revisions

- a. Deliverable: Report on technical assistance and science support for Forest Plan revisions

6.3) Provide Web support for ERI, SWERI and the 4FRI

- a. Deliverable: Report on technical support for ERI, SWERI and 4FRI websites

6.4) Translate biophysical and social-political-economic information for affected entities

- a. Deliverable: Editorial support for 2 white papers
- b. Deliverable: Editorial support for 4 working papers
- c. Deliverable: Translate and disseminate 15 scientific abstracts for managers
- d. Deliverable: 8 fact sheets

6.5) Conduct Field Trips and Presentations as requested by affected entities

- a. Deliverable: Report on presentations for affected entities
- b. Deliverable: Report on field Trips for affected entities

6.6) Educate the General Public

- a. Deliverable: 5 Newspaper articles

6.7) Hold a national conference on forest restoration

- a. Deliverable: Report on National Conference

Project 7: Duty 5 under the ACT. Provide annual progress reports

The legislation establishing the Institutes requires an annual progress report.

Deliverable

7.1) Complete annual progress report on June 30th, 2013 and June 30, 2014

Budget

FY13 Budget							
	Project 1: Science Support for Collaborative Landscape Scale Restoration	Project 2: Evidence-Based Restoration	Project 3: Monitoring, Evaluation and Adaptive Management	Project 4: Restoration-based Economic Opportunities	Project 5: State, Tribal and Private Forestry	Project 6: Services to the Intermountain West	Total
Personnel:	\$ 523,118	\$ 66,669	\$ 1,311,431	\$ 261,605	\$ 70,551	\$ 278,226	\$ 2,511,600
Outside Services:	\$ -	\$ 40,000	\$ -	\$ -	\$ -	\$ 30,000	\$ 70,000
Travel:	\$ 16,694	\$ 1,000	\$ 39,343	\$ 1,308	\$ 2,117	\$ 8,847	\$ 69,309
Operations & Supplies:	\$ 14,078	\$ 1,333	\$ 26,229	\$ 3,924	\$ 1,411	\$ 29,390	\$ 76,365
Total Direct Costs:	\$ 553,890	\$ 109,002	\$ 1,377,003	\$ 266,837	\$ 74,079	\$ 346,463	\$ 2,727,274
Indirects:	\$ 55,389	\$ 10,900	\$ 137,700	\$ 26,684	\$ 7,408	\$ 34,646	\$ 272,726
Sub-Total USFS	\$ 609,279	\$ 119,902	\$ 1,514,703	\$ 293,521	\$ 81,487	\$ 381,109	\$ 3,000,000
DOI Direct	\$ 59,400	\$ 62,109	\$ 1,032,723	\$ 267,091	\$ 189,000	\$ 66,950	\$ 1,677,273
Indirect	\$ 5,940	\$ 6,211	\$ 103,272	\$ 26,709	\$ 18,900	\$ 6,695	\$ 167,727
Sub-Total DOI	\$ 65,340	\$ 68,320	\$ 1,135,995	\$ 293,800	\$ 207,900	\$ 73,645	\$ 1,845,000
GRAND TOTAL:	\$ 674,619	\$ 188,222	\$ 2,650,698	\$ 587,321	\$ 289,387	\$ 454,754	\$ 4,845,000