Lomakatsi Restoration Project mission:
To organize and implement community based ecological restoration projects through education, vocational training, specialized workforce development and the utilization of restoration by products, encouraging the recovery of ecosystems and the sustainability of communities, cultures and economies.

WOPR Comments to BLM 11 January 2008

Lomakatsi Restoration Project (LRP) has a longstanding relationship with BLM and many BLM representatives. Lomakatsi has been awarded over $1.2 million in National Fire Plan grants on 11 projects since 2001, working in numerous communities, on private land adjacent to publicly-managed land, across southern Oregon. Lomakatsi is involved in 3 Stewardship Contracts on BLM land. One contract recently completed in the Grants Pass Resource Area of the Medford District BLM, is adjacent to a timber sale held up in court for many years.

To gain an overview about Lomakatsi, please see the attached article.[1]

We believe that our experience could inform many aspects of a very favorable outcome for BLM land management, and the WOPR. To maintain our proactive strategies, we herein offer many of the lessons learned, principles, approaches and practices. Rather than criticize, analyze or suggest detailed corrective measures for the WOPR or specific alternatives, directly, we primarily leave those tasks to others, including those among the conservation and environmental communities, and in the ecological forestry arena.

Some of the topics we cover herein are not addressed explicitly at all in the WOPR[2] ("ecological restoration" and "multi-party monitoring", for examples), which seems to be an oversight that warrants correction. Some topics are only discussed in a cursory or traditional framework (compared to potential or current reality), like "collaboration", which should be standard operating procedure by now. Other topics are addressed more extensively (fuels reduction, for example).

Research and academic literature on conservation biology and ecological restoration are common topics in references cited in the WOPR documents.[3] Support for incorporating ecological principles, ecological science, a precautionary approach, standards of sustainable forestry, and a prioritization on restoration, are found throughout the literature. Beyond citations, we feel that the guidance of scientists and findings should have significant weight in directing WOPR plans, practices, prescriptions and priorities. Lomakatsi finds that the on-the-ground application of *ecological restoration* is beneficial for the environment, the workforce, the communities, and relations with the conservation community.

Besides ecological grounds, the need for social, and socioeconomic sustainability point to restoration and conservation of the forests' ecological foundations. The Community-Conservation Alternative[4] proposes a *triple bottom line* approach that protects mature and old growth, prioritizes restoration of forests and watersheds, and promotes sustainable socio-economic objectives. A community-based alternative grounded in ecological principles would alleviate some of the conflict that prevents much-needed rehabilitation and restoration from moving forward.

Lomakatsi Restoration Project sees, from our experience, that this triple bottom line balance, including the workforce, is possible in particular communities and Districts, on pilots, demonstrations, and even larger Stewardship Contracts. Ours is a model that can, and has, been applied here, elsewhere on publicly-managed land in our region, in the WOPR area, and in other part of the West.

This document is not exhaustive of our potential input on the WOPR, and we welcome further opportunities to contribute to a workable plan for BLM-managed lands. In the following sections of this document, we will further address:

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Outcomes-based Performance

Outcomes-based evaluation, including measures of performance for outcomes, are more attuned to current and future trends in cooperative management, collaboration, stewardship and all manner of goals for acceptable and appropriate forest management on BLM-managed lands.

Desired outcomes, from our experience, and from the experience of our many of our colleagues across the western region, should include (but are not limited to):

1. Projects are more successful and appropriate when linked to Community Wildfire Protection Plans (CWPP) and other collaboratively developed projects and plans.
2. Projects and plans serve to increase the local contractor, worker and business capacity to implement projects – building upon and expanding existing capacity.
3. Projects and plans promote *sustainable* utilization of forest products, non-traditional forest products (like small diameter timber), as well as non-timber forest products.
4. BLM promotes restoration and maintenance of healthy ecosystem function, and resiliency, as a primary purpose of management plans and projects.
5. BLM promotes systemic inventory, non-toxic approaches, and systematic treatment of invasive species.
6. BLM promotes an ecologically and economically sustainable transportation system that addresses road maintenance, upgrades, decommissioning of roads, and limits the establishment of new roads.
7. Ecosystem restoration is performed for multiple outcomes, including fuels reduction.

8. Stewardship Contracting is one important tool for projects and areas with multiple desired outcomes.
9. Fuels reduction projects serve to:
    a. Increase jobs and income for local businesses and workers,
    b. Treat acres in a way that moves or maintains them in a desired fire adapted condition.

Best Value and Stewardship Contracting

BLM can increase the effectiveness of stewardship and service contracting if they make better use of existing best value contracting authorities. To accomplish that, RVCC[5] members, including Lomakatsi, recommend the following:

To provide for increased Community benefit:

1. …consider and weigh local community benefit when awarding contracts "for forest hazardous fuels reduction, watershed or water quality monitoring or restoration, wildlife or fish population monitoring, or habitat restoration or management," as permitted in P.L. 109-54.
2. Provide clear guidance to BLM field staff that local economic community benefit can and should be a factor considered when evaluating offers for all stewardship contracts not just those that involve the use of National Fire Plan funds.

To ensure Best value criteria, weighting, and evaluation

1. Encourage the development of project-specific evaluation criteria that enable the achievement of multiple goals (improving ecological conditions, using highly qualified contractors, providing local rural community benefits, ensuring that workers on the project are treated fairly, etc.).
2. Work with community partners to develop evaluation criteria that support the multiple objectives of the project.
3. Ensure that non-price factors are weighted heavily enough to ensure that they will receive serious consideration when choosing contractors.
4. Ensure that past performance evaluations include consideration of past employment and hiring practices, including any instances of wage, safety, or other violations. This is particularly vital for those contracts that may involve the use of migrant or seasonal labor.
5. Ensure that contracting officers convene multi-disciplinary teams (including representatives of local collaborative groups or other appropriate non-agency persons) to evaluate technical proposals.
6. Ensure that technical proposals are evaluated prior to the opening and evaluation of price proposals.
7. In stewardship contracting templates, provide a broad range of examples of best value evaluation criteria and weighting distributions and explain how they can be used to help ensure the achievement of project-specific goals.
8. Use templates of service contracts that make effective use of best value, perhaps building on the solicitations typically used for plant and animal surveys.

In addition to Stewardship Contracts, BLM should consider utilizing Participating Agreements and Assistance Agreements to support the training of local workers and other community capacity building endeavors.

Just as community, contractor, workforce and utilization capacity is important, so is it vital that BLM retain appropriate field level staff to provide specialist, collaborative, scientific, planning, and capacity building services to rural forest dependent communities.

Ecological Principles[6]

Working with Nature: Lomakatsi's Forest Restoration Philosophy
Ecological Principles for Fuel Load Reduction and Tree Planting

Nature does the real restoration work. We are just trying to learn how to do things that help, without causing additional problems. Here's what we've learned so far.

Act conservatively. Don't change things too much at once.

Conservative treatment, while recreating a more fire-resilient landscape, requires the need to apply the general concepts of the *precautionary principle* while implementing fuel treatments. The vegetation left is ultimately most important, and is best done with careful planning and consideration to ensure that what is left standing is healthy and resilient

Respect what is already on site.
-- Maintain shaded areas and 70 - 80% over-story canopy coverage in mixed conifer forests. (Adjust for differences in regional biodiversity, as in pine-oak savanna)
-- Retain large trees.
-- Leave a diversity of tree and plant species, maintain uneven-aged stands.
-- In restoration work, plant only native species on site.
-- Include indigenous traditional ecological knowledge as a reference point in ecosystem restoration

Follow vegetation treatments with invasive weed removal. Minimize the introduction of exotic plant species near your home, especially those that can spread into adjacent wildland areas. Invasive species can change your fire hazard very quickly and be difficult to manage. Avoid unnecessarily introducing water into your landscape, as water will generally help non-native plants out-compete native plants.

Remember the wildlife.
-- Leave some places undisturbed, for the birds and wildlife currently using the area.
-- Leave some small piles of cut material un-burned, as habitat for wildlife.
-- Leave buffers of undisturbed vegetation in streamside riparian areas.
-- Retain snags for wildlife habitat. Chart their locations for monitoring, and fire safety precautions.

Remember the soil.
-- Leave some of the cut materials on the ground, perpendicular to the slope, to catch upslope erosion and contribute to future soil.

Remember people.
-- Listen to residents and neighbors. They know the ways in which each site is unique.
-- Match site diversity with worker diversity. Hispanic, Native American, and current youth cultures each have their own ways of understanding the complex diversity of nature.
-- Train workers about ecological principles, and how to see the special characteristics of each place.
-- Pay workers according to their training, experience, and quality of work.
-- Pay workers well, and listen to them. Happy, respected people do the best work.
-- Look for useable material to carry from the site for poles, furniture, spoons, fuels, etc.

Learn
-- MONITORING: Keep complete records of prior conditions, work accomplished, and the time, money, and people that it took.
-- ADAPTIVE MANAGEMENT: Review information about similar sites before deciding how to treat new ones.

Keep the oldest and biggest trees.[7]

Generally, most of the oldest trees in the forest are no longer present. If you have old or very large trees, create defensible space around them so they will survive wildfire. This may include raking away thick duff at the base of the trees. Notice that these trees often have thick bark so they

are generally fire-resistant (they have evolved with fire). Think about their protection in terms of building a fire in your woodstove: A big log won't start burning without a lot of smaller kindling (e.g. small trees, shrubs, branches, etc.). In your forest, make sure that the smaller kindling isn't around the bottom of your big trees, and generally the trees will make it through a wildfire on their own. In some cases, you'll need to remove smaller trees that touch the crown of the tallest trees. At the same time, you don't want to remove all of the small trees in your forest. Small trees are the next generation of large trees. Keep enough regeneration, possibly in small patches, to provide for the future forest, while still providing adequate space between all the trees you keep standing. An additional benefit of keeping your biggest trees is that they can break up the wind as it's moving through, which can slow down fire spread.

Ecological Restoration, Restoration Forestry & Fuels Reduction

Ecological restoration, Restoration Forestry approaches and Variable Density Management prescriptions enable site specific and landscape-level considerations for wildlife habitat protection and restoration of ecological diversity. Ecological restoration is a practice that seeks to heal degraded ecosystems by reestablishing native species, structural characteristics, and ecological processes. The Society for Ecological Restoration International defines ecological restoration as "an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability...Restoration attempts to return an ecosystem to its historic trajectory".[8]

Overview of Holistic Restoration Forestry

Restoration forestry is a holistic management approach where ecosystem management objectives are the guiding factor. In this ecosystem management approach, timber extraction is the secondary byproduct of restoration activities with the recovery of forest diversity, health, integrity, and resiliency being the main objectives. Restoration forestry is 'natural management'. It uses the historic forest as a model for the future forest.

Restoration forestry can generally be defined as: *restoring ecologically and economically sustainable native forests that are, or after reasonable restoration, will be representative of historic landscapes and that also serve a society's need for forest products and services.* The goal of restoration forestry is to restore and sustain a historic forest to a condition that resembles the structure and function of a "reference native forest". The term "reference native forest" can be interpreted as the way a whole forest once appeared with all of its diversity. A reference native forest does not represent a particular point in time. It represents a *period* of time and the forest structure that was characteristic of that period. The pre-European and post-Native American settlement forest provides the most scientifically sound reference forest for North America.

Overview of Ecological Restoration

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Restoration is the process of repairing damage to the diversity and dynamics of ecosystems. Ecological restoration is the process of returning an ecosystem as closely as possible to predisturbance conditions and functions. Implicit in this definition is that ecosystems are naturally dynamic; it is therefore not possible to recreate a system exactly. The restoration process reestablishes the general structure, function, and dynamic but self-sustaining behavior of the ecosystem. Restoration differs from rehabilitation in that restoration is a holistic process not achieved through the isolated manipulation of individual elements. While restoration

aims to return an ecosystem to a former natural condition, rehabilitation implies putting the landscape to a new or altered use to serve a particular human purpose.

Ecosystem Health is the state or condition of an ecosystem in which its dynamic attributes are expressed within 'normal' ranges of activity relative to its ecological stage of development. A restored ecosystem expresses health if it functions normally relative to its reference ecosystem, or to an appropriate set of restored ecosystem attributes. A state of ecosystem integrity suggests, but does not necessarily confirm, a concurrent state of ecosystem health and a suitable abiotic environment.

A Reference Ecosystem, or reference serves as a model for planning a restoration project, and later for its evaluation. In its simplest form, the reference is an actual site, its written description, or both. The reference reflects a particular combination of stochastic events that occurred during ecosystem development.

Ecological Processes or Ecosystem Functions are the dynamic attributes of ecosystems, including interactions among organisms and interactions between organisms and their environment. Ecological processes are the basis for self-maintenance in an ecosystem. Some restoration ecologists limit the use of the term "ecosystem functions" to those dynamic attributes, which most directly affect metabolism, principally the sequestering and transformation of energy, nutrients, and moisture. Examples are carbon fixation by photosynthesis, tropic interactions, decomposition, and mineral nutrient cycling. When ecosystem functions are strictly defined in this manner, other dynamic attributes are distinguished as "ecosystem processes" such as substrate stabilization, microclimatic control, and differentiation of habitat for specialized species, pollination and seed dispersal. Functioning at larger spatial scales is generally conceived in more general terms, such as the long-term retention of nutrients and moisture and overall ecosystem sustainability.

What Is Ecological Fuel Reduction?

Ecological fuel reduction seeks to reduce *surface fuels, ladder fuels,* and *crown density* while implementing treatments that work to enhance plant community health and *biodiversity.* Ecological fuel reduction techniques assist the natural environment in becoming healthier and more *productive.* Treatments are designed to be *site-specific,* taking into consideration vegetation, *soil types,* slope, aspect, forest health needs, and individual landowner objectives. Fuel reduction objectives are best accomplished with an emphasis on ecological treatments that incorporate *forest stand enhancement* and restoration forestry techniques. The implementation of ecologically restorative fuel reduction treatments is guided by the Ecological Principles (see principles above).

Goals and methods for ecological fuel reduction seek to strike a balance among the following:

Goals

- To make the forest less susceptible to crown fire.
- To reduce the intensity of wildfire through activities that separate surface and ladder *fuel continuity* and volume.
- To manage and modify fuels and configurations of trees and plants, to reintroduce low-intensity fire (cool-burning), and to contribute in a positive manner to the ecological processes upon which the forest and plant communities of the Sierra depend.

- To make fire-suppression efforts safer and more effective as a result of reduced fuel loads in the vicinity of roads, homesites, and strategic landscape areas.
- To improve the health of the trees most suited to the site.
- To emulate a plant regime similar to what occurred with natural fire.
- To maintain and enhance native species diversity.
- To maintain and enhance wildlife habitat.
- To control problematic, invasive, non-native species.
- To provide erosion control where appropriate (e.g. *lop and scatter* and *contour falling*) with materials from fuel reduction activities.

Methods

- We are choosing methods that emulate lightning and *anthropogenic* low-intensity fires that have helped shape the local landscape for thousands of years. These methods include:
- Thinning portions of the understory.
- Selectively reducing crown density where it is ecologically appropriate.
- Favoring and retaining the largest, most fire-resilient, and healthiest trees adapted to the location.
- Burning or chipping the smaller fuel loads.

Example LSR Prescription

The following is an example of prescription guidance for a Late Successional Reserve stand in Southern Oregon. This is the kind of silvicultural approach, with care, consideration and nuance that Lomakatsi prescribes. This guidance leads to specific marking protocols and end results that are "designated by description".

> **"Understory Indictors and Thinning Prescriptions: Using Ecological Anchors to Determine Where To Leave Tree Groupings and Gaps[9]**
>
> How do long-term understory site indicator species determine thinning prescriptions? Assuming that we want to maintain Douglas-fir as the dominant over-story species (and restore sugar and ponderosa pine in the sunnier, more open places since mature seed trees are found in adjacent stands), reduce fire hazard due to ladder fuels, and thin to a recommended prescription of 85 or more trees per acre (+/- 90-140 sq. ft. basal area), we would want to maintain existing optimum light conditions for both *productive* understory species ("Productive" = good foliage, seed, berry production), and future Douglas-fir and pine regen. Where understory species are not productive, light conditions can be improved by heavier thinning if more light is needed; or shade can be maintained by encouraging more shade tolerant tree species (by releasing them from competition), by retaining more snags than the recommended number (2 per acre average is recommended) surrounded by some green trees to reduce blowdown, or doing no thinning in, e.g., ephemeral or perennial stream gulches. Where bracken fern dominates the understory, maximum shading should be maintained.
>
> In addition to releasing the largest, healthiest (25 to 30% live crown, etc.) trees for future permanent old growth, the location of groups of leave trees and the size and shape of gaps between the groups can be at least partly determined by the productive condition of understory indicators. Where the productive potential of the site is not clear, natural groupings can be maintained consistent with fuel reduction (separating groupings, pruning, etc). In either case, maintenance or restoration of understory herbaceous and shrub productivity may often require leaving some trees in groupings which are not as vigorous as would be preferred for future permanent old growth. These less vigorous trees (less than 25% live crown) may eventually drop out, but replacements can be recruited from the current regen.

The use of understory plants as indicators by which to guide thinning prescriptions is an example of what we mean by the term “ecological anchor”. Ecological anchors are ecosystem processes, structures, or composition, which gives us a convenient and quick way to organize forest restoration intervention, especially in fairly homogenous stands. Examples are large down logs, old growth trees, snags, windrow slash piles, preferred hardwoods, wildlife habitat, productive tree or shrub species, exotic plants, etc.

…

Variable Density (Free) Thinning for Fuels Reduction and Ecological Restoration

Agency and industry thinning objectives have traditionally included tree growth redistribution, tree species regeneration, timber harvest, wildlife habitat improvement, and wildfire-hazard reduction. Crown bulk density, surface fuel, and crown base heights determine crown fire potential, and determine which thinning and slash disposal strategies are employed.

The thinning prescriptions plus burn objectives include those mentioned above, but go beyond to also include herbaceous understory plant restoration. Ecological restoration can be integrated with fuels\fire hazard reduction by using free thinning or variable density thinning (or retention) methods followed by broadcast burns.

The main goal of variable density thinning is to restore as much repeating variability or redundancy (“risk spreading”, Lindenmayer and Franklin, Conserving Forest Biodiversity, 2002) to a forested landscape. Otherwise, we are guessing about how much of what kind of habitat to restore or maintain. This is in line with the Precautionary Principle.

This kind of thinning, combined with surface fuel treatments and prescribed fire, will reduce crown fire hazard. Low to moderate severity fire—the kind experienced historically in sw Oregon—will then select naturally for fire resistant species by burning up species not adapted to fire. (We are restoring evolutionary selection processes.)

Both ecology and engineering are sciences that require a great degree of redundancy; you can’t depend on any one part to hold up the system. Redundancy is the interlinking of a variety of ecological variables and assumes that a forest is more than the sum total of its respective parts. This is a good way to define “ecological integrity”—the end result of our restoration efforts. Integrity is provided in a variety of relationships: understory-overstory plant species, shade\sun; underground mychorrizal fungi\plant root connections; wildlife and vegetation composition and productivity; fuel structures and fire; fire and nutrient cycling; water movement and vegetation structure; etc. Variable density or free thinning—the manipulation of light—is the recommended tool by which to engineer forest structure and composition and favor the appropriate level of processes like fire intensity.

It is hoped that restoring or maintaining all the parts (=integrity) will result in improved ecosystem function. Structure\composition and function are therefore connected. Function both follows and influences structure/composition. Structure determines composition to a large extent through its affects on light penetration to the forest understory. Species diversity does not necessarily lead to enhanced integrity and function. The appropriate kind of species diversity or richness, and the appropriate kind of structural diversity does have a relationship with function and integrity. Structure, composition, and processes should, to the extent possible, be within the “historical range of variability”—i.e., ecological elements and disturbance regimes with which the forest is familiar over millennia and which constitute familiar evolutionary processes. The kinds, rates, and intensities of these processes and disturbances (or stressors) must be within the forest’s capacity for longterm genetic adaptation. Variable density thinning, through structural manipulation, may start the evolutionary clock ticking again if the present rapid rate of change slows to the historical rate of change, thus offering species a better chance of adapting to changing conditions.

Free thinning allows a lot of flexibility in both thinning from below and overstory crown thinning. Both are necessary for reducing crown fire hazard and essential for ecological restoration of understory plant communities, cultural plants, and wildlife habitat. Just thinning ladder and surface fuels from the understory "thinning from below" is not sufficient. …"

…

Variable density or free thinning methods are best suited for restoring integrity. Thinning goals include:

1. Create repeating gaps of varying sizes and shapes
2. Create or retain repeating groupings of the largest trees for future permanent mature and old growth for moisture retention and wildlife habitat
3. Leave green islands of tree or shrub thickets (e.g. doghair conifer patches)for wildlife habitat throughout the stand
4. Enhance or maintain productivity of understory shrub and herbaceous vegetation
5. Retain large down woody debris for moisture retention, mychorrizal inoculation sites, and wildlife habitat
6. Retain or create large snags for wildlife
7. Promote (especially in PSME/GASH/POMU association) a high ratio of native grasses to forbs and a high ratio of native forbs and ferns (except bracken) to shrubs
8. Retain a significant component of hardwoods
9. Retain all age and size classes of all native species for vertical and horizontal structural diversity (but separating multi-canopied, vertically structured tree groupings of varying sizes from other live and dead fuels)
10. Retain a wide variety of age, size, and decay classes, including dead and dying vegetation, consistent with the goal of reducing fire hazard; retain some deformed, submerch trees (e.g. pistol butts, forked tops, poor live crown %, etc,) for genetic diversity and wildlife
11. Retain lichen and moss species variety, some mistletoe-infected trees, and some live trees with heart rot (conks)
12. Create overall structural characteristics (arrangement of live and dead fuels) appropriate for restoration of the historical fire regime of frequent, low to moderate intensity forest underburns
13. Create or maintain light conditions (sun or shade) which discourage weedy exotic or native generalist species and favor native endangered or threatened, wildlife, cultural, economic, and conservative species ("conservative" = non-generalist, sensitive species which require very specific habitat niches and are generally uncommon, rare, or threatened)
14. Retain vegetation with evidence of use by wildlife (e.g. bird or wood rat nests, burrows, cavities, and hollows, etc.).
15. Retain sheltered connectivity and major game trails between selected late successional stands
16. Retain as much canopy closure as possible for ephemeral and perennial stream gulches
17. Generally favor early seral hardwood and softwood species [10]

Collaboration

We respectfully suggest that the implementation of community-driven, collaboratively developed projects should inform the current and future plans, practices and policies of BLM with respect to Western Oregon Plan Revisions, project implementation, etc.

Collaboration, in practice, goes way beyond traditional consultations (with Tribes, for example), or public scoping, commenting and user-group feedback (which are the references to "collaboration" found in the WOPR documents. Collaborative processes engage multiple stakeholders in project development, up front, and can alleviate a lot of the stress, delays, litigation and negative community relations that characterize federal land management across the region.

Several federal policies discuss collaboration, and, in general,

"Appropriate federal roles in collaboration include:

- Maintaining adequate staff capacity on the ground to enable land management agencies to participate in collaborative processes.
- Providing financial resources (grants, cooperative agreements, other funding), technical assistance, training and collaborative learning opportunities to build community capacity and to support collaborative planning, implementation and monitoring.
- Committing to the implementation of individual projects and long-term work plans on the basis of priorities identified during collaborative processes.
- Measuring, monitoring and reporting on the federal performance in meeting collaboration mandates and goals.

The exercise of these roles will significantly enhance the success of collaborative efforts…" [11]

Furthermore, we have seen that collaborative approaches can serve to:

- "Increase agency and community ability to meet its local economic, social, and ecological needs *[like having small stewardship contracts awarded to local small businesses, a local sort yard established by private interests using BLM site, such that increased value added opportunities were more easily realized].*
- Lead to more effective ecological outcomes through improved on-the-ground projects that are broadly supported [*Lomakatsi, for example, provides site specific, prescriptions based on actual conditions, improving upon standard applied-across-the-landscape type prescriptions].*
- Reduce conflict, developing greater trust among participants, and creating new networks and institutions for sharing information, pooling resources, and undertaking collective projects.
- Foster information exchange and mutual learning, often leading to better understanding of issues and constraints, as well as creating greater potential for innovative responses.
- Increase and broaden public participation, make decisions more transparent, and instill accountability in and empower the public; increase trust in agency decision makers.
- Expand opportunities for the exploration and integration of diverse forms of knowledge, including [*forest worker experiential knowledge*], scientific studies, traditional or cultural knowledge, and local residents' experiences.
- Encourage cross-boundary solutions that take a landscape or ecosystem-level approach to natural resource management.
- Increase funding opportunities by leveraging private dollars and in-kind contributions to supplement federal and state funds." [12]

Multi-party monitoring

Multi-party monitoring is a process in which a team comprised of diverse interests representing governmental and nongovernmental entities develop questions that will answer whether the project objectives were achieved, and work together to choose and/or develop methods for gathering the information.

Linked to Collaboration and Stewardship Contracting, multi-party monitoring is an excellent way for BLM and stakeholders to engage in ensuring mutual benefits of projects, and adaptive management for future collaboratively developed projects.

Monitoring

When monitoring is built in to projects, and stakeholders are involved in the monitoring – including scientists, contractors, user groups like recreationists, traditional and non-timber users, conservationists and residents – then BLM has better opportunities for trust-gaining improvements, trust-gaining status with the communities of interest, and better all around forest management. There are ways around the us-versus-them scenarios, and monitoring can help with accountability on all "sides".

Riparian Reserves

Riparian areas are the most fragile and critical for long term sustainability, fish and wildlife survivability and watershed integrity. The most conservative, precautionary approach is warranted. Watershed restoration should be a primary focus of activities within these areas.

Fuels reduction

Ecological restoration guides Lomakatsi fuels reduction projects, whether on BLM, USFS or private lands. While there may be commercial values on some acres, there are many many acres that are solely or primarily restoration projects. Funding for these projects cannot rely on extraction of timber. Creative solutions can help defray some costs, with community involvement, and may include non-timber forest products, for example.

Supporting community and county infrastructure

With all the efforts toward collaborative approaches, the experience of organizations like Lomakatsi to work directly with communities, agencies, timber operators and conservationists, it would seem logical for BLM to build a WOPR based on these models.

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[1] Wait, 2007, *Ashland Based Organization Has Long Term and Region-Wide Impact.* In Ashland Magazine, Winter 2007/08. www.ashlandmagazineonline.com

[2] In many cases, key words and phrases were searched upon in the WOPR DEIS volumes.

[3] Franklin, J.L, et al (1987, 1988, 2002, 2004, 2006); Noss, R.F. et al (2006), for examples.

[4] See or download the Community –Conservation Alternative from www.oregonheritageforests.org

[5] Rural Voices for Conservation Coalition, April 2007; Best Value Issue Paper, incorporated by reference, and found at http://www.sustainablenorthwest.org/pdf/policy/workforce/bestvalue.pdf

[6] Lomakatsi Restoration Project's *Ecological Principles for Fuel Load Reduction and Tree Planting, found at http://www.lomakatsi.org/LomakatsiEcologicalApproach/EcologicalPrinciples/tabid/69/Default.aspx*

[7] Conservation Principles for Community Wildfire Protection in California's Sierra Nevada, 2007, page 5; adapted, in part, from Lomakatsi *Ecological Principles;* found at http://www.forevergreenforestry.com/documents/BckAConsvPrinc.pdf

[8] Society for Ecological Restoration International Science & Policy Working Group 2004.

[9] Martinez, Dennis, 2006, Report for Lomakatsi Restoration Project; [Ecological Restoration guidance for the] Boulder Dumont Late Successional Reserve (LSR) Vegetation Management [Demonstration] Project

[10] Martinez, Dennis, 2006, Report for Lomakatsi Restoration Project; [Ecological Restoration guidance for the] Boulder Dumont Late Successional Reserve (LSR) Vegetation Management [Demonstration] Project

[11] Rural Voices for Conservation Coalition, April 2007; Collaboration Issue Paper; incorporated here by reference, and found at http://www.sustainablenorthwest.org/pdf/policy/monitoring/collaboration.pdf

[12] Rural Voices for Conservation Coalition, April 2007; Collaboration Issue Paper; incorporated here by reference, and found at http://www.sustainablenorthwest.org/pdf/policy/monitoring/collaboration.pdf