Forest Restoration and Community Wildfire Protection:

TEN YEARS OF LESSONS LEARNED FROM THE GREATER FLAGSTAFF FORESTS PARTNERSHIP

Prepared By
Steve Gatewood
May 2010

GREATER FLAGSTAFF FORESTS PARTNERSHIP
WWW.GFFP.ORG

Greater Flagstaff Forests Partnership
1300 South Milton Road, #209
Flagstaff, Arizona 86001

www.gffp.org
admin@gffp.org

Table of Contents

Appendices

INTRODUCTION

The City of Flagstaff and surrounding communities are located within the largest contiguous ponderosa pine forest ecosystem in the world. This ecosystem is fire adapted – frequent, low intensity and slow moving ground fires maintained an open forest structure with a rich groundcover flora and diverse wildlife communities. With the arrival of Euro-Americans and their desire to manage landscapes for shelter, food and fiber, the forest ecosystem has undergone dramatic change to one characterized by dense stands of mostly small diameter trees. Fire behavior has changed significantly also, with intense crown fires now a regular occurrence and often covering tens of thousands to hundreds of thousands of acres.

As communities grew, extensive development of homes and neighborhoods spread further out into the forest creating a larger and more complex wildland/urban interface (WUI) – a zone between urban/suburban areas and wildland forests typically owned and managed by public agencies such as the US Forest Service. People wanted to live in these dense green forests with cool temperatures at high elevation. As researchers at Northern Arizona University and others began developing a scientific understanding of what a "healthy forest" was, they concluded that ecological restoration would be required because current forest conditions were not sustainable. The continual decline of forest health was hastened by the onset of prolonged drought in the 1990's. This brought home the realization that dense forests and limited rainfall could spell disaster for both natural and human communities alike.

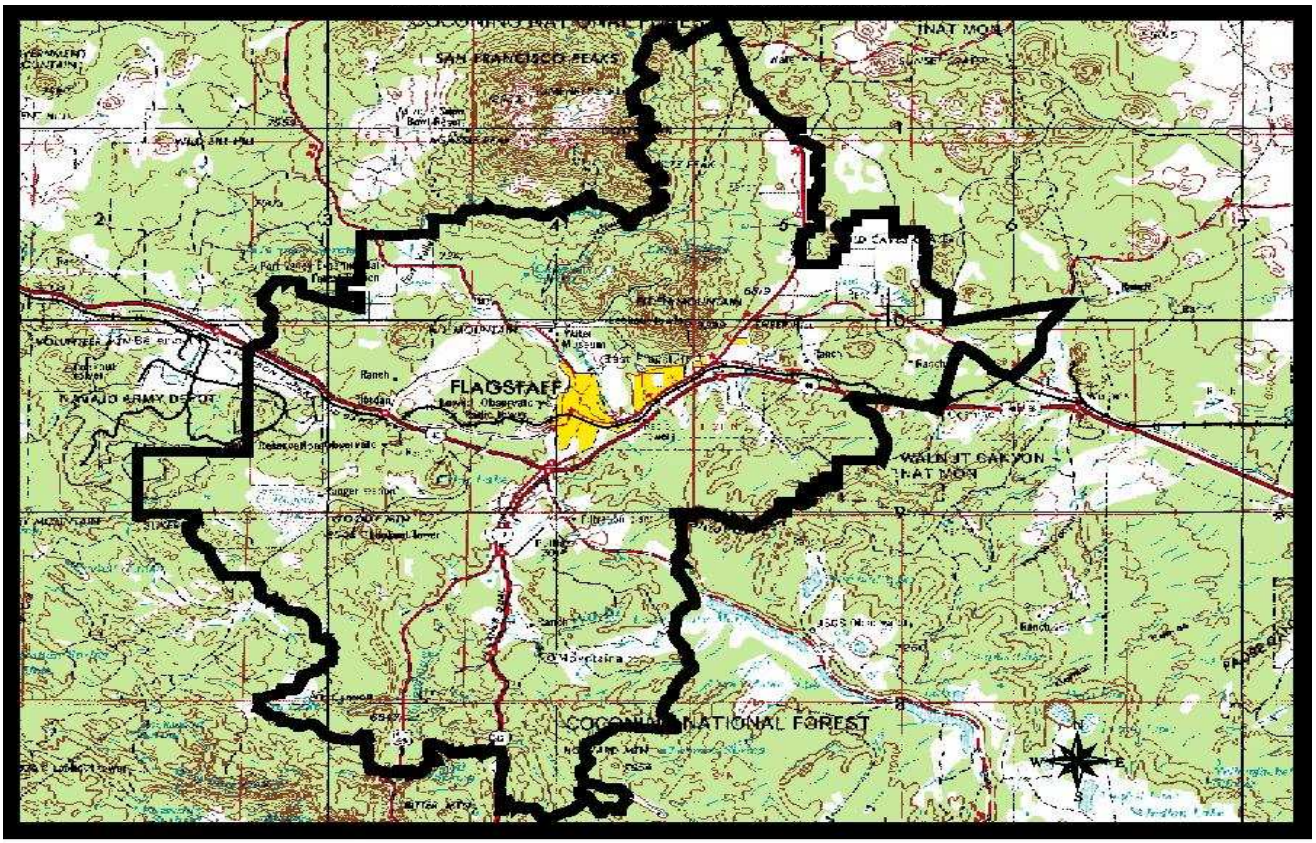
Numerous fires near communities and rural neighborhoods during the severe drought of 1996 were perceived by several community leaders as a sign of worse things to come, especially if no action was taken. At the same time, forest management was in gridlock as conservation groups and public land managers debated how to best protect values at risk from wildfire while sustaining and improving forest resources. Citizens loved the dense green forest and loathed the smoke created by prescribed fires set to improve forest conditions. There was general public consensus that all trees were good and all fire was bad. Thus, the foundation was laid for creation of a community-based collaborative partnership that would provide a forum where issues could be debated, decisions made, recommendations moved forward, action plans designed, and, most importantly, where on-the-ground work could be accomplished to restore forest ecosystems, protect communities and values at risk from wildfire, and educate and engage the community in the effort.

WHO ARE WE?

In 1997, the Grand Canyon Forests Foundation (GCFF) was created to collaboratively address regional forest issues. By 2002 the GCFF had developed into the Greater Flagstaff Forests Partnership (GFFP), a stand-alone 501c3 not-for-profit organization with a Board of Directors, a Partnership Advisory Board, several work teams, a budget in the hundreds-of-thousands of dollars, and a Cooperative Agreement and Memorandum of Understanding defining how the collaborative and US Forest Service (including their Research Stations and

Forest Products Lab) would work together to accomplish mutual goals covering approximately 180,000 acres in the greater Flagstaff area.

Map 1. Greater Flagstaff Area with GFFP Boundary.



One of the most positive aspects leading up to formation of the Partnership was a unique collection of people. While many individuals were critical to the idea of, the plan for, and the creation and maintenance of GFFP, several key players made it happen: Geoff Barnard and Brad Ack of the Grand Canyon Trust (GCT), Don Arganbright and Wally Covington of Northern Arizona University (NAU), Fred Trevey of the Coconino National Forest (CNF), and Mike Bradley and Jim Wheeler of the Flagstaff Fire Department (FFD). Each brought a different perspective to the table - resource protection, forest restoration science, land management, and wildfire protection, respectively - and the synergistic nature of their passion to get something done was infectious – they knew that if you build it, they will come.

The management structure of the Partnership (Appendix 1) has allowed varying numbers of stakeholders with diverse interests to be involved at any given time, based on their desire to be engaged in the specific activities being addressed at the time and, often equally important, their institutional capacity to engage. The number of Partners has fluctuated over time from a low of 10 to as high as 27 voting members. Several Partners were founding members and remain involved to this day: Flagstaff Fire Department, Ecological Restoration Institute, Coconino County Community Development, and the NAU School of Forestry. Appendix 2 identifies both current and past GFFP Partners and members of the Board of Directors.

In addition, the relationship with the USFS has changed over time. The collective Cooperative Agreement became two separate Memorandum of Understanding, one with the Coconino National Forest and a second with the Rocky Mountain, Pacific Northwest and Southern Research Stations

and the Forest Products Lab. Currently, the MOU with the Coconino NF has expired, but they remain strongly committed. The MOU with the Research Stations and FPL is being re-negotiated.

Formation of the Partnership was based on three foundational principles that have guided programmatic and organizational decision-making throughout its existence. These are emphasized in many GFFP documents and are briefly stated as:

- Restore Natural Ecosystem Functions Within the Flagstaff Wildland/Urban Interface
- Reduce Catastrophic Wildfire Risk
- Research, Test and Demonstrate Key Ecological, Economic and Social Dimensions of Restoration

Several Key Elements were also identified early in formation process as critical to success:

- ***A Framework for Restoring Forest Ecosystems***: The Partnership uses a framework of comprehensive ecological restoration as our guide in developing proposed actions. Restoration treatments may include combinations of selective small tree thinning, reintroduction of surface fire, access and recreation management activities, road obliteration, noxious weed control, etc.
- ***Strong Scientific Foundation***: Projects are designed based on a rigorous scientific understanding of the processes that shape natural ecosystems.
- ***Restoration is Approached as an Experimental Field***: The Partnership recognizes that there is much that we don't know about restoring forest ecosystems. This uncertainty requires us to test a variety of approaches.
- ***Extensive Research and Monitoring***: The Partnership is committed to research and monitoring of key ecological, economic and social impacts and issues associated with landscape-scale restoration.
- ***Commitment to Adaptive Management***: Research and monitoring results are fed back into the Partnership to improve design of future projects. A mosaic of restoration activities will be proposed over a 10-year period, moving in a step-wise, adaptive fashion. We estimate that ultimately 50% of the GFFP area will receive some type of restoration treatment.
- ***Broad-Based Inclusion of Interests***: Diverse interests are involved in the process of designing, implementing, monitoring and adapting restoration programs. There is a respect for and accommodation of social objectives.
- ***Separate Economic Demands for Wood Products from Restoration Forestry***: The Partnership model seeks to separate economic interests from project design and implementation to ensure that ecological objectives are not influenced by economic motivations.
- ***Foster Sustainable Development and Restoration-Based Economies***: The Partnership firmly believes that small trees, the renewable resource by-products of mechanical restoration thinning treatments, can and should be used in appropriately-scaled economic enterprises to create jobs and offset the high costs of restoration.
- ***The Partnership is One of Several Forest Management Efforts in the Flagstaff Area***: Others include Forest Service projects, City of Flagstaff Fire Department and Fire District projects, Arizona State Land Department projects, and fuels reduction conducted by private citizens.

The Ecological Vision stated in the *Guide to the Greater Flagstaff Forests Partnership* (1998) helps us see what we were really trying to accomplish on the landscape:

> Within 20 years, the Flagstaff wildland/urban interface will be a mosaic of open, park-like forests containing scattered timber stands with higher densities, interspersed with natural parks which approximate - although do not duplicate - conditions present before Euro-American settlement. Forests and woodlands will be dominated by open growing clumps of large older trees in a matrix

of native bunchgrasses, wildflowers, and shrubs. Parks will be dominated by native grasses and wildflowers. Periodic low-intensity fires will maintain open habitats, cycle nutrients, and keep wildland fuel levels low, reducing the hazard of catastrophic crown fires. The presence of introduced species will be greatly diminished and native wildlife species will occupy their original niches within the ecosystem, moving freely through established wildlife corridors. A broad spectrum of uses - based upon science and adaptive ecosystem management principles - will be enjoyed by Northern Arizona residents and visitors. Although the majority of the landscape will be restored to more natural conditions, management practices will vary to address specific, well-defined management goals.

The Economic Vision identifies how local businesses contribute to our future:

Twenty years from now, the greater Flagstaff area will be home to a small but thriving sector of businesses based on the ecologically sustainable utilization of forest products. These renewable natural resources will be made available through forest ecosystem restoration and stewardship activities throughout the region. Revenues created through the sale of these forest products will provide the economic engine for ecosystem restoration efforts in the region's forests. Businesses will include primary producers of forest products, as well as "value-added" processors, such as manufacturers of fencing and custom building materials, furniture makers, wood pellets, and others. Businesses will employ technologies that maximize the value of these forest products. Availability of these forest products will be based on long-term forest management planning, and healthy ecosystem functioning, seeking a sustainable and stable flow of products to users, which in turn will provide stable jobs and benefits for local workers. Permanent forest-related jobs based on sustainable management will provide economic diversity for the community. Further, the region's forests, as they are restored to more a sustainable ecological balance, will continue to provide opportunities for tourism, recreation, other environmentally-sustainable uses, and for the general enjoyment of the public.

The Social Vision tells us about our community and culture:

Twenty years from now, greater Flagstaff area residents will have a greater understanding of what constitutes a healthy ponderosa pine forest ecosystem, and they will support a range of management actions aimed at restoration and maintenance of these forest ecosystems. Improved and increased communication, understanding and trust will have begun to replace confrontation over forest management. Land managers, educators, business people, conservationists, and local citizens will support science-based plans for maintenance of healthy ecosystems, sustainable use of forest products and an equitable and environmentally sustainable balance between competing uses of the forests. Agreement will have been reached that forest management in the urban/wildland interface will be predicated on maintaining the overall health of the system. Appropriate levels of different uses will be allowed in ways that minimize conflict between uses, and between any particular use and the preservation of ecological integrity. The full array of values provided by the urban and wildland forests - from spiritual to utilitarian - will be recognized as legitimate and accommodated, although the values provided by a specific site, based on particular management goals, may change through time.

From these basic principles, the organization set out to accomplish activities in five major areas (areas 1-4 were supported by work teams composed of Partner organizations and others; area 5 by the Board of Directors and staff):

1. **Project Planning & Design** - planning for “Forest Service 10K Unit” project areas within the GFFP boundary and following the original sequential design proposed – to start on the west and southwest areas of Flagstaff, where fires that might start in existing thick forest fuels would be

pushed by prevailing winds into Flagstaff, and develop collaborative projects that would encircle the community in a protective zone of treated land – has been completed. In addition, projects have been planned without constraints imposed by jurisdictional boundaries, such as the Flagstaff City Well Field Site and integration of State Fire Assistance Funds (AZ State Forestry Division) for treatment of private land. In addition to project planning, GFFP was the leading organization in development of the 930,000-acre *Greater Flagstaff Area Community Wildfire Protection Plan*.

2. **Utilization & Economics** – support existing and foster the creation of new business enterprises that create value-added products from restoration treatment by-products – primarily small diameter trees but some larger (>16"dbh) trees, and woody biomass – in a sustainable manner. The Partnerships work with biomass energy plants, oriented strand board and glue-laminate beam factories, the Enterprise Development Fund, tree removal service vendor training, promoting revisions to the Arizona Corporation Commission Renewable Energy Standard & Tariff rule, etc. highlighted this area of activity.

3. **Monitoring & Research** – well-funded research efforts contributed significantly towards initial projects (i.e. – the Fort Valley Research and Demonstration Project) and contributed meaningful scientific knowledge to our collaborative restoration efforts. Monitoring protocols become more common and refined in later projects, but funding and resources for these efforts were limited. GFFP published two *"Guides to Research"*, developed the Adaptive Management Framework, secured National Forest Foundation funding for monitoring fire behavior impacts of treatments, established a squirrel monitoring project, and has designed monitoring protocols and collected and analyzed data on several Partner Mark projects.

4. **Public Information & Involvement** – developing outreach, education and involvement programs on local forest ecology, restoration and utilization programs for residents, visitors and newcomers has been an ongoing effort. This involved changing the public perception paradigm of 1996 that "all trees are good, all fire is bad' into just the opposite, and we believe that our outreach has been successful – survey results report that the public supports local land management actions, such as forest thing and controlled burns. We initiated the Flagstaff Forest Festival in 2000 and supported the Festival of Science, conducted the monthly Forest Forum, lead dozens of field trips, hosted and participated in numerous public education venues, participated in public opinion polls, and work closely with any and all other organizations that would cooperate on outreach issues.

5. **General Operations** – initially housed under the Grand Canyon Trust and managed by a Management Team, the Partnership evolved into its own 501c3 organization in 2002 with a broad base of funding supporting the Board of Directors, Partnership Advisory Board, and staff. Due to funding limitations, it is now an all-volunteer organization with primarily local government support (City of Flagstaff and Coconino County) and overhead from grants. However, projects are now accomplished through contracts with subject experts and day-to-day operations accomplished by Board members. GFFP still has a donated office and web page/email, but no phone. Money saved on staff and physical location goes directly into projects. Volunteers and NAU student labor are keys to the Partnership's continued success. Budgets have ranged from over $500,000 annually to around $50,000 per year today.

WHAT WERE WE TRYING TO ACCOMPLISH?

A document from the early days of the Grand Canyon Forests Foundation (May 1999) articulates *"Strategic Goals and Critical Objectives"* for the fledgling organization. They are focused around implementation of a forest restoration program that would achieve the "visions" and the restoration, fire risk reduction and dimensional goals outlined above. They are reproduced here as one benchmark for comparison of how well the Partnership has achieved its mission.

1. ***Build a credible and defensible science-based restoration strategy***
   A. Demonstrate efficacy of the plan in relation to conservation biology
   B. Clarify spatial and temporal constraints shaping restoration
2. ***Establish an economic infrastructure which enables and supports restoration implementation***
   A. Shape the size and rate of growth of infrastructure to insure compatibility with restoration-oriented forestry
   B. Attempt to insure benefits to local economy
   C. Attempt to influence the technology mix utilized
   D. Look for mechanisms to insulate forest management from profit motives
3. ***Shape public policy to harmonize with a restoration-based management and economy***
   A. Push the Forest Service to adopt restoration as its preeminent goal on public lands
   B. Guide regional policy to reflect the particular circumstances of restoration in the southwest
   C. Build a political constituency which can effectively advocate for restoration-oriented policy
   D. Attempt to influence public opinion to build support capable of withstanding obstructionist attacks
4. ***Continue to maintain and build local participation and support for the project***
   A. Provide responsive service to the Partnership Advisory Board
   B. Engage new partners/players
   C. Take a more active role in disseminating the experience and views of the Partnership
   D. Expand coordination with other groups and organizations

Another set of baseline parameters from which to measure GFFP performance were the Guiding Principles outlined in the *Guide*:

Goals and Guiding Principles for Partnership Restoration Projects

The following principles will guide project design and implementation.

Overstory: Restoration projects will be based upon tree patterns that existed prior to Euro-American settlement. Restoration projects will move forests towards the clumpy structure of pre-settlement forests that are open and patchy with varying density over the landscape. Variations from pre-settlement patterns will be used to achieve specific ecological, economic, research, and/or social goals. Pre-settlement trees will be retained and treatments will favor retention of large, post-settlement trees needed to restore pre-settlement stand structure and dynamics. Appropriate density will depend upon local and landscape conditions. Snags will be retained unless there is a specific reason for removing them.

Understory: The understory will be evaluated to determine which ecosystem functions are disrupted and to determine the steps necessary for restoring those functions. The actions needed to restore disrupted functions will be included in the project design. Reestablishment of the herbaceous community will be a management priority. During the time it takes the herbaceous community to become well established, management of wildlife and domestic livestock herbivory may need to be altered. Additionally, transplanting and seeding with native species and eliminating aggressive exotics will be done where feasible. Assuring that no non-native plant species are introduced during restoration work will be a management priority.

Wildlife: As vegetation structures and disturbance regimes are returned to conditions consistent with their evolutionary environment, habitats for insects, birds, other vertebrates, and humans will also change. In general, these changes will benefit open forest species that evolved as part of the ponderosa pine ecosystem, creating a mosaic of diverse vegetative conditions that will support a variety of species, rather than the needs of a single species. While populations of individual species may rise or fall, the future forest will contain a variety

of habitats to sustain native species. Providing wildlife corridors and a variety of habitat for wildlife is a priority of the Partnership, however, in high-risk zones - usually near structures - reduction of fire risk will be the management priority.

Fuel Management: Management of fuel loads, reduction of fire risk, and research examining the ecological, economic, and social impacts of fuel management practices is a Partnership priority. Live and dead fuel loads will be reduced to levels commensurate with the low intensity fires that are a functional part of ponderosa pine ecosystem processes. In areas of high risk, fuel loads may be further reduced. Retention of large woody debris for small mammals will be included in dead fuel reduction plans. Mature trees and snags will be protected by removal of duff accumulations within two to four feet of the tree's base.

Fire Regime: After overstory and understory treatments are complete, fire will be reintroduced into the system through a prescribed fire program. When the herbaceous communities are well established and the possibility of crown fires is minimal, natural fire will be reintroduced, except in areas or conditions of high risk, where a prescribed fire program will remain in place.

Insects and Pathogens: Insects and pathogen impacts will be evaluated and allowed to exist within the range of natural variability as a functioning ecosystem process.

Cultural Resources: The cultural, historical, and archaeological resources located in the Flagstaff area are an integral and important part of the landscape. The Partnership is committed to protecting them and including them in restoration plans. Additionally, the Partnership will strive to provide - within the capabilities of a naturally functioning ecosystem - native vegetative materials for traditional uses by indigenous cultures.

Recreation: The impacts of recreational activities on ecological processes, wildlife, fire hazards, and local residents will be identified and evaluated. Restoration projects will consider the impacts of different recreational activities for the treatment areas, and shall include efforts to mitigate adverse recreational impacts during ecologically sensitive periods of recovery. While recognizing that there is a broad spectrum of legal recreational uses in the urban/wildlands interface, the Partnership will promote low impact recreational use and clustering of higher intensity uses.

Forest Access: Existing official roads and trails will be evaluated for their impacts on wildlife, introduction of exotic species, and soil erosion. Based upon the evaluation, development of a transportation plan, and public comment, roads will be retained, closed on a seasonal basis, or obliterated. Unofficial roads will be closed and rehabilitated when feasible. Trails will be created, improved, realigned, interpreted, or obliterated based upon the evaluation and public comments.

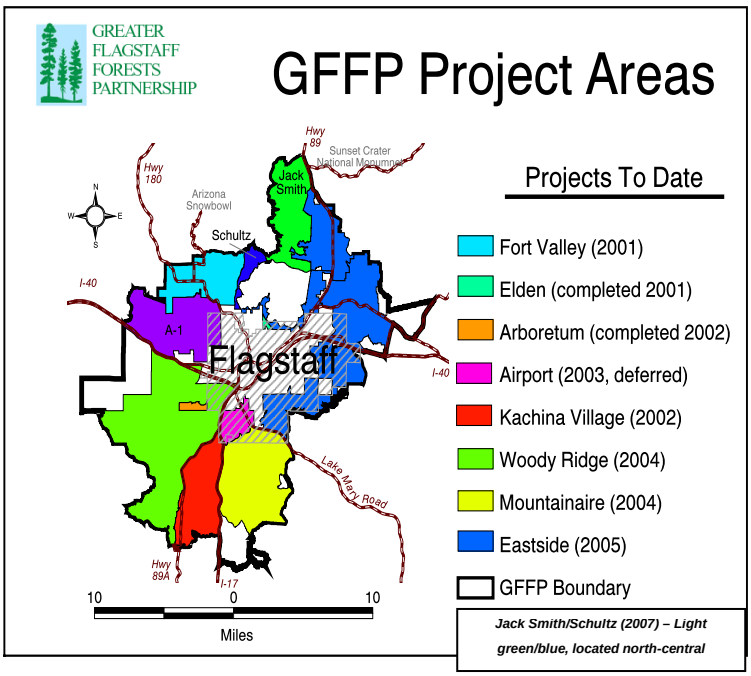
Grazing: The impacts of grazing can be profound on the herbaceous communities within ponderosa pine forests. Consequently, the management of wildlife and livestock grazing will be evaluated and may be adjusted to reflect the carrying capacity of restored lands. Working with livestock permitees, wildlife agencies, and wildlife advocates, the Partnership and Forest Service will develop a plan to manage wildlife and domestic livestock grazing during restoration efforts, with the goal of reestablishing naturally occurring herbaceous communities.

Soils and Watersheds: Soils are the basis for ecosystem sustainability and stability. They support important processes such as plant growth, nutrient cycling and water movement. Soils are critical for maintaining good watershed conditions that minimize surface runoff and enhance groundwater recharge. All Partnership projects will include efforts to minimize soil disturbance and erosion and will strive to improve soil cover and its physical condition.

WHAT DID WE ACCOMPLISH?

The GFFP has been a very successful organization and one of the longest-lived community forestry collaboratives in the West. A brief summary of the more significant accomplishments follows.

Project Design and Implementation. Completion of site design planning for the 10K project areas around Flagstaff (see map) was a key objective completed by the GFFP Project Team. Of the 180,000 acres within our boundary, 115,850 were within project planning boundaries. The remaining lands are within the City of Flagstaff, the A-1project area, designated wilderness areas (Kachina Peaks), and the steep slopes of Mt. Elden and the Dry Lake Hills. Within these project areas, 78,750 acres are FS owned. Treatment was proposed on 71,850 acres - 49,750 with mechanical thinning and 20,975 burn only. Implementation has been initiated on at least some portion of all project areas, with almost 40,000 acres receiving mechanical thinning treatments or broadcast burning within GFFP and across all jurisdictions through early 2009.



Other significant activities included: endorsement of the USFS A-1 Mountain Project within GFFP boundary; contracted with local logger to demonstrate use of cut-to-length equipment; close collaboration with Flagstaff Fire Department on design and cutting of the City Well Field site; design of treatment proposals for the Flagstaff Area CWPP; design and completion of a Partner restoration prescription and "mark" on three sections of the Mountainaire project area; management of and fundraising for a fuel reduction thinning project around the communications towers on Devils Head; collaborative design of the USFS Railroad and Flagstaff Airport projects; review of the USFS Hart Prairie and Munds Park Projects; participation in numerous regional and statewide initiatives such as the Governor's Forest Health Council, Western Mogollon Plateau Adaptive Landscape Assessment, Statewide Strategy to Restore Arizona's Forests, Analysis of Small-Diameter Wood Supply for Northern Arizona and the Four Forests Restoration Initiative.

Public Education and Involvement. Public education requires constant effort as newcomers arrive and visitors come to our area. In addition, outreach to public officials, decision-makers and funding entities is ongoing. Initial efforts were directed at changing public attitudes towards forest restoration practices and prescribed fire through community workshops, field trips and various public outreach efforts. This involved creating or taking advantage of numerous opportunities for public outreach, such as: organizing and managing the Forests Festival, Community Forest Forum/Brown Bag Lunch series, and regular field trips to view forest restoration sites; developing and installing informational signs at GFFP project sites; making

presentations at various conferences and meetings such as the Biennial Conference on the Colorado Plateau, SW Renewable Energy Fair, Annual Meeting of the SW Sustainable Forest Partnership and annual Ecological Restoration Institute conference on restoration of the ponderosa pine ecosystem; and participating in various other activities like the Flagstaff Festival of Science. We co-authored and continue to promote, track and facilitate implementation of the *Greater Flagstaff Area Community Wildfire Protection Plan.*

The Partnership developed and continues implementation of several projects to provide cost-share assistance to cover one half of the cost of treating private lands within the Flagstaff wildland/urban interface and CWPP, including four State Fire Assistance/Wildland Urban Interface grants, one University of Arizona Extension Forest Health grant, and recently a Western Bark Beetle Initiative and an "Adjacency" grant. Approximately $350,000 has been distributed to property owners to treat more than 900 acres of forest on private land. Another SFA Public Education grant funded a FireWise kiosk and signage along the Chuck O. Minor Trail at the Flagstaff Arboretum. Information from the trail signs for the project are being used in other forums as continuing public outreach, such as color inserts in the Arizona Daily Sun, handouts at a Master Gardener workshop, for an informational poster at Science in the Park, and for outreach field trips recently initiated.

One measure of our impact in public education and outreach comes from results from the Flagstaff Omnibus Surveys conducted annually by the Social Research Lab at NAU. Through placement of 3-5 questions over three of the surveys (2006, 2007, 2009), we learned that there is a wide margin of social acceptance of forest treatments and the use of prescribed fire to restore ecosystems and forest structure. Basic results are summarized in Appendix 3.

Other significant activities included: annual reports published every year; outreach events in conjunction with ERI; annual presentations to City and County governments; participation in the "Community Conversation on Sustainability: Healthy Forest, Healthy Community"; numerous newspaper articles and several published success stories for the National Fire Plan.

Utilization and Economic Development. Since the loss of regional saw mills in the 1990's that provided a commercial use for harvested timber, the cost to the federal government for thinning forests to reduce fuel loads climbed to anywhere from $350 to over $1,000 per acre. To reduce treatment costs, GFFP worked with numerous agencies and organizations to attract businesses that produce value added products from our vast forest resources and secure long-term and large-scale commitments of wood fiber from the US Forest Service.

In 2002, GFFP had a Utilization Specialist on staff that supported the UET. She helped develop a project soliciting proposals for using $195,000 in Enterprise Development Funds made available through an ERI grant of federal funds. We awarded two grants for starting a firewood business (Total Timber) and acquiring a small sawmill for cutting lumber in support of the Hogan project of Indigenous Community Ventures (now Southwest Tradition Log Homes). The firewood business folded after only 1 & ½ years, but the sawmill is still operating.

The UET, in conjunction with the Greater

Flagstaff Economic Council (GFEC), advanced a "wood products cluster" at the *Camp Navajo Volunteer Mountain Industrial Park* (CNVMIP). The Park has suffered several delays, but planning continues. We are exploring various bioenergy options for utilization of excess woody forest biomass from fuel reduction treatments, including development of woody biomass energy plants at NAU and Camp Navajo, renewable energy options at Arizona Forest Restoration Products planned OSB plant in Winslow, coordination with the Renegy Bioenergy plant in Snowflake, and Southwest Sustainable Forest Partnership/ Community Renewable Energy Resources biomass energy plant initiative throughout northern Arizona & New Mexico. A major effort the Partnership initiated and that has been successful is the Arizona Corporation Commission's inclusion of woody biomass in its revision of the state's Renewable Energy Standard and Tariff.

Other significant activities included: contracted with Mater Engineering to develop and refine the *Coordinated Resource Offering Protocol* (CROP) to coordinate wood contracts across northern Arizona NF's; participation in the Analysis of Small-Diameter Wood Supply in Northern Arizona; participation in the Four Forests Restoration Initiative to generate at least 30,000 acres of mechanical treatment per year to assure a large, long-term supply of wood for industry; representation on the Sustainable Economic Development Initiative Board; several letters to Congressional leaders supporting woody biomass utilization.

Monitoring and Research. Tracking what happens on the land allows us to understand how our actions affect ecosystems and communities. Since forest restoration is such a new science, we have not been able to predict with absolute accuracy restoration goals/trajectories achieved or the levels of fire protection that are being provided to our community, neighborhoods and infrastructure. Very little funding is traditionally directed towards research & monitoring, however our first project was created for that purpose – the Fort Valley Research and Demonstration Project. This work generated information that was summarized in two *Research Reference Guide* documents published in 2001 and 2002.

We secured funding for five separate monitoring efforts. A National Forest Foundation grant ($10,000) was used to monitor and compare post-treatment forest structure and fire behavior from seven different treatment types within GFFP's boundary. GFFP funds were used to conduct pre- and post-treatment monitoring of conditions at the City Well Field project, and also at three Mountainaire "partner mark" sites. Post treatment data will also be collected from these sites to see if we are implementing treatments that modify fire behavior while reflecting a more diverse/heterogeneous forest structure of tree clumps and groups interspersed with extensive grassy openings - instead of homogenous stands of evenly spaced and similarly sized trees with a few embedded openings.

A major effort of the Monitoring & Research Team was development of the *Adaptive Management Framework* – an extensive matrix outlining guidelines for research and monitoring of ecological, economic, social and institutional parameters for application in adaptive management efforts. It took more than a year and involved extensive input from all Partners and many outside entities.

Other significant activities included: continuous revisiting and observation of treatment sites for qualitative evaluation and monitoring; hosted two national Monitoring Team site visits; participation in the ERI monitoring protocol workshop; collaboration and funding of AZGFD squirrel studies at several sites; modification of the USFS Region 3 Monitoring protocol; qualitative assessment of the Mountainaire II partner mark effort; initiation of a prescribed fire/smoke/health study; monitoring and analysis of the Fort Valley Pilot Project.

Management and Administration. GFFP started out as the Grand Canyon Forests Foundation in 1997 operating as a DBA under the Grand Canyon Trust. Since then it has undergone several structural changes to better align resources to accomplish our mission. The organizational structure used from 2000 to 2008 is shown in Appendix 1. The first staff support was hired in 1998. We took a great step forward in 2006 when the Board of Directors approved our first long-term Strategic Plan. However, by that time financial stability became a significant challenge with staff and overhead consuming a large part of our budget. In 2008, the Board of Directors and Partnership Advisory Board collectively developed and implemented a plan that restructured GFFP into an all-volunteer organization that targets our limited funding to specific project areas through contract work. Temporary action teams (rather than standing work teams) guide activities and specific programs, and then organizations or individuals with expertise specific to each task are contracted to accomplish on-the-ground actions, research, public outreach and other efforts.

Appendix 2 identifies current members of the Partnership Advisory Board and Board of Directors, as well as past members and their affiliations. It is evident that GFFP has had representation from a diverse cross-section of stakeholders from the greater Flagstaff area.

Appendix 4 provides a simple spreadsheet that shows revenues and expenses from 2001 to the end of the 2009 fiscal year (June 30, 2009). It indicates from what sources our funding came and into what general areas expenses were made. Overall, we have a good ratio of expenses for programs and projects to expenses for operations.

Other significant activities included: secured a large ESRI grant ($20,900 in software and training) to support our GIS functions; 501c3 status achieved in 2001; maintained a website since 2000.

WHAT WORKED, WHAT DID NOT? WHY OR WHY NOT? LESSONS LEARNED

Collaborative processes that rely on unanimous decision-making can move very slowly when contentious issues arise, and often reflect “least common denominator” results as compromises are made to gain agreement and advance proposals & recommendations. It became apparent that if you wanted a process to move fast, go it alone. If you want to go far, then go with others. At only one time in GFFP history did we not get unanimous approval – that was for the Woody Mountain Project and the Grand Canyon Trust abstained to let the project move forward, with Flagstaff Fire Department also abstaining with them because they wanted to support the Trust’s decision and not leave them alone in their position.

Adaptive management is necessary in modifying future efforts based on evaluation of implemented activities – ecologically, socially and economically. The receptiveness of the management agency leadership and their staff to change determines whether new approaches and techniques will be implemented on the ground. In many regards, GFFP was not effective in influencing the USFS to

modify implementation of on-the-ground treatments over the short-term – from project to project. However, over the long-term (10+ years) we have seen a shift to more ecologically sensitive treatments and a trend away from traditional silviculturally based treatments where appropriate. From a management perspective, GFFP itself has adapted well to changing conditions and the needs of Partners.

Decision making should be carried out in a way that avoids creation of "winners and losers", but it must be acknowledged that when diverse points of view are the starting point for negotiating and resolving conflicting perspectives or positions on issues, some will gain ground and others will lose ground. GFFP experimented with several ways to achieve consensus through unanimous approval – first by "voting" for and modifying proposals until unanimous approval was achieved, and later by using the "four finger" method (four fingers = unconditional approval, through one finger = I can't accept this as presented), and finally to a system where votes are not "taken" (except for legally mandated items like approval of minutes) but everyone agrees and no-one objects.

The most effective collaboration between agencies and the community occurs when the agency has specific staff assigned to the collaborative that act as liaison with leadership. Regular meetings between agency leadership and the GFFP Board of Directors was also very helpful.

Outside facilitation can be useful to address key issues, especially during early formation stages, but with good internal leadership from the collaborative it is not usually necessary to get things done.

Collaboratives are not all things to all people/organizations, and may not be the appropriate vehicle to achieve an organizational mission if compromise dilutes accomplishments. Many times it was clear that various representatives were just going along with the collaborative position to move a proposal forward, and that outside the collaborative they would need to take different positions on key issues. That was understood, especially where legal mandates to agencies required them to address projects independently. On a few occasions, organizations also held and voiced positions very different from what had been agreed to within the collaborative, but again, these were positions taken based on organizational mission and program objectives.

Agency and organization representatives must be able to agree to certain things to keep key action moving forward as part of the collaborative effort, but also must be able to promote (and have a responsibility to do so) a different perspective when acting in the interests of the organization they represent (see above).

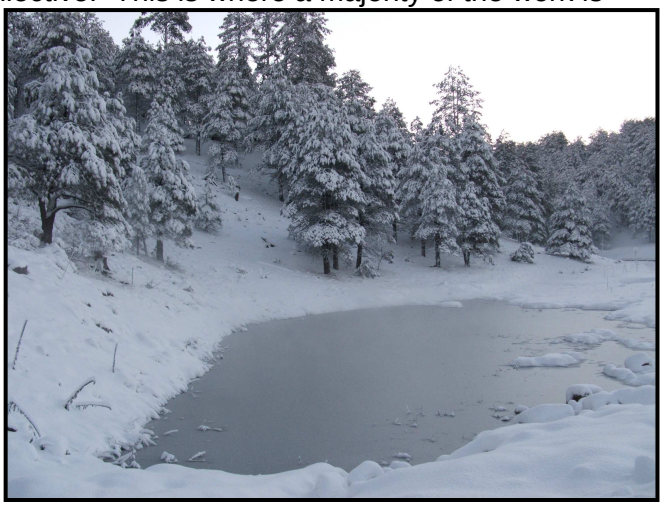
Attendance will fluctuate over season and time, so expect to not make a quorum for decision making on some meetings each year. It must be understood that the decisions made are unanimous for those in attendance, so if a representative is not in attendance there must be

ample but limited time to discuss an objection to a proposal within the collaborative to move it forward.

Any collaborative should have a charter, agreement or other guiding documents that outline member roles & responsibilities, a decision-making process, and expectations for participation, and that is agreed to prior to "membership". Clearly stated mission, goals and strategies are essential, and regular feedback is necessary to avoid "mission drift".

Good leadership is critical to efficient problem solving, decision making, formulation of recommendations, and information transfer. Members must step up to provide effective leadership on a regular basis – "power" should not rest with only a few Partners for extended periods of time.

If there is a high level of trust among Partners, work teams can be used to develop issues or details for projects with final review and approval by the collective. This is where a majority of the work is done and relieves the larger group of extensive detail development. There must be adequate time for full review, discussion and approval by the larger group however – that approval and forwarding of recommendations cannot and should not be rushed.



With all "large" agencies and organizations, having the right people in the right places leads to success, while some people in positions of leadership/decision making can impede success. People lead differently and require their staff to perform differently based on their personalities, professional perspective and direction from higher levels of authority.

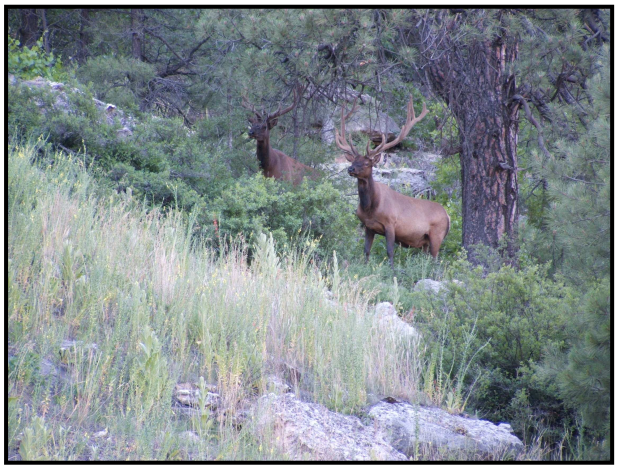
No one collaborative approach is good or bad, but it must be accommodated as the agency and collaborative work together to advance respective missions and objectives. For example, in the early stages the USFS had the idea of turning over the treatment of public lands - and the associated costs – to the Partnership through a Cooperative Agreement. But this approach did not actually materialize because the Partnership could not raise sufficient working capital to pay for the work. The Cooperative Agreement was converted to a Memorandum of Understanding in 203 that did not transfer resources.

The collaborative must be viewed as "a long haul" – a sustained, long-term commitment is required.

Citizens must be able to see/be aware of what is being discussed and what type of planning is going on if they are to have confidence in proposals being made – transparency is essential. Just as with organizations, people may come with agendas that may or may not reflect the mission of the collaborative. They must be heard, understood and addressed to secure buy-in by that segment of the public. It must also be recognized that 10-15% of the people on each extreme of a position may be so firmly set in their position that accommodation of a collaborative position may be impossible. Then it is best to address why their position cannot be addressed and why a decision will be made and the collaborative move forward. Litigation can sometimes arrive from this intransigence.

The collaborative and/or its ideas must have access/exposure to decision makers. The "public" is not the only group that needs education and involvement. Decision makers at all levels need to be educated on issues. Ultimately, support must be provided when tough decisions are made, as well as the capacity to "challenge" with good science and/or reasoning when "bad" decisions are made.

Partnership members must have ample decision making authority to operate on behalf of their organizations.



Formal and detailed structure is absolutely necessary for longevity and financial management, and to provide appropriate staff support. Efforts to secure funding for staff and overhead must not take over functional aspects of a collaborative – even at the risk of losing staff. GFFP went back to an all-volunteer organization when costs of staff and other overhead expenses became too high of a percentage of our overall budget.

Local efforts can be subject to trends, constraints and opportunities that play out in the regional and national arenas. There is not much that can be done in these circumstances unless the collaborative has the resources to become engaged in these regional and national arenas. However, awareness is essential and engagement at some level appropriate.

Partners will have varying levels of resources (funding, staff, commitment, etc.) to fulfill their obligations to the partnership. Those with more assets can be perceived as "taking over" or "controlling" what happens. Again, transparency is necessary and well articulated positions and reasoning must be provided. All voices must be equal even if capacity to support is not.

Organizational posturing is inevitable, but should be minimized to allow the collaborative process to make progress. Clear goals are needed that all agree to work toward. This is the nature of participation – you are there because it is important to your organization and you need to advance what your organization was created for. However, it may be more appropriate to not be engaged in the collective if your organizational position is such that compromise and modification of positions is not compatible with organizational culture.

All ideas and perspectives are important, but not all are practical or can be implemented at a given point in time – patience and persistence are virtues. Long-term plans are essential for organizations to see if and when their positions will be addressed. A true collaborative will make sure that all perspectives are honored and have the means to accommodate and "resolve" any issue in a timely manner. Each participant will then have to figure out how to live with the results of the collaborative process.

Some level of trust has to exist among Partners for them to come together in collaborative decision making – low levels of trust slow down the process while high levels of trust move things along more quickly. Trust can be diminished or broken easily, but is very difficult to regain completely. When trust is broken, almost everything becomes more difficult. It will happen at some point, so tools & techniques must be in place to address it.

Opportunities must be provided outside formal meetings for participants to develop existing or

explore new relationships among stakeholders. Social events can be important in facilitating seamless interaction and to provide a less charged atmosphere for building or re-building trust.

Any Partnership must be able to deal with personnel changes as staff at member organizations and cooperating agencies changes, and recognize that some will change more frequently than others. Key players from the USFS, Nature Conservancy and Grand Canyon Trust changed regularly, as well as the staff for the Partnership itself.

The use of "best available science" must be a foundation of any effort addressing the ecological, economic and social aspects of forest restoration and management. GFFP always strived to apply this foundational principle.

WHAT'S NEXT? THE FUTURE OF GFFP

While GFFP is almost 12 years old and has achieved significant accomplishments, there is still a considerable amount of work to do and opportunities for new activity.

At the local level, cost-share grants to treat the hundreds of remaining private land parcels in need of fuel reduction thinning for community protection and resource management are still being received. In cooperation with local fire departments, specific tracts are being targeted for treatment in conformance with the CWPP. Outreach and education projects require constant attention – a knowledgeable and involved community is essential if the goal of restored forest ecosystems is to be achieved in the near future. Tracking and monitoring the results of implementation of GFFP projects is necessary to provide input for adaptive management to allow improvements in future projects locally and throughout northern Arizona. GFFP is represented on the Coconino County Sustainable Economic Development Initiative, which seeks in part to achieve much of what the GFFP Utilization and Economics Team was trying to accomplish in small diameter wood utilization.

At a regional scale, participation and support of the Four Forests Restoration Initiative is a top priority. This initiative seeks to accelerate forest restoration to around 50,000 acres per year across 2.4 million acres within the ponderosa pine landscape of northern Arizona. Several GFFP Partners are playing key roles in getting the initiative going and the Board has direct participation in the initiative, including financial support and contract work to prepare a Forest Landscape Restoration Act proposal that, if approved, would provide significant funding for implementation of 4FRI projects. Creation of the 4FRI and ultimate passage of the FLRA can be partially credited to the successes of GFFP working with the Coconino NF and to the success of the Natural Resources Working Group (another collaborative effort in the White Mountains) working with the Apache-Sitgreaves NF. These efforts were recognized at the national level.

Statewide, GFFP continues to provide the representation for community groups on the Arizona Forest Health Council, which is tasked with tracking implementation of the *Statewide Strategy for Restoring Arizona's Forests*. In addition, we are represented in the *State-Wide Assessment and Strategy for Forest Resources* program required of all states under Title VIII of the 2008 Farm Bill (Food, Conservation and Energy Act of 2008).

One area where evaluation and analysis is required is the effectiveness of an all-volunteer organization accomplishing work through contracts or service agreements. So far it appears to be working, as illustrated by the above discussion. However, most of the "work" of the Partnership has shifted to the 5-member Board of Directors and away from the much more diverse Partnership Advisory Board. Attendance at the latter is down and it is struggling to identify its niche in the new GFFP. This is especially important as involvement with 4FRI deepens and we move closer to implementation of forest restoration strategies in forest surrounding traditional GFFP projects.

Finally, funding projects and operations is always a challenge. A staff supported organization was replaced by an all-volunteer one because of funding limitations in 2008. With lower costs, less funding is required for operations, but project funding demands will be as big as the annual plan that GFFP creates. Local government funding (City of Flagstaff and Coconino County), with a limited amount of overhead from grants, provides all of the revenue necessary to support current programs and projects. Even in these lean times, they provide adequate resources to accomplish the mission. Only time will tell if this continues to be the case.

WHO IS INVOLVED? WHO SHOULD BE INVOLVED?

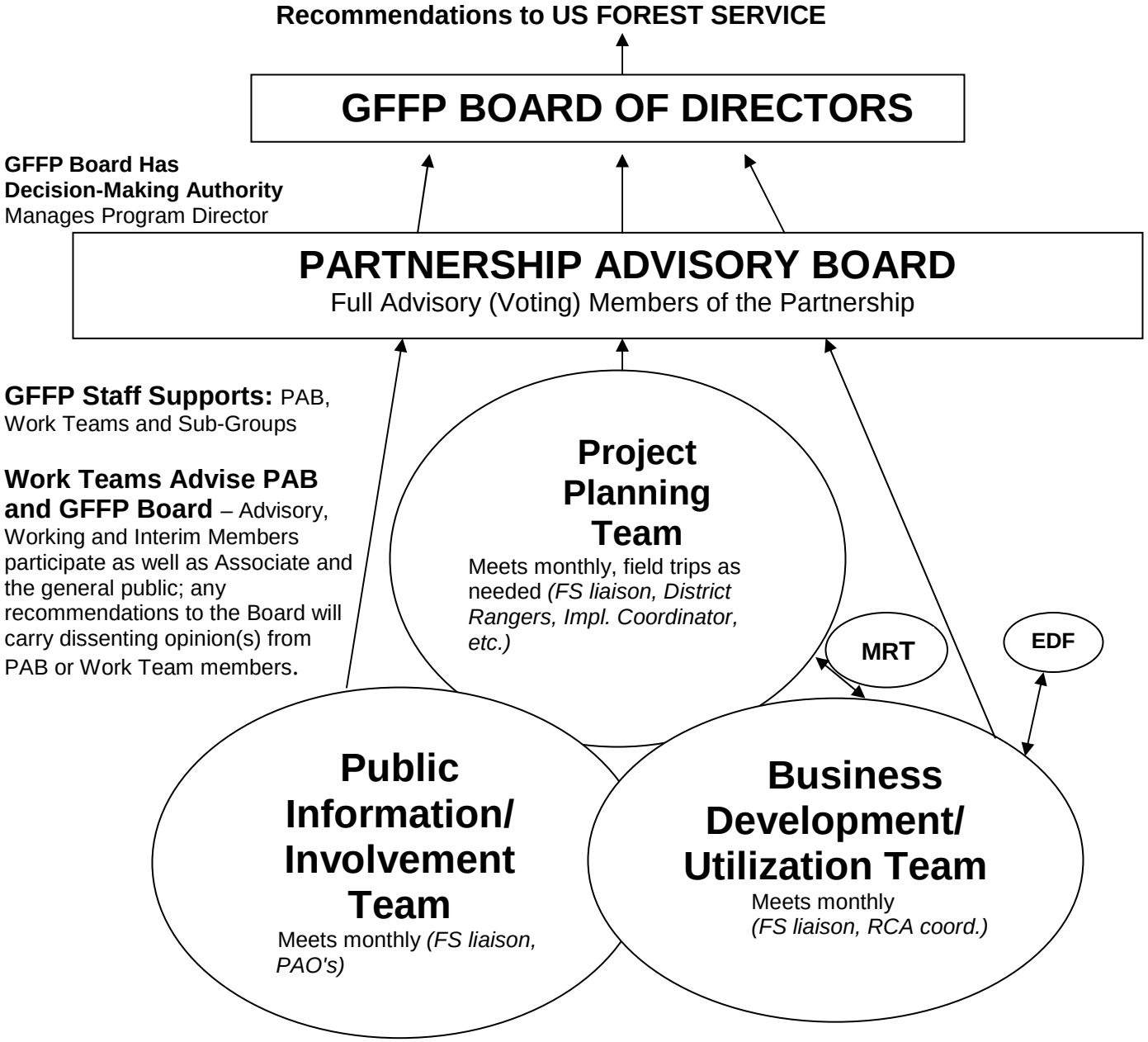
The current number of Partners is 13 (Appendix 2), one of the lowest in its history. Over the years, however, representation has been broad and diverse with most entities that are involved in local forest restoration and community protection issues represented at one time or another.

Organizations that have played key roles in GFFP but left after long service include the AZ Game & Fish Department, Grand Canyon Trust, NAU College of Engineering & Natural Sciences, Arizona Public Service, Flagstaff Chamber of Commerce, Greater Flagstaff Economic Council, and several local Fire Districts. Several local or locally active organizations never joined the GFFP for various reasons – Sierra Club, Friends of Flagstaff's Future, and Center for Biodiversity.

While an organization can and must accomplish its agenda with whomever participates at any given time, to be the "voice of the community" rather than just a forum to discuss critical issues, broad participation is necessary. In that regard, the entities mentioned above plus many others should be convinced to join or re-join the Partnership in the near future.

~~~~~~
~~~~~~

APPENDIX 1 – GFFP Original Structure



GFFP Membership - Partnership Advisory Board and Work Teams

- **~ GFFP Membership approved by Board of Directors**
- **~ GFFP Membership categories include:** Advisory (PAB voting), Working (Work Team member) and Interim (Applicant for full GFFP membership category); Associates participate in Work Teams
- **~ PAB meets monthly to receive full updates from & provide input to Teams, and to make recommendations to BoD:** PAB Chair & GFFP Director facilitate; open to the public, unanimous decisions
- **~ Work Teams meet monthly to provide input and make recommendations to PAB and BoD** - GFFP Member and/or GFFP Director facilitate and run meetings; Advisory members not required to sit on a Work Team; Interim, Associate and general public (non-GFFP members) encouraged to participate, but must be approved by Work Team

APPENDIX 2 – Partnership Advisory Board and Board of Directors Members

Partnership Advisory Board – Current

Arizona Forest Restoration Products
Arizona State Forestry Division
Coconino County Community Development Department
Coconino Natural Resource Conservation District
Coconino Rural Environment Corps
Ecological Restoration Institute, NAU
Flagstaff Fire Department
Mottek Consulting
Ponderosa Fire Advisory Council
School of Forestry, NAU
The Arboretum at Flagstaff
The Nature Conservancy
US Fish & Wildlife Service
Wildwood Consulting

Partnership Advisory Board – Past

Arizona Game & Fish Department
Arizona Public Service
Coconino Community College
Coconino County Farm Bureau & Cattle Growers Association
Cocopai Resource Conservation & Development District
Arizona State Lands Department
College of Engineering & Natural Sciences, NAU
Flagstaff Chamber of Commerce
Flagstaff Native Plant & Seed
Fort Valley Fire District
Grand Canyon Trust
Greater Flagstaff Economic Council
H&K Consulting
Highlands Fire District
Indigenous Community Enterprises
Practical Mycology
Perkins Timber Harvesting
Ponderosa Fire Advisory Council
Social Research Lab, NAU
Society of American Foresters, N AZ Chapter
Southwest Environmental Consultants
Summit Fire Department

Board of Directors – Current

Anne Mottek Lucas – Mottek Consulting, LLC
Joe Seidenberg - Ecological Restoration Institute, NAU
Paul Summerfelt – Flagstaff Fire Department (President)
Shaula Hedwall – US Fish & Wildlife Service
Steve Gatewood – Wildwood Consulting, LLC (Treasurer)

Board of Directors – Past

Dave Huffman - Ecological Restoration Institute
Debra Larson – College of Engineering, NAU
Doc Smith – Ecological Restoration Institute, NAU
Jim Wheeler - Flagstaff Fire Department
Martha Hahn – Grand Canyon Trust
Pat Hall - H&K Consulting
Tom Kolb – School of Forestry, NAU

APPENDIX 3 – Summary Results from Public Opinion Polls

COMMUNITY PERCEPTIONS

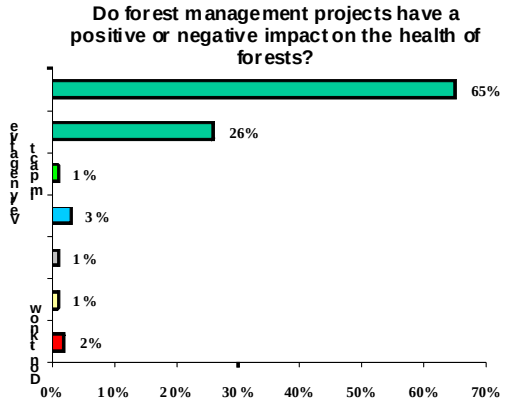
NAU – Social Research Lab: Surveys of Residents of the Flagstaff area

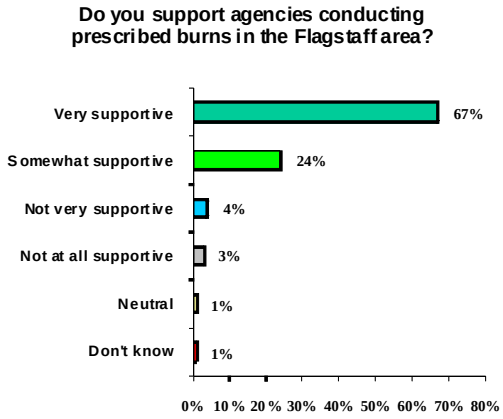
2001 – 603 individuals surveyed

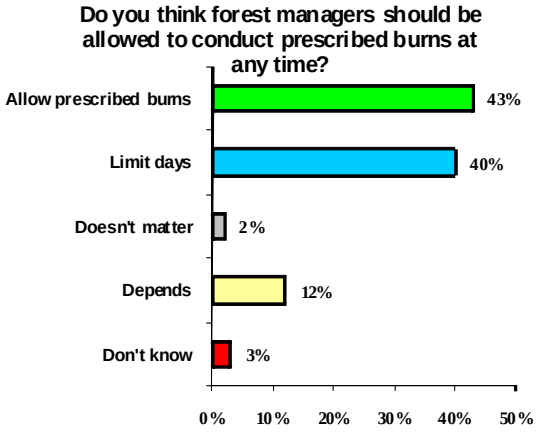
The Grand Canyon Forests Partnership's mission is to restore environmental health to the forests around Flagstaff. They do this primarily by removing the smaller trees from the woods and restoring low-intensity fire to the ecosystem. Even if you are not familiar with Grand Canyon Forests Partnership, how would you describe your support of this idea of forest restoration? Would you say that you are very supportive, somewhat supportive, rather unsupportive or not at all supportive of their work in the Flagstaff area?

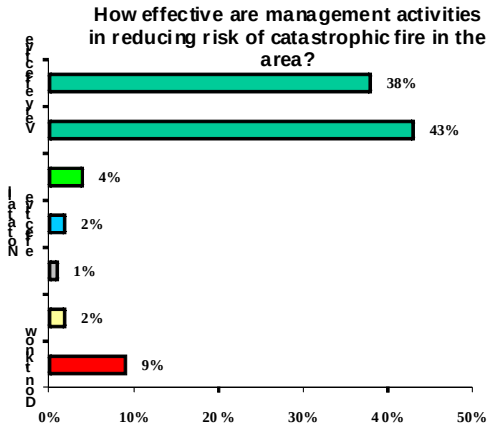
1. Very supportive	52%
2. Somewhat supportive	35%
3. Rather unsupportive	- -
4. Not at all supportive	7%
5. Don't know	5%
	99%
	(N = 603)

2006 – 606 individuals surveyed





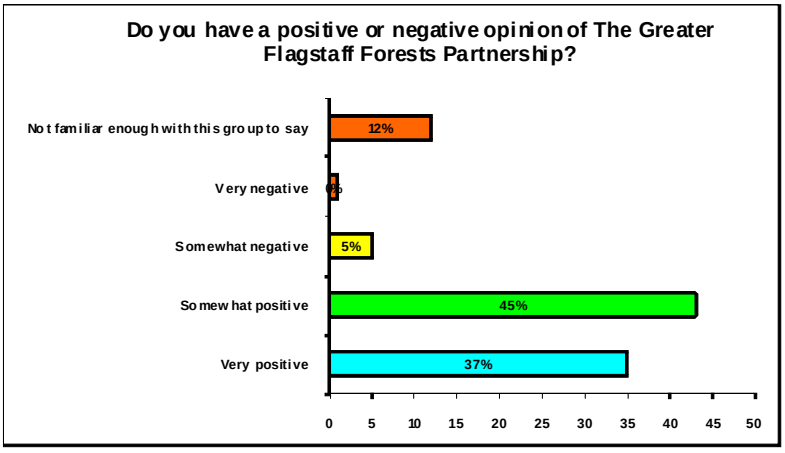




COMMUNITY PERCEPTIONS

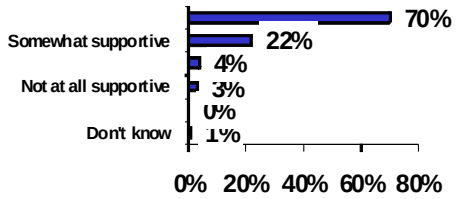
NAU – Social Research Lab: Surveys of Residents of the Flagstaff area

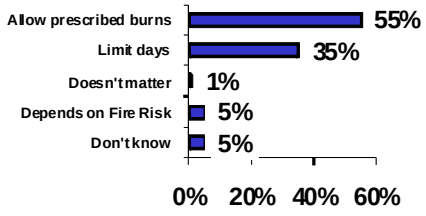
2007 – 600 individuals surveyed



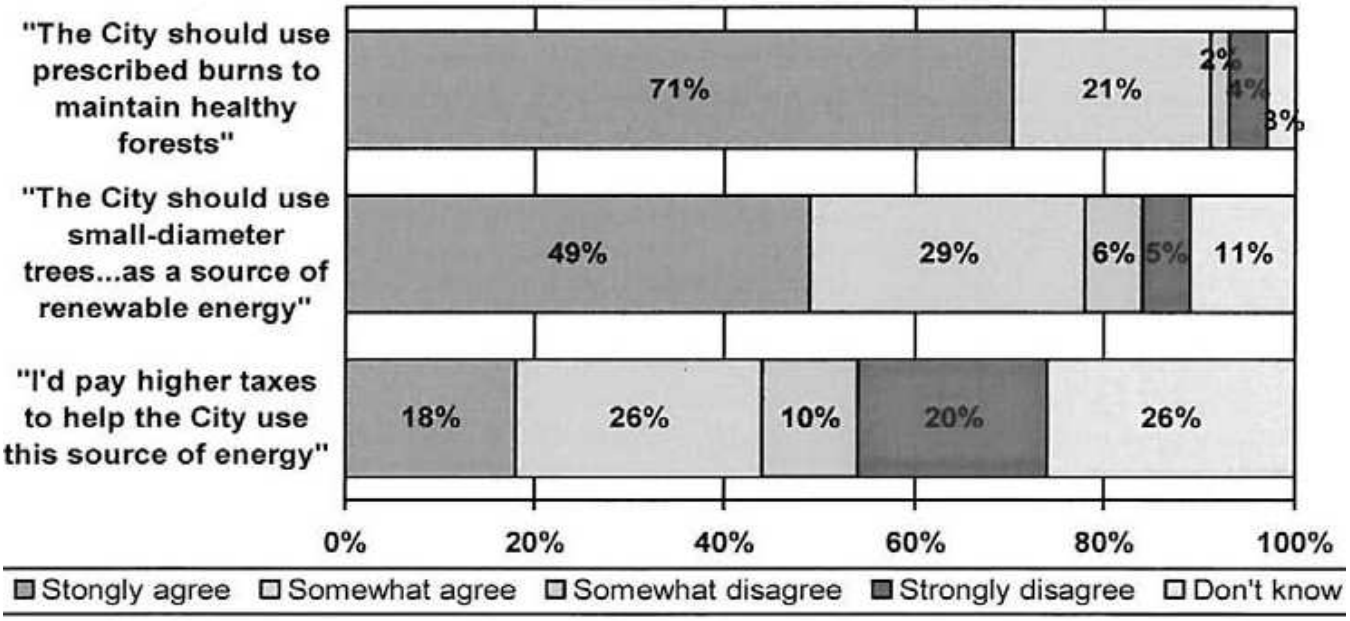
2007

2007





2009 – 402 individuals surveyed



APPENDIX 4 – Revenues and Expenses for GFFP (FY2001- 2009)

REVENUES

Foundation Grants	59,455
Government Grants	1,500,913
Corporate Support	29,208
Individual Donations	665
PAB Membership	14,299
Other Income	1,795
SUBTOTAL	***$1,606,336***
In-Kind Donations	54,945
TOTAL INCOME	***$1,661,121***

EXPENSES

Payroll Expense	386,907
Employee Benefit Expense	39,693
Payroll Taxes	29,783
Advertising	5,350
Accounting	34,537
Accounting-Audit	28,595
Bank Charges	1,320
Books, Publications, Subscriptions	1,480
Conference, Convention, Meeting	4,685
Contract Services	307,918
Contract Services-Consulting	108,811
Contract Services – Grand Canyon Trust	62,882
Dues & Memberships	774
Equipment	10,325
Employee Recruitment & Training	5,574
Fees & Licenses	445
Grants and Allocations	472,263
Insurance-Liability	16,036
Insurance-Workers Comp	2,855
Internet	10,570
Meals	4,311
Office Expense	3,776
Postage	1,910
Printing & Copying	23,426
Rent	48,929
Supplies	8,284
Telephone	8,972
Travel, Lodging & Meals	16,156
Uncategorized Expenses	3,719
SUBTOTAL	***$1,621,472***
Depreciation	25,757
In Kind Value	28,055
TOTAL EXPENSES	***$1,701,041***