

Malpai-Borderlands Project, Arizona

1. Location and Scope:

The project covers approximately one million contiguous acres of an almost pristine range ecosystem. It is roughly triangular in shape, and dissected by the Arizona, New Mexico state line. This landscape is rural. There are approximately 35 ranches in the planning area, two power lines, and only one major dirt road.

For the most part, the community is interested in the sustainability of ranching, maintaining open spaces, and natural ecosystems that support this community. Land values, tax laws, and population pressures sometimes cloud the future of ranching that perpetuates stewardship of natural ecosystems. This project is driven by the ranching community taking a proactive position to maintain control of their destiny. To this end they have invited interagency participation in the planning and management of the land on an ecosystem basis.

2. Vision:

The participation in this effort is voluntary for individuals as well as agencies. The enthusiasm, support, and participation at this point exceed our expectations. In a political climate where the traditional position on this issue of land use is usually to be at one end of the spectrum or the other, we find ourselves in the “radical center.”

Cooperators with this effort include the local ranchers and land owners in the planning area, Cochise and Hidalgo counties, the State Land Departments of Arizona and New Mexico, the Coronado National Forest, U.S. Forest Service, U.S. Fish and Wildlife Service, the NRCS in two states, the Bureau of Land Management in two states, the Hidalgo Soil and Water Conservation District, The Whitewater Draw Natural Resources Conservation District, the Game and Fish Departments in two states, the Desert Laboratory of the University of Arizona, The Nature Conservancy, and the Animas Foundation. To date NRCS and the FS have assigned full time project coordinators to the project. This has been critical to the success of the effort to date and should be continued.

3. Working Goal:

The goal of the Malpai Borderlands Group (MBG) is to restore and maintain the natural processes that create and protect a healthy, unfragmented landscape to support a diverse, flourishing community of human, plant, and animal life in our borderlands region. Together we will accomplish this by working to encourage profitable ranching and other traditional livelihoods which will sustain the open space nature of our land for generations to come.

4. Health and Sustainability:

The MBG is in the process of developing its own ecosystem management plan. There will be a framework to organize finding and implementation of the application of ecosystem management. The MBG’s ecosystem management plan will have six component parts which the group feels is critical to achieving success. The six components are:

- Community Outreach
- Open Space Protection
- Land Management
- Science
- Economics and Livelihoods
- Structure and Administration

Our goal is to apply fire to 80,000 acres per year based on historic natural fire frequency studies which will improve hydrologic cycling by improving the herbaceous component of the plant community, which will improve nutrient cycling, which will improve total function of the ecosystem.

A 310 acre brush removal and native grass seeding project has been completed. A grant from the U.S. Forest Service will enable the MBG to conduct the scientific research necessary to restore much of this landscape.

5. Economic and Community Development:

To move ahead, the local community members have formed a legal 501(c)3, nonprofit organization so they can do business and hold conservation easements to promote their goals and vision. Primary funding for this effort is coming from the private sector with major agency support coming in the form of assigning people to the project. They incorporated as a nonprofit organization so they could receive and distribute money to implement conservation work, legally hold conservation easements, and have a board to guide their activities.

The MBG is working to support ranchers financially for conservation projects that will help both their operation and native wildlife, to show the public the power of private ecosystem management.

6. Priorities and Conflict Resolution:

Our priority is maintaining traditional livelihoods in a manner that is consistent with maintaining and/or improving natural ecosystems. We try to avoid a lot of conflicts through good communication. When tough problems rise, we let the land be the common denominator to lead us to a solution. Everyone is invited out on the land to see it first hand. This has been very productive in working with the private sector as well as working with various agencies.

7. Coordination:

MBG is the interface that promotes inter- and intra-agency coordination. The MBG, with help from The Nature Conservancy, was able to gain support from all levels of government. The MBG identifies any barriers to sound resources management and removes them. Once agency heads began to understand the project and the fact that it is landowner driven, they became excited about helping.

8. Monitoring and Reporting:

We have acquired a grant of \$500,000/year from the U.S. Forest Service, Rocky Mountain Experiment Station to work on the problem of monitoring ecosystems over the next 3 to 5 years. We are also actively working with the Desert Laboratory at the University of Arizona on a geographic ecology study to address monitoring ecosystems. On the more pragmatic side, we are currently exploring low level vitiograph with Texas A&M to monitor the conservation easements the MBG has taken on as monitoring is a legal part of holding a conservation easement.

9. Adaptive Management:

Everything the MBG becomes involved with is measured against their goal statement and then tested through several stated criteria to be sure they are being true to their mission, consistent with the articles of incorporation and not arbitrary with their decisions.

10. Technology Transfer:

The group is very concerned about expanding or trying to cover so much, that they cannot be effective at getting work done. To this end, whenever they are asked to take on more area or programs, they offer to share what they have learned about organization and encourage others to start their own groups so they can really be effective and focused on their particular problems. The MBG is similar to a traditional conservation district. This is being explored by board members to see if conservation easements and grass banking concepts can legally be done by existing conservation districts. Scientific transfer of technology is being done through interface with various universities and government research personnel.

Alamosa River Watershed Project, Colorado

1. Location and Scope:

Alamosa River watershed comprises 127,000 acres in the San Luis Valley of south-central Colorado. The Alamosa River flows through the northern end of Conejos County, one of the poorest counties in Colorado. Some of the state's oldest settlements can be found in this watershed. Principal towns in or close to the watershed include La Jara (population 725), and Capulin, an unincorporated town (population between 100 and 200).

Problems in the Alamosa River Watershed Project include river channelization, loss of quality riparian areas, degraded water quality that will result in the loss of a fishery. The EPA has designated the Summitville Mine site on the Wightman Fork a Superfund Project. During the project, the sponsors will develop a Watershed Management Treatment Plan based on the diverse interests and resource issues of concern to all users of the Alamosa River Watershed.

Agriculture is important, and close to 50,000 acres are irrigated. Over half the watershed is public land, managed by the U.S. Forest Service (Rio Grande National Forest) and the U.S. Bureau of Land Management. The state oversees small holdings as well. Recent population decrease is a concern, but the primary concerns of Conejos County officials are water quality in the Alamosa River and maintenance of roads. They hope to manage growth within the watershed so there is a positive impact to both the economy and environment. All parties are working to improve both human and natural resources in the watershed.

2. Vision:

“Identify the diverse interests and resource issues of concern to all users of the Alamosa River Watershed.”

Committee members represent: Woolgrowers, Capulin County, Natural Resources Conservation Service (NRCS), Conejos County Soil Conservation District, Colorado Division of Water Resources, Colorado Cattlemen's Association, Grazing, Domestic Water Users, Colorado Division of Wildlife, Colorado State Forest Service, Alamosa-La Jara Water Conservancy District, U.S. Forest Service and Bureau of Land Management. Groups the committee is working with include: U.S. Fish & Wildlife Service, Adams State College, Colorado State University, the U.S. Bureau of Reclamation, a variety of specialists in the NRCS, and the Conejos County Soil Conservation District. The watershed committee plans to contact private groups like Ducks Unlimited and Trout Unlimited, and has corresponded with officials in the Colorado Department of Agriculture.

- 3. Working Goals:**

Anticipated on-site benefits for the entire watershed include improved water quality, wildlife habitat and riparian health, stabilization of the river, protection of 40 existing irrigation diversion structures, control of noxious weeds, enhanced cooperation and communication between landowners and government agencies, economic stability, and a greater emphasis on sustainable use of natural resources. Off-site benefits will improve conditions for hunters, anglers, and campers, drawing more people to quality outdoor recreational opportunities.
- 4. Health and Sustainability:**

Anticipated benefits to ecological health in the Alamosa River Watershed relate to improved water quality, soil health and productivity, and stream bank stabilization. The river is currently impacted by acid mine drainage from the Summitville Mine, an abandoned gold mine that has become an EPA Superfund site. For practical purposes it is a dead river.
- 5. Economic and Community Development:**

In a watershed where the local economy is so closely tied to natural resources (agriculture, outdoor recreation and timber), enhanced biodiversity will support sustainable community and economic development.
- 6. Priorities and Conflict Resolution:**

Priorities were established early in the planning process at a public meeting held in La Jara. Those present created a watershed advisory committee to act on their concerns. The public is kept informed of activities and progress through local media.
- 7. Coordination:**

Collaboration between federal, state, and local agencies has been a hallmark of the Alamosa River Watershed EBA Pilot Project. Non-governmental organizations, private landowners and the general public have been represented directly in the pilot project through the watershed advisory committee. Watershed committee meetings are open to the public; often people who aren't members of the committee attend. The watershed committee is working with landowners and local ditching companies.
- 8. Monitoring and Reporting:**

Among the specific-measurable objectives and monitoring criteria are water quality, streambank stability, the health of riparian vegetation, and noxious weed mapping.
- 9. Adaptive Management:**

River restoration and stabilization has been described as more of an art than hard science. The use of rock drop structures, for example, to deflect flows away from vulnerable streambanks and to slow the velocity of moving water have not been standardized for use by the NRCS. The committee recommends that NRCS develop agency standards for these and other river restoration structures.

10. Technology Transfer:

Video, news media (print, radio and television), newsletters and tours, will be used to educate the public and share lessons learned with audiences at the regional, state, and national levels.

Fountain Creek, Colorado

1. Location and Scope:

The Fountain Creek project is located in Colorado. Problems include involving all the stakeholders in a watershed task force, developing a GIS based resource system for data collection within the watershed, consolidation of existing resource information from all stakeholders in a central location, and development of planning guidelines for the watershed with a focus on social, ecological, and economic concerns.

2. Vision:

The steering committee for the project consists of representatives from Turkey Creek Soil Conservation District, Fort Carson, Housing and Building Association, Brown and Caldwell, Pueblo area Council of Governments, Colorado Springs Stormwater Section, Colorado Department of Health and Environment, Pikes Peak Area Council of Governments, Natural Resources Conservation Service, and U.S. Air Force Academy.

3. Working Goal:

To coordinate activities in the watershed so the natural functioning of Fountain Creek and its tributaries are not adversely impacted.

4. Health and Sustainability:

Identified problems include water quality and quantity issues, population growth, and conflicting uses of the creek. The project intends to increase oxygen concentrations and decrease loading of nutrients, metals, and sediments into Fountain Creek.

5. Economic and Community Development:

The project will be used to educate the public and decision makers about human impacts on the creek and reduce the lack of coordination and communication activities among competing and cooperating groups.

6. Priorities and Conflict Resolution:

7. Coordination:

Focus Groups will be used throughout the year. Steering Committee meetings will be held quarterly, and Stakeholders meetings will be held twice a year.

8. Monitoring and Reporting:

9. **Adaptive Management:**
Focus Groups will provide information and data. They will identify problems and potential solutions and then provide feedback to the Steering Committee. The Steering Committee will give direction to the focus groups and develop reports for stakeholder feedback.
10. **Technology Transfer:**
NRCS involvement will enhance technology transfer efforts.

Owl Mountain Partnership, Colorado

1. **Location and Scope:**

The Owl Mountain Partnership's project is located in the southeastern corner of Jackson County (North Park), Colorado. It encompasses approximately 375 square miles and two major drainages (the Illinois River and the Michigan River), and is composed of approximately 67 percent public and 33 percent private lands. Our scale of operation involves the entire project area, crossing administrative and land ownership boundaries with those individuals and agencies cooperating with our locally-developed resources management planning.

The project area is primarily rural, with large expanses of open space provided by privately owned ranches and continuous blocks of public lands. Agriculture is the primary economic activity in the project area in the form of native hay production and livestock operations. Timber management, recreation, and tourism are other activities important to the area.

Currently, we do not have the support of the local government for the project (Jackson County Board of Commissioners), primarily due to local mistrust of government. However, we do have strong support from the majority of landowners in the agricultural sector, the government agencies, and the smaller landowners within the project area boundaries.

2. **Vision:**

“Develop a trust between the private sector and government agencies, which is necessary to produce a prototype for an ecosystem management process that is supported by the majority of the Jackson County citizens.”

This process is driven by community-based, community-led land and resources stewardship. The Partnership is administered by a Steering Committee representing a cross section of community and government agency stakeholders.

3. **Working Goals:**

To create partnerships that build trust and teamwork to achieve ecosystem health and resolve resource conflicts which will serve the economic, cultural, and social needs of the

community. To develop and implement an adaptive ecosystem management plan across political, administrative and ownership boundaries based on identified issues and needs. To document the implementation process of ecosystem management and communicate knowledge gained from the project to partners and the public.

4. Health and Sustainability:

The activities of the Partnership will follow Ecosystem Management - managed on a sustainable basis, taking into account the ecological diversity, the economic viability, and the social and cultural systems of the area as a whole, rather than as individual parts. The process of coordinated resource management is being developed through our extensive vegetation inventory efforts, soil mycorrhizae studies, sedimentation sampling efforts, wildlife surveys, and integration of these existing shared databases. This will cross administrative boundaries and create healthy landscapes, allowing a multitude of uses as well as promoting a diversity of habitats for fish and wildlife populations, all of which ultimately benefit human populations. Resource management plans developed with EBA funding play an integrated role in linking the private sector to the concept of an ecosystem management planning process.

5. Economic and Community Development:

The Partnership, by working at the community level, will develop projects and integrate into existing local programs that will help to promote economic, social, and cultural development. The process we are developing has the ability to address and resolve current issues and conflicts and the flexibility to change. While this is necessary, the primary objectives of the Partnership are to work toward long-term visions from the community that promote ecosystem health and sustainability. A major component of this process involves promoting sustainable agriculture as a solid economic base. EBA funding provides a mechanism for us to accomplish this task.

6. Priorities and Conflict Resolution:

The Partnership realizes that it cannot address all resource issues and conflicts. Therefore, a prioritization process is under constant review to allow for changes in direction. Decision making is done entirely on a consensus basis, which is often slow and frustrating, but ultimately results in the best and most strongly-supported decisions. This requires that all stakeholders put their issues on the table, that everyone focuses on and listens to the concerns of others, and that a full understanding of the issue is undertaken by all. Decisions must always meet the conditions of our mission statement and goals.

7. Coordination:

Our Partnership dictates full coordination and communication between all stakeholders. This requires full attention and participation by everyone, and is essential to insure overall success of our vision of overall land health. Since our Steering Committee represents a cross section of both the public and private sector, each member has responsibilities in keeping the people they represent informed, as well as insuring our theme is carried across public and private land ownership boundaries. Management plans developed through EBA will be coordinated through the entire Steering Committee for critique and approval.

8. Monitoring and Reporting:

The Partnership is currently developing baseline resource information in many areas to use for future monitoring of project results. Vegetative inventory, sedimentation sampling, soil studies, neo-tropical bird and amphibian surveys, and macro-invertebrate sampling are examples of some of the baseline information which has been collected.

Projects are analyzed upon completion and will be monitored through time. Resources management plans will drive projects that will be implemented as plans develop and project dollars are generated.

9. Adaptive Management:

The processes being developed by the Partnership dictate the uses of current and best available scientific information possible. All stakeholders play a role in providing technical information to the Partnership on science, economics, and socio-cultural systems for potential integration into our management processes. However, science will not always drive final decisions; as we must bring sustainable economics, socio-cultural systems, and human needs and interests into our planning process. New science, as it becomes available, will be incorporated into our process both in terms of using proven methods and experimenting with new concepts.

By coordinating protocol, products of efficiency and economy are realized as well as consistency in analysis of existing resource data. This process requires removing agency barriers and turf issues, and has already resulted in a much better process for coordinated resources management.

10. Technology Transfer:

Information learned from our process will be the most important product of the Owl Mountain Partnership. This information is transferred through communication with our newsletter, working with local schools and various universities, newspaper articles, workshops, project tours, and symposia. We must maintain communication with agency staff and the private sector to insure our process is fully communicated locally, statewide, and on a national basis.

Mudge Pond, Connecticut

1. Location and Scope:

The Mudge Pond Watershed is located in Litchfield County, Connecticut in the towns of Salisbury and Sharon. The watershed was chosen for its agricultural component, its manageable size, its water quality impairment, its unique geology, and the expertise of agency program staff in developing a multidisciplinary approach. It is a watershed where agriculture is the dominant managed land use and whose presence is encouraged. There are scattered forested areas and residential development in the form of low-density housing, schools, and conference centers. The primary areas of identified concern are water quality, habitat protection, and open space. The watershed is approximately 7500 acres in size with active agricultural production on about 2,000 acres. Mudge pond itself has been the object of a town-sponsored study that identified the decline of resources due to water quality impairment.

The scope of year one includes identifying resource concerns, collecting data, and using technological models (AGNPS/GIS) to investigate the ecosystem and prioritize work within the watershed. Year two is planned for greater stakeholder participation and identification of roles and responsibilities. Year three and beyond calls for implementation of identified items.

2. Vision:

“To provide for the long-term sustainability of the Mudge Pond Watershed for the benefit of the ecosystem, its residents, and its visitors.” Current players include NRCS, state agency experts, the Soil and Water Conservation District, and farmers.

3. Working Goal:

The short term goal (years one and two) is to provide a resources database for understanding the ecosystem component linkages as they relate to current and future natural resources issue decision making. The long term goal is to provide for a healthy, sustained environment for natural system and economic health.

4. Health and Sustainability:

The anticipated benefits to ecological health and sustainability include the improvement and maintenance of water quality in the Mudge Pond Watershed for ecosystem health and sustained recreational use, the protection of the existing biological diversity in the plant and animal communities, the restoration of natural plant communities overtaken by exotics, maintaining the long term viability of agricultural land use in the system, and providing for the increased understanding of the components and complexity of natural resources systems for local decision making processes.

5. Economic and Community Development:

The existing economy relies on a viable agriculture and a dedication to open spaces. A long term goal is to provide for greater understanding of the implications of land use decisions at the local level for meeting community development and conservation goals.

6. Priorities and Conflict Resolution:

The priorities are water quality, habitat protection, and open space maintenance. Currently open conflict between stakeholders does not exist. It is not anticipated that as public participation increases, conflict will result. What should result is an increased awareness of the implications of land use actions in the watershed and increased development of cooperative approaches to meet existing and future goals based on the best available resource information.

7. Coordination:

The pilot is an opportunity to investigate NRCS needs to expand beyond single-resource issue planning, to develop broader planning procedures based on ecosystem principles, and using the outcome for implementation of its own mandates (farm planning, municipal and landowner technical assistance).

Other expertise in the resources gathering phase was utilized via a Connecticut Department of Environmental Protection (DEP) biologist, and an ecologist from The Nature Conservancy and by using the knowledge base and priorities developed by the local municipalities, the Litchfield Soil and Water Conservation District, and the state environmental agency.

8. Monitoring and Reporting:

The water quality objective to be met can be quantified by recording outcome of NRCS water quality planning processes. The habitat protection objective can be met by periodic biological investigations of the ecosystem. The open space maintenance objective can be met by periodic review of aerial photography. Ultimately, it is the local community which will determine adherence to these objectives and be responsible for revising objectives.

9. Adaptive Management:

Year two processes will develop this concept further at the local decision-making level. For the agency, the multidisciplinary, interagency team-building process involved in year one will provide a model for the future. The findings of the interrelationship of ecosystem components will be better understood and promoted for broader planning approaches (ecosystem, whole farm, holistic).

10. Technology Transfer:

DEP and The Nature Conservancy staff gained from their field work with NRCS soil scientists and conservationists. The databases created in this project will become part of Connecticut state-side databases on Threatened and Endangered species and soils. This information will be available to the public. Relationships identified between soils and vegetative cover type for this calcareous landscape will be of great value to biologists and land use decision makers in similar landscapes in New York, Massachusetts, and Vermont.

Conasauga River, Georgia

1. Location and Scope:

The Conasauga River Ecosystem-Based Assistance Project is located in the North Georgia Mountains approximately 50 miles southeast of Chattanooga, Tennessee and 85 miles north of Atlanta, Georgia. The project includes Whitfield, Murray, and Fannin counties in Georgia and Polk and Bradley counties in Tennessee. The largest community within the watershed is Chatsworth, Georgia with a population of 2,987. The project area contains 190,000 acres, including the 37,000 acre Cohutta Wilderness Area, and 59 miles of the Conasauga River. Approximately 43,000 acres are in agricultural use.

The carpet industry is experiencing continued growth and accounts for 50 percent of the area's employment. Urbanization pressures continue to grow with the growth of the carpet industry. The poultry industry also has been expanding over the past three years and now employs 1 percent of the workforce.

Although the project area is experiencing urbanization pressure, the fundamental agrarian culture and ethic is strongly embedded in the residents' way of life. Local government leaders have sought ways to sustain the high environmental quality of the area and to protect and improve the area's natural resources.

2. Vision

"People actively working together for preservation of the environment by planning for present and future uses of their natural resources."

The Limestone Valley Resource Conservation and Development Council (The Council) recognized the importance of protecting the area's natural and human resources. The Council represents 11 counties in northwest Georgia and is composed of County Commissioners, citizen representative, and Soil and Water Conservation District supervisors. The Council proposed to conduct the Ecosystem Based Assistance Pilot Project in cooperation with NRCS. A member of the Council was appointed to organize and chair a Steering Committee consisting of interested citizens or groups from an array of backgrounds in the project area. Special interest groups that have participated in the pilot project are: The Chattahoochee Sportsman's Club, Farm Bureau, Cattlemen's Associations, Georgia and Tennessee Nature Conservancy, Dalton College, University of Georgia, Poultry Water Quality Consortium, and local schools.

3. Working Goal:

The short term goal of the Steering Committee is to develop the infrastructure necessary to promote communication and cooperation of the various interest groups existing in or impacting the community. A plan documenting the long term goals of the community has been developed as a part of the pilot project. This plan addresses four objectives: Clean Conasauga River; Protect private land rights; Develop respect for natural resources; and Educate people to the proper use of natural resources.

The primary benefit of the pilot project is the development of infrastructure in the form of a diverse Steering Committee. Long term benefits will be evident in the maintenance of a high quality watershed and improvement in certain aspects of the ecosystem's function through promotion of environmental technology such as wetlands for treatment of waste water, rotational grazing, no-turf management, and others.

4. Health and Sustainability:

The project area is considered to be a high quality watershed. The area's character is diverse including National Forest Wilderness Area, multiple use National Forest, private forest, pastureland, cropland, urban, and suburban.

Through increased awareness, education, and community involvement the present conservation in the project area will be improved. Increased awareness and cooperation among the residents can help maintain populations of threatened and endangered species. Improved communication and implementation of Best Management Practices such as no-till cropping and rotational grazing in agriculture, preservation of native species, and improved waste disposal and recycling in urban and suburban communities will promote the health and sustainability of the project area.

5. Economic and Community Development:

The plan that is being produced documents and addresses many of the community's concerns relative to the environment. The plan is intended to guide future action in a way which will maintain or improve the environment, the local economy, and local social conditions.

6. Priorities and Conflict Resolution:

Objectives have been developed and prioritized through public, agency, and Steering Committee meetings. Information on concerns and alternatives was gathered through group participation at a series of public and agency meetings. The Steering Committee analyzed the information, established their goals for the project, and resolved conflicts. The members have shown real interest in the project and an ability to compromise.

7. Coordination:

The Council has provided the leadership in implementing the Conasauga River EBA Pilot Project. Through a project manager, direct contact with many government agencies, private organizations, and individual citizens was established. The Steering Committee hosted an agency meeting with 20 state, federal, and special interest groups present. Information and strategies were discussed. A series of three public meetings were held and presentations were made to special interest groups, and their input was solicited. The Steering Committee used this information to develop objectives and alternatives.

Non-government organizations such as The Nature Conservancy and the Chattahoochee Sportsman's Club participated in the Steering Committee. A broadening of the committee is planned for the proposed Phase II of the project.

8. Monitoring and Reporting:

Phase I activities have been related to developing an ecosystem based assistance plan and have not been conducive to monitoring. Phase II activities will include broadening the Steering Committee membership, establishing resource and special interest committees, and implementing education and demonstration projects. Monitoring of these activities will include subjective measures and the Steering Committee and its subcommittee organization and success. Education and demonstration projects will be monitored using quantitative techniques. Technical advisors will assist the Steering Committee and its subcommittees in selecting the monitoring techniques. Evaluations will be completed on an annual basis or as needed.

9. Adaptive Management:

The Steering Committee/subcommittee structure with regular meetings and technical input will allow for adjustments to reflect the results of periodic reviews and new scientific information or methodologies. The plan will be revisited regularly and will be modified as needed.

10. Technology Transfer:

The process which was used in developing the ecosystem based assistance plan will be a major part of the technology related to this project. The plan is part of Phase I. Phase II includes plans for a video as well as tours of the project area. A strong information program will be used to institutionalize knowledge gained.

Tensas River Basin Study, Louisiana

1. Location and Scope:

The project area is located in northeast Louisiana and covers portions of four parishes. The area encompasses the watershed of the Tensas River from Lake Providence to its confluence with Bayou Macon and is approximately 718,000 acres in size.

The cumulative impacts of human activities have led to the reduction of bottomland hardwood forests and associated wildlife habitats in the Tensas River Basin. Historically, over 90 percent of the 718,000 acre basin was forested with bottomland hardwoods. An estimated 85 percent of these forests have been cleared and converted to row crop agriculture. The natural ecosystem can no longer sustain acceptable water quality levels, provide adequate flood storage functions, or habitat diversity needed by wildlife species.

Socioeconomic trends in the project area include a declining population, chronic high unemployment rates, and an economy almost exclusively based on agriculture. Consequently, local civic groups and governing bodies support an effort to improve the project area's environment and diversify its economy.

2. Vision:

The Tensas EBA project is based on a shared vision of improved environmental and socioeconomic conditions in the Tensas Basin. The objective was to use an ecosystem approach to watershed planning; to provide accelerated educational and technical assistance to the basin farmers and residents, with special emphasis on the 335 limited resource landowners.

The Technical Steering Committee is chaired by a local agricultural producer and the members are representatives from The Nature Conservancy, NRCS, EPA, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Geological Survey, Louisiana Department of Environmental Quality, Louisiana Department of Agriculture and Forestry, Louisiana Cooperative Extension Service, Fifth District Levee Board, Northeast Delta Resource Conservation & Development Council, local conservation districts, police juries, private landowners, farmer and concerned citizens.

3. Working Goal:

Linking the goals of the Tensas EBA project to the everyday lives of its citizens is a prerequisite to improving the environmental and socioeconomic conditions in the basin. The short term goal of the project is to provide accelerated educational and technical assistance to the area's farmers, residents, and stakeholders with special emphasis on limited resource farmers.

The long term goal of the project is to develop a broad base of public and agency support for the restoration and revitalization of the Tensas Basin. Anticipated benefits are improved water quality, increased fish and wildlife habitat through wetland restoration, revitalization of the hardwood timber industry through reforestation and improved

management, improved recreational opportunities, and a sustainable ecosystem that includes food and fiber production and habitat conservation. Another benefit will be increased farm income through improved farm practices and diversified land use. A decrease in crop insurance claims or disaster payments can be expected as farmers convert their marginal cropland to bottomland hardwood ecosystems.

4. Health and Sustainability:

The ecological health and sustainability of the project area have been significantly impacted by the conversion of bottomland hardwoods to intensive row crop agriculture. Ecological benefits expected to accrue as a result of project implementation include improved water and soil quality, flood abatement, and restored wildlife habitat.

According to the Louisiana Department of Environmental Quality, water sampled from the Tensas River from 1990-1993 only partially meets its designated uses. Surface runoff from agricultural lands is the primary nonpoint source of water quality impairment in the basin. Components of the project plan will address the problem of sediment, nutrient, and pesticide loading of the area's streams and bayous resulting from this source. The project encourages the restoration of forested wetlands which can improve water quality.

Regeneration of soil quality can be achieved by project components that increase organic matter and improve tilth. A major long-range goal of the project is the restoration of forested wetland ecosystems on marginal cropland.

Restoration of riparian areas on the many streams, bayous, and sloughs in the basin would provide habitat for birds and terrestrial animals while adding diversity to the landscape. When flooded, riparian areas become feeding and spawning grounds for fish and a sanctuary for waterfowl. Restored riparian areas provide travel corridors, stream shading, and bank stabilization. Larger restored tracts would benefit declining species such as the Louisiana black bear and others.

5. Economic and Community Development:

The Tensas Basin Technical Steering Committee is working with local and state officials to prepare a socioeconomic action plan. The group will prepare this plan in conjunction with the Rural Economic and Community Development and the Louisiana Department of Economic Development.

The plan will address attracting new industries to the basin to utilize the existing natural resources. The basin is presently an exporter of raw materials with little or no value added processing. Diversification of the job market will provide more employment opportunities and income stability, reducing the percent of population below the poverty level and the exodus of people from the basin. Recreation facilities opportunities will also be improved within the basin.

6. Priorities and Conflict Resolution:

The Tensas River Basin Technical Steering Committee was established to ensure that all stakeholders have an equal voice in developing and implementing a comprehensive resource management plan based on ecosystem principles. Consensus among the public, local, state, and federal agencies concerning conflict resolution and prioritizing objectives has been established through a series of public meetings. The strength of this committee is the diversity of its membership and its willingness to work together to achieve management objectives that are environmentally, socially, and economically acceptable to all user groups.

7. Coordination:

Each of the agencies involved has identified specific tasks and areas of work for which they are responsible. A series of public meetings was held to identify the basin's problems, develop treatment options, and formulate implementation strategies. On-site visits to family farms were made to obtain input and to establish dialog between the committee and producers. Field investigations by the committee were done to appraise water quality impairment and flooding.

8. Monitoring and Reporting:

The effectiveness of the implementation actions will be monitored with a post-project survey of the basin's landusers to determine changes in behavior. The second method is to measure the response of landusers to the programs of various agencies.

Landowner response to the programs of the various agencies involved is another method of documenting the success of the EBA project. One acceptable measure of success of the project will be to compare pre- and post- project applications of various conservation programs. Another measure of success will be a comparison of before and after resources management systems developed in the project area.

9. Adaptive Management:

Data collected as part of the project monitoring process will be analyzed by the Technical Advisory Subcommittee and presented to the Steering Committee for peer review. Also, results will be shared with research based groups to determine if further study is warranted. State standards and specifications will be revised or updated to incorporate new and innovative solutions to resource problems into future planning efforts.

10. Technology Transfer:

Lessons learned from implementation will be transferred to the public. Farm tours and videos will be used to inform the basin's residents of the committee's achievements. Conference proceedings will be used as a forum to disseminate accomplishments on a regional and national level.

Environmental information and education activities were initiated throughout the watershed. Accelerated technical assistance was utilized to develop over 100 resource management systems that incorporate EBA principles in the Central Tensas WQIP.

Maryland's EBA Pilot Projects

1. Location and Scope:

Maryland's pilot projects will study the hierarchical relationship among the various types and sponsors of resource plans. The plans include: Chesapeake Estuary, River Basin, Tributary Strategy, Water Quality Incentive, Public Drainage Association, Total Resource Management, Shore Erosion, Overall Farm, Buffer Management, Sediment Control, Wetland Management, Forest Management, Food Security Act HEL, Nutrient Management, Pesticide Application, Agricultural Land Preservation, and Fishery Management.

2. Vision:

Maryland's Pilot Projects are an attempt to consolidate ongoing and formulate future planning efforts into a hierarchical systematic approach to planning based on ecosystems.

3. Working Goal:

Maryland's objective as a pilot state is to develop a systematic inventory of a land unit using an ecosystem based approach. Sufficient data and information should be collected and be available in order to analyze the conditions of the air, water, soil, plants, and animals in a hierarchical approach.

Each county will develop a comprehensive resource plan which will determine inventory needs and the degree of detail. Other agencies in our expanded partnership will be an integral part in developing this planning process.

4. Health and Sustainability:/ 5. Economic and Community Development:

From those plans, an integrated ecological approach to planning assistance will be developed to assure a quality environment is met for society's current and future needs. It will provide us a new and better way of managing our natural resources.

6. Priorities and Conflict Resolution:

In Maryland the expanded partnership has difficulty with the plan concept. Three major problems are:

- Plans are much like ecosystems in that they are hierarchical, every planning area can be encompassed in larger planning areas and may itself encompass smaller ecosystems or plans.
- Time and the ecosystem are in constant change. A plan, to be effective, must image the ecosystem. A plan must change to be responsive to environment, economy and social conditions.
- Our scientific community has incomplete knowledge; this limits our planning efforts. These limitations are minor in relation to an individual planner's. We need a planning

system that invokes a systematic approach to the planning process that can assist the individual planners in their quest for the best possible plan.

7. Coordination:

The overall planning framework that promotes an ecosystem based approach can be utilized while planning for overall watershed programs, individual farms, or smaller land units.

The proposal is to involve the expanded partnership in outlining a system and contributing to the planning process. Each county will solicit an expanded partnership to develop a comprehensive resources plan system including a wide array of variability found within that county. Inventories, degree of detail, and systematic approaches will be the center of this development.

9. Adaptive Management:

From the county plans a partnership team will derive a statewide plan extrapolating features, methodologies, and proposing cooperative memorandums of understanding to assure cooperation among the partnership. An ecological approach to the overall planning will be the product. The product will be a base planning system with adaptive characteristics applicable to most all planning needs.

10. Technology Transfer:

A training and implementation manual will have utility in day to day planning efforts and will lend to uniformity of approach while providing opportunity for individual creativity and growth.

Glacial Lake Agassiz, Minnesota

Improving Ecosystem Management in the Glacial Lake Agassiz Interbeach Area—A Great Plains Ecosystem "New Initiative Laboratory" Project

(This is not an official EBA Pilot Project, but it is being considered for next year.)

1. Location and Scope:

The Glacial Lake Agassiz Interbeach Area is located in the northern portion of a productive and intensively utilized ecosystem – the Tallgrass Prairie. The Interbeach Area itself is characterized by relatively less fertile soils which formed on the beach ridges and deltas of the former glacial lake. The three major grassland landscape areas in the Interbeach Area are the Lake Agassiz Beach Ridges in northwestern Minnesota, Aspen Parkland in southeast Manitoba and northwest Minnesota, and the Cheyenne Delta in southeastern North Dakota.

The Glacial Lake Agassiz Interbeach Area is an area where proactive, integrated action now could prevent future “environmental train-wrecks.” However, integrated action is hampered by two state, an international, and seven federal agency boundaries - not to mention the large number of county and local jurisdictions. Organizations and agencies participating in the Great Plains Partnership (GPP) have identified the Glacial Lake Agassiz Interbeach Area as of the ten most important areas in the Plains for strengthening coordinated, ecosystem based management.

The majority of land in Glacial Lake Agassiz Interbeach Area is privately owned. Approximately three quarters of the area is in row crop agriculture with wheat and other small grains being the predominant crops. Except for CRP, the long term trend for grassland acres continues to go down. Livestock production and the total number of beef-dairy farms have declined significantly over the past few decades.

2. Vision:

This initiative seeks to build a network of multi-agency projects, and link the efforts of individuals, organizations, and agencies to better understand and serve the Interbeach area’s interrelated environmental and economic prospects, problems, and options. This Partnership believes that region-wide, collaborative efforts can make a real and lasting improvement to stewardship of the Glacial Lake Agassiz Interbeach Area.

3. Working Goal:

The goal of the Partnership is to deliver improved ecosystem health carried out in concert with the region’s residents, communities, and the agencies and organizations that serve them.

Project objectives include:

- Improve understanding of interrelated problems, prospects, and options.
- Implement integrated, cooperative projects.
- Analyze farm and community level economic implications.

4. Health and Sustainability:

Cooperative projects that address interrelated issues facing grass and forage lands in the Glacial Lake Agassiz Interbeach Area have been funded. Initial projects include a Riparian Management, a Holistic Resource Management, and possible grazing systems workshops. A regional biodiversity assessment for area-wide spatial analysis of conservation needs and actions is being prepared.

This project has been selected to be a pilot ecosystem for the Minnesota Environmental Indicators Initiative which is creating a framework for an integrated, statewide network of environmental indicators to assess and communicate Minnesota's environmental health status and trends.

5. Economic and Community Development:

As part of the Sustainable Grassland project, the Legislative Commission on Minnesota Resources has provided funding to Minnesota Extension Service to assist 20-25 farmers with CRP contracts with a whole-farm financial analysis of different stewardship choices following contract expiration. Cooperating agricultural lenders will rate each farmer's post-CRP land management option with respect to its credit-worthiness. This will determine how management options are viewed by the financial community.

6. Priorities and Conflict Resolution:

Forums will be held to identify and work through the choices and trade-offs involved with ecosystem management issues.

7. Coordination:

A multi-agency/organization support team has met twice to lay the groundwork for this project. Each member has been given a project notebook that serves as a reference document. Overall the coordination is being provided by the Minnesota Department of Natural Resources' State Prairie Biologist.

A pilot regional information sharing and communication system on the Internet has been established. The system will facilitate timely access and sharing of information held by different agencies in the region.

8. Monitoring and Reporting:

A framework for an integrated, statewide network of environmental indicators to assess and communicate Minnesota's environmental health status and trends is being created.

9. Adaptive Management:

Adaptive management is an ongoing tool for this project that has been and will continue to be used to further the project goals and objectives. The Red River Basin Information Network is an example of the media that will be used to explain and disseminate these changes.

10. Technology Transfer:

As mentioned above, a pilot regional information sharing and communication system on the Internet has been established. Workshops are also planned. In addition, The International Coalition has designed its annual conference around the theme of Ecosystem Stewardship.

A USDA Sustainable Agriculture Research and Education (SARE) grant was awarded to develop and test an interactive learning tool for groups and individuals to look at problems and solutions for CRP lands as part of a broader question regarding the sustainable use and conservation of grass and forage lands within a landscape area. Using this tool professionals can help landowners, communities, and agencies which serve them learn about each other's interests and how their individual and collective choices will shape the future.

Philmont Boy Scout Ranch, New Mexico

1. Sponsored by a nationally recognized group; many people see the project and learn from it.
2. The Ranch is being developed by a board with members from outside the Boy Scout Organization.
3. Managers are dealing with the overall system and its attribute: livestock, timber production, aesthetic views, recreational and educational use, etc.
4. They are developing new technology and methods that can be used elsewhere; among these are GIS/remote sensing, global positioning, and virtual reality to study the landscape before making changes.

Ottawa River Watershed, Ohio

1. Location and Scope:

- 238,800 acres
- Located in Auglaize, Allen, Putnam, and Hardin Counties
- Flows into the Auglaize River, the Maumee River and eventually into Lake Erie
- Problems identified by existing studies include water quality related to toxicity and increased biological oxygen demand

Agricultural lands are experiencing development pressures and limited urban sprawl from nearby Lima. Some townships are particularly susceptible due to a lack of any zoning or land use plan to address these issues.

The study addresses the entire watershed. Specific watershed management activities will be identified throughout the study. Some activities such as community awareness and education will occur on a watershed level. Other efforts such as riparian corridor restoration will be site specific.

2. Vision:

To promote the wise management of the Ottawa River and its watershed through a better understanding of the resource by the community.

Ottawa River Coalition members include: Allen Soil and Water Conservation District; USDA, Natural Resources Conservation Service; City of Lima, Department of Utilities; Bluffton College; Allen County Combined Health District; The Ohio State University Extension; BP Oil; BP Chemical ; Johnny Appleseed Metropolitan Park District; Lima / Allen County Regional Planning Commission; Ohio State University, Lima Branch Campus; Allen County Engineer; Allen County Commissioners; Ohio EPA, Northwest District Office; Allen County Sanitary Engineer; Allen County Emergency Management Office; West Central Ohio Regional Development Board; Allen County Farm Bureau Federation; Retention of Industry in Today's Environment (RITE); Tri-Moraine Audubon Society; Hardin Soil and Water Conservation District; Ohio Northern University; Arcadian Ohio, Lima Plant; and Allen County Citizens for the Environment (ACCE);

3. Working Goal:

The objectives are:

- To improve the water quality and the river corridor of the Ottawa River.
- To create a nonpoint source watershed model and monitoring program.
- To recognize the Ottawa River as a valuable resource.

4. Health and Sustainability:

We are in the process of conducting an inventory and analysis of the watershed resources. Efforts will include water quality monitoring by volunteers and the monitoring committee, an inventory of terrestrial, riparian, and aquatic habitat and a community perception inventory identifying how people perceive their community.

An environmental awareness survey is also being conducted by the Ottawa River Coalition. The study will measure changes in environmental awareness over the course of a three year Ohio EPA 319 grant.

5. Economic and Community Development:

By gaining an understanding of the resources of the watershed and working together toward a common goal, the Ottawa River Coalition can work together to identify resource management needs and positively influence resource management towards sustainability, meeting the needs of the present without compromising the ability of future generations to meet their needs.

Ultimately, the Ottawa River Coalition will utilize the watershed study as one tool to achieve a balance between the needs of the community and the wise use of the Ottawa River Watershed resources.

6. Priorities and Conflict Resolution:

In the past, impaired water quality had been an emotionally charged issue in the community. For this reason, meeting organizers felt strongly that it was important to bring all of the stakeholders to the table to address the issues. Conflict has not been a problem due to the considerable effort put into building trust and an open line of communication between the stakeholders.

To establish priorities and select management objectives, background data will be collected. Using an open forum and brainstorming with a facilitator, management activities will be drafted, reviewed, and selected.

7. Coordination:

The Ottawa River Coalition outlined their mission, and participated in the development of objectives and the outlining of activities for the watershed management study which was to become the basis for the application of a pilot project. They will continue to be primary in setting the course of not only this project, but also the activities of the ORC. They, along with volunteers from the community, allocate their time and resources to gather information, plan, and carry out activities.

8. Monitoring and Reporting:

The study is presently in the inventory and analysis stage. The project will establish a baseline of natural resources and community information. It is a process which is just beginning and will continue even after the official watershed study is completed. Three

monitoring efforts are presently tracking watershed attributes - water quality monitoring, environmental awareness, and community perception.

9. Adaptive Management:

Monthly meetings of Ottawa River Coalition and regular meetings of the watershed committee have been established. These meetings provide an opportunity to evaluate success of not only the physical activities, but also the planning and decision making process. The meetings facilitate the exchange of information, resources and efforts. In addition, a GIS database of resources information is being developed to insure efforts to wisely manage the watershed remains a dynamic, ongoing process.

10. Technology Transfer:

The exchange of information and technology will be done through the Ottawa River Coalition. Individuals from the ORC have been asked to relay their experiences to groups around the country.

In terms of the Great Lakes Basin, the ORC has invited guests and kept in touch with individuals working on large scale efforts such as Great Lakes Initiative and the National Water-Quality Assessment Program in the Lake Erie-Lake St. Clair Basin.

Stakeholders have been involved in all parts of the process. They are the driving force behind the efforts to promote the wise management of the Ottawa River and its watershed through a better understanding of the resource by the community.

Bad River, South Dakota

1. Location and Scope:

The Bad River Pilot Project area encompasses 3,209 square miles in western South Dakota which consist almost entirely of fragile, clayey rangeland and highly erodible cropland. The sediment and associated problems from the Bad River Watershed have been a critical water quality concern for over 30 years. The average annual measured sediment load of 3.25 million tons per year has caused a decline in the water quality of a 30-mile reach of Lake Sharpe. The watershed consists of approximately 65 percent rangeland and 35 percent cropland. Erosion rates from wind and water in most cases are well above the tolerable limits.

2. Vision:

“To promote cost-effective land treatment in the Bad River Watershed which will result in a voluntary implementation of practices to sustain agriculture and reduce sediment delivered into the Missouri River without a negative impact on landowners rights or the areas resources.”

Local individuals, communities, local, state, and federal agencies within the project area have established the Bad River Task Force to review, direct, and solve identified problems. The development of the task force involved six county governments, six communities, numerous local organizations, and many local ranchers and farmers who operate within the project boundaries. Any involvement in the project is on a voluntary basis. The interest to participate has been so great that adequate funding has not been available.

3. Working Goal:

The short term objectives of the pilot project are to expand the Bad River Task Force and increase the awareness of local citizens about the importance of using sound conservation practices. These goals have been met with all tasks completed and the project moving forward towards the completion of the long term goal.

The long term objective is to develop a 10 to 15 year program which will improve the health of the Bad River Ecosystem through the voluntary application of conservation technology that will significantly reduce gully, channel, and streambank erosion in the watershed. This will be accomplished through improved grazing management, improved tillage management, and the restoration and maintenance of riparian corridors in a stable condition.

4. Health and Sustainability:

The project has been highly-effective in integrating environmental sustainability by using natural resources conservation practices along with economic and human inputs. The processes used can be easily replicated in any area that has similar problems.

The project has reduced sediment reaching the mouth of Plum Creek by 39 percent during a three-year period when rainfall was 40 percent above normal. The project has protected native rangeland and cropland through incentive programs which have implemented proven conservation practices without hazard to the environment or ecological community.

5. Economic and Community Development:

Local landowners will benefit from improved land values and increased production on land that has been protected from erosion. The knowledge gained from better management of the natural resources will help to ensure long term economic sustainability.

The project was open to all landowners in the area and will benefit the entire community from the agricultural producer to the recreation, wildlife, and fisheries, and tourism industries.

6. Priorities and Conflict Resolutions:

Priorities are established by the task force and local conservation districts in the counties involved. This process of consensus building has insured that local input was used to drive the program. No major conflicts developed during the year the pilot project has been in existence. Using a voluntary approach for landowner involvement in the project has satisfied most of the concerns that were identified with respect to private property rights. The Coordinated Resources Management process has been identified as the means that would be used by the task force to resolve any conflicts that may develop within the project area.

7. Coordination:

The pilot project was built on existing cooperative efforts. Representatives from numerous federal, state, and local agencies have coordinated activities to accomplish the priorities developed by the task force for the planning, protection, and restoration of this Missouri/Bad River grassland ecosystem. Many government agencies and citizen groups have previously been, and will continue to be involved in various aspects of all the Bad River projects.

8. Monitoring and Reporting:

Monitoring of the effects of the conservation practices will be accomplished through the Bad River Watershed Monitoring and Assessment project. This is a 10 year EPA 319 project that will provide a comprehensive assessment of the effects of nonpoint source pollution control activities within the Bad River Watershed. Reports on the monitoring activities will be completed on a semiannual and annual basis.

The Upper Bad River Study is developing a stream classification process using established procedures to classify channels that are eroding and identify methods that will reduce or eliminate the erosion that is taking place.

9. Adaptive Management:

The Upper and Lower Bad River Task Force was organized and developed with representation from stakeholders who are active in seeking solutions and solving the numerous resource problems.

An overall task force for the entire Bad River drainage area is being expanded and developed. This group is responsible for developing a project vision statement identifying goals and objectives for the implementation of total resources management projects in the entire river basin.

10. Technology Transfer:

The new technology developed or learned from this project will be used to implement similar types of projects using the EBA process in other watersheds in South Dakota or other states having similar ecological conditions. Papers and poster boards will be used to communicate the information gathered from the channel classification process and will be presented at meetings throughout South Dakota and at Water Quality and Total Resources Management Workshops throughout the U.S.

Whole Farm Plan Pilot Project, Idaho

(This is not an official EBA Pilot Project, but it is so closely related that I included it.)

Idaho is proposing whole farm plan mini-projects in several areas to address a number of land uses and resources issues to make sure a sound process that is applicable state-wide is developed. At the present time the proposed projects will cover dry cropland, grazing land, and confined animal feeding operations. We are still exploring project areas that would include irrigated agriculture and forest land.

The dry cropland project area would be in the Latah Soil Conservation District, Latah County which is in the Palouse region. A potential site would be the Potlatch River watershed. There are a number of projects in the area including State Agricultural Water Quality Projects and the Potlatch River, River Basin Study. Critical resource issues in the area include soil erosion, water quality, and anadromous fisheries habitat.

The second proposed project site is within the Squaw Creek Soil Conservation District, Boise County and would deal with range/grazing resource issues. Critical resource issues in the area include range condition, riparian grazing, wildlife habitat, and soil erosion. Agricultural production in this area centers around livestock grazing.

The third identified project area is in the Magic Valley of the Snake River. The project area covers three counties (Twin Falls, Jerome and Gooding) with the project area focused on the Balanced Rock Soil Conservation District in Twin Falls County. There are numerous special projects in the Magic Valley area including PL-566 water quality projects, State Agricultural Water Quality Projects, and a Rural Clean Water Program project. Cropping the Magic Valley area includes row crops, specialty crops, hay and small grains all of which are irrigated. The critical resource issues in the area are animal waste management, groundwater and surface water quality, and soil erosion.

Considerable amount of time has already been spent by the State Conservationist working with other state and local agencies to initiate the One Plan Concept. Idaho is willing to continue to commit the time and support of the State Conservationist, Assistant State Conservationist (Technical Services) and our State Office Resource Conservationist to this effort. The necessary technical support for the development of GIS materials, conservation maps and the upgrading of Standards and Specifications will be supplied by the Technical Services staff. District Conservationists will be heavily involved on these pilots along with their respective Soil Conservation Districts.

Idaho would like to propose financial support for two staff people for three years to help solidify this pilot effort. Without this additional assistance, it will likely take three and a half to five years to fully move ahead with the development of this program and another two years for implementation state-wide.