

**Bitterroot Watershed Partnership
Business Plan 2002
Large-Scale Watershed Restoration Project**



Photo taken by Steve Sherman at the Lee Metcalf Wildlife Refuge

*Submitted to: United States Forest Service Large-Scale Watershed Project
Submitted by: Bitterroot Watershed Partnership*

October 15, 2001

The American Dipper



Drawing by Robert Petty, Montana Audubon

Nearly all residents of the watershed recognize the American Dipper. This unique little bird that flits from rock to rock and “flies” through the water is a frequent companion on trips to the creek. We associate this year-round resident with the fast, clear waters of the Bitterroot River and its tributaries. And, because the dipper relies upon aquatic insects for food, it is a wonderful indicator of a healthy, functioning watershed. We realize that, like us, the dipper’s vitality depends upon unpolluted water. The American Dipper “connects” all parts of the watershed and is a symbol of the connection we all share with our watershed.

Acknowledgements

Drawing of Dipper: Bob Petty

Photographs: Jack Saunders, Josette Hackett, Mark Johnstad, Steve Sherman,
Roxa French, and Nan Christiansen

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I. Executive Summary

The Partnership

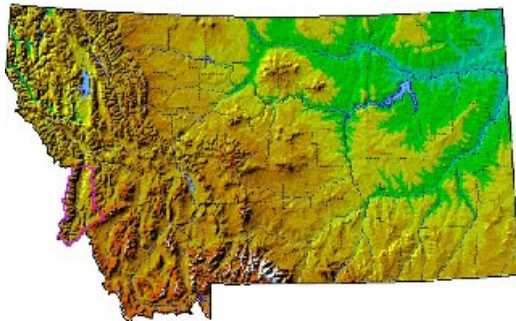
The Bitterroot Watershed Partnership is a collaborative group supporting restoration needs, monitoring and management challenges, community outreach and education opportunities, and positive community and economic development in the Bitterroot Watershed.

The integrity of the Bitterroot watershed is important to all individuals, resident and visitor organizations, and species. This watershed connects our lives. Our activities will empower residents with tools and opportunities to restore and sustain the integrity and value of our shared watershed.

The Mission

Our mission is to invest in the social and environmental capital of the Bitterroot Watershed in order to ensure the long-term sustainability of our community and its natural resources.

The Place



The Bitterroot Watershed covers approximately 2,500 square miles of western Montana. The watershed begins in the snow packed peaks of two major mountain ranges. The many streams of the Bitterroot cascade from this alpine landscape

through productive forests of pine, fir, spruce and larch. The streams merge below the mountains in the open, dry hills where the water is first exposed to the valley's farms, ranches and houses. The 60-mile long, free-flowing Bitterroot River defines the watershed's core. One by one, the streams join the river in the broad Bitterroot valley, a place defined by small towns, subdivisions, ranchettes, and family farms.

Concerns

Although individual definitions of "quality of life" may differ, protecting our quality of life is the maxim of most Bitterroot residents. For the most part, we like what we have and we want to keep it that way. We are proud of the beautiful Bitterroot Watershed and its abundant wildlife and clean water.



A sense of place binds the community, but the community also competes actively for the watershed's limited resources. Competition is quickly constricting the watershed's ability to function naturally and now the Bitterroot Watershed is operating at risk.

Our watershed experienced a human population increase of 44% in the last decade. Primarily due to this dramatic human immigration and associated activity, the watershed is beginning to show the strains. As a community, we now face the issues of ground water loss, lower water quality, invasive plant species, river access, stream channelization, and habitat conversion. During the year 2000, more than 292,500 acres of the watershed burned. Forest fuel loads remain high.

Getting to the Future

The partners envision a future where the Bitterroot Watershed's health is secure. Our proposal to achieve this builds upon our strengths and details initiatives to improve our capacity and the capacity of all watershed residents to answer existing and future threats.

The Partners believe that the quality of life in the Bitterroot is connected firmly to the quality of the watershed. Recognizing this theme of "connectivity", the proposal relies upon the commitment of the partners and community members to work collaboratively to support watershed restoration and maintenance. We are saying as community, "Our watershed is important. Let's gather the tools to maintain or fix it and get to work."

We will focus all effort within the guidance of mutual objectives. We will carry out programs that build local capacity to implement effective restoration, respond to arising issues and avoid future problems. We will implement direct actions to monitor, arrest and reverse negative trends. This includes our "Integrated Monitoring Plan" and "Model Stream Restoration Project". A formal "Watershed Management Plan" will be elaborated and education programs expanded and established. An information center and an interactive web site will be developed to describe the watershed and its importance. We will work with businesses and agriculturists to support watershed positive economic development.

The Opportunity

Right now we have an opportunity to accomplish significant, positive and sustainable changes while avoiding the exorbitant costs of restoring a defunct watershed. The investment represented by this proposal will keep the Bitterroot Watershed from crossing the unfortunate brink from "at risk" to "seriously degraded".



Expanding and more sophisticated challenges threaten our vision of a healthy watershed capable of providing long-term economic and ecological benefits. However, we are confident that “investing” in the social and environmental capital of the watershed will secure our vision.

Funding

Although the partnership is new (March 2001) we feel we have accomplished much with little time and funding. We have leveraged an additional \$102,000 for our projects in the first year. With a total project budget of \$236,546 we have shown our strong commitment to these projects. The initial allocation of \$38,897 was matched 6:1.

We estimate the total costs to plan, implement and monitor this proposal to be approximately \$10,000,000 over five years. Our total estimated costs for this fiscal year are \$1,585,940. We are currently requesting \$1,078,789 from the Large-Scale Watershed Initiative for this fiscal year. We estimate the total request over a five year period to be \$6,000,000. Additional funding will come from a variety of sources, including partner’s normal operating funds and matching funds.

II. The Partnership

The Partnership

Several talented individuals and organizations are already engaged in working towards positive, pro-active solutions to maintaining a healthy watershed. The partnership is composed of people and organizations that have knowledge, expertise, and commitment to restoring the watershed’s resources.

Our partners include business interests, government agencies, non-profit and volunteer organizations and individuals. Some organizations have a deep pool of volunteers. Others have access and authority over significant and important habitat areas. Some have on-going, financed projects. Each has a strong interest in watershed conservation.

This partnership serves our individual and group interests by creating a formal structure to implement and integrate shared objectives. The partnership helps streamline activity and avoid duplication of effort. We are finding the pieces, putting them on the table, and cooperatively shaping the watershed’s future.



The Partners

To date, our partners include:

- Bitter Root Resource, Conservation and Development Area, Inc.
- Bitter Root Water Forum
- Bitterroot Conservation District
- Bitterroot Environmental Education Partnership
- Montana Audubon
- National Forest Foundation
- Ravalli County Extension Service
- State of Montana, Bureau of Mines and Geology
- State of Montana, Department of Fish, Wildlife, and Parks
- The Boone and Crocket Club
- Tri-State Water Quality Council
- Trout Unlimited, Bitterroot Chapter
- University of Montana, Environmental Studies
- USDA Forest Service, Bitterroot National Forest
- USDA Natural Resources Conservation Service
- USDI Fish and Wildlife Service, Lee Metcalf National Wildlife Refuge

Our current partners are involved directly in project development and implementation. Appendix C briefly describes the individual missions of most partners. We have also identified several potential partners who will be consulted regularly on project activity and invited to participate in future implementation. Appendix D contains a list of potential collaborators.

Shared Objectives

All projects undertaken by the partnership will relate to at least one of our “watershed investment objectives”

Objective One: Habitat Conservation and Restoration

The Partners will restore and maintain the ecological integrity of our naturally functioning watershed ecosystems.

Objective Two: Monitoring and Decision-Making

The Partners will foster the development of monitoring mechanisms to be integrated within a watershed management decision making process.



Objective Three: Communication and Education

The Partners will improve the community-wide understanding and valuation of the benefits of a healthy watershed.

Objective Four: Economic Development

The Partners will promote existing and new economic structures supportive of sound watershed management practices.

III. The Land, the Water and the Ecosystem

The Land

The Bitterroot Watershed is located along the western border of Montana. Elevations range from 3200 feet in the valley to over 10,000 feet in the mountains. Annual precipitation ranges from up to 100 inches in high elevations to 10 to 12 inches in the lower elevations.

The Bitterroot Mountains define the southern and western rims of the basin. These form the border with Idaho. Much of this area is federally designated Wilderness. The Sapphire and Anaconda-Pintlar ranges provide the eastern edge of the basin. Again, a portion of these mountains is designated Wilderness.

The watershed encompasses over 2,500 square miles. The Federal Government (USDA Forest Service and USDI Fish and Wildlife Service) manages nearly 70% of the land-base. Private landownership is approximately 29% of the area. Various state, county and municipal entities manage the remaining lands.

The Water



The Bitterroot River is the valley's central feature. The East and West Forks are the Bitterroot's primary tributaries. There are many major and minor tributaries, including the Burnt Fork, Lost Horse, Lolo and Skalkaho Creeks. The Bitterroot River provides nearly one third of the total flow of the Clark Fork downstream from the confluence (about 2400 cfs), making it an important tributary of the Upper Clark Fork Sub-Major Basin and the greater Columbia River Basin.

Water uses include cold water aquatic life and other species, irrigation and domestic stock watering, municipal and residential uses, industry, and recreation. Normal precipitation provides water for over 110,000 acres of irrigated agriculture. However, there are no dams or major impediments on the



main river. Water accumulated in a number of storage reservoirs behind long established dams located on several tributaries extends late-season stream flows, provide water for aquifer recharge, sustain agriculture, and support minimum flows for endangered aquatic life.

Biodiversity

A richness of diverse ecosystems is a hallmark of the Bitterroot Valley. The climate and topography of the Bitterroot Valley produce many specialized habitats, including varied forest communities, mountain peaks, meadows, streams, lakes, and other wetland areas. The Bitterroot Valley backs up to some of the largest remaining wilderness areas in the lower 48 states. The Valley's remaining wildlands still contain much of the original fauna that existed in Lewis' and Clark's time, including many migratory and resident birds, mountain goats, cervids, big horn sheep, westslope cutthroat, bull trout, bear, cougar, wolves and lynx.



The terrain includes river bottom cottonwood stands with sloughs, marshes, and wetlands interwoven along the rocky-river bottoms. Low to mid-elevation lands include agricultural fields, sagebrush covered foothills and ponderosa forested mountains. Higher elevations have mixtures of Douglas Fir, Western larch, subalpine fir and whitebark pine, up to the rock fields along mountain ridges.

Western streams and rivers and associated riparian zones are critical to maintaining biodiversity. For instance, sixty to eighty percent of all songbird species in the western US breed primarily in riparian habitats. The Bitterroot Valley hosts at least 267 species of birds. Ninety-nine are documented local breeders.

Endangered gray wolves are returning to the region. Bald Eagles and Peregrine Falcons nest in the Bitterroot Valley. The resident Bull trout is listed as threatened. Over 40 species of small mammals are found in the Bitterroot Valley. Many vertebrate species occurring in small numbers or in rare habitats are considered sensitive by the U.S. Forest Service. These include the Common Loon, Flammulated Owl, Trumpeter Swan, Harlequin Duck, Boreal Owl, Black-backed Woodpecker, Townsend's Big Eared bat, and Northern Bog lemming, and Westslope cutthroat trout. The Montana Natural Heritage Program now lists once common amphibian species such as the Northern Leopard frog as "species of special concern".

The Bitterroot drainage provides habitat for 17 species of fish, including 10 natives. The species include whitefish, westslope cutthroat, bull, rainbow, brown



and brook trout. The tributaries hold rainbow and brown trout in the lower reaches and westslope cutthroat and bull trout in the upper reaches. All of the species of trout either live in or migrate to the tributaries for spawning and rearing habitat. Maintaining and connecting diverse habitats in both the river and tributaries is necessary for long-term productivity.

The Human Landscape

We are a very diverse community from the families that moved here to follow their dreams of a better life in the 1800's; to those who do the same today for different reasons. The families that moved here in the 1800's were very dependent on the natural resources that the valley provided. Some of these families continue to live here and are engaged in among other things, the agricultural business; from the apple boom (1905-1917) to the current livestock, small grain and forage production. The families that move here today are not as dependent on the natural resources that the valley offers for their livelihood, they do however enjoy the benefits they provide. They often move here for the clean air and water, open space and the recreational opportunities the valley provides. Most of the residents of the county want to keep the valley a pleasant place to live and improve on some of the natural resources that have been negatively affected by several sources. We don't always agree on what or how to "fix" the problems, however the partnership is willing to work on those areas where we can find consensus and grow from there.

Sport Fishing

The Bitterroot River, a blue-ribbon trout stream, and its associated watershed supports a year round fishery that is an important recreational resource and contributes significantly to the economy of the valley. The river supported over 100,000 angler days of use in 1999. The sporting goods stores, outfitting businesses, guides, destination resorts, motels, restaurants, gas stations, and convenience stores realize a significant portion of their business from fishing based recreation.

Agriculture

Farmlands are much less intensively farmed than in previous decades. As field size shrinks, farming costs increase per acre with resulting losses of farm family income. Over the past three decades farming has changed from intensive row crops, potatoes, sugar beets, fruit and dairying to small-scale beef cattle ranches typically with low gross income comparatively. The annual gross farm income is about \$25 million; including over 1000 farms with one-half reporting the majority of family income coming "off the farm."



Livestock and livestock products comprise about 70% of farm sales. There are sheep operations and 12 commercial dairies. However, the majority raises beef cattle herds. Approximately 20,000 calves are produced annually. Most cattle operations are relatively small. However, there are ranchers with over 1,000 head of livestock and several ranches with 200 to 500.

Approximately 30 full and part-time vegetable and fruit farms still exist, including apple, cherry and multiple fruit farms. No commercial acreages of intensive row crops of potatoes, vegetables, berries or beets are currently grown. Much of the farmland is in hay or pastures, all which are dependent on irrigation.

Processing includes two small meat processing plants, the cheese production, two farms producing apple cider and a mushroom production facility. There are three seed processors, including two working on seed and plant material for restoration.

The need to add “value” and challenge traditional marketing schemes is increasingly important to the producers of the valley. Several producers add value with organic status. Two dairies produce organic cheese. One meat processing plant specializes in organic beef. The seasonal farmers market creates interest in the link between farm producers and urban consumers.

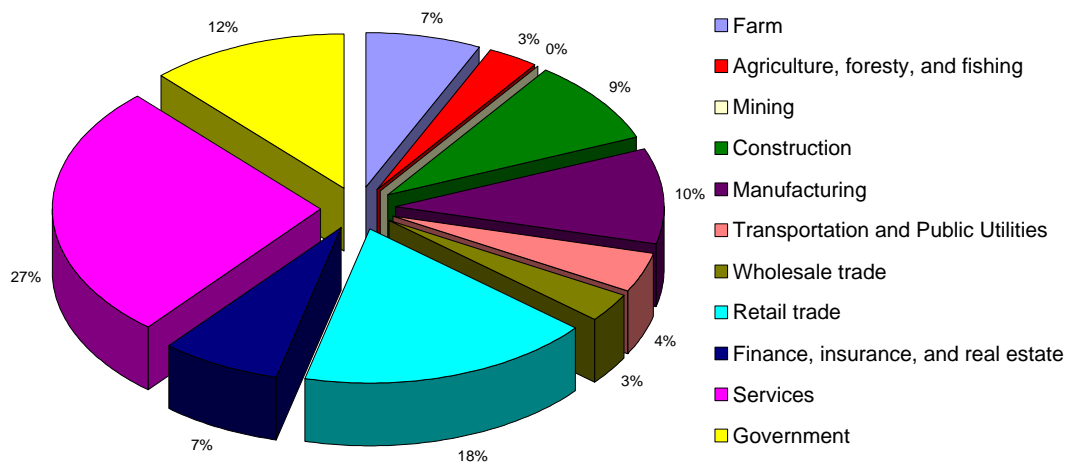
IV. The Customers and Public Benefits

Residents

Our primary customers are the citizens of the Bitterroot watershed who rely upon the watershed for their health and economic well being. Many live here in part because of the region’s natural beauty and biodiversity linked to the watershed. Residents also live here because they were attracted by the natural resources that were available here. In the face of changing land uses, the project will empower residents to make informed decisions regarding the watershed that supports a continued high quality of life.

Local Economic Interests

Over 85% of the Bitterroot Watershed rests in Ravalli County. Although the county is not part of a Metropolitan Area, the county’s 1996 population of 33,550, ranked 8th in Montana. The influx of new residents and a more socially and economically diverse citizenry presents demanding challenges and opportunities for land use planning, and decision-making. Most of the new jobs associated with this growth are found in the service sector that provides a lower income (\$16,533) than even the already low state average income (\$24,436). The largest industries in the Bitterroot Valley include Services (27%), Retail Trade (18%), and Government (12%).



Services (\$62,408,000) and Government (\$45,131,000) dominate the earnings sector. Agriculture and forestry have been declining in the Bitterroot Valley and make up a proportionately small part of the economy. The fastest growth sector of the economy is “finance, insurance and real estate”, growing at an average annual rate of over 15%.

We believe that there is an intrinsic value to healthy ecological systems exclusive of monetary measurements. However, economic incentives are sometimes required to motivate support for healthy watersheds. A wide diversity of economic interests exists in the valley with various levels of impact upon the watershed resources. The natural resource based industries include recreation, forestry and various scales of agriculture. These form the economic customer base perhaps most capable of positively impacting watershed restoration effectiveness.

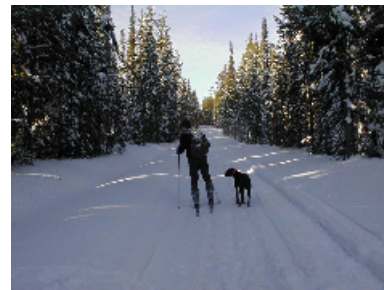
Public Interests

Federal, State, and Local Government entities will benefit from the partnerships’ activity. For instance, our projects will provide leverage for proposed and on-going projects within our shared scope of interest. We will augment and improve the community-based decision making process and mobilize volunteers.



Recreational Interests

A quality Bitterroot Watershed is important to a wide variety of recreational users. The region's recreation is directly associated with wilderness and mountain living, including camping, downhill and backcountry skiing, hunting and fishing, floating, horse packing, snowmobiling, wilderness travel, and climbing. Most of these customers highly value a watershed capable of offering recreational pursuits in a relatively pristine environment.



Downstream Users

The Bitterroot is at the top of the Columbia River drainage. Downstream users will benefit directly from the activities of the partnership. Private and public organizations and individuals working for clean, abundant water in the Clark Fork-Pend Oreille basin of Idaho, Washington and Montana are very concerned about the water quality of the Bitterroot.

V. Cost Benefit Analysis

We will develop a cost-effective analysis to aid us in making more effective decisions regarding allocation of resources for restoration.

There is a need to incorporate important non-market values into the land management planning and decision making process to develop a better way of evaluating the costs of watershed restoration with the non-market values of benefits like increased water quantity and quality. We propose using cost plus net value change (C+NVC) framework along with cost-effectiveness analysis (CEA) as a way to gauge the potential costs and benefits associated with watershed restoration projects.

Cost-effectiveness analysis is a branch of benefit-cost analysis and that is preferred for situations where the quantifying the benefits to compare to the costs is difficult. Hence, the cost-effectiveness analysis may provide a better decision-making tool for making decisions about the whether or not a watershed restoration action should be done.

Determining whether an action represents a worthwhile social gain depends on whether the net gain in benefits equals or exceeds the net costs. Market benefits are relatively easy to measure. Non-market benefits are more difficult due to a lack of market substitution for the benefit. Most natural resources are non-market resources. For example, watershed improvements in the form of decreased sedimentation and increased water quantity provide real benefits to society.



Quantifying these benefits is difficult, because there is no formal market to reward the landowner for making these improvements.

Although non-market valuations of watershed restoration projects are difficult to measure, it is possible to measure these benefits in dollars using a consistent valuation framework and accounting stance.

For values that are impractical or too costly to estimate dollar values we can measure physical progress toward effectiveness. For example, preserving or enhancing a measure of bio-diversity could be difficult to reliably monetize. In watershed restoration problems, where benefits of restoration have been difficult to measure, effectiveness proxies, such as changes in sedimentation loadings can provide a measure of effectiveness that can be used in CEA.

VI. Marketing and Sales

Target Audience

Our customers are the priority for marketing efforts. To accommodate slightly different marketing requirements, we grouped our customers into four market “target groups”: (1) community; (2) potential partners; (3) policy makers; and (4) funders.

Message

**“The quality of our watershed defines the
quality of life we enjoy.
We’re working to enhance both.
How about you?”**

Our primary sales message will be to strengthen pride and a spirit of participation to successfully achieve program sustainability.

Exposure

Our exposure strategy is: (1) develop timely and accurate materials; (2) market these materials to target groups; and, (3) lower costs by capitalizing upon existing media outlets.

The following outlets will be adapted to “sell” our products:

Business Organizations: provide information to organizations such as Rotary, Lions Club, the Grange and Chambers of Commerce.



- Editorial Commentary: utilize contacts with local and regional newspapers, radios and television.
- Educational Forums: access the many educational forums in the region, including hunter’s safety, interpretative centers, schools, retirement homes, and 4-H clubs.
- Fence Post Discussions: engage in conversations, an important element of “sales” in rural Montana.
- Lewis and Clark Bicentennial Events: participate in the bicentennial of the Lewis and Clark expedition (2003/4), providing many opportunities for media exposure.
- Local and Regional Publications: work to get coverage in the many local and regional publications discussing the attributes of this region.
- National and Local Newsletters: provide information to the many of the national and local NGO’s, agriculture groups, forestry organizations, and business groups working in the Bitterroot watershed and their newsletters that serve as information outlets.
- News Events: capture local and statewide exposure for important “events”.
- Partnership Newsletter: share and build upon the partner’s database of “customers” to send out regular newsletters.
- Public Events: make information available through events such as town meetings, parades, and county fairs.
- Seminars and Conferences:..... participate in local and regional professional meetings.
- Signs: provide information at notice boards at locations where work is ongoing and/or completed, such as trailheads and river launches are good locations for reaching our customers.
- Web Site: develop an interactive website.

Funders

Ideally, much of the media coverage will reach potential funders. However, we know that funders may require special attention and planning. Our intention is to assign an appropriate partner to each funder, most likely the partner with the strongest funder relationship. The partner will work with project implementation staff to initiate a specific strategy for capturing funder donations, i.e. the provision of all information required in a timely manner.

VII. The Main Controversies

Challenges within the Partnership

The major challenge within the partnership echoes the social challenge within our community. We agree that we want a clean, healthy watershed, but we do not all agree on the best path to achieve this objective. However, the members of the



partnership have pledged to work together to find solutions and to work accomplish programs incrementally and learn from our actions.

Public Awareness

Most challenges faced when trying to maintain and restore our watershed have their source in human perceptions. Efforts to elevate public awareness of the threats and opportunities to the Bitterroot's water quality are needed. Any effort to maintain and restore the watershed will not succeed without awareness, involvement and support for watershed quality protection by a significant majority of the citizenship.

Although most residents live here because of the "quality of life" offered, the public does not generally recognize the symptoms of surface water quality degradation or the specific and cumulative effects that land development, especially in streamside areas, can have on water quality.

Water Quality

The Bitterroot River Basin can be described as a river system functioning at risk. The Forest Service Clean Water Action Plan identifies the Bitterroot River as a "high priority river" due to species at risk and the impaired status of streams. The Montana Department of Environmental Quality (DEQ) (listed the Bitterroot River as impaired for aquatic life and fisheries, in various reaches, by nitrate, siltation, thermal modifications, and flow alteration Year 2000 303(d) list).

The DEQ listed a number of tributary streams and the entire length of the Bitterroot and the East and West Forks as water quality limited streams (WQLS). The primary factors causing WQLS classification include flow alteration, nutrients, siltation, and other habitat alterations primarily due to agriculture, highway/road runoff, grazing, and channel modifications. The DEQ is under a court order to develop Total Mean Daily Loads (TMDLs) for the entire Bitterroot Drainage by 2005, starting with the East and West Forks by 2003. The streams will be assessed for quality and a restoration plan developed in cooperation with landowners and stakeholders. This process integrates well with our proposal and will be incorporated with DEQ acting as a major partner.

The primary risks to watershed and stream health in the headwaters include historic silviculture and associated fuel buildups, noxious weeds, and road construction, channelization related to transportation systems, streamflow changes due to diversions and water developments, and riparian habitat changes. The recent fires are a major impact and challenge to water quality, channel stability and aquatic life until runoff and erosion conditions recover.



In the downstream lower tributaries and the mainstem of the river the primary risks are residential development, floodplain encroachment, water developments, dewatering, channel changes and channelization and riparian habitat changes. There are currently 49 major tributary streams on the inventory list as being dewatered for some distance and another 17 miles of the mainstem of the Bitterroot from Corvallis to Stevensville.

Although the primary physical and biological processes are in place and functioning in the basin, the resiliency is low and the river cannot necessarily recover from an event fully or quickly. Many events and impacts have placed a significant burden on the river system such that it is at risk of major damage due to rarer, less frequent events. The river system is highly treatable and in a position to recover most if not all of its inherent resiliency and function.

Rural Residential Development: “Sprawl”

Ravalli County comprises roughly 85% of the Bitterroot watershed area. The county is experiencing the fastest population growth in Montana - an astonishing 44% increase from 1990 to 2000. There were 22,663 resident in 1981 and over 35,000 currently. Construction of septic systems, homes, corrals, bridges, and ponds in streamside areas is proceeding at a rate of hundreds of projects per year.

A number of conditions, including urban sprawl and changing economics, are converging to contribute to habitat conversion within the watershed. Rural living can bring with it concern for land stewardship. However, “ranchette” development is frequently built upon habitat conversion, fragmentation and riparian degradation. This trend directly impacts the health of the watershed. Scattered development typically relies upon individual wells and septic fields, unpaved private access roads, and increased use of unpaved county roads. Growth is attracted to water and riparian amenities and frequently concentrates near streams, ponds, and upon alluvial aquifers. Human activity is significantly diminishing streamside vegetation and wetlands. Homeowners, eager to protect their property, are channeling stream flow with stream bank riprap. Poorly maintained roads and trails cause siltation and lower water quality.

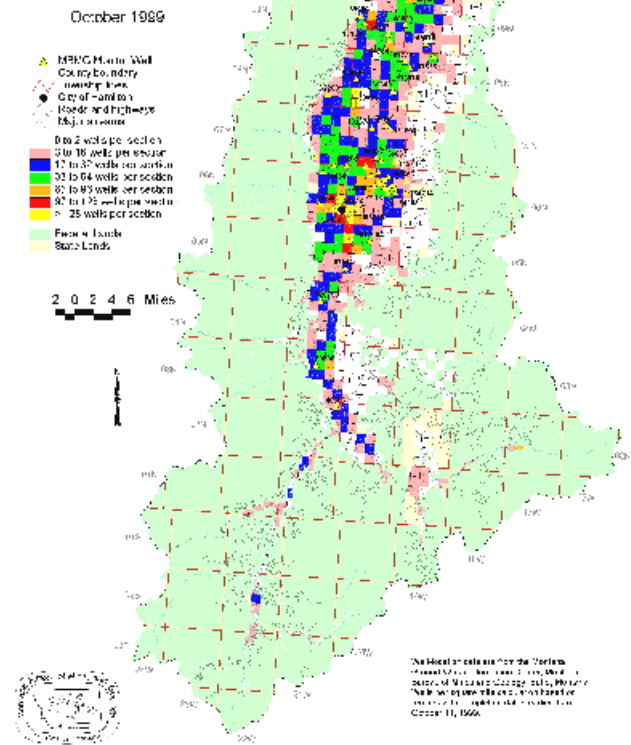
To accommodate growth, a significant amount of farm and ranch land has been developed for rural residences or subdivided. For instance, the recent subdivision of the large Marcus Daly ranch east of Hamilton is changing fields and rangelands to homes, a golf course and the valley’s first gated community. Open space or land in open fields is declining along with the number of commercial farms and ranches. A very real and locally important issue is loss of access for hunters, anglers, hikers and other recreational interests.



Rapid growth is “squeezing” riparian habitats and increasing pressure on the valley’s heavily used water resources. As an indication of how rapidly our tributaries are being fragmented by development, the Bitterroot Conservation District issued 454 permits for new in stream structures (i.e., culverts, bank protection, irrigation system modifications) in the last three years under the Montana Natural Streambed and Land Preservation Act.

The towns of Hamilton, Darby, Corvallis, Victor, and Stevensville have wastewater collection and treatments systems, several of which discharge to the Bitterroot River. Large commercial developments in the Highway 93 corridor near Hamilton and Stevensville are increasing the potential for urban storm water runoff.

Wells per square mile:
as of October 11, 1999
Ravalli County, Montana



Instream Flow

In stream flow is an issue of critical concern. Under normal conditions, the Bitterroot River has a sufficient volume flow to sustain aquatic life. However, the system suffers severely from being disconnected by periodic draw downs.

Over-appropriated irrigation water right chronically de-waters many streams during August and September. This devastates some fish and other aquatic life by eliminating migratory movements, increasing water temperatures, damaging riparian vegetation, and severing the connection between tributaries and the main river. These problems occur throughout the watershed, particularly where tributaries join the river. (Although low flows affect the Bitterroot River, Montana Fish Wildlife and Parks leased or purchased water stored in Painted Rocks Reservoir to provide minimum summer flow in the middle reach.)

Without irrigation the Bitterroot Valley would be another high- desert valley, naturally too dry to raise most crops. All farms depend upon irrigation. This expensive production makes yields and returns critical to family farm survival. Increasing sprinkler irrigation increases efficient water use and expands acreage



under irrigation. However, the added efficiency dries previously seasonally wet areas.

New problems arise as recreational and retirement homeowners quickly replace agriculture irrigators. Some newcomers use or expand irrigation rights to fill private artificial ponds or wetlands. These contribute significantly to evaporation loss and possibly groundwater contamination – Montana's instream flow laws are evolving rapidly and policy activity must be monitored. Opportunities may exist for Montana Fish, Wildlife and Parks and others to acquire long-term leases on water rights to be dedicated to in-stream flow.



Discussing Water Rights, A Western Pastime

“Water Rights” reproduced courtesy of Duck Boy Productions

Noxious Weeds



The Bitterroot Watershed is threatened ecologically and economically by the spread of noxious weeds that alter hydrologic cycles, sediment deposition, erosion, and other ecosystem processes. The watershed's substantial infestations of spotted knapweed, sulfur cinquefoil, and leafy spurge are notorious.

Significant water, wildlife and transportation corridors allow for the introduction and spread of noxious weed seed. Substantial acres of land held for sale or speculation and managed to minimize costs are no longer in agricultural production or well maintained. Non-irrigated pastureland is extremely weedy with forage production lowered by up to 75% primarily from weed invasion, especially spotted knapweed. The Fires of 2000 have disturbed hundreds of thousands of acres of land that now pose a potential problem for the introduction and/or spread of noxious weeds.



Forest Condition

More than 292,500 acres of the Bitterroot Watershed burned during the summer of 2000. Fourteen drainages had at least 25% of their fish-bearing stream miles burned by moderate and high severity fire in 2000. These include streams providing habitat for westslope cutthroat and bull trout. In streams where these species are already at risk due to competition and/or habitat depletion mitigation measures are particularly important. Even with this incredible burn, nearly a century of wildfire suppression practices have left much of the watershed with a high fuel load. In many areas, streamside habitat is either overgrown from years of fire suppression or eliminated by the extensive fires of 2000. Landslides and severely burned watersheds affected some tributaries and to a certain extent the main stem of the Bitterroot's water quality in 2001.

Fisheries

Risks to the trout fishery in the Bitterroot drainage are many. Risks include dewatering of tributaries and the mainstem primarily for irrigation as well as stream-channel alterations from past land use including agriculture and transportation. Loss of riparian cover, usually from grazing, is a threat. Several barriers to migration, primarily in the tributaries by diversion dams,



exist, but also include late-season dewatering and a temperature barrier in the lower river mainstem to native fish. Sediment producing activities in general include historic forestry and agricultural practices; rural residential development that often leads to stream alteration to accommodate homes and outbuildings. There are other risks such as whirling disease, species interactions and historic over-fishing which are difficult to quantify or understand. The fires of 2000 pose a short-term risk to fish populations in streams that were intensively burned. However, within a few years, this risk should diminish.

VIII. The Competition

Contrary Environmental Agendas

Issue

We foresee competition vis-à-vis the realization of our objectives from entities holding contrary environmental agendas. Some interests located in the watershed value individual property rights above the long-term costs to the



watershed. Competitors who may fit this category are users of public resources and those who desire rapid growth that may sacrifice watershed integrity for short-term profits. In addition, some local interests are disinterested in restoration and feel that any improvements are “unnecessary.”

Strategy

We intend to incorporate and cooperate with as broad a population base as possible and view these entities as potential contributors. We will work closely and cooperatively to develop methods for restoration that are viewed as beneficial both to private property interests and watershed integrity. There are existing examples in the valley of good relations between landowners and watershed conservation organizations. For instance in 1999, citizen activism resulted in a locally supported legislative "closure" of the Bitterroot basin to new surface water rights. This heralds major progress in slowing over-exploitation of water rights and sets precedent for more creative efforts to address in-stream flow issues. Our work will build and expand upon these efforts.

Financial Constraints

Issue

Some entities located within the watershed may wish to “buy” the product, but they may not be able to afford the costs. A prime example includes agricultural interests eager to mitigate weed damage or improve the efficiency of irrigation systems, but find the costs of such actions prohibitive. Irrigators are often short of water in the late summer period. In general, irrigators understand the dilemma of dewatered streams. However, their economic necessities and need to protect their water rights make solutions complex. Irrigation companies and clients require technical and financial assistance to address the instream flow issue.

Strategy

Our intention is to work as partners with these willing parties and strive to find mutually beneficial solutions. For instance, we intend to provide information regarding alternative methods and potential funding to defray initial costs of implementation in exchange for the private parties’ “sweat equity” and continued maintenance of provided technologies.

Existing and Proposed Watershed Restoration Projects

Issue

There are several interests that share our objectives regarding watershed maintenance and restoration. These special interest groups will potentially



compete with the Partnership for public attention, volunteers, and funding. For instance, many public and private landholders have commenced watershed rehabilitation and stabilization work since the fires of 2000. The Forest Service in particular has placed thousands of erosion prevention devices on hill slopes and improved drainage on many miles of roads and trails.

Strategy

The establishment of the Partnership and the commensurate governance plan will serve to alleviate much of the potential conflict between competitors. We have worked to include all potential competitors fitting this category as either partners or potential partners. They will be fully apprised of the Partnership's priority actions and will, ideally, work cooperatively to avoid competition and/or duplication of effort. Indeed, the strengths of many of these organizations and individuals will contribute to the strengths of the Partnership. In addition, many actions proposed by competing conservation interests are short-term, responding to the emergency situation created by the recent fire events. In comparison, our strategy is to focus upon long-term, sustainable projects.

IX. Evaluation: Measurement and Accountability

The Partnership has decided to work on a strategic and monitoring plan. The plan is to refine the partnership's vision, goals and objectives, improve our working relationships, detail our approach for long-term organizational development, and to deepen the synergy of our collective organizations. There will be a Strategic Planning retreat with a contracted facilitator for the entire Steering Committee, and the formation of committees to follow-up. It is anticipated that the Strategic Plan will include such components as: 1) a Monitoring Program which will measure success of a) the Partnership's projects and, b) their combined results in the watershed—the measurable health of our natural resources and our communities. The selected indicators, or measures, of success will reflect the refined objectives coming out of the Strategic Plan, and communication of progress to public will be integral. 2) A long-range Organizational Development Plan, including a funding plan.

Process and Filters: What projects get future priority?

The partnership has gone through a process and developed several criteria that will be weighted to give projects priorities. However, we have decided to go through a more detailed process during our strategic planning. The following are the criteria that we have come up with so far. Each project does not have to match all the criteria but will be weighted.

- Does this project meet one or more of our partnership objectives?



- Project fills an existing gap/need not currently being addressed by existing organizations
- Building on the theme of connections—between parts of the landscape
- Size of impact (acres, miles of stream, economic, people)
- Potential for Leverage
- Scientifically Sound
- Project actively involves, or has the potential to involve, more than one partner, especially partners who would not otherwise be working together.
- Measurable long term accomplishments

X. Operational Plan

Project Development

Organizing the partners and gathering ideas and information is the first step to initiating any large-scale project. The extensive process of writing this project proposal substantially helped our unified restoration efforts. We held over a dozen meetings with representatives of more than twenty organizations. During these meetings, we identified and discussed our complimentary on-going activity and watershed restoration needs. We will continue this valuable process into the future.

Years One and Two

Our next step will be to implement those projects identified as priorities.

Years Three to Five

However, we do not foresee that “listed” projects will be the only ones required to ensure long-term watershed security. This is an adaptively managed restoration project capable of evolving to future arising challenges. We look forward to expanding our effort to include downstream portions of the watershed within Missoula County. Many of our initial projects are designed to build local capacity for restoration project initiation. To provide for later arising, adaptive activities, we developed the objectives to serve as coarse project selection filters. To fund some community-based efforts, we will establish a small grants foundation during the first two years of project effort.

Beyond Year Five: Sustainability and Self-Sufficiency

A key to project success will be the ability of the partnership to be self-sustaining when initial proposal funding ends. Therefore, all investments will be made in long-term, replicable conservation activity. Each of the activities initiated will be designed to be self-sufficient and self-replicating within the five-year period. We



will also actively search out additional funders. This will be facilitated through an established track record and the development of a “long-term funding plan”.

We are starting with strong momentum. Our proposal relies in great part upon accelerating existing potential. All partners exist with established funding and their current cooperation and investment in watershed activity may be sustained without outside funding. Additional funding is required only to implement incremental activity designed to increase activity to a level necessary to ensure long-term watershed sustainability.

Objective Components and Proposed Projects

As previously stated, the activities to be implemented through the partnership are divided into four objectives. All activities undertaken by the partnership will invest in at least one of these. Due to the connected nature of watershed activity, many implemented activities will cut across several. These focus areas will help to serve as coarse filters for future project activity.

The four shared objectives and related project types are:

1. “Habitat Conservation and Restoration”

These activities will focus on “hands on” restoration of critical habitat in our watershed, including aquatic habitat, wetlands and riparian areas, upland pastures and grasslands, burned area recovery and interface zone forests. Eroded and dewatered stream segments, and rip-rapped river reaches will be restored and reconnected to other natural habitats. Fire recovery efforts, including burned area recovery and interface fuel reduction, will take place. Critical riparian wetlands on private land will be identified and protected through conservation easements, voluntary landowner agreements, mitigation programs, or even purchases from willing sellers. Projects will assist landowners to manage pasturelands to limit noxious weeds, fence and otherwise restore stream lands, enhance fire recovery efforts and manage low-elevation forests for natural fire regimes. These activities will rely upon established citizen organizations (Bitter Root Water Forum, Bitter Root Land Trust, Trout Unlimited, etc.) working with volunteers and agency staff.

Examples of Possible Projects:

- Habitat Acquisition Project
- Model Tributary Stream Restoration
- Noxious Weed Management
- Bitterroot Important Bird Areas
- Establishment of Watershed Trust Fund
- Bats under Montana Bridges
- River Channel and Floodplain Protection Project

Indicators of Success:

- water quality maintained in Bitterroot River and improved in critical tributaries
- riparian habitat degradation and fragmentation from sprawl and other causes halted
- restoration of burned areas
- reduction of interface fuel levels
- health and hydrologic function of streams and wetlands maintained and enhanced
- alteration of Bitterroot river channel by riprap and encroachment reduced
- area of natural floodplain maintained in natural vegetation
- improved abundance and diversity of aquatic life in river and critical tributaries
- areas of severe weed infestation reduced
- biodiversity of riparian, grassland and forested habitats maintained or improved
- risk of catastrophic wildfires in interface zone reduced
- network of “important bird areas” established throughout the Bitterroot Valley to conserve habitat critical to neotropical migratory birds

2. “Monitoring and Decision Making”

These programs will reflect the multiple dimensions required for informed, integrated and adaptive decision making. Examples include the development of a monitoring and assessment program and a watershed wide planning project. Related activity will include building the capacity of community members and community-based institutions to make and implement informed decisions.

Examples of Possible Projects:

- Amphibian Monitoring
- Community Volunteer Monitoring
- Watershed Management Plan
- Community Based Decision Making
- Song Bird Banding
- Watershed Monitoring and Assessment Plan

Indicators of Success:

- local government support for project implementation
- policy structures necessary to define development and conservation parameters adopted and implemented
- a widely accepted, flexible watershed plan for the Bitterroot basin established and implemented to define valley wide vision and direction
- long-term monitoring of surface and groundwater quality and water quantity expanded

- research, monitoring and management integrated into all watershed decision making processes.
- processes established that improve cooperation, coordination and collaboration between users and decision-makers
- monitoring and assessment plan is implemented and effectively used with an adaptive management process

3. “Communication and Education”

These programs will serve to inform the public directly. Model restoration programs will show the benefits of healthy ecological systems and, in turn, encourage replication throughout the watershed. Education will stress the establishment of compelling examples that show uniqueness of this watershed and that illustrate the goals of this project, i.e., model tributary restoration. We will strive to create a social process for capacity building.

Examples of Possible Projects:

- Community Leadership and Decision Making Seminars
- Educational Outreach Project: Migration Mania, STOKED
- Interactive Website
- Bitterroot Community Conservation Center

Indicators of Success:

- feasible, local demonstration prototypes providing “compelling examples” for visionary management implemented and replicated
- watershed education opportunities expanded
- formal educational opportunities expanded
- teacher training completed
- interpretative signs and brochures distributed
- school adoption of project sites
- interactive website developed

4. “Community and Economic Development”

The goal of these activities will be to support and enhance community and economic development within the watershed that promotes watershed health. These activities will support the development of watershed compatible economic and community development, including incentives for agriculture producers and other private landowners, and programs to help organizations, landowners and managers mitigate adverse impacts.



Examples of Possible Projects:

- Roads and Trails Project
- Agricultural Entrepreneur Projects
- Recreation Plan for the Bitterroot River
- Marketing Study
- Watershed Job and Volunteer Corps
- Sustainable Community and Economic Development Project
- Small Grants Project

Indicators of Success:

- access created to cost-share money that helps landowners mitigate adverse impacts
- opportunities created to support a restoration workforce
- new value-added products created from restoration by-products
- support for agriculture and forestry continues to be an economic player in the watershed
- healthy watershed's contribution to regional economic life is more widely recognized

XI. Governance

By-laws were developed after several meetings and the use of examples from other organizations and associations. We have agreed to work on a consensus model. We have also set up how we will make decisions if the consensus can't be reached and a decision needs to be made.

We are also aware of the need to add more members to our steering committee that will represent more of the community and we have set up the mechanism for adding those members.

Financial Institution

The partners have selected the Bitter Root Resource, Conservation and Development Area, Inc. (RC&D) to act as their financial institution. This is a fully operational 501(c)(3) organization designed specifically to facilitate the implementation of rural development and conservation projects. For a nominal administrative fee (approximately 7%), the RC&D will provide accounting and other financial management functions for the partners. The Steering Committee is a sub-committee of the RC&D and will retain direct and autonomous responsibility for all program implementation management and oversight.



Steering Committee

The primary partners established a “Steering Committee”. The Steering Committee meets to directly overseeing implementation of all project activity. The Steering Committee makes decisions regarding financing and the purpose, vision and activity of the watershed restoration project collaboratively with the partners. The initial Steering Committee includes representatives from the following partners:

- Bitter Root Chapter Trout Unlimited
- Bitter Root Resource Conservation and Development Area, Inc.
- Bitter Root Water Forum
- Bitterroot National Forest, USDA Forest Service
- Lee Metcalf National Wildlife Refuge, USDI Fish and Wildlife Service
- Montana Audubon
- Montana Department of Natural Resources and Conservation
- National Forest Foundation
- Tri-State Water Quality Council

Community Involvement

The intent is to undertake this restoration project in a community-based fashion. While the original partners initiated this effort, input and involvement of local community members and regional and national interests will be increased over the course of the project.

Land Steward Involvement

On Federal and State lands, the appropriate supervisor will be responsible for all land and resource management decisions. Activity on private lands will only take place with the approval and involvement of the private landowner affected.

XII. The Implementation Team

Project Coordinator(s) and Support Staff

The staff and/or volunteers of the Partners are involved in all aspects of project activity. These persons will work at the behest of the Steering Committee and are partially financed from the proposal budget. Their main tasks will be to work closely with the partners to perform daily management and facilitate implementation.



Technical Experts

As required, the Steering Committee recruits and retains additional staff required for project implementation.

Community Volunteers

Because this is a community-based initiative, we strive to recruit volunteers from the community to assist with project implementation.

Partner Participation

Each partner has pledged to support and implement project activities as may be required. This includes providing professional staff and volunteer support.

XIII. Risks and Our Concerns

Most of the risks and assumptions inherent in this proposal have been discussed in context. Our main concerns involve an inability to recruit community support and coming into direct conflict with competitors. Issues such as landowner buy-in are of particular concern. Finally, unforeseen policy changes such as aboriginal claims, private property rights issues, and a non-supportive government structure all demand diligence.

We understand most of the risks inherent in this proposal. Our strategy to mitigate and or absolve these risks is to include them as part of our on-going monitoring and accountability efforts. This, combined with our adaptive management structure, will provide for suitable elasticity in performance to avoid catastrophic defect.

XIV. Financial Plan

Proposed budgets for each project as well as a combined proposed budget are attached in the appendices.