

The San Miguel Watershed Plan



A Collaborative Management Framework for the San Miguel Basin

1998

Developed by the San Miguel Watershed Coalition



Hanging Flume - Lower San Miguel above the confluence with the Dolores River.

Photo by Leigh Salomon

Summary

The San Miguel Watershed contains an impressive diversity of landscapes, from the pristine high-altitude headwaters above Telluride to the red sandstone canyons at the confluence with the Dolores River some 80 miles downstream. The San Miguel River itself is considered one of the few remaining relatively ecologically and hydrologically intact river systems in Colorado.

Historically, the area's economy has been based primarily upon mining and agricultural operations. Recently, the upper basin's booming resort economy, coupled with a decline in traditional industries, has resulted in significant social, economic, and environmental changes. Basin communities are challenged with finding ways to enhance their long-term economic and cultural well-being while preserving landscape health.

In 1995, citizens, community groups, local governments, and state and federal agencies began taking a watershed approach to address concerns and opportunities in a way that balances economic needs and resource conservation. The San Miguel Watershed Coalition was formed with the mission to develop and implement a multi-jurisdictional watershed plan for the San Miguel Basin. The Coalition has provided an important opportunity for people to work together to solve problems, and for all Basin communities to collaborate on issues of regional concern.



The San Miguel Watershed Coalition contains citizens from all parts of the Basin who agree on a vision of a watershed future with these common features:

- A landscape maintained in good health through protection and responsible use of natural resources;
- A sustainable economy offering opportunities for growth and employment guided by a strong sense of community identity;
- A cooperative atmosphere where individuals, organizations and agencies work to create a balance between economic opportunity and resource conservation while respecting individual rights and differences in views;
- Availability of a diversity of high quality recreational opportunities;
- A citizenry educated about the close connection between resource conservation, economic vitality and quality of life and committed to good watershed stewardship.



The Coalition provides three principal benefits to the communities of the San Miguel Basin: coordination and facilitation; information and expertise; and enhanced funding opportunities. These services are accomplished by producing collaborative plans as an aid to sound decision-making (such as this Watershed Plan and subsequent biennial Action Plans), and by maintaining an ongoing forum for discussion and joint action. Citizens can become involved in Coalition activities in a myriad of ways, including serving on committees, providing information and expertise, and doing work in the field.

The San Miguel Watershed Plan is the result of hundreds of hours of collaborative work over the past three years. It is based upon the issues raised and ideas expressed by more than 150 Basin residents at a series of all-day public meetings held throughout the watershed. Subsequent focus groups fleshed out objectives and potential actions to address these issues and ideas. A planning team made up of local elected officials and staff from agencies and organizations gathered this information into a Watershed Plan.

This Plan is not a regulatory document. It provides a context for decision-making, offers management guidance, and provides a menu of potential actions. In some cases, the San Miguel Watershed Coalition itself can pursue these actions. Usually, however, the potential actions can only be realized if acted upon by local governments, agency officials and/or the private sector. The Plan is meant to be a work in progress that

will evolve over time with new information and ideas and the ongoing participation of basin residents.

Several key concepts occur repeatedly throughout this document: conservation and sustainable use, economic development; partnerships and cooperation; education and stewardship; local planning and decision-making; incentives; and research and data needs. These concepts are integral to the Coalition's mission and to this Watershed Plan.

The Plan will be implemented by a Coordinating Council, made up of representatives of Basin interest groups (ranchers, miners, recreationists) and jurisdictions. Representatives from the watershed's federal land management agencies will attend meetings in a non-voting capacity. The Coordinating Council will develop biennial Action Plans specifying priority tasks, promote the formation of Task Forces to focus on specific projects or issues, and conduct ongoing public outreach.



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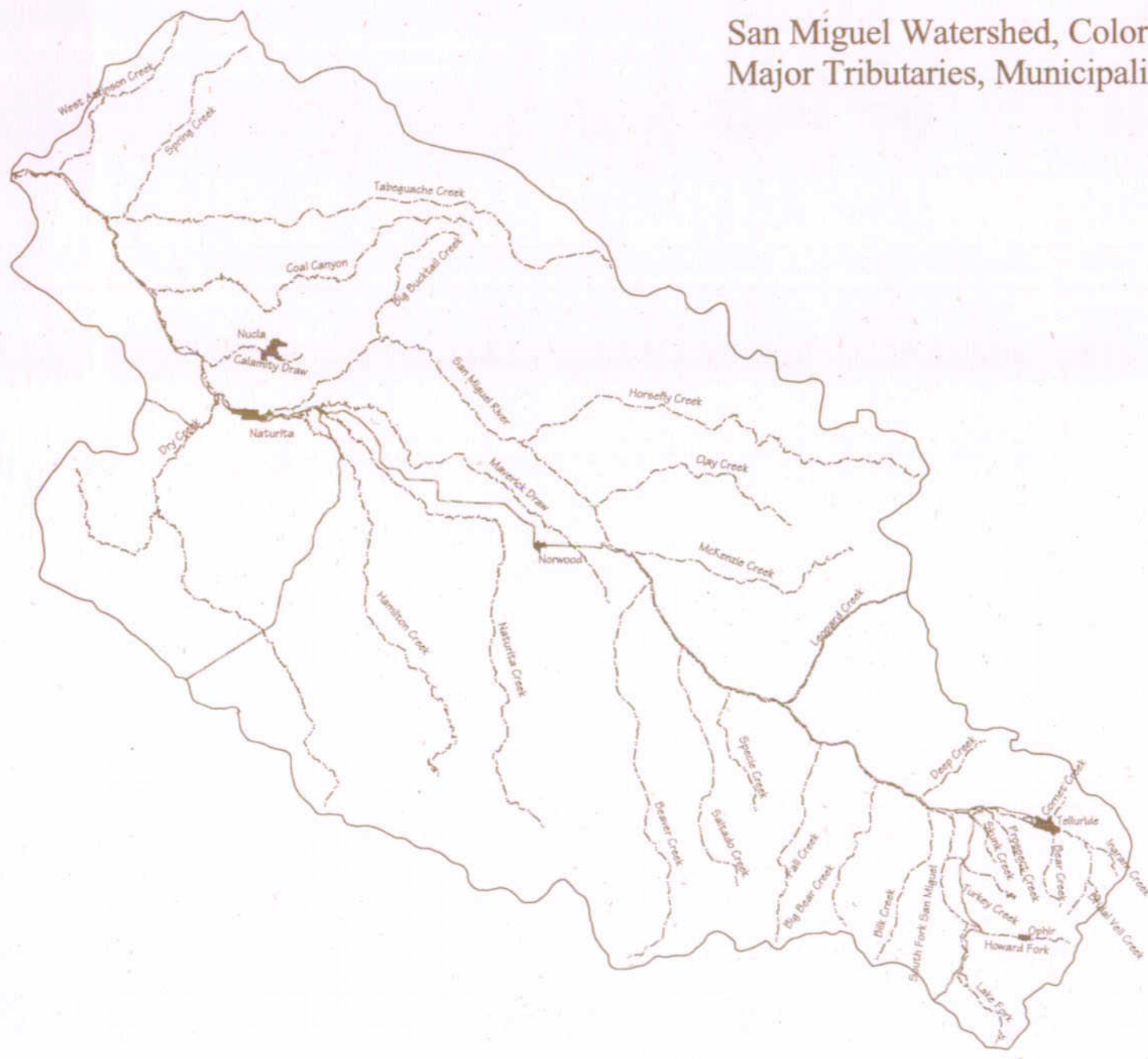
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San Miguel Watershed, Colorado

Major Tributaries, Municipalities and Highways



Major Tributaries San Miguel Watershed, Colorado



-  Major Tributaries
-  Minor Tributaries
-  Municipalities



Produced by
The Telluride Institute Initiative Program
Telluride, Colorado
970/728-4402
ciawm@telluride.org





Photo by Brent Skenebruggen

Ajax Mountain avalanches as Telluride residents watch. Fifty to sixty percent of the annual precipitation falls as snow in the high elevation headwaters of the San Miguel Basin.



Introduction

Overview of the San Miguel Watershed

The one-million-acre San Miguel Watershed lies within one of the largest remaining relatively undisturbed areas of North America. At its heart, the free-flowing San Miguel River extends for 80 miles from high alpine headwaters above Telluride to a desert confluence with the Dolores River. The San Miguel is considered to be one of the few remaining ecologically and hydrologically intact river systems in Colorado.

Historically, the area's economy has been based upon mining, ranching, logging, power production, and agricultural activities. More recently, the upper basin has been experiencing very high growth rates based upon the international reputation of Telluride's ski resort, high quality festivals and events, retirement and second home development, and a variety of outdoor recreational opportunities

For better or worse, the San Miguel Basin is changing. The upper Basin's shift to a resort economy, coupled with a decline of traditional industries, has altered social and economic patterns. Residents are concerned about a host of environmental issues, such as degrading riparian communities, the spread of noxious weeds, impacts to water quality and unstable river channels. Basin communities are challenged with find



ing ways to enhance their long-term economic and cultural well-being while preserving landscape health.

Why is a watershed approach important?

A host of natural, social and economic issues have residents concerned about their future. But who is deciding the future of the San Miguel Watershed? A watershed-wide planning process, open to all, provides an opportunity for basin residents to claim informed local control of their environment and their lives.

A watershed approach brings together people with a diversity of perspectives and expertise. With the big picture in mind, solutions to specific problems will be well-founded, may address multiple areas of concern, and will be more likely to succeed. By teaming up, we can bring more resources to bear on problems in an efficient manner.

Also, a watershed approach transcends jurisdictional boundaries. It provides opportunities for coordination and collaboration that set the stage for win-win solutions. For the San Miguel, a watershed planning process offers lower Basin communities their first opportunity to collaborate with the upper Basin in decision-making about issues of regional concern.



The San Miguel Watershed Coalition

In 1995, citizens, community groups, local governments, and state and federal agencies began taking a watershed approach to address concerns and opportunities in a way that balances economic needs and resource conservation. The San Miguel Watershed Coalition was formed, and has provided an important opportunity for participants to work together to solve problems, and for all Basin communities to collaborate on issues of regional concern.

Mission

Through a process of collaborative planning and substantive public involvement, the San Miguel Watershed Coalition will help identify, prioritize, and facilitate action that will conserve and enhance the natural, cultural, and recreational resources and the social and economic vitality of our communities. The Coalition will provide a forum for agencies, jurisdictions, interest groups and individuals to discuss issues and opportunities on an ongoing basis.

Vision

The San Miguel Watershed Coalition contains citizens from all parts of the Basin who share a passion for this extraordinary place. In spite of some historic and ongoing differences, we agree on a vision of a watershed future with these common features:

- A landscape maintained in good health through protection and responsible use of natural resources;
- A sustainable economy offering opportunities for growth and employment guided by a strong sense of community identity;
- A cooperative atmosphere where individuals, organizations and agencies work to create a balance between economic opportunity and resource conservation while respecting individual rights and differences in views;
- Availability of a diversity of high quality recreational opportunities;
- A citizenry educated about the close connection between resource conservation, economic vitality and quality of life and committed to good watershed stewardship.

Issues important to the watershed community began to be identified in 1995 through a series of all-day public meetings. Subsequent focus groups fleshed out objectives and potential actions to address these issues. A planning team made up of local elected officials and staff from agencies and organizations was formed to develop, out of this initial work, a Watershed Plan.



"The multi-jurisdictional and private interest-derived Plan will provide the citizens of San Miguel County with a meaningful opportunity to devise and support programs that balance ecological responsibility with sustainable preservation of resource use. San Miguel County looks forward to the rewarding challenges ahead as this process unfolds into new opportunities for all of us, and commends all of those who continue to participate in this process."

- Jim Craft

San Miguel County Commissioner

"Montrose County is in support of the Coalition's approach towards bringing together the citizens of the San Miguel watershed for constructive discussion for individual plans and collaborative futures"

- Leo M. Large

Montrose County Commissioner

Purpose and use of the San Miguel Watershed Plan

The purpose of the San Miguel Watershed Plan is to assist Basin residents and resource managers in making decisions regarding the future of the San Miguel Watershed. The plan outlines a philosophy of watershed management (balancing economic opportunity with resource conservation), provides resource information, lists ideas for actions that can be taken to protect and improve Basin resources, and establishes a collaborative process for recom-

mending priorities and helping to implement actions. Potential actions included in the Plan may be implemented by individuals, interest groups, local jurisdictions, or state and federal agencies. Many of them rely upon partnerships, incentives, and education.

The Plan is not a regulatory document. While some potential actions do address regulatory or management changes, these can only be implemented if acted upon by the appropriate, existing authorities at the local level.

It is important to note that the watershed plan is not meant to be a static, finished product. Rather, it is a work in progress that will change over time with new information and ideas. The plan will be valuable in direct proportion to the ongoing participation of Basin residents.



Members of the Watershed Coalition Planners Team and Management Coordination Committee on a river restoration site visit.



How will the people of the Basin benefit from the Coalition?

The Coalition provides three principal benefits to the communities of the San Miguel Basin:

coordination and facilitation
information and expertise
funding

• Coordination and facilitation

There is a historic tendency for the thinking of jurisdictions and agencies to end at their borders, missing valuable opportunities by failing to get the big picture. The Coalition provides a forum for collaborative effort whereby jurisdictions and agencies can work together to identify where their individual plans and projects overlap, conflict, or complement each other. This leads to greater efficiency, less duplication of effort, and a bigger bang for the buck. Already, agencies are beginning to coordinate their efforts, towns are talking, and the watershed as a whole is operating more efficiently.

• Information and expertise

The Coalition includes long-time residents, skilled practitioners, scientists, and land and resource managers from a variety of agencies. By working in a collaborative atmosphere, the information and expertise resident in the Basin can be more easily accessed and better used.

• Funding

A partnership of agencies, interests, and jurisdictions with a jointly held, com-

munity-derived, comprehensive view of watershed needs will be far more successful in attracting grants than these same entities fighting separately over the same pots of money. In 1996 and 1997, the Coalition was able to raise \$500,000 in cash grants, coupled with an additional \$700,000 in in-kind services, for watershed improvement projects.

How will the Coalition provide these services?

We will provide coordination/facilitation, information/expertise, and funding through two avenues:

planning documents
an ongoing forum

• Planning Documents

In producing the San Miguel Watershed Plan, the San Miguel Watershed Coalition worked to connect the efforts of seven towns, two counties, eight state and federal agencies, as well as hundreds of Basin residents and interest groups. The Plan represents the most current information and the best ideas and expertise of a wide variety of people throughout the Basin. The Plan offers direction for watershed management, and provides a compendium of potential actions.



Based on the Watershed Plan, the Coordinating Council of the Coalition will develop an Action Plan every two years recommending priority actions that can be taken by the appropriate watershed entities. (The Coordinating Council is described more fully in the implementation chapter.)

Like the Watershed Plan, the biennial Action Plans will not have any binding authority. They are not regulatory documents. The purpose of the Action Plans is to provide direction to and empower those with implementation authority or ability.

As a product of collaborative, community-based decision making, projects listed in the Watershed Plan, and more particularly the biennial Action Plans, will enjoy an increased likelihood of success in attracting grant monies for implementation. Granting agencies and foundations today place a high value on projects that demonstrate partnerships, collaborative planning, and community support.

• Ongoing Forum

The Coordinating Council of the Coalition will meet on an ongoing basis, providing a forum for individuals, interest groups, jurisdictions and agencies to discuss problems, establish partnerships and discover opportunities.

This collaborative atmosphere will afford better coordination of watershed improvement projects. It will also provide a clearinghouse for those seeking information on best management practices, permit requirements, or funding

sources. And it will serve to put people in touch with available local and regional expertise. Once a year, the Council will hold a plenary session where all citizens of the watershed will be invited to review the Council's work and provide advice.

It is expected, from time to time, that the Coordinating Council will be asked to help facilitate solutions to sensitive or difficult situations. When such a request is accepted, the Coalition's position will be to act from the standpoint of illuminating issues and concerns, bringing the best expertise to bear, and designing win/win solutions.

The Coordinating Council will promote the formation of Task Forces of interested citizens and professionals to research topics of concern, or address specific problems. Examples could be surveying recreational users or mining operators, creating useful watershed maps, or conducting on-the-ground field data collection or restoration work. Participation on a Task Force will provide citizens with a way to become actively involved with the Coalition in areas that concern or excite them. Already an educational task force has formed and is working to establish living classrooms, or outdoor laboratories for students from the Basin's three school districts.

How can citizens become involved in the Coalition?

The effectiveness of the Coalition depends directly upon the knowledge, skills, and participation of the citizens of the San Miguel Basin. Come join us. Here's how:

• **Serve on a committee**

Serve on the Coordinating Council as a representative of an interest group. Become a member of a Task Force focused on an area of your interest or expertise.

• **Be a steward**

Adopt a stretch of river, stream, or piece of land and visit it often. (If it is privately owned, get permission to be there). Observe and document changes, both positive and negative, and keep the landowner informed. Learn to assess the health of different ecosystems, and when you learn, teach the rest of us.

• **Take photos**

Pick a theme (waterfowl, vegetation) or a certain location and photograph it for an extended period of time to document the change or range in the subject. Find photographs taken 10 or more years ago, and take one now from the same point. Show your work to others.

• **Conduct historical research**

What was the original meander pattern of the San Miguel River? What did the original valley look like? Newspapers, oral histories, and historic photos can

be the basis for "then" and "now" views of land use and environmental changes. Evidence for "the way it" was can be vitally important for resource management.

• **Monitor resources**

Count trees, wildlife, benthic macroinvertebrates or take water flow measurements. Collect data over a period of time. Record the information in a systematic way for future use.

• **Make presentations**

Many groups (schools, service organizations) are looking for speakers who can entertain and inform, and many of these organizations include new or part-time residents. If you enjoy playing to an audience, then making presentations could be your contribution.

• **Organize**

Be the brains behind a workshop, conference, focus group, meeting, field trip, photo exhibit or demonstration.

• **Join work party**

Organize or join a work party to plant vegetation, clean up a stream, help repair fences or trails, or declare war on noxious weeds.

• **Write an article**

It is much easier to find a book about a tropical rain forest than about the San Miguel River Basin's natural systems. Write an article, for any age, that will improve knowledge of this place and its natural history.



- **Manage a Database**

Organize information, collected by you or others, on a computer database, and make the data accessible to others.

Gathering information about birds, fish, frogs, butterflies and ice flows can be very interesting, and it can have long term scientific value. There are northern goshawks in these forests. Can you help document their presence?

- **Keep informed**

Get on the mailing list to receive the Coalition's newsletter. Attend Coordinating Council meetings to get information, discuss concerns, or just keep abreast of what's happening in the watershed. Come to the annual Plenary Sessions to review the Council's work.

What has the Coalition accomplished so far? Besides the development of this Watershed Plan, the Coalition has helped to advance numerous efforts:

- **In-stream flow assessment**
- **Water source protection projects**
- **River restoration studies**
- **Wetland identification and mapping**
- **Siltation and storm water protection studies**
- **Watershed educational planning, and funding for "Living Classrooms" and educational videos**
- **Integrated weed control efforts**

- **Support for stewardship programs: River Ranger and Greenbucks**
- **Geographic Information Systems (GIS) mapping grant from GOCO**
- **GIS equipment grant from the Smithsonian Institution**
- **Watershed Land Sat classification studies**
- **Continued public involvement and ongoing exploration of important watershed issues**
- **Improved coordination between federal agencies**
- **Improved communication between towns, governments at all levels, and Basin citizens**

The existence of the draft San Miguel Watershed Plan was instrumental in securing many of the grants received by Coalition members in 1997. See background document for a complete list of 47 projects supported by the Coalition that were ongoing in 1997.

Introduction to Objectives and Potential Actions

The overriding goal of this plan is the health of the San Miguel Basin. To achieve and sustain this goal, there are three primary tasks: 1) to protect what is healthy, 2) to restore what is degraded, and 3) to plan appropriately for future development and use. The management framework presented here contains 34 specific objectives and almost 300 recommended actions designed to advance these three tasks.

In moving toward the goal of watershed health, we must begin to acknowledge the interconnectedness of the Basin's natural, economic, cultural, social, and recreational resources. By its very nature, a watershed is primarily about linkages and connections, a fact long recognized not only by scientists and naturalists but by Basin residents and ranchers as well.

Common Elements

Throughout this chapter, certain concepts crop up repeatedly whose elements are integral to the five major themes of the Watershed Plan (water, natural resources, growth and community preservation, education and stewardship, and recreation):

• Resource Conservation

Gifford Pinchot, the first director of the U.S. Forest Service, defined conservation as the "wise use of our natural resources." And Aldo Leopold, the father of modern conservation, rephrased the definition of conservation as "a state of harmony between man and the land." At no time has this been of greater relevance than now, as we continually face crises born of the interplay between historic land use, modern values, development, and resource capabilities.

• Economic Development

Conservation of Basin resources is not possible without accommodating the economic development needs of watershed communities. All of the Plan's recommendations, either directly or indirectly, address economic development, conservation, or both. These are the two central concerns of the San Miguel Basin, and together provide the dichotomy and the tension within which creative solutions may emerge.

• Sustainable Use

If we harvest timber, graze livestock, hunt wildlife, raft rivers, develop tourist sites, and mine non-renewable resources we endeavor to do so in such a way as to manage renewable resources so they continue to provide those resources for generations, and we manage the reclamation and practices of non-renewable resources extraction so as not to damage adjoining or future uses.

• **Partnerships and Cooperation**

Many of the management recommendations here are based on the premise that as often as possible we should be working together to make sustainable decisions for the future of the watershed. This means increased communication, cooperation, and coordination among diverse players who share common interests. It means new partnerships among government agencies, community organizations, business interests, landowner groups, and citizen representatives. Strengthened partnerships enable broad-based understanding, promotion, and support of locally led conservation and economic development efforts. Regarding governmental services, the need is less for new programs than for full implementation of existing ones. Efforts toward this end can be strongly leveraged through partnerships.

• **Education and Stewardship**

One of the five resource management themes of the Plan, education and stewardship reflect a central principle of watershed health -- the importance of increased public understanding of the workings of natural systems. In order to practice sustainable resource management, we must not only be educated, but act responsibly as good stewards of the land. Education is also the focus of specific actions that appear under the heading of each of the other four themes, addressing the need for increased awareness and access to information about the ecological and economic value of specific resources and how to better manage these resources for sustainability.

• **Local Planning and Decision Making**

Many recommendations in this Watershed Plan are directed toward local officials and communities. This reflects an awareness that the most significant decisions regarding land use, economic development and conservation are made at the local level.

• **Incentives**

Incentives are favored in this document to address many of the issues identified here rather than relying too heavily upon regulations to accomplish an objective. By using incentives, one honors the individual and helps foster an attitude of stewardship for land and resources.

• **Research and Data Needs**

A final common element is the need for further research about the various components of the watershed and its natural systems. Increased data can fill the gap in our knowledge base, allowing more effective management decisions to be made. Specific data needs are sometimes called out after recommended actions.

Comments to the Plan

Comments to the Watershed Plan have ranged from "brilliant" to "burn it." They've included concerns over style; tone and balance; suggestions on missing topics and gaps in the information; corrections in the content; general advice and guidance; philosophical support; and strong opposition. Each comment was taken very seriously. Many were incorporated into the text. Some



action items were changed or deleted as a direct result of the comments received. The final draft document was copy edited for balance in tone and style, and it was drastically reduced in length.

The Coalition acknowledges that some residents of the San Miguel Basin may distrust this process and see no benefit to working cooperatively toward mutual goals or a common vision of the future. But, assessing the Plan's primary goal of watershed health, the value of the recommended cooperative actions seems, in the end, to outweigh these real if dissenting concerns.

Organization of this Chapter

The following objectives and potential actions are discussed in five discrete thematic groupings - water, natural resources, growth and community preservation, education and stewardship, and recreation. However, these topics are

intimately interrelated, and to successfully address watershed health, they must be considered together as an integrated whole.

The objectives and potential actions represent the work of over 150 Basin residents, local officials, and agency staff who attended day-long public meetings, participated on task forces, served on the planning team, provided feedback at community presentations and/or contributed through one-on-one communication. The issues addressed in this Watershed Plan are the watershed community's issues, and the actions listed to address these issues are the community's suggested actions.

In some cases, the San Miguel Watershed Coalition itself can pursue the "potential actions." Often, however, the potential actions can only be realized if acted upon by agency officials, local governments, and/or the private sector.



Norwood rancher moving cattle.

Photo by Bob Chickering

Theme 1

Growth and Community Preservation

Background

The San Miguel Basin has a rich and colorful history. The Telluride area developed from underground hard-rock mining. The Norwood area developed mostly as a ranching and timbering center. And the Nucla and Naturita areas developed largely as a result of underground uranium mining. The resulting cultural and philosophical differences are significant between upper and lower basin communities due to the characteristic way each area has developed historically.



Mario Zadra's sheep and sheep herders heading for summer range.

In years past, many people migrated to the San Miguel Basin seeking jobs in mining (the boom). When mining slowed, frequently people left seeking work elsewhere causing a population downturn (the bust). It has taken San Miguel County 50 years (1940 to 1990) to gain back the population it had in boom times prior to 1940.



Seeing the impending economic bust from the proposed closing of the Idarado Mine, Telluride opened a ski area in 1972. Since that time, the Telluride region has become the main engine of change in the watershed. The economy has experienced a major shift from mining to a service-related economy in tourism.



Redvale volunteer fire-fighters in training. Long commutes affect the vitality of rural communities which rely on volunteers for critical emergency services.

The lower Basin has maintained a portion of its economy in mining. Today many people are choosing to live in the watershed because they like the lifestyle and are willing to do what's necessary to stay.

Recent resort growth in Telluride has spurred a whole series of ripple effects in outlying communities. Due to inflated land and property values, Telluride workers cannot afford to live there. They seek less expensive alternatives in



other communities such as Norwood or even much farther away. The result is traffic congestion on the narrow mountain roads, safety problems, air pollution and higher costs for workers.

While growth and development generates new tax revenues, these revenues are often not generated in places where they are most needed. An example is the need for emergency medical services in outlying communities. Cultural vitality suffers at both ends of a long commute. Agricultural lands and open space are swallowed up by development. Once again, the economy is largely dependent upon one major economic sector and, therefore, susceptible to national economic trends.

Objectives and Potential Actions

Objective 1: Provide affordable housing in the Telluride service area to accommodate demand from lower income populations.

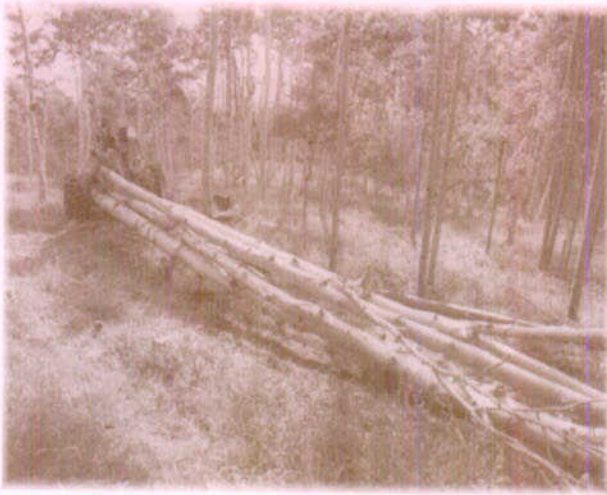
Potential Actions

- Hold a Basin-wide conference on the housing issue.
- Make housing a focus of coordinated planning between each of the planning efforts going on in the Basin at this time.
- Create a wider range of housing supply from seasonal to long term family. Seek federal incentives for ownership and develop more seasonal housing options.
- Consider options such as sweat equity, zoning for mobile home parks, rental price controls, and multiple owner housing.
- Consider more public/private partnerships to increase housing supply.
- Investigate opportunities for acquiring Bureau Land Management and US Forest Service lands to locate affordable housing.



Photo by Rob Hales

Telluride Mountain Village. New Construction valuation for the upper Basin totalled approximately a 100 million dollars in 1997.



Aspen harvest.

Photo by Bob Huber

Objective 2: Provide transportation alternatives and other measures to ease traffic and parking congestion.

Potential Actions

- Coordinate the several transportation planning efforts under way.
- Complete and implement a regional transportation plan.
- Promote a regional park-n-ride system, car-pooling vouchers, and employer purchased bus vouchers as part of worker compensation and other techniques to decrease traffic congestion.
- Find ways to raise local wages, promote telecommuting, and promote the purchase of locally produced goods and services to retain good paying local jobs in order to reduce commuting and, therefore, ease traffic pressures.
- Encourage the Colorado Department of Transportation to build turnouts along the narrow mountain highway commuting

corridors and seek new driving regulations from the state legislature requiring slow vehicles to use these turnouts.

Objective 3: Maintain the Basin's rural character by preserving land in agriculture and open space.

Potential Actions

- Investigate, develop and enhance means to assure the profitability of ranching.
- Provide ranchers incentives to preserve open space and protections from development pressures.
- Consider Homestead Exemptions to help people stay on the land in the face of rising property taxes.
- Use planning and zoning effectively to promote both urban and rural lifestyles.
- Investigate the use of transferable development rights, cluster development, infilling and other voluntary planning tools to transfer development to the most suitable locations in the Basin.
- Use determinations of sustainability for critical limiting natural resources (such as water or habitat) to guide growth plans.

Objective 4: Diversify the Basin's economy maintaining traditional industries while creating opportunities for new enterprises.

Potential Actions - Overall

- Couple up with existing economic development opportunities locally and regionally and apply a watershed-wide economic development criteria.
- Explore appropriate grants and programs to provide incentives for suitable business growth.
- Since tourism impacts now rival logging and mining impacts, promote jobs that direct and lower the impacts of tourism, such as guide services.
- Encourage small locally generated business and cottage industries.
- Identify through regional planning the most appropriate industries for different areas, and target training at regional technical schools accordingly.
- Explore the availability of existing revolving loan funds at Region 10 or elsewhere to develop sustainable industries.
- Support environmentally sustainable logging and ranching and environmentally sound mining on public and private lands.



Potential Actions - Logging

- Provide facilitative services to opposing groups and agencies to reduce delays and appeals in order to assure a steady, sustainable supply of timber to the local industry.
- Investigate applying the concept of certified forest products which ensures that trees are harvested in a sustainable and environmentally sound manner.
- Involve the public more in the forest planning process.
- Develop specific criteria to determine when logging or other forest management practices, such as fuel reduction, are needed within the BLM's Area of Critical Environmental Concern (ACEC) to meet forest health and riparian management objectives.
- Develop joint BLM/USFS fuelwood gathering policies, targeting areas that can be effectively used by the public and in which vegetative management goals can be reasonably met.
- Consider incentives to promote fuelwood gathering in more remote areas, consider exceptions to restrictions on off-highway vehicle use in designated fuelwood gathering areas.



At the Norwood Rodeo.

Photo by Bob Chickering

Potential Actions - Grazing

- Develop management plans for grazing that are flexible enough to address existing and changing conditions in the livestock industry and an individual permittee's needs.
- Undertake efforts to ensure that media coverage and user education efforts are balanced in presenting grazing issues. Use the Infozone as one tool to get grazing information out to a diverse public.
- Continue to work with permittees on compliance, and enforce the terms and conditions of grazing permits including using measurable objectives for riparian pastures and rangeland health standards.
- Support proposed grazing actions that are consistent with goals and objectives for improved landscape health developed in the Mesa Creek and Dry Creek Basin Coordinated Resource Management Plans.
- Support continued coordination among private and public land grazing interests particularly among

BLM, USFS, and the Natural Resource Conservation Service (NRCS), and identify ways to improve communication.

- Where range improvements are located near visitor concentration areas (in the San Miguel Recreation Management Area), any improvements should be designed to enhance recreation experiences.
- Support protection of rangeland condition and stock driveway use from recreational impacts. Identify high incidence areas of recreational and grazing conflicts.
- Maintain and ensure the legal right of cattlemen to use stock driveways.



Telluride Bluegrass 1997

Photo by Bob Huber

Potential Actions - Mining

- Work with mining interests to help them be assured of a future in mining, including maintaining profitability of their enterprises.
- Develop better coordination among agencies, Basin communities and Basin counties regarding the mining permitting process as well as the assessing and monitoring of mitigation measures included in the permits.
- Encourage a proactive approach by identifying alternative sources of gravel that are closer to where the need is.
- Encourage recycling of gravel, asphalt, etc.
- Work with gravel operators to better address problems of traffic, dust and other potentially hazardous conditions associated with gravel hauling.
- Encourage development of limestone sources that provide cleaner gravel.
- Monitor casual use mining operations to determine if additional regulations are needed to minimize impacts to recreational facilities, riparian areas, etc.



Western Fuels Colorado owns and operates Nucla's state-of-the-art coal mine.

Photo by John Fagan

Objective 5: Enhance coordination and collaboration between watershed communities about growth and other key issues.

Potential Actions

- Gain acceptance of the San Miguel Watershed Coalition as a regional entity whose purpose is to preserve and enhance the Basin's economy, culture and environment.
- Develop planning structures that include Basin-wide participation by all parties, such as the Scenic Byway Council.
- Develop coordinated planning among each of the current and proposed planning efforts throughout the watershed. Identify Basin-wide priorities, promote effective collaboration and secure funding. For example, develop memoranda of understanding among entities and/or joint review of watershed-wide issues.
- Hold watershed-wide conferences to solicit public opinion on key watershed issues such as housing, transportation and economic development.
- Provide multiple avenues for citizen input such as using surveys to get feedback from people not usually involved in meetings and seek opportunities to bring diverse groups together for dialog.
- Produce a watershed calendar to spread news of events, important meetings, and planning efforts. The calendar would emphasize coopera-

tion and ground level management, intergovernmental relations and relations among diverse groups in the watershed.

- Encourage more lower-Basin planning (e.g. master plans).
- Rotate the location of agency and county government meetings to increase the flow of information and enhance trust.

Objective 6: Enhance coordination and collaboration between local, state and federal governments involved in watershed decisions.

Potential Actions

- Gain acceptance of the San Miguel Watershed Coalition's role as the watershed's voice in a new way of doing business.

- Work closely with federal and state land management agencies and local organizations (e.g. soil conservation and water conservation districts, and weed management boards, etc.) on pertinent watershed issues.
- Integrate regional concerns into federal and state planning, such as including regional impacts in the cost/benefit analysis of ski area expansion.
- Emphasize the need for government at all levels in the watershed to work better together and develop a process to foster this approach.
- Provide ways for the citizens in the Basin to offer more collective input into issues that deal with federal, state and local governments.
- Coordinate with and educate congressional delegations about important watershed issues.



Corral on Wrights Mesa near Lone Cone.

Photo by Bobi Chickering

Theme 2

Water

Background

In the semi-arid western states, the quantity and quality of water supplies are major issues that shape and limit community development. The San Miguel Basin is no exception.

Rapid increases in tourism, growth and development are causing concern, as consumptive water use continues to grow. With the increased use of water, adequate instream flows necessary to protect and sustain the natural resources and values associated with the Basin's river systems are at risk, as are municipal water systems and water needed to maintain the area's agricultural base. Another Basin-wide issue is the concern over impacts to local water supplies from potential water demands needed to recover endangered fish species in the lower Dolores River and the Colorado River.

Water quality, sufficient to protect the various water uses, is also an issue. In the upper Basin growth and tourism are contributing to nonpoint sources of water pollution, such as sediment and nutrient loading. With increased dispersed recreation, biological pathogens provide an increasing threat to domestic and municipal water systems (source water areas). Reclamation efforts have reduced heavy metal pollution from historic mining practices in some upper Basin tributaries, but several heavily polluted drainages still exist.

Rangeland health is an issue, especially in the more arid expanses of the lower portions of the Basin, where accelerated levels of sediment and salinity are introduced into surface waters.

Maintaining healthy and diverse vegetation communities on these rangelands is important to protect water quality, minimize soil loss, and maintain rangeland productivity.

The issues, goals, and objectives listed below are but a few of those identified during several public meetings held throughout the San Miguel Basin. The potential actions were selected as priorities for the San Miguel Watershed Coalition, because of the Coalition's capability of providing information, expertise, coordination, and funding towards achieving these recommended objectives.



Photo John Fagan
The Nature Conservancy Preserve in Ilium Valley. The San Miguel River is noted for long stretches of high quality riparian vegetation.

Basin Hydrology

The San Miguel River is tributary to the Dolores River in the upper Colorado River System. The headwaters of the San Miguel River are located in the high elevation alpine zone of the San Juan Mountains. The mainstem flows in a northwesterly direction for over 80 miles and drops 7,940 feet in that distance, for an average river slope of 1.9 percent. The river drains approximately 1,550 square miles at its confluence with the Dolores River, below the old town site of Uravan.

The average annual precipitation in the San Miguel Basin is 24 inches per year, and varies from a low of less than 12 inches at the river's mouth, to over 50 inches in the high elevation headwaters. Fifty to sixty percent of the annual precipitation falls as snow. The remainder occurs as rainfall during spring frontal storms, and in late summer and fall as high-intensity, short duration storms. Approximately 60 percent of the Basin area is semi-arid rangeland and agricultural lands, both comprising the relatively lower elevations. The remaining 40 percent of the Basin is higher elevation forest and alpine zones, which receives most of the precipitation.

The annual water yield of the San Miguel Basin is approximately 240,000 acre-feet with a mean annual flow of 333 cubic feet per second (cfs), as measured at the United States Geological Survey stream gage near Uravan. Snowmelt runoff from April to July produces the dominant high flow for the river system. However, high flows of



Wrights Mesa rancher lays pipe to conserve agricultural water. Photo by Debra Smith

short duration are common in response to high-intensity storm events in August and September. After the snowmelt season, river flow begins to recede, reaching the annual low during the winter months. An exception to this occurs in a reach of the mainstem, downstream of the confluence of Horsefly Creek, where water diversions for irrigation can entirely deplete river flow during the growing season.

Issues

- Opportunities for additional water conservation efforts.
- Limited water availability for the Towns of Nucla, Norwood, Naturita and Telluride, and agricultural interests throughout the Basin.
- Instream flows and lake levels necessary to conserve water dependent resources and values.
- Providing water sources on public

lands to satisfy public uses and conserve natural resources.

- Impacts to water users from bypass flows required by the U.S. Forest Service.
- Nonpoint sources of water pollution.
- Basin-wide implications of existing and planned water developments.

Goals

- A balance is maintained between water diversions and instream flows, and between human uses and the uses needed to sustain natural resources.
- Water quality remains suitable to meet the present and future needs of the Basin.



Irrigation in Naturita Town Park.

Photo by John Page

Objectives and Potential Actions

Objective 1: Promote water conservation efforts in the agricultural and residential communities of the San Miguel Basin.

Potential Actions

- Support the development of a water conservation plan for the San Miguel Basin.
- Encourage towns and counties to consider water efficiency in planning efforts.
- Support the San Miguel Basin Soil Conservation District program of providing assistance to agricultural water users for irrigation and water management improvements (ongoing).
- Coordinate the preparation of a water conservation position paper for local governments and development interests, and a public education paper for the general populace.

Objective 2: Within the framework of Colorado Water Law, manage instream flows to achieve sustainable river values and resources.

Potential Actions

- Support the preparation of a comprehensive instream flow assessment, using flow and stream morphology data, to determine flow and other hydrologic attributes needed to maintain resources and values provided by stream and river systems (ongoing).

- Promote and support the use of the Colorado Water Conservation Board's Instream Flow and Lake Level Program for managing instream flows and lake levels throughout the Basin.
- For public information purposes, support and coordinate the preparation of a summary of the instream flow assessment, the benefits of managing for instream flows, and an overview of the state's instream flow program.

Objective 3: Manage water sources on public lands to support appropriate land uses and conserve the natural resources associated with these lands.

Potential Actions

- Support the land management agencies in the Basin in their efforts to retain the use of water sources on their respective lands, needed for the management of those lands for present and future generations.
- Promote collaboration between the U.S. Forest Service and local water users in regard to special use permits and bypass flows.



Urban street run-off leaves a blanket of silt in the San Miguel River, a problem being addressed through Telluride's Streetscape Program with state and federal grant funds.

Objective 4: Minimize non-point source pollution of surface and ground water from sediment, biological pathogens, excess nutrients, urban pollutants, heavy metals and hazardous wastes in order to meet or exceed existing water uses.

Potential Actions

- Support and promote road management efforts that minimize sediment production, that provide sufficient buffers between roads, streams and geologic hazard areas, and that minimize applications of road de-icers and sand.
- Support restoration of unstable river reaches to reduce sediment loading and/or promote healthy riparian areas.
- Promote adequate sanitary facilities, and support actions that minimize soil erosion in high-use recreation areas.
- Promote coordinated, watershed-wide water quality monitoring, with the needed consistency in water collection and analysis to allow comparable results.
- Support hazardous material responses on routes in the San Miguel Basin, and promote building in safety features as routes need improvement.
- Support collaborative efforts, such as the Dry Creek and Mesa Creek Coordinated Resource Management Plan's, that have as objectives the reduction of sediment and salinity



loading of surface water and the improvement of the overall hydrologic condition of these areas.

- Promote soil testing to facilitate safe and appropriate application of fertilizer to both agricultural and non-agricultural land.
- Support and promote education to appropriate audiences on sanitation practices in the backcountry; on controlling urban runoff; and on hazmat spill responses.
- Support the source water and well-head protection program, coordinated with San Miguel County's watershed protection zoning, to evaluate water quality impacts of activities on public water supplies and to protect water resources (ongoing).

Objective 5: Support informed decision-making regarding water developments in the San Miguel Basin.

Potential Actions

- Assess water development proposals in light of water needs and hydrologic factors necessary to sustain riverine resources and to preserve existing uses of water.
- Provide and promote factual information dissemination to the public regarding water development projects.



Uranium mill tailings cleanup near Naturita, one of several large mine reclamation projects in the San Miguel watershed. Photo by John Fago.

Theme 3

Natural Resources

Background

Many issues have surfaced during the development of the Watershed Plan relating to natural resources. For example, concern about air and water quality, stream channel stability, riparian areas and wetlands has been expressed. Other important natural resource issues center around fisheries and wildlife and the condition of their habitat, vegetation condition and soil erosion particularly on the uplands. There is a concern for biodiversity and the loss of native species, although some residents oppose federal listing of threatened or endangered species and see it as a threat to local control. Improper waste disposal and unreclaimed mine waste have also been identified as issues. The invasion of noxious weeds is generally seen as a very serious threat throughout the watershed. Citizens have expressed a desire to see a balance struck between environmental protection of natural resources and the sustainability of the Basin's traditional lifestyles and economies. Recognizing that people are a part of the Basin ecosystem as well as agriculture, mining and logging, there is the overriding feeling regionally that Watershed Plan objectives should be met in a way that protects the rights of people and their traditional livelihoods.



Issues

- Stream channels stability and the condition of riparian vegetation due to physical disturbance in river environments.
- Floodplain dysfunction due to existing road placement and maintenance, physical disturbance, and loss of vegetation from past and current uses.
- The effects on wildlife from growing levels of human activity in the Basin.
- The condition of wildlife habitat and vegetative communities, and the disturbance impacts due to growth and increased human activities.
- Concern for native species, as well as their population decline and the diminishment of their ranges due to growth and development.
- Degradation of air quality.
- Health and physical risks caused by abandoned mines, mills, and tailings.
- Invasion of exotic species and noxious weeds throughout the watershed.
- Maintaining the proper function of uplands, particularly as regards to soil health and the quality and composition of vegetation.

Goal

Natural resource issues are addressed in a way that preserves the rich natural legacy and health of the watershed for future generations, and balances human needs with those of natural systems.

Objectives and Potential Actions

Objective 1: Promote an understanding of issues affecting natural resources and coordinate actions in the San Miguel watershed, including the support of on going efforts.

Potential Actions

- Create a natural resource focus group to address natural resource issues in the watershed. Issues could include river, floodplain, uplands, and riparian management; preservation of wildlife habitat and movement corridors; maintenance and restoration of biodiversity; air quality; and abandoned mines and mine waste. This group would be advisory with responsibility for coordinating agency and state and federal government efforts and would include local citizens and landowners.
- Develop a comprehensive set of maps for the Basin that show access and land status, as well as sensitive areas such as wetlands, riparian areas, agricultural lands, wildlife habitat, movement corridors, highly degraded areas, and unique plant communities.

- Develop guidelines to minimize disturbance associated with development, and maintain key plant and animal habitats and sensitive areas. Make suggestions for each jurisdiction in the watershed to adopt the guidelines on a voluntary basis, and promote Best Management Practices to all landowners.
- Provide information to land users to decrease the likelihood of species and/or habitats being placed at risk, while supporting on-going efforts by local citizens in the area of threatened and endangered species protection (i.e., San Miguel Basin Sage Grouse Working Group).
- Coordinate funding opportunities to assure an effective, integrated approach to resource management among watershed partners.
- Continue to work with on-going management efforts to improve resource conditions and identify ways to help these efforts to succeed (e.g. San Miguel Basin Sage Grouse Working Group, Dry Creek Basin Coordinated Resource Management Planning (CRMP), Mesa Creek CRMP, USFS travel management planning process, etc).



Dry Creek carrying a heavy silt load.

Photo by Dennis Murphy

Objective 2: Achieve a sustainable condition to the Basin's river, riparian and wetland environments, and the uplands that surround them.

Potential Actions

- Support the development of restoration plans on high priority sites, based on condition, threat and importance, to re-establish stable channel geometry and healthy riparian vegetation and to prevent future stream channelization. Support ongoing efforts.

Areas of Concern

San Miguel River past Idarado tailings above Telluride and through upper valley

South Fork between Ophir and the confluence with the San Miguel, including the bottom mile of Howards Fork.

San Miguel upstream of Pinon Bridge, near Nucla

San Miguel between Tabeguache Creek and Uravan Dry Creek

- Use a coordinated approach for the protection of river environments, wetlands and surrounding uplands by supporting such things as landowner/developer education, cooperation, incentives, and land use controls (e.g.. overlay protection zones, buffers, and setbacks). Coordinate information with government entities.
- Identify, inventory, map and assess riparian and wetland areas in the Basin and determine their condition and sources of problems. Use an integrated approach with resource management agencies and landowners. Support ongoing efforts.

- Support the acquisition of grants for protection of the San Miguel River, including those to develop restoration opportunities. Also support ongoing river restoration efforts (e.g. the Town of Telluride's efforts aimed at river restoration).
- Support implementation of Dry Creek and Mesa Creek CRMPs and other management efforts to improve upland and riparian resource conditions.
- Use Greenbucks program to enlist volunteers for river clean-ups and restoration of degraded areas.
- Expand the River Ranger position to include more coverage in the lower Basin.
- Support efforts to improve upland watershed conditions among landowners.
- Inform the public on the role of fire and the importance of restoring a natural fire regime where feasible. Encourage more natural fires and the use of prescribed burns where they can be safely applied to maintain or restore healthy landscape function, including improved soil quality.
- Encourage the development of land use regulations that protect wildlife habitat and the San Miguel River corridor.
- Initiate and support public education emphasizing the importance and sensitivity of the San Miguel River.



- Educate the public regarding fisheries management and related issues including the spread of Whirling Disease and threats to water quality.

Objective 3: Protect the ecological as well as human health and safety values of floodplains.

Potential Actions

- Support the restoration and maintenance of floodplains, and encourage landowners to protect floodplains as well as explore options and incentives to reduce risk to property.
- Make recommendations to municipalities and counties regarding land use regulations and innovative techniques that protect the floodplain; support efforts by these entities to implement these regulations.
- Encourage the seamless mapping of floodplains in the basin.
- Develop an interdisciplinary, interagency process to analyze the impact of roads upon floodplains and provide recommendations to the appropriate entity. Distribute information to those involved (e.g., municipal and county maintenance workers and construction activities).



Deer with Lone Cone in the background.

Photo by Bob Chickering

Objective 4: Protect undisturbed and important plant and animal habitats.

Potential Actions

- Coordinate ongoing and future activities of governments, utilities, and developers to protect wildlife, wildlife habitat, and vegetative communities. Pay particular attention to critical ecosystems.
- Identify possible land exchanges, conservation easements, and other conservation measures to help preserve corridors and key habitats (e.g. Gunnison sage grouse habitat). Support efforts of local land trusts, Telluride Region open space groups and landowners to protect key properties with high habitat value or under eminent threat.

Areas of Concern

Deep Creek Mesa	Beaver Mesa
Hastings Mesa	Iron Mesa
Sunshine Mesa	Horsefly Mesa
Wilson Mesa	Wrights Mesa
Specie Mesa	

- Support efforts to direct growth and development to areas with the least impact to critical ecosystem components via County and Municipal Master Plans, Land Use Codes, and Public Land Management Plans. Incorporate standards for wildlife habitat values and wildlife corridors into land use planning.
- Determine habitat requirement for different species, the impacts of fragmentation, and species' needs for long-term sustainability. Identify habitat distribution and fragmenta-

tion by identifying barriers to movement, corridors for dispersal, and critical areas. Recommend road and area closures needed to protect wildlife.

- Adopt or develop standards for evaluating habitat condition and quality jointly among resource management agencies and landowners.
- Support wildlife habitat improvement projects including efforts to secure funding. Place priority upon locations for protection and / or action based upon urgency and importance, particularly the restoration of degraded areas (e.g., Gunnison sage grouse).
- Work to expand the Greenbucks program to include wildlife and vegetation projects outside the river corridor and to develop and support additional volunteer opportunities that will benefit plant and animal resources in the Basin.
- Support the establishment of a proposed jointly funded staff position to provide a better understanding of wildlife issues, assist with habitat improvement projects, monitor conditions, and work with citizens in the Basin.
- Support the Habitat Partnership Program and its efforts to improve wildlife habitat and identify ways of addressing big game management to assure high quality habitat is maintained or restored (e.g., habitat improvement projects, big game harvest recommendations, preservation of open space, cluster developments, etc.).

- Compile information on restoration and habitat management, and use to inform the public and decision-makers on Best Management Practices, wildlife-friendly fencing, habitat protection and enhancement methods, conservation easements, public land habitat protection measures, and how to assess habitat quality.
- Conduct a wildlife and river/riparian workshop for developers, landowners, construction companies, and local governments to provide information on the needs of these sensitive resources and to develop ideas for mitigation.
- Develop comprehensive GIS maps of the Basin showing critical habitats, potential threats, and the present degree of protection and use to document changes in wildlife use patterns. Maps should include: vegetation (satellite mapping), demographic information, buildings, land ownership, roads, trails, wildlife ranges, climactic factors, terrain, and bodies of water.



Wetlands on Telluride Valley Floor.

Photo by Bob Huber



Objective 5: Maintain, and where possible, restore natural plant and animal communities in ways that are consistent with watershed objectives.

Potential Actions

- Analyze effects of reintroduction proposals including the acceptability to Basin residents, impacts on existing ecosystem dynamics, and long term viability of reintroduced species.
- Support and undertake appropriate restoration efforts (e.g. Colorado River cutthroat trout and Gunnison sage grouse). Identify high priority areas for reintroduction.
- Support efforts by resource management agencies to maintain and improve land health, e.g., implementation of the BLM Public land Health Standards and the USFS Rangeland Analysis and Management. (ongoing).
- Support the Basin-wide integrated weed management program. Continue to develop specific weed management measures, including control and education, and seek sources of funding for these efforts. (ongoing).

Areas of Concern	
Area	Exotic Species
River corridor from the bottom of Norwood Hill to Placerville	Burdock, thistle along the road
Road from Norwood to Miramonte Reservoir	Canadian thistle, Russian knapweed
Redvale area to the west end of the Basin	Russian knapweed, Russian Olive, Whitetop
River corridor from Naturita downstream to the Dolores River confluence	Tamarisk
Upland sagebrush parks	Cheatgrass
Nucla	Purple loosestrife
Along ditches, waterways throughout watershed	Various species

- Provide information to the public on the importance maintaining native plant and animal communities in the Basin, and identify ways to enhance diversity or mitigate threats against it.

Objective 6: Achieve and maintain healthy air quality year-round.

Potential Actions

- Support the Town of Telluride efforts (Streetscape Plan) to reduce erosion as well as improve water and air quality (ongoing).
- Support the development of a plan to address source management and appropriate mitigation.
- Encourage use of public transportation.
- Educate the public on causes of air pollution and what they can do to help.

Objective 7: Reduce to an acceptable level the health and physical risks caused by abandoned mines, mills, and tailings.

Potential Actions

- Support efforts to prioritize sites for action based on degree of risk and the significance of environmental degradation.
- Work with landowners to assess needs and identify mitigation alternatives.
- Encourage development of mitigation plans. Implementation will be dependent on availability of funding and the future of the national Superfund Act (CERCLA legislation).
- Support a Basin-wide inventory of abandoned mines, mills, and tailings and an assessment of public risks. Coordinate with on-going inventories, such as the Abandoned Mine Inventory. Identify and sign dangerous areas.



Powder day at the Telluride Ski Area.

Photo by Brett Schreckengost

Theme 4

Recreation

Background

The San Juan Mountains and the canyons and tributaries of the San Miguel River in the watershed provide a diverse range of recreational opportunities and experience for resident and visitors. Recreational activities include downhill and cross country skiing and snowboarding, snowmobiling, whitewater rafting, kayaking, fishing, climbing, hiking, jeeping, biking, horseback riding, backpacking, hang gliding, camping, hunting, scenic driving, and wildlife viewing.

More people moving into the Basin to live, work, and play has resulted in increased use, user conflicts, and social and environmental impacts. Rising recreation demand has precipitated the need to develop methods and plans to effectively manage use in order to protect the very natural resources that people have moved here to enjoy.

The following objectives and potential management actions were developed to address the issues of increased recreation use; camping and river use impacts; increased demand for commercial outfitting services; development, funding, and management of recreation sites and facilities; transportation management concerns; and adequate and appropriate access to recreation use areas.



Land managing agencies (BLM, USFS, San Miguel County, etc.) will be responsible for implementing any actions proposed on lands under their jurisdiction. Wherever possible and feasible, the agencies will coordinate their efforts with other Coalition partners to ensure full public awareness and feedback, consistency, and reduce costs through sharing of resources, joint funding agreements, etc.

Issues

- Appropriate balance between recreation use and resource protection.
- Environmental and social impacts due to increased use from boaters, fishers, campers, hunters, recreational miners, and users of basin roads and trails.
- Conflicts between recreationists and other users.
- Identification of recreation use capacities for sensitive areas (e.g., river corridors, alpine areas, etc.).
- Protection of quality recreational experiences.
- Trespass on private lands.
- Increased demand for commercial recreation permits and special use permits.

- Appropriate access and associated facilities along the river corridor and upland areas.
- Inadequate agency funding for planning, facilities, maintenance, signing, and educational materials.

Goal

A spectrum of high quality recreation experiences is available throughout the watershed and is managed in a way that preserves and protects the Basin's natural environment and unique resource values.

Objectives and Potential Actions

Objective 1: Manage commercial and private recreation within appropriate use levels and managerial capabilities to ensure resource protection and provide a high quality user experience.

Potential Actions

Overall Use Management

- Create an interagency/citizen planning and monitoring group ("Collaborative Stewardship Citizens Council") that includes local citizens and recreation outfitters to accurately gauge recreation growth and recognize problems as they arise.
- Support efforts to determine desirable conditions for all recreation uses in the watershed. Ensure that conditions are consistent with overall watershed goals and objectives

for resource protection and meet agency statutory requirements.

- Monitor all recreational uses throughout the watershed to ensure that natural resource values within the watershed are protected.
- If watershed and recreation management objectives are not being met, develop fair and equitable alternatives where necessary and feasible to keep use at acceptable levels.



River ranger Leigh Sullivan on patrol

Potential Actions

River Use Management (Boating and Fishing)

- Support collection of user data on private and commercial boating and fishing on all popular sections of the river corridor by implementing self-registration systems for boaters and fishers, increasing river patrols during high use periods, and using volunteers to collect user statistics.
- Identify user preferences for various management actions that could be used to alleviate problems and concerns, through user surveys and questionnaires.



- Create a River Users Focus Group to assist resource agencies in developing managing guidelines and standards for boating and fishing. The focus group should include a balanced number of members of the commercial and private boating and fishing communities and others interested in the use of the river.
- Coordinate the location and removal of hazards with commercial outfitters, agency personnel, safety specialists, and biologists.
- Support the development of a system to warn boaters of hazardous conditions in coordination with the San Miguel County Sheriff Department's Search and Rescue personnel and land management agencies.
- Work with landowners to properly sign hazards and agree on portage routes where necessary on private land.
- Work with Division of Wildlife (DOW) and local fishers to ensure that a balance in use is provided for fly fishers and bait fishers.
- Support efforts of DOW, The Nature Conservancy (TNC), and outfitters to develop catch-and-release-fishing areas in appropriate sections of the corridor.
- Support efforts of DOW, NRCS, Naturita, Nucla, and other areas to establish and enhance put and take fisheries in appropriate areas.

Potential Actions

Camping Management

- Support efforts to provide a wide range of camping experiences, from dispersed camping in undeveloped, backcountry sites to recreational vehicle camping in fully developed campgrounds in natural settings.
- Work to develop site specific standards and indicators for river and upland campsite management. Set group size limits where appropriate to keep use within standards.
- Support the development of a BLM/USFS coordinated system for gathering, mapping, and analyzing camping data to maintain consistent and accurate monitoring information and ensure management objectives are met and use is within acceptable limits.
- Increase efforts to enforce and make users aware of the seven-day camping limit for Uncompahgre Forest Lands within San Miguel County and for the BLM's Special Recreation Management Area located in San Miguel and Montrose Counties between Deep Creek and Pinion.
- Support efforts to limit camping to designated areas where needed to protect resources.
- Support the BLM and USFS use of campground hosts and volunteers to provide maintenance and deter vandalism in remote areas.
- Work with landowners to reduce or eliminate camping impacts in sensitive areas on private lands along the river.

- Support incentives for campground development and management in appropriate areas on private land and encourage coordinated efforts by regulatory agencies to streamline the permitting process for private campground developments.
- Support alternative funding efforts (i.e., grants, volunteers, fees, etc.) to offset facility construction and maintenance costs.
- Improve efforts to make campers aware of "leave no trace" camping ethics, particularly during the hunting season.
- Support USFS implementation plans for Ilium Valley and BLM's Special Recreation Management Area plans that restrict camping to designated vehicle or walk-in sites in some areas and prohibit camping in sensitive areas.
- Support efforts to close and rehabilitate existing dispersed camping sites along the river in riparian areas where resource damage has been documented.
- Continue to support efforts by Naturita and Nucla to secure funding for campground and other recreation facility developments.
- Support continued coordination between the BLM, USFS, TNC, San Miguel County, and special events and festival promoters to manage camping and parking during high use periods.



Mountain Bikers.

Photo by Brett Scheckengost

Potential Actions

Commercial Outfitter Permit Management

- Continue coordination between USFS, BLM, and County for issuing and administering existing permits and new permits throughout the watershed.
- Support plans to modify BLM and USFS permit stipulations to incorporate resource protection and visitor use indicators, standards, and management actions to ensure consistency between agencies.
- Participate in the development of a joint USFS/BLM recreation use needs analysis for the watershed which contains criteria for evaluating existing commercial operations and for determining areas where changes in existing permitted use levels or new commercial outfitting services are needed.
- Support BLM's plans to lift the permit moratorium for only those uses that can be provided for and still meet watershed resource protection standards and encourage the awarding of operating (special use) permits to commercial outfitters through a prospectus procedure where a limit-

ed number of outfitters are selected based on visitor use standards, watershed resource protection needs, economic viability, and qualification of operators.

- Work with the existing USFS/BLM statewide task force to streamline joint permit process, fee collections, stipulations, data collection, and reports.
- Support the continuation and expansion of joint BLM, USFS, and DOW law enforcement and permit administration efforts particularly during hunting season.

Potential Actions

Recreational Mining Management

- Support the withdrawal of all BLM existing and proposed recreational sites from mineral entry.
- Work with BLM to develop specific standards for commercial as well as public recreational mining operations and use.
- Periodically review BLM's recreational mining operating plan stipulations and other guidelines to ensure they meet watershed management objectives, resource value standards, site rehabilitation requirements, and have adequate public input.
- Assist in the development of a recreation-mining brochure and signing which has historical mining information, mining guidelines and encourages low-impact mining practices.

Objective 2: Review and revise existing fishing and boating regulations and user information to provide for increased protection and management of sensitive riparian corridors and fisheries.

Potential Actions

Regulations and Guidelines

- Develop a coordinated watershed strategy for determining fishery condition and potential as well as the best management strategies for native, threatened and endangered, and sport fisheries.
- Work with CDOW to revise existing fishing regulations if studies indicate that such changes could improve overall fishery quality and meet specific resource management objectives.
- Work with BLM and USFS to revise recreation regulations, guidelines, and commercial permit stipulations for river corridor uses where needed to keep uses within established limits of acceptable change standards.
- Work with landowners and users to address issue of unpermitted commercial use and unregulated private use occurring from private land bases.

Potential Actions

User Awareness

- Develop detailed and coordinated San Miguel River corridor recreational map(s) and other materials (brochures, videos, interpretive signs, etc.) providing information to make users aware of regulations, promote safety and the proper use of the river and tributaries, protect riparian areas and other sensitive environmental areas, disperse users and direct them to areas which can tolerate higher levels of use, reduce trespass, and ensure the use of proper access points. Coordinate with Trout Unlimited, outfitters, sporting goods shops, visitor centers, and travel agents to provide accurate information.
- Support implementation of a mandatory self-registration system for boaters to ensure they are exposed to river corridor use regulations, safety information, and the need for proper safety equipment.
- Encourage agencies to install information kiosks and visitor use sign-in registers at major fishing access points and implement a self-registration system for fishers to ensure that they are exposed to fishing and other corridor use regulations and "leave no trace" use ethics.
- Continue to support and encourage additional joint funding for River Ranger and other positions to increase visitor contacts, user education efforts, provide for increased BLM and USFS presence on the river, and monitor resource impacts.

Objective 3: Provide coordinated management for recreation uses of Basin roads and trails to minimize resource damage and hazardous situations, and address use-related issues.

Potential Actions

- Use the Collaborative Stewardship Citizens Council to review travel management issues, develop standards for motorized and non-motorized travel on roads and trails consistent with regional and site-specific plan objectives, and determine if new routes are needed.
- Host forums for the discussion of watershed travel management issues and encourage user involvement in regional and local travel management planning efforts.
- Solicit feedback from users and provide comment on travel management alternatives and actions proposed in the Forest Service Uncompahgre Travel Management Plan and similar documents.
- Review existing travel management guidelines and regulations and propose modifications where needed to ensure consistency with approved regional travel plans and watershed protection actions.
- Coordinate, wherever feasible, implementation of the Forest Travel Plan with actions proposed in the San Miguel Watershed Plan to ensure consistency and reduce duplicate efforts.
- Coordinate efforts with the San Miguel County Trails Council to



ensure interagency coordination and user involvement in the implementation of the San Miguel County Master Trail Plan.

- Improve the coordination of plans and funding proposals for development and/or maintenance of recreation trails, roads, and access points, etc. to ensure effective use of budgets and resources.
- Develop user education efforts and materials to increase user awareness of travel opportunities, issues, impacts, regulations, and user ethics. Increase outreach efforts to specific users or user groups that are causing problems.
- Support the designation of some roads or trails for specific uses as warranted by increased use, safety concerns, or user conflicts.
- Support the use of volunteers for construction and maintenance of trails and facilities. Support the coordinated planning and funding for Off-Highway Vehicle trail projects from Colorado Off-Highway Vehicle Coalition, Great Outdoors Colorado (GOCO), and other sources.
- Work with agencies and user groups to provide information about limited use areas, road closures, and non-motorized areas, and develop better methods for closing roads where necessary.
- Support the continued development of plans for a trail to connect Uncompahgre RiverWay trail at Ridgway with the Galloping Goose Trail in Ilium Valley.

Objective 4: Support coordinated management and funding for visitor services including user information, education, recreation sites, and monitoring.

Potential Actions

Site Planning and Development

- Assist managing agencies in the preparation of a coordinated inventory of recreational and cultural sites and opportunities on both public and private lands in the watershed.
- Use site inventories, user statistics, user preference surveys, and Watershed Plan feedback to determine, monitoring, maintenance, and enforcement needs at existing facilities and identify where new or improved facilities, interpretive signs, and user information are needed to address present use impacts and keep increasing use within acceptable levels for resource protection.
- Use Collaborative Stewardship Citizens Council to prioritize watershed maintenance and facility needs and develop a strategy for coordinating the planning and development of construction projects, funding requests, and watershed partners' support for selected projects.
- Support facility design that emphasizes barrier-free access wherever feasible, maximizes protection of cultural sites, and minimizes impacts to scenic and other resource values to retain the natural and undeveloped character of the area.



Photo by Brett Scheckengost

Kayaker and companion on the San Miguel.

Potential Actions

Site Management, Monitoring and Maintenance

- Support an increase in the level of administrative presence in the form of patrols, education, and interpretation. Encourage emphasis on visitor safety and resource protection.
- Provide continued coordinated funding and support for the Greenbucks Volunteer Program and similar efforts that provide recruitment, training, supervision, and management of volunteers for environmental education, watershed protection projects, and site monitoring and maintenance.
- Provide continued coordinated funding and support for the San Miguel River Ranger and proposed Wildlife position. Increase funding levels for these positions to provide for increased monitoring of recreation sites, visitor services, and volunteer coordination for maintenance projects.
- Coordinate, wherever feasible, the

funding and management of campground hosts, recreation interns and seasonals, concessionaires, and the use of independent contractors to perform needed maintenance tasks (e.g., trash removal, toilet pumping).

- Coordinate, wherever feasible, the planning and implementation of large-scale projects such as river cleanups, trail construction, resource rehabilitation projects, and cultural site stabilization projects to ensure the most effective use of resources.
- Continue to improve coordination of law enforcement efforts to ensure user compliance with regulations and effective investigation of incidents of vandalism, trespass, accidents, and complaints.

Potential Actions

Funding

- Continue to emphasize the need for adequate budgets and personnel for timely implementation of watershed plan actions in annual budgets and coordinate interagency requests for additional resources, technical assistance, visitor surveys, and watershed studies and inventories. Suggest ways to increase effectiveness.
- Continue to pursue outside funding sources such as Intermodal Surface Transportation Enhancement Act (ISTEA) grants, GOCO grants for wildlife, trail, open space, and capacity building, State Historic Grants, and Colorado Scenic and Historic Byway Grants as a means to supplement budgets.

- Continue to provide technical assistance and funding, where possible, to support efforts of local historical societies, chambers of commerce, interpretive associations, and other groups that promote visitor awareness and education, and foster a sense of stewardship for the area's natural and cultural resources.

Objective 5: Determine appropriate public access sites for recreation uses (including fishing, boating, camping, etc.) which meet resource protection and recreation use management objectives.

Potential Actions

- Support ongoing efforts to provide appropriate access to the river or tributaries via coordinated trail plans, (i.e. Skyway Trail, Uncompahgre RiverWay, and Galloping Goose Trail).
- Work with watershed partners to develop a coordinated inventory of existing and potential recreation access sites on public and private land.
- Assist in the development and implementation of guidelines and criteria for evaluating existing and potential new sites to determine if they meet watershed protection and recreation management objectives.
- Work with watershed partners to prioritize and develop improvement plans for existing public access sites which meet watershed guidelines and criteria. (Box 1 page 45 lists existing access sites throughout the watershed that would be looked at as potential candidates for access improvements).
- Assist watershed partners in prioritizing, acquiring, and developing site plans for new public access sites where determined necessary to address specific resource management needs. (Box 2 page 46 lists potential new access sites which would be analyzed as a part of this process.).
- Work with private landowners to secure easements to preserve or create access where determined appropriate.



Summer fun in Naturita

Photo by John Fago



POTENTIAL ACCESS

IMPROVEMENT ANALYSIS SITES

Private SITE	POTENTIAL ACTION
Trout Lake	Restore Rio Grande Southern Railroad trestle, on the Galloping Goose Trail section upstream from Trout Lake.
Town Park Coonskin Parking Lot	Limited boating access to a few locations if needed to minimize impacts
Nature Conservancy Preserve (South Fork)	Continue to provide walk-in day use, catch and release fishing access.
South Fork	Construct Galloping Goose Trail bridge at site of railroad bridge upstream from Ilium. Provide signing and site restoration/protection for railroad coal loading chutes downstream from Ilium.
Bilk Creek	Construct Galloping Goose Trail to Deep Creek. Construct bridge over San Miguel near Bilk Creek.
Deep Creek-Sawpit (River Trail)	Convert former M-59 road to pedestrian/bike trail standards, provide adequate access for emergency and utility vehicles. Construct two bridges and trail upstream from Sawpit to connect trail sections. Coordinate with CDOT to provide highway turnouts/parking for fishing access, develop fishing access trails from Hwy 145 where appropriate.
Deep Creek	Improve boater/fishing access, provide parking, signing, install register for river use monitoring.
Sawpit Tram Site Area	Improve river access, stabilize historic tram structure, and provide day use parking, signing.
Placerville	Improve and sign boater/fisher access on BLM land near Fire House.
Leopard Creek	West side of Hwy 62: Develop Skyway/Byway day use interpretive site with kiosk and parking, provide pedestrian highway crossing for site users and continuation of Galloping Goose Trail. East side of Hwy 62: Construct Galloping Goose Trail section on newly acquired BLM property, develop fishing access trail to Leopard Creek and day use picnic area.
Specie Creek Area	Provide fishing access/parking at Winnebago City site (see also proposed campground development for this site).
Nature Conservancy Preserve (Specie Creek)	Continue to provide walk-in day use, catch and release fishing.
Saltado Creek	Develop existing BLM trail easement into upper Saltado Creek.
Beaver Creek	Improve BLM access area into upper Beaver Creek off of Beef Trail Road. Enforce BLM closure of lower Beaver Creek to motorized vehicles by signing. Develop fishing access trail from campground. (see also proposed campground development for this site.)
Norwood Canyon	Construct a trail for fishing access from Sanborn Park Road to Horsefly Creek. Provide parking and trail information sign. Trail will access signed, designated hiker campsites. Develop trails to signed, designated boater campsites. Determine status of diversion site, acquire easement of land for safe boater portaging.
Ledges Area	Develop boat launch/parking area site.
Paradox Trail	Provide trailhead parking, information, and signing where needed.
Tabeguache Management Area	Provide signing, parking for trail access. BLM/USFS coordinate on management of Area.
Naturita	Provide boating/fishing access at Town Park.
Nature Conservancy Preserve (Tabeguache Creek)	Provide signing, parking, and day use, catch and release fishing access into area.
Dolores River Confluence Area	Improve boating/fishing access on BLM where needed.

**POTENTIAL NEW
ACCESS SITES**

Private SITE	POTENTIAL ACTION
Keystone Gorge	Explore potential for developing public access for fishers/hikers.
Bilk Creek Area	Explore potential for acquiring land for public access/use and trail development.
Big Bear Creek Silver Pick Bridge	Explore potential for developing access for fishers and boaters. Provide parking, river register, signing.
Fall Creek	Explore potential for developing access for fishers and boaters.
Applebaugh Property	Explore potential for acquisition/easement and/or trail development.
Ridgway - Placerville Lizard Head Pass	Acquire easements for San Juan Skyway Trail segment of Galloping Goose system. Develop trail connecting Uncompahgre RiverWay Trail to Galloping Goose Trail.
Piñon	Acquire easement or land for boater access.
Power Plant Site Nucla	Explore potential for developing access for fishers and boaters.
Uravan	Provide boating/fishing access: campground facilities.
Roc Creek Area	Explore potential for developing access for fishers and boaters.

Theme 5

Education and Stewardship

Background

Education and stewardship are crucial building blocks in successful watershed management. Watershed residents must be informed about issues in order to play an effective role in public discussions about resource management. Perhaps more importantly, they must be willing to participate in resource improvement activities, in whatever capacity best suits them. In this era of shrinking resources, it is critical to enhance voluntary stewardship in helping care for the land.

Issues

- Need for public and inter-agency discussion and exploration of complex and sometimes controversial issues in a neutral forum.
- Lack of awareness among many residents and visitors about the impact of their actions on the area environment.
- Under-utilization of existing knowledge, expertise and educational capital as area resources.
- Cultural and economic differences between communities and interest groups creating the potential for misunderstandings and lack of communication.



- Increasing needs for interpretation caused by increases in recreation.
- The lack of centralized sources for information and data about the watershed.
- Information about complex issues, and watershed programs and work efforts is disseminated in uneven efforts.
- Voluntary stewardship efforts and projects need institutional and organizational support.
- Enhanced educational and stewardship efforts will require some additional funding, while relying primarily on sharing existing resources.

Goals

- *Watershed residents and participants are informed about the complex interrelationships within and between the Basin's physical, social and economic environments.*
- *Instructional partnerships are fostered, and opportunities are created for hands-on involvement in environmental restoration and conservation activities.*

Objectives and Potential Actions

Objective 1: Design education components into Watershed Coalition activities

Potential Actions

- Continue the bi-annual Watershed Coalition Newsletter, with a new section on upcoming educational activities.
- Use general Coalition membership meetings, and periodic technical or planning meetings as opportunities for briefings and presentations on topic areas.
- Sponsor one extensive topical workshop/conference each year, with a public forum component, on a subject that is integral to Coalition efforts. Water and natural resources issues will continue to provide the context and setting for these events.
- Establish on the Infozone (a community electronic bulletin board, electronic conferencing and Internet e-mail service housed at the Telluride Institute and available to the entire Watershed) a conference or information/bulletin board site where topical and educational opportunities are listed, as well as resources, for watershed and related activities.

Objective 2: Invest in citizen outreach and stakeholder development

Potential Actions

- Work with the print and broadcast media to determine their needs and watershed related opportunities. Encourage press releases and coverage for events which represent important informational and educational topics.
- Ensure that all media are informed of Coalition efforts, and that the public is invited to those efforts, through periodic press releases and invitations.
- Ensure that the video tapes funded by the National Park Service and being produced by the Telluride Institute about watershed issues benefit from wide publicity and distribution (local cable access channel, schools, libraries, interest groups, service clubs, etc.). Explore adding to this collection and producing subsequent documentary and educational tapes.



Photo by Nicole Greene

Confluence in Education 1998, a conference hosted by Telluride Institute and funded by the National Park Service.

Objective 3: Invest educational institutions

Potential Actions

- Work with the three watershed school districts to develop a shared resources manual which would inventory resource people, materials, films, videos, Internet sites, field trip opportunities and opportunities for student involvement. Design the manual to be "teacher friendly" through extensive interaction with area teachers as it is being developed.
- Develop "Living Classrooms" in each of the three school districts, which would encompass characteristic environmental aspects/issues/problems unique to each district and also those elements where there is a common thread or unifying theme watershed wide. The classrooms would present opportunities for intensive study, longitudinal projects over time, and shared exploratory efforts.
- Conduct a yearly professional enhancement and linkage building conference to explore techniques and examples of place based education, curricula packages and workplans, and to perfect field trip and outdoor education skills. The conference would likely involve other regional networks in the Four Corners Region, expertise from a variety of agencies and institutions, and focus on practical methodology and "take home and use" products.

- Work with the near-by colleges (Western State College, Mesa State College, Ft. Lewis College) and the state university systems to ascertain what interests, skills, resources and on-going programs they may have to enhance their participation in local education. Specific focus areas might include teaching internship, designing links between curriculum units and surrounding places, customizing materials, and assistance with professional development.
- Support and encourage the continued operation of successful programs such as Norwood's Environmental Education Day, River Watch programs, Telluride's Adopt a River and the West End's organized volunteer activity efforts. Explore expanded linkages with the River Ranger and the Greenbucks volunteer encouragement programs.

Objective 4: Develop newcomer and visitor information strategies

Potential Actions

- Review Chamber, Welcome Wagon and other literature packages to ensure that there is a mix of appropriate information available about living in the San Miguel Basin.
- Develop information material or packets where there are holes or gaps in information, make that information available at logical dissemination points and work with utilities and municipalities to ensure that some form of automatic distribution occurs when a new resident moves in.

- Explore the feasibility of developing a contact list for new residents (though real estate transactions, utility hook-ups, etc.) that will allow a direct mailing of information or a notice about where certain types of information are available.
- Explore hosting an annual "Newcomers Open House."

Objective 5: Refine and implement interpretive strategies

Potential Actions

- Identify all agencies and interest groups with a stake in interpretive efforts (user groups, land owners, historical and cultural interests, preservation interests, enforcement agencies, management agencies, tourism and chamber of commerce interests, etc.) for a broad scoping and issue identification/opportunity assessment process.
- Prioritize key corridors and information sets to guide first efforts at the development of detailed and comprehensive interpretive plans.
- Assemble a shared data base, and utilize watershed GIS data base for mapping site information (where data is unrestricted, or unprivileged).
- Ensure that the implications and consequences of interpretation alternatives are reviewed by all of the stakeholders - and refined to mitigate adverse impacts while maximizing opportunities.
- Explore and encourage interpreta-

tion at reclamation and remediation sites, as informational and educational opportunities.



Photo by Bob Chickering
Norwood RiverWatch students. All three basin schools collect water quality data through the DOW RiverWatch program.

Objective 6: Building shared outreach and field presence

Potential Actions

- Ensure continued support for the River Ranger program in the upper San Miguel Basin and explore funding mechanisms to expand that role to the lower San Miguel Basin and potentially add a support staff person.
- Building on the River Ranger experience, work with appropriate agencies and jurisdictions to explore adding a Wildlife Ranger, a Trails Ranger, and other thematic positions with specific objectives and shared funding.
- Ensure that the River Ranger and other comparable positions are well networked with the schools and other educational institutions and efforts to maximize cross-fertilization of resources.
- Encourage inter-agency staff sharing, mutual assistance during peak

demand times, shared training and mentoring opportunities, and cross discipline briefings on problem areas which would include opportunities for these shared, seasonal position holders.

- Explore expanding the Greenbucks coverage area and concert venue sites to the entire San Miguel Basin.
- Enact some form of community volunteer recognition program for businesses and individuals who contribute significantly to watershed activities. Provide other incentives to promote a stewardship ethic.

Objective 7: Conduct targeted workshops and informative presentations

Potential Actions

- Consider adoption as part of the Coalition's mission and shared job description, a role as a clearinghouse for information about special and focused topic presentations, and an additional role as facilitator for presentations where no other entity has taken the initiative to offer needed presentations within the region.
- Poll members, stakeholders and interested citizens and interest groups periodically about their information needs.
- Explore developing ways and means of dealing with topic-specific education opportunities and informing the membership about them in a timely manner.

Objective 8: Establish resource and reference centers

Potential Actions

- Acquire funding to develop a central repository of GIS mapping data which can be jointly used and accessible by Coalition members, schools, researchers and others for reasonable fees and charges. Periodic data entering, updating, trouble shooting and maintenance will be required, and some initial set-up funding will be needed. This information will be in the public domain.
- Identify areas where mapping, and map upgrading is critical to the Coalition for its work efforts. Develop funding over time to develop these mapping components.
- Establish an ongoing Mapping Technical Committee with representatives with expertise from the various agencies and entities to ensure prudent use of resources, compatibility with each others' programs and needs, a sharing of resources, and ongoing competence in system management and pursuit of funding opportunities.
- Inventory watershed related materials available at school and public libraries, work with librarians on constraints and needs in receiving additional materials, determine materials availability, and establish some level of integrated Watershed Resources Center at each site.
- Assemble a central repository of watershed related materials and

resources at an accessible location, which will replicate the school and library sites but which will also contain expensive, one-of-a-kind, and difficult to duplicate materials which would be made available for researchers at a reference level. Where materials are identified, but not possible or feasible to duplicate or obtain a copy of, a catalogue will be developed which lists those materials, their location, and accessibility. The entire listing of materials should be placed on library loan information systems, such as the Marmot Library System for western Colorado.

Objective 9: Support and encourage jurisdictions with regulatory and permitting enforcement responsibilities to develop informational materials

Potential Actions

- Compile an inventory of regulatory and enforcement "Point of Contact" opportunities and the types of informative material dispensed. Identify holes and gaps. Encourage materials development or upgrading where feasible. Support funding for materials development where necessary.

Objective 10: Develop issue papers and in-depth issue exploration and information dissemination on priority topics

Potential Actions

- Initiate a "stock taking" survey among all Watershed partners and participants in long term, in-depth study needs, ongoing efforts, and funding probabilities.

- Explore ways of developing new research and funding sources to meet these needs, and insure that there is no duplication of efforts.
- Work to ensure that funded efforts have a component in them for funding summaries and findings in a format which is readable and understandable by the general public, and that projects include money for printing and distributing that material.
- Prioritize critical, short-term and mid-term research needs. Identify current, longer term projects that are in danger of having their funding and support base cut. Work out a funding and support strategy for this mix of projects.



Photo by Nicole Greene
Nucla students present at the Confluence in Education conference.



Implementation

Background

The SMWC has been a loosely organized alliance and membership organization which has been held together by a series of public meetings, a planning team, and some funding for a local staff to provide coordination and a periodic newsletter. A Memorandum of Understanding was signed in 1996 by 18 local jurisdictions, state agencies, and federal agencies and interest groups, in which these entities agreed to dedicate their resources and efforts to writing a watershed plan.

Aside from producing this plan, the Coalition has proven to be of significant benefit to the participating entities. Coordination and communication between towns and between agencies has noticeably improved. Jurisdictions and agencies credit the Coalition for assisting with successful grant development efforts on a wide variety of projects, including trails planning, education and stewardship efforts, Geographic Information System mapping, water quality and siltation and street design studies, water quality analysis and recreational analysis.

With the completion of this watershed plan, the Coalition must now turn its attention to implementing the nearly 300 actions recommended in the plan. To accomplish this, strong consensus has developed to pursue a more formal structure with much greater citizen involvement. Public participation has been a watchword in development of

this plan. However, the Planning Team was composed principally of staff from agencies and jurisdictions. Additional stakeholders need to be actively involved in guiding the Coalition and making decisions to ensure balance (geographic as well as interest area) and perspective. Participating stakeholders could include farmers, ranchers, loggers, miners, environmentalists and recreationists, as well as utility providers and transportation agencies.

Organization and Structure

There are a variety of watershed partnership models in existence, and the organizational structure for these have been reviewed in light of our needs and experience. The structure proposed below seeks to maintain strong involvement of people at all levels.

Coordinating Council

The Coordinating Council will be the decision-making body of the Coalition. The Council will be citizen-driven with 15 members: three representative of each watershed plan theme (water, natural resources, recreation, growth and community preservation, education and stewardship). Representatives of the watershed's federal agencies will attend Coordinating Council meetings as ex officio (non-voting) members.

The Council will develop an Action Plan every two years recommending priority actions from the watershed plan that can be taken by the appropriate watershed entities. Priority actions will be determined according to established criteria such as urgency of need, extent of impact, balance of economic development and resource conserva-



tion, degree of support and likelihood of funding.

The Council will also promote the formation of Task Forces of interested citizens and professionals to research topics of concern or address specific problems. It will organize annual Coalition events and oversee newsletter publication. The Council will manage the long-term organizational challenges of the Coalition. And it will appoint an Executive Oversight Committee from within its ranks to handle the week-to-week business of the Coalition.

The Council's regular meetings will serve as a public forum for individuals, groups, and government agencies to discuss problems, establish partnerships and discover opportunities.

Coalition staff will work in conjunction with the Coordinating Council and Executive Oversight Committee on watershed project prioritization and development and administration tasks.

Management Coordination Committee

The Management Coordination Committee will maintain an overview function. This committee has been in place for two years, and has met once a year during that time. It consists of one high level representative from each participating agency and jurisdiction, some of whom reside in Denver. Its role is to provide guidance and to help ensure knowledge of and support for the Coalition at the highest levels.

Membership

The Coalition will function best with the broadest possible membership. (The current mailing list is approaching 500 people.) As opportunities for resource enhancement projects and education/stewardship activities arise, the Coalition must be capable of effectively drawing upon the resources of the watershed's communities. A large membership network both reinforces the strength of the Coalition and makes it attractive to current and new partners.

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Town of Ophir
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Colorado Water Conservation Board
Colorado Division of Wildlife
Colorado Department of Natural Resources
Colorado Department of Local Affairs
US Geological Survey
USDA Natural Resource Conservation Service



Photos by Bob Chickering