Upper Gila Watershed, Taylor Creek
Watershed Restoration Action Strategy

Wall Lake

Compiled by: **Taylor Creek Watershed Committee:**

Sierra Soil and Water Conservation District
USDA Gila National Forest Service
Jornada Resource Conservation & Development Inc.
USDA Natural Resources Conservation Service
Matt and Laurie Schneberger, Landowner
Jack and Kaye Diamond, Landowner
Ray Fowler, Landowner
Ralph Wright, Land manager
New Mexico Environment Department, Surface Water Quality Bureau

Mission:
To improve watershed health and water quality based upon best management practices, by identifying objectives and goals that are feasible, attainable, and beneficial to the stakeholders.

Table of Contents

Appendices

Introduction

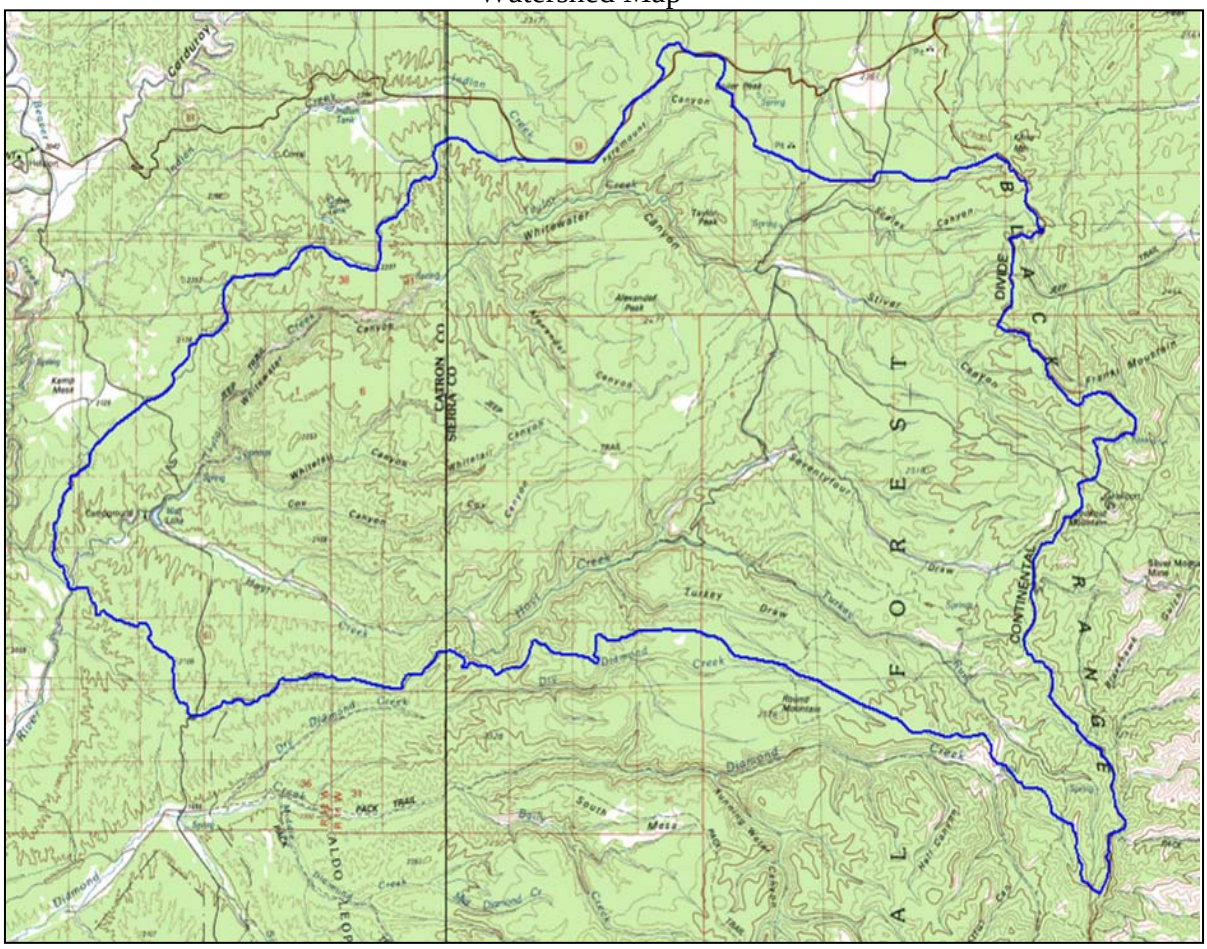
This Watershed Restoration Action Strategy (WRAS) identifies stakeholder driven solutions to address water quality issues in Taylor Creek. The principle stakeholders include private property owners living within the watershed, the Gila National Forest which administers public lands within the watershed, and the New Mexico Environment Department Surface Water Quality Bureau (SWQB) which is responsible for protecting designated uses of surface waters of the state. Additional stakeholders that have indirect ownership or management interests include the Wahoo Watershed Workgroup WWW), the Sierra Soil and Water Conservation District (SSWCD), Jornada Resource Conservation and Development (RC&D) and the Natural Resource Conservation Service (NRCS) which offers technical and financial support for soil and water conservation practices within the watershed. Other interests include hunters, fishing enthusiasts, and hikers. Water quality issues as identified by the SWQB resulted in the inclusion of Taylor Creek on the Clean Water Act (CWA) 303d list of impaired watersheds. The 303d listing of Taylor Creek and the subsequent development of Total Maximum Daily Loads (TMDLs) resulted in the failure of Taylor Creek to meet high quality coldwater fisheries standards for chronic aluminum and temperature. As part of the SWQB CWA 319 effort to address water quality issues, the SWQB partially funded the formation of the Taylor Creek watershed group to develop this WRAS. In addition to the water quality issues identified by the SWQB, this WRAS will identify and offer solutions to other watershed issues as recognized by the local stakeholders. The importance of respecting stakeholder interests is critical and will ensure effective cooperation to insure a successful and effective plan.

The SSWCD and NRCS Truth or Consequences field office possess the necessary experience in addressing resource concerns through collaboratively working with local landowners/managers for proper identification and implementation of best management practices (BMPs). The SSWCD has been active in natural resource concerns since 1943, assisting local landowners with technical and financial assistance to address and improve their natural resources. The SSWCD currently has programs to assist with resource improvements for local landowners, and is involved in projects such as the Poverty Creek Research and Demonstration Forest Restoration site, the Lower Rio Grande Salt Cedar Management Project Area, Sierra County Wildland-Urban Interface Thinning project, the Sierra County Community Wildfire Protection Plan, and the Geronimo Springs Nature Walk/Hot Water Falls.

A list of the stakeholder generated BMPs are presented later in this WRAS and provides purposes and descriptions of the individual practices. The principle goal of the implementation of the BMPs is the reduction of the pollutant loads identified in the SWQB TMDLs for Taylor Creek. Additional goals associated with watershed health and use is the concern of other stakeholders. The BMPs have been chosen by the Taylor Creek watershed group as qualified practices to improve watershed health recognizing that non point pollution sources are difficult to identify and subsequent treatments may not achieve immediate reduction of the pollutant loads.

Taylor Creek Watershed consists of large areas of National Forest with several in-holdings of private lands located along perennial sections of stream reaches. The two main stakeholders within the watershed are the private landowners/permittees and the Gila National Forest (GNF). Private in-holdings consist of approximately 640 acres with approximately 65,280 acres of public lands under GNF management.

Watershed Map



Area Information

Taylor Creek is a sub-watershed of the Gila River, a major tributary to the Colorado River. The Taylor Creek watershed covers 102 square miles in Sierra and Catron Counties, New Mexico. The upper watershed begins along the Continental Divide on the western side of the Black Range. The highest elevation is 9177 feet at the head of Turkey Run while the lowest elevation is 6252 feet where Taylor Creek enters the East Fork of the Gila River giving the watershed a relief of 2925 feet. The topography consists of incised canyons separated by relatively flat uplands. Several small mountain peaks are located within the northern portion of the watershed. Upland slopes are steep to very steep with grades above 30% in many areas. Precipitation is approximately 15 inches per

year with about 40% of the yearly total falling during intense, short duration thunderstorms generally starting in July and ending in mid-September.

The two main watercourses in the watershed are Taylor Creek and Hoyt Creek. Taylor Creek enters Wall Lake from the northern portion of the watershed and is fed by Stiver and Scales canyon drainages along the Continental Divide and from Cox and Whitetail canyons at the lower end of the watershed. Hoyt Creek is fed by Seventyfour Draw and Turkey Run canyons. These canyons also head along the Continental Divide before joining to form Hoyt Creek. Hoyt Creek begins in steep rocky country before opening up into a wider, lower gradient valley before its confluence with Taylor Creek at Wall Lake. Downstream of Wall Lake, Taylor Creek flows for approximately another mile before joining Beaver Creek to form the East Fork of the Gila River. The stream channels have grades of less than 1% to more than 7%. The streambeds are dominated by gravel to boulder substrates.

Teritary and Quaternary volcanic and sedimentary rocks characterize the Taylor Creek watershed. The watershed contains rhyolite flows, tuffs, breccias, basalt flows, andesites and conglomerates. The watershed has large amounts of exposed bedrock. The steepness and amount of exposed rock leads to rapid shedding of rainfall within the watershed. Flash floods from summer thunderstorms and winter rain-on-snow events are capable of generating large volumes of water. Moderate to heavy flood events are capable of producing large amounts of sediment. Most sediment originates from the upland slopes and is carried into the stream channels. Additional sediment is produced during flood events when high stream velocities lead to stream bank erosion.

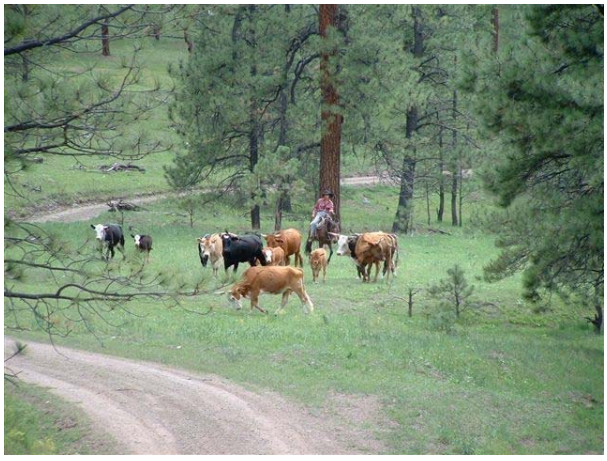
Taylor Creek watershed is forested with some areas of open meadows. The over-story vegetation species consist of a variety of tree and shrub components. Ponderosa pine dominates the north-facing slopes and the cooler, wetter portions of the forest. One-seed juniper, rocky mountain juniper, and pinyon pine are found on the dry rocky slopes sometimes intermixed with alligator juniper, gambel oak and ponderosa stands. Small areas of mixed conifers can be found along the highest elevations of the Black Range. Stream corridors in the watershed support narrow leaf cottonwood, willow trees, and other riparian species. Grass and forb species form the groundcover within the watershed. The warm-season grasses appear to dominate most sites. Vegetative cover ranges from 5-45% across the watershed. Rock and litter cover often are as abundant as vegetative cover.

Identification of Causes and Sources of Impairments

Fire suppression, logging, mining, grazing, recreation, upstream impoundment, and *road construction* are potential pollution sources that have or may have contributed to the current condition of the watershed. In some cases the significance of impacts from potential sources is still undetermined. There is scientific documentation and anecdotal information related to historic watershed impacts and there is value in recognizing cumulative impact to the current state of the watershed. Many stakeholders including the GNF believe the policy of "total fire suppression" practiced over the last 90 years has had a significant impact to watershed health and surface water quality, the GNF has and is making strides towards using fire as a management tool. Peer reviewed scientific studies regarding fire ecology indicate that fire suppression policy has led to an eruption of upland woody species and decline of both the amount and diversity of herbaceous plants. Although not all stakeholders agree, some stakeholders believe that current public lands policy limiting multiple use and accessibility to harvest material such as firewood and timber products have also contributed to increased tree density in the uplands.

According to the GNF, much of the forested acreage in this watershed has tree densities exceeding recommendations for this area. The New Mexico State Forestry average recommendation is 60 sq. ft. per acre of basal area but most areas that were assessed averaged from 80 to 200 sq. ft. per acre of basal area. The Northern Arizona University Ecological Restoration Institute studies of fire history and current conditions have shown an average of 35-50 trees per acre but current densities range from 100-400 trees per acre. Thus inventory and analysis of vegetation in this watershed indicate an excess of recommended tree density. A project report prepared by Northern Arizona University on a thinning demonstration adjacent to the Taylor Creek watershed is included in the Appendix. In the watershed, upland woody species are encroaching into the riparian corridor to the detriment of narrow leaf cottonwood, willow, and other riparian woody and herbaceous species.

Natural processes within the watershed do affect water quality and watershed health. The watershed is capable of generating large amounts of sediment due to the steepness of the canyon walls and the ease of erodibility of some of the soils and rock. Erosion of the volcanic materials and soils leads to the mobilization of aluminum found dissolved in the waters of Taylor Creek. Healthy uplands can provide vegetative protection from erosion to minimize sediment moving towards the stream channels. Healthy riparian areas and stable vegetated stream banks can also reduce erosion, act as a pollutant filter, and minimize sediment delivery to Taylor Creek.



Livestock grazing is the principle economic activity within the Taylor Creek watershed both on private land and on some Forest Service allotments. Stakeholders engaged in the cattle business are committed to conservation and watershed health because continuing operation depends on healthy productive rangeland. The private landowners/permittees in the Taylor Creek watershed are consistently working to manage and enhance the natural resources on a daily basis. Some of the livestock operators have been working cooperatively with New Mexico State University (NMSU) and Cooperative Extension Service on a long term, intensive study to determine the effects of livestock grazing on riparian vegetation within the Taylor Creek Watershed. Published results of this study are included in the appendix. Annual Operating Instructions for allotment management are compiled by the GNF in cooperation with the permittees regarding their grazing systems. Recent drought conditions have contributed to low stocking numbers on the allotments. Some stakeholders believe grazing by elk is an impact because grazing from domestic livestock is significantly decreasing, while grazing from elk is increasing.

SWQB Total Maximum Daily Load Summary

New Mexico Standards Segment	Gila River, 20.6.4.503 NMAC (formerly 2503)
Water body Identifier	Taylor Creek from the confluence with Beaver Creek to Wall Lake, 2.9 miles
Parameter of Concern Parameter of Concern	Temperature Metals (Chronic Aluminum)
Use Affected	High Quality Coldwater Fishery
Geographic Location	Gila River Basin (GRB1-20300)
Scope/Size of Watershed	*102 Square Miles (Taylor Creek Watershed)
Identified Sources	Natural, Rangeland, Recreation, Upstream Impoundment
Watershed Ownership	U.S. Forest Service (99%) and Private (1%)
Priority Ranking	3
Threatened/Endangered Species	Yes
Total Maximum Daily Load (TMDL) **TMDL** for Temperature	WLA is Waste Load Allocation LA is Load Allocation MOS is Margin of Safety WLA + LA + MOS = **TMDL** 0 + 57.6 (joules/meter 2/second/day) + 6.4 (joules/meter2 /second/day) = **64 (joules/meter2 /second/day)**
Total Maximum Daily Load (TMDL) **TMDL** for Chronic Aluminum	WLA is Waste Load Allocation LA is Load Allocation MOS is Margin of Safety WLA + LA + MOS = **TMDL** 0 + 39.4 lbs/day + 7.0 lbs/day = **46.4 lbs/day**

Watershed Issues and Some Specific Recommendations

Wall Lake is a man made structure at the confluence of Hoyt Canyon and Taylor Creek. As-Built Drawings provided by the State Engineers Office are included in the Appendix, as they will be used to determine sediment capacity. The impoundment is over 50 years old and almost completely filled with sediment. Disturbances to the surface of the lake such as wave action or high flows from upstream tributaries causes the stored sediment to become suspended in the water and transported downstream. The shallow unprotected nature of the lake leads to an increase in water temperature.

- The Taylor Creek Watershed Group recommends that preliminary information related to current sediment storage capacity, dredging methods, and cost of a project to regain storage capacity and depth at Wall Lake be developed. This would reduce some of the pollutant load for the TMDL stream segment "Taylor Creek below Wall Lake".

Upland woody species encroachment - Stiver Canyon

Upland woody species densities have greatly exceeded thresholds for a healthy ecosystem. This has occurred primarily due to the elimination of natural fire regimes and other causes discussed in the preceding section. The increased tree densities in this watershed have resulted in a corresponding decrease in herbaceous groundcover; leading to increased peak discharges, sediment transport, and associated decreased infiltration. Overall net transpiration within the watershed has increased due to the increased tree density contributes to a significant reduction in base flow in perennial streams. Areas with high tree density are also subject to hot intense crown fires that leave impacted landscapes subject to severe erosion during summer thunderstorms.

- The Taylor Creek Watershed Group recommends that continued support and development for thinning projects and prescribed burns conducted by private landowners and private land management agencies is vital management practice and an important step towards increased infiltration and reduced runoff, thus reducing pollutant loading in perennial waters. In addition, development of biomass projects improve watershed health and afford local opportunity for employment as well as reductions in fuel related operating cost for businesses, schools, and government agencies. For instance, the current efforts by the Wahoo Watershed group to assist in obtaining expertise, fuel wood, and startup costs for the Saint Cloud Mining operation converting from propane to biomass for mineral processing, the WWW is also encouraging the development of local industry to utilize small diameter wood.

Scouring floods caused by intense thunderstorms in areas affected by crown fires, along with elk and cattle grazing, have impacted riparian vegetation in areas of the watershed. The loss of riparian species can also lead to upland woody species invasion of the riparian corridor. This contributes to the deterioration of the qualities that make a healthy functioning riparian area that is capable of filtering pollutant-laden runoff, storing sediment, and mitigating high water temperature.

- The Taylor Creek Watershed Group recommends suitable riparian areas need to be identified and evaluated for restoration projects to reduce temperature and sediment impacts to water quality. This could include bank stabilization, woody riparian and/or herbaceous planting projects, pasture fencing, and removal of upland woody species.

Bank Stabilization with Stream Barbs

Education and Outreach

Current and Ongoing Efforts

Collaboration with the landowners/managers/interested parties, is a key component of this project, appreciating they are interested in implementing projects that will contribute to water quality and watershed health.

A Power Point presentation was developed on the project purpose and plan. This presentation is and will be made available to local government entities and various interest groups (Sierra, Grant, and Catron Counties, Sierra Club, Rotary Club, Las Cruces Chapter of Wild Turkey Federation, Rocky Mountain Elk Foundation, Mesilla Valley Fly Fishers Association, Gila Sportsmen's Council).

Presentations to groups informing them on the benefits of watershed planning and the possible on-the-ground watershed projects.

Support and participate in Wahoo Watershed Workgroup which was formed to address broad resource concerns by a diverse group of government entities and stakeholders from Taylor Creek to the Rio Grande within the northeastern corner of Gila National.

Future Outreach and Education Efforts

- Outreach to individual stakeholders and groups interested in implementation of project BMPs and/or forming volunteer project monitoring groups.
- Technical assistance and facilitation provided for installation and maintenance of project BMPs by stakeholders or youth through a student cooperative program.
- Reporting, documentation, and publication to the interested parties of the results and outcomes of the proposed, ongoing, and completed watershed projects.

Description of Best Management Practices

These watershed health management measures will be strategically selected per problem area by accessing current ecological conditions, identifying landowner/manager objectives, reviewing opportunities and alternatives, and determining best management practice with a draft schedule of implementation.

Forest Canopy Management
Purpose: To decrease canopy cover allowing for increased herbaceous cover, and in turn an increase in rainfall infiltration, as well as increased soil moisture and stability.
Description: Handcutting and/or mechanical thinning to a prescribed density that encourages an increase in the herbaceous plant component.

Contour Felling
Purpose: Used in conjunction with thinning this procedure helps reduce surface flows, trap sediment transported down slopes and can promote the germination of herbaceous plant species.
Description: Directional felling of trees by hand or mechanically to align down trees perpendicularly to the direction of slope.

Prescribed Fire
Purpose: To decrease surface and canopy fuel loads to reduce the threat of crown fire. Prescribed fire can also improve forage production, quality, and palatability for livestock and wildlife, and reduce encroaching woody species.
Description: Utilize surface fire in target areas determined by the GNF or the fire manager.

Bank Stabilization/Protection/Bio-Engineering
Purpose: To stabilize stream banks by directing stream flows away from banks, this can reduce bank erosion, channel slope, and stream velocity.
Description: Planting projects and structures placed in and on stream bends, banks, and bed, or in areas that are in need of stabilization.

Seeding
Purpose: Herbaceous reclamation of disturbed areas.
Description: Native seeds will be selected according to location, key areas of intense burns and fallow fields will be identified for future projects.

Pole Planting
Purpose: Establish woody plants for stream bank stabilization, wildlife habitat, long-term erosion control, improvement of water quality, and stream temperature reduction.
Description: Establishing woody plants by planting or transplanting seedlings, saplings or cuttings, direct seeding, or natural regeneration.

Dredging
Purpose: Wall Lake is a TMDL-identified contributor to the temperature load in Taylor Creek below the lake and is near capacity for sediment storage. The lake also acts as a sediment trap reducing sediment in downstream reaches. *Description:* Removal of stored sediment by mechanical means (options are currently being investigated).

Watering Facilities for Livestock and Wildlife
Purpose: Improve livestock distribution and wildlife habitat, providing relief in low lands, and riparian areas.
Description: Spring developments, water pipelines, catchment basins, rock headers, and tanks.

Grazing Management
Purpose: To distribute and control livestock in order to maintain acceptable utilization rates.
Description: Control grazing by season of use (deferment) and livestock numbers to achieve desired utilization levels and promote plant vigor and improved plant composition. Facilitating practices such as fencing, salt/mineral placement, and herding may be needed.

Schedule of Implementation and Estimate of Needed Resources

The planned practice schedule is based upon the stakeholders' consensus of prioritization. Actual implementation of practices may vary from the planned schedule due to availability of funding and future stakeholder participation.

The Federal lands are subject to Decision Memos and Categorical Exclusions under the National Environmental Protection Act (NEPA) process in order for work to be done on these lands, depending upon the size of the project, this would affect the schedule of implementation.

Some of the referenced practices will need to be implemented based on season, therefore if funding is approved, the implementation time will vary depending upon when approval is given. The below chart gives an estimated time frame, amount, and cost on potential projects:

Practice	Schedule	Amount Required	Average Cost
Riparian Thinning	Early - Fall of 2005	250 acres	$1,000.00 per acre
Upland Thinning	Mid	2,500 acres	$1,000.00 per acre
Contour felling	GNF 8/06-7/15	500 acres	$1,200.00 per acre
Prescribed fire	*GNF 8/06-7/15	30,000 acres	$15.00 per acre
Bank stabilization/protection	*Early - Mid	2000 feet	$20.00
Seeding	Early	1,000 acres	$50.00
Dredging	**Mid	**	**
Fencing	Mid	GNF	$1.50 per linear ft.
Watering facilities	Mid	GNF	**

* Ongoing
** Requires further investigation, in depth studies, and development of alternatives
Early 1 to 3 years
Mid 3 to 7 years
Late 7 – 10 years

Description of Measurable Milestones

Measurable milestones focus on goals and responsibilities to control, abate, and prevent Non Point Source pollution within the Taylor Creek Watershed. A table of BMPs believed to achieve reduction of pollutant loads and an estimated schedule of implementation are provided in this WRAS under Section VII entitled "Schedule of BMP Implementation". The table on page 19 entitled "Estimate of Load Reductions" divides the watershed into smaller areas, identifies the type of BMPs that are applicable to the individual areas, and identifies the principal stakeholders in specific areas. The SSWCD, NRCS, and Jornada RC&D will provide additional technical support and funding (when possible) to assist the private landowners with project development funding, and implementation of BMPs. An important short-term goal of the Taylor Creek Watershed group is developing, securing funding, and implementing an on-the-ground project prior to the next round of intensive water quality survey work by the SWQB (estimated to occur in 2007 or 2008).

Criteria to Determine Load Reductions

The SWQB Parameters of Concern are Chronic Aluminum, and Temperature. Criteria for determining load reductions will include both direct and indirect methods.

Temperature load - The direct method would require the deployment of temperature data loggers for measuring water temperatures in Taylor Creek below Wall Lake. Data collected would consist of hourly measurements from May through September. Direct methods are the best criteria for determining load reductions. This method of data collection is preferred by the SWQB for intensive water quality surveys and can be used for regulatory assessment and development of TMDLs. The Taylor Creek Watershed group may include this direct method to determine load reductions in conjunction with an on-the-ground BMP implementation project. Indirect methods of determining temperature load reduction would require estimating temperature reduction based on the effect of increased riparian canopy cover or increased depth of water in Wall Lake.

Chronic aluminum - The direct method for determining load reduction would require intensive water quality sampling and chemical analysis as performed by the SWQB and State Laboratory Division (SLD). This type of direct method would be best conducted by the SWQB and SLD as part of their regular monitoring schedule for New Mexico surface waters. The indirect method of determining chronic aluminum load reductions is to estimate the reduction based on reduction in erosion and stream sediment load. Any on-the-ground project proposal using an indirect method to determine load reductions resulting from BMP implementation would need to outline the method and the rational for using the method.

Watershed Assessment and Monitoring

Past and Ongoing Monitoring Efforts

GNF Terrestrial Ecosystem Survey 1985

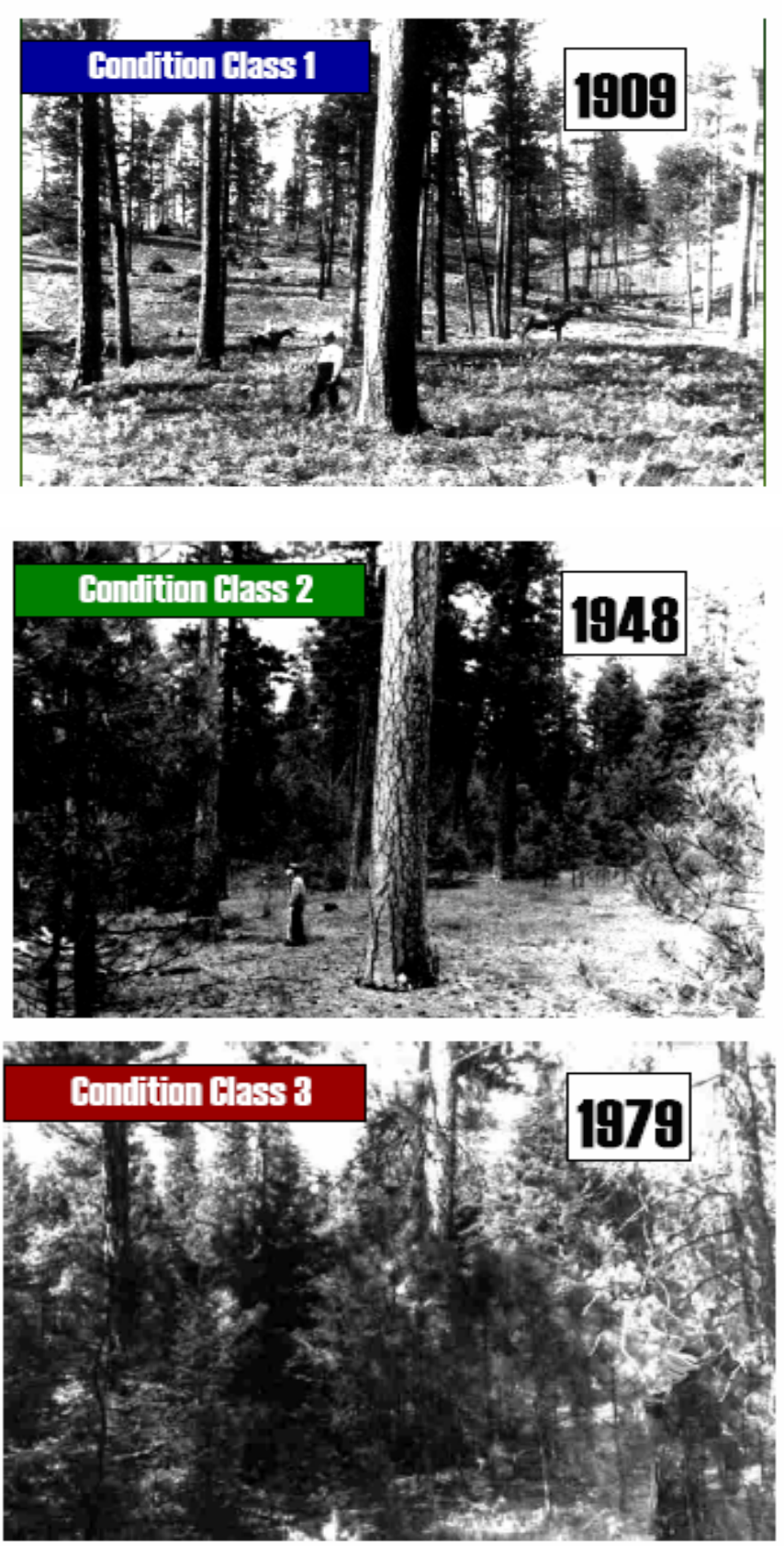
The Beaverhead Terrestrial Ecosystem Survey included soil classification and mapping of soil types for the entire Taylor Creek watershed. Terrestrial ecosystems are recognized by the interaction of three major components – soil, climate, and vegetation. Nineteen individual mapping units are present in the survey based on the three major components. The survey indicates the typical variability of sediment yield in western upland landscapes like Taylor Creek watershed. (The complete Beaverhead TES should be included as Appendix 1)

NRCS PSIAC Evaluation 2005

The watershed was broken into 14 areas based on sub-drainages and geomorphic zones. Pacific Southwest Inter Agency Committee (PSIAC) sediment yield evaluations were taken at representative sites within these areas. A map of these described areas is found on page 20, and a chart exhibiting the acreage, identified planned practices, estimated load reductions from implementation of proposed best management practices, and stakeholders within the area on page 19. Report with details attached in appendix 2)

Fire Regime Condition Class Landscape Assessment

The GNF Fire Regime Condition Class (FRCC) landscape scale assessment maps can be used for assessment of vegetation conditions within a watershed. The FRCC is not a direct indicator of fire hazard but does indicate where vegetation conditions have departed from expected natural ecological conditions. Graphic examples of Fire Regime Condition classes are shown in the three side-by-side images below. For the maps attached in Appendix 4, Condition Class 1 corresponds to 0-33%, Condition Class 2 corresponds to 33-66% and Condition Class 3 corresponds to 66-99%. FRCC and associated maps can be used for prioritizing thinning projects and prescribed burns thereby directing project planners to areas most in need of treatment.


Condition Class 1
1909
Condition Class 2
1948
Condition Class 3
1979

Additional Monitoring

Dr. Red Baker, Riparian Specialist with the New Mexico Extension Service has been conducting riparian grazing trials on Turkey Run and 74 Draw in the Taylor Creek Watershed for 4 years. Though most of his study is targeted to determine ungulate grazing affects on riparian areas, there has been detailed data gathered that will be useful for setting up monitoring locations and protocols, as well as assisting with educational and outreach efforts. The latest publication entitled 'Riparian vegetation response to different intensities and seasons of grazing' is attached in the Appendix as it has and will be used for reference.

The SWQB has conducted intensive water quality surveys in the Taylor Creek watershed in the past and these surveys form the basis for assessment and development of TMDLs. The SWQB will continue to conduct these surveys collecting water quality data related to the physical, chemical, and biological standards designed to protect designated uses of surface waters of New Mexico.

The GNF has planned and ongoing watershed assessment responsibilities and projects such as Fire Regime Condition Class landscape assessment, updating the 1985 Beaverhead Terrestrial Ecosystem Survey, and development of hill slope modeling for project assessment related to sediment yield.

The GNF also conducts range analysis and assessments, that have been valuable for reference during this process, they have provided copies of the Environmental Assessment for the Turkey Run Allotment 7/2000, 1998 Turkey Run Allotment Range Analysis, as well as reports for the Turkey Run and Corduroy allotments. These documents will be available for reference particularly regarding applications of BMPs.

Proposed Stakeholder and Volunteer Monitoring

Photo points will be established to document benchmark conditions prior to implementation of BMPs, as well conditions after implementation of BMPs. Temperature thermographs are being considered for temperature monitoring by the stakeholders/volunteers.

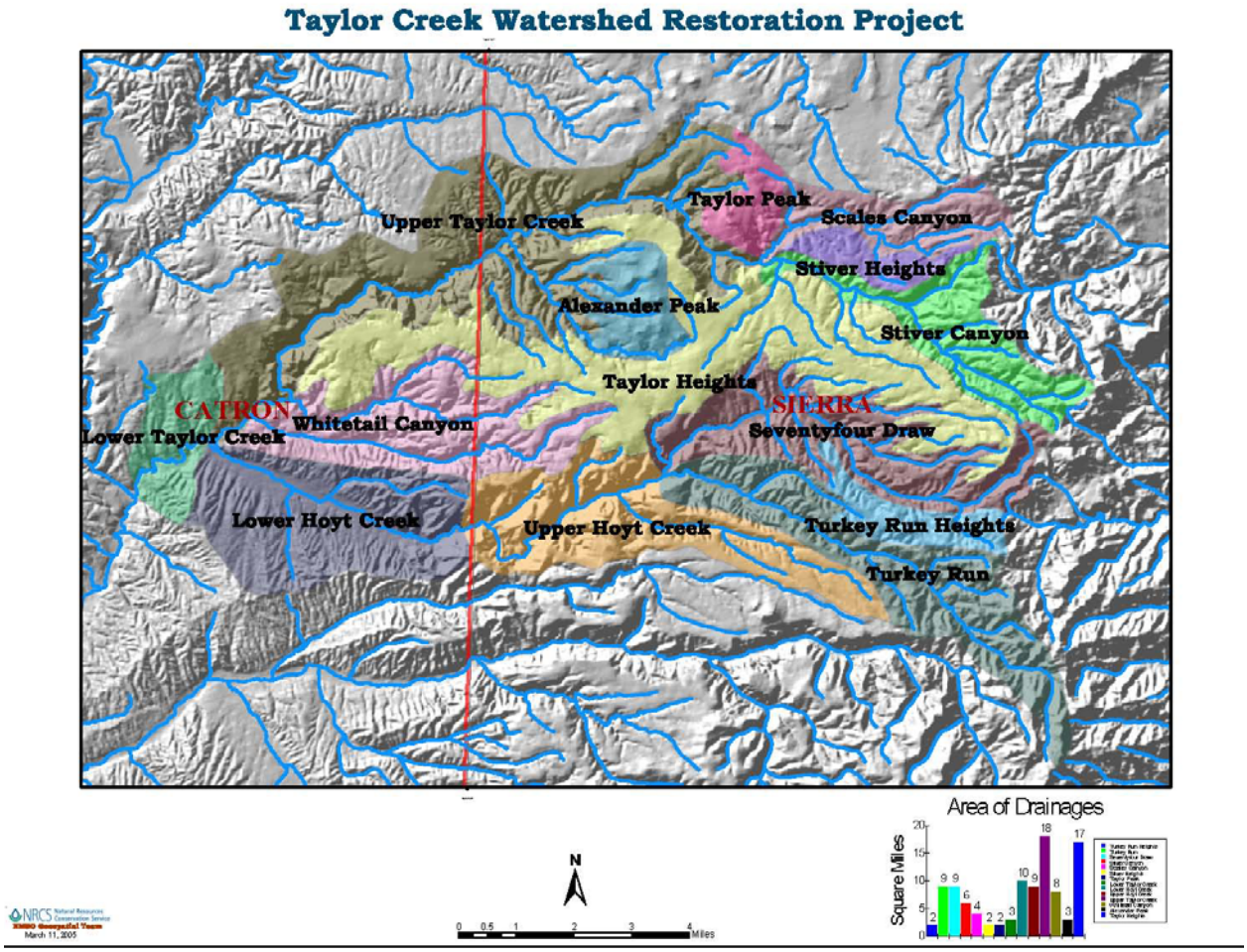
A follow up PSIAC sediment yield evaluation is also being considered within 5 years of implementation of Best Management Practice.

Estimated Load Reductions

Sub-drainages	Areas Identified for Implementation of Best Management Practices (B.M.P.s)	Expected Load Reductions from Implementation of B.M.P.'s	Total Area	Stakeholders
Lower Taylor Creek	Wall Lake – Dredging / Sediment Removal	Short Term – None Long Term - Moderate decrease in downstream turbidity and slight decrease in temperature	1,920 acres	Ray Fowler, GNF
Upper Taylor Creek	Areas with greater than 100 trees per acre - Forest Canopy Management, Prescribed Fire	Short Term – None Long Term – Slight decrease in sediment yield	11,520 acres	Jack Diamond, GNF
Taylor Peak	Prescribed Fire, Forest Canopy Management	Short Term – None Long Term – Slight decrease in sediment yield	1,280 acres	Jack Diamond, GNF
Alexander Peak	Prescribed Fire, Forest Canopy Management	Short Term – None Long Term – Slight decrease in sediment yield	1,920 acres	Jack Diamond, GNF
Scales Canyon	Riparian areas – Thinning of upland woody species, Kline Mountain – seeding and contour felling on high intensity burn areas	Short Term – None Long Term – Slight decrease in sediment yield	2,560 acres	Jack Diamond, GNF
Stiver Heights	None identified in planning stage	-	1,280 acres	Matt & Laura Schneberger, GNF
Stiver Canyon	Riparian areas – Thinning of upland woody species, Inman homestead – seeding of abandoned cropland	Short Term – None Long Term – Slight decrease in sediment yield	3,840 acres	Matt & Laura Schneberger, Jack Diamond, GNF
Whitetail Canyon	None identified in planning stage	-	5,120 acres	GNF
Lower Hoyt Creek	Stream bank Protection, Pole Planting, Seeding	Short Term – Slight Long Term – Slight decrease in sediment yield	6,400 acres	Ray Fowler, GNF
Upper Hoyt Creek	None identified in planning stage	-	5,760 acres	Matt & Laura Schneberger, GNF
Taylor Heights	Thinning of upland woody species	Short Term – None Long Term – Slight decrease in sediment yield	10,880 acres	Matt & Laura Schneberger, Jack Diamond, GNF
Seventyfour Draw	Stream bank Protection, Pole Planting, Seeding	Short Term – Slight Long Term – Slight decrease in sediment yield	5,760 acres	Matt & Laura Schneberger, Jack Diamond, GNF
Turkey Run	Stream bank Protection, Seeding, Pole Planting(Aspen regeneration), Riparian areas - Thinning of upland woody species,	Short Term – None Long Term – Slight decrease in sediment yield	5,760 acres	Matt & Laura Schneberger, GNF
Turkey Run Heights	Thinning of upland woody species	Short Term – None Long Term – Slight decrease in sediment yield	1,280 acres	Matt & Laura Schneberger, GNF

None	0%	Short Term
Very Slight	0 – 1%	Long Term
Slight	1 – 3%	
Moderate	3 - 5%	
High	5 – 10%	
Very High	Greater than 10%	

This map was developed by USDA Natural Resources Conservation Service, Albuquerque State Office for identification of areas to conduct PSIAC surveys. It shows a breakdown of drainages to better plan for best management practices according to area geology/drainage patterns, and estimated sediment yields. The table on the preceding page has these areas identified with the acreage, identified planned practices, estimated load reductions from implementation of proposed best management practices, and stakeholders within the area.



Contact and Reference Information

Sierra Soil and Water Conservation District Staff:
Merry Jo Fahl, District Manager
Stephanie Bason, Resource Management Specialist
Aaron Parker, WUI/NFP Planner
Brent Bason, Watershed Coordinator
2101 S. Broadway
Truth or Consequences, NM 87901
(505) 894-2232

Gene Adkins
NRCS Coordinator
Jornada Resource Conservation & Development Inc.
2101 S. Broadway
Truth or Consequences, NM 87901
(505) 894-6354

Steve Lacy, Geomorphologist
Natural Resource Conservation Service
6200 Jefferson NE
Albuquerque, NM 87109

Matt and Laurie Schneberger, Landowner
P.O. Box 111
Winston, NM 87943
(505) 772-5753

Jack and Kaye Diamond, Landowner
HC 30 Box 446
Winston, NM 87943
(505) 772-5677

Ray Fowler, Landowner
HC 30 Box 469
Winston, NM 87943
(505) 772-5534

Ralph Wright, Land manager
P.O. Box 134
Silver City, NM 88062
(505) 772-5534

Gila National Forest
Supervisors Office
Carolyn Coury, Forest Hydrologist
Silver City, NM 88061
Black Range Ranger District Staff:
Tammy Randall Parker, Ranger
Ron Mortensen, Range Staff
Toby Richards, Fire Management Officer
Jeremy Kiesling, Fuel Specialist
1804 N. Date St.
Truth or Consequences, NM 87901
(505) 894-6677

New Mexico Environment Department
Surface Water Quality Bureau Staff:
Mike Matush, Line Manager
David Menzie, Geologist
910 E. 32nd St.
Silver City, NM 88061
(505) 388-0599
Chris Canavan, Enviromental Scientist
Las Cruces District III Office
1001 N. Solano Drive
Las Cruces, NM 88001
(505) 647-7926

Dr. Terrell T. 'Red' Baker
Associate Professor & Ext. Riparian Specialist
New Mexico Cooperative Extension Service and Range Improvement Task Force
P.O. Box 30003, MSC 3AE Knox Hall
Las Cruces, NM 88003-8003
(505) 646-2218

H.B. 'Doc' Smith
Northern Arizona University, Ecological Restoration Institute
P.O. Box 15017
Flagstaff, AZ 86011-5017
(928) 523-7502

New Mexico State Engineers Office
Elaine Pacheco, Chief, Dam Safety Bureau
495 Old Santa Fe Trail
Santa Fe, NM 87505-5102
(505) 827-6175

Appendices

1. Complete Beaverhead Terrestrial Ecosystem Survey
2. Complete PSIAC Survey
3. Fire Regime Condition Class Maps
4. Riparian vegetation response to different intensities and seasons of grazing
5. Ecological Restoration Institute, Project Report
6. Wall Lake as-built drawings