

UPPER SAN JUAN WATERSHED ENHANCEMENT PARTNERSHIP

EXISTING INFORMATION REVIEW

APRIL 2019

PHASE I: OBJECTIVE 2:
PRELIMINARY DATA REVIEW & ASSESSMENT

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Data Type & Report Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Agricultural Water Supply						X				X	X	X	X			
Biology/Ecology	X	X	X			X	X	X	X	X			X	X		
Conservation/Restoration	X	X	X	X			X			X	X	X	X	X	X	
Development								X		X	X	X	X			
Fire Risk					X					X						X
Geology/Geomorphology				X		X			X	X			X	X		
Hydrology						X	X		X	X	X	X	X	X		X
Protections/Regulations										X	X	X	X	X		
Modeling/Mapping									X				X	X		
Municipal Water Supply					X					X	X	X	X		X	X
Soils				X					X				X			X
Treatment Infrastructure				X						X			X	X		X
Vegetation							X	X	X	X			X	X		X
Water Rights						X				X	X	X	X	X		
Water Storage										X			X			X
Wildlife/Fish	X	X	X			X		X		X			X	X		
Workgroup Process										X						

PURPOSE: Summarize the existing data and reports related to the Upper San Juan, Navajo and Blanco watersheds to provide context and starting points for Upper San Juan Watershed Enhancement Partnership’s technical needs assessment in Phase II.

1) CONSERVATION STRATEGY FOR COLORADO RIVER

CUTTHROAT TROUT

Summary: Report describes trout status, distribution, issues, contributors to declining populations, and conservation strategies for Colorado River cutthroat trout (species of concern or Tier I species) in CO, UT, and WY.

- Data on number, miles, and acres of CRCT distinct populations & additional populations in Geographic Management Units (GMU); conservation populations; impacts of introduced species disease/predation, habitat modifications or destruction, excessive harvesting, and land use.

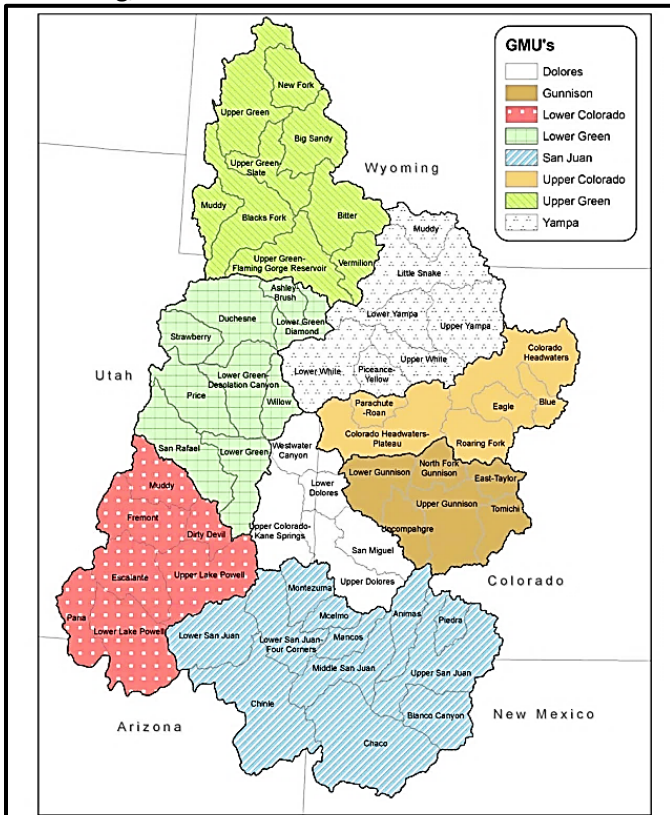
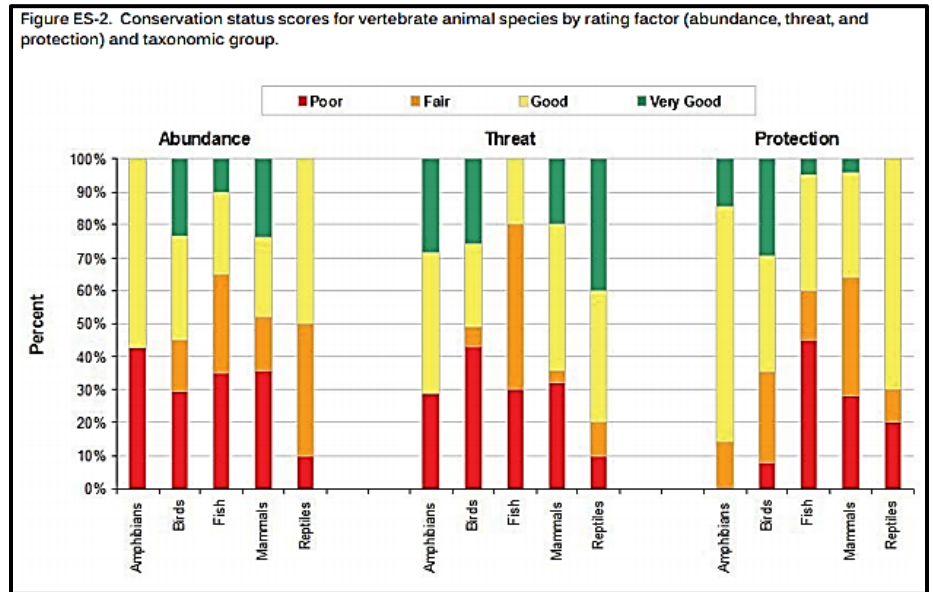


Figure 1: Range of CRCT delineated by geographic management unit (GMU) boundaries.

2) COLORADO’S 2015 STATE WILDLIFE ACTION PLAN

Summary: Report outlines set of conservation priorities for array of wildlife and habitats statewide to complement active management programs that already exist in Colorado.

- Data on locations and condition assessments of key habitats and community types; issues adversely affecting species; research and monitoring needs/ strategies; conservation actions; coordination and public participation strategies, climate vulnerability assessments.



3) CONSERVATION AGREEMENT AND STRATEGY FOR ROUNDTAIL CHUB, BLUEHEAD & FLANNELMOUTH SUCKER

Summary: Report provides species assessment and outlines involved parties coordinating conservation actions and adaptive management strategies for 3 species of concern.

- Information on species morphology, life histories, habitat, hybridization; habitat conservation/protection goals and strategies; status assessment.

4) EAST FORK OF THE SAN JUAN RESTORATION

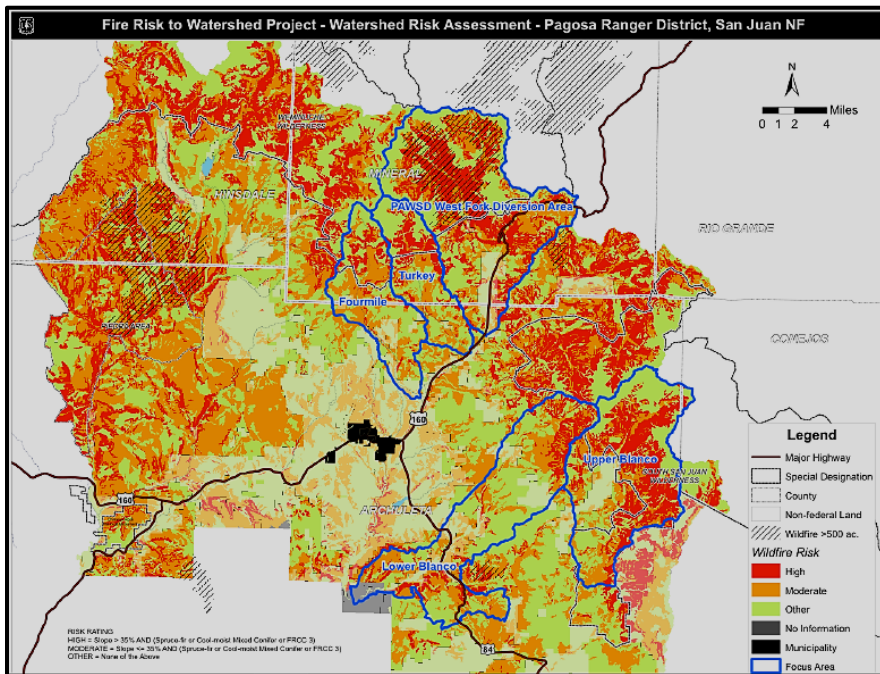
Summary: Report on river restoration efforts on private land from riparian vegetation removal impacts occurring in 1930s.

- Data collected and used for restoration efforts included geomorphic assessment, soil samples, pebble counts, and shear stress calculations.

5) FIRE RISK TO WATER SUPPLIES ASSESSMENT

Summary: Report focusing on the land contained within the outer boundary of the Pagosa Ranger District of the San Juan National Forest, including headwaters of the San Juan River.

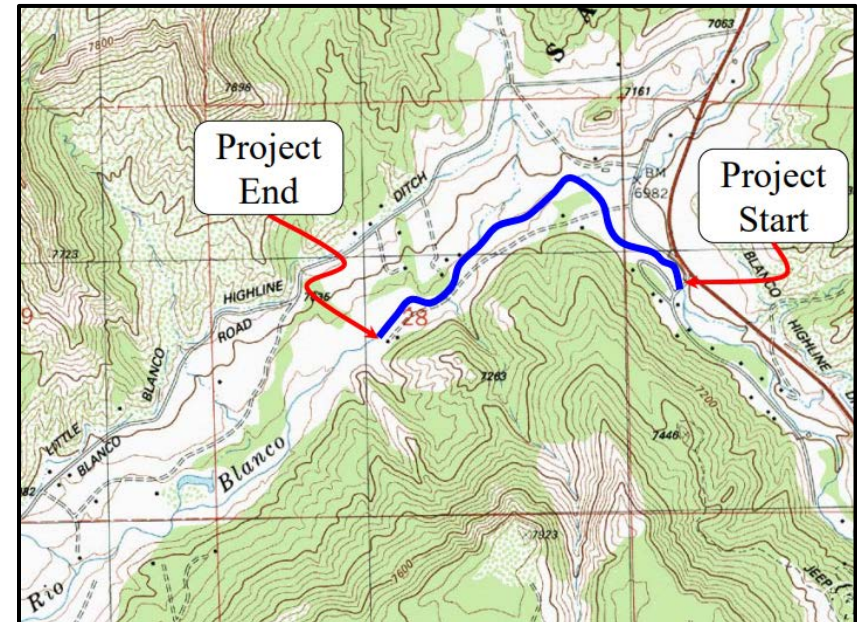
- Data on the fire probabilities, the potential risk to water resources from fire, and identifies areas with both high value for water supplies and high fire risk.



6) LOWER BLANCO RIVER RESTORATION PROJECT

Summary: Restoration efforts from 1993 to 2010 for aquatic life functions lost when river's historic flow was diverted to New Mexico via the San Juan-Chama Diversion Project.

- Data and technical information of activities conducted to address: river stability, fish habitat, water quality, riparian and floodplain functions, and maintain or improve domestic well water levels.



7) NAVAJO RIVER IN-STREAM, RIPARIAN & WETLAND IMPROVEMENT PROJECT

Summary: The San Juan Conservation District (SJCD) and Natural Resource Conservation Service (NRCS) partnered with landowners along a 6.75 mile stretch to create a more diverse river system and alleviate consequences from Oso Diversion on the Navajo River's ecosystem.

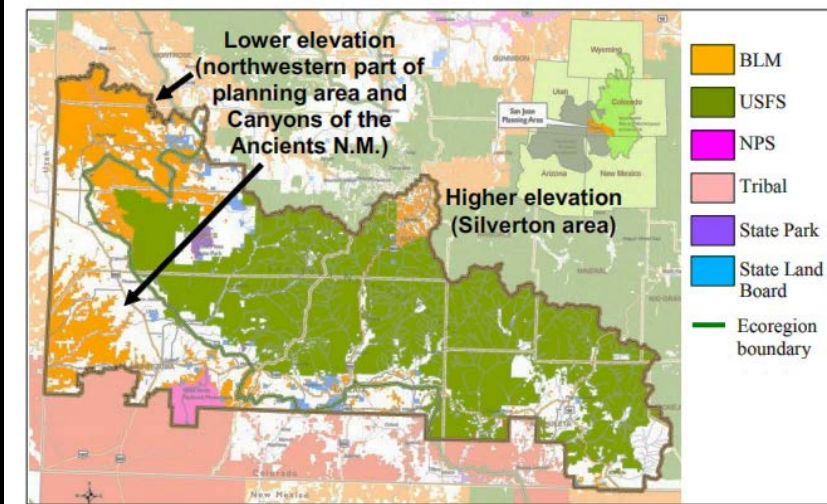
- Data from field visits used to increase aquatic habitat, wetland habitat, and riparian area condition. Applications used: installed rock and wood structures to increase channel depth, pool habitat and in-stream meandering

8) SAN JUAN PLANNING FOR BIODIVERSITY MODEL PROJECT

Summary: Report focusing mainly on the lower elevation areas of BLM-managed lands in the San Juan Public Lands Planning Area (circa 2006).

- Created monitoring framework with ranked criteria and indicators for terrestrial ecological systems, plant communities, and wildlife species to gauge current conditions and inform decisions on desired future conditions.
- Created map of Element Occurrences (for species and plant communities), Potential Conservation Areas (PCAs) and Networks of Conservation Areas (NCAs) and land ownership, major & minor roads, towns, and major & minor water bodies
- Used 2 predictive models (Envelope & DOMAIN) to identify potential suitable habitat for two species.

Figure 8. Scope of the project: BLM-managed lands in the San Juan Planning Area.



9) SAN JUAN RIVER HISTORICAL ECOLOGY ASSESSMENT

Summary: Report focusing on Lower San Juan channel geomorphology, riparian vegetation, and impacts on pikeminnow & razorback sucker habitat.

- Data quantifying changes in channel simplification, other river planform morphology changes, and stream bank vegetation using historical imagery from the 1930s, 1970s, and 2010s (periods chosen to document pre-, post-dam, current conditions). Ties impacts of actions on Upper

San Juan affecting water availability released from Navajo Dam on endangered fish species.

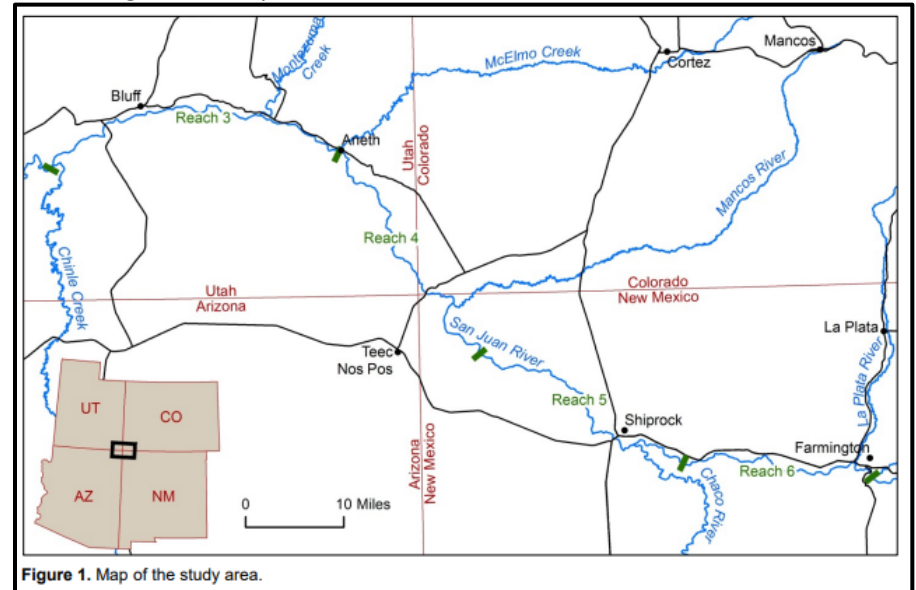
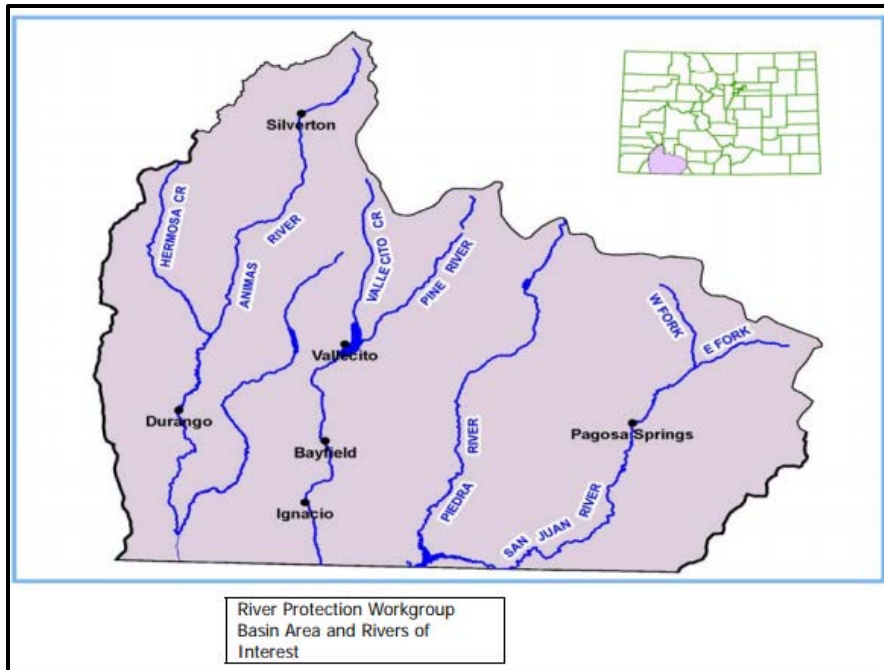


Figure 1. Map of the study area.

10) SAN JUAN RIVER WORKGROUP FINAL REPORT

Summary: Report focusing on Workgroup's process on the East and West Forks of the San Juan River, as part of the larger River Protection Workgroup, to determine river values, evaluate water protection tools (namely Wild & Scenic Rivers designation vs. alternatives), and make recommendations in context of protecting values while allowing water development.

- Created table of Potential Protection Tools and WSR designation options for private and public segments for both East and West Fork.
- Dated (2011) information on land and water protections in place, water information (court actions, municipal water, water diversion and storage, water rights totals, in-stream flows, wild & scenic river info), and economic/land/transportation development considerations.



11) SOUTHWEST BASIN ROUNDTABLE BASIN IMPLEMENTATION PLAN (BIP)

Summary: The Southwest Basin includes nine sub-basins, including the San Juan, Piedra, Pine, Animas (including the Florida River), La Plata, Mancos, McElmo Creek, Dolores and San Miguel rivers, eight of which flow out of Colorado. The Southwest BIP identifies agricultural, municipal, industrial, environmental and recreational water supply needs, establishes goals and measurable outcomes to address water supply gaps, and lists some of the identified cooperative processes and projects that can help address the gaps. The BIP specifically recognizes significant gaps in information needed to quantify environmental and recreational water supply needs and outlines a desired process to address the information gap. Key information available in the Plan include:

- Estimated Current & Future Agricultural Demands in the Southwest Basin, by Sub-basin

- M&I Demand Projections for Counties in the Southwest Basin
- List of Southwest Basin environmental and recreational attributes identified by the roundtable (Table 2)
- Map of identified environmental and recreational attributes (Figure 1)
- Map of 2015 Environmental, Recreational or Multipurpose Identified Processes and Projects.
- BIPs are currently being updated; update expected to be completed by 2020.

12) STATE WATER SUPPLY INVENTORY (SWSI)

Summary: SWSI 2010 compiled information to develop a common understanding of existing and future water supplies and demands, both consumptive and non-consumptive, throughout Colorado based on a number of potential future scenarios. CWCB is currently updating/ revising the SWSI using a wide variety of spatial data, with an expected delivery date of summer 2019.

Key Data include:

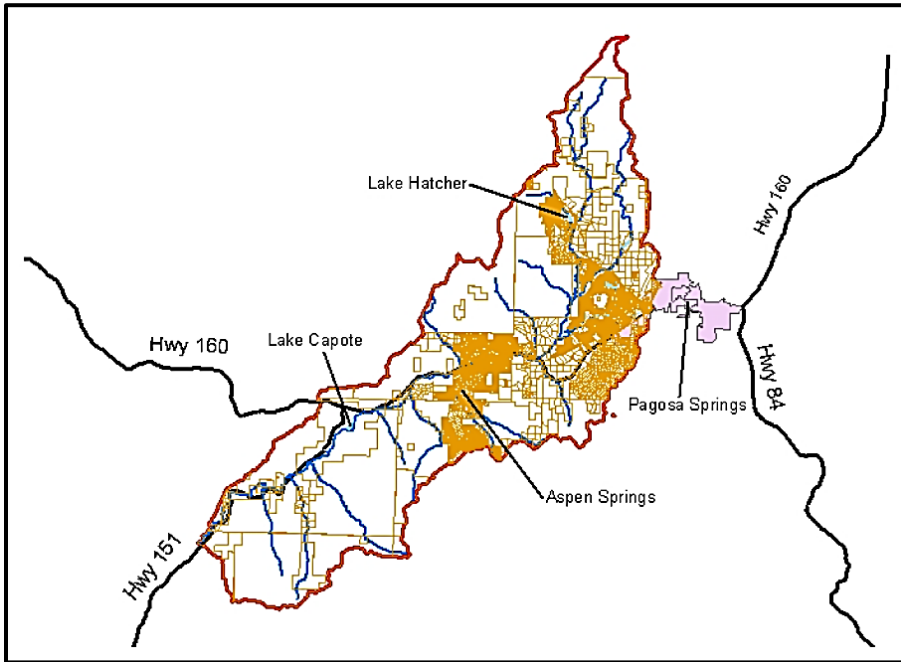
- Analysis of water supply demands to 2050;
- Summary of limited information about recreational and environmental needs in each basin, as identified by the basin roundtables;
- Analysis of supply availability in the Colorado River Basin;
- Implementation elements associated with identified projects, water conservation, agricultural transfers (both permanent and nonpermanent), and development of new water supplies; and
- Development of estimated costs of implementing water supply strategies.

13) STOLLSTEIMER CREEK WATERSHED MASTER PLAN

Summary: Report addressing concerns on growth and development impacts to the overall water quality within upper & lower reaches of Stollsteimer Creek Watershed.

- Data on water quality monitoring plan (2004, 2005, 2006) for streams and reservoirs, ecological assessments (forest, rangeland, riparian, wildlife, and Aspen Springs Subdivision), land use across watershed.

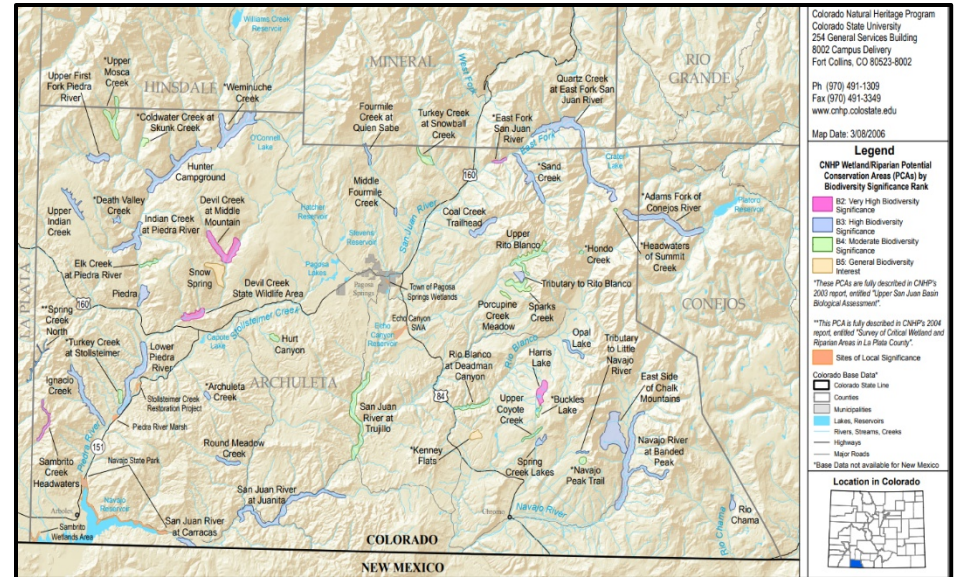
- Hydrologic modeling of watershed, hydrographic surveys of lakes, CAD based plans and maps, stormwater runoff assessment, quantify future infrastructure needs
- Data on Implemented Demonstration Project for riparian restoration on private property



14) SURVEY OF CRITICAL WETLANDS AND RIPARIAN AREAS IN ARCHULETA COUNTY

Summary: Report focusing on 2005 survey of wetland and riparian species in Archuleta County.

- Data on identified plant and animal populations and plant associations on CNHP's list of rare and imperiled elements of biodiversity, assessment of their conservation value, and prioritization for conservation action.
- Additional information on Archuleta County location, ecoregions, climate, population, land ownership, land use, geology, hydrology, soils, ecological systems, wetland & riparian vegetation, fauna, wetland definitions, regulations, condition assessment.



15) TOWN OF PAGOSA SPRINGS SAN JUAN RIVER IMPROVEMENT PROJECT

Summary: River improvement projects conducted from 1998 to present to enhance recreational features, fish habitat, irrigation, and increase economic opportunities.

- Data on project technical specifications, partners, funding sources and costs included.

16) WATER & SOIL RESOURCE MANAGEMENT CONSIDERATIONS

Summary: Report focusing on forested watersheds in Pagosa Ranger District to outline watershed health (soil and water) considerations for vegetation/forest treatments.

- Data on municipal watersheds (PAWSD infrastructure), sensitive watersheds conditions. Identifies stressors of wildfire, post-fire soil and watershed effects and proposes soils and watershed conservation practices for mechanical vegetation management projects.

REFERENCE LINKS (click on reports below)

- Conservation Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming (2006)
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Click here for [SJCD Navajo River Structure Examples](#)