

IV. State Agencies

Introduction

Beyond suggested editorial/ narrative revisions and general expressions of approval or disapproval, State agencies commenting on the DEIS expressed concerns in the general areas summarized below.

Issues Raised

- Nearly one-third of comments centered on water quality-related impacts of the project.
- One of the next most frequently cited concerns was about alternatives formulation, particularly the No Action Alternative and its function as the project baseline.
- The hydrology model and environmental and project baselines, reservoir levels, irrigation issues, and cumulative impacts/ Basin-wide planning were significant areas of expressed concern.
- Areas cited less frequently ranged from NEPA compliance and trout fishery/ related economic effects to impacts on reservoir recreation, rafting, hydropower, Indian water claims, water rights, and drought-related shortage. Issues of mitigation and flexibility in water releases were also cited, as was the perceived need for new analyses.
- The Preferred Alternative is the only alternative that complies with the EPA and protects water development.

Agencies Included in this Section

Colorado State Parks
New Mexico Soil and Water Conservation District
New Mexico State University

STATE OF COLORADO

COLORADO STATE PARKS

Navajo State Park
 Mancos State Park
 Lone Mesa State Park
 Arboles CO 81121-1697
 Phone 970.883.2208
 Fax 970.883.2287
 E-Mail navajo.park@state.co.us
 www.parks.state.co.us



Bill Owens
 Governor

Greg Walcher
 Executive Director/
 Department of
 Natural Resources

Lyle Laverty,
 Director/
 Colorado State Parks

December 16, 2002

Mr. Ken Beck
 U.S. Bureau of Reclamation
 835 East Second Avenue, Suite 300
 Durango CO 81301

Dear Ken:

The following are the comments of Colorado State Parks regarding the draft Environmental Impact Statement for the San Juan Recovery Implementation Program.

Generally, any alternatives beyond long-term historical operations will lower the reservoir level more often. Dropping the minimum to 250 CFS would keep more water in the reservoir during the early summer months. If the historical alternative is not adopted, the preferred alternative is the best for water surface recreation.

From the standpoint of surface recreation, Colorado State Parks staff has concerns with the statement in the Executive Summary on page S-3 "The suggested operating rules define conditions for mimicking a natural hydrograph in terms of magnitude, duration, and frequency of flows in the river downstream from Farmington." If mimicking the natural hydrograph is the true intention, we believe that the reservoir level would remain relatively stable. Matching the outflow to the inflow would have the least affect on the reservoir levels. Keeping a minimum of 500 CFS at Bluff UT is far from maintaining a natural hydrograph. With the incredibly low flows of the rivers above the reservoir and the flows in the Animas River this year, the natural flow at Bluff would have been under 100 CFS for the majority of the summer.

Keeping a minimum flow of 500 CFS at Bluff appears to have the most adverse impact to water levels and surface recreation. For a time after the spring release, the outflow is maintained at 500 CFS. This has been acceptable and the proposed 250 CFS will be an improvement during this period. During the summer, when the Animas River flow decreases, the flows out of Navajo are increased to keep the 500 CFS minimum at Bluff. This has a great impact on the reservoir because the duration of this increase generally occurs during the peak summer and fall seasons.

The operating rules for spring releases are not in the DEIS document. After following these rules for a few years, it appears that they do not have as much of an impact to surface recreation as the 500 CFS minimum at Bluff. A release of 344,000 acre feet is only called for if there is a spill probability. 344,000 acre feet equates to a severe drop

1

SA1-1 Comment Noted.

2

SA1-2 Comment noted.

in water level but if a spill were probable, the large release would most likely have to occur for flood control anyway. The 114,000 acre feet release generally has a more severe impact to reservoir levels because it can occur in a dry year or when the reservoir level is already low.

2 cont.

The most severe impact of low reservoir levels to Navajo State Park is the loss of the Mooring Cove. The Marina's starts losing mooring lines when the reservoir is at 25' low. Most of the lines are lost at 35' low. The Marina minimized this loss this year by replacing most of the lines with a larger dock. This use of this dock was completely lost at 50' low (6035). At 50' low, the main marina dock has to be moved to the main channel of the reservoir leaving it vulnerable to damage from wind and waves.

3

In conclusion, the historical alternative is the best for surface recreation. Because of endangered species and irrigation, it appears that this alternative will not be an option. If this is the case, the 250/5000 preferred alternative provides the least impact to surface recreation. Attempting to keep a minimum flow of 500 CFS in the Bluff area by increasing outflow from Navajo has the most adverse impact on surface recreation during the peak period of public use.

Sincerely,



John J. Weiss
Park Manager

cc: Kurt Mill, West Region Manager

SA1-3 Drought conditions in 2002 resulted in low reservoir levels. Reservoir levels below 5979 feet were exceeded only once in the hydrology modeling period (1929-1993).

NOV 24 2002

Attn: Mr. Ken Beck

Bureau of Reclamation

Western Colorado Area Office, Southern Division

Durango, Colorado 81301

Action to be taken at this time is recommended that it should be put on hold until a later date and more questions such as the Navajo Water rights negotiation is complete.

Until that time operation should be as needed as it is now. Only cut back on the outflow as much as possible--say 350 cfs or so.

Comments On DEIS-02-35 Draft Environmental Statement

Navajo Reservoir Operations

Due to the fact that the DEIS was never received we cannot quote verbatim but will try to use the information which we have to make comments for the reasonable foreseeable water use of the San Juan River Water. Mainly the two options that were offered were the 250cfs, 5000cfs. The 250cfs are a very poor amount of water to be released into the river. It would have very detrimental effects to every one on the river including the fish. Especially the habitat directly below the dam that is a major industry and tourist attraction to the San Juan Basin. 250cfs for any length of time over a few days would be a disastrous result for the habitat and fish. 250cfs is not enough water to satisfy any diversions past the Turly Ditch. Turly Ditch has senior water rights predating the Navajo Dam. There are some other senior water rights on the San Juan to the Animas that also predate the BOR water rights. Any cutting back of their water would be against the law of the River. It is recommended that the low flow to be kept at least 500cfs if the Animas would make up a big difference for the endangered species then it could decreased to a lower amount 400-300 cfs. As it is right now under Court order 500cfs is to be minimum. The economic impact of such a low flow (250cfs) would be devastating not only to the trophy fishery but to the farmers and the City of Bloomfield, maybe Aztec and Farmington. There are thousands of acres under irrigation that provide income and lively hood for families that depend on this water. If there is a lack of water and they do not have Senior Water Rights prior to 1956 they should all share the shortage as well as the endangered species fish that have survived low water, poisoning over the past several thousand years. There will be additional depletion in the San Juan Basin due to the increased population in New Mexico and Colorado and the demand on the Rivers increase as well as the BOR boondoggle of the ALP project being constructed in Colorado. If the Water is allowed to be diverted from the Animas into the La Plata River Basin it will be a MAJOR reduction of water in the Animas and the Cities may have to depend on the San Juan for their drinking water.

In future water demands we don't know what the Navajo's will claim as their part of the water either in Navajo Lake, Navajo Gallup Pipeline or down stream on the San Juan above the endangered fish area. It may be that 500cfs could run the river short of water at the endangered species areas. The demands to increase water by way of the San Juan Chama may also take a toll on Navajo Lake as it has this past year (2002).

The non-native fishery below Glen Canyon Dam was sacrificed by BOR in the operation

1

SA2-1 Please see the responses to General Comments 10, 18a, and 34.

2

SA2-2 Please see the responses to General Comments 18a and 20d.

3

SA2-3 Please see the responses to General Comments 18c and e.

4

SA2-4 Comment noted.

of Glen Canyon Dam. This was done under the DEIS for Glen Canyon Dam to help the native fish. We in San Juan County cannot afford to loose forty million dollars out of our economy that we now make on this fishing area alone, plus other losses that would occur below the dam by the farmers for the lack of water. All in the name of the endangered species.

4 cont.

The cost of water to the cities and water companies that may have to purchase water from the Jicarilla's will go to the highest bidder. The cities and water companies will have to raise their price accordingly to pay for their cost of the water and processing. Industries will look else where. Development will have to come to a stop and maybe even cause a depression in the area because of the exorbant price of water. At the present time there is too many unknown to say this is how the Dam will be operated come Hell or High water for the next 5-10 years or more.

5

SA2-5 The EIS analyzes impacts that may result from reoperation of Navajo Dam. It does not attempt to analyze or address the supply and demand or price for water. Those issues are beyond the scope of this document.

Hydro power can operate at 500cfs. This furnishes electricity to the City of Farmington and the surrounding area. This is cheap power that has cost the tax payers of Farmington millions of dollars to develop and install. At 250 cfs this would be all for not as they cannot use this power plant to generate electricity and the loss of revenue and increased cost would be reflected in the electric bills. Any future development in the basin would be at a stand still or decrease causing a depressed area.

6

SA2-6 Please see the response to General Comment 26.

Water management has to come from the State as the State owns the water that is not adjudicated by water rights. Any further water development such as the San Juan Chama increases or the NIIP further development should be on hold until there is a water agreement with the Navajo Tribe. At this time no one for sure knows how this will come out in the next year.

7

SA2-7 Comment noted.

The water quality out of Navajo Reservoir is the best water in the San Juan Basin. If the San Juan River is dropped to 250 cfs for any length of time water quality standards could not be met on the river. The cost of processing the water if possible, would be much higher than it is today. It may even be minimun standards for clean drinking water could not be met. This could also cause a virus in the fish and the birds.

8

SA2-8 Please see the response to General Comment 23.

As far as the bird-such as geese & ducks having their nests washed away in high water flow is immaterial as this could happen with mother nature in any given year. The population of the geese are to a point here in the San Juan Basin as in many other parts of the country becoming a nuisance, doing a lot of damage in the Basin, such as vegetation, crops, landscaping, homes and automobiles. Some locals you don't dare to walk out of the front door with out getting bombed from a flight of geese.

9

SA2-9 Comment noted.

There are many ponds, lakes and illegal taking of water between Navajo Dam and the Animas that has to be curtailed by the State Engineer. All of this will have a major impact on the EIS.

NEW MEXICO SOIL & WATER CONSERVATION DISTRICT
DISTRICT SUPERVISOR, DAVID BARR
822 E. FAIRGROUNDS AVE.
1400 NORTH FAIRGROUNDS RD.
FARMINGTON, N.M. 87401



COOPERATIVE EXTENSION SERVICE

NEW MEXICO STATE UNIVERSITY

BOX 3AE, LAS CRUCES, NEW MEXICO 88003-0031
COLLEGE OF AGRICULTURE AND HOME ECONOMICS

December 3, 2002

Ken Beck
Bureau of Reclamation
Western Colorado Area Office
835 East Second Avenue, Suite 400
Durango, Colorado 81301

Dear Mr. Beck:

After reviewing the Draft Environmental Impact Statement (DEIS) for the Navajo Reservoir Operations on behalf of the Range Improvement Task Force (RITF), the following concerns arose about the analyses that were performed and the lack of scientific evidence to support the assumptions and conclusions throughout the DEIS: 1) The analysis lacks a clearly defined baseline to be used as a basis of comparison to the action alternatives, 2) There is a lack of sound water quality research and its importance to human health, 3) There is are unidentified environmental and economic impacts. Many of these problems stem from one basic flaw. The Bureau has clearly determined in advance that the DEIS would find the 250/5000 (cfs) Preferred Alternative as the only practicable alternative.

The baseline (No Action Alternative) used for evaluating the action alternatives within the DEIS Navajo Reservoir Operations is poorly defined, conflicting, and confusing. The Bureau's own NEPA Handbook defines "No Action" to be "the future without the project" and should include "reasonable foreseeable" actions. Within the DEIS the No Action Alternative is defined as "the historical operation of the dam after initial filling in 1973 until the beginning of test releases in 1991, while taking into consideration water developments that occurred between dam construction and 1991". **Why were foreseeable actions excluded from the "No Action Alternative"? Why were water development or management actions since 1991 not included?**

Within Table II-2 the DEIS states that the No Action Alternative "meets various laws and policies (including Navajo Dam authorized purposes, ESA, state laws and interstate compacts)". This leads the reader to believe that if no action were taken there would be no conflict with endangered species or Indian water rights. However, throughout the

1

SA3-1 Please see the response to General Comment 3.

DEIS it states that if an Action Alternative is not chosen then the Animas La Plata (ALP) project and completion of Navajo Indian Irrigation Project (NIIP) would be detrimentally affected. It also includes completion of NIIP as an economic benefit of the preferred alternative. The completion of NIIP should be included in the baseline, because if no action were to be taken there would be more than enough water stored within Navajo Reservoir. Also, Public Law 87-483 authorized NIIP 508,000 acre-feet of water and they also have a senior water right under the Winters Doctrine, which leads to the question of: **Why would the completion of NIIP not happen under the No Action Alternative?**

2

SA3-2 Please see the response to General Comment 3.

In discussion of the hydrology model, the No Action Alternative does not include the completion of NIIP, the ALP Project, Jicarilla Apache Nation water rights settlement, and numerous other minor depletions. However, the Preferred Alternative includes these projects, which "have received a favorable biological opinion from the Service." After much searching it was realized that the "favorable" biological opinions require the reoperation of Navajo Reservoir. **Why was the evaluation of the reoperation of Navajo Reservoir not completed prior to a favorable opinion on these other projects?**

3

SA3-3 Evaluation of Navajo Dam operations began in the early 1990's. Studies were completed under the SJRBRIP prior to Flow Recommendations being developed. Once Flow Recommendations were completed, Reclamation began evaluations for the Navajo Reservoir Operations EIS.

The following statement identifies the baseline to include the completion of the ALP Project and full development of NIIP. Therefore, when analyzing the action alternatives the Bureau includes these projects in the baseline. "The Action Alternative impact analyses present long-term effects on resources. This assumes that the Animas La-Plata Project (ALP Project) is in operation and the Navajo Indian Irrigation Project (NIIP) is at full delivery" (DEIS pg. III-1). The baseline is then identified as not including the completion of NIIP and the ALP Project. Therefore, when analyzing the No-Action Alternative the Bureau does not include these projects in the baseline. "Water supply adequate to meet existing uses; future water uses including NIIP completion and ALP Project assumed not to occur. (DEIS pg. S-13) This suggests that the Bureau has a moving baseline depending on what they are analyzing. When conducting an impact analysis the baseline (No Action Alternative) should never change. The Action Alternatives should be compared and impacts are measured against the No Action Alternative, which should remain constant throughout the analysis. **What constant baseline were all action alternatives compared to within this analysis?**

4

SA3-4 The Action Alternatives -- 250/5000 and 500/5000 -- were compared against the No Action Alternative.

Water Quality and Human Health

The National Environmental Policy Act of 1969 (NEPA) states that "it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;"

The Bureau has a responsibility under NEPA to evaluate the effects of the proposed action on human health and safety when preparing a NEPA document. Within the DEIS it is stated that under the Preferred Alternative "A 250-cfs release from Navajo Reservoir during the irrigation season would probably result in low flows (in the range of approximately 60-150cfs) from Citizens Ditch (river mile 217) diversion to Farmington (river mile 181) due to irrigation demands. During the Summer Low Flow Test (Reclamation, 2002) several water quality parameters (temperature, aluminum, fecal coliform, total organic carbon, and conductivity) exceeded the State standards for this reach. Exceedences of water quality standards would probably increase at these lower flows over the long term." They also state "long-term summer low flows may cause exceedences of the water quality standards or an increase in bioaccumulation of some trace elements." (DEIS pg III-96) This leads to some very important and serious questions that need to be addressed. **What baseline data was taken to compare the effects on water quality before the Summer Low Flow Test? Do these "exceedences" pose a risk to the residents of San Juan County that have their drinking water taken out of the river? By how much do they exceed the standard? If a 7 day test that had "potential limitations" and exceeded State water standards, then what kind of an effect would a prolonged 250 cfs flow have on the water quality above the Animas River confluence?**

5

SA3-5 Please see the responses to General Comments 22 and 23 which discuss water quality and the Summer Low Flow Test.

Responsibilities were neglected by the Bureau and transferred to the New Mexico Department of Environment with scheduled Total Maximum Daily Load (TMDL) studies to be completed in the next several years. The TMDLs will identify "best management practices" to prevent violation of State water quality standards. Without addressing the fact that the Preferred Alternative will violate State water standards, and impose upon water users stricter regulations through the "best management practices" to reduce non-point source pollutant loading, the Bureau has not directly considered or dealt with the impacts to water quality. A lower quality of water due to the Preferred Alternative creates a lower baseline for which the New Mexico Department of Environment has to apply the "best management practices". These "best management practices" will affect federal land uses (grazing, oil and gas, and recreation), Indian land uses (grazing, oil and gas, and recreation), private land uses (agriculture, oil and gas, development, and recreation), and municipalities. The Bureau of Reclamation, as a federal agency, has a responsibility for the degraded water quality due to their actions. **How do you plan to address these issues? What are the potential impacts to all the citizens of San Juan County, New Mexico of the lower water quality and the subsequent development of the "best management practices"?**

6

SA3-6 The State of New Mexico Environment Department is conducting a water quality assessment for the San Juan River and will consider whether TMDLs will be developed for listed water quality parameters that currently do not fully support water uses. Please see the response to General Comment 23 for additional information.

Within the Summer Low Flow Test Results it was identified that "fecal coliform samples exceeded the standard at the sites above the Highway 44 bridge in Bloomfield and at the Geological Survey (GS) gauge in Farmington below the confluence of the San Juan and Animas River." This sample was taken just above the diversion for the Lee/Hammond

Water Treatment Plant. **Because of health and safety concerns, why was the fecal coliform results not included in the DEIS? This suggests the BOR did not consider the potential risks regarding water quality for human consumption. Doesn't the public have a right to know if the potential exists for their drinking water to be unsafe or harmful?**

7

SA3-7 Please see the response to General Comment 23.

Overall, the DEIS does not address water quality issues objectively or try to identify potential impacts of degraded water quality. The Bureau has chosen a Preferred Alternative without even knowing if it will benefit or harm the endangered species, which is the purpose of the DEIS. This is obvious when it is stated "Additional research is needed to determine the relationship between water quality and endangered fish recovery." **Where is the proof that the Preferred Alternative, which degrades water quality and has the potential of significant impact, will be safe for water consumers along the river and not harm the endangered fish?**

8

SA3-8 Please see the responses to General Comments 20f and 23.

Seven years of research went into developing the flow recommendations needed for the recovery of the two endangered fish species. To determine the effects of the 250 cfs flow during summer months to the environment, economies, and human population a seven day test was conducted from July 9,2001 to July 16, 2001. Then it is stated in the DEIS that an "adjustment in water releases from Navajo Dam takes about 3 days travel time to reach the Bluff gage in Utah." The Summer Low Flow Test that was conducted appears to raise more questions than it answered in terms of the long-term impacts of a 250 cfs flow. In the Summer Low Flow Test Report it stated "Potential limitations of the Test included its duration, the unpredictability of river bank storage, sporadic localized rainfall that augmented river flows, mechanical equipment limitations preventing the release of exactly 250 cfs, and lower rates of water diversion than anticipated. These issues will be addressed in the subsequent EIS." This short duration test didn't allow the ground water level in the river corridor to adjust and yet it was kept short because a lengthier period of time could have resulted in significant impacts to resources. **Before giving a record of decision, why doesn't the Bureau perform the additional needed research for a longer period of time so that the true long-term impacts of the re-operation of Navajo Dam can be determined to downstream water users and resources? Then modify the DEIS and open it up for an additional comment period. What is the significance of a seven-day summer test to determine the long-term impacts of the action? Where are the short falls of the summer low flow test addressed in the DEIS?**

9

SA3-9 Please see the response to General Comment 22.

Environmental and Economic Impact

Variability is a must in meeting the target flow recommendations and trying to mitigate the adverse impacts that occur downstream. Given the "variables inherent in the operation of Navajo Dam," it only makes good sense that the Bureau includes variability in the "preferred alternative." It is impossible to meet the target flows downstream from Farmington for the following reasons:

- "Inflow forecasts: Forecasting techniques may not accurately predict actual snow pack levels and available runoff."
- "Fluctuations in Animas River contributions"

- “Unanticipated precipitation events”
- Timeliness of water demand
- Irrigation returns
- Stream bank inflow

The Bureau has addressed some of these concerns by stating that under the 250/5000 Alternative “Flow releases throughout any given year would be variable and would range from 250 cfs to 900 cfs as needed to meet target flows downstream from Farmington.” This alternative is stated to meet the flow recommendations but the 250 variable/ 5000, with a variable flow between “250 and 500 cfs,” “was eliminated because it did not meet the Flow Recommendations.” It was also stated that the 250 Variable/ 5000 Alternative “would result in insufficient reservoir storage to provide releases to meet spring peak flow criteria.” It is assumed that this is why it does not meet the flow recommendations, but it is never stated within the DEIS. **Could the Bureau demonstrate that the 250/5000 Alternative (Preferred Alternative) (Flow Recommendations) meets the flow recommendations and would allow for sufficient reservoir storage (with a variable of 250 to 900 cfs), while the 250 Variable/ 5000 Alternative (with a variable of 250 to 500 cfs) would not?**

10

SA3-10 Please see responses to General Comments 4 and 5.

The DEIS states numerous times that the Preferred Alternative is flexible for an “Interim Period.” It states, “... (The interim period is the time until the ALP Project and NIIP are fully operational along with 3000 acre-feet of minor unspecified water depletions). Additional operational flexibility may exist to provide supplemental flows for various purposes in this interim period as a result of these unutilized depletions.” Furthermore the SJRBRIP Biology Committee indicated that “during the irrigation season (March through October) it may not be effective or necessary to lower releases below 500 cfs until water use in the basin increases to the point that the water is needed to meet runoff period recommendations. This flexibility is extended only to the irrigation season as defined... and only until water development reaches the level that additional water is needed for Spring releases. (February 21, 2002, memorandum from Biology Committee to Reclamation).” Establishing the point that variability only exists in the short run and that variability is a must in meeting target flows downstream, leads us to a potential conflict. **Where is the water going to come from in the long run to meet the flexibility demands, which is a must, in the Preferred Alternative? How will this problem become compounded in times of extended droughts, which are fairly common in the Arid Southwest?**

11

SA3-11 Please see the responses to General Comments 11 and 13.

It was stated that the flexibility only existed in the short run during the irrigation season, suggesting that there is not enough water for downstream irrigators to divert their water claims in periods when flows are 250 cfs. This indicates that when the flexibility no longer exists in the long run, the irrigators are going to be the ones that foot the bill for the flexibility needed to meet target flows. Thus agriculture is going to be affected by the Preferred Alternative in the short run because a flow of 250 cfs will not allow some downstream water right holders to exercise their entire right and in the long run because the water will be needed to meet the target flows downstream, when flexibility no longer exists. The Bureau never attempted to address this issue within the DEIS and therefore violated the NEPA process, which requires the identification of all direct, indirect and

cumulative impacts. **What are the direct, indirect, and cumulative impacts to the agricultural industry from implementing the Preferred Alternative in both the long run and the short run? Is this impact going to be compounded in periods of extreme drought? How are the irrigators going to be compensated for their loss of water? What mitigation measures are going to be taken to try and minimize this impact? How is the Bureau going to determine which irrigators lose their water? Furthermore, how is the loss in agricultural production going to affect the local economy?**

12

SA3-12 Please see the responses to General Comments 2, 13, and 18a.

Summary

Overall, the Draft Economic Impact Statement for the Navajo Reservoir Operations fails to objectively and honestly identify the environmental or economic impacts of the re-operation of Navajo Reservoir. The entire analysis is flawed due to the confusion of the baseline, which changes the impacts when evaluating the Action Alternatives. There have been limited efforts to identify the total impacts to the natural environment, or the human environment. Water is a precious resource and property within New Mexico and the arid southwest. The issues surrounding water quality within the DEIS are only given minimal attention and these should be an important component which receive extensive analysis. Potential water quality impacts should have been identified, quantified, and mitigated in relation to the multiple water uses within the San Juan Basin.

The entire DEIS marginally attempts to identify the cumulative impacts to the multiple resources and communities of the San Juan Basin, including the endangered species. The Bureau makes numerous assumptions and statements of "fact" that are not justified or supported with any kind of scientific data. The DEIS is unclear and fails to address, with any kind of reasonability, the potential total cumulative impacts, mitigation measures, or regulatory takings implications to private property. There are numerous legal requirements of the Bureau of Reclamation to prepare a document that is clear, concise, and easy to understand. The Bureau is also required to involve and inform the public of any possible impacts and attempt to mitigate those impacts. A comprehensive, justifiable, understandable, and honest impact analysis should be conducted and the public should be allowed to evaluate that analysis before any action is taken or decisions made which could have irreversible and irretrievable impacts to the environment and economies of the San Juan Basin.

Nick Ashcroft- Economic Development Specialist



New Mexico State University
College of Ag & Home Econ
P.O. Box 30003, MSC 3169
Las Cruces, NM 88003-8003

Casey Roberts- Graduate Research Assistant



New Mexico State University
College of Ag & Home Econ
P.O. Box 30003, MSC 3169
Las Cruces, NM 88003-8003