



Ogala Sioux Tribe

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Office of the President
JOHN YELLOW BIRD STEELE

April 26, 2001

Jeffrey Nettleton
U.S. Bureau of Reclamation
Rapid City Field Office
5159th Street, Room 101
Rapid City, SD 57701

RE: Ogala Sioux Tribe Comments on Draft EIS Angostura Unit
Contract Negotiation and Water Management

Dear Mr. Nettleton:

Enclosed you shall find the Comments of the Ogala Sioux Tribe on the Draft Environmental Impact Statement for the Angostura Unit Contract Negotiation and Water Management (January 2001). I appreciate your taking these comments into account as the Bureau of Reclamation proceeds with long-term planning of the operation of the Angostura Unit.

I look forward to working with the Bureau of Reclamation to resolve the issues that we have raised in a fair manner and on a government-to-government basis. Thank you.

Sincerely,

OGLALA SIOUX TRIBE

John Yellow Bird Steele
John Yellow Bird Steele
President

Enclosure

Ogala Sioux Tribe

Statement of Comments and Concerns

Draft Environmental Impact Statement

Angostura Unit Contract Negotiation and Water Management

- 1** 1. [The Ogala Sioux Tribe has Suffered Substantial and Direct Harm from the Impoundment of Water at Angostura Dam and the Operation of the Angostura Unit]

The Ogala Sioux Tribe has suffered substantial and direct harm from the impoundment of the Cheyenne River at Angostura Dam and the operation of the Angostura Unit. The most significant flaw in the Draft Environmental Impact Statement is the denial of harm suffered by our Tribe from the construction and operation of the Angostura Unit, and the lack of mitigation to address these impacts.

- The Angostura Unit harms the Ogala Sioux Tribe in many respects. Water that is subject to the Winters Doctrine claims of the Ogala Sioux Tribe is committed to non-Indian water users at Angostura. The pattern of floods that helps produce vegetation in the riparian zone no longer exists, and consequently riparian vegetation has suffered. Water quality may be detrimentally impacted. [The fish resource in the Cheyenne River has declined.]

The Draft EIS states -

The No Action Alternative would not change the present condition. Therefore, it would not place an undue burden on minority or low income populations...

DEIS, p. 157.

- 3** This conclusion is erroneous. [The present condition results in disproportionate impacts on the Ogala Sioux Tribe.

The closest community downstream of the Angostura Unit is Red Shirt Table. Red Shirt is a Native American community on the impoverished Pine Ridge Indian Reservation. The cannery in Red Shirt that processed local native fruits and berries was closed down, after the water diversions began for the Angostura Unit. Subsistence fishing has likewise declined.]

- 1.** This EIS analyzed environmental justice impacts, as well as impacts to ITAs and social and economic conditions (pp. 153-158 in the EIS). Based on the EIS, Reclamation determined that the OST wouldn't be disproportionately affected by any of the alternatives. The No Action, Improved Efficiencies, and the Reservoir Recreation and Fisheries Alternatives don't represent a substantial change from current operations; thus, they wouldn't be expected to affect environmental justice. The Reestablishment of Natural Flows Below the Dam and Improved Efficiencies Alternatives could in fact result in social and economic opportunities benefitting the OST; since specific developments couldn't be determined, potential benefits weren't quantified. The analysis in the EIS indicated that there would be the potential for these benefits, however, should the Tribe choose to take advantage of them.

- 2.** Analysis of data failed to indicate a decline in water quality which would result in an impact to Cheyenne River fisheries. In fact, 16 new fish species can now be found in river (see Table 3.24 in the EIS). Some of these species are sportsfish—such as smallmouth bass and bluegill—which prefer clean water.

- 3.** Analysis in the EIS indicates there would be no environmental justice impacts in the No Action Alternative during the 25-year long term. The Red Shirt cannery, which processed plants primarily growing in uplands away from the river, was not affected by the Angostura Unit. There is no evidence that fish populations have declined (see also the responses to your comment No. 1 and comment No. 2 above).

The Draft EIS cites the following Environmental Justice criteria to determine if there are disproportionate impacts -

... whether contract renewal and water management pose(d) significant environmental hazard to minority or low income populations which appreciably exceeded the risk to the population in general

DEIS, p. 156.

4 The Red Shirt Table community and the Oglala Sioux Tribe clearly meet this criteria for disproportionate impacts. The proximity of Red Shirt Table community and the Pine Ridge Indian Reservation to the Angostura Unit renders it vulnerable to disproportionate impacts. [Legitimate concerns have been expressed and verified concerning water flows, water quality, and riparian vegetation.]

5 Yet in the draft EIS, the BOR denies the existence of Angostura's negative impacts on our Tribe. The Draft EIS blames other factors as the causes for certain environmental impacts. [The water treatment plant in Red Shirt is blamed for high bacteria levels in the Cheyenne River and for the fish lesions, although there is no evidence for this. Livestock grazing is blamed on the decline of fruits and vegetation, although it is admitted that "grazing data (is) not available." (DEIS, p. 98). Other negative impacts, such as reduced water flows, are ignored or glossed over.]

6 The Bureau of Reclamation should work in partnership with the Oglala Sioux Tribe for long-term monitoring of environmental data in the Cheyenne River corridor. [The regulations require the agency to acknowledge gaps in data, as there is here. 40 CFR §1502.22]

7 The BOR should not merely deny or dismiss the concerns of the Oglala Sioux Tribe in the Draft EIS. [Additional studies are needed to determine the extent that modifications in the operation of the Angostura Unit may result in positive impacts on water flows, water quality, the health of fish, and riparian vegetation on the Reservation]. Under existing law, the BOR cannot merely deny or dismiss the concerns raised by the Oglala Sioux Tribe.

8 Executive Order 12898 on Environmental Justice requires mitigation of disproportionate impacts of federal actions on minority and impoverished communities. [The Draft EIS fails to comply with the requirements Executive Order 12898.]

The concerns raised by the Tribe clearly warrant additional study. The self-serving conclusions of lack of impacts are not supported by sufficient evidence in the Draft EIS. The harm suffered by the Tribe should be acknowledged, and there should be a plan for the mitigation of these impacts.

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2. Impacts on Reserved Water Rights

The Angostura Dam and irrigation project impound and utilize water that is subject to the Winters Doctrine claim of the Oglala Sioux Tribe. Under current law, the courts tend to limit Indian water claims out of what is characterized as "sensitivity" to existing uses. *United States v. New Mexico*, 438 U.S. 696 (1978). Consequently, the commitment of water by the Bureau of Reclamation to the Angostura Unit may be used as an excuse by courts to limit the reserved water rights of the Oglala Sioux Tribe to the Cheyenne River. valuable rights of our Tribe are jeopardized by Angostura Unit.

The Secretary of the Interior has a fiduciary obligation to our Tribe to protect our water rights. Instead, the Department's activities at Angostura threaten our rights, by supplying scarce water resources that we claim, to non-Indian water users.

The Draft EIS states -

Both the OST and CRST probably have claims to the water of the Cheyenne River under the Winters Doctrine.

DEIS, p. 97.

9 [This sentence is so weak as to be inaccurate. The Oglala Sioux Tribe definitely claims water rights to the Cheyenne River. We claim the entire flow of the river on the Reservation, including historic flows, which were far greater than at present. The Department of the Interior should recognize the claims of the Tribe and support our Tribe in advancing these claims and in exercising our water rights. Instead, the Draft EIS understates the status of our claim by contending that it "probably" exists.]

The Oglala Sioux Tribe report contained in the Appendix to the Draft EIS entitled Considerations for the Environmental Impact Statement on the Recontracting of Water for the Angostura for Submittal to the Bureau of Reclamation (July 26, 1999), contains a more accurate description of the nature of our reserved water rights, than is outlined in the Draft EIS. The report states in part -

The U.S. Supreme Court has determined that when the Indian Tribes reserved rights to land, we similarly reserved the right to use that amount of water needed to survive and prosper on our Reservations. Winters v. United States, 207 U.S. 564 (1907). The Court held that "The power of the Government to reserve the waters (for the Indian Tribe) and exempt them from appropriation under the state laws is not denied and could not be.... the Government did reserve them.... and for a use which would be necessarily extended through the years." 207 U.S. 576.

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4. The Tribe's concerns about river flows, water quality, and riparian vegetation, noted during scoping meetings (pp. 13-15 in the EIS), were addressed in the EIS analyses. The EIS found annual average river flows would range from 60.2-120.7 cfs below Angostura Dam, depending on the alternative, and from 126-158.5 cfs at Buffalo Gap (40 miles downstream of the dam, 10 miles upstream of the Reservation). River flows at present are 59.9 cfs at the dam, 107.4 cfs at Buffalo Gap (see Table 3.1). Total dissolved solid concentrations in the river (a general measure of water quality) would range from 1,860-1,890 mg/L at Buffalo Gap, and from 1,280-1,350 mg/L at Cherry Creek (on the Cheyenne River Reservation). Annual TDS at the dam at present is 1,705 mg/L, 1,782 mg/L at Cherry Creek (Table 3.11). Riparian vegetation coverage in the flood plain of the 75-mile reach of the river below the dam totaled 5,771 acres in 1991 (80 %) of the total flood plain, in comparison to 4,942 acres (62%) in 1948 before the dam was built (Table 3.21).

5. The suggestion that fecal coliform bacteria from the malfunctioning Red Shirt wastewater treatment plant caused leeches to be more numerous in the river came from the OST's report (Appendix Z in the appendices volume). Substantial studies document the effects of livestock grazing on riparian areas (p. 74, "Wildlife:Cottonwoods" in the EIS). The "Stream Corridor" sections in Chapters Three (pp. 56-65) and Four (pp. 138-141) analyze impacts of high and low river flows both before and after the dam was constructed.

6. Studies for the EIS analyzed water quality, the stream corridor, fisheries, wildlife, and social-economic conditions. Also, see "References Cited" in the EIS. The data were sufficient to determine the impacts in the EIS.

7. Reclamation manages the Angostura Unit for multiple benefits, including flows in the river, water quality, fisheries, and riparian vegetation. See the responses to your comments Nos. 2 and 4 above.

8. Environmental justice was evaluated by three criteria developed by the Council of Environmental Quality: Whether or not impacts to the OST would be significant or above generally accepted norms; whether or not contract renewal and water management would pose a significant environmental hazard to the OST; and whether or not impacts—when combined with impacts of other projects—would pose a cumulative hazard to the OST (pp. 100-101 and p. 158). Based on these criteria, Reclamation concluded there would be no environmental justice impacts to the OST.

9. The sentence in question has been changed in the EIS to read: "The OST and CRST have claimed water of the Cheyenne River under the Winters Doctrine. The LBST has also claimed water of the Cheyenne under the Winters Doctrine and the 1868 Treaty."

Later in this century, when Indian reserved water rights were attacked by non-Indian water users in the Colorado River basin, the Supreme Court reconfirmed these principles. In *Arizona v. California*, the Court held that "when the United States created these reservations, or added to them, it reserved not only land but also the use of enough water from the Colorado to irrigate the irrigable portions of the reserved lands." 373 U.S. 546, 596 (1963).

Further, when scarce water resources are to be allocated, the courts have determined that under the Winters Doctrine "the Indians were awarded the paramount right regardless of the quantity remaining for the use of white settlers." *United States v. Ahtanum Irrigation District*, 236 F.2d 321, 327 (9th Cir. 1956).

Appendices to the Draft Environmental Impact Statement, p. Z-13.

10 The description of our water rights in the Final EIS, and the Record of Decision, should be based on these principles, not on the weak and false contentions that our Tribe "probably" has claims to the Cheyenne and that "the volume of water available to other users in the basin might be affected." Draft EIS, p. 97. (emphasis added). [The Draft EIS should contain an accurate portrayal of the nature and magnitude of Indian reserved water rights.] The section in the Draft EIS is weak, vague and ambiguous.

Ultimately, the Draft EIS should recognize that the Angostura project negatively impacts the water claims of our Tribe. The following language contained in the Tribe's report in the Appendices should be cited and adopted in the final EIS and ROD -

Following Winters more than 50 years elapsed before the Supreme Court again discussed significant aspects of Indian water rights. During most of this 50-year period, the United States was pursuing a policy of encouraging the settlement of the West and the creation of family-sized farms on its arid lands. In retrospect, it can be seen that this policy was pursued with little or no regard for Indian water rights and the Winters doctrine. With the encouragement, or at least the cooperation, of the Secretary of Interior -- the very office entrusted with protection of all Indian rights -- many large irrigation projects were developed on streams that flowed through or bordered Indian Reservations, some times above and more often below the Reservations. With few exceptions the projects were planned and built by the Federal Government without any attempt to define, let alone protect, prior rights that Indian tribes might have had in the waters used for the projects.... In the history of the United States Government's

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treatment of Indian tribes, its failure to protect Indian water rights for use on the Reservations it set aside for them is one of the sorrier chapters.

Appendices to the Draft EIS, p. Z-14, citing the National Water Commission (1973), pp. 474-475.

The construction of the Angostura project immediately upstream from the Pine Ridge Indian Reservation constituted a serious violation of the federal trust obligation to our Tribe. This must be recognized in the environmental impact statement.

11 [Further, affirmative steps must be outlined in the Final EIS to assist our Tribe in exercising our water rights, in light of the upstream impoundment and diversion of water. This includes contemplation of reduced irrigation flows and lower reservoir levels, to ensure that sufficient water is available for Tribal instream and other water needs.]

The Draft EIS contains misleading information concerning the priority of Indian reserved water rights in the Cheyenne River basin. It states -

The priority date for reserved water rights are the date on which the particular reservation was established.... The Pine Ridge Indian Reservation and Cheyenne River Reservation were established by the by the Act of 1889, which means claims of the OST and CRST would have priority over claims of most other appropriators in the basin.

DEIS, p. 97.

12 [This understates the priority and superiority of our claims as compared to those of other water users in the Cheyenne River basin. The priority date for our reserved water rights has not been adjudicated. It could date back to 1868 or 1851, the date of the two major treaties between the Oglala Sioux Tribe and the United States. The latest the Tribe's priority date could be is 1889.]

Nevertheless, South Dakota attained statehood in 1889. It is highly unlikely that any water user in the Cheyenne River watershed possesses a state-granted right that pre-dates the priority right of the Tribe.

Our water rights are prior and superior not to "most other appropriators in the basin," (DEIS, p. 97, emphasis added) but to *all* other water users. The Draft EIS should acknowledge this.

10. Reclamation believes the discussion of Indian reserved water rights on pp. 10-11 of the EIS to be accurate. Reclamation recognizes that the OST has unquantified Winters Doctrine reserved water rights, but, until the Tribe chooses to quantify these rights, Reclamation can't do more than recognize that these rights exist. See also the response to your comment No. 9.

11. A detailed analysis of the OST's reserved water rights is beyond the scope of the EIS. A summary of water rights—both for the Tribes and for the State—is included in the EIS on pp. 10-11. Reduced releases to the Angostura Irrigation District and lower water levels in the reservoir are analyzed in the Reestablishment of Natural Flows Below the Dam Alternative.

12. The statement in the EIS that "the Pine Ridge Reservation and the Cheyenne River Reservation. . . would have priority [over claims of most other appropriators in the basin]" (p. 97) is accurate. Should the OST enter into reserved water rights negotiations with the State, the correct priority date would be established at that time.

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13 [The Draft EIS contains conflicting information with respect to Angostura's impacts on water flows in the Cheyenne River. The Draft EIS also contradicts other Reclamation documents.

For example, the Bureau of Reclamation has stated that - "Normally, no releases are made from the dam to the river (beyond the irrigation canals)..." Angostura Resource Appraisal Draft Study Report (May 1996), p. 8. Yet in the Draft EIS, Reclamation estimates that the "annual average river release is 59.9 cfs (43,400 AF)." The 59.9 cfs is included in the BOR's model for impacts on river flows in the Cheyenne River.

The annual average median flow is estimated at 29.5 cfs (26,000 AF). The average annual flow is thus twice the average median flow. This suggests that the "releases to the river" may be mostly flood control releases when reservoir levels are at flood stage. This water is available very infrequently, although the model suggests that there is a steady flow of 60 cfs.]

Nevertheless, the Draft EIS acknowledges that -

Data reflect a general reduction in annual flows at Wasta following construction of Angostura Dam..... The dam undoubtedly affects distribution and magnitude of peak flows...

DEIS, p. 58.

Yet it attempts to minimize the impact of Angostura -

While the data indicate a general decrease in annual flows following dam construction, the exact cause probably results from a combination of factors.

DEIS, p. 58.

14 [The Draft EIS also contains a water budget for each alternative. (DEIS, pp. 111, 116, 119, 124, Appendix J). The water budget is based on average annual mean flows. It purports to illustrate that reservoir inflows are exceeded below Angostura at Buffalo Gap. If true, the actual impacts of the diversion of water to Angostura Irrigation District would be minimal.

The annual average mean stream flow as the basis to measure the impacts of the diversion of irrigation water at Angostura is far too imprecise, to serve as a water budget management tool.] In order to accurately assess the impacts of the irrigation, high flow and low flow analysis must be undertaken. Seasonal variability in water quality and with various important water quality

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parameters is very important. The water balance should be calculated out seasonally, or even monthly, not just annually.

The Water Balance analysis using an average annual mean does not paint an accurate picture of the impacts of the diversion of water at Angostura. It presents an *annual average impact*, but not an actual impact. The impacts are obviously more severe during the growing season, when water is diverted in the canals, and less severe during periods of natural high flow.

15 [Reservoir inflows are calculated at 83 cfs, although actual median inflows total 90 cfs. (DEIS, p. 34). Inflows are understated in the water budget by 7 cfs.]

As stated above, there is 60 cfs that is added to the water budget as "releases to the river," without adequate explanation. The Tribe questions the existence of this "release to the river."

16 [In addition, there is an assumption that irrigation return flows total 30 cfs. This assumption is completely unsubstantiated.] In addition, there is an estimate of 8 cfs of "ungauged inflows" below Angostura - again, without evidence or explanation.

17 The Draft EIS water budget suggests that the impacts of Angostura irrigation on water flows in the Cheyenne River corridor on the Reservation are minimal. [Yet the water budget may overstate the stream flows below Angostura by 98 cfs. The total budgeted stream flow is 126 cfs. Eighty percent of the budgeted streamflow is fictional.

Consequently, the BOR's analysis is inadequate as a decision making tool under the National Environmental Policy Act.] The regulations require that there be a "scientific and analytic basis" for the comparison of the effects of different alternatives. 40 CFR §1502.16. There shall be a discussion of "The environmental affects of alternatives, including the proposed action. *Id.* Where "there is incomplete or unavailable information, the agency shall always make clear that such information is lacking." 40 CFR §1502.22.

18 [Instead, the Draft EIS contains generalizations that water flows are not diminished. There are assumptions concerning annual average streamflows below Angostura Dam that have no basis in fact. Additional data and a more comprehensive analysis are needed, measuring mean flows for much shorter time periods.]

"If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives, and the overall cost of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement." 40 CFR §1502.22(a).

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13. Reclamation believes information on river flows and water budgeting in the EIS is adequate. This information—developed by the U.S. Geological Survey and Reclamation—was summarized in the EIS and included in detail in Appendices A, B, C, G, H, J, L, M, N, O, and P.

Standard operating procedure at Angostura Dam is to release water to the river when inflows exceed reservoir storage capacity. The 59.9 cfs was computed from annual average releases. To give an example of computations in the EIS, consider releases to the river during the year 2000. Releases peaked in April 2000 at 6,500 cfs, and totaled 65,000 AF for the month. These releases equate to an average of almost 1,100 cfs for April. Annual average releases to the river computed from releases for 2000 range from 0-6,500 cfs.

The 59.9 cfs (rounded to 60 cfs) is the annual average release, as stated above. The 29.5 cfs is the *median*, or midpoint, of releases to the river, with half the releases being more than this figure, half being less.

14. Your statement is correct: River flows at Red Shirt are augmented by flows from Fall River and other tributaries, as well as by irrigation return flows. Reclamation depicted the water budgets using annual average flows in order to communicate complicated technical information to the readers of the EIS. As stated in the last paragraph, p. 29 of the EIS, much of the information in Chapters Three and Four is summarized from more detailed data contained in the appendices (that accompanied the EIS), which includes monthly flows (Appendix J).

15. The 83 cfs figure is for annual average flows in the Cheyenne River at Edgemont (pp. 113, 118, 121, and 126 of the EIS). Estimated annual *average* inflows to the reservoir were 127 cfs, while the median for annual inflows was 92.1 cfs. The sentence in question on p. 34 goes on to state, "Annual median inflows were. . . about 75% of the annual average."

16. Irrigation return flows were calculated from monthly inflows and outflows downstream of the reservoir provided by the U.S. Geological Survey for Water Years 1969-1980 (see Table 3.9 —note the footnote referring readers to Appendix J).

17. Reclamation believes the water budgets—developed from U.S. Geological Survey gauge information—accurately depict flows in the river. See Appendix J.

18. See the responses to your comment No. 13 and comment No. 17 above. Hydrology information from many sources was used in the EIS from gauges with periods of record stretching back to 1906 (see Table 3.1 in the EIS). Monthly and seasonal flows were calculated, in addition to average annual flows (as shown in Tables 3.18 and 3.19, for example).

Clearly, more comprehensive measuring of streamflows is needed, for the stretch of the Cheyenne between Buffalo Gap and Wasta. A gauging station has recently been inserted at Red Shirt, and the measurements are now being taken. More detailed analysis is needed of seasonal variability of water flows, and at additional locations.

19. A long term contract should not be entered in the absence of this information. [The generalizations contained in the model for the water budget are insufficient.] The applicable regulations require the Bureau of Reclamation to gather additional information and undertake more detailed analysis of water flows. 40 CFR §1502.22(a).

This is needed for water quality, as well.

4. Impacts on Cheyenne River Water Quality

Without question, there are serious water quality problems in the Cheyenne River. Selenium and Mercury levels are problematic. (DEIS, p. 46). Episodes of low Dissolved Oxygen are identified. (DEIS, p. 42). Several pesticides, including Atrazine, cyanazine, prometon and simazine were detected below the Angostura Unit. (DEIS, p. 51).

20. [A more comprehensive analysis is necessary to determine the sources of potential contamination. The need for more comprehensive data for trace-element detection is substantiated by the U.S. Geological Survey Water Resources Report 90-4152. This Report shows in Table 12, that the mercury levels fluctuate from less than .1 micrograms per liter to 5.3 micrograms per liter. The National Baseline Value for Mercury set at .3 micrograms per liter. In some cases the mercury concentrations exceeded the chronic mercury criterion of .012 micrograms per liter (U.S. Environmental Protection Agency, 1986) for protection of aquatic life.]

21. Selenium concentration levels of 13 and 16 micrograms per liter have also been detected these concentration levels are over the drinking water standards and although this water is not being used for human consumption levels of selenium that are over 10 micrograms per liter have detrimental affects on fish reproduction. [The majority of fish sampled exceeded the baseline concentration level for selenium. Moreover, macroinvertebrate sampling revealed selenium concentrations greater than the dietary level for fish.]

22. [The concentrations of uranium 38 micrograms per liter and 44 micrograms per liter also exceeded the No Adverse Response Level of 35 micrograms per liter under the National Safe Drinking Water Standards however the significance of this concentration on aquatic life is unknown.] This indicates a need for more specific analysis of residues from organochlorine contaminants and toxic trace elements.

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23. [Zooplankton is an indicator of biodiversity. Angostura affects the pattern of distribution of reservoir zooplankton, through increased turbidity, increased temperature, and increased turbulence in the Cheyenne River downstream. Reservoir zooplankton are not well suited to flowing turbid conditions, decreasing the numbers of species richness, types, and abundance as the influence of the dam decreases downstream. This is not discussed in the Draft EIS.]

24. [Additional data and analysis are necessary. Existing data was collected at limited locations, without adequate seasonal variances. There is inadequate water quality analysis for low-flow conditions, including the duration and variability of the low flow condition. Water temperature impacts are not analyzed. A more comprehensive water quality plan should be developed and implemented to determine the synergistic impacts on whole toxicity below Angostura.]

5. Impacts on Cheyenne River Fishery

The Fish Health section of the Draft EIS is extremely inaccurate. (DEIS, pp. 70-73). It misquotes a Tribal consultant out of context, so as to suggest that Tribal representatives have concluded that the Tribe itself is responsible for polluting the Cheyenne River and causing lesions on the fish.

The DEIS states -

Analysis indicates there may be low DO at times in the river near Red Shirt. Causes of the low DO have not been determined, but an OST consultant suggested sewage from the Red Shirt water treatment plant.

DEIS, p. 73.

25. [In fact, the consultant's report specifically blames environmental stress and calls for further study. (DEIS, Appendix, p. Z-96). The Tribe's contractor determined that environmental stress has contributed to anomalies that have been detected in and on the fish of the Cheyenne River. (DEIS, Appendix, p. Z-96, Plateau Ecosystems Consulting, Inc. October 21, 1997). It does not "suggest" that the water treatment plant in Red Shirt is causing the lesions on fish.]

The DEIS approvingly quotes the South Dakota Department of Game, Fish, and Parks, which speculates that lesions resulted from secondary attachments by *Myxobdella moorie*, a parasite. (DEIS, p. 73, Appendix Y, S.D. Department of Game Fish and Parks, October 2, 1996).

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19. See the response to your comment No. 17 above.

20. Reclamation believes the water quality analysis was sufficient. Given concentrations of trace elements (Table 3.12 in the EIS) and pesticides found in the river, further analysis isn't warranted. Only one sample from the four studies summarized in the table found a mercury level of concern, and this sample was dismissed as perhaps the result of sample contamination or laboratory error as stated in U.S. Geological Survey's Report 90-4152.

21. Eighty percent of fish sampled at Oral, about 33 miles upstream of the Reservation, were found to exceed the national baseline concentration for selenium (p. 71 of the EIS). At Red Shirt, 40% of the fish sampled exceeded the national baseline concentration for selenium. As shown in Table 3.26, EPA's Fish Advisory Screening Value for selenium is 22.5 mg/kg, while the sampling found no fish that were even 5% of this level.

22. None of the alternatives in the EIS would result in changes in uranium concentrations. Water quality samples found that inflows into the reservoir were unaffected by any remnant of the Edgemont uranium operation. Both the average and maximum levels at Hot Springs above the reservoir were less than EPA's drinking water standard of 15 pCi/L (p. 51 in the EIS). It should be noted that the Cheyenne River is *not* designated for human consumption; drinking water standards were included in the EIS only as a basis of comparison.

23. Zooplankton weren't included in the EIS for two reasons: Concerns about zooplankton weren't raised during scoping meetings with the public and other agencies; conditions on which zooplankton depend weren't expected to be significantly affected by the alternatives. During development of the EIS, Reclamation determined analysis of impacts to zooplankton wasn't warranted.

24. Samples were collected for the EIS to determine their relation to water quality samples collected for the 1988 NIWQP study when South Dakota was undergoing a drought (see p. 40 in the EIS for a detailed description of information used in the water quality analysis). NIWQP samples were collected seasonally. Data from other sites sampled for a longer period of time (mostly on a monthly basis) also were incorporated into the EIS's database.

The NIWQP study was representative of a dry year, as well as being representative of low-flow conditions in the river. Flows ranged from 23-35 cfs at the site near Buffalo Gap when the study was done in 1988. This range represents flows that are exceeded between 94-98% of the time in the longer term period of record. Consequently, the water quality analysis in the EIS *focused* on low-flow conditions, rather than *excluding* them, because most of the data came from the NIWQP study.

25. Reclamation believes the fishery analysis in the EIS is adequate. The analysis considered factors that could affect the fishery and presented information and sources on the causes of these impacts (p. 73 in the EIS). The analysis concluded no significant impacts would be expected as a result of the alternatives.

However, the fish also suffer bacterial infections in their livers and kidneys. These problems are not associated with leech attachments.

Plateau Ecosystems Consulting, Inc., suspects that the lesions are the direct result of the bacteria *Aeromonas hydrophila*, an ubiquitous organism that frequently causes disease when the immune systems of fish are compromised by stressful environmental conditions. Under certain conditions, this pathogen often responds more rapidly than the immune system of the fish, thereby resulting in the occurrence of hemorrhagic septicemia. Most bacterial infections or diseases are stress related, not parasitic.

To be sure, bacteria levels in the Cheyenne River are a concern. The introduction of gram negative bacteria suggests that there may be a non-point influence by waste generated by either human or livestock means. Water quality analysis revealed that dissolved salts, primarily in the form of calcium and sodium (measured at 279 and 213 milligrams per liter) were relatively high. **26** [High concentrations of dissolved salts are often associated to mining pollution. Sulfate was also high in the Cheyenne River, measured at 950 milligrams per liter, suggesting pollution from agricultural runoff. There were also some metals that were detected at high concentration levels, including chromium, copper, molybdenum, and thallium, occurrence of these metals can also be attributed to mining discharges.] A more accurate conclusion may be formulated upon completion of acute and chronic toxicity tests from water samples. This has not occurred.

27 In sum, the Fish Health section of the Draft EIS acknowledges the existence of lesions on fish. [The precise cause of the lesions remains unknown. Additional study is needed.]

Rather than conduct the additional studies that good science warrants, however, the Bureau of Reclamation chose to mis-quote Tribal contractor so as to make it appear the Tribal sources of pollution are affecting the health of the fish in the Cheyenne River. This misconstrues the import of the Plateau Ecosystems, Inc. study.

The draft EIS endorses South Dakota's view that parasites cause the lesions. However, high bacteria levels in the organs of the fish suggest that parasites are *not* the cause of the fish lesions. The Tribe's consultant indicated that they are related to environmental stress. The environmental stress is caused by multiple factors - including Angostura.

6. Impacts on Riparian Vegetation

The Draft EIS states -

Perceived declines in abundance or distribution of plum, chokecherry, and buffaloberry are likely due to land-use changes... Grazing data were not available for analysis (sic), but livestock use on the stream corridor of the river may have contributed to perceived declines in the local abundance and distribution.

DEIS, p. 98.

28 [Our concern with diminished fruit and berries is characterized merely as a "perceived decline."]

The Oglala Sioux Tribe strenuously objects to this characterization. The Red Shirt community is one of the oldest and most culturally significant communities in South Dakota. Its residents recall significant harvests of plums and chokecherries. The abundance of this harvest led to the establishment of a commercial cannery in Red Shirt community during the early twentieth century. Various factors, including the reduced harvest, led to the cannery's closure in the 1950's - after closure of the gates of Angostura Dam.

29 [Our riparian vegetation declined, and our Reservation economy suffered accordingly. Yet in the Draft EIS this suffering is dismissed as "perceived decline." (DEIS, p. 98).

This conclusion must be deleted from the EIS. There must be a more thorough and accurate portrayal of the reduction in plum and chokecherries in the Red Shirt community.

Livestock grazing is blamed for the "perceived decline," although it is recognized that "grazing data (is) not available." The conclusion that grazing is the cause of the decline of riparian vegetation is self-serving and unsupported by evidence. [It must be deleted in the final EIS. As stated above, if inadequate data exists for environmental decisionmaking, the agency has a duty to obtain the requisite information. 40 CFR §1502.22(a). The agency may not, as Reclamation has done here, merely make guesses and state "data were not available (sic)." DEIS, p. 98.

30 [Red Shirt Table community members confirm that livestock grazing may contribute to the diminished resource in the upland area. But impacts in the river corridor may be traced to diminished waters.]

26. High total dissolved solids (which includes salts and sulfates) have been found traditionally in the Cheyenne River (see Table 3.11 in the EIS). Regarding trace elements, the U.S. Geological Survey's Report 90-4152 stated: "There appeared to be minor differences between concentrations of trace elements in water of the Cheyenne River upstream of irrigated land and in water downstream of all irrigation return flows" (p. 55). These minor differences don't warrant further study.

27. See the response to your comment No. 25. Fish in the Cheyenne River are environmentally stressed, but this condition is not being caused by the Angostura Unit. The findings of the EIS support this conclusion. No further study is warranted.

28. "Perceived" has been changed in the final EIS to "reported".

29. The three culturally important plants identified by the OST at scoping meetings are generally considered to be upland species, beyond the influence of the river. The decline in abundance and distribution is more likely the result of land management practices along the river such as livestock grazing (pp. 98-99 of the EIS). Effects of grazing along the Cheyenne River are documented on p. 74.

The purpose of the EIS is not to address grazing impacts, and—it should be noted—Reclamation controls grazing only on the 4,000 acres around the reservoir. The OST, Bureau of Indian Affairs, Bureau of Land Management, U.S. Forest Service, and private landowners control grazing on most of the area.

30. See the response to your comment No. 29 above.

The Bureau of Reclamation should undertake long-term analysis of the synergistic impacts of livestock grazing and reduced water flows on the Reservation, to determine impacts and mitigation strategies. It is inadequate to place the blame squarely on other practices, in light of the dearth of relevant information on water flows and impacts on the Reservation.

31 [Reclamation must determine the magnitude of the grazing problem, and the extent that it contributes to the diminished quality of the riparian environment.] A more comprehensive, synergistic approach is warranted. It is required under National Environmental Policy Act and its regulations.

32 [The analysis of riparian conditions that is contained in the Draft EIS is insufficient. "Selected reaches of the Cheyenne River were examined as they are now, and then compared to pre-dam conditions (through)... black and white aerial photos." (DEIS, p. 61). In other words, the government took some pictures and looked at them. At that point, they decided that the residents of Red Shirt Community merely "perceive" a decline in vegetation, which is attributed to livestock, although "grazing data (is) not available." (DEIS, p. 96)]

We strongly urge the Bureau of Reclamation to work with our Tribe to derive a more thorough and accurate account of the decline of fruits and berries in the Cheyenne River corridor on the Pine Ridge Reservation, for inclusion in the final EIS on the recontracting of water to the Angostura Irrigation District. No long-term water service contract should be entered until this occurs.

7. Erroneous Socioeconomic Data

The Socioeconomic section contains erroneous data about the Pine Ridge Indian Reservation. (DEIS, pp. 94-96). [the conclusions that are drawn that the Natural Flow alternative would harm the Reservation economy are frivolous, and should be deleted.]

The first sentence in this section reads - "*Total land area of the Pine Ridge Indian Reservation is about 1.8 million acres.*" (DEIS, p. 94). In fact, the Reservation is comprised of 3.2 million acres.

More important, U.S. Census data is cited, although this data has been discredited as inaccurate. This is acknowledged in the Draft EIS - "Census estimates in rural areas, including many Indian reservations, can significantly underestimate the true population." Yet it is cited nevertheless, when more accurate information is available.

34 [The Reservation population is cited at 11,179. (DEIS, p. 94). This understates our population by 350 percent, as determined in the 1995 BIA Labor Force Study. The Reservation's unemployment rate is cited at 29.4 percent, although it is 85 percent.]

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35 [Perhaps the most erroneous conclusion in the Socioeconomic section is as follows -

There could be economic connections between the District and the Reservation, such as in jobs or in earnings of OST members associated with irrigated agriculture in the District and with the feedlot.

DEIS, p. 96]

36 [The DEIS further speculates that if there are enhanced streamflows on the Reservation -

Reservation economic conditions could be adversely affected by loss of income and jobs in agriculture and recreation to the extent that income from these sectors affects the Reservation.]

DEIS, Table S.

The Draft EIS is supposed to be an environmental study, not a work of fiction. There is simply no evidence whatsoever that the Angostura Unit provides any economic benefit to the Oglala Sioux Tribe.

To the contrary, the Tribe contends that reduced water flows have impacted vegetation and the fish population in the Cheyenne River. Subsistence gathering of fruits and berries and fishing in the Cheyenne River has been disrupted.

37 [There was a vibrant agricultural and livestock economy in Red Shirt Table, until the 1950's. The cannery in Red Shirt closed down. Community gardens provided subsistence fruit for Tribal members and produce for the cannery. They were watered through an irrigation canal on the Reservation, that is no longer viable due to the diminished water flows. The Red Shirt Table Cattleman's Association, which oversaw 1,000 head of cattle and an alfalfa crop of up to 320, was forced to disband in the 1950's. The vibrant agricultural and livestock economy in Red Shirt Table plummeted in the 1950's. Yet these impacts are completely ignored, while the authors of the Draft EIS dreamed up some notion that Angostura provides economic benefits to Pine Ridge.]

Truth is the biggest casualty in the Draft Environmental Impact Statement.

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31. The effects of grazing in riparian areas in the northern great plains are well documented and understood (see p. 74 of the EIS). Reclamation's analysis of grazing in the EIS is consistent with other grazing studies of the region.

32. Three plant studies were done for the EIS: One for culturally important plants (see pp. 98-99 and pp. 157-158 of the EIS), another for cottonwoods (pp. 73-74 and pp. 143-145), and the last for the "Stream Corridor" sections (pp. 56-65 and pp. 138-141). Only the last study compared aerial photos taken in 1948 (before Angostura Dam was built) to aerial photos taken in 1991 (Fig. 3.6 in the EIS). These photos were analyzed to provide estimates of stream length, acres of exposed sediment within the river channel, area coverage of riparian vegetation, number of vegetated polygons within the flood plain, and acres within five canopy-closure classes.

33. Information used in the "Social and Economic Conditions" sections was the best and latest available when these sections were written. It was impossible to quantify most economic impacts of the Reestablishment of Natural Flows Below the Dam Alternative on the Reservation because the activities generated and their extent were unknown. Certainly, there was no intent to trivialize impacts of any of the alternatives. Further discussion has been added to this section in the EIS to highlight possible benefits. The section in question has been modified to read: "Total land area. . . is 2.4 million acres, of which 1.8 million acres is Tribal Trust and individual allotted lands." The inaccuracy of Census data in rural areas (including reservations) was acknowledged on p. 95. Still—when other information was lacking—Census data had to be used in the analysis (see also the response to your comment below).

34. Population data used in the EIS was taken from both the latest Census and Bureau of Indian Affairs reports when the section was written (see pp. 95-96 of the EIS). Census data served several purposes: To present one (of two) sources on the size of the Reservation population; to indicate past and future population growth; and to compare to Census data used for the Angostura area. To be consistent, it was decided that Census data should be displayed for the Reservation, also. Recognizing concerns about Census data, it was decided to include population estimates from BIA's 1995 *Labor Market Information on the Indian Labor Force*, prepared by 544 tribes and certified by tribal leaders. The Reservation's 1995 *Total Indian Resident Service* population of 38,246 was included, as well as the 1991 *Resident Service* population of 20,806. For the final EIS, the population estimates will be updated based on the 2000 Census and BIA's 1997 *Labor Market Information on the Indian Labor Force*, the published estimates available to Reclamation.

The 29.4% Census estimate for Reservation unemployment and the 54% estimate from *Labor Market Information on the Indian Labor Force* are both presented in the EIS (p. 96). It should be noted that official unemployment estimates are based on a labor force of those within a range of working ages, rather than the entire population. Unemployment will be updated from both sources in the final EIS.

35. Economic connections between agricultural production and/or recreation and the Reservation is through secondary spending associated with these activities. The EIS didn't state that the OST directly received revenues from irrigated crops or from recreation associated with the reservoir. Secondary spending is represented by people who work in agricultural-related services spending money at the Tribal casino or buying gas or other goods on the Reservation. Secondary spending could also occur from people driving through the Reservation to reach the reservoir. These secondary spending impacts would be very difficult to quantify and could well be very small. A more detailed description of these impacts will be added to the final EIS (see p. 154).

36. Table S.1 has been changed to state: "Reservation economic conditions could be positively affected if water were applied to beneficial uses like irrigation. . . and downstream recreational benefits might also accrue."

37. The Red Shirt-area economy declined because of economic/market conditions at the time. The EIS stated benefits could occur to the Reservation in the Reestablishment of Natural Flows Below the Dam Alternative if water were applied to beneficial uses such as crop production and livestock (p. 154 in the EIS). A fuller discussion of possible agricultural benefits will be added to the final EIS.

38 [The Draft EIS does not sufficiently elaborate the import of the Fort Laramie Treaty of 1851 (11 Stat. 749) and Treaty of Fort Laramie of April 29, 1868 (15 Stat. 635).] The Treaty of Fort Laramie of April 29, 1868, resulted in the establishment of the Great Sioux Reservation. The boundaries of the Reservation were defined in Article 2 of the Treaty, as follows:

commencing on the east bank of the Missouri River, where the forty-sixth parallel of north latitude crosses the same, thence along low water mark down said east bank to a point opposite where the northern line of the state of Nebraska strikes the river, thence west across said river, and along the northern line of Nebraska to the one hundred and fourth degree of longitude west from Greenwich, thence north on said meridian to a point where the forty-sixth parallel of north latitude intercepts the same, thence due east along said parallel to the place of beginning; and in addition thereto, all existing reservations on the east bank of said river shall be, and the same is, *set apart for the absolute and undisturbed possession of the Indians* herein named...

15 Stat. 635 (emphasis added).

The Great Sioux Reservation thus includes all of present-day South Dakota west of the Missouri River, with the Missouri's east bank as the eastern boundary. The hunting grounds of the Powder River valley were recognized as unceded Indian land, with hunting rights for the Sioux.

The discovery of gold in the Black Hills led to further incursions by the cavalry, in violation of the 1868 Fort Laramie Treaty. The Oglalas defended their rights under the treaty, which culminated in the defeat of Custer at Little Big Horn. Reinforcements by the United States led to the scattering of the bands, and ultimately to Red Cloud's settling at Pine Ridge Agency, and to the assassination of Crazy Horse in 1877. The Oglala Sioux band and the Great Sioux Nation were the last native people in North America to submit to Reservation lifestyle, and to the authority of the United States.

The U.S. Supreme Court has characterized the conduct of the United States in violating our Treaties as the "most ripe and dishonorable dealings in our nation's history." *United States v. Sioux Nation*, 448 U.S. 371, ____ (1980). The court awarded the Sioux Nation \$108 million to extinguish our Treaty claims, but the Oglala Sioux Tribe and Great Sioux Nation rejected the payment, and today still claims title to the land and water included in the boundaries described in Article 2 of the 1868 Treaty. This includes the Cheyenne River watershed.

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The entire Cheyenne River watershed, from the source in the mountains of Wyoming and South Dakota to its confluence with the Missouri River, lays within the Great Sioux Reservation as described in the Treaty. The Cheyenne River watershed cuts right through the heart of Sioux country, as defined in the 1868 Treaty. This should be included in the Environmental Impact Statement.

9. Alternatives Analysis

39 [The Oglala Sioux Tribe supports the alternative to Re-establish the Natural Flows Below the Dam.] This is the only alternative that is presented in the Draft EIS which provides for environmental restoration on the Pine Ridge Indian Reservation.

The Tribe has indicated a willingness to participate with the Secretary of the Interior on an adaptive management scheme, whereby instream flows in the Cheyenne River are incorporated in the operating criteria for Angostura Dam. An adaptive management scheme could provide the additional data needed to address the concerns that have been raised with water quality, the health of fish in the Cheyenne River, and the causes of diminished vegetation in the riparian zone. There is no alternative in the Draft EIS to effectuate this, however.

40 The Tribe opposes the No Action alternative. [The conclusion in the Draft EIS that "This alternative would not place an undue burden on any low-income or minority population," (DEIS, Table S.1) is erroneous. As is demonstrated above, the existing operation of the Angostura Unit has substantial and direct impacts on the Oglala Sioux Tribe. These impacts should be identified and mitigated. Instead, the Draft EIS denies the existence of these impacts.]

Mitigation of these impacts could be effected through legislation implementing the Improved Efficiencies alternative. The Oglala Sioux Tribe would consider supporting federal legislation authorizing the rehabilitation and betterment of the Angostura Unit, if it also contained authorization for mitigation of the economic and environmental damage to our Reservation, to which the Angostura Unit has contributed.

41 [A draft legislative proposal is attached to this Report.]

38. Pages 9-10 of the EIS discuss the relationship of the Angostura Unit and the Tribes. A detailed analysis of the history of the treaties between the U.S. and the Sioux Nation is beyond the scope of the EIS.

39. Noted.

40. To summarize responses to your comments, point-by-point: Reclamation can do no more than recognize that the Tribe has Winters Doctrine reserved water rights until the OST chooses to quantify these rights (pp. 97-98 of the EIS). Analysis in the EIS indicates that annual average flows in the Cheyenne River would be maintained or improved in all of the alternatives (pp. 113, 118, 121, and 126). After examination of dissolved oxygen, TDS, trace elements, nitrogen, pesticides, and uranium, it was determined that the alternatives would maintain or slightly improve present water quality in the river (pp. 40-52 and 129-135). The fisheries below the dam exhibit more species now than in the past, with no evidence of declining populations (pp. 142-143). Reclamation examined fish caught near Red Shirt (along with two other sites) for trace elements, herbicides, insecticides, and PCB's. Lesions on fish near Red Shirt appear to be caused by parasites, more numerous in the area perhaps because of discharge from the Red Shirt water treatment plant. None of the alternatives would affect fish health (pp. 70-73). Analysis of social and economic conditions in the EIS found no evidence that the Reservation economy declined because of the Angostura Unit. Acres of riparian vegetation increased between 1948 (before the dam) and 1991 (pp. 61-65). Culturally important plants are upland species unaffected by the unit (pp. 98-99). Treaty rights are beyond the scope of this EIS (p. 2).

Through the EIS analyses mentioned above, Reclamation concluded that none of the alternatives would place a disproportionate burden on the OST.

41. The OST proposes creation of a Federal trust fund to provide sustainable funds for economic development and environmental enhancement along the Cheyenne River. The OST believes there is merit in the proposal because of their concerns about river flows, water quality, riparian vegetation, and ITAs, as well as the desire to extend benefits of the Pick-Sloan Missouri Basin Program to the Reservation. Reclamation plans to consult with the OST on the proposal in a forum other than this EIS.