

**DECISION NOTICE**  
and  
**FINDING OF NO SIGNIFICANT IMPACT**  
for  
**The Ute Tribe Fish Hatchery Construction:  
Big Springs Unit and Youth Camp Unit**

*Utah Reclamation Mitigation and Conservation Commission*

**BACKGROUND AND PUBLIC INVOLVEMENT**

The Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) has prepared an Environmental Assessment (EA) to determine and disclose the effects of constructing a new Tribal Fish Hatchery on Ute Indian Tribal lands. The Draft EA was prepared with public input encouraged by a scoping notice and public meeting. It was then distributed for review to 106 organizations and individuals. This public involvement process generated additional comments which are reflected in the Final EA.

**DECISION**

After considering the public comments in the Final EA and analyses of environmental effects, it is my decision to select the Proposed Action for implementation. This action entails that the Mitigation Commission and the Tribe cooperate to implement the design and construction of a new Tribal hatchery at the Big Springs Unit and Youth Camp Unit on Tribal Trust Lands (Tribal Fish Hatchery), located in Duchesne County, Utah. The Proposed Action provides for:

- Construction of a Tribally-owned and operated fish hatchery, made up of 2 units: The Big Springs Unit and the Youth Camp Unit, with a production capacity of 16,000 lbs/year.
- The Big Springs Unit will include: a hatchery building for egg incubation, hatching, fry rearing units, indoor spawning and brood fish holding, and equipment storage; outdoor rearing units, and captive brood stock rearing units; a discharge treatment pond, a manager's residence, a trailer pad for temporary staff, and a visitor information kiosk. This unit will be located on the proposed 5 acre site described in the Final EA.

- The Youth Camp Unit will include: expansion of an existing small facility with security fencing around the entire area; raceways, incubation capability, office space, garage and storage, feed storage, bunk rooms, wild brood fish holding or grow out ponds and a discharge treatment pond. This unit will be located at the existing Youth Camp hatchery site.
- The project also includes improved Tribal public education and employment opportunities.

## **REASON FOR THE DECISION**

The Proposed Action best meets the purpose and need for the project as identified in the EA and in the Revised Fish Hatchery Production Plan (Plan). Fish hatchery restoration and construction is identified in the Commission's Mitigation Plan as a program element. Construction of a new Tribal Fish Hatchery helps to implement this program element to further the accomplishment of the Commission's Plan.

**Meeting the Purpose and Need** A Revised Fish Hatchery Production Plan (Plan) and associated programmatic EA was signed by Michael Weland, Commission Executive Director, in 1998, and describes the Fish Hatchery Production needs for the Colorado River Storage Project. The Plan and programmatic EA identified the fish production necessary to meet the Tribal fishery long term stocking needs and management objectives for the Colorado River Storage Project (CRSP) affected area in Utah. This EA tiers off the programmatic EA and describes the environmental effects of the Tribal Fish Hatchery not already disclosed in the programmatic EA.

The EA analyzed four alternatives: the Proposed Action, the Alternate Action 1-Big Springs proposed site with expanded capacity, the Alternate Action 2-Big Springs alternate site with expanded capacity and the No Action Alternative.

Under the Proposed Action, fish production and holding capacity of 16,000 lbs/year would be realized. This production level fully meets the long term stocking needs identified in the Plan. The Proposed Action will impact the least amount of wetland area and divert less flow from the Big Springs Creek than the other action alternatives. It will also provide Tribal public education and employment opportunities.

**Addressing the Issues** The Proposed Action was selected over the No Action and Alternate Action Alternatives because it best met the purpose and need for the project, and best addressed the following issues:

- < *Hatchery operation* - Concerns were expressed as to who will operate the hatchery, what will the training and employment opportunities and requirements be and what funding will be provided by the Secretary of the United States Department of the Interior (Interior)

to finance operations and maintenance of the facility? Two additional issues identified were the adequacy of the Tribal water rights and fish health management.

The Tribe's Fish and Wildlife Department will administer, manage and operate the hatchery. Two full time and one half time positions individuals will be filled to staff the hatchery. Preference will be given to Tribal members to fill these positions. The fisheries biologist position will require performing professional and scientific biological work in connection with the conservation and management of fisheries resources. The hatchery facility will be staffed 24 hours a day, seven days a week. Temporary seasonal aides will be employed at the hatchery as needed.

During the design, construction and start-up periods, the U.S. Fish and Wildlife Service (Service) may provide staff for support and training, as needed, to be funded by Interior through an Interagency Agreement. Operation and maintenance costs of the above staffing levels are estimated to be \$177,000/year.

Big Springs flows diverted and used in the hatchery facility is considered a non-consumptive use and will be returned to the Uinta River system without impacting any current existing water rights. Currently, no water rights are exercised between the proposed point of diversion and the point at which the water will be returned to the Power Plant Canal, which supplies the Moon Lake Electric Association's hydroelectric plant. A culinary well will be developed on-site for consumptive domestic use.

The Youth Camp Unit will use the hydroelectric plant return flows. The Moon Lake Electric Association has reviewed the proposed use at Big Springs and Youth Camp and has acknowledged that this planned use does not affect their water rights or flow for power production.

The Tribe's Fish Stocking and Transfer Policy includes various measures to be taken to ensure the health of fish produced in their facilities. All fish stocked or transferred into or out of Tribal fish rearing facilities will be free of serious pathogens. In order to implement this and prevent the spread of serious pathogens to other hatcheries and watersheds the Tribe will cooperate with the Service's Fish Health Center located in Bozeman, Montana for guidance and assistance with pathogen management strategies. Fish Health inspections of wild populations will be performed by the Tribe Fish and Wildlife Department or their designee. All fish transfers will comply with the applicable Utah Department of Agriculture Procedures.

*Resource impacts* - Concern was raised over the impacts of construction and operation on natural resources such as wetlands, threatened and endangered (T&E) species, and water quality of the receiving waters.

The Tribal hatchery facilities location at the Big Springs site and expansion at the Youth Camp site were located to avoid wetland impacts to the maximum extent possible. Flows from Big Springs have the capacity to produce 30,000 lbs/year. The Proposed Action hatchery capacity of 16,000 lbs/year requires a smaller diversion from the Big Springs stream and results in fewer indirect wetland impacts to the associated riparian resource. The Proposed Action will impact a total of 0.6 acres, while the other two action alternatives would impact a total of 0.9 and 0.7 acres. Potential onsite mitigation areas totaling 2 acres have been identified and a plan will be developed during the project permitting process. Impacts to T&E species are not anticipated and water treatment of the discharge is expected to minimize impacts to the quality of the receiving water, and discharge permit requirements will be met.

- < *Tribal cultural resources* - Concern was expressed as to the degree that the Proposed Action will impact the Tribal cultural and spiritual value of Big Springs.

The Big Springs is considered a Tribal sacred site. To preserve the integrity of the spring pond, two diversion methods may be used. One, a diversion structure will be located downstream of the pond for the bulk of the flows and two, an expansion and repair of an existing small diversion. No change to the appearance of the spring pool is expected.

- < *Native aquatic species conservation* - The issue was raised on how the Proposed Action will meet this purpose in terms of brood stock management, genetics concerns and consistency with the Colorado River Cutthroat Trout Conservation (CRCT) Plan.

The Utah Division of Wildlife Resources CRCT rearing protocols will be followed and they will be included in the fish management production plan for the appropriate waters. The Tribe will develop a CRCT genetics management plan in cooperation with others working on CRCT conservation. The Tribe will also develop hatchery procedures to ensure that the genetic integrity of populations is not compromised. Genetic testing to determine presence of pure or hybrid strains will be an integral part of strain management.

The Tribe issued a resolution supporting the CRCT Conservation Agreement and Strategy. The Proposed Action will support a refugia and brood stock, and progeny will be used to repopulate streams on Tribal lands in the Tavaputs Plateau and other streams within their historic range as identified in the CRCT Plan. The Tribe's Fish and Wildlife Department and the Service have identified 100 stream miles to be evaluated for CRCT stocking.

- < *Tribe fisheries management* - This issue focused on fisheries management of Reservation waters. The issue is, to what degree will the Proposed Action meet the Tribe fisheries management plan and stocking policy.

The Tribe has identified the need to produce trout species for sport fishing opportunities within the Reservation. Sources for these fish will be certified, pathogen-free eggs if they are to be reared at Big Springs. Certified serious pathogen-free fish may be obtained and reared at the Youth Camp site for stocking Tribal Waters.

The Tribe will update the Fish Management Plan identifying stocking needs on Reservation and add a new section for CRCT conservation needs. The Tribe will develop and maintain a fish stocking/transfer schedule within the plan. As discussed in the Tribal Fish Stocking and Transfer Policy, all transfers of fish will comply with applicable Utah Department of Agriculture Procedures.

- < *Recreational Uses* - The areas within and adjacent to the Proposed Action are currently used for recreation. The issue is to what extent will the Proposed Action impact these uses and Tribal recreation in general.

The Proposed Action and Alternate Action 1 site location is the least visible of the action alternatives to those using the recreation area or the spring pond. Structure designs will be suited to the site and vegetative screening will be added.

## **FINDING OF NO SIGNIFICANT IMPACT**

Based on information contained in the EA and supporting documentation, a Finding of No Significant Impact (FONSI) is made on this action in compliance with the provisions of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands). This action would also not significantly affect the quality of the human environment, within the meaning of Section 102(2)(C) of the National Environment Policy Act, for the following reasons.

1. The environmental impacts of this action are not considered significant.
2. Public health and safety are minimally affected by this action.
3. Wetlands will be impacted by implementation of the Proposed Action. A mitigation plan will be developed and implemented under a U.S. Army Corps of Engineers Section 404 permit to minimize these impacts.
4. None of the identified environmental effects are considered highly controversial.
5. None of the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
6. The action sets no precedent or decision in principle about other actions which could pose significant environmental effects.

7. This action is not related to other potential future actions.
8. The impacts to the Tribal Sacred Site are considered minimal with the planned design and monitoring, based on coordination with the SHPO, the Bureau of Indian Affairs (BIA) cultural resources review and input from the Tribal Cultural resources staff.
9. Consultation with the U.S. Fish and Wildlife Service on the presence of threatened or endangered species (for purposes of the Endangered Species Act) indicated that this action is not likely to affect threatened, endangered or candidate species.
10. This action would not threaten any violations of applicable laws or requirements imposed for protection of the environment.

## **IMPLEMENTATION**


Site-specific final design and construction of the facilities identified in the Proposed Action will be implemented by the Commission in cooperation with the Tribe, as funds become available. Interior will provide operation and maintenance (O&M) funding for the fish production. A Cooperative Agreement will be developed between the Service and the Tribe for staff support and training, if needed.

Implementation of the Proposed Action may occur upon signing this FONSI.

## **FURTHER INFORMATION**

Please direct questions on the EA or FONSI to Maureen Wilson, Project Coordinator; Utah Reclamation Mitigation and Conservation Commission; 230 South 500 East, Suite 230, Salt Lake City, Utah 84102-2045 (Phone (801) 524-3146)

Approved:

  
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Michael C. Weland, Executive Director  
Utah Reclamation Mitigation and Conservation Commission

Date:

6/1/07

# **ENVIRONMENTAL ASSESSMENT**

## **UTE TRIBE FISH HATCHERY**

### **BIG SPRINGS UNIT**

**&**

### **YOUTH CAMP UNIT**

### **HATCHERY CONSTRUCTION**



Prepared for the  
Ute Indian Tribe  
and the  
Utah Reclamation Mitigation and Conservation Commission

Prepared by  
FishPro, a division of HDR  
Updated by the Utah Reclamation Mitigation and Conservation Commission

**FINAL**

**May 2007**

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## LIST OF ACRONYMS AND ABBREVIATIONS

ac	acres
BCT	Bonneville cutthroat trout
BIA	Bureau of Indian Affairs
BKT	brook trout
BRN	brown trout
cfs	cubic feet per second
CRCT	Colorado River cutthroat trout
CRSP	Colorado River Storage Project
CUP	Central Utah Project
CUPCA	Central Utah Project Completion Act
DO	Dissolved oxygen
EPA	U.S. Environmental Protection Agency
ft	feet
FTE	Full Time Equivalent
GMP	Genetics Management Plan
GMU	Geographic Management Unit
gpm	gallons per minute
HEC-RAS	Hydrologic Engineering Center – River Analysis System
JGEC	Jay Groves Educational Complex
Jones Hole	Jones Hole National Fish Hatchery
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NPDES	National Pollution Discharge Elimination System
O&M	Operations and Maintenance
Plan	Revised Fish Hatchery Production Plan
RBT	rainbow trout
Reservation	Uintah and Ouray Indian Reservation
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
Tribe	Ute Indian Tribe
UBRP	Uinta Basin Replacement Project
UDWR	Utah Division of Wildlife Resources
URMCC	Utah Reclamation Mitigation and Conservation Commission
USCOE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UTFWD	Ute Tribe Fish and Wildlife Department

## CHAPTER 1 - PURPOSE, NEED AND ISSUES

### 1.1 BACKGROUND

The Colorado River Storage Project (CRSP) including the Central Utah Project (CUP) impacted waters, habitat and fisheries resources in Utah. The Central Utah Project Completion Act (CUPCA) directed the establishment of the Utah Reclamation Mitigation and Conservation Commission (URMCC) and the development of a Mitigation and Conservation Plan for fish, wildlife and recreation conservation projects to mitigate the negative effects on fish and wildlife from CRSP and CUP. Included within this plan are measures to improve and increase the culture of native and nonnative species for conservation and recovery efforts, and for stocking to recreational fisheries.

A petition was submitted in December 1999 to the U.S. Fish and Wildlife Service (USFWS) to list the Colorado River cutthroat trout (CRCT) (*Oncorhynchus clarki pleuriticus*) as a threatened or endangered species. The petition is currently on hold and will remain so indefinitely (J. Parker, USFWS, pers. comm. March 1, 2001). A lawsuit has been filed against the USFWS to list the CRCT as an endangered species.

The USFWS and the URMCC completed an environmental assessment on the fish hatchery production plan (USFWS and URMCC 1998) that identified CRCT conservation and Tribal sport fish needs for the Ute Tribe. The Proposed Action identified funding 75% of the construction costs of a facility at Big Springs (Figure 1) to meet this need (USFWS and URMCC 1998). The Ute Indian Tribe (Tribe) will provide the 25% matching funds for the

construction of this facility. The commitment of matching funds to this project exemplifies the importance and priority that the Tribe has placed on fisheries resources.

The Tribe has two fishery management goals:

- the restoration of CRCT in coordination with the Conservation Agreement and Strategy (Lentsch and Converse 1997), and
- provide coldwater sport fishing opportunities on Tribal waters, by the Tribe.

Jones Hole National Fish Hatchery (Jones Hole) has been meeting the Tribal sport fish need for recreational fishing, but can no longer provide CRCT.

To meet these goals, construction of the Ute Tribe Fish Hatchery with facilities at the Big Springs Unit (Big Springs) and improvements to the Youth Camp Unit (Youth Camp), is proposed. In support of the Conservation Agreement and Strategy the Tribe has passed Resolution 01-222 (Appendix 1) that designates that the Tribe will be a signatory to the CRCT Conservation Agreement and Strategy. Through this resolution the Tribe will be a partner with federal and state natural resource agencies involved in the restoration and management of CRCT as defined in the Conservation Agreement and Strategy. The Tribe, under Resolution 01-222 and with the future hatchery facilities will utilize these resources to further the goals of the CRCT Conservation Strategy and Agreement as it would apply to the Uintah and Ouray Indian Reservation (Reservation).

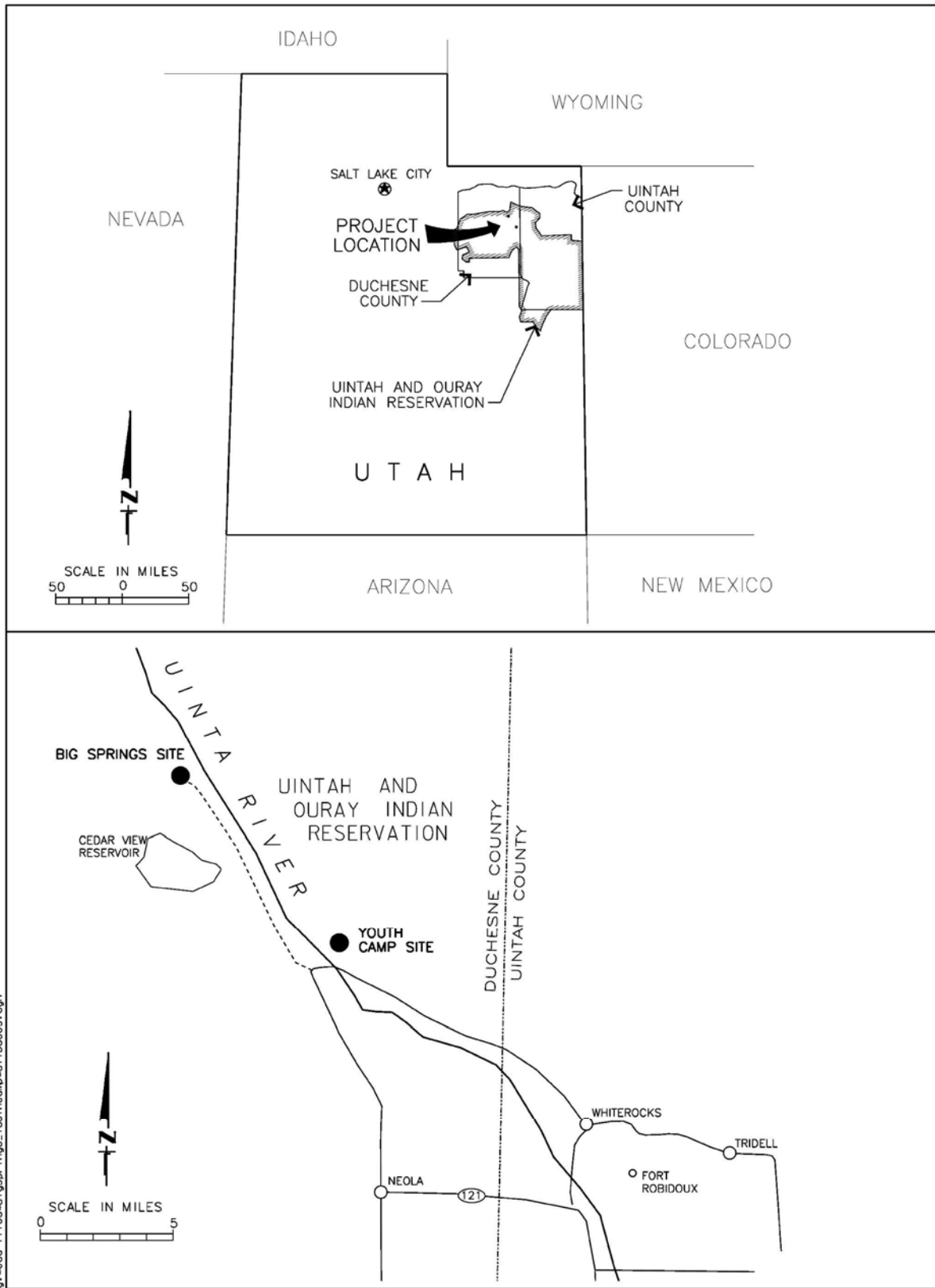


Figure 1. Vicinity map.

The URMCC is the National Environmental Policy Act (NEPA) lead agency for this action. Cooperating agencies include; the Ute Tribe, the U.S. Department of the Interior - Office of the Secretary for technical advice, NEPA assistance and operations and maintenance funding, and the U.S. Bureau of Indian Affairs (BIA) for technical advice and NEPA review.

## **1.2 PURPOSE AND NEED**

### **1.2.1 Existing Condition**

The CRSP facilities<sup>1</sup> contributed to the demand for hatchery-reared fish by creating large reservoirs in Utah that provide millions of angling hours, but require stocking to sustain them. Tribal sport fish stocking demands have been met in the past by Jones Hole.

### **1.2.2 Desired Condition**

The desired condition is that, through the hatchery program, sport fish (both CRCT and other species) are produced from a hatchery annually, by the Tribe to provide for Tribal recreational opportunities, and CRCT populations are augmented or restored to help meet conservation goals. This hatchery will provide CRCT to maintain areas on the Uintah and Ouray Indian Reservation (Reservation) which currently support CRCT and for additional areas to increase the abundance of CRCT, maintain genetic diversity and to increase the distribution of CRCT where

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<sup>1</sup>The CRSP-affected area entails waters affected by CRSP storage unit facilities (Flaming Gorge and Lake Powell) and facilities constructed under a CRSP-participating project, which are the Emery County Project (Joe's Valley Reservoir and Huntington North Reservoir) and the Central Utah Project (CUP, several units-in Utah). A list of these projects and the related impacted waters is in the Revised Fish Hatchery Production Plan, 1998.

ecologically, sociologically and economically feasible.

The overall need for the Proposed Action is to provide new hatchery capacity of 16,000 lbs for production of sport fish and CRCT by the Tribe. This facility will meet the long-term coldwater sport fish needs and CRCT conservation production (~14,000 lbs), and provide for broodstock holding requirements. These management objectives vary with program, water and season and are identified in the Revised Fish Hatchery Production Plan (USFWS and URMCC 1998).

The production requirements necessary for cold-water sport fish and CRCT conservation in Tribal waters were described in the Revised Hatchery Production Plan, Final Environmental Assessment (Plan), 1998. Production needs have been updated (Table 1). Stocking of CRCT in waters with non-native salmonid species will only occur for sport harvest purposes, these are identified as basic or intensive yield management strategies (see Appendix 2 and Table 1). Conservation management waters (see Appendix 2 and Table 1) will only receive pure CRCT for the development of self-sustaining populations. The conservation populations are geographically isolated so that they can maintain genetic integrity of the species or strain. All fish stocking will be in accordance with the Tribe's stocking policy (Appendix 2).

In addition to meeting the production needs, other purposes for the project are:

- Be cost effective [both capital and operations and maintenance (O&M)] and/or provide the versatility to respond to future management objectives for species and/or size in hatchery product

- Reduce Tribal reliance on USFWS for hatchery production
- Optimize capital costs and minimize O&M costs
- Complement other Federal, State or Tribal programs, such as species conservation strategies. Work cooperatively with the State of Utah, Utah Division of Wildlife Resources (UDWR) and Jones Hole to assist statewide fish production objectives.
- Implement projects with substantial matching fund contributions
- Avoid or minimize stocking impacts on wild or native aquatic species
- Consider alternative technologies
- Provide educational opportunities including opportunities in fish hatchery operation, water quality assessment, fishery biology and aquatic resource management on Reservation
- Provide environmental enhancement at hatchery sites, where possible
- Evaluate project implementation and effectiveness

### **1.1.3 Proposed Action**

In order to bridge the gap between the existing and desired condition, the following action is proposed:

Construct a cold-water hatchery at the Big Springs site with quarantine and grow-out facilities at Youth Camp. The Proposed Action and alternatives are described in more detail in Chapter 2.

Table 1. Ute Tribe fish stocking needs (adapted from USFWS and URMCC 1998).

Water	Management <sup>1</sup>	Species	Year 1-4		Year 5-9		Year 10-14		Year 15-19		Year 20-24		Year 25-34		Year 35-50	
			Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers
Big Springs Ponds	Intensive yield	RBT 8"	691	3000	922	4000	1198	5200	1843	8000	1843	8000	1843	8000	1843	8000
Bottle Hollow Reservoir	Basic yield	RBT 4"	173	6000	202	7000	242	8400	311	10800	363	12600	389	13500	518	18000
		RBT 8"	922	4000	691	3000	829	3600	276	1200	323	1400	346	1500	461	2000
		BRN 4"	256	10000	256	10000	256	10000	256	10000	256	10000	256	10000	256	10000
		CRCT 4"	112	5000	112	5000	112	5000	112	5000	134	6000	224	10000	224	10000
Cedarview Reservoir	Basic yield	BRK 4"	77	3000	128	5000	128	5000	128	5000	128	5000	128	5000	128	5000
		CRCT 4"	90	4000	101	4500	112	5000	112	5000	112	5000	112	5000	112	5000
		BRN 4"							77	3000	102	4000	102	4000	102	4000
Clay Basin Reservoir	Intensive yield	RBT 8"	691	3000	1152	5000	1152	5000	1843	8000	1843	8000	2304	10000	2304	10000
Coyote Basin Reservoir	Basic yield	BRN 4"			13	500	26	1000	26	1000	26	1000	26	1000	26	1000
Duchesne River	Basic yield	RBT 4"			20	700	40	1400	52	1800	52	1800	52	1800	78	2700
		RBT 8"			69	300	138	600	46	200	46	200	46	200	69	300
Gulf Pond	Basic yield	CRCT 4"					9	400	9	400	9	400	9	400	9	400
Hill Creek Extension	Conservation	CRCT 4"	22	1000	45	2000	45	2000	90	4000	179	8000	224	10000	224	10000
Willow Creek*	Conservation	CRCT 4"														
Hill Creek*	Conservation	CRCT 4"														
Florence Creek*	Conservation	CRCT 4"														
Chandler Creek*	Conservation	CRCT 4"														
Lake Fork Pond	Intensive yield	RBT 8"	69	300	230	1000	461	2000	737	3200	806	3500	806	3500	806	3500
Lake Fork River	Basic yield	CRCT 4"	45	2000	45	2000	112	5000	179	8000	179	8000	179	8000	179	8000
Midview Reservoir	Basic yield	RBT 8"	2304	10000	2304	10000	2765	12000	3456	15000	3686	16000	3686	16000	3686	16000
		BRN 4"	205	8000	256	10000	307	12000	384	15000	410	16000	410	16000	410	16000
Pole Creek	Basic yield	CRCT 4"	11	500	22	1000	67	3000	67	3000	67	3000	67	3000	67	3000
Powerplant Canal	Intensive yield	CRCT 8"			89	500	89	500	268	1500	268	1500	268	1500	268	1500
Rock Creek	Basic yield	BRN 4"	179	7000	230	9000	256	10000	307	12000	333	13000	333	13000	333	13000
Towave Reservoir	Basic yield	CRCT 4"	67	3000	157	7000	157	7000	157	7000	179	8000	179	8000	179	8000



Table 1. Continued.

Water	Management <sup>1</sup>	Species	Year 1-4		Year 5-9		Year 10-14		Year 15-19		Year 20-24		Year 25-34		Year 35-50	
			Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers	Pounds	Numbers
Twin Pots	Basic yield	LKT 4"			32	2000	32	2000	32	2000	32	2000	32	2000	32	2000
		BRK 4"	77	3000	128	5000	128	5000	128	5000	128	5000	128	5000	128	5000
		RBT 8"	645	2800	415	1800	346	1500	138	600	115	500	161	700	0	0
		RBT 4"	121	4200	121	4200	101	3500	156	5400	130	4500	181	6300	202	7000
		CRCT 4"	134	6000	134	6000	179	8000	179	8000	179	8000	179	8000	179	8000
Uinta River	Basic yield	CRCT 4"	134	6000	179	8000	179	8000	224	10000	224	10000	224	10000	224	10000
Weaver Reservoir	Basic yield	CRCT 4"			67	3000	112	5000	134	6000	157	7000	179	8000	179	8000
Whiterocks Pond	Basic yield	CRCT 4"			22	1000	22	1000	22	1000	22	1000	34	1500	45	2000
		BRN 4"			26	1000	26	1000	26	1000	26	1000	38	1500	51	2000
Whiterocks River	Basic yield	CRCT 4"	22	1000	22	1000	22	1000	22	3000	67	3000	90	4000	112	5000
Yellowstone River	Basic yield	CRCT 4"	56	2500	78	3500	190	8500	190	8500	190	8500	190	8500	190	8500
Youth Camp Pond	Basic yield	RBT 4"	5	180	30	1050	50	1750	36	1250	117	4050	117	4050	156	5400
		RBT 8"	28	120	104	450	173	750	58	250	104	450	104	450	138	600
<b>TOTAL</b>			7136		8402		10061		12081		12835		13646		13918	

\*Willow Creek streams include Oak Springs, West Willow Creek, Steer Gulch, Corral Creek and Pioche Creek.

\* Hill Creek streams include: Hill Creek, Watver Reservoir, Corral Canyon, Spring Canyon and Post Canyon

\*Florence Creek streams include Florence Creek, Upper Bear Canyon and Lower Canyon.

\*Chandler Creek streams include Chandler Creek, Moonwater Canyon and Deep Canyon.

**Basic Yield:** Focus on family-oriented recreation. Waters stocked with fingerling size fish or sustained through natural production. Catchables only stocked to supplement fishery.

**Intensive Yield:** Provide fishing opportunity where pressure is heavy, or marginal habitat for growth/survival. Stocking of catchable fish for immediate fishing opportunity, usually not done in waters managed with native or wild trout.

**Conservation:** A reproducing and recruiting group of native fish, geographically isolated, that is managed to sustain the existence of the species.

### 1.3 ISSUES

In March 2000, a public scoping notice was sent to 106 parties. This notice outlined the proposed plan for development of Big Springs Hatchery and site upgrades to the Youth Camp facility. In addition a public scoping meeting was held on March 9, 2000 at the Ute Auditorium. Comments were received from 14 individuals or agencies either in writing or from the March 9, 2000 meeting. Additional meetings were later held with Tribal members.

#### 1.3.1 Issues Considered Relevant to the Proposed Action

The following issues were identified in the comments received and were considered relevant to the Proposed Action of construction of a hatchery facility at Big Springs and upgrade to Youth Camp. These issues will be addressed in the evaluation of the Proposed Action and the alternatives to the Proposed Action.

##### *Hatchery Operation*

Concerns were expressed as to who will operate the hatchery, what will the training and employment opportunities and requirements be and what are the operations and maintenance costs to be provided by the Secretary of the United States Department of the Interior (USDI)? Two additional issues identified were the adequacy of the Tribal water rights and fish health management to support the Proposed Action.

##### *Resource Impacts*

Concern was raised over the impacts of construction and operation on natural resources such as wetlands, threatened and endangered (T&E) species, and water quality of the receiving waters.

##### *Tribal Cultural Resources*

Concern was expressed as to the degree that the Proposed Action will impact the Tribal cultural and spiritual value of Big Springs.

##### *Native Aquatic Species Conservation*

One of the purposes of the Proposed Action is to provide CRCT and potentially other native trout for conservation purposes. The issue was raised on how the Proposed Action will meet this purpose in terms of broodstock management, genetics concerns and consistency with the CRCT conservation plan (Lentsch and Converse 1997).

##### *Ute Tribe Fisheries Management*

This issue focused on fisheries management of Reservation waters. The issue is to what degree will the Proposed Action meet the Tribe fisheries management plan and stocking policy.

##### *Recreational Uses*

The areas within and adjacent to the Proposed Action are currently used for recreation. The issue is to what extent will the Proposed Action impact these uses and Tribal recreation in general.

#### 1.3.2 Issues Identified but Considered Beyond the Scope of this EA

The following issues were presented in comments received during the initial project scoping. These issues are beyond the scope of this EA for the following reasons.

- It was recommended by one reviewer that an Environmental Impact Statement be completed addressing the following issues: effects of rotenone on native species, describing culture techniques, determination of historic range (presumably of CRCT), fishery

management, management with respect to revenue enhancing fishery resource.

The use of rotenone to re-establish native species such as CRCT is a fish population management consideration that is not relevant to the Proposed Action.

- A request was made from an individual attending the public scoping meeting that Tribal members from Duchesne County be added to a committee for review of this project.

The Ute Tribe Fish and Wildlife staff is intensely involved in the development of the Big Springs Unit plan and has conducted 17 public meetings on the Reservation and will continue to hold public meetings through this project. During the public review of the draft EA all community members are able to comment on the Proposed Action and alternatives.

- A comment was made by an individual at the public scoping meeting concerning the price of fishing permits. The question was asked if the price for fishing permits will be lowered.

This issue is considered an internal business concern of the Ute Tribe and is not pertinent to this action.

- A comment was made by an individual at the public scoping meeting concerning the need to identify Religious leaders of the Tribe, and to reach Tribal members in the Neola, Myton and Randlett communities.

The Ute Tribal Fisheries staff will encourage and coordinate review of the draft EA by the entire Tribal

membership. Review of the draft EA and the Proposed Action will be completed by the Spiritual Leaders of the Ute Tribe. All members of the community are able to review and comment on the draft EA during the public review period. Additionally, as stated above 17 public meetings have been held on the Reservation addressing this project.

## CHAPTER 2 - ALTERNATIVES

This chapter will discuss the actions necessary to fulfill the purpose and need and also address the issues identified through the public scoping process. Four alternatives were analyzed in this EA, including the Proposed Action, two Alternative Actions and the No Action. The scope of the activities at the Youth Camp Unit are the same for all action alternatives.

In addition six other alternatives including the use of existing facilities and alternative sites were considered but eliminated from further analysis. A summary comparing alternatives and how they respond to the issues is presented at the end of this Chapter.

### 2.1 PROPOSED ACTION - Big Springs Unit Proposed Site and Youth Camp Unit with Production Capacity of 16,000 pounds

#### *Big Springs Unit*

Big Springs is located in the center of the eastern 1/2 of Section 5 Township 2N, Range 2W, Duchesne County. The site is approximately 14 mi northeast of Whiterocks, Utah (Figure 1).

#### *Youth Camp Unit*

Youth Camp is located in the SW 1/4 of the SW 1/4 of Section 25, Township 2N, Range 2W, Duchesne County. The site is approximately 10 mi northeast of Whiterocks, Utah (Figure 1).

The Big Springs and Youth Camp sites together would be suitable for the production of 16,000 lbs annually of brook trout (BKT; *Salvelinus fontinalis*), brown trout (BRN; *Salmo trutta*), CRCT, and rainbow trout (RBT; *Oncorhynchus mykiss*) to meet the Tribe's sport fish recreation and cutthroat trout conservation needs. Fish

raised at the facility would be stocked according to the Tribe's Fish Stocking and Transfer Policy (Appendix 2). The URMCC will fund 75% of the construction costs, and the Tribe will fund 25% of the construction costs.

Big Springs (Figure 1) has been identified as the location for the main fish hatchery facility after evaluation of potential sites on or near the Reservation (FishPro 1997). A satellite support facility will be located at the existing Youth Camp (Figure 1). The Big Springs site is located on undeveloped land within the Big Springs recreation area. Youth Camp currently consists of one existing raceway, two outdoor tanks, a hatching facility and associated storage structures within an enclosed fence. Youth Camp has previously been used to rear trout stocks through most life stages for stocking in Reservation waters. Modifications to Youth Camp will be required to support functions at the Big Springs facility.

#### 2.1.1 Physical Components

The Proposed Action is to construct a hatchery facility at Big Springs located at the proposed site (Figure 2) and expansion of the Youth Camp site. This will provide additional rearing and wild broodstock holding space and incubation. The proposed site at Big Springs is located to the northeast of the spring and across a small spring fed wet ravine. The site is composed of open grass, sagebrush (*Artemisia tridentata*), aspen (*Populus tremula*) and ponderosa pine (*Pinus ponderosa*) forest. The identified area has gently sloping topography for placement of outdoor rearing units or other site components. The affected area is estimated at 3.4 acres within the 5 acre area on Figure 2. Water will be conveyed via gravity flow to the site by approximately 1200 feet (ft) of pipeline, passing through

the small ravine, from the intake structure to an aeration tower.

The facility at Big Springs may include: a hatchery building for egg incubation, hatching, fry rearing units, indoor spawning/broodfish holding, and equipment storage; an aeration tower; several outdoor rearing units and captive broodstock rearing/holding units; a pollution abatement pond; a manager's residence; one trailer pad for temporary staff; and a visitor informational kiosk. Utilities brought on site will be electrical power, telephones and propane for heating. The electrical power supply will reach the site from an existing transmission line on the east side of the Uinta River. The new transmission line corridor will be approximately 4600 ft long by 20 ft wide and will cross the Uinta River and U.S. Forest Service (USFS) property (Figure 3). Power lines will conform to designs provided in the Avian Power Line Interaction Committee's publications (APLIC 1994 & 1996). During the design phase underground power installation will be investigated to determine if it is feasible. A power line corridor will be created and maintained. The use of solar heating may also be investigated for the manipulation of rearing water temperatures. Additional construction activities will include the intake structure, pipeline corridors for the water supply and effluent water, septic systems for the residence and hatchery building, and a well for the potable water supply. A cattle exclusion fence will surround the facility, and bird predation control structures will be in place around the outdoor rearing units. A conceptual site plan of the Big Springs facility is presented in Figure 4, the ultimate size and location of each component will be determined during final design. A gated entrance to the Big Springs recreation area is planned and the entrance gate will be open during the day and locked after 10:00 p.m.

Access to the proposed site will require widening of an existing road located on the dike between the two uppermost fishing ponds (Figure 2). To allow for truck access, the road bed will be widened to approximately 12 ft and the total width with a new shoulder and rip-rap support is estimated at 20 ft. The connecting road surface from the entrance road to the dike road will need to be rerouted to allow access of moderate length vehicles (Figure 2). Vehicular access across the dike road will be limited to hatchery vehicles only. All other access will be by permission only.

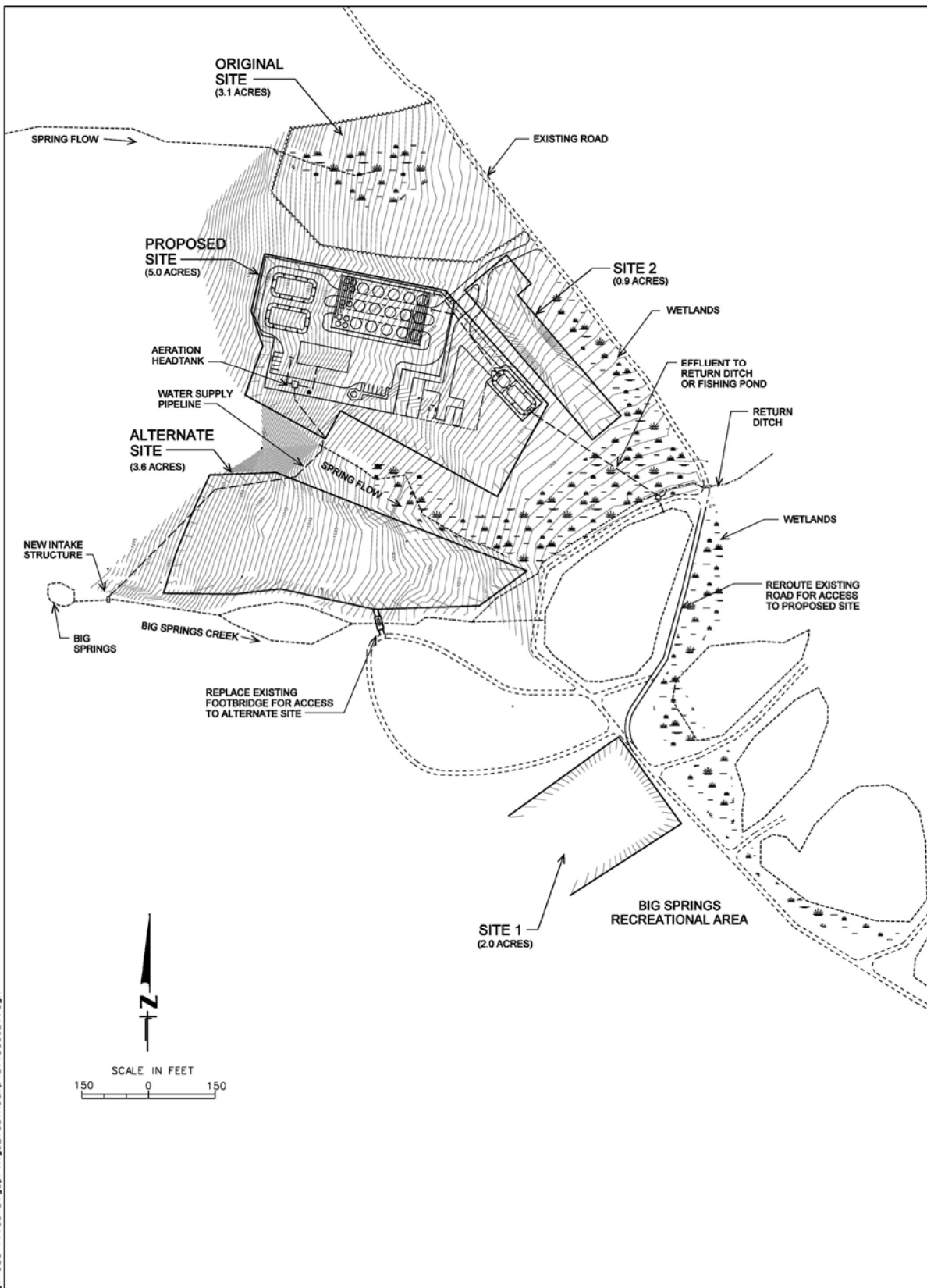


Figure 2. Big Springs Unit proposed and alternative site locations.

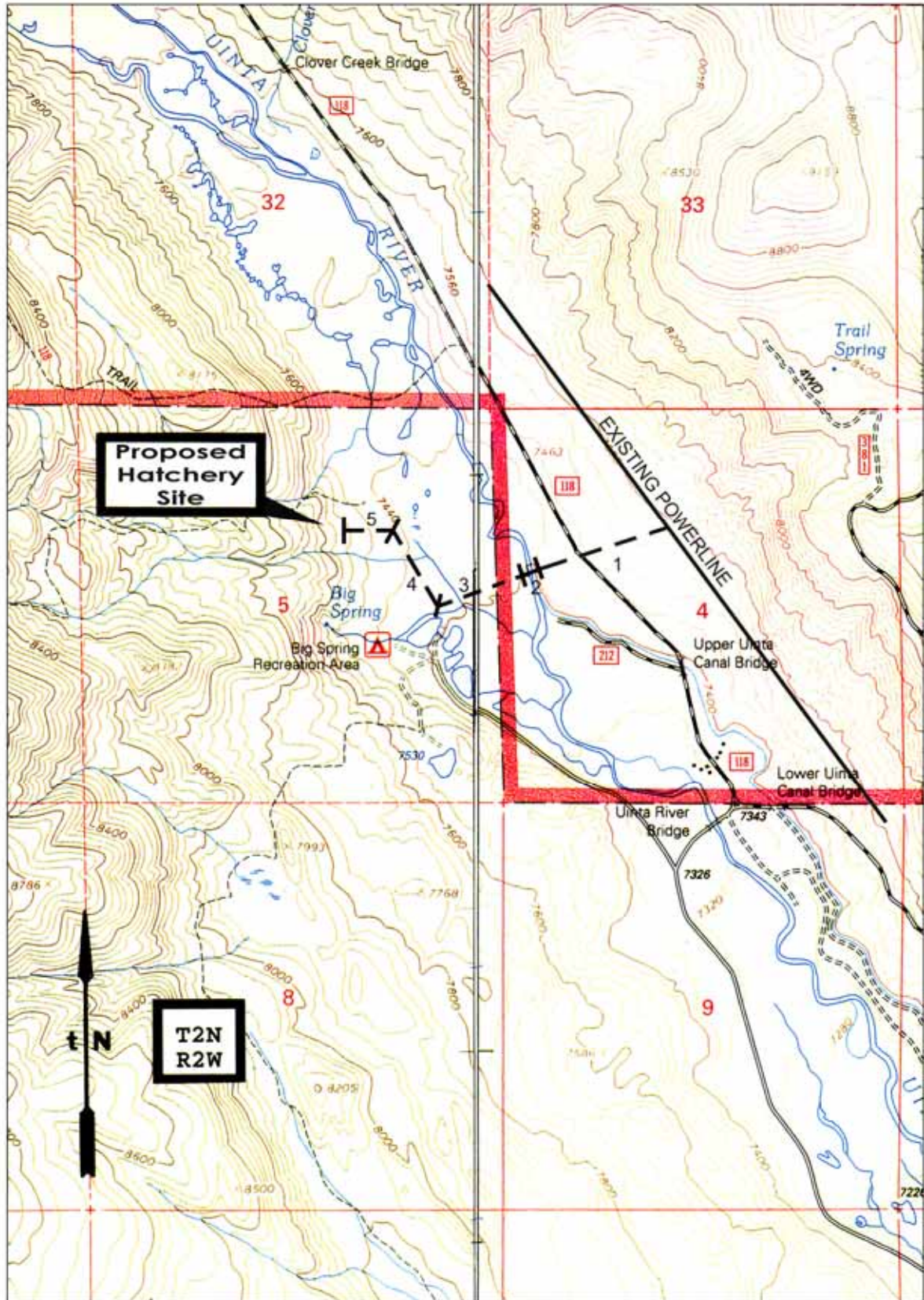
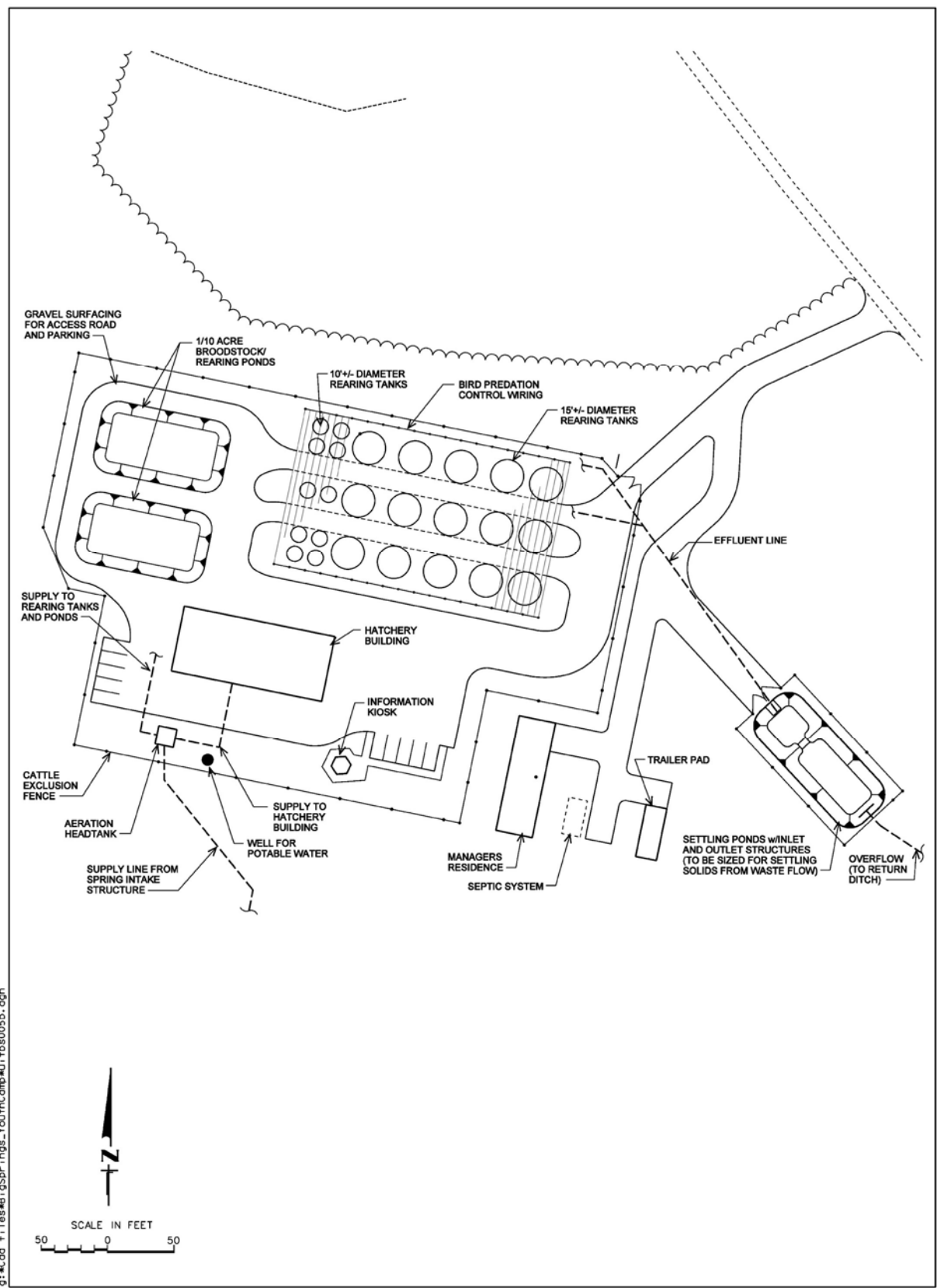


Figure 3. Transmission line corridor.



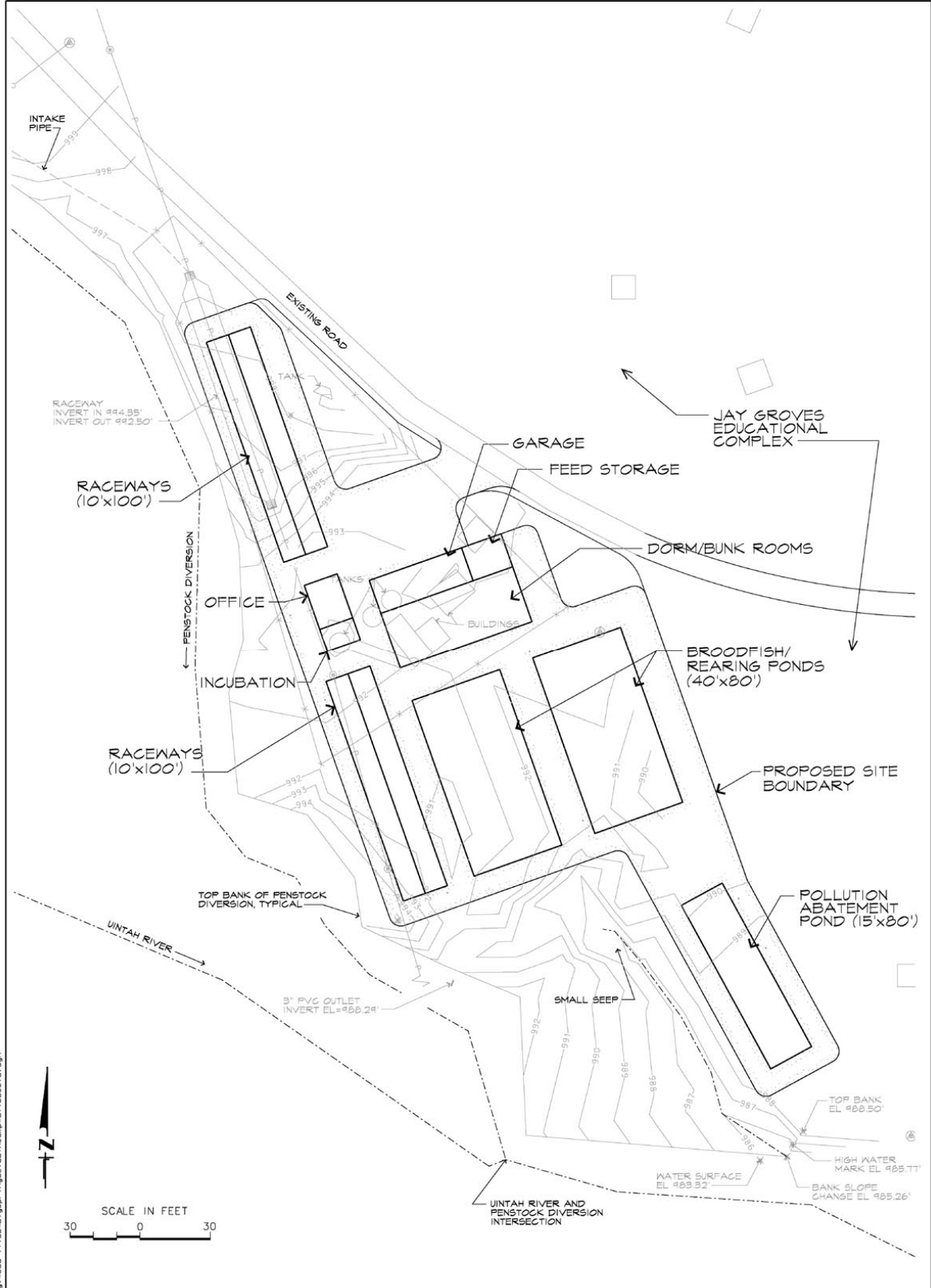
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Figure 4. Conceptual layout for Big Springs Unit Hatchery.



The plans for Youth Camp include expanding the existing hatchery to the southeast, and fencing of the entire compound for security (Figure 5). The Youth Camp area will occupy approximately 0.9 ac. Upgraded and new components will include: two pairs of raceways (first pass or serial re-use water supply), incubation capability, office space, garage and storage, feed storage, dorm/bunk rooms, wild broodfish holding or grow-out ponds and a pollution abatement pond (Figure 5). It is anticipated Youth Camp will receive fish food deliveries shipped by semi-truck due to the restricted road access at the Big Springs site. Fish feed will then be trans-shipped via a two-ton flatbed truck to Big Springs. No new access roads or road upgrades are planned as part of the Youth Camp expansion. Water supply to the facility may be from as many as four sources; the Powerplant Canal, Uinta River, spring water and an artesian well. All four sources are partially developed, but will required upgrades to ensure reliability. The Jay Groves Educational Complex (JGEC) is located across the access road to the east of the Youth Camp facilities

Design of the hatchery facility would take approximately 12 months with completion anticipated in 2008. Construction would take an additional 12 months with completion anticipated in 2009. The construction season is planned to be from mid-May to mid-October.



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Figure 5. Youth Camp Unit existing site plan and proposed expansion.

### 2.1.2 Hatchery Operation

#### *Employment and Training*

The Ute Tribe Fish and Wildlife Department (UTFWD) will administer, manage and operate the hatchery. Two full time individuals will be employed to staff the hatchery, one fisheries biologist and one biological technician. Preference will be given to Tribal members to fill these positions. The fisheries biologist position will require performing professional and scientific biological work in connection with the conservation and management of fisheries resources. The education and experience requirements for these positions (Appendix 3) will be similar to the U.S. Civil Service Commission, Fishery Biologist GS9-11, and Biological Technician GS4-7. The hatchery facility will be staffed 24 hours a day, seven days a week. Temporary seasonal aides will be employed at the hatchery as needed.

The UTFWD will hire a qualified hatchery manager to be on staff for the design, construction and start-up periods. In addition, the USFWS is willing to provide staff for support and training as needed. This support would be for participation in design workshops and review and would consist of one person for nine days worth of time. The Jones Hole Project Leader is requested as this reviewer.

If a UTFWD hatchery manager cannot be hired, additional USFWS technical support would be needed as follows:

*Design phase:* A twelve-month period for design is planned. It is anticipated that workshops will be held for input into the hatchery design. Draft plan review and comment input will also be needed. With no UTFWD hatchery manager, the USFWS technical support need would be two staff, or eighteen days and would require funding

support. As above, The Jones Hole Project Leader is requested as a reviewer. Recommendations for the second staff person will be solicited from the USFWS Denver Regional Office.

*Construction phase:* The construction period is also expected to be twelve months. USFWS assistance would be required only if the UTFWD does not hire a qualified hatchery manager. If that is the case, USFWS tech support would be requested through attendance at monthly or semimonthly construction meetings. If needed, it would be anticipated that the Jones Hole Project Leader may attend six or more meetings during the construction for a total of ten days during this phase.

*Operation phase, (First five years of operation):* This will be considered a consulting relationship, provided via phone calls, site visits (one or more days/week) and training or workshops. Hatchery operational support may be provided for up to two days/week or 0.4 full time equivalent (FTE) for the first three years for hatchery program startup and then one day/week or 0.2 FTE for the remaining two years of the first five years of operation, depending on the need and only if a UTFWD hatchery manager is not hired before the design phase. Site visits may be on a regular basis at first and then adjusted as the hatchery operations becomes routine or increased for special needs. Additionally, when there is an emergency that affects staff, support will be provided from Jones Hole. Up to two weeks (14 days) of staff support-one person will be provided; beyond that, Jones Hole staff will be available to consult with the Tribe's hiring of replacement staff.

The existing staffing at Jones Hole consists of a Project Leader, assistant manager, fishery biologist (now vacant), biological

technician, maintenance worker, and ½ time administrative assistant. In order to provide the technical support described above, an additional full-time (1.0 FTE) person (recommended GS 5/7 fishery biologist or biological technician) will be needed for the 1<sup>st</sup> 5-year period.

At the completion of the first five years of hatchery operation the UTFWD and the USFWS will reevaluate operations and determine if further assistance is needed by the UTFWD from the USFWS.

As stated above, if a UTFWD Hatchery manager cannot be hired, a memorandum of understanding (MOU) will be developed between the USFWS and the Tribe for staff support and training. This MOU will include agreement on the Service's role in writing the plans described below. The USFWS's Management Assistance Office will take the lead and partner with the Tribe and others in writing these management plans. This MOU will be drafted, reviewed and become final before the Ute Tribe Fish Hatchery design begins.

Other agreements and/or plans needed before the proposed Tribal Hatchery goes into operation.

- a. Hatchery Operating Plan: This plan is a document that describes the mechanical operation of the hatchery. It is to be developed by the engineering design firm with the Tribe and provided on or before the day the hatchery goes into operation. It is expected that training in facility start-up, maintenance and operations will be provided by the engineering design firm.
- b. Fish Management and Hatchery Production Plan: The Ute Indian Tribe Fish and Wildlife Department fish production plan is now used to manage the sport fishery on the Reservation. Management actions such as monitoring, creel census and stock recommendations for sport fish, including CRCT (stocking only) are included. CRCT management is based on the Native Fish Species Management Plan for the Uintah and Ouray Indian Reservation. The Tribe and the USFWS will work together to draft an update of the production plan, as needed. The production plan describes fish species, sizes, numbers, and stocking dates to be produced by the facility. This document is defined in the Tribal Stocking Policy and will be used to define hatchery capacities. Any updates will be drafted during the design/construction phase and expected to be final at the time the hatchery goes into operation. Drafting of this document will be by the UTFWD and the USFWS.
- c. Colorado River Cutthroat Trout Genetic Management Plan: The Big Springs hatchery will be limited, initially, to raising CRCT from the Avintaquin Creek population, located in the Northeastern Management Unit, North Tavaputs Plateau subunit, described in the Conservation Agreement and Strategy for CRCT in the State of Utah (1997). Initially, fish raised using this source as brood stock will be stocked only in streams managed by the Tribe with suitable habitat. As the hatchery program develops, agreements will need to be entered into to rear and stock CRCT for conservation purposes in other waters. The UDWR CRCT rearing protocols will be followed and they will be included in the Fish Management Production Plan for the appropriate waters. Drafting of this document will be by the UTFWD and the UDWR. Review of this plan will be requested

from the signatory parties of the Conservation Agreement and Strategy for CRCT.

- e. Fish Health Management Plan: The Tribe will model their fish health management plan after that followed by the UDWR, as described in the Ute Tribe Fish Stocking and Transfer Policy. Drafting of this document will be lead by the UTFWD in consultation with the UDWR. This plan will be final before the hatchery goes into operation.

Action of 16,000 lbs of production is presented in Table 2. Specific costs and reimbursements will be determined by means of a separate agreement between the Tribe and USDI.

The Tribe will also use the Big Springs and Youth Camp facilities as educational resources for Tribal members, students and the public. Big Springs and Youth Camp facilities, and staff, will provide training, service learning and educational opportunities for Tribal and non-Tribal members attending the JGEC. Educational tours will be offered to schools visiting the site.

Youth Camp has been used as a training center in 1999 when 5,000 RBT eggs from Ennis National Fish Hatchery were obtained to 2002. The experience gained from this effort has proven to be an invaluable aid in the training of hatchery staff. The proposed expansion will permit hatchery staff and students to develop skills and experience in fish culture, broodstock management, water quality monitoring and fish health. The Tribe will be responsible for the daily operation of the hatchery. The USFWS will provide technical assistance to the Tribe as described above, if needed.

#### *Operation and Maintenance Costs*

Operations and maintenance funding to support the fish production will be provided by the USDI as authorized in section 313(c) of CUPCA (Figure 6). Estimated operations and maintenance budget for the Proposed

Figure 6. Fish Hatchery Production

106 STAT. 4640

Public Law 102-575

Oct. 30, 1992

SEC. 313. FISH AND WILDLIFE  
FEATURES IN THE COLORADO RIVER  
STORAGE PROJECT.

(c) FISH HATCHERY

PRODUCTION.--\$22,800,000 shall be available only for the planning and implementation of improvements to existing hatchery facilities or the construction and development of new fish hatcheries to increase production of warmwater and coldwater fishes for the areas affected by the Colorado River Storage Project in Utah. Such improvements and construction shall be implemented in accordance with a plan identifying the long-term needs and management objectives for hatchery production prepared by the United States Fish and Wildlife service, in consultation with the Utah Division of Wildlife Resources, and adopted by the commission. The cost of operating and maintaining such new or improved facilities shall be borne by the Secretary.

Table 2. Estimated annual operations and maintenance budget for the Big Springs Unit and Youth Camp Unit Facilities, production level = 16,000 pounds.

Item	Quantity	Unit	Unit Cost	Amount
<u>Salaries and Benefits *</u>				
Hatchery Manager (Fishery Biologist GS11-5 )	1	1.0 FTE	\$82,154	\$82,154
Biological Technician GS5-5	1	1.5 FTE	\$39,540	\$59,311
<u>Fish Food</u>	24,000	pound	\$0.30	\$7,920
<u>Capital Outlays</u>				
Purchase, repair and replacement	1	Year	\$9,200	\$9,200
<u>Other Goods and Services</u>				
Misc. equipment (waders, gloves, etc.)**	1	Year	\$2,300	\$2,300
Utilities***	1	Year	\$16,500	<u>\$16,500</u>
Total Cost				\$177,385

\* Values from the Salary OPM 2007 Rate schedule. Totals include benefits estimated at 37% of salary. These values are for planning purposes only and do not constitute a commitment to a particular pay rate.

\*\* These items are expenses for the assistance provided by Jones Hole NHF, if needed. The estimates do not include the 22% indirect costs for reimbursable funding to the USFWS.

\*\*\* Includes: power, propane, phone, vehicle fuel and maintenance, misc. repair

### *Tribal Water Rights*

#### Big Springs Unit

The Tribe will utilize water from Big Springs for the Big Springs Unit. Water diverted and used in the hatchery facility is for a non-consumptive use (as considered under Utah Water Rights law) and is returned to the Uinta River system without impacting or interfering with any current existing water rights. Currently, no water rights are exercised between the proposed point of diversion and the point at which the water will be returned to the Power Plant Canal, which supplies the Moon Lake Electric Association's hydroelectric plant (Power Plant). Moon Lake Electric Association will file an amendment with the

State Engineer on its water right and the UTFWD will enter into a Memorandum of Understanding (MOU) with the Moon Lake Electric Association for the use of that water for fish culture at the Big Springs facility. A culinary well will be developed on-site for consumptive domestic use. Culinary wells are to be registered with the Tribal Department of Natural Resources; no other known approvals are required.

#### Youth Camp Unit

The Tribe will utilize water diverted for the Power Plant before that water is returned to the Uinta River system for the Youth Camp Unit. The MOU mentioned above will also allow for use of water for fish culture at the

Youth Camp facility. Currently, no water rights are exercised between the proposed point of diversion and the point at which the water will be returned to the Uinta River.

The Moon Lake Electric Association has reviewed the proposed use at Big Springs and Youth Camp and has acknowledged that this planned use does not affect their water rights or flow for power production (Appendix 4). A culinary well is available on-site for consumptive domestic use.

### *Fish Health Management*

Fish pathogen management is a critical concern any time fish or eggs from a wild source, with no pathogen history, are brought onto a facility. The Tribe in their *Ute Tribe Fish Stocking and Transfer Policy* (Appendix 2) identify various measures they will take to ensure the health of fish produced in their facilities. All fish stocked or transferred into or out of Tribal fish rearing facilities will be free of serious pathogens. In order to implement this and prevent the spread of serious pathogens to other hatcheries and watersheds the Tribe will cooperate with the USFWS's Bozeman, Montana Fish Health Center for guidance and assistance with pathogen management strategies. Fish Health inspections of wild populations will be performed by the Tribe Fish and Wildlife Department or their designee. As stated in the *Ute Tribe Fish Stocking and Transfer Policy* all fish transfers will comply with the applicable Utah Department of Agriculture Procedures pursuant to 4-37-501 Health Approval Exceptions (R58-17). Though the State of Utah has no jurisdiction on Reservation, cooperation between UDWR and the Tribe is anticipated. Personnel from UDWR have already assisted the Tribe with fish diagnostic services and population certification sampling (Dr. Chris Wilson, UDWR pers. comm. July 9, 2001). Fish

from Big Springs or Youth Camp stocked off the Reservation into waters of the State will be required to meet the State's Fish Health Rules (R58-17. Aquaculture and Aquatic Animal Health; Dr. Chris Wilson, UDWR pers. comm. January 30, 2001). State facility inspection requirements are initial inspection after six months of residency and then a second inspection no less than four months after the initial inspection. After these two inspections, the facility is then inspected on an annual basis.

To protect the Big Springs hatchery from potential fish pathogen introduction, it is proposed that no fish, only eggs, will be brought on to the Big Springs facility. This protocol will greatly reduce the likelihood of the introduction of fish pathogens into the Big Springs location. The Tribe strongly feels that the regulated pathogen free status of the Big Springs site must be maintained for potential CRCT stocking needs throughout their native range in Utah. Fish currently residing in the Big Springs Creek will not be allowed access above the hatchery intake structure.

A fish health inspection was conducted on wild fish residing in Big Springs Creek on August 21, 2002. Staff from the Tribe, USFWS and UDWR electroshocked fish from the creek and a total of 60 fish were sampled. Collected tissue samples were sent to the USFWS Bozeman Fish Health Center for analysis. Results from these samples found no prohibited pathogens. No viral fish pathogens were detected, testing for the causative agent of Whirling Disease, *Myxobolus cerebralis* was negative, and testing for *Renibacterium salmoninarum*, the causative agent for bacterial kidney disease was also negative.

Fish reared for stocking at the Youth Camp facility will be exposed to fish pathogens



present in the Uinta River and will only be planted in waters within the Reservation, unless adequate fish pathogen certification has been completed to allow stocking to waters of the State. This pathogen certification effort will be coordinated between the Tribe, USFWS and UDWR. Fish reared at the Youth Camp from 1999 to 2001 were sampled in May of 2001 by UDWR staff. Results from this inspection could be an initial qualifying inspection for Youth Camp. No viral fish pathogens were detected, testing for *Myxobolus cerebralis* was negative, and testing for *Renibacterium salmoninarum* was also negative.

### 2.1.3 Resource Impacts

#### *Wetlands*

Proposed hatchery facilities will be sited to avoid wetland and riparian areas. For areas that cannot be avoided, a wetlands mitigation plan will be developed in consultation with the USFWS and U.S. Army Corps of Engineers. Mitigation options are detailed in Chapter 4.

#### *T&E and State Sensitive Species*

The facilities at Big Springs and Youth Camp will be sited and designed to avoid any impacts to T&E species or their habitat. An analysis of potential occurrence of T&E and State Sensitive Species and impacts are detailed in Chapters 3 and 4.

#### *Other Resources*

Other resources, such as soils, wildlife, fish, and the potential impacts are detailed for all alternatives in Table 4 at the end of this chapter.

### 2.1.4 Receiving Waters

Concentrated aquatic animal, or aquaculture facilities with less than 20,000 lbs of production annually generally do not require

a National Pollution Discharge Elimination System (NPDES) permit (40 CFR 122.24). The Environmental Protection Agency (EPA) stated that they require a permit for all hatcheries on the Reservation, regardless of size (M. Reed, EPA, personal comment, March, 2003). An effluent treatment system will be incorporated into the final design to protect the receiving waters and provide the facilities necessary to meet permit requirements.

Fish disease management plans previously described as part of the hatchery operation will minimize the likelihood of a fish disease mortality that will affect the fishing ponds receiving water from Big Springs. Water from the fishing ponds passes through constructed wetlands before reaching the Uinta River.

Water from the Youth Camp site will be ultimately discharged into the Uinta River. Water utilized for the facility will flow through the facility with limited holding time within the rearing units. A water temperature increase may occur during summer months in the broodfish/rearing ponds where a greater surface area is exposed to solar gain. This increase is not expected to be greater than 5 °F.

Effluent monitoring and permit limits anticipated for the proposed hatchery will be for total suspended solids, salinity (TDS), oil/grease (visual), pH, and monitoring of therapeutic agents, when in use (e.g., formalin; M. Reed, EPA, pers. comm. March, 2003). Monitoring will be done by the Tribe. It is anticipated that the proposed facilities will meet or exceed the discharge standards and the effluent will be monitored to verify compliance.

Use of chemical therapeutic agents, such as formalin for treating fish pathogens will be

in compliance with label directions or under the guidance of a veterinarian.

### 2.1.5 Tribal Cultural Resources

The Big Springs pool is a site of cultural significance to the Tribe. The area at or near Big Springs pool and creek will be altered, and spring water will be diverted for use in the hatchery facility. In an effort to preserve the integrity of the area, two methods for diverting the spring water for use in the hatchery have been identified. Both methods are proposed. Detailed descriptions of these methods follow.

Big Springs water collection methods:

1. Construct an instream concrete intake structure/fish barrier downstream of the spring pool, this will leave the Big Springs pool area undisturbed and in its existing condition to preserve the cultural significance of the site to the Tribe. A risk associated with this method is the potential for fish pathogen contamination of the water supply from the open exposure and the residual presence of fish upstream of the intake structure. Removal of fish from upstream of the intake structure is planned. There is also a risk for the introduction, either intentional or unintentional, of a hazardous substance into the hatchery water supply.
2. Repair and expand the existing subterranean infiltration spring collection box and piping. This method will not reduce the size of the spring pool by any noticeable extent, as the increased withdrawal is very small, and no change in the appearance of the spring pool is a requirement of the Tribe. It is proposed to replace the existing two inch supply line with a three inch line. It is estimated that approximately 30 to 45 gallons per minute (gpm) are currently

withdrawn from the spring. The three inch line could provide up to 70 gpm (preliminary estimate - final siting will determine actual flow volume) to the hatchery. Access to the spring pool for cultural activities will be unimpaired. This collection method will provide the highest potential for maintaining a fish pathogen-free water supply.

The use of these two spring water collection methods will allow for the greatest level of high quality spring water to be provided to the hatchery for incubation and early rearing (from spring box) and provide the quantity of flow required to complete the proposed hatchery program (from instream intake). The collection methods will ensure that the visual impacts of the hatchery facility are minimized to maintain the integrity of the Big Spring Creek and the spring pool protecting the cultural significance of the water and the site. The hatchery location will ensure that the facility will not be visible from the path leading to Big Springs pool and will not disturb the aesthetic values or the cultural significance of the site. Further details on the cultural significance of this site are provided in Chapters 3 and 4.

### 2.1.6 Native Aquatic Species Conservation

#### *Broodstock Management and Genetics*

The CRCT fish culture will be limited, initially, to rearing from the Avintaquin Creek population, located in the Northeastern Geographic Management Unit, North Tavaputs Plateau subunit, described in the Conservation Agreement and Strategy for CRCT in the State of Utah (1997). Fish raised from this source will be stocked only in waters managed by the Tribe with suitable habitat. As the hatchery program develops, agreements will need to be entered into to rear and stock CRCT for conservation purposes in other waters of the

State. The UDWR CRCT rearing protocols will be followed and they will be included in the fish management production plan for the appropriate waters. To maintain the genetic integrity of the conservation and sport fish populations, as identified in the 1997 Conservation Agreement and Strategy for CRCT, the Tribe will develop a genetics management plan (GMP). The Tribe will work cooperatively with the involved parties (UDWR, USFWS, U.S. Bureau of Land Management, U.S. Bureau of Reclamation, URMCC and USFS) in development of the GMP. The Tribe and USFWS will work together to draft a plan. Review of the draft plan will be requested from the CRCT technical team members. Protocols for broodstock and egg collection from wild sources will be included within the GMP. The Tribe will also develop hatchery procedures to ensure that the genetic integrity of populations are not compromised. Genetic testing to determine presence of pure or hybrid strains will be an integral part of strain management.

#### *Conservation Plan*

The CRCT is listed as a species of special concern in Colorado and a sensitive species in Utah and Wyoming. Currently, 25 populations of CRCT, which occupy 121.3 stream miles are known to occur in three isolated geographic regions in Utah (Lentsch and Converse 1997). The Uinta Mountains and the northern Tavaputs Plateau are included in the northeastern region, the La Sal and Blue Mountain drainages and the southern Tavaputs Plateau are included in the southeast region and the Escalante and Fremont river drainages are included in the southern region (Lentsch and Converse 1997). Within the Northeastern Management Unit three subunits have been identified; North Slope Uintas, South Slope Uintas and the North Tavaputs Plateau.

Two management objectives have been identified for CRCT, conservation and sport fish recreation. The conservation objective is to manage individual populations to ensure the continued existence of CRCT in Utah, and preserve the genetic integrity of geographic genotypes (Lentsch and Converse 1997). The sport fish objective is to meet the demand for public recreation. Sport fish opportunities will be developed where nonnative salmonid species occur, self-sustaining CRCT populations cannot occur and hybridization cannot be prevented (Lentsch and Converse 1997).

CRCT numbers are decreasing as a result of water quality degradation, habitat loss and competition with introduced nonnative salmonids. Over harvest by recreation fishing in easily accessible areas likely plays a role in the status of CRCT populations.

Genetic factors threatening both the purity and survival of the CRCT include hybridization and range. As a result of genetic hybridization with other trout species, the CRCT are losing their genetic purity. Range or habitat fragmentation limits the CRCT's ability to breed with other populations resulting in inbreeding and loss of genetic heterogeneity. Inbred species all share similar genetic make-up and are therefore less likely to survive environmental forces, population fluctuations, or resist diseases (Lentsch and Converse 1997).

Fish pathogens of concerns for CRCT include whirling disease which has been introduced to the waters of Utah, and the parasites *Pleistophora* sp. and epitheliocystis, a Chlamydial infection (Lentsch and Converse 1997).

Conservation restoration objectives for the CRCT are to restore and maintain 52 conservation populations throughout 537 stream miles. This will cover all three of the

isolated geographic regions in Utah (or geographic management units, GMU). This restoration will include establishing metapopulations<sup>2</sup> to maintain natural movement of individuals among populations (Lentsch and Converse 1997). Within the Northeastern GMU 33 populations and 432 stream miles have been identified.

Sport fish restoration objectives for CRCT identified for the Northeastern GMU included maintaining 35 populations within 323 stream miles of occupied CRCT habitat (Lentsch and Converse 1997).

The Tribe has issued Resolution 01-222 (Appendix 1) supporting the CRCT Conservation Agreement and Strategy, and has verbal agreement from the UDWR to cooperate in the production of the North Tavaputs Plateau subunit population. This effort will support a refugia and broodstock, and progeny will be used to repopulate streams on Tribal lands in the Tavaputs Plateau and other streams within their historic range as determined with the CRCT Conservation Team. The UTFWD, with the USFWS has identified 100 stream miles to be evaluated for CRCT stocking. Activities to establish or enhance CRCT in these waters will be determined on a case-by-case basis. Stocking of Tribal waters will be in support of the tri-state conservation agreement. The UDWR has written a letter to the Tribe in support of its efforts to use the Proposed Action to conserve CRCT (Appendix 5).

### **2.1.7 Ute Tribe Fisheries Management**

The Tribe has identified the need to produce trout species for sport fishing opportunities

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<sup>2</sup> A collection of localized populations that are geographically distinct yet are genetically interconnected through natural movement of individuals among conservation populations (Lentsch and Converse 1997).

within the Reservation (Table 1). Sources for these fish will be certified, pathogen-free eggs if they are to be reared at Big Springs. Certified fish may be obtained and reared at the Youth Camp site for stocking within the Reservation. The final determination of where the fish numbers and life stages will be raised (Big Springs or Youth Camp Units) will be made during the design phase and will be within the constraints of the water supplies and fish health protocols.

The Tribe will develop an updated Fish Management Plan identifying stocking needs on Reservation and add a new section for CRCT conservation needs. The Tribe and USFWS will work together to draft an update of the plan. The new CRCT conservation section will be drafted during the design and construction phase of this project, and will be completed when the hatchery goes into operation. The Tribe will develop and maintain a fish stocking/transfer schedule within the plan. This schedule will be maintained by the Tribe's fisheries biologist and will be available for inspection at the UTFWD upon authorization from the department director. As discussed in the Tribal Fish Stocking and Transfer Policy, all transfers of fish will comply with applicable Utah Department of Agriculture Procedures pursuant to 4-37-501 Health Approval Exceptions (R58-17).

Fish stocking will be in accordance with the conservation and sport fish populations as identified in the CRCT conservation agreement.

The USFWS and the Tribe will work together to meet fish production, stocking and management needs for the Reservation. Sport fish produced by the Big Springs hatchery will replace those currently produced at Jones Hole, and will not be in addition to those fish. Fish management

assistance will continue to be provided by the USFWS under an agreement between the USFWS and the Tribe.

### 2.1.8 Recreational Uses

Access permits are required to fish and camp on the Reservation, and must be purchased from the Tribe. The Tribe charges non-Tribal members ten dollars a day to fish and camp at Big Springs and other locations on the Reservation. The annual gross sales for fishing and small game permits reservation-wide by the Tribe were \$38,000 in 2001, \$88,068 in 2005 and \$96,511 in 2006.

The entrance road to the recreational area will be repaired allowing improved access for vehicles. Vehicle access to the northeast side of the recreation area will be restricted to hatchery vehicles only, and roads around the fishing ponds will be gated to permit pedestrian traffic only. This will provide security to the hatchery facility and reduce road maintenance expense.

Additional recreational and sport fishing opportunities are planned for development under separate actions to meet the increasing demand at Big Springs. Planned expansion of recreation facilities by the Tribe include: rebuilding and/or replacing seventeen camp site structures; constructing a group shelter near the northern fishing pond; constructing a family shelter; adding toilets; paving the access road from the Forest Service boundary and around the campground loop; installing parking barriers; improving trash facilities; providing picnic tables, fire rings, and sand tent camping areas. These activities will be funded and managed separately from actions proposed within this EA.

### 2.2 ALTERNATE ACTION 1- Expanded Capacity at Big Springs Unit Proposed Site and Youth Camp Unit with Production Capacity of 30,000 pounds

The fish production capacity of the water supply at Big Springs is 30,000 lbs (FishPro 1997). Tribal production needs identified to date are 16,000 lbs (stocking needs plus brood stock). Of the total identified need, to date, 224 lbs of CRCT has been identified for conservation of this species in the Hill Creek Extension (USFWS and URMCC 1998).

The Expanded Capability Alternative would construct the Big Springs hatchery site with adjunct Youth Camp facilities to their fullest potential, anticipated to be 30,000 lbs annually, depending on species and sizes produced.<sup>3</sup> This alternative would allow the Tribe to also provide CRCT for non-Tribal waters in furtherance of conservation and sport fish objectives in Utah as identified in the CRCT Conservation Agreement and Strategy (Lentsch and Converse 1997). The number of populations and occupied stream miles are identified in the conservation strategy, however, the production required to meet this need has yet to be quantified.

The CRCT production would be according to the genetics management plan, to be developed, and would require that the Tribe enter into an agreement with the State of Utah.

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<sup>3</sup> Certain species or subspecies, such as CRCT, would be raised from wild sources or from first-generation captive stock. Such fish would require less dense conditions, additional measures to reduce disturbance and stress to the fish and so actual capacity may be less than 30,000 pounds, depending on which species are raised.

### 2.2.1 Physical Components

The Alternate Action 1 will be to construct an expanded capacity (30,000 lbs production) hatchery facility at Big Springs located at the same site as the Proposed Action (Figure 2) and expansion of the Youth Camp site as described in the Proposed Action.

The site characteristics are the same as described in the Proposed Action with the exception that the footprint of the facility will be approximately 5.0 ac. The facility components will remain the same as those described in the Proposed Action and only increased in number or size to meet the demands of the increased production.

Access to the proposed site will remain the same as Proposed Action.

### 2.2.2 Hatchery Operation

#### *Employment and Training*

Same as the Proposed Action with the exception that one additional full time staff position at the biological technician level will be added.

#### *Operation and Maintenance Costs*

Operations and maintenance funding to support the fish production will be provided by the USDI as stated in section 313(c) of CUPCA (Figure 6). Estimated operations and maintenance budget for the Proposed Action of 30,000 lbs of production is presented in Table 3. Specific costs and reimbursements will be determined by means of a separate agreement between the Tribe and USDI.

Table 3. Estimated annual operations and maintenance budget for the Big Springs Unit and Youth Camp Unit Facilities, production level = 30,000 pounds.

Item	Quantity	Unit	Unit Cost	Amount
<u>Salaries and Benefits *</u>				
Fishery Biologist GS11-5 (Step 5)	1	1.0 FTE	\$82,154	\$82,154
Biological Technician GS5-5	1	2.5 FTE	\$39,540	\$98,852
<u>Fish Food</u>	45,000	pound	\$0.33	\$14,850
<u>Capital Outlays</u>				
Purchase, repair and replacement	1	Year	\$14,000	\$14,000
<u>Other Goods and Services</u>				
Misc. equipment (waders, gloves, etc.)**	1	Year	\$2,300	\$2,300
Utilities***	1	Year	\$23,000	<u>\$23,000</u>
Total Cost				\$235,156

\* Values from the Salary OPM 2007 Rate schedule. Totals include benefits estimated at 37% of salary. These values are for planning purposes only and do not constitute a commitment to a particular pay rate.

\*\* These items are expenses for the assistance provided by Jones Hole NHF, if needed. The estimates do not include the 22% indirect costs for reimbursable funding to the USFWS.

\*\*\* Includes: power, propane, phone, vehicle fuel and maintenance, misc. repair

### *Tribal Water Rights*

Same as Proposed Action.

### *Fish Health Management*

Same as Proposed Action.

### **2.2.3 Resource Impacts**

#### *Wetlands*

Same as Proposed Action.

#### *T&E and State Sensitive Species*

Same as Proposed Action.

### **2.2.4 Receiving Waters**

The hatchery will be required to meet the NPDES permit requirements. An effluent treatment system will be incorporated into the final design, similar to the Proposed Action.

Receiving waters at Youth Camp same as Proposed Action.

### **2.2.5 Tribal Cultural Resources**

Same as the Proposed Action.

### **2.2.6 Native Aquatic Species Conservation**

#### *Broodstock Management and Genetics*

Same as the Proposed Action.

### *Conservation Plan*

The Big Springs facility will be capable of providing up to 30,000 lbs of capacity for fish rearing needs (USFWS and URMCC 1998). The expanded production space is proposed to be utilized to rear CRCT for stocking in non-Tribal waters throughout their historic range in Utah, and possibly support Bonneville cutthroat trout (*Oncorhynchus clarki utah*; BCT) rearing to meet conservation needs in the streams of the interior basin of Utah. Issues of size, strain(s), broodstock origin and distribution will need to be discussed with the appropriate state and federal agencies prior to implementation of these programs. The Tribe and USFWS will cooperate to identify CRCT stocking needs. Conservation production needs are undetermined at this time. Conservation production numbers will be developed in cooperation with signatories of existing conservation agreements.

#### **2.2.7 Ute Tribe Fisheries Management**

Same as the Proposed Action.

#### **2.2.8 Recreational Uses**

Same as the Proposed Action.

### **2.3 ALTERNATE ACTION 2- Big Springs Unit Alternate Site and Youth Camp Unit with Production Capacity of 30,000 pounds**

#### **2.3.1 Physical Components**

Alternate Action 2 was pursued in an effort to reduce water supply piping distance and to improve effluent return location. This alternate action will be to construct a hatchery facility at Big Springs alternate site (Figure 2) and expand the Youth Camp site (Figure 5) in the same manner as described for the Proposed Action. The alternate site is located to the east of the Big Springs pool

and encompasses the area parallel to the stream corridor and hiking path on the north side of the stream. The site is composed of predominately aspen and small diameter ponderosa pine forest. Small pockets of open ground exist. The identified area is estimated to be approximately 3.6 ac. Water will be conveyed to the site by approximately 300 ft of pipeline from the intake structure to the aeration tower. Water will be collected from the spring source by the methods presented in 2.1.5.

The access road to the alternate site will utilize existing roads that will be required to be upgraded due to their heavily rutted and pot-holed condition. In addition a 40 ft span bridge across the Big Springs Creek will be required. The bridge will be situated at the location of the existing foot bridge (Figure 2). Approximately 125 ft of new road within the ponderosa pine forest will be constructed.

#### **2.3.2 Hatchery Operation**

##### *Employment and Training*

Same as Alternate Action 1.

##### *Operation and Maintenance Costs*

Same as Alternate Action 1.

#### **2.3.3 Resource Impacts**

##### *Wetlands*

Same as the Proposed Action.

##### *T&E and State Sensitive Species*

Same as Proposed Action.

#### **2.3.4 Receiving Waters**

Same as Alternate Action 1.



### **2.3.5 Tribal Cultural Resources**

This site will place the hatchery facility in close proximity to Big Springs. The presence of the facility adjacent to the spring pool may be undesirable to the Spiritual Leaders or other members of the Tribe.

### **2.3.6 Native Aquatic Species Conservation**

*Broodstock Management and Genetics Conservation Plan*

Same as Alternate Action 1.

### **2.3.7 Ute Tribe Fisheries Management**

Same as Proposed Action.

### **2.3.8 Recreational Uses**

Same as Proposed Action with the addition of replacement of a footbridge with a vehicular/pedestrian bridge across the stream. Locating the facility at this site will have a visual impact to hikers and campers.

## **2.4 NO ACTION**

No construction of a hatchery facility at the Big Springs site, or upgrade to the Youth Camp site will occur with this alternative.

### **2.4.1 Hatchery Operation**

*Employment and Training*

No increase in fisheries biologist and technician positions will be established. No hatchery training and educational opportunities will exist at Big Springs. Youth Camp will not be expanded, and training opportunities to the Tribe will remain limited.

*Operation and Maintenance Costs*

No operation or maintenance monies will be provided by the USDI. Tribal water rights and fish disease control are not issues under

the no action alternative. There will be no change in the current status.

### **2.4.2 Resource Impacts**

No impacts.

### **2.4.3 Tribal Cultural Resources**

No impacts.

### **2.4.4 Native Aquatic Species Conservation**

*Broodstock Management and Genetics Conservation Plan*

The Tribe will likely discontinue operations at Youth Camp. No benefit to CRCT conservation needs will be realized

### **2.4.5 Ute Tribe Fisheries Management**

Fish management assistance will continue to be provided by the USFWS.

Jones Hole has been unable to meet Tribal CRCT sport fish stocking needs. If the no action alternative is selected, the Tribes CRCT sport fishing stocking needs may not be met.

### **2.4.6 Recreational Uses**

The entrance road to the Big Springs recreation area and culvert repair on the dike road between ponds will be completed separately if the No Action Alternative is selected. Culvert repair on the dike road is currently underway, but road improvements are not defined. This work is covered under a separate environmental assessment.

Planned expansion of recreation facilities will only differ from those described in the Proposed Action by the elimination of a group shelter. These activities will be funded and managed separately from actions proposed within this EA.

Table 4. Summary of issues considered relevant to each action.

ISSUES	Proposed Action	Alternate Action 1	Alternate Action 2	No Action
<b>HATCHERY OPERATION</b>				
Employment and Training	One full time fisheries biologist and 1.5 FTE technician will operate the proposed facility. Education and training to Tribal and non-Tribal members. Youth Camp expansion will provide experience in pond culture, broodstock management, and fish health.	Three full time fisheries biologist and technicians will operate the proposed facility. Education and Youth Camp expansion same as Proposed Action.	Same as Alternate Action 1.	No increase in fisheries biologist and technician positions. No training and education at Big Springs. Fish culture training opportunities at Youth Camp will not be expanded.
Operation and Maintenance Costs	Funding to support operations and maintenance provided by USDI, if needed. Estimated budget for 16,000 lbs of production is \$177,385.	Funding to support operations and maintenance provided by USDI. Estimated budget for 30,000 lbs of production is \$235,156.	Same as Alternate Action 1.	No monies provided by the USDI.
Tribal Water Rights	The Tribe will utilize water: 1. Diverted from Big Springs and delivered to the hatchery. 2. Diverted from the Power Plant Return Ditch to the Youth Camp Facility. Water right amendment and MOU with Moon Lake Electric for use of water will be obtained. Use of water at the facilities will not impact or interfere with any current existing water rights.	Same as Proposed Action.	Same as Proposed Action.	No Tribal water rights issues
Fish Disease Management	Under Proposed Action a fish disease management plan will be developed to protect integrity of Big Springs site. Coordination with UDWR and USFWS will occur.	Same as Proposed Action.	Same as Proposed Action.	Fish disease management practices will follow Tribal guidelines at existing facilities.
<b>RESOURCE IMPACTS</b>				
Wetlands	<ul style="list-style-type: none"> <li>Change in wetland type, 0.56 ac.</li> <li>Permanent loss of 0.585 ac of wetlands.</li> </ul> Mitigation plan will be developed in consultation with the USFWS and U.S. Army Corps of Engineers	<ul style="list-style-type: none"> <li>Change in wetland type, 0.56 ac.</li> <li>Permanent loss of 0.895 ac of wetlands.</li> </ul> Mitigation plan development same as Proposed Action.	<ul style="list-style-type: none"> <li>Change in wetland type of 0.55 ac.</li> <li>Permanent loss of 0.735 ac of wetlands.</li> </ul> Mitigation plan development same as Proposed Action.	No wetland impacts.
T&E Species	<ul style="list-style-type: none"> <li>No T&amp;E species or habitat will be impacted from construction at Big Springs Potential Ute ladies' tresses habitat may be crossed at Youth Camp.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Proposed Action.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Proposed Action.</li> </ul>	No impacts.
Receiving Waters	<ul style="list-style-type: none"> <li>No impacts to receiving waters are anticipated. All Permit requirements will be met.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Proposed Action</li> </ul>	<ul style="list-style-type: none"> <li>Same as Proposed Action.</li> </ul>	No Discharge.

Table 4. Continued.

<b>ISSUES</b>	<b>Proposed Action</b> Big Springs Unit Proposed Site/Youth Camp Unit Production capacity 16,000 pounds	<b>Alternate Action 1</b> Big Springs Unit Proposed site/Youth Camp Unit Production Capacity 30,000 pounds	<b>Alternate Action 2</b> Big Springs Unit Alternate Site/ Youth Camp Unit Production capacity 30,000 pounds	<b>No Action</b>
<b>TRIBAL CULTURAL RESOURCES</b>				
	The area at or near Big Springs pool and creek will be altered. To preserve the integrity of the area, two methods for diverting the spring water are identified.	Same as Proposed Action.	Same as Proposed Action, and the presence of the facility adjacent to the spring pool may be undesirable to the spiritual leaders or other members of the Tribe.	No impacts.
<b>NATIVE AQUATIC SPECIES CONSERVATION</b>				
Broodstock Management and Genetics	The Tribe will develop a genetics management plan and hatchery procedures to ensure genetic integrity of CRCT is not compromised. Genetic testing to determine pure or hybrid strains will also take place.	Same as Proposed Action.	Same as Proposed Action.	No genetics plan, or genetic testing implemented.
Conservation Plan	Production space will be used to rear a limited amount of CRCT.	Expanded production space will be available to rear CRCT to meet conservation needs	Same as Alternate Action 1.	No benefit to CRCT.
<b>UTE TRIBE FISHERIES MANAGEMENT</b>				
	The Tribe will develop a management plan and will maintain a fish stocking/transfer schedule. CRCT stocking will be in accordance with the CRCT conservation agreement.	Same as Proposed Action.	Same as Proposed Action.	The CRCT sport fishing-stocking needs will not be met.
<b>RECREATIONAL USES</b>				
	Entrance road to Big Springs recreation area will be repaired, allowing improved vehicular access. Roads around fishing ponds will be gated. Other recreational improvements made under separate action.	Same as Proposed Action.	Same as Proposed Action plus a footbridge across the creek will also be replaced. Visual impacts to hikers and campers will occur.	Improvements made under a separate action.

## 2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED

### 2.5.1 Use of Existing Facilities

#### *Whiterocks State Fish Hatchery*

This alternative consists of moving all of the needed production demand to the Whiterocks State Fish Hatchery. This alternative is feasible only if there is available capacity at that facility. This alternative will also require a MOU between the State of Utah and the Tribe. The present capacity at Whiterocks is fully used to meet a portion of the State of Utah's fish stocking needs.

Reconstruction of the Whiterocks Fish Hatchery is included in the Plan to help meet the State of Utah's increased fish stocking needs. Even with the increased capacity, this hatchery will not meet the State's fish stocking needs. This alternative will not meet the Tribe's fish stocking needs.

### 2.5.2 Alternative Sites at Big Springs

#### *Big Springs Original Site*

In 1996 a site reconnaissance was conducted at Big Springs for the selection of a hatchery site (FishPro 1997). A 3.1 ac site located in the clearing to the north of the proposed site (Figure 2) was identified. It was determined in a survey conducted in 2000 that this site is unacceptable due to the wetland impacts associated with development at that location.

#### *Big Springs Site 1*

From a field reconnaissance conducted at Big Springs, site 1 (Figure 2) was identified as a location of interest for construction of the proposed facility. The 2.0 ac site was initially considered because it is easily accessible from the entrance road. The site is predominately cleared ground and has been

impacted from the current use as a camping and picnic site.

With further evaluation, the site was removed from consideration for the following reasons:

- Reduction of camping and picnicking area that would have to be relocated to a less accessible and possibly less desirable location.
- Difficulty in providing security to the hatchery facility due to the immediate proximity to the entrance road.
- Site elevation would require that the effluent water be pumped to the return ditch and upper fishing ponds. Water from Big Springs is required to be discharged into the return ditch to meet commitments to downstream water users. Pumping the effluent would increase the operation and maintenance costs, and a back-up generating system would be required in the event of a power failure.

#### *Big Springs Site 2*

From a field reconnaissance conducted at Big Springs, site 2 (Figure 2) was identified as a location of interest for the construction of the proposed hatchery facility. Site 2 was initially considered because of its proximity to an existing access road. This site was removed from consideration due to the following reasons:

- Size of the 0.9 ac site is limited by wetland areas to the northeast and southeast, providing insufficient area for the facility.
- Water supply pipeline from the spring source to the site would be an additional 450 ft.
- The site is forested with large ponderosa pine trees that would be removed to construct the facility.

- The site does not have elevation relief sufficient for a gravity-fed water supply.

#### *Fort Robidoux*

Fort Robidoux is located within the Reservation approximately one mile southeast of Whiterocks, Utah (Figure 1). The use of this location as a site for the hatchery facility was investigated in 1997 and the findings reported in “Ute Tribe Feasibility Study” (FishPro 1997).

Fort Robidoux was eliminated as an alternative site for the following reasons. The water supply and topographic relief are insufficient for a gravity-flow facility. Surface flows are minimal during high water periods and become almost non-existent during drier portions of the season (FishPro 1997).

### **2.5.3 Purchase of Fish from the State**

Currently, there is one state fish production program within the Uinta Basin for CRCT. CRCT from the West Fork Duchesne River were stocked into Sheep Creek Lake over a three year period to develop a broodstock source. The egg take was 200,000 the first two years (1999 and 2000), and 125,000 in 2001. About 50% of each egg take is stocked in the high lakes in the Uintas. Fifty-three lakes were stocked the first year, and ten the second year. At this time the State has no excess CRCT from this program to supply to the Tribe. Plans for developing a North Slope Uintas CRCT broodstock are currently being made by UDWR.

This alternative is similar to the Whiterocks State Fish Hatchery alternative as it assumes that there is extra capacity within the State hatchery system. There is not sufficient available capacity to meet the Tribal fish management stocking needs. Presently, the

State hatchery system is unable to meet its own needs. This alternative is not feasible as it would not meet the identified purpose and need.

## CHAPTER 3 - AFFECTED ENVIRONMENT

### 3.1 THE UTE TRIBE

The Ute Indian Tribe occupies the Uintah and Ouray Reservation. The Reservation is located in Northeastern Utah and occupies an area known as the Uinta Basin. The Reservation encompasses just over four million acres (Tiller 1996). The ownership of the Uinta Basin is a mixture of federal lands (50.5%), fee lands (23.8%), Tribal Trust Lands (17.5%) and State of Utah Lands (8.2%)

([http://indian.utah.gov/utah\\_tribes\\_today/ute.html](http://indian.utah.gov/utah_tribes_today/ute.html) February 2007).

According to the Tribe's Department of Vital Statistics, the enrolled membership of the Ute Tribe is presently 3,125 members. This population has grown from about 2500 members in 1980 and is projected to increase to 4,672 by the year 2010.

The population of the Tribe living on the Reservation is made up of 703 households, consisting of approximately 2,157 individuals (Vital Statistics Office Estimate, 2007). Of the families making up those households, 345 (or 49%) fall into the very low income category and 147 (or 21%) are in the low income category. The average size of families making up these two categories is 4.15 people.

The 1990 U.S. Census data show that the median annual income for a Tribal member is \$14,500, compared with a median annual income of \$31,417 for the State of Utah and \$26,491 for Duchesne County

([http://indian.utah.gov/utah\\_tribes\\_today/ute.html](http://indian.utah.gov/utah_tribes_today/ute.html) February 2007)

The Tribe employs approximately 400 full-time workers to maintain the public

administration sector of the Tribal government. Over 75% of these employees are Tribal members (Tiller 1996). Tourism and recreation also bring revenue to the Tribe. The Tribe maintains its own Fish and Wildlife Department for managing and protecting its fish and wildlife resources. All aquatic resource office employees are required to possess, or be currently pursuing, with a grade point average of 2.0 or better, an associates degree or higher in natural resource management. Hatchery specific training of Tribal Fish and Wildlife staff has thus far included:

- Internship at Alchey-Williams Creek NFH, Whiteriver, AZ Participant in Apache Trout broodstock spawning (1996 and 2001).
- Attendance at USFWS Coldwater Fish Culture Training Course, Bozeman, MT (1996).
- Toured hatchery facilities at; Pyramid Lake Tribal Fish Hatcheries Nixon, Nevada 1999, Commercial aquaculture facilities and the College of Southern Idaho Fish Technology Program Twin Falls, Idaho 2000, Alchey-Williams Creek NFH, White Mountain Apache Reservation, Whiteriver, Arizona 2001.
- Internships at Jones Hole, Vernal, UT (1996 through 2002). General operation and maintenance duties. Also assisted in marking fish stocks destined for Tribal waters.
- Assisted UDWR in spawning of CRCT at Sheep Lake, Ashley National Forest (2000).
- Assisted USFWS in spawning of Lake Trout at Saratoga NFH, Saratoga, WY (2000).
- Culture of RBT eggs from Ennis NFH at Youth Camp in February of 1999. Maintained fish stocks on station through 2001.

- Reared several strains of RBT and two lots of CRCT through most life stages at Youth Camp Facility.
- Fish Technology Certification: completion of Fish Technology Program at the College of Southern Idaho, Twin Falls, ID

Waters within Reservation boundaries can provide ample recreational fishing opportunities for Tribal and non-Tribal members. Agriculture and livestock also provide income and livelihood to many residents of the Reservation. During the 1970s and early 1980s, the Northern Ute community benefited from increased oil and gas development on Reservation lands in the form of jobs and severance taxes.

The majority of the Reservation students attend public schools located on or within close proximity to the Reservation. In 2002, 63 Tribal and non-tribal students were enrolled at the Uinta River High School, a Tribally operated charter school. Future educational opportunities in natural resource management will be provided at the JGEC. A small number of students attend BIA boarding schools (Tiller 1996). Fifty-two percent of the adult Tribal members possess a high school diploma, but a limited portion of the Reservation population has earned a bachelor's degree or higher (Tiller 1996).

## **3.2 GEOLOGY, SOILS AND TOPOGRAPHY**

### **3.2.1 Big Springs Unit**

Big Springs topography characteristics include the Uinta River corridor and the Uinta Canyon. Elevation of the Big Springs site is approximately 7,500 ft above sea level. General aspect of the site faces southeast with elevation and slope increasing westward.

The Big Springs site consists of an approximate 1,500 ft wide, U-shaped river valley with moderately steep valley sides typical of glaciated river valleys. The valley is carved into the weakly-lithified shales and sandstones of the Duchesne River Formation. The alluvial deposits in the central stream valley consist of moderately thick to thick deposits of fine to coarse grained glacial and alluvial deposits derived from the Uinta Mountains. The valley flanks rise between 1,000 and 3,000 ft above the stream valley and consist of moderately thin to thin deposits of fine coarse grained material of glacial origin. The highest elevations along the valley flanks consist of exposed bedrock of the Duchesne River Formation. This formation consists of interbedded red, brown, and varicolored clay shales, gray to buff red sandstones and some conglomerate of fluvial origin.

Based on a review of published geologic maps of Utah, the potential for damaging geologic hazards such as landslides, debris flows, and swelling or collapsible soils is judged to be low at the Big Springs site.

### **3.2.2 Youth Camp Unit**

Elevation at Youth Camp is approximately 6,960 ft above sea level. The site is flat, mostly cleared of trees, and already contains an existing raceway and support structures. The site is located near the southern terminus of the glacial moraine deposits derived from the Uinta Mountains. This area consists of an approximately 900-foot-wide U-shaped river valley with moderately steep to gentle valley side slopes that rise about 100 ft above the stream valley. Like the Big Springs area, the valley is carved into the interbedded shales and sandstones of the Duchesne River Formation. The alluvial deposits in the central stream valley consist of moderately thick to thick deposits of reworked fine to coarse grained glacial

and alluvial deposits. The southwestern valley flank is covered with moderately thick to moderately thin glacial deposits of outwash origin. The Duchesne River Formation is exposed on the northeastern flank of the valley.

Based on a review of published geologic maps of Utah, the potential for damaging geologic hazards such as landslides, debris flows, and swelling or collapsible soils is judged to be low at the Youth Camp site.

### 3.3 WILDLIFE

#### 3.3.1 Big Springs Unit

Primary big game species found in Uinta Canyon include mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and moose (*Alces alces*). Golden eagles (*Aquila chrysaetos*), northern goshawks (*Accipiter gentilis*) and other raptors also may inhabit Uinta Canyon. This area is within the critical winter range for elk and mule deer and within the critical year-long range for moose. This critical habitat designation is as defined by UDWR and not as defined by the Endangered Species Act. A survey was conducted to determine if the wildlife species found in Uinta Canyon inhabit or utilize the Big Springs site and the area within a 0.5 mi radius.

Results of a 1997 study revealed no use of the meadow area southeast of Big Springs and adjacent to the proposed hatchery site by elk, mule deer, or moose (Etchberger 1997). At the time of the study, there was also little use by these species within the 0.5 mi radius surrounding the site. No nests or evidence of use by golden eagles, ferruginous hawks (*Buteo regalis*), or northern goshawks were located at the meadow or within 0.5 mi of the proposed site. The proposed hatchery site at Big Springs is not typical of habitat used by sage

grouse for a breeding complex, and no evidence was found that sage grouse use this area for breeding or nesting.

Present use of the Big Springs area by elk, moose and mule deer is occurring. Fecal pellets of elk were observed during site reconnaissance in the fall of 2000, and site use by moose has been documented. The site use by these species remains low, possibly due to the human activity in the area and quality of habitat.

According to Tribal wildlife technicians, snow depths in this area during the winter preclude use by mule deer and elk. Elk and deer normally move south of the site during the winter months. The past two winters have been very mild and may have resulted in the elk remaining at the Big Springs site (K. Corts, Ute Tribe Wildlife Biologist pers. comm. January 16, 2001). Moose probably continue to use the Uinta River bottom throughout most winters in this area, and not the Big Springs site.

One raptor nest was located approximately 0.75 mi northwest of the proposed site on U.S. Forest Service land. The nest appeared to have been used recently. The species that used the nest could not be identified.

#### 3.3.2 Youth Camp Unit

The Youth Camp site has the same type of habitat as the Big Springs site. Therefore, it has potential habitat for the same wildlife species as those found at Big Springs. The use by elk, mule deer and moose is believed to be low (K. Corts, Ute Tribe Wildlife Biologist pers. comm. January 16, 2001). The area is already developed and the habitat is poor for these big game species.

No nests for northern goshawks, ferruginous hawks, or golden eagles have been seen at the site. There is no habitat at the Youth



Camp site for sage grouse (K. Corts, Ute Tribe Wildlife Biologist pers. comm. January 16, 2001).

Aquatic mammals that may inhabit the area include beaver (*Castor canadensis*), mink (*Mustela vison*), and muskrat (*Ondatra zibethica*).

### 3.4 WETLANDS

#### 3.4.1 Big Springs Unit

The Big Springs site is dominated by upland forest with wetlands occurring as localized seeps, along forested drainages or adjacent to a series of fishing ponds at the Big Springs campground. Three wetland/riparian habitats and three upland habitats occur at this site. The wetland/riparian habitats are: mixed hydrophytic graminoid<sup>4</sup> grass and sedge (*Carex spp.*); scrub-shrub headwater stream; and forested wetland perennial stream. The upland habitats are: ponderosa pine forest; aspen - lodgepole (*Pinus contora*) forest; and sagebrush.

The wetlands at Big Springs occur in the wet meadow adjacent to the proposed site, along the fishing ponds, in small seeps and swales and at Big Springs pool and stream corridor. A spruce-alder-horsetail (*Picea pungens-Alnus incana-Equisetum spp.*) forest borders Big Springs Creek downstream to an existing diversion and ditch for a distance of 900 ft. Within this portion of the Big Springs Creek, the stream channel and adjacent riparian wetland range in width from 42 ft at the proposed diversion site to 116 ft at the downstream end of the channeled section. The channel and riparian wetland decrease in width again to approximately 50 ft near the stream gage.

<sup>4</sup> Grass-like in appearance, with leaves mostly very narrow or linear in outline, such as sedges, reeds, cattails, and others.

The stream channel and adjacent riparian wetlands from the spring pool to the existing return ditch total 1.32 ac.

In the project area, the riparian zone is dominated by a spruce-alder habitat. Along the Big Springs Creek, the alder occurs along well-defined stream channels. The dense canopy and location adjacent to the channel provide shading for the stream. Perennial streams passing through alder habitats are capable of supporting a good fishery due to their provision of shade and overhanging cover. The dense rooting structure of alder habitat also provides stream bank stability.

Alder's ability to fix nitrogen<sup>2</sup> allows other species to colonize poorly developed and otherwise nutrient poor soils. Alder wetlands provide a significant source of nitrogen for downstream wetlands through both nitrogen fixation and the deposition of nitrogen-rich leaf litter. The high nitrogen availability provides for increased primary and secondary productivity.

Wetland/riparian habitats support wildlife by providing food, cover and water within a relatively concentrated area. Alder scrub-shrub habitat and its understory plants provide food sources in the form of seeds and insects. Alder seeds and browse can provide food sources during the winter for resident birds and mammals. The alder wetlands likely provide high value for the functions listed in Table 5.

#### 3.4.2 Youth Camp Unit

The majority of the Youth Camp site is occupied by existing facilities, but wetlands occur adjacent to the existing site. Two wetland/riparian habitats and one upland

<sup>5</sup> A nitrogen fixing species is a plant that can convert atmospheric nitrogen to a form of nitrogen in the soil that other plants can use.

forest habitat occur at this site. The wetland/riparian habitats are: mixed hydrophytic graminoid grass and sedge; and scrub-shrub headwater stream. The upland habitat is aspen-lodgepole forest.

Herbaceous wetlands occur both as seeps to the north of the existing facility and along the adjacent Uinta River/return ditch floodplain. A graminoid-dominated floodplain community occurs in a narrow band adjacent to the return ditch and the Uinta River in mid-channel bars. This habitat is predominately outside the project area to be impacted, but is included as it represents potential habitat for the Ute

ladies'-tresses. A recorded population of Ute ladies'-tresses occurs in the vicinity, but not within the project footprint. Ute ladies'-tresses are federally listed as threatened under the Endangered Species Act.

The area south and east of the existing Youth Camp facilities includes disturbed ground that is primarily devoid of vegetation, a mixed lodgepole-aspen forest and an alder and wood's rose (*Rosa woodsii*) scrub-shrub wetland. The functions of alder scrub shrub wetlands are described above, and the functions are summarized below in Table 5.

Table 5. Qualitative evaluation of likely functions performed by the riparian alder habitats in the project area. Only functions with potential to be performed are listed.

Function	Big Springs Unit alder spruce forested wetland (perennial stream support)		Big Springs Unit and Youth Camp Unit alder shrub-scrub seeps (intermittent stream support) pipeline crossing	
	Function performed	Discussion	Function performed	Discussion
Ground water discharge	unknown	NA	Yes	Habitats supported by seeps and springs
Streamflow augmentation	Yes	Overbank flooding in spring likely released slowly in summer	Yes	High water table occurs year round and downstream end of intermittent channel enters Big Springs
Stream bank stabilization	Yes	Alder root structure provides high bank stabilization	No	High spring flows appear to be uncommon although complete removal of vegetation will allow unconstrained overland flow.
Aquatic habitat shading	Yes	Dense overhanging shades adjacent stream	No	No permanent water
Food chain support	Yes	Alder provides high productivity due to nitrogen fixation, export of nitrogen downstream and support of high invertebrate production.	Yes	Same as Big Springs
Wildlife habitat	Yes	High structural diversity and cover adjacent to creek.	Yes	Lower structural diversity and may receive less wildlife use than Big Springs as not adjacent to water source.
Nutrient transformation	Unknown	NA	Likely	Organic soils known for nutrient transformation abilities and organic soil underlie the habitat. The degree to which this function could be performed was not evaluated.

### 3.5 WATER SUPPLY

#### 3.5.1 Big Springs Unit

Big Springs surfaces at one distinct location. A topographic survey completed in November 2000 determined that there is sufficient elevation for a gravity fed water supply system (Figure 2). Water temperature data collected by the Tribe since November 1995 indicate stable temperatures ranging between 44°F and 46°F throughout the year. Water flow measurements at Big Springs have ranged from a low of 5.2 cubic

feet per second (cfs) in February 1996 to a high exceeding 20 cfs in May and June 1996. Visual observations by the Tribe over the years indicate little fluctuation in these flows.

A profile of Big Springs water quality over a 1,000 ft distance has been developed using readings collected by Tribal staff at ten stations between the spring source and the penstock inlet facilities belonging to Moon Lake Electric Association, Inc. Dissolved oxygen (DO) readings taken at the source

range from 6.6 to 8.0 mg/L. At this elevation (7,500 ft above sea level), and assuming an average temperature of 43<sup>0</sup>F, oxygen saturation is 9.5 mg/L, indicating that the Big Springs DO is about 70% of saturation. Nitrogen readings taken at the spring source indicate supersaturation levels up to 111%. These DO and nitrogen readings are common for spring water

captured at or near where the spring surfaces. Water quality sampling for parameters of concern conducted by the Tribe between 1996 and 2001 indicate all parameters are within acceptable limits for fish culture use (Table 6). Samples were compared to published water quality criteria for salmonids.

Table 6. Inorganic water quality analysis – Big Springs Creek.

Parameter	Water Quality Criteria For	
	Salmonids*	Results
Alkalinity	10-400	56
Alkalinity, Total	10-400	61
Aluminum	0.01-<0.10	0.04
Arsenic	<0.05	<0.005
Cadmium	<0.0005	<0.0001
Chloride	<4.0	<2.0
Chromium	<0.03	<0.001
Copper (Alkalinity <100)	<0.006	<0.001
Fluoride	<0.5	0.2
Hardness	10-400	67
Iron	<0.1-0.3	0.06
Lead	<0.004	<0.002
Magnesium	<15	3.48
Manganese	<0.01	0.0016
Mercury	<0.0002	<0.0002
Nickel	<0.01	<0.01
Nitrate	0-1.0	0.16
Nitrite	<0.015-<0.03	0.02
pH, units	6.5-8.5	7.72
Potassium	<5.0	0.65
Selenium	<0.01	<0.002
Settleable Solids ml/L/hr	<80	<0.1
Silver	<0.003	<0.001
Sodium	<75	1.16
Sulfate	<50	11
Total Dissolved Solids	<400	60
Zinc	0.03-<0.005	0.002

All Units mg/L unless otherwise noted

\*Based on most restrictive standards from the following published sources: ADF&G 1983, Shepard 1984, and Piper et al. 1982

### 3.5.2 Youth Camp Unit

The water supply for Youth Camp will be obtained from the discharge of the Power Plant. The water will be removed from the Power Plant return ditch to the Uinta River. The sources of water in the return ditch are a

combination of Big Springs Creek, Pole Creek, and the Uinta River. All of these sources are considered surface water supplies and fish reared on these waters will be exposed to fish pathogens present in the Uinta River. The Youth Camp water supply will be gravity fed.

Water flows in the return ditch range from a low of 6-7 cfs in the winter to a high of 42 cfs during the period of May through September. From October through May, Uinta River water is mixed with Big Springs Creek water to prevent freezing and maintain in-river flows at the Power Plant. Pole Creek contains high quantities of frazzle ice (ice in a broken spear slush form that has the potential to clog intake systems) during the winter period. However, Pole Creek flows are blended with Big Springs Creek flow, which is significantly warmer. Water temperatures recorded by the Moon Lake Electric Association, Inc. in 1995 demonstrate a range of 45.4° to 59.0° F from May 1 through September 1. On-site water temperatures taken between February 1 to March 26 (1996) ranged from freezing to 38.3°F.

Additional water from the Power Plant penstock is also available. This supply is limited to the 2 inch pressurized line in place from the penstock to the existing hatchery building.

Additional ground water has been developed providing a fish pathogen-free water supply. A line from the Power Plant's culinary artesian well has been tapped to supply an uninterrupted source of fish pathogen free

water. This will add approximately 0.02 cfs potential to the existing well yield of approximately 0.045 cfs. Additional modifications to the supply system, intended for improvements to the JGEC, may provide additional culinary water to the hatchery. The existing well water is a constant 50°F. This water is currently used to incubate and rear trout fry and fingerlings. This water has been analyzed and meets or exceeds water quality criteria for salmonids (Piper et al. 1982).

Between 1996 and 2001, the Tribe has intermittently conducted water quality sampling on the return ditch water supply for parameters of concern. The parameters tested and the results are presented in Table 7. Aluminum, iron, and zinc were found to be above the standard set by a published source (Standard exceeded: Aluminum – ADF&G 1983; Piper et. al 1982; iron – ADF&G 1983; zinc – ADF&G 1983). Each of these parameters fell within the range between the high and low limit set by the published standards. These waters are currently used for fish rearing, and water quality does not appear to be of concern. The UTFWD believes that this water source is acceptable for the holding and rearing of fingerling size and larger fish.

Table 7. Inorganic water quality analysis -Youth Camp Unit.

Parameter	Water Quality Criteria for Salmonids	Results
Alkalinity	10-400	81
Alkalinity, Total	10-400	102
Aluminum	0.01 - <0.10	0.029
Arsenic	<0.05	<0.005
Cadmium	<0.0005	< 0.0001
Chloride	<4.0	<1.0
Chromium	<0.03	0.001
Copper (Alkalinity <100)	<0.006	0.002
Fluoride	<0.5	<0.1
Hardness	10-400	106
Iron	<0.1 – 0.3	0.15
Lead	<0.004	<0.002
Magnesium	<15	4.99
Manganese	<0.01	0.008
Mercury	<0.0002	<0.0002
Nickel	<0.01	<0.01
Nitrate	0 - 1.0	0.09
Nitrite	<0.015 - <0.03	<0.005
pH, units	6.5-8.5	7.44
Potassium	<5.0	0.44
Selenium	<0.01	<0.002
Settleable Solids ml/L/hr	<80	<0.1
Silver	<0.003	<0.001
Sodium	<75	1.98
Sulfate	<50	9
Total Dissolved Solids	<400	84
Zinc	0.03 - <0.005	0.011

All Units mg/L unless otherwise noted

Based on most restrictive standards from the following published sources: ADF&G 1983, Shepard 1984 and Piper et al. 1982.

### 3.6 RECEIVING WATERS

#### 3.6.1 Big Springs Unit

The hatchery effluent will be returned either to the recreational fishing ponds or to a water conveyance canal, the Power House Canal, supplying the Power Plant. The conveyance pipe runs beneath the Uinta River, emptying into a forebay mixing with Uinta River water. This mixed water flows in an open ditch for approximately five miles to another forebay. A diversion ditch from Pole Creek adds water to this forebay before entering into the penstock. The penstock runs for an additional mile before

dropping 650 ft steeply into the Power Plant just above Youth Camp. A portion of the tailwaters are diverted to supply the Youth Camp facility.

For this evaluation, the State of Utah's beneficial use designations will be applied. Water quality beneficial use designations for the Power House Canal are:

- Class 2B – Protected for secondary contact recreation such as boating, wading or similar uses.
- Class 3A – Protected for cold water species of game fish and other cold water aquatic life, including the

necessary aquatic organisms in their food chain.

- Class 4 – Protected for agricultural uses including irrigation of crops and stock watering.

No immediate receiving waters from the Big Springs site are currently on the State's proposed 2000 303 (d) list of water bodies not achieving, or not expected to achieve the State water quality standards.

### **3.6.2 Youth Camp Unit**

Effluent from the Youth Camp site will be discharged into the lower end of the return ditch from the Power Plant a short distance (approximately 90 ft) upstream from the confluence with the Uinta River, and possibly directly into the Uinta River. The actual siting of the discharge pipe will be determined during design of the facility. For this assessment, the ultimate receiving water is considered to be the Uinta River.

There are no wild and scenic rivers designated in the State of Utah, no impacts or constraints to site development are anticipated from this federal designation.

Uinta River and tributaries from U.S. Highway 40 to the headwaters have the same designated beneficial uses, Classes 2B, 3A and 4 (as identified by the State of Utah) as identified in Chapter 3.7.1. These bodies of water are listed as a high priority for determination of the total maximum daily load (TMDL) by the Utah Department of Environmental Quality. The Uinta River Steering Committee which consists of representatives of Tribal, federal, state and county agencies have been working in concert to develop a database to implement an appropriate TMDL allocation for total dissolved solids.

## **3.7 ADJACENT LAND USES**

### **3.7.1 Big Springs Unit**

The Big Springs site is remote, situated 0.5 mi south and east of the Ashley National Forest boundary. The Uinta River is 0.25 mi east of the Big Springs site. Recreational activities occur in the immediate area. The Tribe has developed and undeveloped campground sites and stocked fishing ponds at this location. This location is the most heavily utilized recreation site on the Reservation.

### **3.7.2 Youth Camp Unit**

Adjacent to the Youth Camp site is the Moon Lake Power Plant. There are residences on site at the power plant and an access road to the Power Plant that establishes the western border to the Youth Camp site, while the Uinta River forms the eastern border.

Youth Camp is located adjacent to the JGEC. Many buildings for the JGEC have been rehabilitated and are currently in use as classrooms, meeting rooms, offices and dormitories.

## **3.8 CULTURAL AND PALEONTOLOGICAL RESOURCES**

A Class I Cultural Resource literature search was conducted for the Big Springs and Youth Camp proposed hatchery sites. Results of this survey indicate that no historic properties have been previously recorded for either site. A Class III Culture Resource field survey and inventory was completed on May 28th, 2002 at the Big Springs and Youth Camp project sites. Approximately 100 acres was surveyed around the proposed project area at Big Spring, and approximately 20 acres was surveyed at the Youth Camp location.

Results of the Class III survey are the recording of one site, Big Spring (Site 42DC1486). The site recorded includes the Big Spring pool and adjacent area of approximately 100 ft in all directions surrounding the pool. Recording of this site is based on Ute Tribal members' reference to the site as "sacred", a "sacred site", or a "sacred place"; known use of the site for ceremonial activities, and current evidence of prayer offerings at the site. It was determined that Big Springs contains culturally significant historic and modern properties that play a role in traditional Tribal historically rooted beliefs, customs and practices. No historic properties were encountered or recorded during the survey at Youth Camp.

### 3.8.1 Big Springs Unit

The Big Springs area is of cultural and spiritual significance to the Ute Tribe. It is a location where the Uintah-Ouray Ute religious practitioners have historically gone, and continue to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice. Historic and modern Sun Dances have been conducted to the west of Big Springs since the 1890s.

From the late eighteenth to the mid-nineteenth century the Sun Dance was the grandest of all Native American religious ceremonies performed by Plains and Basin Tribes. Tribes varied greatly in how they performed, when they performed, and the reasons they performed the ceremony. All were complex group ceremonies complete with singers, dancers, musicians, and spectators. Some individuals who planned to avenge a death, lead a successful hunt, or incur a bountiful supply of game usually vowed the dance. In the 1880s the Sun Dance was reshaped and there was a notable

shift of concern toward the curing of illness and the maintenance of communal unity.

The first Sun Dances occurred on the Reservation in this general area west of Big Springs. Tribal informants have indicated that the timber surrounding the Big Springs area is where Tribal members obtain poles for their Sun Dance corral. Big Springs is one location where Sun Dance participants obtain spiritual water during Sun Dances for the Sun Dance chief and subchiefs. Ute informants indicated that the Big Springs was the first water source utilized for this purpose.

Specific plants such as cedar, sweetgrass (*Hierochloe odorata*), and bear root (*Lomatium macrocarpum*) are collected for religious and medicinal purposes within Big Springs vicinity as well as throughout the entire southern slopes of the Uinta Mountains.

The Big Springs area is where local Uintah band communities have traditionally carried out economic, artistic, and other cultural practices important in maintaining Ute historical identity and traditional ways.

A paleontological field survey at Big Springs found no fossils in the area. A boggy area has developed near the southwest side of the proposed site as well as north of the proposed hatchery building. Bogs in Pleistocene sediments can contain small to large vertebrate fossils like the Huntington mammoth or the Little Dell Dam fauna (Sue Ann Bilbey, Ph.D, Uinta Paleontological Associates, Inc., October 3, 2000).

### 3.8.2 Youth Camp Unit

The Tribe has utilized the Youth Camp area for decades as a summer camp for youths. No known significant religious concerns



and/or interests were determined for the Youth Camp area.

A paleontological field survey at the Youth Camp site found no fossils in the area. Exposures of sediment near the existing hatchery are similar to those seen at Big Springs, i.e., glacial till associated with modern stream deposits. However, no boggy sediments were found during the survey. There is little potential for fossils in the area (Sue Ann Bilbey, Ph.D, Uinta Paleontological Associates, Inc., October 3, 2000).

### 3.9 VEGETATION

#### 3.9.1 Big Springs Unit

Most of the Big Springs site is dominated by upland forest dissected by a series of steep headwater streams, swales and scattered seeps. The proposed hatchery facility is located in an area including portions of the ponderosa pine forest and the sagebrush community. The site is characterized as upland but is bordered by emergent marsh at the downgradient end and at the adjacent meadow site.

There are two types of upland forest on the Big Springs site: one dominated by ponderosa pine and a mixed aspen-lodgepole forest. In closed stands, scattered spruce becomes a subdominant along with the ponderosa pine and the understory is dominated by ericaceous subshrubs. In more open stands, aspen becomes a co-dominant and the understory is dominated by mixed upland bunchgrasses. Along the forest margins the forest becomes more open and transitions gradually to a sagebrush upland.

The sagebrush community is dominated by a mixture of sagebrush and Kentucky bluegrass (*Poa pratensis*), timothy (*Phleum*

*pratense*), yarrow (*Achillea millefolium*), salsify (*Tragopogon dubius*), and wild onion (*Allium spp.*). It occurs in a small band between the wet meadow to the north of the proposed site and the adjacent ponderosa pine forest.

The pipeline crossing from Big Springs to the proposed facility will traverse ponderosa pine forest and also cross an alder scrub shrub habitat. The power transmission line crossing will traverse a number of habitat types including; upland vegetation (ponderosa pine - needlegrass, *Stipa* sp., and sagebrush), riparian wetlands (dominated by sedges, *Carex* sp., and bordered by alders) along the Uinta River, lodgepole pine - alder wetland, upland forest, and upland sagebrush.

#### 3.9.2 Youth Camp Unit

A mixed aspen and lodgepole pine forest occurs to the south and east of the existing Youth Camp facilities. The canopy is relatively open with approximately 40% cover. Narrow-leaved cottonwood (*Populus angustifolia*) becomes a canopy co-dominant site in some areas indicating a more mesic condition. There is only a sparse shrub layer but wood's rose occurs in topographically lower areas. Small, dry swales were observed in some locations outside of the proposed facility expansion. Upland species such as viguera (*Viguiera multiflora*), orchard grass (*Dactylis glomerata*), and Kentucky bluegrass predominantly dominate the understory. The proposed facility lies outside of this habitat.

### 3.10 SOCIOECONOMIC

The Reservation consists of slightly over four million acres and is situated in Uintah and Duchesne Counties. The socioeconomic conditions of the two counties and that of the State of Utah are compared. Specific

data for the Tribal population is limited but is presented where available. County statistics were applied as a reasonable facsimile because of the lack of Tribal specific data.

The Utah economy is continuously expanding through industries such as services, trade, tourism and government. As of July 1, 2005 Utah's population was estimated at 2,547,389, an increase of 3.2% over 2004. The civilian labor force in the state increased by 2.1%, from 2004 to 2005. Utah's unemployment rate is 2.7%, lower than the U.S. unemployment rate of 4.6%. The service industry accounts for 52% of nonfarm employment, trade accounts for 19%, government for 17%, and manufacturing accounts for 10% (<http://jobs.utah.gov/opencms/wi/statewide/statefacts.pdf>, January 2007, and <http://jobs.utah.gov/opencms/wi/pubs/une/utahemployment06.pdf>, January 2007).

Agriculture, tourism, and oil production are important to the economy of Uintah County. Uintah County has a population of 26,883 people, an increase of 2.5% from 2004. Since 2001, Uintah County grew at an average rate of 1.2% per year, slower than the state average of 2.6%. Uintah County's unemployment rate is 3.0%. Average monthly nonfarm wages in 2005 were \$2,837 (<http://jobs.utah.gov/jsp/wi/utalmis/countypdf/ofile.do>, January 2007).

The largest employers in Uintah County include: Uintah School District, Patterson Drilling Company, Uintah County, Ute Indian Tribe, Wal-Mart, Ashley Valley Medical Center, BJ Services Company, Caza Drilling Inc., Deseret Generation and Halliburton Energy Services Inc. Services account for 55.5% of Uintah County's non-farm employment, trade accounts for 21%,

and government accounts for 22% (<http://jobs.utah.gov/opencms/wi/regions/eastern/uintah/uintahfs.pdf>, January 2007). Uintah County is known for dinosaur excavations, petroleum products, river rafting and fishing, and high Uintah Mountain recreation ("County Fast Facts" <http://utahreach.usu.edu/uintah/visitor/about.htm> November 17, 2000).

Between 2005 and 2006, Uintah County has shown improvements in employment rates, and new nonfarm job positions. In 2006, nonfarm employment increased 11.9%, and the unemployment rate decreased to 2.7%. The mining industry added 708 jobs, being the strongest in creating new jobs for the county. Transportation employment increased by nearly 327 jobs. Services, construction, added around 145 jobs (<http://jobs.utah.gov/opencms/wi/regions/eastern/uintah/uintahei.pdf>, January 2007).

In 2005, Duchesne County had a population of 15,237 people. For most of the twentieth century, the economy of Duchesne County was largely based on livestock and oil/natural gas industries. Since 2000, the county grew an average of 1.1% per year, slower than the state average of 2.5% (<http://jobs.utah.gov/opencms/wi/regions/eastern/duchesne/duchesnefs.pdf>, January 2007).

Duchesne County has a higher 2005 unemployment rate (4.6%) than the State average of 4.3%. The government was responsible for the largest amount of the county's employment at 30%. Trade and services are also major industries. The major employers of the county are: Duchesne School District; Uintah Basin Medical Center; Duchesne County; New Field Exploration Co., Second Nature Therapeutic, State of Utah, Uintah Basin Telecom and Al's Foodtown. The average

monthly nonfarm wage in 2005 was \$2,541 (<http://jobs.utah.gov/opencms/wi/regions/eastern/duchesne/duchesnefs.pdf>, January 2007).

The first two quarters of 2006 showed a 12.1% employment growth for the county. The unemployment rate decreased to 3.2%. Mining employment added 317 jobs, trade added 160 jobs, and services increased by 138 positions. Construction also added 117 jobs. Government added 24. Manufacturing was unchanged (<http://jobs.utah.gov/opencms/wi/regions/eastern/duchesne/duchesneei.pdf>, January 2007).

The unemployment rate of the Reservation is 73% (Ute Indian Tribe 2001) as compared to 2.7% for Uintah County and 4.3% for Duchesne County.

### **3.11 FISH**

#### **3.11.1 Big Springs Unit**

Fish present in the Big Springs Creek were sampled in August 2002 to conduct fish health and disease testing. During this sampling, brown, brook and rainbow trout were observed.

The Big Springs Ponds (Figure 1) have been stocked with rainbow trout by the USFWS to provide an intensive level recreational fishery. This stocking is included in the Proposed Action. These fish are able to move upstream into Big Springs Creek.

#### **3.11.2 Youth Camp Unit**

Fish surveys of the Uinta River, in the vicinity of Youth Camp, were completed in August and October 1994 for the UBRP planning process (CUWCD 1996). UDWR 1989 fish survey data was also used. Fish species present in the Uinta River were: brown trout, rainbow-cutthroat hybrids, sculpin (*Cottus bairdi*), speckled dace (*Rhinichthys osculus*) and mountain sucker (*Pantosteus platyrhynchus*)

### **3.12 THREATENED, ENDANGERED AND STATE-SENSITIVE SPECIES**

The USFWS provided a list of threatened, endangered and candidate species that may occur in the area of the proposed hatchery (USFWS letter dated December 11, 2002, and updated December 2006). They are given in Table 8 below.

Table 8. Threatened and endangered species that may occur in the project area.

Common Name	Scientific Name	Status	Known or Potential Habitat on Site
Bald Eagle <sup>1</sup>	<i>Haliaeetus leucocephalus</i>	T	Occasionally seen along river, but no habitat.
Barneby Ridge-cress	<i>Lepidium barnebyanum</i>	E	None
Black-footed ferret <sup>2</sup>	<i>Mustela nigripes</i>	E	None
Bonytail <sup>3</sup>	<i>Gila elegans</i>	E	None
Canada Lynx	<i>Lynx canadensis</i>	T	None
Colorado Pikeminnow <sup>3</sup>	<i>Ptychocheilus lucius</i>	E	None
Humpback Chub <sup>3</sup>	<i>Gila cypha</i>	E	None
Razorback Sucker <sup>3</sup>	<i>Xyrauchen texanus</i>	E	None
Shrubby Reed-mustard	<i>Schoenocrambe suffrutescens</i>	E	None
Uinta Basin Hookless Cactus	<i>Sclerocactus glaucus</i>	T	None
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	T	Potential habitat
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	C	No sightings, unlikely habitat

<sup>1</sup>Wintering populations (only four known nesting pairs in Utah)

<sup>2</sup>Historical range

<sup>3</sup>Critical habitat designated in this county

T = Threatened

E = Endangered

### 3.12.1 Big Springs Unit

#### Plants

There are four listed plants that might occur within the project area of influence. These are the Barneby Ridge-cress (*Lepidium barnebyanum*), shrubby reed mustard (*Schoenocrambe suffrutescens*), Uinta Basin hookless cactus (*Sclerocactus glaucus*), and the Ute ladies'-tresses. They tend to occur on well-drained soils derived from shales, the Uinta Basin hookless cactus occurs primarily on well drained gravelly soils and

the Ute ladies'-tresses occurs on alluvial deposits and other wetland soils. The project area is underlain by glacial till and alluvial deposits from 40-200 ft deep over the Duchesne and Uintah Formations. Although the underlying geologic formations contain silty sandstones and shale beds, the upper soil layers in which plants root are not derived from shale (FishPro 1996) and no shale or other rock outcrops occur within the Big Springs project area. Habitat for the four listed species is described in Table 9.

Table 9. Federally listed and candidate plant species that might occur in the Big Springs Unit and Youth Camp Unit project areas.

Species	Scientific Name	Status	Habitat		
			Vegetation Type	Soils	Upper Elevation Limit
Barneby Ridge Cress	<i>Lepidium barnebyanum</i>	T	Pinyon-Juniper	White shale outcrops, Uinta Formation	Less than 6500 ft
Shrubby Reed Mustard	<i>Schoenocrambe suffrutescens</i>	E	Mixed desert shrub	Calcareous shale, Green River Formation	Less than 6040 ft
Uinta Basin Hookless Cactus	<i>Sclerocactus glaucus</i>	T	Cold desert shrub	Gravelly hills and terraces	Less than 5900 ft
Ute Ladies'-Tresses	<i>Spiranthes diluvialis</i>	T	Open riparian communities, typically in 2-5 year floodplain, instream bars; also seeps and springs	Shallow alluvial soils in riparian habitats; soils vary in other habitats	Documented up to 6800 ft along the Uinta River

T =Threatened E =Endangered

The Barneby ridge-cress is an endemic species restricted to white shale outcrops of the Uintah Formation. It primarily occurs on these outcrops at the tops of ridges between 6,200 to 6,500 ft. The species was not observed and the required open shale outcrop habitat does not occur within the project area. Additionally, the project site is above the elevational limit of the species.

The shrubby reed mustard is restricted to soils derived from calcareous shale of the Green River formation. It is associated with open mixed desert shrub communities between 5,400 to 6,000 ft in elevation. The required habitat does not occur within the project area and the project site is located approximately 1,000 to 1,500 ft higher in elevation than the elevational range of the species.

The Uinta Basin hookless cactus occurs on alluvial terraces near the confluence of the Green, White, and Duchesne Rivers, in southeastern Duchesne County and in the Myton area. Except for one population on

clay badlands south of Myton, the species generally occurs on coarses cobble, gravel or rock deposits in desert shrub communities. The elevational range of the species is from 4,500 to 5,900 ft, well below the elevation of the Big Springs site. The site is outside of the species elevational range and there is no appropriate habitat in the project area.

Habitat for the Ute ladies'-tresses consists of open riparian meadows, including active floodplains and old channel locations, and spring-fed wetlands between 4,300 and 7,000 ft in elevation (UDWR et. al 2002). The Ute ladies'-tresses has been documented along the Uinta River from its terminus at the Duchesne River up to an elevation of 6,800 ft. Suitable habitat occurs for the Ute ladies'-tresses at the Big Springs site.

Although the Big Springs site is above the elevation from which the species has been recorded, an assessment was made of the habitat potential for the orchid because of

the site's proximity to previously documented colonies. Open meadow, floodplain, and spring-fed wetlands within and immediately adjacent to the Big Springs project area were surveyed on August 12, 1997 and August 24, 2000. The transmission line corridor was surveyed on November 6, 2002, during a wetland and vegetation survey. Although species commonly associated with the Ute ladies'-tresses, such as redtop (*Agrostis stolonifera*), western goldenrod (*Solidago occidentalis*) and Siskiyou aster (*Aster hesperius*), were observed in the herbaceous wetlands, the Ute ladies'-tresses was not observed in any of the surveys.

### *Wildlife*

The USFWS identified four federally listed wildlife (mammals and bird) species that might occur within the project area of influence (Table 8). Of the four species only the bald eagle (*Haliaeetus leucocephalus*) is occasionally seen in the project vicinity (K. Corts, Ute Tribe Wildlife Biologist pers. comm. January 16, 2001). Habitat for bald eagles is not suitable in the project vicinity.

Utah Sensitive Species List includes the sage grouse (*Centrocercus urophasianus*), Uinta mountainsnail (*Oreohelix eurekensis*), and the smooth green snake (*Opheodrys vernalis*). No sites under consideration for this project have potential or known habitat for sage grouse. The only known population of the Uinta mountain snail occurs along Hominy Creek, approximately five miles northeast of Youth Camp (State of Utah letter dated July 26, 2000). The smooth green snake is uncommon in Utah, but occurs in the Uinta Mountains. The species is included on the Utah Sensitive Species List because of limited distribution and declining numbers (Biotics Database. 2005).

Utah Division of Wildlife Resources, NatureServe, and the network of Natural Heritage Programs and Conservation Data Centers). The smooth greensnake prefers moist areas, especially moist grassy areas and meadows where the snake is camouflaged due to its solid green color. Potential habitat is present at both the Big Springs and Youth Camp sites. Occurrence of smooth green snake has been reported at the Ouray National Wildlife Refuge ([www.r6.fws.gov](http://www.r6.fws.gov)). Occurrence at the project sites has not been documented.

*Fish*

The USFWS identified four federally listed fish species that might occur within the project area of influence (Table 8). All of the four species occur in the Colorado and Green River drainage, downstream of the project area influence on the Uinta River (Biotics Database. 2005. Utah Division of Wildlife Resources, NatureServe, and the network of Natural Heritage Programs and Conservation Data Centers).

Water used for fish culture is considered to be nonconsumptive and will not affect flows in the Colorado and Green River drainages. None of the listed fish species occur in the project area.

**3.12.2 Youth Camp Unit***Plants*

Similar to the Big Springs project area, the Youth Camp area is underlain by glacial till and alluvial deposits from 40 to 200 ft deep over the Duchesne and Uintah Formations. Although the underlying geologic formations contain silty sandstones and shale beds, the upper soil layers in which plants root are not derived from shale and no shale or other rock outcrops occur within the Youth Camp area.

The elevations and habitats for the Barneby ridge-cress, the shrubby reed mustard, and the Uinta Basin hookless cactus were previously described. Like Big Springs, the Youth Camp site exceeds the elevation range for these three species. Habitat for the four species also does not occur at the Youth Camp project area.

Suitable habitat for the Ute ladies'-tresses occurs at the Youth Camp project site and two colonies have been recorded in the vicinity. A graminoid dominated floodplain

community occurs in a narrow band adjacent to the return ditch and the Uinta River in mid-channel bars. This habitat is predominately outside the project area to be impacted, but is included as it represents potential habitat for the Ute ladies'-tresses. A recorded population of Ute ladies'-tresses occurs in the vicinity, but not within the project footprint. These colonies were observed in 1996 during surveys for the Uinta Basin Replacement Project (UBRP). The presence of the Ute ladies'-tresses on site was surveyed for on September 4, 2000. Though this survey occurred later than typical (August) for Ute ladies'-tresses, plant populations at this elevation have been observed to flower up to two weeks later than this survey date. During this survey, Ute ladies'-tresses were not present at the Youth Camp site.

*Wildlife*

Species occurrence and habitat is the same as at the Big Springs unit.

*Fish*

Species occurrence and habitat is the same as at the Big Springs unit.

## **CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES**

The environmental consequences for the proposed, alternate and no action alternatives are evaluated in this chapter. The scope of activity at Youth Camp will be identical among all action alternatives.

### **4.1 THE UTE TRIBE**

#### **4.1.1 Proposed Action: Big Springs Unit and Youth Camp Unit, 16,000 pounds**

The proposed hatchery will provide employment, education, and training opportunities to Tribal and non-Tribal members. Additionally, the Proposed Action will allow the Tribe self-determination, to meet the demand for recreation fishing on Reservation lands. The biologist/technician positions previously described (Chapter 2.1) will provide professional employment opportunities to Tribal members. With 70% of the Tribal households in low to very-low income levels, professional employment is greatly needed. It is anticipated that recreational fishing needs on the Reservation will increase and the proposed Big Springs facility will allow the Tribe to respond to that need.

The hatchery presence at Big Springs may attract visitors to the site that are interested in viewing fish culture activities. An increase in the sales of camping access permits will benefit the Tribe.

The Youth Camp facility has been used to aid in the training of Tribal hatchery staff since 1999. Expanding the facility will enable staff to gain experience in pond culture, broodstock management, water quality analysis and fish health.

#### **4.1.2 Alternate Action 1: Big Springs Unit and Youth Camp Unit 30,000 pounds**

In addition to the described effects under the Proposed Action, a second biological technician position will be available under this alternative, increasing the professional employment opportunity for the Tribal members. The expanded capacity of the Big Springs facility will allow the Tribe to pursue increased assistance to the recovery efforts of CRCT throughout its native range.

Youth Camp, same as Proposed Action.

#### **4.1.3 Alternate Action 2: Big Springs Unit and Youth Camp Unit alternate 30,000 pounds**

Same as Alternate Action 1.

#### **4.1.4 No Action Alternative**

This alternative will not provide two to three full-time professional level jobs for Tribal members. No benefit to individual household income will be obtained. This alternative will also not increase tourism, nor education and training opportunities for the Tribe.

### **4.2 WILDLIFE**

#### **4.2.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The proposed fish hatchery at this site is not anticipated to have detrimental impacts on wildlife. The use of the site by elk, moose and mule deer has increased over the past two years, but the numbers remain low. Wetland and power line corridor mitigation measures may increase wildlife presence by providing increased diversity of habitat.



Due to the small scale of this project and the relatively small area to be disturbed, there should not be a negative impact on big game populations (K. Corts, Ute Tribe Wildlife Biologist pers. comm. January 16, 2001).

The lack of evidence of site use by ferruginous hawks, golden eagles, northern goshawks, and sage grouse at the proposed site and surrounding area indicates construction of the proposed facility will have no impact on these species.

During installation of the towers and hanging of the electrical transmission line (or underground installation if determined to be feasible), wildlife has the potential to be affected by construction noise. These impacts could be magnified if construction takes place during periods of seasonal sensitivity for particular species. Unfamiliar noise tends to keep animals (mainly birds and large mammals) away from the immediate area during the construction period. However, disturbances to wildlife as a result of noise produced by equipment or the presence of construction workers would be temporary.

Construction activities would alter the vegetative structure of the transmission line corridor. Trees and shrubs would be removed to provide for installation of the line and future access. It is estimated that approximately 50 trees will be removed in 2,000 ft of the 4,600 ft long corridor. The majority of these will be lodgepole pine (38). Habitat alteration could displace some bird species.

The dominant wetland vegetation in the existing utility corridor, such as wiregrass, provides some wildlife food value, but is not considered a high value wildlife food source. The adjacent lodgepole pine forest provides good thermal, resting and travel

cover to the Uinta River, but food sources for a variety of wildlife species are limited.

The proposed mitigation would be to enhance the value of the adjacent lodgepole pine forest for a variety of wildlife by the following two measures:

1. Planting the transmission line corridor with species of high wildlife food value adjacent to the forest cover. A mix of bareroot stock, plugs and seed would be used in planting. Species that would be planted include species such as serviceberries and currants (big game browse, fruits for migratory birds) and sedges (summer and fall food sources for big game, small mammals, and some migratory bird species). Increasing the small mammal habitat would also indirectly benefit other forest species, such as hawks and owls, which prey on small mammals.
2. Restricting vehicular access through the corridor to the river, except as needed for occasional utility maintenance activities. Limiting vehicular access through the corridor in association with planting the corridor with additional wildlife food sources will enhance the value of the new transmission line expansion, the existing utility corridor and the adjacent forested wetland for wildlife.

An additional enhancement measure to be developed will be to negotiate a wildlife-friendly maintenance agreement (with Moon Lake Electric Association) for both the existing corridor and the new transmission line expansion. Such an agreement could include some or all of the following measures:

- agreement to long term maintenance of the access road as is (unbladed) and with occasional access,
- removing vegetation only as it interferes with utility line function, and
- ensuring that any necessary vegetation removal would be done manually.

A possible direct impact to bird species, particularly raptors, is the potential electrocution resulting from improperly constructed power lines. The line and towers could become roosting and perching habitat for some species, including bats and migratory and resident birds, resulting in potential transmission line collisions and electrocutions. Roosting and perching sites will be limited as the poles utilized will be standard 40 to 45 ft height wood poles. Bird collisions and electrocution are not anticipated to be a problem as the line will be single phase and the charged and ground wires will be placed close together so birds can not fly between them. Power lines, if not buried, will conform with the USFWS Utah Field Office's *Guidelines for Raptor Protection from Human and Land Disturbances* (USFWS 2002) and with designs provided in the Avian Power Line Interaction Committee's publications including *The Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1994 & 1996).

The Youth Camp site is already developed and the use of this site by elk, mule deer, and moose is limited, there should be no adverse impacts on these wildlife populations. The proposed expansion of the facility should not have any impacts on wildlife traffic to and from the river adjacent to this site. Aquatic mammals such as beaver, mink, and muskrat that utilize the river will also not be impacted (K. Courts,

Ute Tribe Wildlife Biologist, pers. comm. January 16, 2001).

#### **4.2.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Though the overall footprint of the facility may increase to up to 5 ac, the impact to wildlife usage is anticipated to be the same as the Proposed Action.

Youth Camp, same as Proposed Action.

#### **4.2.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Same as Proposed Action.

#### **4.2.4 No Action Alternative**

Under this alternative, no facility will be constructed. The environment and habitat will not be altered or impacted and there will be no effects on wildlife.

### **4.3 WETLANDS**

To evaluate wetland impacts, a preliminary wetlands delineation was completed at Big Springs proposed and alternative sites, and at the Youth Camp. An additional survey to evaluate wetland impacts within the electrical transmission line corridor was completed on November 6, 2002. A final survey and mapping will be necessary for preparation of USCOE 404 permit data sheets. This activity will occur during the design and permit acquisition phase.

Potential impacts based on the 404 permit regulatory criteria were assessed based on the following criteria for an institutional or commercial project including facilities, utility lines, and access roads: (Federal

Register 2000; Executive Orders 11190 and 13186, Protection of Wetlands and Migratory Birds, respectively).

- More than 0.5 ac of wetland is permanently filled.
- A utility line causes a change in wetland habitat type.
- Fill is placed below the ordinary high water line of any open water body.
- More than 300 lineal ft of streambed is directly impacted.
- Permanent fill is placed within the 100-year floodplain.
- There is a substantial change in the flow characteristics of a stream.

This project may require an individual USCOE 404 permit due to the exceedance of some of these criteria.

Additionally, federal agencies must assure the following:

1. Avoid construction in wetlands.
2. Take active measures to protect migratory birds and associated wetland habitat.
3. Ensure that environmental analyses conducted under NEPA evaluate impacts to wetland habitats used or providing potential habitat to migratory birds.

#### **4.3.1 Proposed Action Big Springs Unit and Youth Camp Unit, Proposed Site Production Capacity of 16,000 pounds**

Both direct and indirect impacts will occur with the Proposed Action. Direct impacts are those resulting from the placement of fill material in wetlands and indirect impacts are those impacts that occur as the result of changes in hydrology or other wetland conditions associated with wetland fill. Direct impacts will occur with the road construction and improvements, electrical

pole installation in the transmission line corridor, and the construction of a water intake structure. Indirect impacts to wetlands will occur with the diversion of flow from the Big Springs Creek. Approximately 900 ft of the creek will be impacted by this diversion.

#### *Direct Impacts*

At the proposed sites direct impact will occur with the following activities:

- Big Springs access road expansion of the dike road, permanent loss of 0.18 ac of non-riparian herbaceous wetlands. Herbaceous wetlands provide limited functional value, but could provide food, habitat, and thermal cooling for wildlife.
- Installation of water diversion structure, permanent loss of 0.01 ac in the Big Springs Creek.
- Pipeline crossing at Big Springs, wetland type change of 0.01 ac from alder scrub-shrub type to a shallow rooted graminoid type.
- Placement of electrical poles within the lodgepole-alder wetland in Section 3 (Figure 3) of the corridor, a permanent loss of 0.005 ac will occur.
- At Youth Camp, direct impacts to wetlands from the pipeline crossings and construction of the intake structure will total approximately 0.22 ac (Uinta River floodplain, non-riparian herbaceous wetland and alder scrub-shrub). Restoration of 0.09 ac of alder scrub-shrub to wetland in the pipeline corridor could occur, but the habitat type will change from alder to a shallower-rooted graminoid community.

#### *Indirect Impacts*

To assess water diversion impacts to the riparian corridor and the associated habitats, three cross sectional areas were surveyed (Figure 7). From this survey changes to

wetted width and wetted depth were calculated utilizing a HEC-RAS<sup>6</sup> analysis for various flow conditions. The proposed maximum diversion of 2.4 cfs from the stream will remove 39% of the average annual base flow and 31% of the average annual flow. The mean change in base flow will be from a flow of 6.2 to 3.8 cfs. The spring flood peak will also be reduced by 13% from an average of 17.7 cfs to 15.3 cfs. The estimated bankfull flow will be reduced by 11 percent to a new bankfull flow ranging from 17.6 to 19.6 cfs. Bankfull and spring flood depths average 1 to 1.5 feet in depth. The depth of these flows would be reduced from 0.85 to 1.35 feet in depth, respectively.

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<sup>6</sup> HEC-RAS (Hydrologic Engineering Centers River Analysis System) is computer software developed by the US Army Corps of Engineers. It provides hydraulic analysis components for steady flow water surface profile computations and unsteady flow simulation.

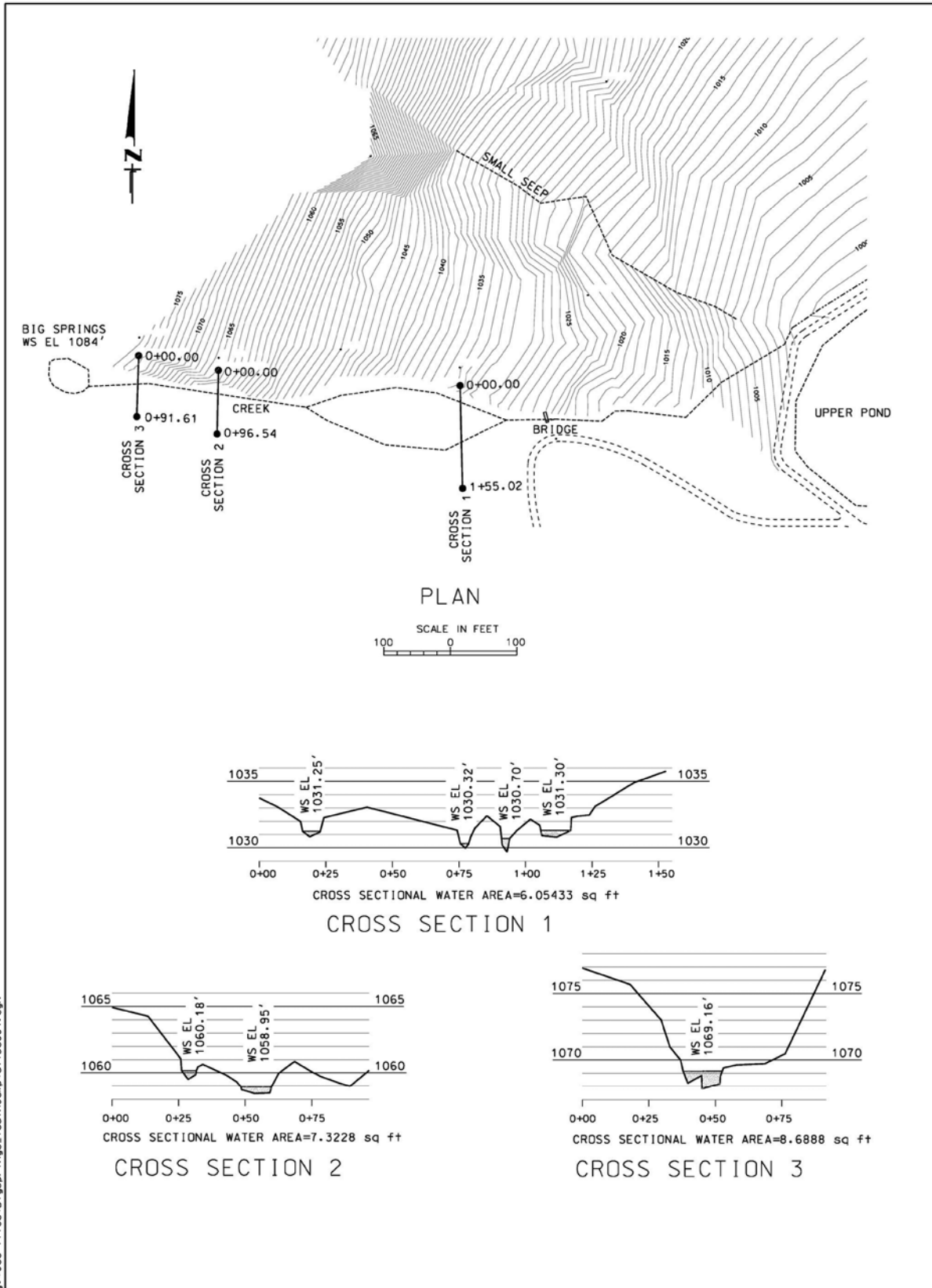


Figure 7. Big Springs Creek cross sections.

Although reductions in spring flood peaks will cause changes in alluvial recharge under riparian wetlands, the extent of wetland will be affected more by the larger reduction in baseflows during the growing season. The main geomorphic effect of the project will likely result from the loss of active channels during the growing season. The water surface elevation in Big Springs Creek will be reduced by a range of 0.1 to 0.15 ft during most of the growing season (Table 10). The largest change in width will occur in the lower channelized section where two of the four channels will cease to contain flowing water during the growing season. However, the channels will likely retain wetland hydrology with water table within a foot of the surface and may convert to vegetated wetlands over time. There will be no change in flows below the diversion to the return ditch, as a flow equal to the current flow is released past the diversion to the fishing ponds.

Under the project conditions, the riparian width will be reduced by 14 percent in the reaches containing a single channel (Table 10). Larger changes will occur in riparian width in the channelized reaches. For example, the riparian wetland at the upper end of the channelized area will be reduced from 72 to 55 ft. The riparian wetland width at the lower end of the channelized area will be reduced from 116 to 56 ft, a 52 percent reduction in riparian width. The overall reduction in riparian width will result in a loss of 0.35 ac of wetland.

Monitoring and verification of these estimated stream corridor changes will be conducted. Establishment of permanent sampling stations and photo verification will be completed. Seasonal monitoring will occur to verify changes to the stream corridor are not greatly exceeding changes estimated in this analysis.

Table 10. Changes in stream channel and riparian dimensions – Proposed Action.

Cross section	Baseflow Depth (ft)		Number of Channels		Riparian Width (ft)	
	Baseline	Project	Baseline	Project	Baseline	Project
Cross Section 1	0.25	0.15	4	2	116	56
Cross Section 2	0.41	0.3	2	1	72	55
Cross Section 3	0.81	0.66	1	1	42	32

Additional indirect impacts will occur within the electrical transmission line corridor, where 0.46 acres of lodgepole pine-alder wetland will be crossed by the transmission line. This will result in the conversion of a forested wetland to a herbaceous and/or scrub-shrub wetland. The main functions performed by the lodgepole pine-alder wetland are downstream hydrologic support, nutrient

retention/transformation, and wildlife habitat. The transmission line would enlarge the width of an existing utility corridor through the forested wetland, but would maintain the corridor as wetland. This would not likely affect the hydrologic functions but would affect wildlife habitat (see discussion in Section 4.2.1).

No indirect wetland impacts will occur at the Youth Camp site.

The total wetlands impacts including both direct and indirect effects will be 1.235 ac (Table 13 at end of section). The greatest wetland impacts under the Proposed Action result from the transmission line corridor change in forested to herbaceous wetland, change in the riparian area with the water withdrawal to the facility, and the need to upgrade existing roads adjacent to the fishing pond/wetland complex.

Approximately 0.09 ac of wetland impact will be associated with pipeline crossing of herbaceous wetlands at Youth Camp that can be restored to their pre-disturbance condition (i.e. restoring pre-construction contours, replanting native wetland vegetation and ensuring that the pipes do not act as subsurface drains). However, this will result in a change in wetland type from deep-rooted shrubs and trees that cannot be planted over the pipeline corridor to a shallower-rooted graminoid community.

Mitigation for these impacts will occur to reduce the wetland impact. Because the largest impacts will occur to woody riparian vegetation, mitigation will focus on restoring these habitats. Mitigation opportunities to maintain functional values exist either onsite or along the adjacent Uinta River. A preliminary wetland mitigation plan has been developed based on the following factors:

- mitigation will be “in-kind” (including same habitat type, same species, same vertical structure) to the extent possible
- mitigation is to be at the Big Springs and Youth Camp project areas and adjacent to the impact areas
- all mitigation activities represent restoration of previously disturbed wetlands and that restoration is generally

considered the best wetland mitigation type (over creation or enhancement) as it represents the greatest net gain in habitat value and has more chance of success than creation of a new wetland.

Possible mitigation opportunities have been identified. Impacts to the construction site will be minimized by returning the disturbed areas back to as near pre-construction conditions as possible (e.g., topography, contours, native species, etc.). The pipeline trench will be backfilled with topsoil, not subsoil. In addition, measures will be taken to ensure that the pipeline does not function as a subsurface drain. Consultation with the USFWS and USCOE (under their permitting process) will be conducted in development of the mitigation plan. Restoration of on and off-site areas will be identified to mitigate for impacts to wetlands, including the dewatered stream reach, from hatchery construction. The restoration plan will account for loss or change in functional value of these habitats.

Potential restoration measures at Big Springs include restoring riparian vegetation along the ditched channel below the gage at Big Springs and non-essential parking areas that have been created with site use. Enhanced wetland vegetation around the fishing ponds to provide a diversity of habitats and structure could also be a part of the mitigation plan (Figure 8).

At Youth Camp mitigation could include restoring riparian vegetation along cut and denuded areas on the Uinta River, restoring the parking area and the old road south of the existing facilities to an alder scrub-shrub habitat, and restoring wetlands at the location of the abandoned cabins to the east of the current facilities (Figure 9).

A summary of the preliminary mitigation measures is presented in Table 11. Mitigation will strive to address the value and function of the lost wetlands, or increase the diversity of wetland habitats to the

benefit of associated wildlife species. All measures will focus on improving the existing condition and enhance the overall condition of the sites.



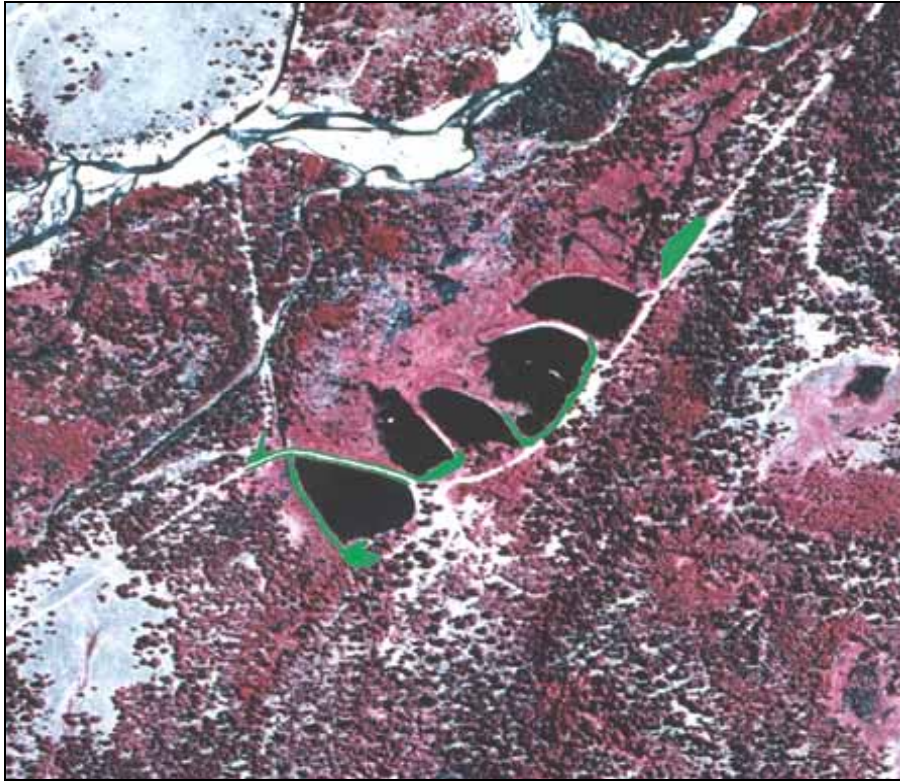


Figure 8. Potential wetland mitigation locations at Big Springs Unit vicinity.

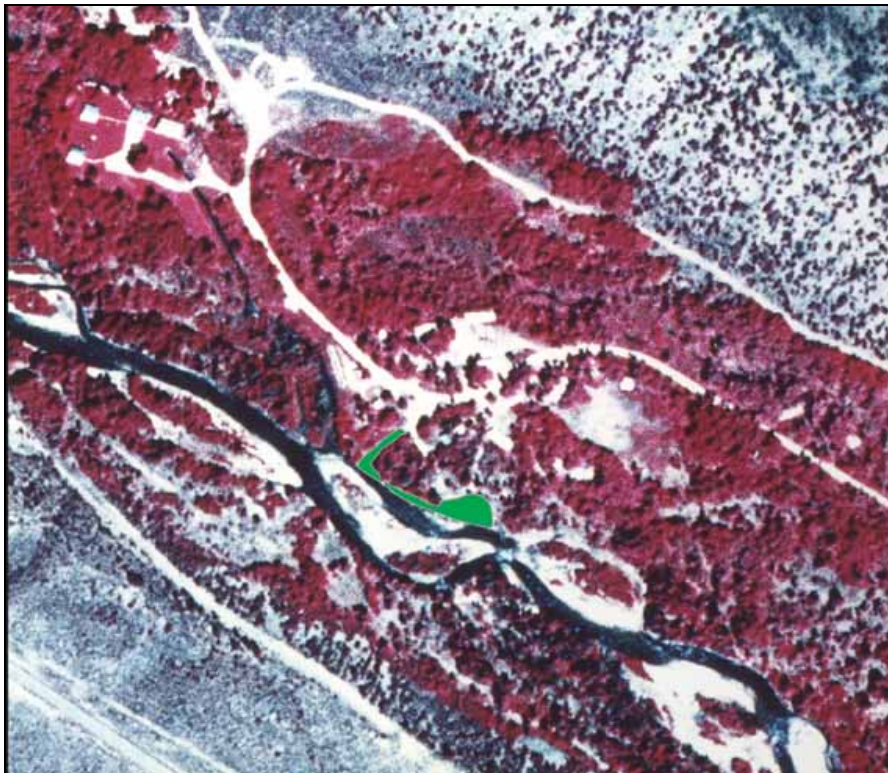


Figure 9. Potential wetland mitigation locations at Youth Camp Unit.

Table 11. Preliminary mitigation measures for Big Springs Unit and Youth Camp Unit Sites.

<b>Summary of Mitigation Measures for Wetland and Riparian Impacts Associated with the Proposed Action at Big Springs Unit - Youth Camp Unit Hatchery Facility</b>		
<b>Impact Habitat Type and Location</b>	<b>Mitigation Habitat Type and Location</b>	<b>Mitigation Activities*</b>
<b>Riparian Wetlands</b>		
0.35 acres alder-spruce forested wetland along Big Springs stream	0.20 acres cottonwood forested wetland at Youth Camp along the Uinta River  0.25 acres alder-spruce forested wetland along the Big Springs ditch	Rip soil to loosen at degraded picnic site, Plant cottonwoods (poles) and shrubs (bareroot)  Recontour ditch at the base of the Big Springs stream Plant alder and spruce as bareroot stock; supplement with other shrubs such as serviceberry, currants Seed bare soil with a mixture of sedges ( <i>Carex</i> species) and wetland grasses
0.01 acres Big Springs stream channel	0.05 acres stream channel along the Big Springs ditch	Recontour ditch to provide in-channel habitat
0.18 acres alder scrub-shrub along the Uinta River at Youth Camp	0.25 acres alder scrub-shrub at Youth Camp along the Uinta River	Rip soil to loosen on abandoned road Seed with mixture of herbaceous species such as bluejoint grass, manna grass, Nebraska sedge, water sedge Plant alder, wood's rose, red-osier dogwood as bareroot stock
0.04 acres of herbaceous riparian	combined with above mitigation as represents previously cleared scrub-shrub	See above
<b>Non-Riparian Wetlands</b>		
0.18 acres herbaceous wetland along the ponds at Big Springs	0.25 acres of herbaceous wetland along the ponds at Big Springs	Existing steep banks to be sloped at 4:1 Plant emergent marsh valuable to fish and wetland-wildlife species such as three-square, torrey's rush, hard-stem bulrush (combination of plugs and seed)
0.01 acres alder scrub-shrub at Big Springs	combined with above mitigation as represents previously cleared scrub-shrub	See above
0.46 acres lodgepole pine-alder wetland	1.38 acres of wetland enhancement within the existing utility corridor	Close vehicular access to the Uinta River through the existing utility corridor, except as needed for occasional utility maintenance activities  Increase the wildlife value of the existing forest "gap" by planting species providing seeds, berries and browse (such as currant, serviceberries and sedges) which are absent in the adjacent forest  Develop a wildlife-friendly maintenance agreement (with Moon Lake Electric Association) for the entire utility corridor
* Species to be used are those present in the habitat to be impacted. All plants are readily available and occur on site.		

The proposed mitigation along the downstream ditch, at the base of Big Springs Creek will have the effect of lengthening the riparian corridor, which would increase the length of the wildlife corridor. Since the existing corridor is already narrow, an increase in corridor length and particularly ensuring the connection of the woody vegetation corridor to the Uinta River could improve habitat for migratory birds, maintain the same level of nitrogen fixation/export to the Uinta River, and maintain the same high invertebrate productivity.

A complete wetland delineation and mitigation plan will be developed during the final design and permitting phase of this project.

#### **4.3.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Both direct and indirect impacts will occur with this alternative action.

##### *Direct Impacts*

Same as Proposed Action.

##### *Indirect Impacts*

The maximum diversion under this alternative of 4.5 cfs from the stream will remove 72 % of the average annual base flow and 58% of the average annual flow. The mean change in base flow will be from a flow of 6.2 to 1.7 cfs. In dry years, stream

flow will be reduced to 0.7 cfs or lower. The spring flood peak will also be reduced by 25% from an average of 17.7 cfs to 13.2 cfs. Likewise, the estimated bankfull flow will be reduced by 4.5 cfs to a new bankfull flow of 15.5 to 17.5 cfs.

The water surface elevation in the stream will be reduced by a range of 0.2 to 0.3 ft during most of the growing season (Table 12). The largest changes in elevation will occur in the lower braided section where two of the four channels will become dry and flow will be reduced to less than an inch in the remaining channels (Figure 7-cross section 1). Lesser changes will occur near the diversion point where the flow is confined to a single channel and there is relatively narrow existing floodplain (Figure 7-cross section 3). The water surface elevation at cross section 3 (Figure 7) will be reduced by 37%, leaving a half foot of water in the channel under base flow conditions.

Under the project conditions, the riparian width will be reduced substantially in the braided section (Table 12). For example, the riparian width at cross section 1 (Figure 7) will be reduced from 116 to 30 ft as the channels dried. The riparian width at cross section 2 (the upper end of the braided section) will be reduced from 72 to 35 ft. The riparian width near the proposed diversion point will be reduced from 42 to 32 ft.

Table 12. Changes in stream channel and riparian dimensions - Alternate Action.

Cross section	Baseflow Depth (ft)		Number of Channels		Riparian Width (ft)	
	Baseline	Project	Baseline	Project	Baseline	Project
Cross Section 1	0.25	0-0.05	4	2	116	30
Cross Section 2	0.41	0.22	2	1	72	35
Cross Section 3	0.81	0.51	1	1	42	32

The overall reduction in riparian width will result in an estimated loss of 0.66 ac of wetland. Approximately one half of the available riparian wetland area will be impacted.

The total wetlands impacts including both direct and indirect effects will be 1.545 ac (Table 13). The greatest wetland impacts occur as a result of the change in the riparian area with the water withdrawal to the facility, the transmission line corridor change in forested to herbaceous wetland, and the need to upgrade existing roads adjacent to the fishing pond/wetland complex.

Wetland impacts at Youth Camp are the same as for the Proposed Action. Mitigation for these impacts is the same as the Proposed Action.

#### **4.3.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

##### *Direct Impacts*

At the alternate site, direct impacts will occur with the following activities:

- Access bridge across stream corridor, 0.02 ac.
- Installation of water diversion structure, 0.01 ac.

These direct impacts will be a permanent wetland loss in Big Springs Creek riparian corridor.

- Placement of electrical poles within the lodgepole-alder wetland in Section 3 (Figure 3) of the corridor, a permanent loss of 0.005 ac will occur.
- At Youth Camp, direct impacts to wetlands from the pipeline crossings and construction of the intake structure will total approximately 0.22 ac (Uinta River floodplain, non-riparian herbaceous wetland and alder scrub-shrub). Restoration of 0.09 ac of alder scrub-shrub to wetland in the pipeline corridor could occur, but the habitat type will change from alder to a shallower-rooted graminoid community.

##### *Indirect Impacts*

Same as the Alternate Action 1.

The total wetland impacts for the alternate 2 action, combining the alternate site at Big Springs with the Youth Camp site, are 1.375 ac (Table 13). The greatest wetland impacts occur as a result of the change in the riparian area with the water withdrawal to the facility (0.66 ac), the transmission line corridor change in forested to herbaceous wetland, and the need to upgrade existing roads adjacent to the fishing pond/wetland complex.

Mitigation for these impacts is the same as the Proposed Action.

Table 13. Acres of habitat impacted by each of the sites and alternatives.

Habitat	Proposed Site 16,000 capacity	Proposed Site 30,000 capacity	Alternate Site	Youth Camp	Proposed Action Proposed Site 16,000 capacity + Youth Camp Unit	Alternative 1 Proposed Site 30,000 capacity + Youth Camp Unit	Alternative 2 Alternate Site + Youth Camp Unit
<b>Wetland-Direct Impact</b>							
Big Springs Creek channel	0.01	0.01	0.03	0	0.01	0.01	0.03
Uinta River/ Power Canal floodplain	0	0	0	0.04	0.04	0.04	0.04
Non-riparian herbaceous wetlands	0.18	0.18	0	0.09	0.27	0.27	0.09
Alder scrub-shrub	0.01	0.01	0	0.09	0.10	0.10	0.09
Palustrine forested wetland	0.005	0.005	0.005	0	0.005	0.005	0.005
<b>Wetland-Indirect Impact</b>							
Forested wetland	0.81	1.12	1.12	0	0.81	1.12	1.12
<b>Total Wetland Impacts</b>	<b>1.015</b>	<b>1.325</b>	<b>1.155</b>	<b>0.22</b>	<b>1.235</b>	<b>1.545</b>	<b>1.375</b>
Permanent Loss	0.545	0.855	0.695	0.04	0.585	0.895	0.735
Wetland Type Change	0.47	0.47	0.46	0.09	0.56	0.56	0.55
Temporary Crossing Impact	0	0	0	0.09	0.09	0.09	0.09

#### 4.3.4 No Action Alternative

No construction will take place and there will be no direct or indirect impacts on wetlands at Big Springs or Youth Camp.

#### 4.4 WATER SUPPLY

##### 4.4.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds

The proposed diversion of 2.4 cfs (1,078 gpm) from the Big Springs Creek will remove 39% of the average annual base flow and 31% of the average annual flow for 900 ft of stream. Actual diversion will vary based on seasonal needs of the facility. The mean change in base flow will be from a flow of 6.2 cfs (2,783 gpm) to 3.8 cfs (1,706 gpm). The spring flood peak will also be reduced by 13% from an average of 17.7 cfs

(7,944 gpm) to 15.3 cfs (6,870 gpm). The duration and timing of spring floods will remain unchanged. The estimated bankfull flow will be reduced by 2.4 cfs (1,078 gpm) to a new bankfull flow ranging from 17.6 (7,902 gpm) to 19.6 cfs (8,800 gpm). Diverted water will be required to be returned to the return ditch to provide water to the fishing ponds and to meet downstream water withdrawals.

The water withdrawal location (Chapter 2.1) will influence the quality for fish rearing. To maintain a fish pathogen free water source, capture of the water as close to the source as possible is required. Repair and replacement of the existing spring water collection box will provide a limited supply of ground water to the hatchery. It is anticipated that this water will be utilized for egg incubation and early fry rearing. Reduction in the size of the spring pool is

undesirable, therefore monitoring will occur to maintain pool size, especially during seasonal spring discharge fluctuations. Additional process flow water will be collected at a downstream intake structure to supply water to the hatchery for the remaining rearing needs. The water withdrawal methods are not anticipated to degrade the water quality in Big Springs Creek.

No impacts to the water supply at Youth Camp are anticipated.

#### **4.4.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

The maximum proposed for this alternative is a diversion of 4.5 cfs (2,020 gpm) from the Big Springs Creek which will remove 72% of the average annual base flow and 58% of the average annual flow in 900 ft. of stream. The actual diversion will vary based on seasonal needs of the facility. The mean change in base flow will be from a flow of 6.2 cfs (2,783 gpm) to 1.7 cfs (763 gpm). In dry years, stream flow will be reduced to 0.7cfs (314 gpm) or lower. The spring flood peak will also be reduced by 25% from an average of 17.7 cfs (7,944 gpm) to 13.2 cfs (5,924 gpm). Likewise, the estimated bankfull flow will be reduced by 4.5 cfs (2,020 gpm) to a new bankfull flow ranging from 15.5 (6,956 gpm) to 17.5 cfs (7,854 gpm). Diverted water will be required to be returned to the return ditch to provide water to the fishing ponds and to meet downstream water withdrawals.

Water temperature in Big Springs Creek may change slightly due to the reduced flow as a result of the water diversion, but the riparian corridor is well vegetated and solar gain in the summer months may be limited. Impacts to downstream uses are anticipated

to be minimal from any temperature increase experienced.

The water withdrawal location is the same as the Proposed Action.

For Youth Camp, same as Proposed Action.

#### **4.4.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Same as Alternate Action 1.

#### **4.4.4 No Action Alternative**

There will be no change to the water supplies if the facilities are not constructed or fully developed.

### **4.5 RECEIVING WATERS**

The Big Springs facility will be required to comply with the NPDES criteria (M. Reed, EPA, personal comments, March, 2003). The Tribe has primacy for water quality, and will pursue a NPDES permit through the EPA as required. Because this project is located on Tribal lands and operations will be funded through federal sources, the EPA will be the lead agency for NPDES compliance and 401 Water Quality Certification.

#### **4.5.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

Big Springs receiving waters include a water conveyance return ditch supplying the Power Plant, and if needed, the fishing ponds at Big Springs recreation area. Effluent from the facility is expected to meet or exceed the NPDES criteria for discharge. The dissolved oxygen level leaving the facility is programmed (through water flow

and production estimates) to be a minimum of 7.0 parts per million which is an acceptable level for fish survival. An effluent treatment settling pond to remove settleable solids from the cleaning waste flow is incorporated into the conceptual design. Construction of this pond will be determined through effluent permitting requirements to be determined by EPA. A minor increase in soluble chemical constituents of the discharge water is expected to occur. Dissolved waste components typical for hatcheries are phosphorus, nitrogen and ammonia. Background levels of Total Dissolved Solids (TDS), of which these components would be a portion of, are 60mg/L and 80mg/L from Big Springs and the Uinta River respectively. Effluent limits for TDS will be an increase of no more than 100mg/L over background levels. Discharge from these facilities is estimated to easily meet this limit. A temperature increase in the effluent from the Youth Camp unit is not anticipated to be greater than 5°F, and would not exceed temperatures detrimental to aquatic life.

State facilities in Utah routinely meet effluent discharge standards while producing many more pounds of fish than that planned for the Big Springs/Youth Camp facilities (R. Larson, UDWR, pers. comm. May 28, 2003).

The use of antibiotics or formalin to treat fish pathogens could occur. All antibiotics will be applied following the labeled directions for approved therapeutants, or by veterinary prescription of non-labeled therapeutants. If antibiotics are administered properly the majority of the antibiotic will be metabolized by the fish, and discharge of drug should be minimal. Formalin is rapidly bound up by organics and is broken down by sunlight. Parasite-S, the U.S. Food and Drug Administration

approved formalin product for aquaculture activities requires a ten-fold dilution of discharge from finfish treatments prior to entry into natural waters. In completing the labeling requirements for Parasite-S, the Center for Veterinary Medicine analyzed environmental safety and concluded (through the preparation of an EA and amendments to the EA) that no environmental impacts are expected provided that treatment water is diluted ten-fold prior to discharge (Western Chemical NADA 140-989). Impacts on receiving waters are expected to be none to minimal and no adverse consequences are anticipated for receiving waters.

Introduction of fish pathogens to the receiving waters could occur. Depending on the amount of water withdrawal to the hatchery, which will fluctuate seasonally, it may be possible to supply the fishing ponds with water directly from Big Springs Creek and divert the hatchery effluent to the return ditch only. If this is not feasible, fish pathogen introduction from the facility could occur. It is proposed that only certified pathogen-free eggs are brought into the facility thus limiting the concern of introduction of "exotic" pathogens. Additionally, the fishing ponds are exposed to numerous anglers, birds, wildlife and other potential sources of fish pathogens. Direct impacts to the fishing ponds are anticipated to be minimal.

At Youth Camp an effluent treatment settling pond to remove settleable solids from the cleaning waste flow is incorporated into the conceptual design. Construction of this pond will be determined through effluent permitting requirements to be determined by EPA. If fish in the hatchery are chemically treated this discharge may impact the immediate mixing area in the receiving waters. It is anticipated that

dilution to a non-detectable level will occur due to the limited volume of water required for the facility (approximately 2 cfs) in relation to the total volume of the Uinta River. An average recorded low flow which occurs in February is 40.3 cfs<sup>7</sup>. The discharge from the facility equates to 5% of the total flow during this low flow period, which is assumed to be a measure of the greatest potential impact due to the low flow condition of the Uinta River.

#### **4.5.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

An NPDES permit will be required. The Tribe will consult with EPA to obtain the permit. Effluent treatment will incorporate a settling pond, and pathogen management will be the same as the Proposed Action.

At Youth Camp, same as Proposed Action.

#### **4.5.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Same as Alternate Action 1.

#### **4.5.4 No Action Alternative**

No change or impacts on receiving waters will take place under this alternative.

### **4.6 FLOODPLAINS**

No designated floodplains exist at the Big Springs and Youth Camp Unit sites (Utah Water Resources 1999).

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<sup>7</sup> Based on USGS stream gage data on the Uinta River near Neola, UT. from Oct 1998 to Sept 1999.

### **4.7 ADJACENT LAND USES**

#### **4.7.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The Ashley National Forest is adjacent to the proposed site at Big Springs. Construction of the facility will have no impacts on the national forest activities. An amendment to the existing Special Use Permit and related Decision Memo, for the transmission line corridor traversing USFS managed lands has been obtained (Appendix 6).

The current fishing and camping activities at Big Springs recreational area may be temporarily impacted during construction and road improvements.

The Moon Lake Power Plant is located upstream from the Youth Camp site. Expansion of the existing facility is not anticipated to impact the power company.

Youth Camp is located adjacent to the JGEC. The facilities on the campus will support and augment the hatchery.

#### **4.7.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as Proposed Action.

#### **4.7.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Due to the close proximity of this site to the hiking path bordering the stream, recreationists may be restricted to the perimeter of the facility. This restriction is not anticipated to have an impact, as most



hikers mainly utilize the trail adjacent to the stream corridor.

Youth Camp is the same as the Proposed Action.

#### **4.7.4 No Action Alternative**

Under this alternative, no changes will take place. There will be no impacts on land adjacent to any of the sites.

### **4.8 CULTURAL AND PALEONTOLOGICAL RESOURCES**

#### **4.8.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The Big Springs area will be disturbed during construction and visual changes will occur at the site as the proposed facility replaces forested and natural land.

Temporary construction disturbance will take place downstream of the spring pool and at the spring pool. A combination of permanent intake structures may be utilized and will be placed in the stream, and in the existing spring pool collection box.

Installation of associated piping to convey the water to the facility will create short-term vegetation impacts near the spring.

The stream corridor will be reduced in size with the diversion of water from Big Springs. The diverted water will not be impounded but will pass through the hatchery facility prior to return to the existing ditch and fishing ponds.

Recommendations of the Class III Cultural Resource survey include; 1) during the initial ground breaking on the project prayers should be said over the spring and construction area, and 2) monitoring of the construction of the spring box repair and pipelines should be conducted. These recommendations were based on input from

a Tribal elder. A letter of concurrence from the Tribal Cultural Rights and Protection Office was requested and received (January 2004). They recommended consulting with Tribal Elders on the design to avoid visual impacts to the spring area.

A final determination letter was prepared and issued by BIA on December 20, 2002 determining that the cultural resource survey report prepared for this project is accurate for the purposes of compliance with Section 106 of the National Historic Preservation Act, as amended 1992 (Section 6.1). One historic property has been recorded in the area of potential effects. The BIA letter grants approval of the proposed undertakings with the following provisions:

1. all ground disturbing activity associated with the undertaking shall be archeologically monitored;
2. should unrecorded cultural material be encountered in the course of construction, work shall cease at that location and the Indian land owner, the Cultural Rights and Protection Office, and the Regional Archeologist shall be notified immediately.

Consultation with the Utah State Historic Preservation Office was also completed and they have concurred with the finding of No Adverse Effect (letter dated October 29, 2002).

Paleontological resources were not found on site, and only one boggy area was identified with potential for resources to occur. The pipeline corridor may cross this area and if so construction workers should be warned that there is a potential for fossils to occur in the boggy area. If vertebrate fossils are encountered, construction will halt at that part of the site and the project paleontologist will be notified immediately to evaluate the discovery and to facilitate mitigation and recovery of the specimens.

No cultural resource concerns were identified at the Youth Camp site, and no additional archeological work is necessary.

No paleontological impacts should result from construction at this site.

**4.8.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as Proposed Action.

**4.8.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Cultural Resource concerns are the same as the Proposed Action with the additional concern that the presence of the facility adjacent to the spring pool may be undesirable to the Spiritual Leaders or other members of the Tribe.

No paleontological resource potential areas exist within this site.

At Youth Camp, same as Proposed Action.

**4.8.4 No Action Alternative**

Under this alternative, the proposed facility will not be constructed, and water will not be diverted from Big Springs. There will be no change in the area, and no cultural impacts.

**4.9 VEGETATION**

**4.9.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

Most of the hatchery facilities will be located within upland ponderosa pine and

sagebrush habitat, up to 3.4 ac of these habitats will be impacted.

Removal of merchantable timber essential for the construction of the facility will be coordinated through the BIA Branch of Forestry. These efforts will be coordinated during final design when the size and layout of the facility is established.

At Youth Camp, the majority of the hatchery facilities will be located within existing and disturbed areas. Alder scrub shrub and graminoid floodplain habitats will be impacted.

**4.9.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Up to 5.0 ac of upland ponderosa pine and sagebrush habitat will be impacted at Big Springs under this alternative. Species presence and timber removal are the same as Proposed Action.

At Youth Camp, same as Proposed Action.

**4.9.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

The hatchery facilities will be located within upland ponderosa pine, approximately 3.6 to 5.0 ac of this habitat will be impacted. Species presence and timber removal are the same as Proposed Action.

At Youth Camp, same as Proposed Action.

**4.9.4 No Action Alternative**

Under this alternative no action will be taken and there will be no impacts on vegetation in the area of the proposed facility.

## **4.10 SOCIOECONOMIC**

### **4.10.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The proposed hatchery will provide jobs, education, and recreation opportunities for the Ute Tribe and Uintah and Duchesne counties. Both the Tribal and non-Tribal members of the community will benefit from hatchery employees spending their earnings in the local economy. The regional and Tribal economy will also undergo short-term benefits from construction of the facility. Construction is expected to last approximately eight to ten months and during that time construction workers may purchase supplies, food, and lodging from the local area. There will be a positive indirect impact on local and regional economics as construction expenditures are re-spent within the economy. The state and counties will also benefit from sales tax collected as construction monies and wages are spent for food, lodging and other goods and services.

The hatchery may also increase recreation and tourism in the area. An increase in the number of visitors to the area will increase revenue to the local economy. The hatchery will allow the Tribe to meet the demand of recreational fishing on the Reservation. More camping permits will provide increased revenue to the Tribe. This money will be re-spent into the local economy and both Tribal and non Tribal members will benefit from the increased recreation as a result of fish produced at the Big Springs hatchery.

The entire community will have the opportunity to gain educational benefits from the hatchery. The students at the

JGEC will have service and learning opportunities, as well as work-study opportunities at the facility. Public schools may visit the hatchery, and educational tours may provide local residents an opportunity to learn more about fish biology, hatchery management, and the Tribe's role in natural resource conservation and management. As previously mentioned, expansion of the Youth Camp facility will provide the Tribe the facility necessary to develop skills in pond culture, broodstock management, water quality analysis and fish health. This training component will benefit both Tribal and non-Tribal members interested in hatchery careers. The Tribe may choose to utilize this facility to conduct youth education programs, or training programs in fisheries and hatchery management.

Construction at the Youth Camp will also create short-term benefits for the community's economy. Construction workers may buy supplies and spend money in local stores and restaurants. Counties will also gain revenue from sales tax collected from the purchase of supplies.

### **4.10.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Similar to Proposed Action.

### **4.10.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Similar to Proposed Action.

### **4.10.4 No Action Alternative**

Under the no action alternative, no construction will take place. The local economy will not benefit from construction workers purchasing supplies in the

community. There will be no increase in employment opportunities at the hatchery. Visitation and recreational fishing opportunities will not be increased on the Reservation. If no action takes place there will also be limited fisheries and hatchery management education and training opportunities for Tribal members at the Youth Camp.

## **4.11 FISH**

### **4.11.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The establishment of conservation and sport fish populations of CRCT in Tribal waters with appropriate habitat will occur. No activity under the Proposed Action will be allowed to cause detrimental effects to the status and or populations of CRCT. Stocking of other trout species for sport fish enhancement will not occur in identified CRCT conservation waters.

The fish in Big Springs Creek will be removed from upstream of the diversion structure to prevent the introduction of fish pathogens to the hatchery water supply. Fish habitat losses will occur in approximately 900 ft of Big Springs Creek, from the proposed hatchery diversion to the existing diversion to the Power Plant water supply ditch. This will result in a 31% reduction in average annual flows. The 900 ft of Big Springs Creek that will be impacted is composed of both single and multiple channel habitats. Water depths in the single channel reaches of the stream will continue to provide adequate fish habitat (see Figure 7, cross sections 2 and 3). Water depths in these reaches will range from 0.3 to 0.66 ft. Water depths in the approximate 150 ft long reach that is braided will be reduced from an average baseflow depth of 0.25ft to an

average depth of 0.15 ft. This reduction in water depth in the braided sections of the creek may preclude fish movement up and downstream until spring flood flows occur (May through August). Loss of fish habitat in two side channels that occur in portions of this stream reach, will also occur. Spring flood flows will continue to occur, as the water withdrawal to the hatchery will be a constant volume.

The mitigation recommended for anticipated impacts to the stream channel along the Big Springs Creek (see Table 11) includes recontouring the approximately 100 ft of the stream corridor downstream of the Power Plant diversion structure that has been heavily impacted by site use (see Figure 8. Potential wetland mitigation locations at Big Springs Unit vicinity). This recontouring will also provide in-channel habitat and is recommended here for the anticipated fish habitat losses with the Proposed Action.

No impacts are expected to the fish in the Uinta River in the vicinity of Youth Camp. The present flow regime will not change and any changes in water quality are expected to be minimal.

### **4.11.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

In Big Springs Creek, additional fish habitat losses are expected with a 58% reduction in average annual flows in the 900 foot reach below the diversion and above the return flows. The water depths will be reduced by a range of 0.2 to 0.3 ft. The largest changes in elevation will occur in the lower braided section where two of the four channels will dry and reduce flow to less than an inch in the remaining channels (Figure 7-cross section 1). The water depth at cross section 3 (Figure 7) will be reduced by 37%, leaving

a half foot of water in the channel under base flow conditions.

At Youth Camp, same as the Proposed Action.

**4.11.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Capacity of 30,000 pounds**

Same as Alternate Action 1.

**4.11.4 No Action Alternative**

No impacts to the fish in Big Springs Creek or the Uinta River are expected.

**4.12 THREATENED, ENDANGERED AND STATE-SENSITIVE SPECIES**

**4.12.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

The Big Springs and Youth Camp habitats do not provide the associated species or required soils for the Barneby Ridge-crest, shrubby reed mustard, or Uinta Basin hookless cactus, all federal status plants. The project site is also well above the elevational range of these species.

Suitable habitat for the Ute ladies'-tresses (open wet meadows, floodplains, graminoid-dominated seeps and springs) occurs at this site, though the site is located above the described elevational range. The Ute ladies'-tresses was not observed at the Big Springs site during repeat surveys. None of the facilities at Big Springs will cross any known potential or occupied Ute ladies'-tresses habitat. Monitoring of potential habitat prior to construction will occur. Habitat will be surveyed prior to ground-breaking activities to verify that no new or

previously unidentified Ute ladies'-tresses colonies occur within the project footprint.

Alder scrub-shrub and graminoid floodplain habitats will be impacted. These habitats do not provide the associated species or required soils for the Barneby Ridge-crest, shrubby reed mustard, or the Uinta Basin hookless cactus, all federal status plants. The project site is also well above the elevational range of these three species.

Suitable habitat for the Ute ladies'-tresses occurs at the Youth Camp site. The water intake and effluent pipeline outflow at Youth Camp will cross 0.01 ac of open wetland habitat that could potentially be occupied by the Ute ladies'-tresses. Because the species tends to move periodically within suitable floodplain habitat, additional monitoring surveys during pre-construction, and prior to ground-breaking activities will be conducted. Minor adjustments in pipeline alignment can eliminate impacts if the species is subsequently observed in the project area. However, due to the negative survey, it is not likely that the species occurs in the project area.

The Proposed Action is not expected to adversely impact the bald eagle as it is only occasionally observed in the Uinta River drainage. If built above-ground, the transmission lines will be designed and constructed to avoid raptor electrocutions. Monitoring during facility construction for the presence of bald eagles will occur, as they are occasionally observed in the project area.

The conversion of wetlands to a graminoid type at Big Springs (See Section 4.3) should benefit the smooth green snake. Potential habitat at the Youth Camp site will be monitored for the snake before construction

of the pipeline and small changes in alignment made to avoid it.

**4.12.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as the Proposed Action

**4.12.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Capacity of 30,000 pounds**

Same as the Proposed Action

**4.12.4 No Action Alternative**

No impacts expected.

**4.13 VISUAL RESOURCES**

**4.13.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

Currently, the Proposed Action site at Big Springs is partially forested with open areas and lacks any man-made structures or facilities. The visual impacts of the Proposed Action include the presence of the facility instead of natural forested and open land. The site plan has been modified to minimize the number of buildings to reduce the visual presence on site. This site is well screened by vegetation and the small ravine to campers, hikers, or others utilizing the Big Springs recreation area, and the spring pool area. Structures will be designed that are architecturally suited to the location to minimize the visual impacts. Screening with native vegetation will also be incorporated into the final site plan.

The clearing of vegetation, trees and shrubs within the transmission line corridor and placement of poles and power line will

create visual changes to the area. The majority of the transmission line will occur within a vegetated corridor that will be revegetated with native species to improve wildlife habitat and the line will be partially obscured by surrounding forest lands and vegetation. The power line and support poles will be visible in the area that crosses the Uinta River. This area has limited access. Single phase powerlines are light weight and spans up to 400 ft are possible. Support poles can be placed to minimize the visual impact. Overall, project visual impacts are anticipated to be low.

The expansion of the Youth Camp facility will have minimal to no impacts on visual resources. The area has already been developed; hatchery buildings, tanks and one raceway are currently on the site.

**4.13.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as Proposed Action.

**4.13.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

The Alternate Action site 2 is also a forested natural area void of man-made structures or facilities. This site is visible from the hiking trail adjacent to the Big Springs Creek. Visual impacts will occur to hikers, campers and others using the Big Springs Recreation Area, including Indian religious ceremonies. The visual impacts could be minimized with architectural design and landscaping of the area and the facility.

At Youth Camp, same as Proposed Action.

#### **4.13.4 No Action Alternative**

Under the No Action alternative no facility will be constructed, and therefore there will be no impacts on visual resources.

### **4.14 AIR QUALITY**

#### **4.14.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

During construction of the hatchery the potential exists for suspended dust particles to be released into the air. The impacts on air quality will be minimal and short term. Best management practices to control and contain dust will be implemented during construction of the hatchery. There will be no long-term adverse impacts on air quality.

#### **4.14.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as Proposed Action.

#### **4.14.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Same as Proposed Action.

#### **4.14.4 No Action Alternative**

This alternative will leave both the proposed and alternate site undisturbed. There will be no impacts on air quality if the facility is not constructed

### **4.15 PUBLIC HEALTH AND SAFETY**

#### **4.15.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

Construction of the hatchery at the proposed Big Springs site will have positive impacts on public health and safety. The entrance road will be improved to allow construction workers, delivery trucks, and employees to safely commute to and from Big Springs. Visitors using Big Springs as a recreation area will also benefit from the improved road and easier access. The access road between the upper fishing ponds will be upgraded to facilitate access to the proposed site. A failing culvert between the ponds is currently being replaced. This is required to prevent the pond dike from failing. Once construction is completed this road will be gated to allow only authorized vehicular traffic. Pedestrian traffic will be allowed, and it is anticipated that the improved road surface will encourage visitors to utilize the road.

The hatchery facility will be staffed 24 hours a day. This means at least one employee is always present at Big Springs. People using Big Springs as a recreation area will be less likely to litter, or vandalize the area if a Tribal employee is on the premises.

The hatchery staff on site will have telephone access. This increases safety in an emergency situation. Currently there are no telephones on the site, and cellular phones often will not work at Big Springs.

Concerns with the installation of the power transmission line include the risk of fire and electrocution from live wires and potential hazards from installation of the power poles. Impacts to the public due to construction of

the transmission line are very unlikely. During use and operation of the electrical transmission line public safety risks are only anticipated if a catastrophic event were to occur, such as a wind storm causing a live wire to detach from the pole. Such occurrences are limited and the risk of such event impacting the public is low.

Expanding the existing Youth Camp facility will have little to no impact on public health and safety. Youth Camp is not promoted as a recreation area. It has been proposed to relocate the air quality monitoring station to a site within the compound fence. This station has been subjected to vandalism, and relocation will prevent damage to the monitoring equipment.

**4.15.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Same as Proposed Action.

**4.15.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Construction of the facility at this site will have the same positive impacts on public health and safety as the Proposed Action. If the facility is constructed at the alternate site an existing footbridge may be replaced with a larger, engineered structure that will accommodate visitor foot traffic to the adjacent hiking path along the stream corridor and to the facility.

At Youth Camp, same as Proposed Action.

**4.15.4 No Action Alternative**

Under this alternative, no hatchery facility will be established. Access roads will not be improved, litter and vandalism will not

decrease, and people using Big Springs for recreation will not have telephone access in the case of an emergency.

**4.16 TRAFFIC RELATED DISTURBANCES**

**4.16.1 Proposed Action Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 16,000 pounds**

There will be an increase in traffic during the construction period. Increased traffic will result from construction vehicles and workers accessing the site. These temporary, short-term impacts will be managed by application of common construction management practices, such as posted notices and road warning signs. Long-term traffic impacts include employees and fish transport trucks traveling to and from the hatchery. An increase in the number of visitors to Big Springs will also increase traffic. It is expected local concerns regarding traffic will be minimal due to the isolated location of the site.

Some short-term impacts at Youth Camp from construction vehicles and workers accessing the site will also occur. These temporary impacts will be managed by application of common construction management practices, such as posted notices and road warning signs. Long-term traffic impacts include employees, feed delivery vehicles, and fish transport trucks traveling to and from the hatchery. It is expected local concerns regarding traffic will be minimal.

**4.16.2 Alternate Action 1 Big Springs Unit and Youth Camp Unit proposed site Production Capacity of 30,000 pounds**

Similar to Proposed Action.



#### **4.16.3 Alternate Action 2 Big Springs Unit and Youth Camp Unit alternate site Production Capacity of 30,000 pounds**

Similar to Proposed Action.

#### **4.16.4 No Action Alternative**

Under this alternative, no activity is planned, and there will be no adverse impacts on traffic or on traffic related disturbances.

### **4.17 MITIGATION AND ENVIRONMENTAL COMMITMENTS**

- Monitoring and verification of the estimated stream corridor changes will be conducted. Establishment of permanent sampling stations and photo verification will be completed. Seasonal monitoring will occur to verify changes to the stream corridor are not greatly exceeding changes estimated in this analysis.
- Monitoring of potential habitat for Ute ladies-tresses colonies will occur prior to construction. Habitat will be surveyed prior to ground-breaking activities to verify that no new or previously unidentified Ute ladies-tresses colonies occur within the project footprint.
- Recommendations of the Class III Cultural Resource will be implemented. These recommendations are: 1) during the initial ground breaking on the project prayers should be said over the spring and construction area, and 2) monitoring of the construction of the spring box repair and pipelines should be conducted.
- Effluent water quality monitoring for total suspended solids, total dissolved solids, pH, oil/grease (visual), discharge of therapeutic agents (when in use) and other parameters as required by the

NPDES permit will be conducted by the Tribe .

- To minimize visual impacts to the Big Springs Creek and pool location structure designs will be architecturally suited to the location. Screening with native vegetation will also be incorporated into the final site plan.
- The proposed mitigation for the power transmission line corridor impacts would be to enhance the value of the adjacent lodgepole pine forest for a variety of wildlife by the following two primary measures:

1. Planting the transmission line corridor with species of high wildlife food value adjacent to the forest cover. Increasing the small mammal habitat would also indirectly benefit other forest species, such as hawks and owls, which prey on small mammals.
2. Restricting vehicular access through the corridor to the river, except as needed for occasional utility maintenance activities.

An additional enhancement measure to be developed will be to negotiate a wildlife-friendly maintenance agreement for both the existing corridor and the new transmission line expansion. Such an agreement could include some or all of the following measures:

- agreement to long term maintenance of the access road as is (unbladed) and with occasional access,
- removing vegetation only as it interferences with utility line function, and
- any necessary vegetation removal be done manually.

- A preliminary wetland mitigation plan has been developed based on the following factors:
  - Mitigation will be “in-kind” (including same habitat type, same species, same vertical structure) to the extent possible
  - Mitigation is to be on the Big Springs and Youth Camp sites and adjacent to the impact areas
  - All mitigation activities represent restoration of previously disturbed wetlands. Restoration is generally considered the best wetland mitigation type (over creation or enhancement) as it represents the greatest net gain in habitat value and has more chance of success than creation of a new wetland

#### **4.18 ENVIRONMENTAL JUSTICE**

By definition, the Tribe is a minority group and a low income population, any of the Action Alternatives providing a facility built for the benefit of the Tribe is considered to disproportionately affect them. In this case the effect would be beneficial.

In accordance with Executive Order 12898 there are no minority or low income populations disproportionately negatively affected by the Proposed Action, or any of the action alternatives.

#### 4.19 SUMMARY

Table 14. Summary of environmental effects of the alternatives.

<b>Resource</b>	<b>Proposed Action</b>	<b>Alternate Action 1</b>	<b>Alternate Action 2</b>	<b>No Action Alternative</b>
	Big Springs Unit proposed site + Youth Camp Unit 16,000 pounds capacity	Big Springs Unit proposed site + Youth Camp Unit 30,000 pounds capacity	Big Springs Unit alternate site + Youth Camp Unit 30,000 pounds capacity	
Ute Tribe	An increase in professional employment. Education and training opportunities for the Tribe and community.	Same as the Proposed Action with the addition of one biological technician position.	Same as Alternate Action 1.	No change in current employment and education.
Wildlife	No significant impacts on federally listed T&E species, Utah sensitive species, big game, or aquatic mammals.	Same as Proposed Action.	Same as Proposed Action.	No impacts.
Wetlands	1.235 ac of wetland will be affected, including direct and indirect impacts. Of this 0.585 ac will be permanently lost, including 0.35 ac of impact to the Big Springs riparian corridor. Youth Camp will experience 0.09 ac of wetland type change. Project area wetland habitat (2.35 ac) has been identified for a mitigation plan to be developed in cooperation with USFWS and USCOE during final design.	1.545 ac of wetlands will be affected, including direct and indirect impacts. Of this 0.895 ac will be permanently lost, including 0.66 ac of impact to the Big Springs riparian corridor. Youth Camp will experience 0.09 ac of wetland type change. Mitigation plan will be developed (same as Proposed Action.)	1.375 ac of wetlands will be affected, including direct and indirect impacts. Of this 0.735 ac will be permanently lost, including 0.66 ac of impact to the Big Springs riparian corridor. Youth Camp will experience same impacts as under the Proposed Action. Mitigation plan development (same as the Proposed Action).	No impacts.
Water Supply	Approximately 39% of the average annual base flow will be diverted from Big Springs affecting 900 ft of stream. No impact to the Youth Camp water supply.	Approximately 72% of the average annual base flow will be diverted from Big Springs affecting 900 ft of stream. No impact to the Youth Camp water supply.	Same as Alternate Action 1.	No impacts.
Receiving Waters	No impacts are anticipated for receiving waters. NPDES permit requirements will be met.	Same as Proposed Action.	Same as Proposed Action.	No impacts.
Adjacent Land Uses	No impacts from the construction and operation of the facilities are anticipated.	Same as Proposed Action.	Same as Proposed Action.	No impacts.

Table 14. Continued.

<b>Resource</b>	<b>Proposed Action</b>	<b>Alternate Action 1</b>	<b>Alternate Action 2</b>	<b>No Action Alternative</b>
	Big Springs Unit proposed site + Youth Camp Unit 16,000 pounds capacity	Big Springs Unit proposed site + Youth Camp Unit 30,000 pounds capacity	Big Springs Unit alternate site + Youth Camp Unit 30,000 pounds capacity	
Cultural and Paleontological Resources	Minimal cultural impacts to the Tribe may occur as a result of developing the Big Springs area and utilizing water from the spring. Consultation on design will be made with Tribal Elders. No paleontological impacts are anticipated.	Same as Proposed Action.	The presence of the facility adjacent to the spring pool may be undesirable to the Spiritual Leaders or other members of the Tribe.	No cultural impacts will occur if the facilities are not constructed. No benefits will be gained by using the spring water to rearing fish.
Vegetation	No impacts on listed T&E species, or Utah sensitive species. Construction of the facility will impact 3.4 ac of upland ponderosa pine and sagebrush habitat.	No impacts on listed T&E species, or Utah sensitive species. Construction of the facility will impact up to 5.0 ac of upland ponderosa pine and sagebrush habitat.	No impacts on listed T&E species, or Utah sensitive species. Construction will impact 3.6 to 5 ac of upland ponderosa pine.	No impacts.
Socioeconomic	Increase in professional employment opportunities. Economic benefits from increased tourism and permit sales. Short-term benefit from construction activities. Increase in education and training opportunities.	Same as Proposed Action with the addition of one biological technician position.	Same as Alternate Action 1.	No benefits to the local economy from construction of the facility. The Tribe will not realize increased revenue from increase permit sales. No increase in professional employment opportunities. No increase in education and training opportunities.
Fish	Fish habitat in Big Springs Creek may be reduced with flow reduction. No impact to Uinta River fishery is expected.	Fish habitat will be reduced to a greater degree with flow reduction. Uinta River, same as Proposed Action.	Same as Alternate Action 1.	No impacts to fish

Table 14. Continued.

<b>Resource</b>	<b>Proposed Action</b>	<b>Alternate Action 1</b>	<b>Alternate Action 2</b>	<b>No Action Alternative</b>
	Big Springs Unit proposed site + Youth Camp Unit 16,000 pounds capacity	Big Springs Unit proposed site + Youth Camp Unit 30,000 pounds capacity	Big Springs Unit alternate site + Youth Camp Unit 30,000 pounds capacity	
Visual Resources	Proposed facility will replace forested and natural area. Minimal visual impacts will occur. This site is well screened with vegetation from recreation areas at Big Springs. Electrical transmission line will create minor visual impact across the Uinta River.	Same as Proposed Action.	Proposed facility will replace forested and natural area adjacent to the stream corridor. Visual impacts will occur to recreationist hiking the path bordering the stream.	No impacts.
Air Quality	Minimal and short-term impacts during construction. No long term impacts on air quality.	Same as Proposed Action.	Same as Proposed Action.	No impacts.
Public Health and Safety	Positive impacts include: entrance road to Big Springs improved, replacement of a failing culvert, hatchery staff present 24 hours a day at Big Springs, and telephone access at Big Springs.	Same as Proposed Action.	Same as Proposed Action, and the improvement of pedestrian access across Big Springs Creek.	No positive impacts on public health and safety under the no action alternative. No road improvements, no hatchery staff will be on site at Big Springs, and no telephone access at Big Springs.
Traffic Related Disturbances	There will be an increase in traffic during construction. No public concerns regarding long or short-term traffic related disturbances are anticipated.	Same as Proposed Action.	Same as Proposed Action.	No impacts.

## **CHAPTER 5 - RELATED ACTIONS AND CUMULATIVE EFFECTS**

### **5.1 RECREATIONAL IMPROVEMENTS AT BIG SPRINGS RECREATIONAL AREA**

Improvements are being made by the Tribe to the Big Springs Recreational area, located down gradient from and south of the Big Springs pool and to the northeast and southwest of the fishing ponds. Work to date on the recreational facilities has included installation of handicap-accessible toilets, picnic table and culvert replacement and site access road improvements (no paving to date). As described earlier, if a hatchery facility is not built at the Big Springs site, road improvements will be completed under this effort.

These improvements are being made with funding separate from the Proposed Action.

#### **5.1.1 Cumulative Effects**

During construction portions of these combined projects may have temporary minor effects to land use, recreation and transportation, and minor impacts to wildlife (e.g. noise, displacement). However, these projects would result in long-term beneficial effects on land use, recreation, and cultural resources of aquatic natural resources and human resources. These projects, when considered together with the Proposed Action are not expected to result in adverse cumulative impacts.

While the recreational use at the Big Springs Recreation area is expected to increase, site conditions should improve with better vehicle traffic management at the site

through barriers and paved parking areas and improved garbage pickup.

### **5.2 JAY GROVES EDUCATIONAL COMPLEX (JGEC)**

The JGEC is located across the road from the Youth Camp Hatchery Site, to the northeast (Figure 4). It was originally used as a camp for Ute Tribal youth. It has been improved recently by the faculty and students of the Uinta River High School, a Tribally-operated charter school. It is presently in use by the school, which had an enrollment of 63 students in 2002. The buildings may be used as classrooms, meeting rooms, offices, and dormitories.

#### **5.2.1 Cumulative Effects**

As the improved Youth Camp site will be fenced, increased human traffic in the Uinta River riparian areas is not expected. Educational opportunities at the Jay Groves Educational Complex may increase the students' awareness of the value of these areas.

Both of these related actions combined with this project could yield cumulative benefits to local economies, through improved work force base and increased recreation.

## CHAPTER 6 - COMMENTS AND REPOSSES

Two comment letters were received on the Draft EA for the Ute Tribe Fish Hatchery, Big Springs Unit and Youth Camp Unit, Hatchery Construction. The letters were received from:

1. Governor's Office of Planning and Budget, Resource Development Coordinating Committee
2. U. S. Fish and Wildlife Service, Utah Field Office

A copy of these letters is included at the end of this chapter. Comments requiring a specific response are presented here in a comment and response format. Some comments are paraphrased. Recommended editorial comments have been made in the EA text where appropriate.

### **Governor's Office of Planning and Budget, Resource Development Coordinating Committee Letter:**

Comment:

The Utah Division of Wildlife Resources encourages the Tribe to ensure that accepted fish health guidelines, standards and protocols be maintained during all phases of hatchery production, transportation and stocking.

Response:

The Mitigation Commission and the Ute Indian Tribe Fish and Wildlife Department recognize the importance of maintaining fish health guidelines, standards and protocols, in the hatchery and in all stocked waters, especially those flowing off the reservation.

To that end, the Tribe has developed and will follow the *Ute Tribe Fish Stocking and Transfer Policy* (Appendix 2). This policy includes measures to be taken to ensure the fish health produced in and stocked from the proposed hatchery. The Proposed Action also includes the development of a Fish Health Management plan (Section 2.1.2, Hatchery Operation) and hopes to consult with the Division in the development of this plan. The Tribe appreciates the support that they have received from the Division and hopes to continue working with them through the hatchery development and operation.

### **U. S. Fish and Wildlife Service, Utah Field Office**

Comment:

The EA should specify who will write the Colorado River cutthroat genetic management plan (d), P. 17. Also, the EA should state that the MOU between the Service and the Tribe will include agreement on the Service's role in writing these plans. The EA in this section should state that the Service's Management Assistance Office will take the lead and partner with the Tribe and others in writing these management plans. There should also be a time table added for all of the draft and final plans.

Response:

Recommended changes have been made in the appropriate text in Section 2.1.2 Hatchery Operations. A table with a schedule for the documents is presented below. This schedule assumes that hatchery design will be completed by June, 2008, with construction complete by October, 2009.

Document or Plan	Lead Agency(ies)	Draft Date	Final Date
a. Hatchery Operating Plan	Engineering design firm in consultation with the Tribe Fish and Wildlife Department and a design review tem	8/2009	10/2009
b. Fish Management and Hatchery Production Plan	U.S. Fish and Wildlife Service, with the Tribe Fish and Wildlife Department	12/2007	3/2008
c. Colorado River Cutthroat Trout Genetic Management Plan	Tribe Fish and Wildlife Department in consultation with the Utah Division of Wildlife Resources and the Colorado River Cutthroat Trout Conservation Team	12/2007	6/2008
d. Fish Health Management Plan	Tribe Fish and Wildlife Department in consultation with the Utah Division of Wildlife Resources and the U.S. Fish and Wildlife Service	6/2008	12/2008





State of Utah

MICHAEL O. LEAVITT  
GovernorOLENE S. WALKER  
Lieutenant Governor

## Governor's Office of Planning and Budget

WES CURTIS  
State Planning Coordinator

## Resource Development Coordinating Committee

JOHN A. HARJA  
Executive DirectorGLADE SOWARDS  
Committee ChairmanMITIGATION COMMISSION  
OFFICIAL FILE COPYCLASSIFICATION  
PROJECT

SEP 29 2003

CODE	INITIALS
MCO7	M

September 26, 2003

Maureen Wilson  
Utah Reclamation Mitigation  
and Conservation Commission  
102 West 500 South, Suite 315  
Salt Lake City, Utah 84101SUBJECT: Ute Tribe Fish Hatchery, Big Springs Unit and Youth Camp Unit Hatchery  
Construction - EA  
Project No. 03-3234

Dear Ms. Wilson:

The Resource Development Coordinating Committee (RDCC), representing the State of Utah, has reviewed this proposal. The Division of Wildlife Resources comments:

Because fish disease issues transcend jurisdictional boundaries, we would encourage the Tribe to ensure that accepted fish health guidelines, standards, and protocols be maintained during all phases of hatchery production, transportation, and stocking. Various Division personnel have already provided assistance to the Tribe and federal cooperators in addressing disease issues during the planning of the Big Springs facility. The Division remains available to provide additional assistance where we can as the project moves ahead.

The Committee appreciates the opportunity to review this proposal. Please direct any other written questions regarding this correspondence to the Resource Development Coordinating Committee at the above address or call Carolyn Wright at (801) 538-5535 or myself at (801) 538-5559.

Sincerely,

John Harja  
Executive Director  
Resource Development Coordinating Committee



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE  
2369 WEST ORTON CIRCLE, SUITE 50  
WEST VALLEY CITY, UTAH 84119

In Reply Refer To  
FWS/R6  
ES/UT  
03-1222

October 3, 2003

Michael C. Weland, Director  
Utah Reclamation Mitigation and Conservation Commission  
102 West 500 South #315  
Salt Lake City, Utah 84101-3148

MITIGATION COMMISSION  
OFFICIAL FILE COPY

CLASSIFICATION
PROJECT

OCT 10 2003

CODE	INITIALS
11001	MLW
11002	MLW
11003	MLW

Dear Mr. Weland:

The U.S. Fish and Wildlife Service (Service) has received your letter of August 26, 2003, requesting review of the draft Environmental Assessment (EA) for the Ute Tribe Fish Hatchery; Big Springs Unit and Youth Camp Unit Hatchery Construction. The EA analyses the effects of constructing a cold-water hatchery at the Big Springs site with quarantine and grow-out facilities at Youth Camp. We are providing the following comments for consideration in your EA.

**General Comments:**

The Service has been actively involved in plan development of the Ute Tribe Fish Hatchery, Big Springs and Youth Camp Unit and anticipates providing continued assistance to the Ute Tribe with hatchery construction plan development, consultation during hatchery construction, and support and training for hatchery operations. It is evident that potential impacts to fish and wildlife and their habitat were minimized to the extent possible during project planning and development of the Proposed Action Alternative. We appreciate the commitment of the Utah Reclamation Mitigation and Conservation Commission, the Ute Tribe, the U.S. Department of the Interior - Office of the Secretary, the U.S. Bureau of Indian Affairs, and the Utah Division of Wildlife Resources to advance the development of this tribal hatchery, and in doing so further restoration of Colorado River cutthroat trout. The Service looks forward to future coordination with these agencies on native cutthroat trout production and stocking practices.

**Specific Comments:**

2.1.2 Hatchery Operation

Employment and Training

Page (PG )16, Column © 1, Paragraph (P) 1, Sentence (S) 1: This is the first time the phrase "Tribe's Fish and Wildlife Department" is mentioned. The abbreviation for this phrase should be placed in parentheses here, and the abbreviation used in the text hereafter. A possible abbreviation might be "UTFWD."

PG 16, C1, P1, S5: The US in this sentence needs to be changed to U.S.

PG 16, C1, P3, S5: The Jones Hole Manager should be changed to Jones Hole Project Leader. Project Leader should then be used in place of Manager throughout the text. Further, it should say Jones Hole National Fish Hatchery with the abbreviation Jones Hole in parentheses, and the abbreviation used in the text hereafter.

PG 16, C2, P2, S2: The sentence . . . an additional staff person . . . , should be changed to an additional full-time (1.0 FTE) person . . .

In addition, the sentence . . . will be needed for the 1<sup>st</sup> 3-4 year period, should be changed to . . . will be needed for the first 5-year period.

Also, where the EA indicates that the Service will provide the assistance for the first five years of hatchery operation, it should specify that after this time operations at the hatchery should be reevaluated to determine whether further assistance from the Service is needed at the hatchery.

PG 16-17, General discussion on MOU between the Service and the Tribe and on plans a-e: There are five different plans that need to be written prior to the operation of the hatchery. The EA states that the Hatchery Operating Plan will be written by the design firm and that The Hatchery Production Plan (b), Fish Management Plan (c), and Fish Health Management Plan (e) will be written by the Tribe and the Service. The EA should specify who will write the Colorado River Cutthroat Trout Genetic Management Plan (d). Also, the EA should state that the MOU between the Service and the Tribe will include agreement on the Service's role in writing these plans. Thus, the EA in this section should state that the Service's Management Assistance Office will take the lead, and partner with the Tribe and other entities, in writing these management plans. Further, there probably ought to be a time table added when the draft and final plans will be finished.

PG17, C1, P5, S1 (Colorado River Cutthroat Trout Genetic Management Plan): A colon needs to be added at the end of the heading Colorado River Cutthroat Trout Genetic Management Plan:

S2: Big Spring needs to be changed to Big Springs.

PG17, C2, continuation of P5 from 1<sup>st</sup> column, S2. The period at the end of the sentence says . . . habitat . The space before the period needs to be deleted.

PG19, Table 2: Table 2 should have the following changes.

Table 2. Estimated annual operations and maintenance budget for the Big Springs Unit and Youth Camp Unit Facilities, production level - 16,000 pounds.

Item	Quantity	Unit	Unit Cost	Amount
<u>Salaries and Benefits*</u>				
Fisheries Biologist GS11-5	1	1.0 FTE	\$73,150	\$73,150

Biological Technician GS5-5	1	1.0 FTE	\$39,897	\$39,897
Fisheries Biologist GS5-1 (USFWS)**	1	1.0 FTE	\$35,205	\$35,205
<u>GSA Vehicle (light duty 4x4 truck)**</u>	1	Year	\$3,000	\$3,000
<u>Mis. Equipment (waders, gloves, etc.)**</u>	1	Year	\$2,000	\$2,000
<u>Fish Food</u>	24,000	lbs.	\$0.30	\$7,200
<u>Capital Outlays (purchase, repairs, etc.)</u>	1	Year	\$8,000	\$8,000
<u>Other Goods and Services (Utilities)***</u>	1	Year	\$14,000	\$14,000
Total Cost				\$182,452

\*Salary OPM 2003 rate schedule. Benefits estimated at 37% of salary.

\*\*These items are expenses for the assistance provided by Jones Hole NFH. The estimates do not include the 22% indirect costs for reimbursable funding to the USFWS. Further, this annual cost does not account for the GS5-1 promotion to a GS7-1, 2, 3, and 4 over the 1<sup>st</sup> five-year period, or the annual 5% inflation costs.

\*\*\*Includes: power, propane, phone, vehicle fuel and maintenance, misc. repair.

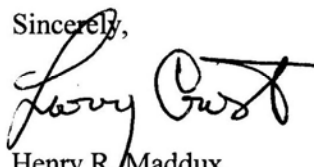
The changes in Table 2 for Fisheries Biologist 5-1 (USFWS), GSA vehicle lease, and Mis. Equipment, that are costs associated with the assistance from Jones Hole, also need to be changed in Table 3 (pg. 27)

#### **Conclusion:**

The Service concurs with the selection of the Proposed Action which specifies proposed site Production Capacity of 16,000 pounds. The Service believes that this alternative provides a *suitable* location for the Big Springs hatchery and meets the project's production needs while minimizing environmental impacts by reducing acres of wetland and upland impacted as well as the amount of water diverted from Big Springs.

We appreciate the opportunity to provide these comments. If you need further assistance, please contact Paul Abate, Ecologist, at the letterhead address or (801) 975-3330 ext. 130.

Sincerely,

For   
Henry R. Maddux  
Utah Field Supervisor

cc: Dave Irving, UFWMAO - Vernal  
Rick Larson, UDWR - SLC

## **CHAPTER 7 - LIST OF PREPARERS**

The following individuals prepared this environmental assessment for the Ute Tribe and the URMCC:

Patty Michak - Senior Fisheries Biologist, FishPro.

Maureen Wilson - Project Coordinator, URMCC.

Donna Rowe - Biologist, FishPro.

Leslie Gecy - Vegetation/Wetland Specialist, Western Wetland Systems.

James A. Truesdale - Archeologist, An Independent Archeologist.

Richard Etchberger, Ph.D. - Wildlife Biologist.

Jay Groves - Fisheries Biologist, Ute Tribe.

Mike Montoya - Fisheries Biologist, Ute Tribe.

Sue Ann Bilbey, Ph.D. - Paleontologist, Uinta Paleontological Associates, Inc.

## **CHAPTER 8 - LIST OF AGENCIES, ORGANIZATIONS AND PERSONS RECEIVING COPIES OF THE EA**

### **8.1 FEDERAL AGENCIES**

Environmental Protection Agency  
 Senators' and Representatives' Staff  
 US Army Corps of Engineers  
 US Bureau of Indian Affairs  
 US Bureau of Land Management  
 US Bureau of Reclamation  
 US Department of Interior, Office of the Secretary  
 US Fish and Wildlife Service  
 US Forest Service

### **8.2 TRIBAL AGENCIES**

Business Committee  
 Cultural Rights and Protection Program  
 Economic Development  
 Fish and Wildlife Department  
 Natural Resources  
 Senior Citizens  
 Public Relations  
 Water Settlement Office

### **8.3 STATE AGENCIES**

State Senators  
 State Representatives  
 Utah Department of Agriculture and Food  
 Utah Department of Environmental Quality  
 Utah Department of Natural Resources  
 Utah Department of Public Safety  
 Utah Division of Water Quality  
 Utah Division of Water Rights  
 Utah Division of Wildlife Resources  
 Utah Historical Preservation  
 Utah Office of Indian Affairs  
 Utah Office of Planning and Budget

### **8.4 LOCAL GOVERNMENTS**

Central Utah Water Conservancy District  
 Uinta County Commission  
 Uintah Basin Association of Governments  
 Duchesne County Water Conservancy District

### **8.5 OTHERS**

High Uintas Preservation Council  
 Native Utah Cutthroat Trout Association  
 Private aquaculturalists  
 Private citizens  
 Salt Lake County Fish and Game Association  
 Trout Unlimited, local chapters  
 Utah Aquaculture Association  
 Utah Chapters, The American Fisheries Society and The Wildlife Society  
 Utah Farm Bureau  
 Utah Rivers Council  
 Utah Waters  
 Utah Wildlife Federation

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Upalco and Uintah Replacement Projects Wildlife Resources Technical Report. N.D. Map UP-1-3 Upalco and Uintah Replacement Projects Mule Deer Observations and Habitat Classes.

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Upalco and Uintah Replacement Projects Wildlife Resources Technical Report. N.D. Map UP-1-6 Upalco and Uintah Replacement Projects Sage Grouse Observations and Habitat Classes.

Upalco and Uintah Replacement Projects Wildlife Resources Technical Report. N.D. Map UP-1-7 Upalco and Uintah Replacement Projects Observation of Other Wildlife.



## **Appendix 1**

**Resolution No 01-222  
Uintah and Ouray Tribal Business Committee  
of the Ute Indian Tribe  
to become a signatory to the:**

**Conservation Agreement and Strategy for  
Colorado River Cutthroat**

**WHEREAS;** The Uintah and Ouray Tribal Business Committee of the Ute Indian Tribe is empowered by Article VI, Section 1 (c) and 1 (f) of the Constitution of the Constitution as the governing body of Ute Indian Tribe, and is empowered to respectively, approve any disposition of tribal assets and to regulate all economic affairs of the Tribe; and

**WHEREAS;** The Ute culture has respected the status of all of the Creator's creatures, and has always desired to maintain and protect natural ecosystem function, and has thereby maintained a policy to resist stocking of non-native trout in naturally functioning streams within Tribal jurisdiction, and has consistently managed its fisheries programs for the benefit of its native trout, the Colorado River Cutthroat; and

**WHEREAS;** The Ute Tribe maintains sole jurisdiction over fisheries management on Tribal Trust lands, as well as interest in fisheries management practices within the exterior boundaries of the Uintah and Ouray Reservation; and

**WHEREAS;** The Ute Tribe is aware that prior resource management priorities and policies of federal and state resource agencies have been responsible for reducing population of our native trout, the Colorado River Cutthroat (*Oncorhynchus clarki pleuriticus*), to the extent that it has been petitioning for listing as an endangered species; and

**WHEREAS;** The Ute Tribe is opposed to any intervention or treats to Tribal sovereignty as may become applicable under the Endangered Species Act, and

**WHEREAS;** The Ute Tribe has been greatly heartened to see the recent efforts of state and federal natural resource agencies to undertake management practices and activities on behalf of the *Colorado River Cutthroat Trout Conservation Agreement and Strategy*, to restore our native trout, in order to eliminate or reduce the treats that would warrant listing under the Endangered Species Act; and

**WHEREAS;** the Ute Tribe Fish and Wildlife Advisory Board has reviewed and recommended the Tribe's participation in the *Colorado River Cutthroat Conservation Agreement and Strategy*; and

**WHEREAS;** the Ute Tribe is proud to be a partner with federal and state natural resource agencies involved in the restoration and management of Colorado River Cutthroat as defined in the *Conservation Agreement and Strategy* .

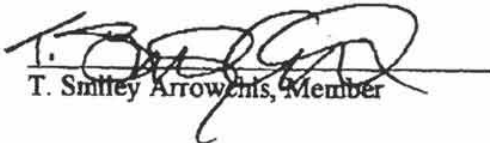
NOW THEREFORE, BE IT RESOLVED BY THE UINTAH AND OURAY TRIBAL BUSINESS COMMITTEE OF THE UTE INDIAN TRIBE; to be a signatory to the Conservation Agreement and Strategy for Colorado River Cutthroat Trout as amended as forth in the exhibit hereto attached, which is incorporated as reference.

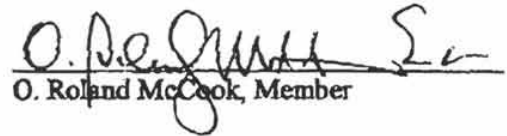
BE IT FURTHER RESOLVED that this resolution will rescind Resolution No 01-136 in which two members voted for, two against and two abstained.

BE IT FURTHER RESOLVED that the Chair of the Business Committee, or in his absence, the Vice-Chair is authorized to execute all necessary documents on behalf of the Tribe in support of the *Conservation Agreement* and to carry out the terms and intent of this Resolution.

AGAINST  
D.Floyd Wopsock Sr., Chairman

  
Roseline B. Tavapont, Vice-Chair

  
T. Smiley Arrowheads, Member

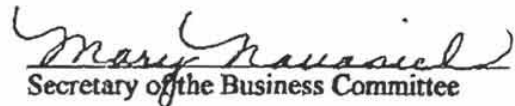
  
O. Roland McCook, Member

AGAINST  
Ronald Wopsock, Member

ABSTAIN  
Luke Duncan, Member

**CERTIFICATION**

I, HEREBY CERTIFY THAT THE FOREGOING Resolution was adopted by the Uintah and Ouray Tribal Business Committee pursuant to the Constitution and By-Laws of the Ute Indian Tribe of the Uintah and Ouray Reservation at a duly called meeting held in Ft. Duchesne Utah on the 3rd day of October, 2001, at which time a quorum was present and voted 3 for and 2 against, 1 abstaining, and 0 absent.

  
Secretary of the Business Committee

## **Appendix 2**

### **Ute Tribe Fish Stocking and Transfer Policy**

**COPY**

Resolution No. \_\_\_\_\_  
Uintah and Ouray Agency  
Fort Duchesne, Utah

**WHEREAS;** The Uintah and Ouray Tribal Business Committee of the Ute Indian Tribe is empowered by Article VI, Section 1(c) and 1 (f) of the Constitution as the governing body of the Ute Indian Tribe, and is empowered to respectively, approve any disposition of tribal assets and to regulate all economic affairs of the Tribe; and

**WHEREAS;** The adoption of a fish stocking policy for the Uintah and Ouray Reservation is a necessary prerequisite to receive funding from the Utah Mitigation Reclamation and Conservation Commission under Section 313c of the Central Utah Project Completion Act (CUPCA), which provides funding to construct fish hatchery facilities; and

**WHEREAS;** The Ute Indian Business Committee has authorized the Fish and Wildlife Advisory Board to make recommendations on fishing activities within the Uintah and Ouray Reservation; and

**WHEREAS;** The Ute Tribe Fish and Wildlife Advisory Board has reviewed and recommended for approval the Ute Tribe Fish Stocking Policy for the Uintah and Ouray Reservation; and

**WHEREAS;** The Ute Tribe Fish Stocking Policy provides for the management of Tribal waters to benefit native cold water fish species (e.g. Colorado River Cutthroat Trout) and provides for continuing recreational benefits and opportunities for Tribal members and the general public; and

**WHEREAS;** The Ute Tribe Fish Stocking Policy provides for the protection of Tribal waters from the introduction and stocking of exotic species (e.g. whirling disease) which may compromise current ecosystem functions.

**NOW, THEREFORE BE IT RESOLVED BY THE UINTAH AND OURAY TRIBAL BUSINESS COMMITTEE OF THE UTE INDIAN TRIBE;** to approve and adopt the Ute Tribe Fish Stocking Policy, as set forth in the exhibit hereto attached, which is incorporated as reference.

Absent  
O. Roland McCook, Sr. Chairman

  
Ronald J. Wopsock, Member

Absent  
D. Floyd Wopsock Sr., Member

  
Roseline B. Taveapont, Vice-Chairperson

  
T. Smiley Arrowchis, Member

  
Kirby Arrive, Member

FEB - 2 2000

MCCO1  
MCCO2  
MCCO3

**CERTIFICATION**

I, HEREBY CERTIFY THAT THE FOREGOING Resolution was adopted by the Uintah and Ouray Tribal Business Committee pursuant to the Constitution and By-Laws of the Ute Indian Tribe of the Uintah and Ouray Reservation at a duly called meeting held in Ft. Duchesne Utah on the 4th day of January, 2000, at which time a quorum was present and voted 4 for and 0 against, 0 abstaining and 2 absent.

*Jana. Talosh*  
Secretary of the Business Committee

## UTE TRIBE FISH STOCKING AND TRANSFER POLICY

### I. AUTHORITY

Under authority of the Ute Tribe Business Committee, the Ute Tribe Fish and Wildlife Department is empowered to protect and enhance the fish and wildlife resources of the Uintah and Ouray Reservation. Except as provided by cooperative agreement with other agencies, only the Ute Tribe Fish and Wildlife Department may stock and transfer fish on trust lands of the Uintah and Ouray Reservation.

### I. PURPOSE

This policy constitutes the procedures and guidelines for the Ute Tribe Fish and Wildlife Department to stock and transfer native and nonnative fishes for conservation, recovery, sportsfishing recreation, and other purposes.

### II. POLICY

Fish stocking and transfer is an essential and integral component of fish management within the Uintah and Ouray Reservation. Fish stocking and transfer will be conducted in a manner so as not to effect negative impacts nor adverse modification to native aquatic species or their habitat. Fish stocking and transfer will aid in the conservation and restoration of native species, enhance existing native fish populations, or augment the efficient and effective management of recreational fisheries. The purpose of such fish stocking and transfer is to provide maximum benefits to the recreational angler while protecting and enhancing the aquatic resources of the Uintah and Ouray Reservation.

### III. DEFINITIONS

- A. **Advanced Fingerling:** This refers to hatchery fish with a mean size of five (5) inches.
- B. **Annual Fish Stocking Schedule:** This is an annual summation of hatchery production allocation by species, size, and target stocking date for waters managed by the Ute Tribe Fish and Wildlife Department. This schedule include all fish to be stocked within the Uintah and Ouray Reservation or as provided by mutual agreement with the Utah Division of Wildlife Resources or the U.S. Fish and Wildlife Service. Exceptions to this schedule shall be noted as excess production and/or emergency deviations as specified in other parts of this document (See IV.F. Stocking of Nonnative Salmonids 3., Excess Production a., and IV. D.2. En route Problems).
- C. **Annual Fish Transfer Schedule:** Annually, a list of proposed wild fish transfers will be compiled so that appropriate approval and coordination can be completed.
- D. **Basic Yield Waters:** Management focus is on family-oriented recreation. This management concept utilizes available habitat and biological productivity to grow fish to an acceptable size. These water may be stocked with fingerling-sized fish or be sustained through natural reproduction. Generally catchable fish are stocked only to supplement the fishery, but they

do not provide the majority of the harvest. In a few situation where avian or fish predators prohibit fingerling plants, catchable fish may be stocked. Catchables still provide a put-grow-and-take type fishery and are not stocked for immediate return as they are in “intensive yield waters”. Although some large fish may be produced in basic yield waters, trophy-sized fish are not the goal of this type of management.

- E. **Catchable:** This refers to a hatchery raised fish a minimum of 8 inches or larger.
- F. **Conservation Population:** A reproducing and recruiting group of native fish, geographically isolated, that is managed to sustain the existence of the species.
- G. **Conservation Water / Drainage:** A water or drainage that contains a conservation population.
- H. **Fingerling:** This refers to hatchery fish with a mean size of three (3) inches.
- I. **Fisheries Management Plan:** A fish species management plan, primarily for the purpose of recreational sportsfishing, developed for an individual water body, stream reach, or watershed as appropriate.
- J. **Fry:** Fish with a mean size of one (1) inch.
- K. **Hatchery Production Plan:** A three year plan establishing production quotas by species, size and stocking or target transfer dates by the Ute Tribe Fish and Wildlife Department. This may be amended by stocking and/or transfers from U.S. Fish and Wildlife Service, the Utah Division of Wildlife Resources, or other fish production sources.
- L. **Hydrologic Unit Management Plan:** The Ute Tribe Aquatic Resource Management Plan is currently under development. This plan accesses the potential for beneficial uses of the aquatic resources within the jurisdiction of the Ute Tribe. The aquatic resources are inventoried by watershed (hydrologic [HUC] units for drainage, sub-drainage) to layout management considerations for aquatic species and their habitats. This document will also serve as a reservation-wide baseline inventory for the purposes of a programmatic environmental assessment.
- M. **Intensive Yield Waters:** These waters provide fishing opportunity where angling pressure is heavy or where habitat conditions are marginal for fish growth and survival. These waters are generally smaller than “basic yield waters” and are usually more heavily used recreation sites. Management involves the stocking of catchable fish. These fish are stocked to provide immediate fishing opportunities. The fish are not intended to stay in the water and grow to a larger size. Family, youth and senior and/or handicap anglers are the primary focus of this management strategy. This type of stocking is usually not done in waters managed with native or wild trout.
- N. **Introduction:** Release or stocking of fish into historically unoccupied water for promoting conservation or sportsfishing purposes.



- O. **Native Fish:** Fish species that existed historically within the exterior boundaries of the Uintah and Ouray Reservation or within its historic range.
- P. **Re-introduction:** Release of a native fish into historically occupied sites for the purpose of reestablishing populations.
- Q. **Short Stopping:** Fish being diverted from a stocking quota scheduled for one water to a water that is not scheduled to receive those fish (e.g. field personnel meeting a hatchery truck to assist with stocking and instructing the driver to divert some or all of the load of fish into another water without approval). This does not include emergency shifts of fish due to mechanical problems or water quality problems where those fish will be used as part of a scheduled and approved quota.
- R. **Stocking:** The introduction or reintroduction of native or nonnative fish produced in a hatchery and released into any water designated by the Ute Tribe Fish and Wildlife Department consistent with the intent of the Ute Tribe Stocking Policy.
- S. **Sub-catchables:** Fish with a mean size of seven (7) inches.
- T. **Transfer:** The movement of fish from one water to another water (i.e. salvage, restocking), including transfer of fish (e.g. fertilized fish eggs ) between hatcheries.
- U. **Trophy Waters:** Under this concept, waters are oriented toward providing quality fishing opportunities, not necessarily quantity. Management efforts are directed toward producing “larger than average” sized fish. Habitat quality and water size are usually determinant factors. Trophy water can be managed through either stocking or natural reproduction. Other angling use created under this concept is secondary to trophy fish production.
- V. **Wild Fish:** Free ranging fish that are the result of natural reproduction.
- W. **Wild Fish Water:** This concept allow the fish species and its habitat to dictate what can naturally be produced and sustained. Fisheries are maintained solely through natural reproduction. Whether or not this group can produce substantial fishing opportunities is not a primary management issue. The Wild Fish concept differs from the Basic Yield concept in that management efforts are directed toward sustaining fisheries that never require stocking, other than the initial transplant. Aquatic habitats under this concept are usually more pristine than those in other concepts, since it would be impossible to sustain a wild fishery in a degraded environment. Habitat preservation and enhancement receive emphasis under this concept, as do special regulations.
- X. **Wild Trout:** Any population of trout species or subspecies that is sustained solely through natural reproduction.

## **IV. PROCEDURES**

### **A. FISH HEALTH REQUIREMENTS**

1. All fish stocking and transfer into and out of Ute Tribal fish rearing facilities will be free of serious pathogens. In order to implement this policy and to prevent the spread of serious pathogens to other hatcheries and watersheds, the Ute Tribe will cooperate with the U. S. Fish and Wildlife Service Fish Health office.

### **B. FISH FROM HATCHERIES:**

1. No fish, with the exception of eggs, shall be moved from one Tribal hatchery / fish rearing facility to another within the Uintah and Ouray Reservation without written authorization from the Ute Tribe Aquatic Resource Specialist.
2. No fish, with the exception of eggs, shall be moved from a Tribal hatchery / fish rearing facility to a State, Federal or private facility without prior written authorization from the Ute Tribe Aquatic Resource Specialist and corresponding authority within the jurisdiction of the receiving agency.
3. The number and size of fish stocked from a Tribal hatchery / fish rearing facility will be identified in a Fish Stocking / Transfer Schedule. A record of the Fish Stocking / Transfer Schedule will be maintained by the Ute Tribe Fisheries Biologist and available for inspection at the Ute Tribe Fish and Department upon authorization from the Department Director.
4. Long-range (over 3 years) fish production targets will be determined in consultation with the appropriate agencies within the jurisdiction where fish will be stocked.

### **C. FISH TRANSFERS**

The Ute Tribe Fish and Wildlife Department recognizes the importance of cooperating and coordinating with other State and Federal resource agencies. Input from these agencies will be highly regarded. The number and size of fish to be transferred between waters will be identified in the Fish Stocking / Transfer Schedule maintained by the Ute Tribe Fisheries Biologist and available for inspection at the Ute Tribe Fish and Department upon authorization from the Department Director. All transfers will comply with applicable Utah Department of Agriculture Procedures pursuant to 4-37-501 Health Approval Exceptions (R58-17).

1. Wild populations of fish and/or aquatic species shall be exempt from pre-transfer health approval requirements.

2. Fish health inspections of wild populations will be performed by the Ute Tribe Fish and Wildlife Department or their designate.
3. Findings will be reported to the U.S. Fish and Wildlife Service Fish Health Center, the Utah State Health Board, Utah Department of Agriculture and/or State Veterinarian.
4. In consultation with other state or federal resource agencies, the Ute Tribe Fish and Wildlife Department may determine to take the following actions:

Transfer of salmonid species:

- a. Emergency transfers - it may be necessary for Ute Tribe Fish and Wildlife Department to transfer fish from a de-watered habitat or aquatic habitat endangered by environmental emergency. The Ute Tribe Fish and Wildlife Department will transfer salmonid fish from the endangered habitat to sites within the same drainage basin, and downstream from the endangered habitat, under the following conditions:
  - that the health of the fauna in the receiving water not be adversely impacted by the transfer, and
  - that transfers not be made to waters that serve as sources for fish culture operations, and
  - such transfers will be reported to the Utah Division of Wildlife Resources within one week of the transfer.
- b. Planned management transfers - Most transfers can be anticipated or are planned. The Ute Tribe Fish and Wildlife Department will consult and advise the appropriate resource agency when considering a management transfer between watersheds of mixed jurisdiction or interstate transfer. Information about the watersheds where the fish are transferred and the receiving watershed may include the need for transfer, disease history of fish, condition of habitat, potential risks of pathogens and to genetic diversity, and the presence and proximity of fish culture operations.

#### **D. TRANSPORTATION OF NATIVE AND NONNATIVE FISH**

Guidelines for pre-haul handling, additive, and hauling densities are as follows:

1. Record Keeping

Stocking forms will be filled out accurately and as completely as possible for each water stocked (whether it is a regular hatchery stocking, a wild fish transfer, or fish salvage). Water quality measurements and pH, will be made in the truck tanks and for each water stocked, where possible. If multiple hauls are made within one week, the receiving water be measured once.

## 2. En-route Problems

If there are mechanical failure during a haul, the first step is to contact the Ute Tribe Fisheries Biologist to determine the appropriate course of action. A copy of important phone numbers and radio frequencies should be kept in the fish hauling truck at all times. In the event that stocking an alternative site is the selected course of action, the alternative site must be consistent with conservation agreements and current management programs. Species cannot be stocked into new waters on Trust lands without prior authorization from the Ute Tribe Fisheries Biologist. Species cannot be stocked into new waters outside the boundaries of the Uintah and Ouray Reservation without prior authorization from the appropriate authority. If no prior contingency plans have been made, the fish must be returned to the hatchery if possible or killed rather than stocked into an unauthorized water.

If there are water quality problems (e.g. high temperature, ice cover, high pH, or insufficient water) at the designated delivery site, the Ute Tribe Fisheries Biologist should be contacted to determine an appropriate course of action. If no contact can be made, return to the Ute Tribe hatchery / rearing facility as soon as possible. Fish transport personnel should contact field personnel or conservation officer with responsibilities in the receiving waters about water quality conditions prior to leaving the hatchery.

Transport fish tanks will be checked prior to leaving the hatchery, after the first half hour, and every hour thereafter. Check will include temperature, oxygen levels in the water, oxygen gauge and valve, and/or paddle. Visual inspection inside the tank for surface foam, signs of stress, and air stone and/or paddle aeration activity.

## 3. Tempering and Water Quality Limits

Water temperature differences between tank and receiving waters that are greater than  $\pm 2^{\circ}\text{C}$  at arrival, or within  $\pm 8^{\circ}\text{C}$  cumulative over 5 hours of tempering should not be stocked.

Cold water fishes will not be stocked into waters with temperatures greater than  $22^{\circ}\text{C}$  or pH greater than 9.5 or less than 4.5.

## 4. Disinfection

After loading water from a different hatchery or from a receiving water, the transport trucks are to be filled with water and disinfected with 200 ppm sodium hypochlorite for thirty minutes. The outside of the vehicle and tank will be disinfected with 1000 ppm sodium hypochlorite and rinsed with pathogen free water. Rinse tank after disinfection to prevent any toxicity

problems when loading the next time. Any nets, buckets, etc. used during the haul must be disinfected for ½ hour in 200 ppm sodium hypochlorite solution after being used. Trucks are to be cleaned at a car-wash if stocking muddy sites, with special attention given to removing mud and dirt from the tires and underbody. Truck tanks not exposed to water different from its origin need not to be disinfected, but should be cleaned to keep air stones and tank interior in good condition.

## **E. CONSERVATION AND RECOVERY STOCKING OF NATIVE SPECIES**

### **General Guidelines**

1. All entries made into the Ute Tribe Stocking / Transfer Schedule will include codes and/or entries to address the following:
  - a. Define goals and objectives for stocking
  - b. Provide justification of fish selected.
  - c. Describe and justify the location to be stocked.
  - d. Describe potential impacts.
  - e. Provide rationale for size of fish.
  - f. Provide rationale for any marks and tags to be used.
  - g. Describe rationale for timing of stocking.
  - h. Discuss the likelihood of success.
  - i. Refer to Tribal monitoring assessment protocol
2. The Ute Tribe Fish and Wildlife Department recognizes the importance of cooperating and coordinating with other natural resource agencies, particularly with the signatories to the Colorado River Cutthroat Conservation Strategy Agreement. Production and stocking requests received from these entities regarding native fish stocking conducted by the Ute Tribe Fish and Wildlife Department on non-trust lands will be honored where possible. Other inputs from these agencies and other stakeholders including the angling public on trust lands will be considered.
3. Augmentation stocking may be conducted in areas where wild populations are depressed or where successful recruitment is needed to establish self-sustaining wild populations within the historic range of the species. A determination by the Fisheries Biologist in consultation with other resource agencies will be made prior to stocking that the activity will not adversely affect the overall status of the same or other native species.
4. Re-introductions will be conducted to recolonize unoccupied habitat that is suitable and occurs within the species historic range. Reintroduced populations will typically be stocked into conservation water and drainages. A determination by the Fisheries Biologist in consultation with other resource agencies will be made prior to stocking that the activity will not adversely affect the overall status of the same or other native species.

5. Stocking for purposes of establishing refugia populations may be conducted in areas where suitable habitat exists within the known historic range of the species.

### **Coordination with Recovery and Conservation Programs**

Stocking will be consistent with the Colorado River Cutthroat Conservation Strategy Agreement, other applicable conservation agreements and recovery plans, and the Ute Tribe Fisheries Management Plan.

## **F. NATIVE AND NONNATIVE SPORTFISH AND RECREATION STOCKING**

Where there is biological potential, management should emphasize wild fish whenever practical. In particular the Ute Tribe has indicated a preference for re-establishing Colorado River Cutthroat Trout throughout its historic range. The Ute Tribe Fisheries management plan will take advantage of available biological potential and habitat given the constraints of providing diverse angling opportunities and meeting angling catch rate targets.

### **General Guidelines:**

1. Stocking native species for recreation purposes is consistent with and promotes the goals of the Ute Tribe Fish and Wildlife Department.
2. Some waters within the Uintah and Ouray Reservation are capable of supporting populations of desirable game fishes as a result of natural reproduction. These waters may be considered for management as wild, self-sustaining fisheries to provide limited sports fishing opportunities. Waters managed as wild fisheries will generally not be stocked, unless environmental variables dictate augmentation stocking. Special regulations may be recommended for such waters to ensure sustainable harvest and to protect the wild population.
2. The Ute Tribe Fish and Wildlife Department recognizes the importance of cooperating and coordinating with other natural resource agencies, particularly with the signatories to the Colorado River Cutthroat Conservation Strategy Agreement. Production and stocking requests received from these entities regarding native and nonnative sportsfish stocking conducted by the Ute Tribe Fish and Wildlife Department on non-trust lands will be honored as means permit. Other inputs from these agencies and other stakeholders including the angling public on trust lands will be considered.
3. Generally, fish raised for sport fishing purposes will only be stocked into lakes or streams that have public access in accordance with the Ute Tribe Fishing Proclamation. Areas closed to the public may be stocked upon

recommendation of the Ute Tribe Fisheries Biologist and authorized by the Department Director.

4. All stocking of fish over which the Ute Tribe exercises fisheries management jurisdiction shall be in accordance with the Fish Stocking / Transfer Schedule, the Ute Tribe Fisheries Management Plan, and the Ute Tribe Aquatic Resource Management Plan (Hydrologic Unit Management Plan).
5. Stock for sportsfishing recreation will be consistent with the Colorado River Cutthroat Conservation Agreement and Strategy and other applicable conservation and recovery program objectives and goals.
6. Stocking within the Exterior Boundaries of the Uintah and Ouray Reservation within designated Wilderness areas will comply with policies and guidelines as described in the Fish Stocking and Transfer Procedures of the Utah Division of Wildlife Resources.
7. Hatchery fish will be used in altered streams that will not support an acceptable wild fishery or in man-made wild fishery when:
  - a. Natural reproduction and recruitment is not sufficient to provide an acceptable fishery (acceptable will vary depending on the management objective for the fishery as described in the Fisheries Management Plan).
  - b. The resulting fishery justifies the cost of the stocking program (e.g. return of the stocked fish will meet objectives set for catchable and fingerling fish described in this document and/or the value of the fish caught exceeds the cost of stocking). This is not a definitive criteria by itself but should be considered in the overall evaluation of a stocking program.
  - c. The proposed stocking is consistent with Conservation Agreements or inter-agency agreements for that drainage.

**New Introductions:**

1. The following steps will be followed for the introduction of non-native fish species into waters of the Uintah and Ouray Reservation.
  - a. Determine that the proposed stocking is consistent with interagency stocking agreements, conservation agreements, and recovery programs covering the drainage or sub-basin. Attempt to resolve conflicts if any with existing agreements on a case-by-case basis.

- b. A proposal addressing the following will be submitted for review to the Colorado River Conservation Team prior to introduction of a non-native fish species into waters of the Uintah and Ouray Reservation.
  - Management goals and objective to be achieved by proposed stocking
  - location of proposed stocking
  - Species, numbers and rationale for selecting the species, the potential for escapement, control measures that could be implemented to reduce the risk of escapement, and the potential for survival in habitat outside the target area.
  - the potential impacts to native species and existing wild trout populations and what can be done to avoid or remedy those impacts, including information on the feasibility and likelihood those remedies will be successful.
  - a monitoring plan for assessment of whether the goals and objective of the introduction have been achieved.
- c. Review by members of the Colorado River Basin Conservation Team and the Ute Tribe will attempt to resolve concerns regarding proposed introduction.

#### **Stocking of Nonnative Salmonids:**

1. The stocking of non native salmonids will follow all procedures outlined herein and in the general guidelines above.
2. Stocking of non-native salmonids will occur in waters that are man-made impoundments where surface connection to streams do not exist, or the likelihood of escapement into stream designated as an element in the Colorado Cutthroat Conservation Plan is unlikely.
3. Excess production fish from Ute Hatchery and/or other State, Federal hatcheries may be allocated to waters where:
  - the biological potential (e.g. growth / survival) exists to sustain more fish, or
  - catch-rate targets are not being met, and
  - the species is consistent with Ute Stocking/Transfer Schedule, and
  - the excess fish will not adversely impact the existing fishery
4. Catchable Trout Stocking
  - a. There are no established stocking rates (fish/acre) for catchables.



- b. Catchable should be stocked on waters within the jurisdiction of the Ute Tribe where those waters produce a 40% or greater return by number or at least one pound return per pound stocked based on return to creel surveys conducted by the Fish and Wildlife Department.
  - c. Catchable should be stocked on waters beyond the jurisdiction of the Ute Tribe as requested by the agency with appropriate jurisdiction, within the guidelines provide herein.
  - d. Preference will be given to catchable requests for flat water where put-grow-and take programs are not feasible, especially waters that meet criteria b. above and where 25% or more of the anglers are juveniles, seniors, and/or disabled.
  - e. Where competition, predation, or habitat conditions prohibits the use of fingerlings or advanced fingerlings, catchables may be used to maintain a fishery.
5. Fingerling, Advanced Fingerling and Sub-Catchable Trout Stocking
- a. Stocking rates may range from 50-400 fish per surface acre
  - b. Stocking quotas should be optimized within the biological potential of a specific water (fish should maintain good growth rates) and angler use.
  - c. The smallest fish possible will be stocked that will provide an acceptable return to the angler of at least one pound to the creel for each pound stocked. This is based on a mean catch rate of 0.50 ( $\pm 0.25$ ) fish per hour of trout averaging approximately 11 inches for Basic Yield, Intensive Yield, and Wild Fisheries.

### **Stocking of Other Nonnative Fish**

- 1. General Stocking:
  - a. The stocking of other nonnative fish will follow all procedures outlined herein and in the general sportfishing recreation stocking guidelines above.
  - b. In most situations, stocking of warm water species will be done on an introductory basis (fish will be stocked 1-3 years to start a self-sustaining population. The objective is to manage with species that can sustain fisheries through natural reproduction. Some general exceptions are stocks of hybrids for specifically identified purposes and locations.

- c. Generally, initial stocking of predator and forage fish into fishless waters should be at least a 1:10 ratio (1 predator : 10 forage fish).
  - d. Introduction of catfish, or predators like tiger muskies, wipers, walleyes, and smallmouth bass will be considered by the Ute Tribe Fish and Wildlife Advisory Board on a case-by-case basis. Introduction will be limited to man-made reservoirs with no surface connection to stream and rivers, and where the potential for escapement to the Duchesne River system where impacts to Colorado Pikeminnow is limited.
2. Two-story Fisheries (salmonids with cool water non-salmonids)
    - a. Tiger muskies or walleyes will not be stocked into waters where native and non-native trout are part of the management program.
    - b. Waters that have been trout fisheries but due to deteriorating water quality are only producing marginal or seasonal trout fisheries should be considered two story fishery or strictly cool water fisheries.

### **Special Event Stocking**

Stocking for special events may be allowed for the following reasons:

- c. Special event stocking of catchable trout may be made for organized fishing events for:
  - physically or mentally challenged groups
  - aquatic education events to promote sport fishing
  - senior citizens and/or youth groups
- d. Generally, special event stocking will be done in water that the public will be able to access following the event.
- e. Special event stocking will occur in small ponds or isolated stream reaches where an acceptable return to anglers can be anticipated in a limited time. Fish should be stocked at least 24 hours before the event so they can acclimate to their new surroundings and be readily caught.
- f. Species and locations for special event stocking must be consistent with Conservation Agreement and Recovery Plans and avoid water managed for native and wild fish.

## **Appendix 3**

# **United States Office of Personnel Management Qualification Standards**

## United States Office of Personnel Management Qualification Standards

### Biological Technician GS-4:

Successful completion of an associate's degree, that included at least 12 semester hours of courses with emphasis in the biological sciences.

### Professional and Scientific Positions:

#### GS-5:

1. A full 4-year course of study in an accredited college or university leading to a bachelor's or higher degree with at least 30 semester hours of course-work in biological science. This course-work must have included at least 6 semester hours in aquatic subjects and at least 12 semester hours in the animal sciences or excess course-work in aquatic subjects, or
2. Course-work in an accredited college or university which has included at least 30 semester hours in biological science with a minimum of 6 semester hours in aquatic subjects and 12 semester hours in the animal sciences. Plus additional appropriate experience or education which when combined with the 30 semester hours will total 4 years of education or 4 years of education and experience. The quality of the applicant's total background must be such that it gives him/her a professional and technical knowledge comparable to that normally acquired through the successful completion of the full 4-year course of study described above.

#### GS-7:

All of the above education requirements listed for a GS5 and one full year of graduate work or superior academic achievement. One year work experience equivalent to at least GS-5 may be substituted for education requirements.

GS-9:

Education requirements include 2 years of progressively higher level graduate education leading to a master's degree or master's or equivalent graduate degree. One year work experience equivalent to at least GS-7 may substitute for education requirements.

GS-11:

Education requirements include three years of progressively higher level graduate education leading to a doctoral degree or equivalent graduate degree. One year work experience equivalent to at least GS-9 may substitute for education requirements.

## **Appendix 4**

### **Moon Lake Electric Association Water Rights Review Letter**



MOON LAKE ELECTRIC ASSOCIATION • PO BOX 278 • 188 WEST 2ND NORTH • ROOSEVELT, UTAH 84066 • PH 722-2448

April 18, 2002

Ute Tribe Fish and Wildlife Division  
Attn: Mr. Mike Montoya  
P O Box 190  
Ft Duchesne, UT 84026-0190

Subject: Planned Big Spring/Youth Camp Tribal Fish Hatchery

Dear Mr. Montoya:

This letter is being written to express the general understanding by Moon Lake Electric of the Ute Tribe's plans regarding the subject Fish Hatchery and express our feeling of support toward the plans as we understand them.

First, it is appropriate to describe our water sources for power production in Uinta Canyon. Moon Lake Electric has a water right from Big Springs. This water flows from the main spring to a diversion structure that diverts water into an open canal that leads to our Big Springs pipe line. That pipe line carries water across the Uinta River and injects the water into the open canal that eventually leads to the power plant, through the power plant and returns to the river via the tailrace.

Moon Lake Electric also has a water right from the Uinta river. A diversion structure in the river diverts a portion of the water from the river into an open canal (the same canal carrying water at the lower end of the Big Springs pipe line) that eventually leads to the power plant. The diversion structure in the Uinta river encompasses the end of the Big Springs pipe line and is located at the upper end of the canal. The third source of water is from Pole Creek. A diversion structure on Pole Creek diverts water into an open canal that eventually enters the canal from Uinta river that leads to the power plant.

Moon Lake Electric worked with the Tribe, Federal, and State Agencies to set minimum flow requirements in the Uinta river as measured at the bridge that crosses the river near the Tribe/Forest boundary. We are limited as to the amount of water we can remove from the river and Big Springs by the minimum flow requirement.

The above water rights are non-consumptive. All three (3) resources are required to produce power at the hydroelectric plant, but the hydro production of energy is mostly dependent upon the Uinta river and Big Springs water sources.

We also have a well at the hydroelectric plant for culinary use at the residences. This is a deep, flowing well, and we have a very good source of water. Moon Lake Electric has provided a pipe line from this well to the Youth Camp for a supply of water for the Fish Hatchery that we understand is very important for the eggs and smallest of fish after eggs have hatched. This water right is consumptive.

#### I. DEVELOPMENT AT BIG SPRINGS

It is our understanding that water will be diverted on a continuous basis from the drainage, approximately 30 feet below Big Springs to the Fish Hatchery. The Fish Hatchery will use the water in a non-consumptive manner to sustain fish being raised and then the water will flow back to the open canal currently used and maintained by Moon Lake Electric. Then the water will continue to flow to Moon Lakes's Big Springs pipe line as it currently does.

Moon Lake Electric understands, based upon plans for the Fish Hatchery, that our water right and the amount of water we would receive if the Fish Hatchery is constructed or if it is not constructed is the same amount. In other words, we are not impacted either way.

We understand there will be construction activities that may interrupt water flows temporarily for use in our Big Springs canal and pipe line. We also acknowledge that the water temperature and water quality may be affected by the Fish Hatchery.

#### II. UINTA RIVER AND POLE CREEK

Moon Lake Electric understands that water flow in the Uinta River (above, near, and below Big Springs) and in Pole Creek will not be affected by the Tribal Fish Hatchery projects. Therefore, water for diversion to our hydroelectric project from these sources will not increase or diminish.

#### III. YOUTH CAMP FISH HATCHERY

We have been contacted concerning re-placement of the Tribe's existing diversion structure in the tailrace downstream from the bridge near the power plant that crosses the tailrace. The purpose of the diversion structure is to divert water from the tailrace to the Youth Camp Fish Hatchery. Since this water diversion is below the power plant, it will not have an affect on the power production.



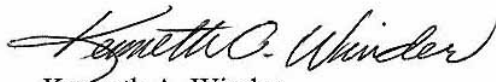
Please be aware that water is not always flowing through the power plant for a variety of reasons. Though it is a rare situation, it will happen at times and it is not always under our control as a planned event. The most common reasons for such events are maintenance on the canal, forebay, penstock, or turbines.

We recognize that we will need to coordinate our activities and notify the Tribe of planned maintenance that will affect water availability. However, we suggest that a method of supplying water under planned or unplanned circumstances that affects water flow in the tailrace be available to eliminate a catastrophic event at the Fish Hatchery.

As Moon Lake has received a letter from the Ute Indian Tribe confirming the above is accurate and that it correctly represents how diversions will provide water for use at the Big Springs/Youth Camp Fish Hatchery, and confirms that it does not affect Moon Lake Electric's Water Rights or flows for power production, Moon Lake Electric is pleased to encourage and continue our efforts with the Ute Tribe to facilitate development of the planned Fish Hatchery.

If you have any comments or questions please call me at (435) 722-5406 or by mail.

Sincerely,



Kenneth A. Winder  
Manager - Engineering

KAW:ms

## **Appendix 5**

### **UDWR Letter Supporting Development of Big Springs Hatchery**



The State of Utah  
Department of  
Natural Resources  
Division of  
Wildlife Resources

MICHAEL O. LEAVITT  
*Governor*

OLENE S. WALKER  
*Lieutenant Governor*

ROBERT L. MORGAN  
*Executive Director*

KEVIN K. CONWAY  
*Division Director*

June 18, 2003

Mr. Everett Manning, Acting Director  
Ute Indian Tribe Fish & Wildlife Department  
P.O. Box 190  
Ft. Duchesne, Utah 84026

Dear Everett:

The Utah Division of Wildlife Resources (Division) appreciates the opportunity we had to discuss wildlife issues and cooperative projects during our March 19, 2003 annual coordination meeting. One issue that arose was the clarification of the Division's position of support relative to the development of a cold-water hatchery at Big Springs. The Division fully supports the development of this facility. Construction of the hatchery would provide a means to further the expressed goals and objectives of the Conservation Agreement and Strategies for Colorado River Cutthroat Trout in the State of Utah (Agreement). In addition, development of a cold-water hatchery at Big Spring is a major action item described in the Utah Reclamation Mitigation and Conservation Commission's Revised Fish Production Plan, which is designed to provide for Tribal sport fish and Colorado River cutthroat trout needs. We would further commit to providing cutthroat trout eggs for Tribal use, particularly from stocks designated as originating from the North Tavaputs Geographic Management Unit (GMU).

We would also offer for consideration some ideas and concepts which may enhance the long-term programmatic application of the new facility as we move forward in cutthroat trout conservation activities.

The production of fish that are certified as disease-free is of paramount importance, particularly in instances where fish stocks from different sources could potentially commingle in the wild. We would urge the Tribe to ensure that accepted fish health guidelines, standards and protocols be maintained during all phases of hatchery production, transportation and stocking.

The stocking of native cutthroat should follow the water designation, protocol and time line addressed in the Cooperative Agreement. By following those steps, we will together be able to undertake those actions necessary to ultimately allow us to achieve conservation goals. Such cooperative actions would include riparian rehabilitation and/or chemical renovation of waters in the North Taveputs GMU that are of mutual interest to both the Tribe and the State, such as stream reaches in the upper Willow Creek, Bitter Creek, and Lake Canyon Lake drainages.

As these various habitat enhancements and renovation projects become fully functional, we would expect that program needs might need refinement. Future options could include measures to more effectively allocate production assets based on revised programmatic goals and species needs.

Everett, we look forward to additional opportunities to discuss ways to implement programs and projects for the benefit of the Tribe, the State, and the aquatic resources of northeastern Utah.

Sincerely,



Mr. Kevin Conway  
Director

cc: Randy Radant -SLO  
Walt Donaldson - NER  
Chad Crosby - NER  
Mike Weland - Utah Reclamation Mitigation and Conservation Commission ✓  
Ralph Swanson - DOI, Office of the Secretary  
Mike Montoya - Ute Tribe Fishing Biologist

## **Appendix 6**

### **Decision Memo and Amendment for Special Use Authorization USDA Forest Service, Ashely National Forest Duchesne Ranger District**

### **Big Springs Power Line**

**DECISION MEMO**  
**USDA Forest Service, Ashley National Forest**  
**Roosevelt Ranger District**

**BIG SPRINGS POWER LINE**  
**T2N, R2W Sec 4, UBM**  
**Duchesne County, Utah**


I have decided to issue a Special Use Permit for less than one mile of power line. The proposed line spurs from an existing power pole, follows an existing line corridor to a point of intersect with Forest Road #118 for approximately ¼ mile. It then follows FR118 another ¼ mile north to the junction of Forest Roads 118 and 112. The line will terminate after following along the existing FR 112 power line approximately 1/8 mile to the Ute Tribal Land boundary and Big Springs Recreation Area. Resource disturbance will be limited to the areas where power poles will be set. Access to the power pole sites exists.

This action is excluded from documentation in an EIS or EA under FSH 1909.15 Section 31.1b, item 3d "Approval modification, or continuation of minor special uses of National Forest system lands that require less than five contiguous acres of land." a specific category established by the Chief of the Forest Service. As the corridor runs along existing power line and road locations no extraordinary circumstances are present for areas within this proposed action.

Public scoping of the proposal was accomplished through the local paper and phone calls to interested parties including Moon Lake Electric, Bureau of Indian Affairs and US Fish and Wildlife Service. No issues were identified.

This decision is consistent with the Ashley National Forest Land and Resource Management Plan as required by the National Forest Management Act (FSM1922.41 and FSH 1909.12) and is in the public interest determination (36 CFR 254.3© an FSM 5430.3)

This action can be implemented immediately. Contact Joseph R. Bistryski, Duchesne/Roosevelt District Ranger, and PO BOX 981, DUCHESNE UTAH, 84021 or at [jbistryski@fs.fed.us](mailto:jbistryski@fs.fed.us) for further information.

  
JOSEPH R. BISTRYSKI  
District Ranger

9-20-12  
Date

Authorization ID: RST401201  
Contact ID: MOONLAKEELECT  
Use Code: 641

Page 1 of 1  
FS-2700-23 (4/97)  
OMB No. 0596-0082

U. S. DEPARTMENT OF AGRICULTURE  
Forest Service

AMENDMENT  
FOR  
SPECIAL USE AUTHORIZATION  
AMENDMENT NUMBER: 5

This amendment is attached to and made a part of the special use authorization (indicated above) issued to MOON LAKE ELECTRIC ASSOCIATION on 06/09/1987 which is hereby amended as follows:

The proposed line spurs from an existing power pole, runs across country through scattered trees and sagebrush, and across Forest Road #118 for approximately 1/4 mile. It then turns and spurs across the Uintah River and runs along the north side of the Big Springs pipeline for approximately 600 feet to Ute Tribal Boundary and the Big Springs Recreation area. Resource disturbance will be limited to areas where power poles will be set. There will also be some tree clearing necessary along the Big Springs pipeline. Access to pole locations already exists.

This Amendment is accepted subject to the conditions set forth herein, and to conditions \_\_\_\_\_ to \_\_\_\_\_ attached hereto and made a part of this Amendment.

-----  
Holder: *[Signature]* Authorized Officer: *Clark Tucker*  
Holder: *[Signature]* Title: *DFR*  
Date: *1-02-03* Date: *12/12/02*