COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT
2007-2008 GRANT APPLICATION FORM

Name of Water Activity/Project | **River Basin Location**

Amount of Funds Requested		Please Check Applicable Box		Approval Letter Signed By Roundtable Chair and Description of Results of Evaluation and Approval Process
$22,100	X	Basin Account	X	Yes
		Statewide Account		No

<u>* For the Basin Account, the Application Deadline is 60 Days Prior to the Bimonthly CWCB meeting. The CWCB meetings are posted at www.cwcb.state.co.us and are generally the third week of the month.</u>

<u>* For the Statewide Account, the Application Deadline is 60 Days Prior to the March and September CWCB Board Meetings.</u>

* In completing the application you may attach additional sheets if the form does not provide adequate space. If additional sheets are attached please be sure to reference the section number of the application that you are addressing (i.e., A.1. etc.).

<u>Instructions</u>: This application form must be submitted in electronic format (Microsoft Word or Original PDF are preferred). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Water Supply Reserve Account Criteria and Guidelines can be found at http://cwcb.state.co.us/IWMD/. **The criteria and guidelines should be reviewed and followed when completing this application**. You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Todd Doherty of the Intrastate Water Management and Development (Colorado Water Conservation Board) for assistance, at (303) 866-3441 ext.3210 or email Todd at todd.doherty@state.co.us.

Generally, the applicant is also the prospective owner and sponsor of the proposed water activity. If this is not the case, contact the Todd Doherty before completing this application.

Water Supply Reserve Account – Grant Application Form
Form Revised May 2007

Part A. - Description of the Applicant (Project Sponsor or Owner);

1. **Applicant Name(s):** Painted Sky Resource Conservation and Development Council, Inc.

Mailing address: 690 Industrial Blvd.
Delta, CO 81416

Taxpayer ID#: 84-1489087 Email address: Painted_sky@sopris.net

Phone Numbers: Business: 970.874.5735 x 135
Home: 970.323.0467
Fax: 970.874.4706

2. **Person to contact regarding this application if different from above**:

Name: Richard Harding

Position/Title President of the Board

3. Provide a brief description of your organization below: see "Description of Applicant" in Part 2 of Criteria and Guidance for required information.

The applicant for funding is an organization incorporated in the State of Colorado, doing business as Painted Sky Resource Conservation and Development Council (Painted Sky). The organization was incorporated on March 30, 1999, and received final notification of tax-exempt status (501(c)(3)) in January, 2004. The Council is part of a nationwide network of Resource Conservation and Development (RC&D) Councils, which collectively receive staff and other support from the USDA agency, the Natural Resources Conservation Service. Although Painted Sky is supported by USDA, it is an independent entity that is directed by a volunteer board made up of representatives from the designated area. That area includes Delta, Gunnison, Montrose, and Ouray Counties, with portions of San Miguel, Hinsdale and Saguache County. Bylaws and Articles of Incorporation are included in the Appendix to this proposal.

Painted Sky works "to compliment, balance, and promote natural and human resources to improve the

general level of economic activity and enhance the environment and standard of living in the Painted Sky RC&D area." Since incorporating, Painted Sky has initiated a number of projects that have improved water quality, wildlife habitat, agricultural productivity and energy efficiency within the region. Some continuing and new efforts have grown out of the efforts of Painted Sky board members, staff, and partnering communities and agencies:

- the Selenium Task Force was originated by Painted Sky staff; the Task Force continues to work as a discrete organization, reducing selenium transport to ground- and surface-waters of the region
- recipient of EPA "319" funding to document "best water management practices" for water conservation in ponds, golf courses, and agricultural uses
- wildfire planning for area communities within urban-interface zones
- a County-wide planning and action committee eliminating tamarisk from the Gunnison and Uncompahgre River basins
- park and trail development for area municipalities
- establishment of a permanent revolving loan fund for business energy improvement financing
- development of a for-profit "fee-for-service" grant research and writing division to assist communities with key community facility projects

Since 1999, Painted Sky has established a track record as an organization with the ability to get things done at a local level through partnership, cooperation, and coordination. The organization has independently administered nearly $1 million in funding, and has spun off a number of ventures that continue to produce environmental and community benefits to the region.

In the proposed project, Painted Sky will partner with Delta County, the owner of the Hartland Diversion Dam, the Hartland Ditch Company, and other local, State, and Federal entities with interest in fish and/or boater passage over the structure. As with most of Painted Sky's projects, the actual specifications of the fish passage structure have been recommended by an ad-hoc Project Management Sub-Committee, which provides recommendations to Painted Sky's Executive Committee. This Sub-Committee consists of Delta County representatives, Federal staff from the Fish and Wildlife Service, the Natural Resources Conservation Service, the President of the Hartland Irrigation Company, as well as local or State personnel with specific expertise of use to the group.

The request for funds comes at a crucial time for the success of the entire fish passage project, with potential funds allocated for implementation by the Fish and Wildlife Service (FWS) through the administration's stimulus package. Mr. Rick Krueger, Fish and Wildlife Biologist with FWS in Grand Junction, has informed Painted Sky that up to $700,000 may be available to construct the fish passage structure. However, these funds are contingent upon the project being 'Shovel-Ready' and currently only a set of alternatives and outdated cost estimates are available from a prior study by the Bureau of Reclamation (2000). Quick work is needed, by a qualified engineering firm, to select a suitable and cost-effective design and produce drawings and a current cost estimate. If this can be achieved by mid-2009, FWS funds are

likely to be made available this year for final engineering and construction.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

N/A

Part B. - Description of the Water Activity – Please Refer to Criteria and Guidance Document for Eligibly Requirements

HARTLAND DIVERSION DAM FISH PASSAGE FEASIBILITY STUDY

What is the purpose of this grant application?

[ ] Environmental compliance and feasibility study

[X] Technical Assistance regarding permitting, feasibility studies, and environmental compliance

[X] Studies or analysis of structural, nonstructural, consumptive, nonconsumptive water needs, projects

Study or Analysis of:

- [X] Structural project or activity
- [ ] Nonstructural project or activity
- [ ] Consumptive project or activity
- [X] Non-consumptive project or activity

[ ] Structural and/ or nonstructural water project or activity

2. Describe how the water activity meets these Threshold Criteria.

1. The water activity meets the eligibility requirements outlined in Part 2 of the Criteria and Guidelines.

The proposed project, "Hartland Diversion Dam Fish Passage Feasibility Study" meets the criteria established in Senate Bill 06-179, as an Eligible Water Activity. The proposed project consists of a feasibility study of the Hartland Diversion Dam, and will include a conceptual design for fish and/or boater passage, an up-to-date cost estimate of construction and permitting costs, and analysis of any environmental compliance requirements pursuant to potential Army Corps of Engineers jurisdiction over the project. Requested funds will not be used to physically alter the diversion structure, but will only assess cost and methods for doing so.

2. The water activity is consistent with Section 37-75-102 Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

The proposed study will proceed from the foundational principle that the water rights of the Hartland Ditch Company will not in any way be superseded, abrogated, or otherwise impaired by any changes made to the structure to achieve fish and/or boater passage. This principle has been pursued from the beginning by the Project Management Sub-committee convened to advise Painted Sky's Executive Board on this project. As a principle, it has also allowed Painted Sky to attract the Hartland Irrigation Company to the table, as a motivated partner with a stake in the outcome of the project. See Appendix for the Letter of Support from the Hartland Ditch Company, signed by Vice President of the company, Earnest Schaaf.

3. The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

4. The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

The proposed project will include, as part of the scope of work, an analysis of the water needs of the existing diversion structure, to ensure to the facility owners and interested stakeholders that the water rights of the Hartland Ditch Company are not negatively impacted. Therefore, the project meets Section 37-75-104(2) C.R.S., as it will propose a method by which passage over the structure will be established in such a way that those water rights are not limited, impeded, or otherwise diminished.

3. For Applications that include a request for funds from the Statewide Account, describe how the water activity meets the Evaluation Criteria. See Part 3 of Criteria and Guidelines.

N/A – Requesting funds from Basin Account

4. Please provide an overview of the water project or activity to be funded including – type of activity, statement of what the activity is intended to accomplish, the need for the activity, the problems and opportunities to be addressed, expectations of the participants, why the activity is important, the service area or geographic location, and any relevant issues etc. Please include any relevant TABOR issues that may affect the Contracting Entity. Please refer to Part 2 of Criteria and Guidance document for additional detail on information to include.

Painted Sky proposes to study and design a structure in conjunction with the existing Hartland Diversion Dam, which enables upstream fish passage while preserving the current volume of water diverted by the structure for private use. Pending successful completion of the study and design, Painted Sky has been informed that approximately $700,000 has been allocated to construct the fish passage structure; however, requested funds in this proposal are required to bring the project to a "Shovel-Ready" status, in order to access stimulus funds for project implementation.

Painted Sky was selected as the facilitating organization to bring together the multiple collaborative partners in the Hartland Diversion Dam project. Those partners providing technical design, planning, financial management, or construction include:

- U.S. Fish and Wildlife Service
- Delta Conservation District
- Colorado Watershed Assembly
- USDA-Natural Resources Conservation Service
- Colorado Division of Wildlife
- Colorado River Water Conservation District
- Hartland Irrigation Company
- Private landowners

Together, Painted Sky's partners, staff, and board members have the planning and development expertise necessary to design and build a safe and effective fish passage structure. The Hartland Irrigation Company's President, Mr. Ernie Shaff, has been involved in initial planning discussions, and fully supports the effort to implement a fish passage structure, so long as the company's water right is not impacted. All project partners are proceeding with the understanding that any change to the Hartland Diversion Dam will not adversely affect the company's water right.

The privately-owned Hartland Diversion Dam is located two and one-half miles northeast of Delta, Colorado, in Delta County. See Appendix, "Maps of Study Area" for the exact location of the structure. The structure is approximately three miles upstream of the confluence of the Gunnison and Uncompahgre Rivers. The North Fork of the Gunnison enters the Gunnison River just east of Delta, near the Town of Austin.

The Hartland Diversion Dam is largely unseen by the public, surrounded as it is by private lands. Mr.

William Hutchins owns the agricultural lands directly east of the Dam. Will is the Secretary/Treasurer of the Delta Conservation District, and a successful producer and conservationist in his own right. During a recent field trip to the site of the Dam, partners observed the structure in operation during average river volume after spring snowmelt, in July. The Gunnison flows roughly north to south at this location, and partners accessed the site through Mr. Hutchins' property. There is also a 30-foot easement held by the Hartland Irrigation Company, for access to the structure off of "I" Road, on the west side of the river.

The Hartland is a low-head dam that was constructed in 1881, and delivers an average of 40 cfs of water into the Hartland Ditch with a typical headgate. The diversion structure routes water into the ditch on the west side of the river. The dam itself is 5 feet high and spans the entire width of the river. It is constructed of railroad iron driven vertically into the river substrate and reinforced with steel and rip-rap. The structure, headgate, and ditch are owned and operated by the Hartland Irrigation Company, President Ernie Schaaf. Approximately three-fourths of a mile downstream of the Dam, there is an existing spill channel for returning excess flows from the Ditch back into the Gunnison River.

The Hartland dam is a barrier to fish of all varieties including a growing game fish population. It is also a complete barrier to the Federally listed Colorado pike minnow (*Ptychocheilus Lucius*) and razorback sucker (*Xyraucheu Texanus*). The Hartland diversion structure is 3.7 miles upstream of designated critical habitat which extends from the Gunnison confluence in Grant Junction to the mouth of the Uncompahgre River at Delta. However, this reach of the river from the Uncompahgre confluence to the base of Hartland dam is known to be occupied habitat because sampling studies have shown both Colorado pike minnow and razorback suckers are readily found in this reach of the river. The U.S. Fish and Wildlife Service strongly believe that passage at the Hartland diversion is in the best interest of endangered fish because it provides additional habitat. However, the project has not been a high priority since biologists have determined that low water temperatures upstream of the Dam are unlikely to support large populations of endangered fish. Besides providing passage for endangered and native fish, game fish passage has the potential to increase recreational opportunities upstream, which will increase fishing opportunities and provide a positive impact to the economy of the City of Delta and surrounding communities.

The Hartland Dam is a dangerous barrier to boaters. The extreme safety hazard is caused when boats get caught in the lateral wave at the toe of the dam. A number of near drownings have occurred when boats going over the dam and get caught in the hydraulic (re-circulating wave) at the toe. In 2002, two young boys drowned while swimming at the base of the dam. Although partners are not seeking boat passage as a major ultimate objective of the planning project, it is an issue that is of interest to Hartland Irrigation Company for reasons of liability.

Partners envision a series of step pools on the downstream side of the Dam, raising the level of water in increments to allow for fish passage and safe boater passage. This project has been examined in two previous studies, which are summarized below.

Partners meeting in July of 2008 agreed that the goals of fish and potentially boater passage could be

achieved with a project costing well under the cost of the three alternatives presented by Tetra Tech for the Bureau of Reclamation. Overall, the goal of this project is to utilize local expertise to re-formulate an investigative study of the Bureau alternatives, and essentially find a way to design a series of step-pools that will be affordable while achieving the primary objective of fish passage.

Upon successful completion of the proposed study, Painted Sky will utilize available funding to design and build a modification that will allow passage for boaters and fish. By doing so, Painted Sky will help stimulate the recreation and tourism economy in Delta County. Anglers will have access to approximately seven miles of additional stream habitat upstream of the structure, which is currently devoid of many fish species. Boaters will be able to float the Gunnison River from Pleasure Park all the way to Delta without danger of capsizing while passing over the diversion, or without the trouble of portaging around the existing structure—which results in trespass on private property. These enhancements to river tourism will result in increased hotel and restaurant patronage, and other spin-off effects of spending association with increased local tourism.

5. **Please summarize the proposed scope of work. Please refer to Part 2 of the Criteria and Guidance document for detailed requirements. On the following page there is an example format for the Scope of Work. You can use the example format or your own format, provided that comparable information is included.**

Painted Sky's proposed contractor, Tetra Tech of Breckenridge, Colorado, is the ideal technical firm to complete the design and cost estimate. The company worked with BOR funds in 2000 to formulate rough sketches of three alternative designs. Tetra Tech will provide a lowest-cost conceptual alternative and updated cost estimate that will deliver a full decree of irrigation water while allowing for fish migration and safe recreational boating passage. The preliminary design would deliver a plan capable of mobilizing FWS funds for final engineering and construction. Partners such as the Delta Conservation District and Delta County will join with NRCS and Painted Sky to secure additional services to build the structure as soon as possible. Current estimate of the project construction deadline is March 30, 2010. Painted Sky has already secured donations of rock for the project, from area landowners, and will seek additional donations of services and equipment for transport. Mr. Hutchins has agreed to allow temporary staging of rock on his property, for use in construction next winter. This is truly a community-supported effort.

Painted Sky proposes to use requested funds to hire specializing contractor, Tetra Tech and associates, and continue to convene a panel of technical experts including local and regional project stakeholders, to investigate other potential alternatives to those provided in the Bureau report. The study would be restricted to conceptual preliminary designs that would meet stakeholder objectives. Ms. Peggy Bailey of Tetra Tech, author and lead engineer for the Bureau of Reclamation report in 2000, states that Tetra Tech will provide a 40% conceptual design, which would be sufficient to estimate total project costs and provide a preliminary design to be used in the next phase of the project to produce the final engineering design ready for bid packaging. A draft budget for full implementation of the design would be included, including contracting costs for a full engineering design. For overall project management, Painted Sky will utilize expertise of Ms. Bailey of Tetra Tech, local experts as available, NRCS engineers for design review, and NRCS' RC&D Coordinator and Painted Sky board members and their contractors for overall project management.

One partner to be utilized by Tetra Tech is local consulting firm, Crane Associates. This local firm is provided as an example of potentially-available expertise, which may be required in order to keep conceptual design costs affordable. Mr. Crane has successfully completed many restoration and irrigation diversion projects on the North Fork of the Gunnison, and was the lead author of a similar study completed in 2005 for the Colorado Cooperative Company, an irrigation company managing the Highline Canal in western Montrose County. In the document, which was a conceptual analysis and recommendation for a fish and boater passage structure associated with the diversion structure, Crane Associates provided an analysis of existing physical conditions, outlined a proposed alternative, and identified project materials sources and specifications with cost estimates. The request for funding from CWCB will have a very similar scope of work. The finished product or deliverable is a study that can be used by Painted Sky and partners to secure design assistance and ultimately support construction and

maintenance of the passage structure during winter, 2009. See Tetra Tech corporate description and resume of Ms. Peggy Bailey in the Appendices to this proposal.

Budget and Timeline

Tetra Tech has provided an estimate of time required to complete the proposed study, and provided the figure of $20,000 for completion of the study, with local support. The study would be completed on a contractual basis, with Painted Sky providing administrative services including fund disbursal, accounting and book keeping, project reporting and public communications. These funds would be expended entirely as a "contractual" expense, thus eliminating the need to itemize transportation and/or supplies costs here. Use of the Painted Sky office and facilities, vehicle use, and other miscellaneous expenses are covered by Painted Sky's indirect cost rate.

Painted Sky requests a standard 15% indirect cost rate over and above direct costs, to cover administrative and other organizational expenses. Those expenses pay for salary and fringe benefits for professional administrative management, and a portion of the organization's monthly and annual operating expenses. That figure amounts to $3,000 in indirect expenses. As a match to the proposed project, Painted Sky will reduce the standard indirect cost rate to 10% and contribute $1,000, toward those costs. Total project costs, including direct and indirect costs, would be no more than $22,100.

Timeline of project is included below, see Phase I. The total project is shown with implementation of passage structure through completion, estimated to be during winter 2009-2010. Project will begin immediately upon confirmation of support from CWCB and/or other funding partners.

	Project Activity	Months						Partners Involved
		1	2	3-6	7-12			
PHASE I FEASIBILITY STUDY	Task I – Site Visit							Painted Sky; FWS; NRCS; DOW; Tetra Tech; Delta Cons District; Hartland Irrigation Co.
	Task II – Drawings Task III- Hydraulic Analysis							Painted Sky; NRCS; Tetra Tech; local support
	Coordinate with NRCS for peer review of conceptual design.							Tetra Tech; Painted Sky

	Task IV – Quantities and Costs							Tetra Tech
	Task V – Technical Memorandum							Tetra Tech
PHASE II **IMPLEMENTATION**	Seek additional financial resources for technical design services/engineering.							Painted Sky RC&D; NRCS; FWS
	Finalize engineering and technical design based on feasibility recommendations.							Painted Sky RC&D; NRCS; Tetra Tech; NRCS; other contractor(s)
	Construction of passage structure.							Selected contractor(s)

Scope of Work:

Hartland Diversion Dam Fish Passage Feasibility Study

I. Task 1 – Site visit and kick-off meeting

Tetra Tech will meet with the Project Management Committee (PMC) to review past studies and develop a clear set of project goals and objectives. The PMC will tour the project site with the engineers to identify site specific issues including the concerns of adjacent landowners.

Cost:
Project Manager: 8 hours at $155/hour= $1,240
Project Engineer: 8 hours at $100/hour=$800

Total= $2,040

Task 2 – Drawings (schematics with plan and typical details)

Tetra Tech will develop a set of conceptual drawings with details based upon the agreed set of

project goals and objectives developed by the PMC.

Cost:
Project Manager: 12 hours at $155/hour= $1,860
Project Engineer: 40 hours at $100/hour=$4,000
Draftsman: 24 hours at $80/hour=$1,920

Total= $7,780

Task 3 – Hydraulic Analysis

A preliminary HEC-RAS hydraulic analysis will be developed and run on the proposed concept. The hydraulic analysis will use the existing cross sectional data obtained from the 2000 Bureau of Reclamation study and adjusted for current conditions and proposed design.

Cost:
Project Manager: 8 hours at $155/hour= $1,240
Hydraulic Engineer: 16 hours at $85/hour=$1,360

Total= $2,600

Task 4 – Quantities and costs

Tetra Tech will develop a preliminary cost estimate and quantities list based upon the conceptual design and available rock sources.

Cost:
Project Manager: 5 hours at $155/hour= $775
Project Engineer: 18 hours at $100/hour=$1,800
Hydraulic Engineer: 8 hours at $85/hour=$680

Total= $3,255

Task 5 – Prepare technical memorandum, distribute for review

Tetra Tech will develop a preliminary cost estimate and quantities list based upon the conceptual design and available rock sources.

Cost:
Project Manager: 12 hours at $155/hour= $1,860
Project Engineer: 16 hours at $100/hour=$1,600
Draftsman: 4 hours at $80/hour=$320
Clerical: 2 hours at $65/hour=$130

Total= $3,910

II. Budget
Painted Sky RC&D Council, Inc. will provide grant administration for approximately 10% of the project direct cost and will also provide $1,000 in administrative costs as in-kind support for the project.

Task 1	$ 2,040
Task 2	$ 7,780
Task 3	$ 2,600
Task 4	$ 3,255
Task 5	$ 3,910
Travel & Printing	$ 515
Subtotal	$20,100
Grant administration	$ 2,000
Total Budget	**$22,100**

III. Personnel
Tetra Tech will be the lead project contractor, with Peggy Bailey, author of the 2000 Bureau of Reclamation report, taking the lead (see Appendix for Resume and Prior Project History). Ms. Bailey will be supported by contributing partners and prior study authors and contributing engineering support from Crane Associates of Hotchkiss, Colorado.

IV. Schedule
See timeline, above.

6. **Water Availability and Sustainability – this information is needed to assess the viability and effectiveness of the water project or activity. Please provide a description of each water supply source to be utilized for, or the water body to be affected by, the water activity. For water supply sources being utilized, describe its location, yield, extent of development, and water right status. For water bodies being affected, describe its location, extent of development, and the expected effect of the water activity on the water body, in either case, the analysis should take into consideration a reasonable range of hydrologic variation.**

The proposed project will take place within the Gunnison River approximately 2.5 miles east of Delta, Colorado. The habitat to the affected by installation of fish passage at the existing diversion would impact approximately seven miles of Gunnison River main stem and tributaries, as indicated in the map entitled "CWCB Proposal Map of Enhanced Habitat" (see Appendices).

Due to action of water, downstream landowner Mr. Will Hutchins has observed erosion of the east side of the Gunnison River, which abuts his farm. In this section of the Gunnison, a sudden turn to the south at XS1800 (see Appendices for map entitled, "Figure 5.1, Project Plan View with Cross Section Locations") causes a southerly flow of the river as it passes the Hutchins property. The Hartland Ditch draws water from

the western side of the river. The bulk of the volume of water during higher flows appears to pass closest to the eastern side thus impacting Mr. Hutchin's property. Within the past year, he has worked with the Delta-Montrose Electric Association to stabilize the bank approximately 100 yards south of the diversion structure.

7. **Please provide a brief narrative of any related or relevant previous studies.**

Previous Study: US Fish and Wildife

The interest among U.S. Fish and Wildlife Service staff in creating fish passage at the Hartland was formalized as early as 1996 in a report by Fishery Biologist Bob D. Burdick and Frank K. Pfeifer entitled, "Discussion of the Merits for Fish Passage at Hartland Diversion Dam on the Gunnison River Near Delta, Colorado." As stated above, the project was originally identified as an action item for the Service's Recovery Program, known as "RIPRAP" or Recovery Implementation Program Recovery Action Plan.

This report indicated that, at the time, the Fish and Wildlife Service's position was that total or partial removal of the structure would be desirable to pass fish. Fish passage upstream and boat passage downstream were explored, with the statement that "the key to enabling fish to ascend some swift chutes is rock placement and associated resting pools, which could be hazardous to boaters." Therefore, the Service concluded that these two functions should be considered separately, as they may have separate engineering and materials requirements.

The bulk of the Fish and Wildlife Service report focused on the quality and extent of various fish habitat that could be opened up with fish passage upstream of the Hartland. The report states, "Hartland Diversion Dam presently bisects a 17-mile long floodplain on the Gunnison River between Roubideau Creek (river mile 50) and Austin (river mile 67). Although razorback sucker appear to be extirpated from the Gunnison River, this 17-mile reach is considered a priority razorback sucker restoration site because it is the only flooded bottomland habitat that exists in warmwater reaches of the Gunnison River." This floodplain habitat may have historically been used by these and other fish for spawning. The report also notes that the numbers of adult roundtail chub captured immediately upstream of the Hartland were significantly lower (a magnitude of about 5 times) than those downstream of the structure.

In summary, the U.S. Fish and Wildlife Service's 1996 report recommended that the RIPRAP programshould proceed with a design and engineering feasibility study for fish passage at the Hartland.

Previous Study: U.S. Bureau of Reclamation

In 2000, the U.S. Bureau of Reclamation commissioned a study by the consulting firm, Tetra Tech, Inc., entitled "Concept Development Report, Hartland Diversion Dam Fish Passage Structure, Delta, Colorado. This study was also related to the U.S. Fish and Wildlife Service's RIPRAP program, and the primary stated reason was to open fish passage for the endangered Colorado pikeminnow and the razorback sucker. The report examined three alternatives in detail, including a concrete fish ladder on the east bank, an open channel boulder drop-pool fish ladder on the east bank, and the reconstruction of the dam for fish and boater passage in an open channel drop-pool sequence through the center of the river.

The first two alternatives were determined to meet the goal of providing fish passage, and were estimated at roughly $500,000 in construction and maintenance (estimate uses dollar value in the year 2000). The third

alternative, involving regarding of 250 feet of river, installation of concrete cutoff walls, and over 20,000 tons of rock, also provides for boater passage, but comes with a price tag of over $2 million.

The bulk of the Bureau report is dedicated to describing general criterial for conceptual layout and grading of the three alternatives, development of basic design information, cost estimates, evaluation of the alternatives, and recommendations. See Appendix, "Table 7.6, Summary of Alternatives" for details from this report.

The Bureau-commissioned report stops short of selecting or recommending one of the three proposed alternatives. Rather, recommendations focus on issues that need to be addressed for each of the different designs.

8. Additional Information – If you feel you would like to add any additional pertinent information please feel free to do so here.

U.S. Fish and Wildlife Service personnel have committed up to $700,000 in Federal stimulus funding to complete final engineering and construction of the project. However, these funds are available only for "Shovel-Ready" projects that can be completed by the end of fiscal year 2010. The intent of these funds is to create jobs and build critical infrastructure to stimulate the economy of the region. Requested support from CWCB, if awarded, will quickly bring the project concept to construction-ready status. As such, these funds are crucial for leveraging the award for implementation. A relatively small award from CWCB can stimulate the final development of this much-studied and long-awaited project, and Painted Sky would duly recognize CWCB for making the entire project possible.

The above statements are true to the best of my knowledge:

Signature of Applicant:

Print Applicant's Name:

Project Title:

Return this application to:

Mr. Todd Doherty
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 600
Denver, CO 80203

To submit applications by Email, send to: todd.doherty@state.co.us