STATE OF COLORADO

Colorado Water Conservation Board
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TO: Colorado Water Conservation Board Members

FROM: Chris Sturm, Stream Restoration Coordinator
Watershed Protection & Flood Mitigation Section

DATE: January 19, 2010

SUBJECT: Agenda Item 6, January 26 -27, 2010 Board Meeting
Fish and Wildlife Resources Fund Grant Application

Introduction

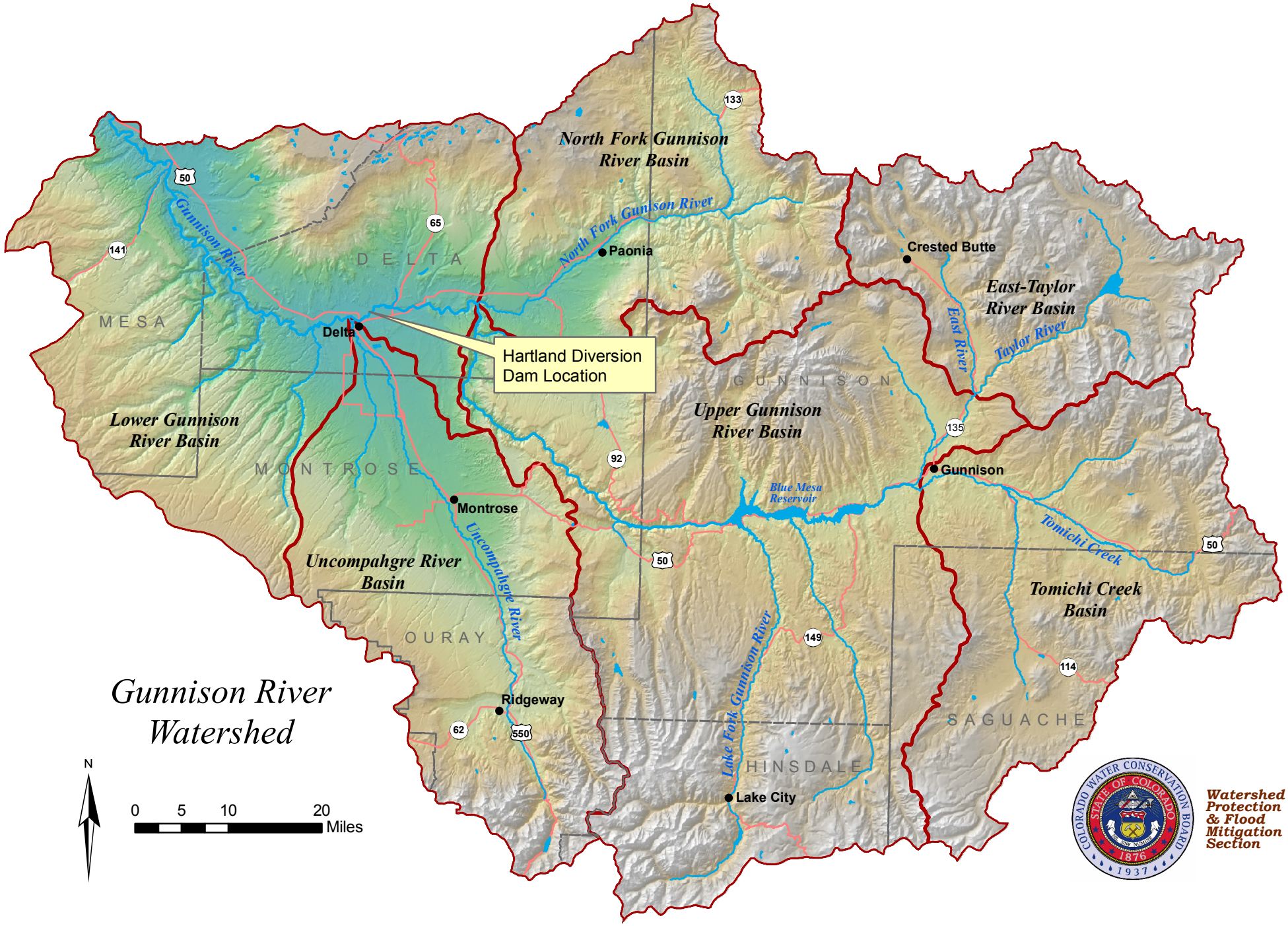
The Fish and Wildlife Resources Fund (FWRF) was established by the Legislature in 1987. It was amended in 2002 to help mitigate the impacts of existing water facilities. The Hartland Diversion Dam on the Gunnison River was built 129 years ago. Since then, fish species in the Gunnison River have not been able to access 90 miles of upstream habitat, channel banks below the dam have degraded, and three people have perished in boating accidents caused by the dam. The USFWS considers three fish species targeted by this project as species of concern. They include the roundtail chub, flannelmouth sucker, and the bluehead sucker. The former two are identified by the State DOW as species of special concern.

Discussion

Painted Sky, LLC is submitting an application to the FWRF to design and construct a fish passage structure through the Hartland Dam. The project goals include increasing fish habitat connectivity, increasing fish population, stream bank stabilization, recreational hazard mitigation, and maintenance of senior water rights. The project is supported by the US Fish & Wildlife Service, USDA, Hartland Irrigation Co., Colorado River Water Conservation District, CDOW, the Gunnison Basin Roundtable, Montrose, and Delta (counties & cities). The USFWS has identified the project as high priority to fund with American Recovery and Reinvestment Act stimulus money. The project implements CWCB policy by "Protect(ing) the environment and the ability to continue to utilize water by protecting and restoring streams and lakes" (p. 5 CWCB Strategic Plan, Policy Implementation).

Staff Recommendation

Staff has reviewed Painted Sky's FWRF application and found it in conformance with Board Policy 15. Staff recommends that the Board approve a non-reimbursable expenditure up to $560,000 from the Fish and Wildlife Resource Fund for the purpose of providing matching dollars to the Hartland Diversion Reconstruction and Fish Passage Project. This amount represents 30% of the total Project cost. The remaining costs will be provided by USFWS ($804,000 cash committed) and other stakeholders ($484,000).


North Fork Gunnison River Basin
North Fork Gunnison River
Paonia
Crested Butte
East-Taylor River Basin
East River
Taylor River
Gunnison River
DELTA
MESA
Delta
Hartland Diversion Dam Location
GUNNISON
Upper Gunnison River Basin
Lower Gunnison River Basin
MONTROSE
Gunnison
Blue Mesa Reservoir
Montrose
Tomichi Creek
Tomichi Creek Basin
Uncompahgre River Basin
Uncompahgre River
OURAY
Ridgeway
Lake Fork Gunnison River
HINSDALE
Lake City
SAGUACHE
Gunnison River Watershed
N
0 5 10 20
Miles
Watershed Protection & Flood Mitigation Section

POLICY NUMBER: 15

SUBJECT: **CONSIDERATION AND APPROVAL OF FISH AND WILDLIFE RESOURCES FUND APPLICATIONS FOR INSTREAM FLOWS AND RIVER RESTORATION PROJECTS.**

EFFECTIVE DATE: September 12, 2002

POLICY: The Colorado Water Conservation Board (CWCB) will accept applications throughout the year for grants from the Fish and Wildlife Resources Fund for the appropriation or acquisition of instream flow water rights and river restoration construction projects to mitigate the effects of the construction, operation, and maintenance of water diversion, delivery, and storage facilities.

Applications for mitigation grants from the Fish and Wildlife Resources Fund will be accepted for the following types of projects:

1. The appropriation or acquisition of water rights for the purpose of preserving or improving the natural environment to a reasonable degree to mitigate the impact of an existing water facility.
2. River restoration feasibility studies and construction projects that are designed to directly mitigate or significantly improve the environmental impacts of existing water facilities.

The CWCB may, in any year, approve grants to fund any project in the above categories that the Board deems worthy of funding through the Fish and Wildlife Resources Fund. In order to protect the long-term integrity of the Fish and Wildlife Resources Fund, instream flow and river restoration projects mitigating the impacts of existing water supply facilities will be limited to 40% of the Fish and Wildlife Resources Fund balance as of July 1, 2002.

The project applicant must have completed a fully executed funding contract with the CWCB within 2 years of the grant authorization by the CWCB, or the Board will consider de-authorization of the grant.

PURPOSE: To establish an approval process for instream flow and river restoration construction project grants from the Fish and Wildlife Resources Fund.

APPLICABILITY: This policy and procedure applies to applications for instream flow or river restoration construction project grants from the Fish and Wildlife Resources Fund.

PROCEDURE: Prior to a Board meeting, the CWCB staff will prepare for the Board's consideration a summary of the technical, financial, and institutional characteristics of each proposed instream flow water right appropriation or acquisition, river restoration feasibility study or construction project. Each application will be reviewed for conformity with the goals and

objectives of the CWCB Strategic Plan. Grant applications will be considered only in the following two categories:

1. The appropriation or acquisition of water rights for the purpose of preserving or improving the natural environment to a reasonable degree to mitigate the impact of an existing water facility.
2. River restoration feasibility studies and construction projects that are designed to directly mitigate or significantly improve the environmental impacts of existing water facilities.

The Board will consider and CWCB staff will evaluate and recommend to the Board grant applications for appropriation or acquisition of water rights to be held by the Board based on the following project types:

- Instream flow water rights that assist in the administration of compact-entitled waters, or address problems relating to compact-entitled waters,
- Instream flow water rights that facilitate the resolution of federal water rights issues, and
- Instream flow water rights that assist in the recovery of threatened or endangered wildlife species or the conservation of existing wildlife species within riparian ecosystems.

The Board will consider and CWCB staff will evaluate and recommend to the Board grant applications for river restoration feasibility studies and construction projects based on the following:

- Soundness of the project design, work plan or plan of study,
- The need for the proposed project,
- The need for financial assistance.
- Financial, technical, or administrative participation or coordination by all affected local governments.

NOTE: Recognizing that future needs and responses to those needs cannot be predicted with certainty, the Colorado Water Conservation Board reserves the right to recommend for funding any instream flow acquisition, river restoration construction project, or study that it determines would mitigate the effects of an existing water supply facility and furthers the purposes of the Fish and Wildlife Resources Fund.

Approved by the CWCB
September 12, 2002
Agenda Item #16a

Section 1 Applicant Information

Date of Submittal: November 25, 2009

Name of Project: Lower Gunnison Restoration: Improving Habitat and Safety at the Hartland Diversion Dam

Applicant Information

Applicant Name: Painted Sky Resource Conservation and Development Council, Inc (Painted Sky)

Applicant Address: 690 Industrial Blvd, Delta, Colorado, 81416

Phone: (970) 874-5735 ext. 135/133 FAX: (970) 874-4706

Email: mldht1@live.com

Name and Type of Organization: Painted Sky Resource Conservation and Development Council, Inc (Painted Sky) – Colorado non-profit corporation (501(c) (3))

Applicant Federal Employer ID Number (FEIN): 84-1489087

Contact Information, if Different from Sponsor

Name:
Address:
Phone: ( ) FAX: ( )
Email:

Submitted by	Name Michael L. Drake Date November 25, 2009
Received by	Name Date

Section 2 Project Summary Form

Project Location Information

Nearest Town or City	Delta, Colorado
County	Delta
Township/Range/Section	15 South/97 West/5
Latitude/Longitude	108 degrees 2' 29.63" W 38 degrees 46' 9.14" N
State Senate District	5
State Representative District	58
Stream Name and Watershed	Gunnison River
Water Division	4
Water District	40

Land Ownership

There are private landowners on both side of the river. The owner on the east, the Hutchins, is the only owner to be impacted and one of the key stakeholders for this project. Owners on the west side are the Alsdorfs. The Hartland Irrigation Company owns the current diversion structure and will retain ownership when the structure modification is complete. Mr. Hutchins', the Hartland Irrigation Company, and the rest of the key stakeholders' letters of support are contained in Appendix A. The property impact map is shown in Appendix B.

Name of Landowner(s) Will and Anna Hutchins, Hartland Irrigation Company, Laurie and Jay Alsdorf

Evidence of ownership or easements for river restoration work:

Enclosed **X** Will forward if requested Not yet available (explain timeline)

Grant Request (round figures to the nearest $100)

Total Project Cost	$1.9 million	**Status**	**Funding Work Area**
CWCB Grant Request	$560,000	Proposal Underway	Construction
List Funding Sources			
US Fish and Wildlife Service	$804,000	**Contract Signed**	Final design and construction
Gunnison Basin Roundtable/Water Supply Reserve Account	$22,100	**Grant Agreement Signed**	Conceptual Design
Gunnison Basin Roundtable/Water Supply Reserve Account	$22,080	Proposal Underway	Removal of sections of the current dam
Central Utah Project	$20,000	Proposal Underway	Construction
NRCS Engineering	$28,900	**Secured Support**	Final design review and construction inspection
National Fish and Wildlife Foundation – Bring Back the Natives Program	$110,000	**Proposal Submitted**	Construction
NRCS Cooperative Conservation Partnership Initiative	$50,000	Proposal Underway	Riparian habitat
Colorado River District	$150,000	Proposal Underway	Headwall construction
Colorado Department of Wildlife	$150,000	Proposal Underway	Construction
Private Donations	$25,000	Currently Seeking	Construction materials

Brief Description of Project Request (Please limit to no more than 100 words; this will be used to inform reviewers and the public about your proposal):

The Lower Gunnison River Restoration Project will design and implement a fish passage dam modification eliminating the last major fish blockage in the lower Gunnison and significantly improving river system health. Reconnecting fragmented river habitat will result in increased populations of three target fish species (roundtail chub, flannelmouth sucker, and bluehead sucker) and should increase the general fish population. The habitat improved is approximately 90 river miles.

This modification also insures that the Hartland Irrigation Company maintains complete access to their senior pre-Colorado River Compact water decree, improves navigational safety on the river, and eliminates private property trespassing issues.

3 Technical Narrative Description

3.1 Project Need/Definition of the Problem

3.1.1 Problem and Urgency to Resolve

The Hartland dam presents several basic problems:

- Fragments habitat for aquatic wildlife, blocks movement of fish of all varieties and is the cause of reduced population of the three targeted species,
- Contributes to river instability and exposes adjacent land owner property to excessive erosion that results in a direct threat to electrical service to all of North Delta.
- Prevents safe navigation by posing a significant boat passage hazard that threatens human life and generates trespass issues on private property

Resolving the problem right now helps to eliminate the potential future listing of the three target species. The solution also will eliminate trespass issues, reduce or eliminate streambank erosion caused by the dam, and reduce or eliminate the life threatening situation for boaters and emergency rescue calls.

The USFWS has set a hard deadline for the identification and securing of the funds required to complete this project, beyond the USFWS's $804,000. The project is in jeopardy if the funding required to complete the project has not been indentified by the end of February, 2010.

3.1.2 Problem Background

Hartland Diversion Dam is located in Delta County, Colorado, on the Gunnison River (river mile [RM] 59.9) 3.6 RM upstream of the Uncompahgre River confluence near Delta, Colorado. See map in Appendix C. This dam is a five-foot high structure that was originally constructed in 1881 for agricultural irrigation and stock-watering purposes. The system diverts approximately 43 cubic feet per second (cfs) through a head gate on the north side of the river generally from March through November. The system includes the dam which spans the entire river width (~ 120 yards), an irrigation head gate control and canal on the north bank of the Gunnison River. It is constructed of railroad iron driven vertically into the riverbed and horizontally placed cribbing. The cribbing is filled with river cobbles and boulders. The structure was repaired and upgraded in 1942. The Hartland Irrigation Company owns the diversion dam and operates and maintains the head gate and irrigation canal.

Fragmentation of river reaches and blockage of movement by dams and water diversion structures have been recognized as important causes for the decline of native fishes in the Upper Colorado River Basin (Tyus 1984; Burdick and Kaeding 1990). Diversion dams eliminate population connectivity by blocking fish migration routes. Providing fish passage past instream barriers has come to be considered an important means to aid the restoration and recovery of native fish populations. Research indicates Hartland Diversion Dam impacts the upstream range and movement of the roundtail chub (*Gila robusta*), as the numbers of adult roundtail chub captured in both 1992 and 1993 immediately upstream of the diversion dam were about five times lower than those downstream of the structure (Burdick 1995).

Although the USFWS considers the three fish species targeted by this project as species of concern, A consortium of State Departments of Wildlife, including the Colorado Division of Wildlife (CDOW), identifies two of the target native fish species as species of special concern. These two species are the roundtail chub (*Catostomus discobolus*), and flannelmouth sucker (*C. latipinnis*). A range-wide conservation strategy has been developed for roundtail chub, flannelmouth sucker, and bluehead sucker (Utah Division of Wildlife Resources 2006) the goal of which is to ensure the persistence of these three species throughout their ranges. One of the objectives of this plan is to establish and/or maintain sufficient connectivity between populations so that viable metapopulations are established and/or maintained. Diversion dams and dewatering within stream reaches have been identified as decreasing the amount of connectivity between populations of aquatic species.

The upper limit of critical habitat for two federally listed native species, the razorback sucker (*Zyrauchen texanus*) and Colorado pikeminnow (*Ptychocheilus lucius*) in the Gunnison River is the confluence of the Uncompahgre and Gunnison rivers (RM 56.3). However, occupied habitat for these two listed species in the Gunnison River extends upstream to Hartland Dam. While numbers of the two listed fishes appear to be low in the immediate

downstream river reach from the Hartland Dam, it is possible that the proposed fish passage structure at the Hartland Dam also would allow the upstream passage of the two listed species.

The existing structure has dramatically changed the river morphology. Upstream of the structure, the river gradient has generally been decreased and the sedimentation dynamics adversely changed. Downstream of the structure, river stability has also been adversely impacted. Bank erosion has been so severe that the landowner, with support from the local utility company, has recently invested nearly $30,000 to address the continued soil loss, which impacts his property's health and value. This project has been somewhat successful, but has not eliminated the problem. The Lower Gunnison Restoration Project will address these morphology issues to increase river stability to the benefit of the adjacent landowners, agricultural interests, aquatic wildlife and riparian habitat.

The Hartland Dam is an extreme safety hazard to boaters that can result in life-threatening accidents when boats attempt to go over the dam. Boats and their passengers can get trapped in the hydraulic re-circulating wave at the toe. At least three people have drowned in boating-related accidents around the dam and there was a near loss of life in June of 2009. This accident, involving three boats and four people, required the Delta county and city rescue teams to safely remove people from the river.

To avoid this river hazard, boaters must trespass on the adjacent private landowner's property. This is an undesirable situation and assigns undue liability to this landowner.

3.2 Project Goals and Objectives

3.2.1 Current Conditions, Causes, and Intended Future Conditions

The current conditions were described in Section 3.1.1. It is undeniable that the single cause of these conditions is the current Hartland Diversion Dam. The future conditions are detailed in Section 3.2.3.

3.2.2 Resource and Programmatic Goals

Goals of the project include:

- Increasing habitat connectivity and total numbers of the target species upstream of the current dam –Total potential improved aquatic habitat extends throughout the Black Canyon of the Gunnison National Park, and the Gunnison Gorge National Conservation Area to Morrow Point Reservoir, and throughout the North Fork of the Gunnison to the Paonia Reservoir encompassing approximately 90 River Miles, see Appendix D
- Maintain Hartland Irrigation Company's decree while protecting the company from liability and decreasing maintenance costs
- Protect adjacent landowner from liability and stabilization of the downstream east bank of the river
- Reducing danger to boaters while increasing resource-based tourism in the area

3.2.3 Project Benefits

The project benefits include ecological, socioeconomic, human safety and landowner rights benefits:

- Maintenance of agricultural water availability by honoring Hartland Irrigation Company's senior water rights
- Improved fish habitat to benefit native fish populations
- Removing the fish blockage caused by the Hartland Dam will connect the habitat for fish from below the dam up to the first dam upstream of the Black Canyon
- Enhanced habitat and increasing population numbers for the species of concern
- Increased biodiversity (i.e., healthy fish populations lead to increased raptor and mammal populations that depend on fish)
- Improved navigation and increased boater safety
- Reduced trespassing on private property
- Economic development for local communities related to recreation opportunities (e.g., boating, sport fishing, etc.)

These multiple benefits will combine to generate more revenues for tourism-oriented small businesses and local governments will benefit from increased tax revenue. Such positive impacts to the economy will be realized in the

cities and counties of Montrose and Delta, surrounding communities and the State of Colorado. Additionally, Painted Sky will be able to leverage the success of this project to promote and insure future investment in natural resource protection and enhancement.

3.3 Technical Feasibility of the Proposed Project

Painted Sky's USFWS contract incorporates a Cooperative Agreement. The Cooperative Agreement ensures USFWS a major role in the final design and implementation decision-making process, with respect to the fish passage structure. Painted Sky maintains the role of Prime Contractor, decision maker, and funds manager. Therefore, requested funds for this project from CWCB, and other entities, would be managed by Painted Sky and integrated into the project. This approach ensures that granted funds are managed by an experienced entity familiar with administration and reporting requirements, allows the highest degree of budget control, and represents the lowest risk approach to reaching a successful implementation of the dam modification.

3.3.1 Project Design and Implementation

The design and implementation of the Lower Gunnison River Restoration Project will be completed in three distinct phases: Final Design, Site Preparation and Staging, and Construction.

Project Status

Painted Sky has established partnerships and an Integrated Project Team (IPT) with the key stakeholders in this project as shown in Section 3.8.1. The key stakeholders have supported the planning and development of the project because of the project's multiple benefits.

Painted Sky began in mid-2008 by convening the IPT to address the project. The success of this first meeting led to Painted Sky organizing, facilitating and leading a key stakeholders meeting in March 2009. The purpose of this meeting was to develop an agreed-upon set of project requirements. This meeting resulted in the definition of, and agreement on, the critical requirements/objectives that the dam modification will have to meet. Obtaining this agreement on the modification requirements resulted in solid support for the project from the key stakeholders.

Painted Sky's CWCB-funded conceptual design study officially started with the kick-off meeting held on July 29, 2009. With support from the key stakeholders, the functional dam modification specifications required to accomplish the critical requirements/objectives were developed. The basic design concept for the fish and boat passage is a chute and pool approach, which is illustrated by the 4-step chute and pool design in Appendix E. At this time, the design data indicate that the dam modification will be a 12-chute design. The draft conceptual design has been reviewed and the final conceptual design will be complete in December.

A one-day excavation investigation in the river demonstrated that the base bedrock was sufficiently below the gravel river bed to enable the successful placement of the chutes.

Project Design

The starting point for the Final Design is the Conceptual Design. The design effort will include evaluation of long-term maintenance and the impact of a 100 year flood on the designed structure and the surrounding floodplain. These efforts will result in a design that can withstand a 100 year flood and enable the design process to define and mitigate any negative impacts on the floodplain. The final design process will incorporate the latest analysis technologies that have been proven successful in the design and evaluation of dam modifications.

Painted Sky will release a competitive procurement for the Final Design effort. The selection process will be based on a best-value approach and will not be based strictly on cost. Engineering capabilities and past performance will be weighted equally with the bid cost. The least risk, best-value proposal will be selected for award. Painted Sky will insure that the winning firm has demonstrated capabilities and past performance at a level that greatly limits the risk of the project. The draft Final Design review process will include a review by the IPT with comments solicited from all of the key stakeholders. The final design approval will be issued by Painted Sky in coordination with FWS, CDOW, and NRCS experts.

Project Site Preparation and Staging

The site prep and staging of materials needed for the construction will begin in the second quarter of 2010. Painted Sky will work with local individuals, companies, and government to secure donated materials, such as boulders, rocks, and plant materials. Contracts with local excavation contractors to move the material to the site will be issued. Additional materials required will be purchased. The landowner, Mr. Will Hutchins, on the east side of the river agreed to allow Painted Sky to use his property for construction access and staging.

Project Construction/Implementation

With the final design complete, Painted Sky will release a competitive procurement for the implementation of the dam modification. The selection process again will be based on a best value approach and will not be based strictly on cost. The least risk, best value proposal will be selected for award. Painted Sky will insure the winning firm demonstrates capabilities and past performance at a level that limits project risk.

The construction process and progress will be supervised and monitored by Painted Sky, with the direct support of the engineering company who wins the final design contract and the Hartland Irrigation Company. In addition, Painted Sky will bring in experts from the FWS, CDOW, and NRCS for periodic inspections, further reducing project risk and increasing confidence in the implementation effort.

3.3.2 Permits and Approvals

There are three permits/ approvals issues to be dealt with on this project. Painted Sky has received assistance from NRCS's Cultural Resources Specialist to confirm a finding of "no adverse effect", as required by Section 106 of the National Historic Preservation Act. This opinion was shared with, and confirmed by, US Fish and Wildlife Service staff in 2009.

The other two issues require a finalized Conceptual Design. Section 404 of the Clean Water Act requires a permit for discharge of fill material in the Gunnison River. However, the stakeholders expect the Army Corps to issue an exemption pursuant to Section 404(f)(1)(A), known as the "agricultural exemption," since the work involves modification of an agricultural irrigation structure. Painted Sky will assist the Hartland Irrigation Company to apply for the exemption in December, 2009, with a favorable opinion expected no later than January, 2010.

Finally, an Environmental Assessment (EA) pursuant to the National Environmental Policy Act will be completed. The Army Corps stated that the Corps and USFWS will cooperate in completing the EA. The EA will be initiated and will be completed in early 2010.

3.3.3 Water Rights and Legal Documentation

As stated in the project goals, the water rights of the Hartland Irrigation Company will be maintained by the project.

3.3.4 Potential 100-year floodplain Impacts

The design effort will include evaluation of long term maintenance and the impact of a 100-year flood on the designed structure and the surrounding floodplain.

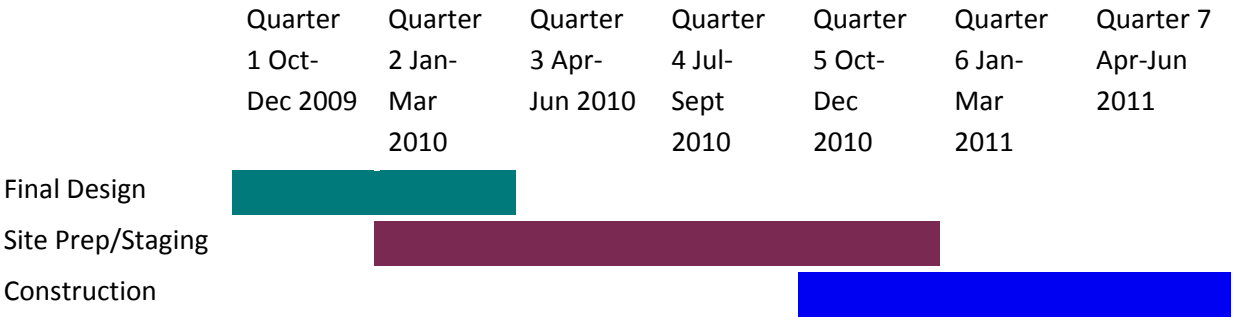
3.3.5 Project Capability to Withstand a 100-year Flood

The design effort will include evaluation of long term maintenance and the impact of a 100-year flood on the designed structure and the surrounding floodplain.

3.4 Project Implementation Plan

Each of the project objectives will be accomplished by the activities defined in Section 3.3.1.

3.5 Project Time Schedule



3.6 Monitoring Plan

The Fish and Wildlife Service supports post-construction fish passage evaluation to determine use of upstream habitat by the three target fishes. Bob Burdick of USFWS has developed a proposal to accomplish this task. The title of this evaluation is, "Study Proposal To Evaluate Fish Passage For Native Fishes, With Special Reference To Roundtail Chub, (*Gila robusta*), Bluehead Sucker (*Catostomus discobolus*), and Flannelmouth Sucker (*C. latipinnis*) At Hartland Diversion Dam Near Delta, Colorado, On the Gunnison River". Following project construction completion, the evaluation provides for three years of field work and a fourth year for data analysis, report preparation, and review. Information will be collected post-construction to determine fish community composition (species), structure (total length), and densities (catch/effort) of the three target species five mile up- and downstream of Hartland Dam. This information can then be compared to an earlier comprehensive survey of this portion of the Gunnison River that was conducted in the mid-1990s by the Fish and Wildlife Service (Burdick 1995) to determine if a substantial change in fish community composition and densities has occurred.

3.7 Qualifications of the Applicant

3.7.1 Team Skills and Qualifications

Painted Sky's successful efforts completed in accomplishing the **Project Status** efforts presented in Section 3.3.1 illustrate our ability to complete the proposed project. The successful Conceptual Design process further demonstrates Painted Sky's ability to lead, manage and coordinate a highly diverse group of stakeholders through the process of defining a consensus project requirements list, develop the contract and funding, manage a specializing engineering firm, and control the budget during the design process. Another indicator of Painted Sky's competency is the ability to successfully obtain approximately $825,000 for the project to date. Painted Sky will continue to meet its technical and funding goals with the same passion, integrity, and capabilities with the support or our interagency, interdisciplinary team that has been so effective to date.

In natural resource and habitat improvement projects, Painted Sky has become a proven, reliable leader in the region. Since 1999, Painted Sky has organized and completed projects with total funding in the millions of dollars. Early projects focused on mitigation of wildfire danger, including homeowner education. Painted Sky is leading a lower Gunnison River regional effort to control tamarisk through introduction and evaluation of the tamarisk leaf beetle.

Mike Drake, Executive Director of Painted Sky, and Paul Van Ryzin, RC&D Coordinator with NRCS, form the core project leadership for Painted Sky. Mr. Drake is the Project Manager and brings 35 years of successful project management experience with the University of Dayton Research Institute. He managed a variety of engineering projects supported by federal funds exceeding $120 million across his career. He has a Master's Degree in Aerospace Engineering. Mr. Van Ryzin has worked for NRCS for seven years, and as RC&D Coordinator in Michigan, American Samoa, and Colorado. He has successfully planned, funded, and implemented dozens of projects, including non-point pollution control measures, native plant restoration and invasive plant control, CAFO engineering support to reduce water quality impacts, and several major stream bank stabilization projects involving multiple federal, state, and local partners. Van Ryzin has a Master's Degree in Land Resources.

The Hartland Irrigation Company owns the diversion dam and associated structures. This company has over 75 years of operations and maintenance experience of the diversion dam and associated structures. The company will

retain ownership of the dam after modification and continue the maintenance of the new water diversion system. The Hartland Irrigation Company is a strong supporter of this project and Ernie Shaaf, construction expert and Hartland Irrigation Company Vice President is a key project team member.

Other key team members include Bob Burdick, Wayne Stancill, Rick Krueger, and Doug Fruge of the USFWS, Dave Kanzer of the Colorado River District, Dan Kawalski, Colorado Division of Wildlife, Gabe Lucero, Engineer with the NRCS, and Jeff Crane, a local contractor and co-founder of the Colorado Watershed Assembly.

Key team members to be added are the engineering design company to be selected for the final design effort and the construction company to be selected for the implementation of the design. Section 3.3.1 details the selection process to insure the expertise and competence of these two contractors.

3.7.2 Team Past Performance

The two key IPT members involved in the Hartland dam modification project bring years of fish evaluation and passage planning, design, and implementation experience to this joint cooperative effort. FWS staff members in Grand Junction as well as the regional FWS office in Pierre, South Dakota are national experts in establishing fish passage to aid in the recovery of the target species, and other native Colorado fish species. As stated in section 3.3, the Cooperative Agreement between Painted Sky and FWS defines the primary role FWS staff has in the project. FWS staff's close involvement with Painted Sky and NRCS ensure that the highest levels of fish passage design engineering expertise available anywhere are dedicated to successful project completion.

Bob Burdick, FWS Fishery Biologist, has focused on native Colorado fishes in the lower Gunnison and Colorado Rivers, and has published numerous reports and studies on population assessment and other topics relevant to the Hartland project. In particular, he was involved in population assessments above and below the Hartland dam, dating back as early as the 1990s, as noted above. Mr. Burdick authored a report entitled "Discussion of the Merits for Fish Passage at Hartland Diversion Dam on the Gunnison River Near Delta, Colorado" in 1996, and can be credited with the first official efforts to consider fish passage at this site. He was also an integral part of the 2000 conceptual design work to establish three alternatives to achieving fish passage for the Hartland dam. Also as noted above, Mr. Burdick will lead the post-construction population assessment, which will encompass a period of four years following project completion.

Wayne Stancill is a Fish Passage Engineer with the FWS Division of Engineering, which serves a multi-state region of the western U.S. Mr. Stancill's background is summarized at http://www.fws.gov/greatplainsfishandwildlife/WayneStancill-ProjectLeader.html. His involvement in establishing design criteria for Painted Sky's efforts to date would best be described as central to the process. He has been involved in fish passage projects in many states, and is one of a handful of U.S. specialists who focuses on achieving passage for a target species, using established, science-based design criteria. Some of the publications he has been involved with include those listed at http://www.fws.gov/greatplainsfishandwildlife/publications.html.

Both Stancill and Burdick have cooperatively established and evaluated, or assisted in the establishment and evaluation, of the majority of engineered fish passage structures on the Colorado River, as well as involvement in similar projects on several other major river systems in the U.S. As a team, they bring a combined experience in this highly specialized technical conservation practice.

Finally, the firm(s) to be selected by Painted Sky for final design and construction will bring an acceptable demonstrated past performance track record, as determined by Painted Sky and FWS staff through a consensus decision.

3.8 Coordination Plan and Public Involvement

3.8.1 Project Lead, Partners, and Methods of Cooperation

Painted Sky is the lead organization for the proposed project. Painted Sky has established partnerships and an Integrated Project Team (IPT) with the key project stakeholders to participate and support the project. The following list includes the project stakeholders who have been involved in the planning to date:

- US Fish and Wildlife Service,

- USDA-Natural Resources Conservation Service,
- Hartland Irrigation Company,
- Will Hutchins, private landowner
- Colorado River Water Conservation District,
- Colorado Division of Wildlife,
- Gunnison Basin Round Table,
- Colorado Water Conservation Board,
- Delta and Montrose Counties,
- Delta and Montrose Cities,
- Delta Conservation District and
- Colorado Watershed Assembly

These key stakeholders have been involved in the planning and development of the project and are supportive of this project because of the multiple benefits the project affords.

MOUs between Painted Sky and key stakeholders have been signed. Letters of support from the IPT members are contained in Appendix A.

3.8.2 Local Project Support

In addition to the key stakeholders, Painted Sky also developed partnerships with interested parties and potential sponsors, including:

- The Nature Conservancy,
- North Fork River Improvement Association, and
- other local, State, and Federal and private entities with interest in aquatic wildlife and/or safe navigation

All of the interested parties have been kept up to date on the planning and development of the project and the individual organizations continue to be supportive of this project.

3.8.3 Public Involvement and Know Support/Opposition

In addition to the information presented in Section 3.3.1 under **Project Status** and, the information in Sections 3.8.1 and 3.8.2 numerous press releases and meetings have been held with interested parties. There is no known opposition to this project.

Section 4: Grant Application Budget Form

Uses of Funds	CWCB Grant Request	GBRT Grant Request	CDOW	USFWS Contract	Other Funds	Totals
Design/Surveying/Inspection	0	0	0	$97,000	0	$97,000
Mobilization/demobilization	0	0	0	$44,546	0	$44,546
Site preparation	0	0	0	$31,878	0	$31,878
Water Control/Dewatering	0	0	0	$68,757	0	$68,757
Headgate:						
• Remove existing dam	0	$22,080	0	0	$4,416	$26,496
• Concrete headwall	$270,000	0	0	0	$144,000	$414,000
• Riprap wall protection, d50=24 in	0	0	0	$186,300	0	$186,300
Earthwork:						
• Excavation	0	0	$50,000	$50,000	$24,200	$124,200
• Use excess-grade on site	0	0	0	0	$6,900	$6,900
Fish/Boat Passageway:						
• Subgrade grading and bed compaction	0	0	0	$79,488	0	$79,488
• Boulders - guide rocks, 6 ft diam	0	0	0	$1,987	0	$1,987
• Boulder Chutes, d50=36 in	$290,000	0	0	$218,688	0	$508,688
• Engineered stream bed	0	0	0	0	$28,6930	$28,693
Riprap bank protection, d50=24 in	0	0	$50,000	$25,356	$96,040	$171,396
Native Seeding	0	0			$49,680	$49,680
Ditch crossing-temporary	0	0			$8,280	$8,280
Totals	$560,000	$22,080	$100,000	$804,000	$362,209	$1,848,289

Total Project Cost: $1,848,289

Budget based on draft Conceptual Design and subject to change. For details see Appendix F

Signature _____ Date November 25, 2009

Michael L. Drake