

**FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION**

(please fill in the highlighted areas)

I. APPLICANT INFORMATION

A. Applicant Name: The Trust for Public Land

B. Mailing Address: 111 South Grand Avenue, Suite 203

C. City: Bozeman State: MT Zip: 59715

Telephone: (406) 522-7450

D. Contact Person: Maddy Pope

Address if different from Applicant: _____

City: _____ State: _____ Zip: _____

Telephone: (406) 522-7450 X4

E. Landowner and/or Lessee Name
(if other than Applicant): _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

II. PROJECT INFORMATION*

A. Project Name: E. Gallatin Restoration at Story Mill

River, stream, or lake: East Gallatin River and Bozeman Creek

Location:	Township	<u>1S and 2S</u>	Range	<u>6E</u>	Section	<u>1S 6E portions of ¼ of Section 31 and SW ¼ of Section 32 AND 2S,6E NE portions of ¼ of Section 6 and NW ¼ of Section 5</u>
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County: Gallatin

B. Purpose of Project: _____

Restore the largest remaining riparian-wetland complex located in Bozeman's urban core, providing important fisheries habitat and water quality enhancements for Bozeman Creek and the East Gallatin River, alongside improved fishing access to a half mile of the East Gallatin River – a favorite in-town fishing corridor.

C. Brief Project Description:

The 54-acre Story Mill site, situated at the confluence of Bozeman Creek and the East Gallatin River in Bozeman, offers a rare and remarkable opportunity to combine fish habitat restoration with stream access and multiple other community benefits in a city park setting. The Trust for Public Land worked with a group of community partners and a local riparian consulting firm to develop a restoration plan for the aquatic, riparian, and wetland habitat found at this confluence site in order to re-establish several important functions that were lost over the years as the surrounding area was developed. These include: restoration of fish habitat, water quality improvements, wetlands and floodplain restoration, enhancement of habitat for resident and migratory birds and wildlife, and new recreation and education opportunities associated with aquatic habitat.

During the past century, an expansive riverine and wetland ecosystem was first transformed to support the Story Mill agricultural and industrial hub, including a mill and granary, stockyard, slaughterhouse, drainage pond, and stock pastures. More recently, urban and commercial development continues to encroach on wetland and floodplain habitat in this area. A review of historic maps and records suggest that this transformation involved the straightening of streams, filling of floodplains, draining of wetlands, and the resultant loss of aquatic and fisheries habitat and water quality.

A rigorous planning and stakeholder process undertaken by The Trust for Public Land over the past year has resulted in the identification of a preferred restoration alternative for the Story Mill site that will build resilience into the riverine ecosystem and help ensure river health.

The Story Mill restoration project is being developed via partnerships and collaborations to provide the best possible ecological and social outcomes. Community partners such as the Greater Gallatin Watershed Council, the Gallatin Local Water Quality Planning District, and Trout Unlimited have contributed expertise in the development of restoration designs. The Trust for Public Land is working closely with the Montana Department of Environmental Quality and the City of Bozeman to help mitigate upstream water quality impacts. Educational partnerships are emerging with Montana State University to use the site as a monitoring laboratory (to include the proposed restoration) and outdoor classroom. Restoration design is integrated with recreational park design to ensure the greatest benefit as a community park and living classroom.

The Trust for Public Land, working with its stakeholders, envisions undertaking restoration at the Story Mill site beginning in the summer 2014 through 2016, and has begun seeking grants and soliciting funds for the restoration.

D. Length of stream or size of lake that will be treated: 0.5 mile of stream and 8 acres of wetlands

E. Project Budget:

Grant Request (Dollars): \$ 51,952.80

Contribution by Applicant (Dollars): \$ In-kind \$ 113,730

(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ _____ In-kind \$ **6,611**
(attach verification - See page 2 budget template)

Total Project Cost: \$ **172,293.80**

- F. Attach itemized (line item) budget – see template
- G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/future_fisheries/supplement2.doc).

Maps, design drawings and site photographs are included in the “Design Information Guidelines for Application Submittal”, attached. Letters of public support and a letter of support from the local MFWP biologist are attached; no water leasing or water salvage is involved in this project. *Story Mill Ecological Restoration Plan Alternative Conceptual Design Report* is also attached.

- H. Attach land management and maintenance plans that will ensure protection of the reclaimed area. The restoration plan includes specific ecological and recreational goals and objectives developed by the stakeholders to guide and inform the restoration effort. These restoration objectives will be integrated into the park master plan (approved by the City) to ensure long-term protection, maintenance, and compatibility with public recreational use and enjoyment of the site. Long-term maintenance will be the responsibility of the City of Bozeman. Monitoring partners will continue to assist in the long-term restoration and maintenance activities.

III. PROJECT BENEFITS*

- A. What species of fish will benefit from this project?:

According to MFISH 2013 data, abundant fish species within the subject reaches of the E. Gallatin River and Bozeman Creek include brown trout, rainbow trout, and longnose sucker, while common species are longnose dace mottled sculpin, mountain sucker, and mountain whitefish. Rare species include brook trout, and white sucker.

- B. How will the project protect or enhance wild fish habitat?:

Over the past 150 years, the East Gallatin River and Bozeman Creek within and near the City of Bozeman have been highly manipulated, first for agricultural purposes and later for industrial, commercial, and residential development (please see F, below for more detail). Moreover, diminished water quality from agricultural and urban runoff, stream entrenchment, and removal of streamside vegetation have degraded water quality. Bozeman Creek is currently listed as impaired for nutrients and several other parameters; the E. Gallatin is currently listed as impaired for nutrients below its confluence with Bozeman Creek. Fine sedimentation is also recognized as a limiting factor for fisheries in the East Gallatin watershed.

In the *Fisheries Investigation for the Madison and Gallatin River Basins* (2006), Tohtz and Weiss found that estimates of fish abundance, particularly rainbow trout abundance just downstream of the confluence of E. Gallatin and Bozeman Creek, continue to be suppressed by whirling disease, especially recruitment of rainbow trout fry. Episodic drought is also a factor as well, perhaps exacerbating the influence of *M. cerebralis* by concentrating spores in less water.

The East Gallatin River and Bozeman Creek fisheries will benefit both directly and indirectly from the following restoration actions for which we seek funding from the Future Fisheries Improvement Program:

- removal of riprap and junk along a half mile of the East Gallatin River streambed and banks that will improve the trout fishery by allowing the natural river processes of erosion and deposition to occur;
- restoration and native riparian planting along 180 feet of the east bank of the E. Gallatin to reconnect the creek with its floodplain, provide a bio-engineered solution to bank stability replacing concrete rubble, reducing erosion and sedimentation, enhanced detrital input to support aquatic macroinvertebrates, and providing overhead cover for fish through willow plantings; and
- along the west 250 feet of the East Gallatin, planting native willows and seeding native wetlands plants to provide stability and species diversity to a newly recontoured floodplain, detrital input to support aquatic foodchains, and providing overhead cover for fish.

Indirect but additional benefits to fisheries will also accrue from restoration project components funded by matching sources: restoring wetlands – more than doubling to approximately 15 the wetland acreage – and allowing for the use of “green infrastructure” to filter and improve surface and ground water quality. Restoration of a backwater channel on Bozeman Creek will recreate rare rearing habitat for juvenile fish in this channelized reach. Further, substantial restoration of floodplain areas along the East Gallatin River and Bozeman Creek will re-connect the two streams with their historic floodplains and attenuate downstream flood flows, capturing fine sediment that fouls fish habitat, and improving water quality by trapping and processing nutrients and other pollutants.

Wetlands will be restored by plugging and re-filling drainage ditches and by removing and controlling invasive weeds that now dominate the site. This will help to recreate a diversity of native wetland and riparian vegetation.

C. Will the project improve fish populations and/or fishing? To what extent?:

The proposed habitat and water quality improvements on the East Gallatin River and Bozeman Creek are expected to improve fish populations by: 1) removing concrete and foreign materials and revegetating raw, eroding streambanks will promote natural erosion and depositional processes to occur unhindered—resulting in the scouring of pool habitat and improved habitat diversity for adult and juvenile fish; 2) streambank restoration and revegetation and recreating a bankfull bench along 180 feet of the stream will improve natural channel processes and cover during spring runoff; 3) restoration of a backwater channel on Bozeman Creek will provide badly needed rearing habitat for young fish; 4) planting native willows and herbaceous vegetation on currently raw or barren banks will provide overhead fish cover, shade, and detrital input into the stream; and, 4) restoration of floodplain areas to re-connect the two streams with their historic floodplains will encourage deposition of fine sediments and other pollutants that currently foul fish habitat. Floodplain restoration and associated bank rehabilitation on the Triangle Parcel will directly improve fishing by increasing habitat diversity and carrying capacity in the reach while expanding public fishing access.

Ultimately these habitat improvements will increase carrying capacity of this reach for all life stages of fish, which along with increased access will improve fishing opportunities in the East Gallatin and Bozeman Creek.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

This land acquisition and transfer to the city will open up public access to the entire site, including stream access to both the East Gallatin and Bozeman Creek. The site connects with the Story Mill Spur Trail, linking Bozeman’s downtown to the property via an old railroad line, a popular route for walking and biking. This important link to Main Street will be enhanced with new connections and trails; the trail connections and parklands will be signed for public access. A participatory conservation and recreation visioning process is underway to develop a community-supported master plan to include active recreation and innovative play spaces, and passive recreation with a light footprint of elevated walkways in the wetlands and riparian areas. As part of the overall restoration effort, three new public access points to the river will be developed within the new park, including family-friendly access for families with young fisherman.

Access to fishing along the E. Gallatin River has been recognized by the community as a significant project benefit. Over 400 comments were recently received in favor of the city’s acquisition of the Story Mill park site, many of which stressed increased fishing opportunity as a benefit, ultimately resulting in the City Commission unanimously approving trails and open space funding to purchase the property and develop the park. The Trust for Public Land and its community partners have committed to raising the funds for stream and wetlands restoration. To further enhance youth opportunities about aquatic resources and fisheries, an environmental educator has agreed to develop an ecology and cultural history curriculum for Story Mill, and youth classes are being hosted for Montana Outdoor Science School, the Boys & Girls Club of Southwest Montana, and the YMCA. Montana State University is using the Story Mill wetlands as a field training location for students and riparian professionals from across the state. Story Mill provides a unique opportunity to create an innovative revitalization of what nature intended, while at the same time reaping an educational opportunity for the community and an increased awareness of the importance of habitat to wild trout and fishing.

E. If the project requires maintenance, what is your time commitment to this project?:

The City of Bozeman will acquire the 54-acre site for a premier community park from The Trust for Public Land in fall 2014. The city will incorporate the costs for the maintenance of restoration and parkland into the city parks budget. Restoration activities under this grant request will be completed in 2014; with additional restoration activities in 2015 and 2016.

Continued monitoring by project partners is aimed at determining the scope and nature of the site's habitat and water quality problems and the effectiveness of restoration. The Trust for Public Land has already begun, and is committed to seeking additional funding for, collaborative nutrient sampling of the shallow alluvial groundwater at the Story Mill site. By collecting nutrient data of the shallow groundwater, the ability of the restored wetlands to influence nutrient levels in the alluvial aquifer will be able to be better determined. The outcome of this monitoring could have important consequences on how the Bozeman Wastewater District approaches nutrient loads in Bozeman Creek and the East Gallatin River in the future. Partners in monitoring include the City of Bozeman, Greater Gallatin Watershed Council, Trout Unlimited, Montana Conservation Corps, Gallatin Local Water Quality District, Montana Department of Environmental Quality, and Montana State University.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Human modifications of the E. Gallatin River and Bozeman Creek for agricultural and industrial uses included channel straightening, channelization, removal of native vegetation, bank armoring, and filling of floodplains. All of these practices have included the placement of foreign materials (e.g., concrete debris, car bodies) along the stream in an attempt to prevent erosion and 'hold' the channel in its modified location. Specifically, auto and machinery parts and debris, such as sidewalk rubble, were used as riprap in this area, much of which has entered the active channel. The floodplain has also been filled with soil and construction debris. This project will remove historically placed debris and riprap from the channel, revegetate and naturally stabilize these banks and other eroding banks, restoring natural river processes and riparian vegetation, which will reduce sedimentation enhancing recruitment, and improve bank cover and pool quality. All of the restoration will be protected in perpetuity within the new city park. The restoration plan includes specific ecological and recreational goals and objectives developed by the stakeholders to guide and inform the restoration effort. These restoration objectives will be integrated into the park master plan to ensure long-term protection, maintenance, and compatibility with public recreational use and enjoyment of the site.

G. What public benefits will be realized from this project?:

As mentioned in other sections of this application the public will benefit from:

- Improved fish habitat, riparian vegetation, and floodplain function in 0.5 mile of the East Gallatin River and a small portion of Bozeman Creek will cumulatively improve fish populations in this stream. Decreased nutrient loading and sedimentation should moderate recruitment limitations due to whirling disease and fine sediments clogging spawning gravels.
- Public fishing access will be created within the city park, connected by an extensive road and trail system to the remainder of the city thereby providing anglers of all ages improved access to fishing close to home.
- The City of Bozeman’s Montana Pollution Elimination Discharge Elimination System (MPDES) permit is based in part on the water quality of the East Gallatin River. Meeting future discharge permit limits will require the city to invest in projects that improve water quality throughout the watershed thus mitigating the need to make further expensive investments in the city’s wastewater reclamation facility. Wetlands are known to improve water quality by providing sediment and nutrient removal and moderating flow and temperature. The Story Mill site represents one of the few, if not only, significant opportunities within the City limits to restore wetlands and take advantage of their associated benefits to water quality in the East Gallatin watershed.
- The combination of on-site trails and raised walkways along the riparian areas and wetlands, along with the educational partnerships mentioned above, will provide an ongoing opportunity to engage the next generation in aquatic education.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

Water rights will be enhanced through this project, although few rights exist in the project area other than those associated with the Story Mill property. Mr. Steve Cook with the Montana Department of Natural Resources Conservation staff in Bozeman was consulted with regard to water rights in the project area. All water rights within or adjacent to the project areas are owned by The Trust For Public Land and will be conveyed to the City of Bozeman. Other water rights exist upstream and downstream on both streams. None of these rights will be negatively affected and downstream water users are likely to experience increased water availability during late season.

The site was historically a wetland and riparian complex according to the Gallatin Local Water Quality District’s 2004 report on wetlands and riparian resources in the Gallatin Valley (English and Baker 2004). Restoration of natural wetlands do not require a water right. The South Parcel is in fact very wet as evidenced by the high groundwater table expressed at the pond and recorded in the 15 groundwater monitoring wells installed across the site, and the several acres of existing wetlands currently found on the site. Monitoring wells demonstrated the capacity of the wetlands to recharge during runoff and discharge during late summer and fall. A benefit of this project will be to increase groundwater storage and benefit late season stream flows while improving water quality.

Adjacent property owners along the East Gallatin River have been consulted and included in decision making. The proposed actions all occur on property owned by The Trust for Public Land and do not interfere with adjacent landowner rights, although creation of the Park and restoration of amenities will likely enhance property values in the surrounding area.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No. The project site will become City of Bozeman parkland.

J. Is this project associated with the reclamation of past mining activity?:

No.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:

A handwritten signature in blue ink that reads "Maddy Pope". The signature is written in a cursive style.

Date: May 27, 2014

Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701**

Incomplete or late applications will be returned to applicant.

Applications may be rejected if this form is modified.

*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****