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TRUCKEE RIVER WATERSHED COUNCIL

October 29, 2018

REQUEST FOR PROPOSAL

LACEY MEADOWS RESTORATION DESIGN AND LAKE MANAGEMENT PLAN

The Truckee River Watershed Council (TRWC) seeks to hire a consultant to complete intermediate (65%) restoration design for two meadow projects in the Lacey Creek/Webber Lake watershed – Upper and Lower Lacey Meadows. Intermediate designs will also include recommendations for lake level management for Webber Lake.

Consulting services to encompass all labor, materials, equipment, facilities, and incidentals required for completion of the scope of work.

The consulting firm shall have demonstrated experience in geomorphic analysis as well as experience with designing and implementing restoration projects. The consulting firm must be willing to work with the Truckee River Watershed Council, the project partner and landowner, the Truckee Donner Land Trust (TDLT), and other stakeholders including the U.S. Forest Service, other public agencies, non-profits, and various private landowners including downstream water rights holders.

PROPOSAL DEADLINE

Proposals must be received electronically (.pdf format) by 5PM on November 29th, 2018.

PROPOSAL SUBMISSION

Submit proposals electronically (.pdf format) to: bchristman@truckeeriverwc.org

Please direct all questions to Beth Christman at TRWC, (530) 550-8760 x 1#.

RESPONDING TO MULTIPLE RFPS

In 2018 and 2019, TRWC will release several Requests For Proposals (RFP) and Requests For Bids (RFB) for restoration design, construction, environmental compliance, permit assistance, and the like. We appreciate that some firms may wish to respond to multiple RFPs & RFBs. To help with proposal and bid preparation, we offer the following:

1. **Responding to Multiple RFPs/RFBs.** Firms may respond to multiple RFPs and RFBs. In the vast majority of our projects, a firm will not be prevented from bidding on future work if they participate in current work. In the rare case where this prohibition exists, we will state the prohibition in the current RFP/RFB.

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2. **Lead Firm vs. Subcontracted Firm.** We understand and accept a given firm may be the lead in one response and a subcontractor in another response.

3. **Respond Uniquely to Each RFP/RFB.** Each of our projects has a unique combination of partners, stakeholders, funders, constraints, opportunities, and timelines. Due to the characteristics of each project, we purposely release separate RFPs/RFBs. Firms must submit a response to each RFP or RFB to be considered. While we appreciate that a firm might be able to offer efficiencies if we combined projects, the unique blend of characteristics of each project prevent us from combining projects more than has already been done.

4. **Repeating Information Across Multiple Responses.** We understand and accept that information about the firm, its staff, past work, references, work approach, and the like may be repeated, perhaps even word for word, across multiple responses.

INTRODUCTION AND BACKGROUND

Project Overview

Lacey Meadows is located in the Upper Little Truckee River sub-basin of the Truckee watershed. Lacey Meadows has long been recognized as an important meadow system in the Upper Little Truckee; however, restoration planning was not feasible until recently as the meadow was under private ownership. In 2011, the TDLT acquired several parcels in the watershed, including Upper and Lower Lacey Meadows.

After the acquisition was completed, TRWC partnered with TDLT to complete a full assessment of the Lacey watershed to identify restoration and protection opportunities for future land management (TRWC, 2013). The Lacey Meadows Assessment (LMA) included an evaluation of the hydrology, geomorphology, historical conditions, and biological resources. The LMA also identified and prioritized restoration of Upper and Lower Lacey Meadows. The LMA identified Upper Lacey Meadow as highly degraded, but with a high likelihood of recovery with intervention. Lower Lacey Meadow still holds significant resource value; however, additional protection actions will increase the overall condition of this site and preserve this existing value.

The restoration recommendations for the Upper and Lower Meadows are included as an attachment to this RFP and are included in the LMA.

Restoration goals for the Upper Meadow include re-establishing natural hydrologic function to support development of meadow vegetation, re-establishing floodplain connectivity, improving aspen stands, and reducing erosion.

Restoration goals for the Lower Meadow include maintaining and enhancing high quality meadow habitat, restoring floodplain connectivity, reducing erosion, and improving aquatic habitat.

The current phase of the project for this RFP includes:

- Conceptual (30%) restoration design
- Intermediate (65%) restoration design
- Lake level management plan development (draft)
- Permit assistance

Future phases of the project, not included in this RFP, include:

- Final (100%) restoration design
- Environmental Compliance
- Construction
- Post-project monitoring

Existing Studies and Previous Work

Lacey Meadows Assessment:
Balance Hydrologics and others, 2013. Available at:
https://www.truckeeriverwc.org/images/documents/Balance.Hydro.Assess.2013.pdf

Perazzo Meadows Geomorphic Assessment:
Swanson Hydrology and Geomorphology, 2008. Available at:
https://www.truckeeriverwc.org/images/documents/Perazzo_Meadows_Geomorphic_Assessment.pdf

Perazzo Meadows Hydrologic Monitoring reports:
Balance Hydrologics, 2012 – 2014. Available at: https://www.truckeeriverwc.org/library/

WORK TO BE COMPLETED

Task 1. Meetings.

Four meetings are expected with TRWC staff and/or stakeholders. Meetings will include a project launch and scoping meeting with TRWC and TDLT, lake level management recommendation review meeting with TRWC and TDLT, review of conceptual (30%) design plans with all project stakeholders, and review of intermediate (65%) design plans with all project stakeholders. For the lake level management review meetings and the two stakeholder design review meetings, Consultant will prepare and present technical meeting materials in coordination with TRWC.

Task 2. Upper and Lower Meadow Supplemental Data Collection.

Some baseline data were collected to support the Upper and Lower Meadow restoration through the LMA. Additional data are likely to be needed to complete the restoration designs. Relevant existing data from the LMA and supplemental field data collected by the Contractor will be compiled into a technical memo. Types of data are expected to include historic aerial photos, existing stream reach mapping, supplemental surveys and mapping, and biologic (vegetation, wildlife) and hydrologic data as appropriate.

Task 3. Upper and Lower Meadow Conceptual Restoration (30%) Design & Basis of Design Report.

Building on the results of Task 2 and the LMA, produce restoration design concepts for each of the meadows, including alternative approaches as appropriate. The Basis of Design Report will accompany the conceptual plans. It will include a discussion of limiting factors for restoration, stakeholder considerations, initial assessment of restoration feasibility for identified alternatives, and incorporate the technical memo generated from Task 2. Working with TRWC and project stakeholders, identify preferred conceptual restoration design alternative (30% design) for each site.

Task 4. Upper and Lower Meadow Intermediate Restoration (65%) Design.

Develop design documents, including mapping, collecting any additional data required to advance the conceptual design to intermediate design, and analysis of technical considerations such as site grading, access, hauling, soil bioengineering, revegetation, costs, environmental impacts, and permitting. Create intermediate (65%) restoration design plans and detailed design drawings for each meadow site based on the preferred conceptual restoration design alternatives. Prepare design drawings including schematic level plans, section and profile drawings, and written descriptions of the design and applicable grading and planting plans and other information needed to complete permit applications.

Task 5. Lake Level Management Plan.

Periodic abrupt fluctuations in the level of Webber Lake appear to be causing headcutting and erosion of Lower Lacey Creek through Lower Lacey Meadow. Water levels in Webber Lake can change seasonally by as much as 3 feet due to dam and fish screen operations (a fish screen is located on the outlet). Unnatural base-level changes appear to directly affect the channel morphology, meadow condition, and aquatic habitats within Lower Lacey Meadow (LMA). To ensure restoration success of the Lower Meadow, a lake level management plan is needed to meet recreational and operational needs of the landowner while supporting meadow restoration. This current Scope of Work includes developing recommendations and a draft lake level management plan. It

is assumed that refinements to the plan may occur during final restoration design (to be completed at a future date).

Task 6. Permit Assistance.

Assist TRWC with permit preparation including generating suitable figures to include in application. Work with TRWC to calculate cut and fill quantities and areas of impact required for permit applications. Note: this current phase of work does not include development of a Stormwater Pollution Prevention Plan (SWPPP).

Task 7. Coordination and Reporting.

Consultant will coordinate with TRWC staff regarding the status of the project, as well as design issues. Consultant will produce quarterly invoices and progress reports and submit to TRWC by the 25th of the last month of the calendar quarter (March 25th, June 25th, Sept. 25th, and December 20th). Copies of all survey or other data collected and analyses will be provided to TRWC in electronic form (Word, Excel, or Adobe pdf).

Deliverables

- Scoping meeting with TRWC and TDLT project team;
- Participation in and presentation to two stakeholder meetings convened by TRWC;
- Technical memo summarizing existing and supplemental background data;
- Conceptual (30%) plans for Upper and Lower Meadow restoration;
- Basis of Design Report for Upper and Lower Meadow restoration;
- Lake level management recommendations and draft report;
- Intermediate (65%) plans for Upper and Lower Meadow restoration;
- Estimates of cut and fill quantities and area of disturbance by habitat type needed for permitting;
- Figures to include in permit applications;
- Digital copies of all photographs, data collection and analysis, and design/GIS-based survey data in electronic form;
- Quarterly progress reports and invoices.

Timeline

Task	Deadline
Proposals due	November 29, 2018
Interviews	December 6 – 7, 2018
Contract award	December 13, 2018
Project launch meeting – finalize scope	December 20, 2018
Technical Memo – background data summary	August 1, 2019

TAC meeting to review conceptual design alternatives	December 1, 2019
Conceptual (30%) design plans for preferred alternative	January 15, 2020
Basis of Design Report	January 15, 2020
Lake Level Management Plan	March 1, 2020
Intermediate (65%) Design Plans	July 1, 2020
TAC meeting to review 65% design	August 1, 2020
Permit assistance	August 1, 2020
Quarterly Progress Reports & Invoices	Mar 25, June 25, Sept 25, Dec 20

Budget

The maximum budget is $72,800. Cost effectiveness will be considered during proposal evaluation.

PROPOSAL FORMAT

There is no page limit, but ***20 pages or less is preferred***. Concise writing and graphics are greatly appreciated.

Detailed Work Plan

Scope: Define specifically the scope of services to be provided to complete the above described analyses and design. The contractor may elect to suggest modifications to the scope or schedule above. Include estimated time schedule of the major tasks to be accomplished.

Objectives: Identify and discuss briefly the specific objectives you will achieve through the conduct of the services within the project, as defined and specified above.

Detailed work approach: Discuss in detail each of the activities you will conduct to achieve the scope and objectives defined and identified above. Please specifically address work components outlined in the "proposed project" section above, and elaborate as needed. Modifications to the components listed in the work statement can be included. Technical merit and details of work proposed will be heavily weighted in proposal evaluation.

Cost Proposal

Personnel costs: Itemize by task to show the following (include subcontractors):

- Name and title
- Estimated hours per staff person, per task
- Rate per hour

- Total cost per task

Support costs: supplies, printing, postage, etc.

Transportation: Travel expenses directly related to the contract services. Mileage must be charged at the current IRS rate.

Other costs: Show costs and expenses that do not fall within the other categories.

General overhead and administrative charges not allowed.

Background and References

Include experience in geomorphic watershed assessment and restoration project design with an emphasis on stream and meadow restoration. Include any experience relevant to developing lake level management to support meadow and stream channel restoration. List the specific projects that demonstrate this experience. Include projects that have been successfully implemented including discussion of performance.

Include experience working with diverse stakeholder groups.

Include a duty statement and resume of each key person to be assigned to the project, by name and title, with experience in pertinent fields. If subcontractors will be used, include a description of those persons or firms including a description of their qualifications.

Provide a minimum of three references for similar projects, with name and phone number.

CONTRACT TERMS AND AGREEMENT

Once a contractor is selected, TRWC will negotiate a satisfactory contract and reasonable fee for the services needed. In the event a satisfactory agreement cannot be negotiated with the top ranked qualified firm, the negotiations shall be terminated with the firm and the negotiations continued with the remaining qualified firms in order of their ranking.

When the contract for Lacey Meadows Design is awarded, these terms will apply.

Payments

Progress payments for services performed shall be made in arrears upon receipt and approval of contractor's detailed invoices indicating costs and obligations incurred and services rendered to date. Payments will be made quarterly.

Changes in Personnel

Contractor's key personnel as indicated in contractor's response to this RFP may not be substituted without the written consent of the TRWC Project Manager. This will be monitored and enforced by TRWC.

Termination for Convenience

TRWC may, at its option, terminate the contract at any time upon thirty (30) day written notice to contractor. Contractor may submit written request to terminate only if TRWC should substantially fail to perform its responsibilities as provided in the contract. If terminated, contractor will be compensated for costs incurred up to the time of the termination notice for work satisfactorily completed. In no event shall payment of such costs exceed the contract price.

Unique Billing of Work

All work produced for the project will be original for TRWC, and will not have been billed to other clients previously. Work produced under the contract with TRWC will be billed only to the contract with TRWC and not to other clients or funders.

Liability Insurance

Contractor shall provide before entering the premises and shall maintain in force during the term of this contract the following liability insurance:

- General Liability
- Motor Vehicle Liability

Each policy of liability insurance described above shall be in an amount of not less than one million dollars ($1,000,000) per occurrence for bodily injury and property damages combined.

Quarterly Progress Reports

Contractor to provide quarterly progress reports and meet with TRWC representatives upon reasonable notice to allow TRWC to determine if the contract is on the right track, whether the project is on schedule, provide communication of interim findings, and afford occasions for airing difficulties or special problems encountered so that remedies can be developed. All reports will be in Microsoft Word or Adobe pdf format. Data shall be provided in Microsoft Excel files as appropriate.

Quarterly Invoicing will include detail of task, delineated staff by name, hours, rate, total for the period, and remaining amount. Reports will be submitted in Microsoft Word/Excel or Adobe.

Attachments:

- Lacey Meadows Location Map
- Upper Meadow Restoration Recommendation (from LMA)
- Lower Meadow Restoration Recommendation (from LMA)

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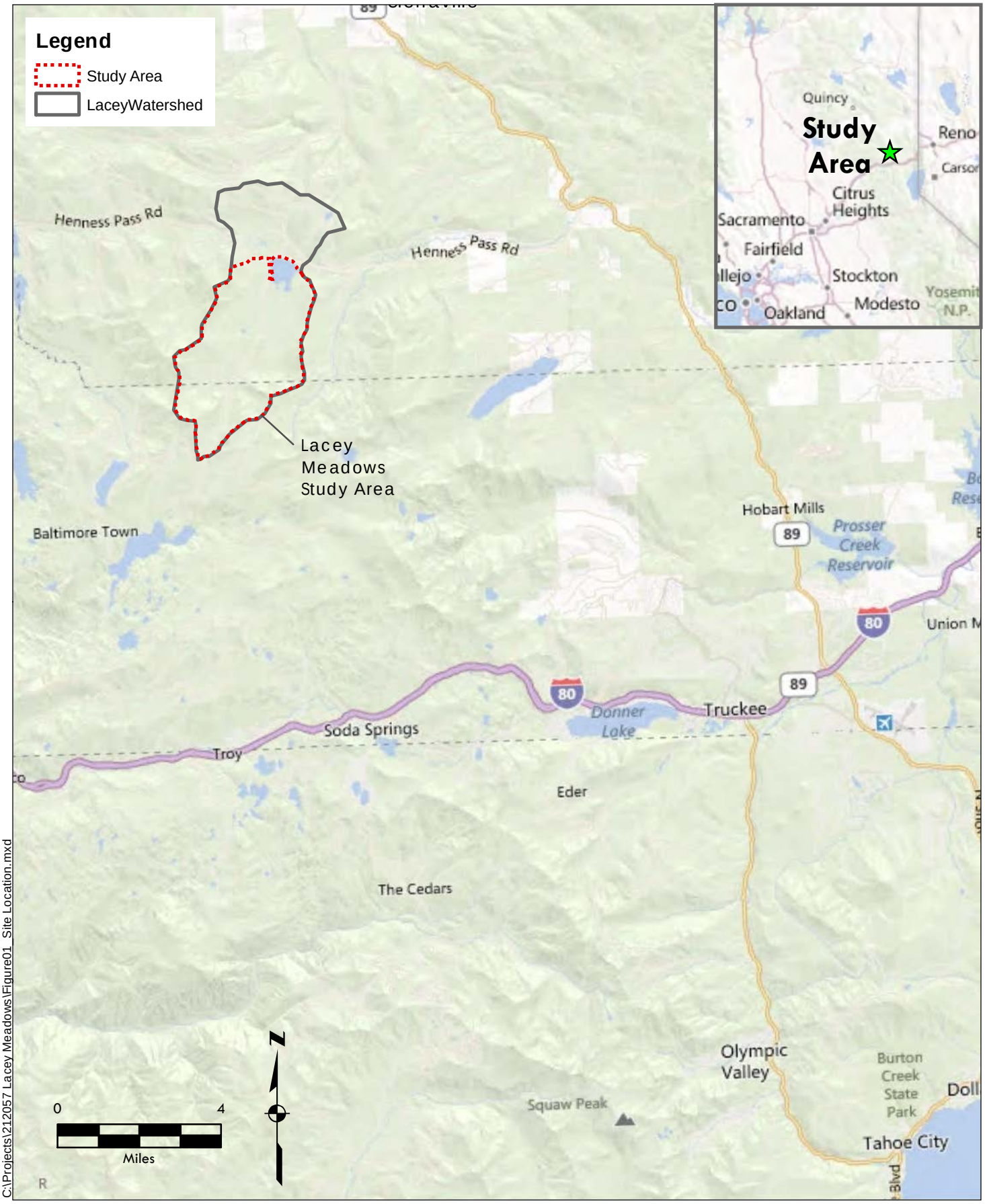


Balance Hydrologics, Inc.

H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Figure 1. Regional Location Map
Lacey Meadows Watershed
Sierra and Nevada Counties, California

Lacey Meadows Restoration and Management Recommendations, Project #6

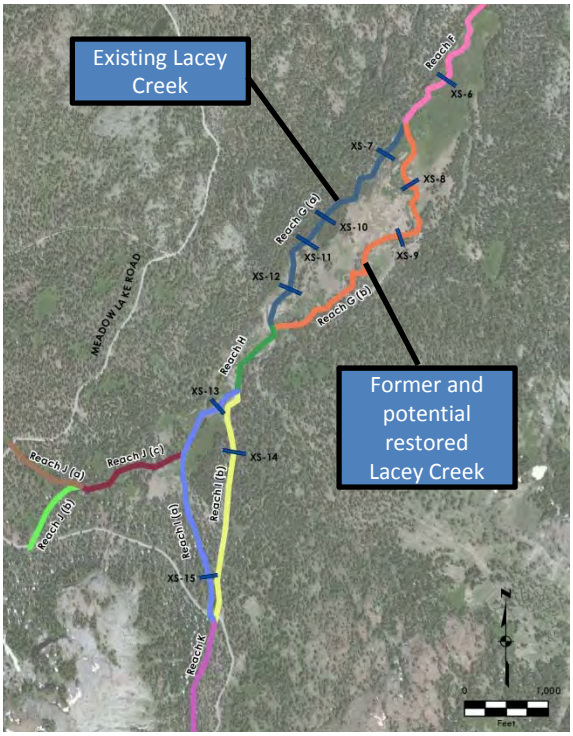
Problem: **Channel modification and impaired channel-meadow processes**
Project: **Stream and meadow restoration; aspen planting/regeneration**
Location: **Upper Lacey Meadow**

Cost Estimate*:

Less than $10K
$10K-$100K
$100K-$500K
$500K-$2M
$2M +

General Description of problem:
Upper Lacey Meadows experiences abundant sediment supply from both natural (e.g., hillslope erosion, landslides, debris flows) and anthropogenic sources (e.g., streambed and bank erosion associated with increased hydrologic connectivity from roads, grazing impacts, and channel modifications or diversions). Historical aerial photographs suggest that Lacey Creek transitioned from a multi-threaded system on an alluvial fan to a meandering channel across the Upper Meadow (Reach Gb) prior to 1966. The channel was modified at the head of the meadow and diverted to a straight channel along the northwest meadow edge before rejoining the meadow approximately 2,500 feet downstream (Reach Ga). Today, the area in the vicinity of the former channel is relatively dry and is characterized by dry upland vegetation, while the newer channel is straight and incised with ongoing conifer encroachment. Restoration of the pre-1966 channel will provide benefits to meadow health and both meadow and aquatic habitats.

Goal(s)	Sources of degradation	Objectives to achieve goal(s)
Renaturalize channel and restore channel and meadow/floodplain connectivity and dynamic alluvial fan processes	Upland excessive runoff and sediment sources; channel modification in the 1950s-1960s; grazing impacts	Address upland sources of excessive sediment (see project #1); renaturalize former channel system through meadow



Channel Reach Map, Figure 16 from Lacey Meadows Assessment Report.

Possible Effects on Physical and Ecological Processes

Physical:
Degradation of Lacey Creek through Upper Lacey Meadow is associated with cumulative impacts from ***channel modifications*** and ***excessive runoff and sediment*** from high road connectivity, stream capture by roads, channel scour, bed incision, streambank erosion; secondary effects include impaired meadow and floodplain functions and lower groundwater levels.
Ecological:
Loss of meadow vegetation and habitat from channel diversion, incision, channel-floodplain disconnectivity, and lower groundwater levels. Incised channels reduce high-water refugia for aquatic species, while excessive sediment can impair spawning habitat, macroinvertebrate populations and water quality. ***Conifer encroachment*** due to hydrologic modification and ***lack of aspen stands*** within groundwater-fed areas.

**cost estimate includes planning, design, implementation and monitoring.*

Lacey Meadows Restoration and Management Recommendations, Project #6

Restoration or Management Approach:

1) Develop a restoration plan and baseline monitoring strategy and implement ~~them~~ both
2) Implement upland restoration practices that reduce excessive sediment/runoff to meadow (see project #1)
3) Develop and implement restoration designs for channel renaturalization that are geomorphically-appropriate

Alternatives:

Passive Management of Channel and Meadow: Implement pilot upland management and grazing exclosures to evaluate channel response in the absence of channel renaturalization; will require a monitoring plan to evaluate effectiveness of passive management. Some active restoration elements may be necessary and may include bed aggradation elements to encourage floodplain/meadow reconnectivity and channel migration

Target Conditions/Success Criteria:

1) Restored channel planform and morphology
2) Increased wet meadow vegetation/habitat including aspen stands
3) Restored channel-floodplain connectivity
4) Reduced streambank and bed erosion

Benefits of channel-meadow restoration in Upper Lacey Meadow:

1) Restored channel-floodplain functions
2) Restored meadow vegetation and increased quantity, quality, and diversity of wildlife habitats
3) Reduced erosion
4) Enhanced in-stream aquatic habitat
5) Improved water quality

Restoration concepts

1) Encourage streamflow to occupy former channel using bio-engineering elements
2) Stabilize slopes along existing channel
3) Introduce large wood to dissipate streamflow velocities, encourage overbank flow, and enhance in-stream habitat
4) Implement grazing exclosures
5) Selectively plant riparian vegetation (e.g., aspen)

Meadow loss due to channel aggradation and widening, Upper Lacey Meadow

Implementation Timeframe

Design and permitting (9-12 months)
Implementation (4-8 weeks)
Monitoring and adaptive management (5+ years)

Pre- and Post-project monitoring recommendations:

1) Channel morphology (repeat surveys)
2) Vegetation/meadow condition surveys
3) Observations of channel conditions
4) Groundwater monitoring
5) Fish surveys

Bank trampling and erosion, Upper Lacey Meadow

Phasing or Order of Implementation:

Upland degradation and roads management should be implemented prior to any meadow restoration design or instream channel projects

Lacey Meadows Restoration and Management Recommendations, Project #7

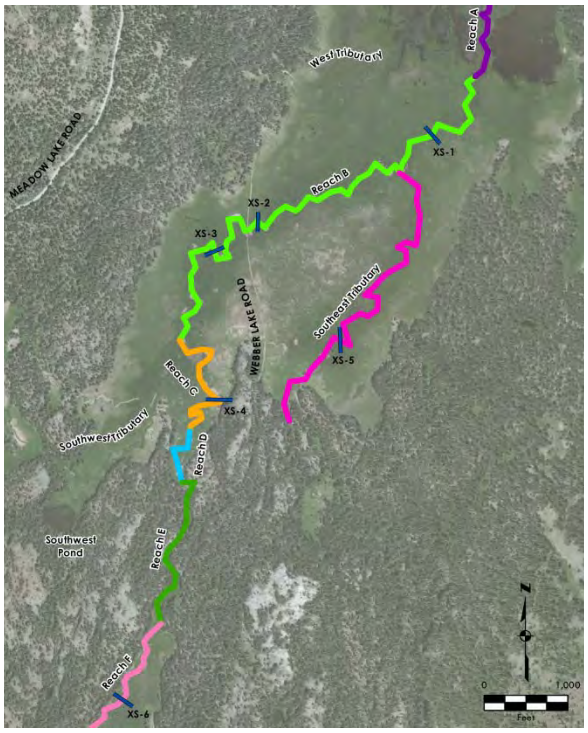
Problem: Impaired channel-meadow processes and functions
Project: Stream and meadow restoration, Reaches B and C
Location: Lower Lacey Meadow

Cost Estimate*:

Less than $10K
$10K-$100K
$100K-$500K
$500K-$2M
$2M +

General Description of problem:
Lower Lacey Meadow supports habitat for one of the few remaining populations of the endangered willow flycatcher. Lower Lacey Meadow also provides important habitat for several other sensitive wildlife species, and it supports populations of native and non-native, sport fish. Some reaches of Lacey Creek within Lower Lacey Meadow show signs of degradation. These degraded reaches of Lacey Creek reduce the habitat functions and values of the surrounding meadow and may be contributing to a lack of riparian habitat recruitment, plant community conversion, and other ecological effects. Active management and restoration of Lower Lacey Meadow may be required to avoid further meadow degradation and to prevent loss of critical habitat for avian, terrestrial, and aquatic species.

Goal(s)	Sources of degradation	Objectives to achieve goal(s)
Restore channel and floodplain connectivity, enhance ecological value of meadow , improve aquatic habitat	Upland sources of excessive runoff and sediment (including roads), channel widening /incision, grazing within riparian zone, conifer encroachment	Address upland sources of excessive runoff and sediment, restore channel through Upper Lacey Meadow, discourage channel incision and encourage overbank flows



Channel Reach Map, Lower Meadow, Figure 15 from Lacey Meadows Assessment Report.

Possible Effects on Physical and Ecological Processes

Physical:
Channel incision adversely affects channel and floodplain functions. The loss of floodplain connectivity results in loss of groundwater recharge, overbank sedimentation, increased flood velocities, and generates further bed and bank instability. These conditions promote excessive sediment to downstream habitat including Webber Lake. As the channel incises, the groundwater table follows the incision downward which has many ecological effects.

Ecological:
Lower groundwater tables reduces one of three critical elements that comprise a wet meadow, soil water; as a result, vegetation conversion from wet to dry species occurs, and promotes conifer encroachment. Separately, excessive sediment from bed and bank erosion degrades water quality and aquatic habitat. Flood flows confined to an incised channel, absent of a floodplain, limit high-water refuge for fish while scouring spawning habitat and macroinvertebrate communities.

**cost estimate includes planning, design, implementation and monitoring.*

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Lacey Meadows Restoration and Management Recommendations, Project #7

Restoration or Management Approach:

1) Develop a restoration plan and implement baseline monitoring
2) Reduce road (Webber Lake Road) impacts to meadow (i.e., stream capture, meadow dissection)
3) Protect areas of high ecological status (using grazing management plan and recreation plan)
4) Develop and implement restoration designs to restore channel-floodplain connectivity and enhance aquatic habitat

Alternatives:

Passive Management of Channel and Meadow: Implement upland restoration (see Project #1) and temporary (3-5 year) grazing exclusion for the Lower Meadow and Lacey Creek to evaluate channel/meadow response. Some active restoration elements may be necessary to encourage bed aggradation and floodplain reconnectivity.

Target Conditions/Success Criteria:

1) Meadow inundation after an 1- to 2-year flood
2) Improved meadow ecological functions and increased acreage of riparian habitat
3) Increased channel width/depth ratios
4) Higher annual-mean groundwater levels
5) Reduced streambank and bed erosion
6) Reduced conifer encroachment

Benefits of channel-meadow restoration in Lower Lacey Meadow:

1) Restored channel-floodplain functions
2) Increased meadow ecological value
3) Enhanced avian and aquatic habitat
4) Reduced erosion
5) Enhanced in-stream aquatic habitat
6) Improved water quality

Restoration concepts

1) Conduct a geomorphic study to evaluate channel evolution (is the channel still incising?)
2) Introduce instream wood to encourage sediment deposition, and reduce flood velocities
3) Encourage or re-occupy secondary channels across the meadow to dissipate flow velocities, erosion, and enhance re-wetting of distal portions of the meadow
4) Layback banks and plant (willow recruitment) in select locations to encourage slope stability and reduce excessive erosion
5) Construct temporary grazing exclosures

Implementation Timeframe

Design and permitting (6-9 months)
Implementation (4-6 weeks)
Monitoring and adaptive management (5-10 years)

Pre- and Post-project monitoring recommendations:

1) Channel morphology (repeat surveys) and detailed mapping
1) Repeat vegetation surveys and meadow assessments
2) Stream gaging (to evaluate flood frequency)
3) Groundwater monitoring (4-6 piezometers)

Lacey Creek (Reach C), Lower Lacey Meadow

Phasing or Order of Implementation:

1) Upland restoration and roads management should be implemented or considered prior to meadow and channel restoration projects.
2) This project, or element of, should be considered in tandem with water-level management of Webber Lake to avoid knickpoint erosion from fluctuating Webber Lake water-levels in the meadow.