Half Moon Bend Riparian Planting Final Grant Report

Meyer Memorial Trust, Willamette River Initiative Grant #12070156
Benton Soil and Water Conservation District, August 2015

Review of Project Purpose, Goals and Objectives:
The Half Moon Bend (HMB) Riparian Planting project is in its final stages of completion (plant establishment maintenance). Through this project, we sought to address the following problems associated with the Willamette River and its riparian forests (as indicated in the original grant application).

<table>
<thead>
<tr>
<th>Problem</th>
<th>Root Causes of the Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat fragmentation</td>
<td>Land conversion/clearing</td>
</tr>
<tr>
<td>Impaired water quality (temperature, pollutants, turbidity) in the Willamette River</td>
<td>Land conversion and loss of native vegetation, Surface runoff carrying pollutants and sediments into the river, Reduced interaction of the river with its floodplain, Reduced frequency and duration of peak winter flows due to dams and bank alterations</td>
</tr>
<tr>
<td>Lack of slow water refugia for fish and other aquatic wildlife</td>
<td>Disconnection of the river from its historic floodplain due to dams and bank alterations, Land conversion/clearing of forest habitats</td>
</tr>
<tr>
<td>Lack of large wood necessary to provide fish habitat</td>
<td>Land conversion/clearing, Forestry practices in riparian zones, Direct removal of large wood from the river both historically and currently</td>
</tr>
</tbody>
</table>

The restoration project was implemented in order to alleviate these problems, by addressing several of their root causes, listed above. These problems were addressed at the site through implementation of the following grant-funded project elements:

- Invasive species removal and treatment across 27+ acres of previously cleared land, followed by planting and maintenance of 17,800 native trees and shrubs.
- Invasive species removal and treatment across 100+ acres of forested land surrounding the restoration site, to protect the intact forest from further degradation.
- Multiple outreach and education events have taken place at the restoration site. The project was designed to serve as a demonstration site, with different planting densities and planting arrangements included in the design, demonstrating how these early decisions at the time of planting influence forest composition over time. In addition to hosting tours and workshops at the site, the project has been presented to audiences at conferences and through poster displays.
• Procurement of 45 lbs of native grass, sedge and forb seed, which will be seeded into the restoration area toward the end of the plant maintenance period, to provide understory diversity and provide competition against weedy species.

The goal of the restoration project is to establish a tree and shrub planting that, by the end of the project, is on a trajectory to grow into a diverse and functional bottomland gallery forest similar to the adjacent maturing floodplain forest. Currently, this goal is being met. Through continued plant establishment maintenance until plants are free to grow, the project goal will continue to be met.

Once plants reach the free-to-grow stage and maintenance of individual plants is no longer needed, OPRD intends to continue broader site maintenance long-term to ensure that invasive species (or other threats) do not become established at the site in a manner that threatens the integrity of the restoration area or the surrounding mature forest. Long-term site maintenance will likely include site-wide weed treatment sweeps by contracted crews once every 2-3 years, or equivalent efforts to address threats to the ecological integrity of the site.

Most of the project objectives stated in the original grant application have been achieved, and two others are in progress. Photo points (attached) demonstrate a significant reduction in invasive weeds as a result of site preparation and plant establishment maintenance treatments by project partners and contractors. Over 17,800 trees, shrubs and cuttings have been planted. Experienced professional crews planted most of the plants, with others planted by project partners. Planting was closely monitored to ensure seedlings were handled and planted correctly.

At the end of year 1 post-planting, we estimated a 90-95% survival rate. Several species had dramatically higher mortality, but overall survival met project objectives. Some replanting was done in subsequent years to bolster numbers of some impacted species, or just to maintain target stocking. At the end of year 2, we estimated a plant survival rate of 80-90%. Severe deer browse was an important factor in mortality, and has also resulted in many plants (of several species) becoming quite bushy. We expect these to send up taller shoots over the next few growing seasons, eventually escaping browse and becoming free-to-grow. Many of the cottonwood whips have already reached free-to-grow, and we expect that will become free-to-grow soon. Photo point monitoring has been conducted at least once per year. Frequent site checks have been carried out by project partners to monitor site conditions and determine treatment needs.

The project objective for outreach has been achieved through several tours, workshops, posters and talks completed to share our project approach and lessons learned with the broader restoration community and land managers. Outreach activities have included the following (see attached for materials produced for some of these activities):
• Gallery Forest Restoration and Demonstration Field Day
• Within Our Reach 2012 presentations: “Clearing the way for successful restoration of riparian forests”; “Half Moon Bend Restoration Demonstration Project”
• Within Our Reach 2014 presentations “Collaborative conservation: Partnership efforts on the mainstem Willamette River”
• Float tour with Benton SWCD staff, board and volunteers
• Paddle Oregon stop organized by Willamette Riverkeeper
• Oregon Master Naturalist Program volunteer training, and riparian unit tour
• Poster by Ed Peachey (OSU Dept. of Horticulture) describing trials of pre-emergents to be used in restoration applications, conducted at HMB
• Involvement by OSU’s Stan Gregory’s FOR/FW 445/545 students
• Involvement by OSU’s Soils 205 students
• Involvement by OSU’s SLS 250 students

<table>
<thead>
<tr>
<th>Project Objective</th>
<th>Measure for Evaluation</th>
<th>Method of Evaluation</th>
<th>Status (see discussion above)</th>
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</thead>
<tbody>
<tr>
<td>Invasive weeds are significantly reduced in dominance at the site</td>
<td>Yes/No</td>
<td>Visual observation, photo points</td>
<td>Objective met</td>
</tr>
<tr>
<td>Native trees and shrubs are planted</td>
<td>14,000</td>
<td>Number of plants ordered/collected and installed</td>
<td>Objective met</td>
</tr>
<tr>
<td>During planting, seedlings are handled and planted correctly</td>
<td>Yes/No</td>
<td>Visual observation during operational oversight</td>
<td>Objective met</td>
</tr>
<tr>
<td>Adequate plant survival after year 1</td>
<td>80% survival</td>
<td>Visual estimation</td>
<td>Objective met</td>
</tr>
<tr>
<td>Adequate plant survival after year 2</td>
<td>70% survival</td>
<td>Visual estimation</td>
<td>Objective met</td>
</tr>
<tr>
<td>Plants reach free-to-grow stage within plant maintenance period</td>
<td>Free-to-grow within 3-5 years of planting</td>
<td>Visual estimation, number of years post-planting</td>
<td>In progress</td>
</tr>
<tr>
<td>Monitoring occurs frequently enough to track project progress/problems</td>
<td>Minimum 1/year for 5 years post-planting</td>
<td>Number of monitoring visits</td>
<td>In progress</td>
</tr>
<tr>
<td>Outreach events are conducted to share lessons learned with the restoration community and land managers</td>
<td>Minimum of 3 tours/workshops</td>
<td>Number of events</td>
<td>Objective met</td>
</tr>
</tbody>
</table>
Final Report Required Information:

- Briefly describe the organizational goals and objectives as outlined in the grant application.

The goal of the restoration project is to establish a tree and shrub planting that, by the end of the project, is on a trajectory to grow into a diverse and functional bottomland gallery forest similar to the adjacent maturing floodplain forest. A discussion of project purpose, goals, objectives and their status is provided in the first section of this report.

- Describe the progress made to achieve these goals and objectives.

As described in the first section of this report, the project’s objectives are being met, and the project is on-schedule. Despite a number of challenges that arose during project implementation, the project has largely been a success, and we would like to highlight several areas in which the partners succeeded in working to ensure we met our objectives.

Project Successes:
The Half Moon Bend Riparian Restoration Project has restored 127 acres of floodplain forest (100 acres of mature forest protected and preserved through invasive species treatments, and a 27-acre gap in the forest cleared of invasives and planted). The most notable aspects of the project were the following:

1. The wide range and varied expertise of partners involved
2. The low cost of restoration treatments at the site
3. Incorporation of standard farming and forestry tools and methods

The primary people who have contributed time and expertise to help make the HMB project a success are:

- Marvin Gilmour, Marvin Gilmour LLC
- Peter Kenagy, Kenagy Family Farm Inc.
- Brad Withrow-Robinson, OSU Forestry and Natural Resources Extension, Ed Peachey OSU department of Horticulture (herbicide trials and weed control guidance)
- Holly Crosson, Crystal Durbecq, and Jenny Ayotte, Benton Soil and Water Conservation District
- Andrea Berkley, Scott Youngblood, Julie Whalen, and Dennis Wiley, Oregon Parks and Recreation Department

Additional support and services were provided by

- Brady Russell, Habitat Restoration LLC
- Diego Franco, D. Franco Restoration LLC
- Other individuals include Kendra Smith (BEF-organized large plant materials order), and others who were involved with specific aspects of the project
- Funding provided by Meyer Memorial Trust

The long list of individuals involved with the project speaks to the fact that this project was all about partnerships. The primary partners included farmers, state agency employees, OSU staff, and SWCD staff, all with different organizational mission statements, yet with a similar vision for this site. That shared vision kept people at the table even when facing challenges or roadblocks associated with project implementation. Each of these organizations provided a key piece of expertise, labor, and time that was needed to implement the project in the highest quality manner.
We found while working together that the varied backgrounds and expertise of the partners necessitated a lot of discussion to share ideas and get on the same page about project approaches, site needs, contracting, and other topics. We underestimated the amount of time that would be required simply for communicating and expressing ideas. The large number of partners, as well as their varied backgrounds and expertise, contributed to the need to build in more time for check-ins and communication.

We also found that the broad range of partners involved with the project resulted in a less expensive project overall. Marvin Gilmour and Peter Kenagy were central to this project, contributing very generously of their time and expertise at all levels of the project from conception to execution. Most of the on-the-ground treatments they implemented at the site, and most supplies and materials, were compensated, but a large amount of in-kind time was spent by these partners checking on the site, in meetings, on the phone, planning the work, and coordinating with the partners. These contributions were absolutely necessary to ensure the site treatments were carried out with the correct timing and approach. In addition, OPRD staff time and OSU staff time were contributed as in-kind match for the grant-funded project. This amounted to a significant amount of cost savings, as compared to a project that would have a paid, dedicated project manager to design and implement the project.

Because the partners contributed their time and expertise to this project, as compared to a restoration contractor who would bill for this project management time, the overall project costs remained very low. We estimate that the per-acre rate of grant funds for the 27 acres restored was $2828 (this estimate is actually higher than the actual per acre rate, as some of the grant funds were also spent on weed treatments on the surrounding 100+ acres). More typical restoration estimates of $3,000-$5,000/acre were used when the budget was originally created, as a contingency in case one or more partners pulled out of the project, in which case we would have to shift more towards relying on costlier contracted crews. The low cost of the project as compared to original budget estimates explains why we ended up requesting so many budget changes from MMT, as we dealt with consistently under-spending on this project (a good problem to have, to be sure). The cost savings on the 27-acre planting area allowed us to fold in other needs at the site, including weed treatments to protect the existing, mature cottonwood gallery forest surrounding the restoration site, and purchasing seed to use in the planted area in the future.

Another aspect of the project that made it unusual among similar restoration efforts along the mainstem was the incorporation of farming and forestry tools and methods. From the inception of the project, Peter Kenagy, Marvin Gilmour, and Brad Withrow-Robinson sought to approach restoration of this site from their unique perspectives, namely as farmers (Marvin and Peter) and foresters (Brad). Some of the farming approaches and tools that Marvin and Peter’s expertise brought to the project included:
• Familiarity with and availability of large farming equipment, and the knowledge to operate them correctly, allowing a large amount of acreage to be covered efficiently. This included equipment used for site preparation, seeding, plant maintenance sprays, and irrigation.

• Expert knowledge of the broad range of herbicides and adjuvants available, and the specific species and timing to apply them, as well as expert knowledge of mixing, calibration, and spraying using efficient machinery commonly used in farming.

• Layout of the restoration site in a row format, with cover crop seeded between rows, and bare strips maintained along the planted rows. This layout is similar to how certain perennial crops are raised. Treating the restoration plantings as a crop made a lot of sense since that is essentially what it is – native trees and shrubs are grown and maintained as free from competition from weeds as possible, to ensure fast and healthy growth.

• Knowledge of how to best apply irrigation to support plantings in their first few years of growth, while minimizing the use of water, and timing irrigation to best match the plants needs. This required paying close attention to weather patterns, conditions at the site, and plant conditions, and quickly mobilizing irrigation equipment. This expertise was evident when drier than normal winter and spring seasons required setting up irrigation earlier than expected. It also was key to repairing unexpected damage the irrigation system sustained mid-season.

• Familiarity with the behavior of the main-stem Willamette, and the sloughs and floodplain areas adjacent. The farming community along the Willamette possesses an intimate knowledge of how the river interacts with the floodplain, and a strong land ethic. Marvin and Peter also bring to the table an intimate knowledge of native habitats and native species from their long time working in this part of the Willamette and their own business experience.

Some of the forestry approaches and tools Brad’s expertise brought to the project included:

• A focus on the long-term trajectory of the restoration planting, rather than simply the first 3-5 years of the project. Brad challenged the partners and those visiting the demonstration site to keep an eye toward how the ultimate structure and composition of a future, mature forest results from the planting decisions made now. The layout and composition of the plants at this site (with densities ranging from 440 to 2500 seedlings per acre) were designed to demonstrate different conditions likely to arise from different planting approaches, and also result in a very diverse forest overall. This required a familiarity with the biology of native trees and shrubs, understanding of the concepts of stand development, and a close examination of characteristics of our fully stocked, mature forest reference site (the 100-acre forest surrounding the restoration area) and how we could design our project to ultimately achieve something similar to the reference site.

• Familiarity with the growth rates, light requirements, shade tolerance, space requirements, and sensitivity to competition of each species in the planting, as well as knowledge of strategies to deal with browse, such as selection of less palatable species.

• Selection of appropriate, healthy plant stock, which required matching seedling type and size to outplanting conditions (environmental conditions and management intensity). Due to factors beyond our control, not all of our planting stock met these ideal requirements at first, but after the first plant procurement, we were able to procure plants that met more exacting specifications.
Brad also used his expertise at landowner outreach and education in organizing several outreach/education events at the site, most notably the Gallery Forest Restoration and Demonstration Field Day.

The other partners also contributed unique talents and skills that helped make for a better project. Benton SWCD led grant administration and kept the project on track financially. They also helped deal with public contracting questions and spearheaded a lot of the regular check-ins and communication amongst the partners. Their work leading the Willamette Mainstem Cooperative provided an opportunity for invasive species mapping and control to take place in the 100-acre forest surrounding the restoration site, complementing and helping to protect the investment and growing ecological values of the restoration area.

State Parks staff led the grant-writing and reporting duties, and as the landowner, helped with decision-making, addressing issues such as trespass, and contracting. OPRD will fund plant maintenance for the next several years, as well as long-term site maintenance. OPRD remains enthusiastic about the significant change that has taken place at this site, and committed to maintaining these gains long term. The site serves as a model for achieving restoration on other public lands along the Willamette and elsewhere.

Briefly articulate your landowner outreach strategy and describe progress to date.

The restoration project was designed to demonstrate a variety of planting approaches. The restoration site provides a place and a single project within which this wide range of restoration approaches can be viewed by land managers and restoration practitioners. Different blocks were planted that demonstrate how decisions about plant density and composition at the time of planting can affect the maturing forest composition over time. Several outreach and education activities have taken place at the project site through efforts of the partners. A list of these activities is provided in first section of this report.

The Gallery Forest Restoration Field Day at Half Moon Bend was held on September 25, 2013 with about 50 people in attendance from watershed councils, soil and water conservation districts, municipalities, agencies, researchers, non-profits, and farm and forest landowners from the mid-Valley area and beyond, and also led to multiple follow-up conversations and visits. The workshop agenda and photos are attached. We made good progress toward the workshop goal of expanding the conversation among the different parties interested and involved in riparian restoration, and also expanding the scope of the conversation beyond planting.

Other events, including stops at the site by Paddle Oregon, visits by OSU students, and tour groups, have taken place. In addition, the work at Half Moon Bend has informed a number of posters and presentations, also listed in the section above.
Please provide the following:

- An updated project timeline
  See table below.

- Project plans, maps or other material related to the proposed project.
  See materials attached.

<table>
<thead>
<tr>
<th>Project Elements</th>
<th>Start Date</th>
<th>End Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site preparation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order trees and shrubs – east site</td>
<td>2011</td>
<td>2011</td>
<td><strong>COMPLETED.</strong> 14,000 trees and shrubs ordered.</td>
</tr>
<tr>
<td>Order trees and shrubs – west site</td>
<td>2013</td>
<td>2013</td>
<td><strong>COMPLETED.</strong> 2100 trees and shrubs, plus additional cuttings.</td>
</tr>
<tr>
<td>Mowing and spraying site prep</td>
<td>April 2011</td>
<td>Sept. 2013</td>
<td><strong>COMPLETED.</strong> East and west sites, one mow first year, and two sprays per year in 2011 and 2012. In 2013 west site only, two sprays.</td>
</tr>
<tr>
<td>Seed cover crop between rows – east site</td>
<td>Nov. 2012</td>
<td>Nov. 2012</td>
<td><strong>COMPLETED.</strong> A cover crop of native and agricultural grasses were seeded between planned planting rows to compete with invasive weeds, and delineate planting rows.</td>
</tr>
<tr>
<td>Seed cover crop between rows – west site</td>
<td>Nov. 2013</td>
<td>Nov. 2013</td>
<td><strong>COMPLETED.</strong> A cover crop of perennial rye was broadcast into planting area in October 2013.</td>
</tr>
<tr>
<td><strong>Planting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final design and layout of planting blocks</td>
<td>Oct. 2012</td>
<td>Oct. 2012</td>
<td><strong>COMPLETED.</strong> The details related to plant arrangement, density, placement, and irrigation will be finalized for both sites. A fall meeting among the partners will take place to discuss details for the design and upcoming activities.</td>
</tr>
<tr>
<td>Contracting – east site</td>
<td>Nov. 2012</td>
<td>Nov. 2012</td>
<td><strong>COMPLETED.</strong> Bid solicitation and contracting with qualified contractor for planting the east site.</td>
</tr>
<tr>
<td>Planting</td>
<td>March 2013</td>
<td>March 2013</td>
<td><strong>COMPLETED.</strong> Planting occurred in March 2013 using Diego Franco Restoration crews. Additional plant materials were installed by project partners.</td>
</tr>
<tr>
<td>Contracting – west site</td>
<td>Oct. 2013</td>
<td>Oct. 2013</td>
<td><strong>COMPLETED.</strong> Contracting with qualified contractor for planting the west site.</td>
</tr>
<tr>
<td>Planting</td>
<td>Feb. 2013</td>
<td>March 2014</td>
<td><strong>COMPLETED.</strong></td>
</tr>
<tr>
<td><strong>Plant maintenance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation system setup using existing well, use for two seasons</td>
<td>May 2013</td>
<td>Sept 2014</td>
<td><strong>COMPLETED.</strong> Pump, hose lines, sprayers. Remove system when fall rains return, and set it up again the following summer.</td>
</tr>
<tr>
<td>Plant maintenance during growing season – east site</td>
<td>April 2013</td>
<td>Sept 2015</td>
<td><strong>IN PROGRESS.</strong> Originally planned for two mows and two sprays per year, for three years. More spraying than mowing has been necessary. Some of the work has required contracting.</td>
</tr>
<tr>
<td>Plant maintenance during growing season – west site</td>
<td>April 2014</td>
<td>Sept 2016</td>
<td><strong>OPRD FUNDING SECURED.</strong> Primarily spraying, possibly some mowing, each year for several years, until plants are free to grow.</td>
</tr>
<tr>
<td>Additional plant maintenance as</td>
<td>April 2016</td>
<td>Sept 2018</td>
<td><strong>FUTURE WORK.</strong> In years 4 and 5 post-planting, additional</td>
</tr>
</tbody>
</table>
Maintenance (mowing and spraying) will be conducted as needed, no less than once per year.

**Monitoring**
- Photo point monitoring: 2011-2016 IN PROGRESS. At established photo points.
- Plant survival monitoring: Sept. 2013-Sept. 2014 IN PROGRESS. Plant survival overall is above 80%.

**Outreach**
- Site tours, workshops, online communications: 2013-2016 COMPLETED. The site will remain available for tours and workshops, at the discretion of OPRD.

**Newer actions approved by MMT in 2014**
- Control of high-threat invasive species in forested areas: Summer 2014-Summer 2015 COMPLETED. Restoration contractors gridded the 100-acre forest surrounding the restoration site and treated all ivy, clematis and other incidental invasives. This work followed up earlier treatments conducted as part of the Willamette Mainstem Cooperative surveys and treatments.
- Seed collection for forest floor forb/grass species onsite. Seed purchase of additional forest floor forb/grass species: 2015-2015 COMPLETED. 45 lbs of seed were procured and are in storage, and will be seeded into the restoration area toward the end of the plant establishment period.
- Seeding in planted areas and invasive control areas in forest, following treatment phase, to be completed by OPRD staff: 2016/2017 2016/2017 FUTURE WORK. Timing TBD.

2a. What unexpected opportunities or problems have you encountered? For example, were there significant financial and/or programmatic changes that occurred? Were there major changes within or outside your organization (e.g., in the community, the political landscape) that had an impact on your work?

Several unexpected opportunities and challenges arose during the course of the project.

- Benton SWCD had a change in leadership during the project, when the previous District Manager Jenny Ayotte left the organization, and Holly Crosson came on board. Jenny was involved in the initial discussions, grant application phase, and very beginning of the site preparation period. When Holly became the District Manager, she had to quickly get up-to-speed on the project vision, purpose, past conversations and decisions, and get the paperwork and fiscal and administrative aspects of the project (including contracting) in line with organizational policy and state laws.

- Our RFQ for planting contractors did not receive the number of responses we expected. We emailed the request to about a dozen contractors, and received only two responses. Fortunately the proposal from the contractor we ended up selecting was excellent and within our budget, and the contractor is experienced and has proven their ability to implement projects like this. The low number of responses to our request for proposals was likely the result of one or more of the following factors. First, the large number of planting projects occurring in this area that year likely reduced overall contractor capacity. Second, our site has some constraints that some
contractors may not have been willing to accommodate, including the flood prone nature of the site, and the design of the planting blocks (which are more complex than a traditional floodplain planting project).

- We worked with Kendra Smith of Bonneville Environmental Foundation to procure plants for this project. We found that doing so was an excellent opportunity to ensure our plant needs were met, as they were folded into a much larger order for the Model Watershed Program that was placed for multiple restoration projects. In the end, final plant numbers for certain species had to be adjusted slightly to respond to unexpected (but not unusual) shortfalls in the availability of certain species, and last minute changes in plant needs for other restoration projects within the larger order. By working with the Model Watershed Project, we were fortunate to be able to acquire almost all the plants, by species, desired. However, we did not get to specify specs for nursery stock, and received a very wide range of stock sizes/quality. We were concerned that several key species, which also happen to be favored browse, were among the smallest in size or caliper (red osier dogwood, Oregon ash, bigleaf maple). We have seen a correspondingly higher mortality for these species over time. We re-plant a small portion of some of the key species to ensure they remain part of the planting.

- Browse pressure has been high, as expected, given the site’s location. Browse patterns have been a little surprising, being heavier on some species not generally seen as highly desirable, and less on others seen as more desirable. Some of that may simply be availability and accessibility (of a large, robust osoberry, for example) while a tiny red osier dogwood is overlooked for a while.

- As mentioned previously under “Project Successes”, one somewhat predictable challenge encountered was the amount of time, communication, and coordination required to implement a project that has a large number of partners closely involved. As a team, we did not adequately clarify roles of the different players, or expectations of time commitments of ourselves and each other, and as a result, the lines of communication sometimes broke down. The project partners met frequently and communicated frequently in between meetings to ensure that the project was on-track, necessary actions were scheduled, contracted, and completed in a timely manner, and to ensure invoices and payments adhered to contracting rules. Understanding the contracting rules has been a learning curve for many involved, with the guidance of Benton SWCD staff. All the coordination has paid off, with actions on-the-ground occurring when needed or as soon as was feasible.

- One major challenge that we faced continuously throughout the project was adhering to our original project budget. The project budget was created with several contingencies built in. We knew at the start of the project that our partners were committed to the project, and we hoped that we would be able to continue to count on them and use their rates for project activities. However, we were not guaranteed that this would remain the case over the many years the project would require. It was possible that one or more partners could decide to become less involved or available for project implementation over time. To contend with this possibility, higher rates were built into the project budget in case we needed to switch from
implementation of project work by partners, to implementation of project work by restoration contractors only. If this happened, we would have needed a larger amount of funding. It turned out that project partners performed a large amount of the work on-the-ground, and contractors were only needed for certain tasks, so we were consistently under-budget throughout the project. We also found we needed to shift funds between the budget categories. We also found that the original budget was under budgeted for personnel time for Benton SWCD staff. Staff spent more time than anticipated on project management and fiscal administration from the unforeseen complexities in contracting and partner coordination. These changes in overall amounts and categories of funds required us to request formal budget changes to Meyer Memorial Trust a few times. Ultimately, we had the opportunity to look beyond the 27-acre tree and shrub planting, and identify other needs at the site, and shift some of our excess funding to meet those needs.

- The project uses farming practices to grow the restoration plantings, and similar to farm management, must be flexible and adaptable and often requires adaptive management that involves changes mid-stream. For example, we have found that weather patterns and the species of weeds expressing themselves on the site have required more control efforts that rely on spraying rather than mowing. Therefore our costs for spraying have been higher than we budgeted, but mowing has been much lower. Similarly, we were flexible in our use of irrigation use as demanded by the season or site, expanding our initial irrigation season on the east planting, but dropping it from the western end entirely. Finally, re-planting was performed to respond to key species that sustained significant damage and had higher mortality than was acceptable given the desired future condition of the planting.

2b. How did you respond to these changes, or how do you plan to respond to these changes?

- The transition that occurred during the change of District Manager started out smooth, as Jenny and Holly convened all of the partners for this project to discuss how the transition would take place and plan for the next major project activities for later winter through summer 2013. Once Holly really got a chance to dig into the details of the project’s administrative and financial aspects, she requested some new approaches to ensure the project was adhering to District policy and public contracting rules. Holly provided a significant amount of guidance to the partners during this time. Staff time costs were higher than originally budgeted, but project funds were able to be shifted to the staff time budget category to cover this need.

- The low response rate we received for our RFQ for planting ended up to not be an issue, as Diego Franco Restoration did an excellent job. We continued to contract with them for follow-up plant maintenance work. In the future, we might put out our RFQ earlier to garner more responses.
• Remaining flexible was important during the process of procuring plants and receiving updates on plant availability. The plant numbers went through a few iterations as updates were communicated between the nurseries, Kendra, and the project implementers. We were able to quickly adjust our planting layout and species counts in response to the final plant numbers available from the nurseries. We also backfilled in some areas through collection of cuttings onsite.

• Small planting stock is more susceptible to weed competition, sunburn, browse and other problems at planting and establishment than large stock (defined by both height and caliper). Good site preparation and strict weed control (planned and accomplished) benefits any planting, but especially small stock. We had considered but earlier decided not to use tubes, due to expense and vulnerability to flooding. Our only additional response to the small plant sizes for some species was to be a bit more aggressive in our irrigation and weed control, to try to grow the seedlings through their vulnerable phase, and also some replanting of individual species that fell short of expectations due to stock quality and or browse.

• When it was recognized that project costs were coming in less than originally budgeted, we proposed budget revisions that were approved by Meyer Memorial Trust. We have since considered several opportunities for expanding the scope of the project to accomplish more, complementary work at the site. Meyer Memorial Trust graciously approved our budget changes. We now have a roughly 127-acre property, frequently inundated by the Willamette River, with mature forest largely free from the most threatening invasive species it once had, and a restoration site on a trajectory to fill in a large gap in this forest.
3. **How has MMT's grant alleviated financial or other pressures?**

OPRD owns and manages many Willamette Greenway properties, and many of these are undergoing restoration. These projects vary from large-scale efforts with multiple funders and key partners (e.g. Luckiamute, Willamette Mission, Elijah Bristow), to smaller scale projects that OPRD has the capacity and internal funding to complete alone (e.g. Kiger Island Landing, Darrow Rocks Landing, Cougar Mountain Access).

The work that was needed to restore Half Moon Bend Landing was more costly, complex and time-consuming than OPRD was able to complete without a strong set of partners and outside grant funding. The project would not have been completed without MMT financial support. Additionally, MMT’s flexibility with our requests for changes in budget allowed the partners to quickly move past potential financial hiccups and allow the focus to remain on on-the-ground progress, instead of financial concerns.

4. **Describe the organization’s current capacity (staff, financial, programmatic) compared to the organization’s capacity prior to the grant.**

Benton SWCD secured a Basinwide Impact Grant from Meyer Memorial Trust, to support the Willamette Mainstem Cooperative program for an additional 2 years.

5. **What opportunities and challenges do you foresee for your organization as you move forward?**

Capacity to run our various programs will continue to be a challenge. We continue to seek grants from various agencies and organizations (ODA, OWEB, BPA, MMT, etc) to provide funding for staffing to provide the capacity necessary to continue our programs.

Please provide the following financial statements:
- Statement of Financial Position/Balance sheet
- Statement of Activities/Income statement – original budget compared to actual income and expenses
- Brief description of significant variances
- Projected budget for the next fiscal year

Please see attached statements.