

Kootenai River Habitat Restoration Project Master Plan



Chapter 9 – Next Steps

Kootenai Tribe of Idaho
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9 Next Steps

Chapter 9 provides an overview of the planned next steps for the Kootenai River Habitat Restoration Project. This chapter presents a summary of the general tasks scheduled for the upcoming phases of this project including: interim planning actions, environmental compliance, work associated with the preliminary and final design phases, funding, and project implementation. The Kootenai Tribe will be identifying specific timelines and milestones for the next phases of this project (i.e., implementation of the conceptual framework identified in this Master Plan) within 90 days of release of this document.

9.1 Overview

The development of this Master Plan has provided a valuable learning opportunity for the Kootenai Tribe, the Tribe’s consultants, and the agency and technical experts who have participated in various aspects of the project. Among many lessons learned through the planning process, participants have gained an enhanced appreciation for the complexity of ecosystems, the degree of interrelatedness and cumulative nature of limiting factors and their effects on habitats and species and a recognition of the pitfalls of attempting to identify single, one-stop “solutions” to “fix” such an intricately interconnected system.

While developing this Master Plan the Tribe with the help of their consultants collected, analyzed, and incorporated significant quantities of existing and new data; encouraged dialog with, and sought technical input from, regional co-managers (IDFG, MFWP, BCMoE), federal agency representatives (USFWS, USACE, BPA, USGS), and other technical experts representing a range of relevant disciplines. As mentioned in Chapter 1, the Tribe also conducted two separate internal technical reviews of iterative drafts of the Master Plan.¹ As a result of input gleaned through this iterative collaborative process, the overall approach to this project has evolved significantly since work on this Master Plan began. In particular, input gathered through the internal technical reviews of the two draft Master Plans influenced the content, organization, and overall approach to presenting the conceptual framework identified in this document.

As explained in Chapter 1 and articulated throughout this document, the Kootenai Tribe is committed to an ecosystem restoration approach to this project. This approach acknowledges that ecosystems are dynamic and therefore restoration planning must accommodate a range of possible and equally valid outcomes. Towards this end, this Master Plan presents a relatively flexible conceptual framework for designing and implementing the Kootenai River Habitat Restoration Project that is supported by a robust adaptive management and monitoring program during the project’s design and implementation phases.

¹ Internal reviewers were selected by the Kootenai Tribe and represented a range of disciplines and entities including co-managers and agencies, independent experts in river restoration, hydraulics, engineering, geomorphology, fish biology, and sediment-transport.

Likewise, the next steps identified in this chapter are intended to support a necessary degree of flexibility and adaptation in the subsequent phases of project design and implementation, while also laying the groundwork for timely on-the-ground implementation of habitat restoration activities.

The next steps outlined in this chapter are presented in the context of the following categories:

- Project management, coordination and outreach;
- Data collection and analysis;
- Environmental compliance and permitting;
- Preliminary and final design;
- Funding analysis and strategy; and
- Implementation.

Figure 9-1 provides a visual summary of the upcoming phases of the Kootenai River Habitat Restoration Project and major tasks associated with each project phase. The following sections of this chapter provide additional examples of specific next steps for each of the categories identified above.

To simplify communication, Figure 9-1 on the following page presents a very linear approach to planning and design development with a clear progression from conceptual to preliminary to final design. While this is consistent with the Tribe's overall approach to project planning and implementation for the Kootenai River Habitat Restoration Project, it is important to note that in some instances design and possibly implementation (pending completion of necessary environmental compliance and permitting) of specific restoration project components may proceed ahead of other project components.

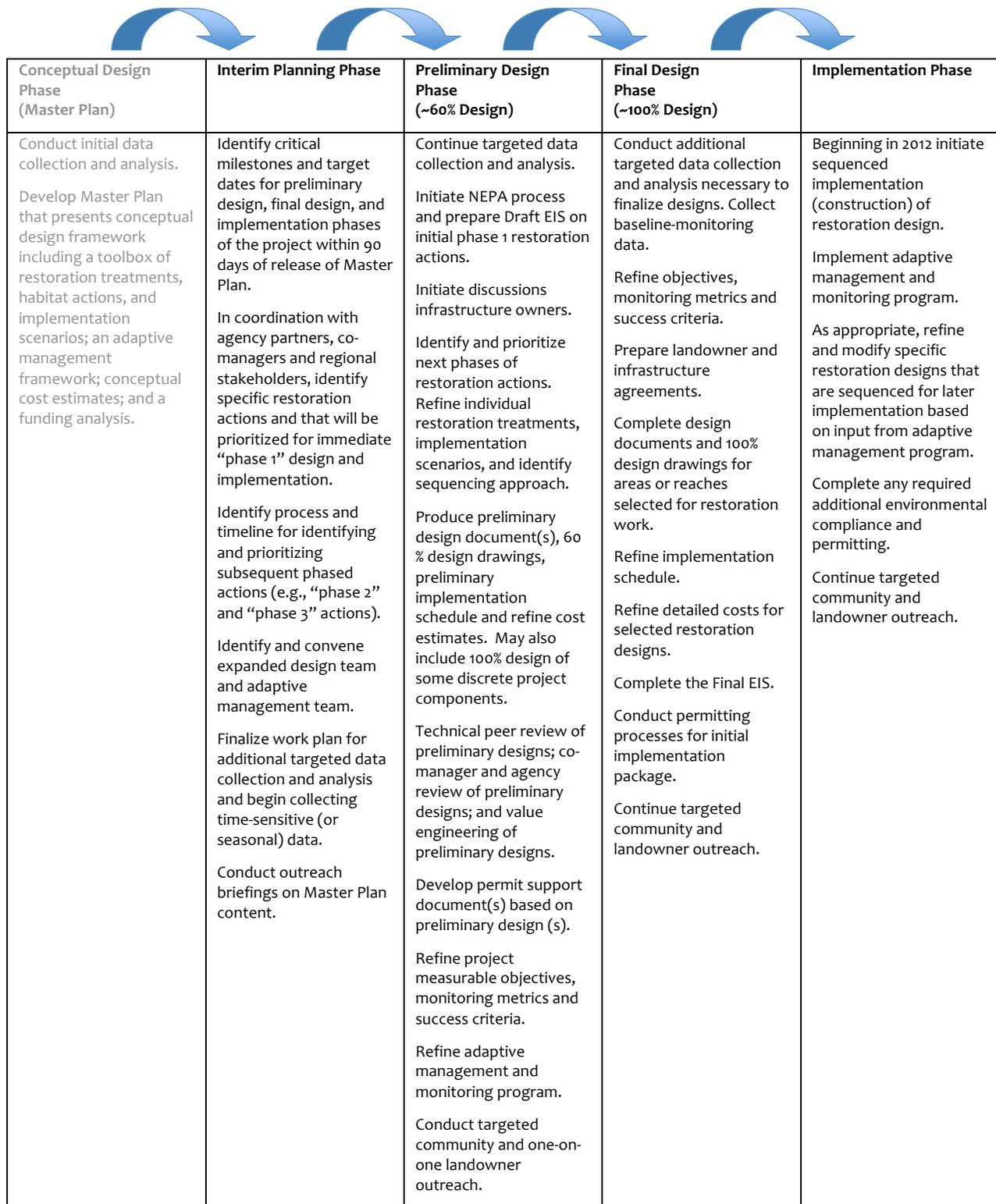


Figure 9-1. Kootenai River Habitat Restoration Project phases and major associated tasks.

9.2 Project Management, Coordination and Outreach

All phases of the project's next steps will include project management, coordination and outreach tasks. The following sections provide additional detail about specific activities.

9.2.1 Project Management and Planning

Project management and planning activities will include ongoing project planning and oversight; development of a project plan that addresses schedule, scope, cost, and risk; development and implementation of procurement strategies; and related planning activities. Examples of specific tasks include the following.

Interim, Preliminary and Final Design Phases

- Develop project plan (e.g., scope, schedule, budget) for preliminary, final and implementation phases. Develop procurement strategies for design and implementation based on the Master Plan.
- Identify expertise needed for expanded design team (i.e., broader expertise than was required for completion of the Master Plan). Identify and develop project design team for the preliminary and final design phases.
- Identify and confirm project various technical and policy committee roles and membership (e.g., Kootenai Habitat Policy Team, interdisciplinary adaptive management and monitoring team, co-manager/agency technical committee, funding committee).
- Coordinate with federal agencies to identify and confirm NEPA approach, identify cooperating agencies, confirm timeline, and initiate appropriate activities.
- Within 90 days of release of this Master Plan the Kootenai Tribe will identify specific targets and milestones for next phases of the project.
- Develop prioritization process to identify and build agreement around immediate and longer-term restoration actions.
- In preliminary and final design phases, implement project plan developed in interim planning phase (i.e., critical milestones, budget, scope, and risk management). Update and implement procurement strategies.

9.2.2 Coordination and Outreach

During the interim, preliminary and final design phases the Tribe will continue to actively coordinate with project technical and policy committees, regional co-managers, agencies, individual landowners and the local community at large. Examples of specific activities include the following.

Interim Planning Phase

- Convene meeting(s) with federal agency partners, co-managers and stakeholders to discuss, identify, and prioritize immediate short-term restoration priorities and associated habitat restoration actions.

- Convene meeting with Kootenai Habitat Policy Team to discuss and gain additional input on selection of immediate short-term restoration priorities and associated action and next steps.
- Coordinate a meeting or workshop to identify restoration priorities beyond the immediate short-term restoration priorities. Potential approaches include convening a formal expert elicitation process or less formal model designed to address risk and uncertainty. Participants would likely include a combination of local and outside expertise.

Preliminary and Final Design Phases

- Convene meetings with the Kootenai Habitat Policy Team to provide project updates; support timely implementation of project; and identify and resolve critical issues related to funding, policy questions, agency coordination, implementation, etc.
- Convene meetings with co-managers, agency technical representatives, and independent technical advisors at specific design milestones, in order to incorporate new and evolving scientific data and research into the project design, seek input and buy-in on the preliminary design of restoration treatments, implementation scenarios, project sequencing and other technical project components.
- Coordinate technical peer review(s) and value engineering review(s) of the preliminary designs.
- Convene the interdisciplinary adaptive management and monitoring team to refine (preliminary design phase) and finalize (final design phase) the project Adaptive Management and Monitoring program, refine some of the measurable objectives, and identify and confirm success criteria. This group will also have a continued role before, during, and after implementation.
- Conduct targeted outreach and coordination with individual landowners, infrastructure owners, and other stakeholders regarding specific components of proposed restoration scenarios.
- Conduct ongoing community outreach to keep local community apprised of project progress.
- Conduct ongoing coordination with NPCC and BPA regarding project deliverables and progress.

9.3 Data Collection and Analysis

Although a great deal of data has been collected, compiled and analyzed prior to and during the conceptual design phase, some additional targeted data collection and analysis will be required during the preliminary and final design phases in order to address data gaps, confirm technical feasibility of some proposed actions, provide baseline information for the NEPA analysis, and refine the restoration treatments and implementation scenarios.

Examples of data collection, analysis and validation activities that will occur during the interim, preliminary and final design phases include the following.

Interim and Preliminary Design Phases

- Produce data and information management plan to ensure timely collection of critical data.
- Collect and process suspended-sediment and bedload samples in select project reaches in order to improve estimates of sediment supply within the project area and support the design of sediment storage areas on the floodplain. Update sediment rating curve for the Kootenai River using 2009 sediment data and update particle size data.
- Install and retrieve scour chains in the Braided Reaches in order to quantify and understand the magnitude of seasonal scour and fill processes and the sizes of particles entrained and deposited.
- Ongoing data collection and data processing necessary to monitor changes in the channel geometry will include:
 - Establish three new riverbank erosion stations in braided reach, monitor bank erosion at all 24 stations during low flow after the winter Libby Dam load shaping and late summer-early fall after the spring-early summer high flow
 - Monitor erosion and deposition during the December load shaping on the descending limb of the spring freshet and on the descending limb of the sturgeon pulse
 - Collect multibeam bathymetry over entire braided reach channel
 - Survey the elevation of the river banks in the lower canyon reach
 - Measure velocity in the braided reach at approximately six cross-sections to validate the surface-water model.
- Continue to monitor river stage on 15 minute intervals at six stations established in 2006, 2007, and 2008 to support calibration of hydraulic and sediment models.
- Complete construction and validation of multidimensional hydraulic model of existing conditions including multichannel bathymetry of select project reaches.
- Field validate LiDAR data using survey-grade GPS.
- Obtain resource-grade true color aerial photography flown during early July 2009.
- Conduct riparian boundary research and land surveys to determine implications of channel relocation projects on landowners.
- Field survey bankfull indicators for use in developing elevation criteria for floodplain construction.
- Complete preliminary field reconnaissance of tributary habitat and fish passage barriers.
- Compile comprehensive inventory of utilities and infrastructure in the project area
- Initiate discussions with infrastructure owners including bridges.

- Review other completed or ongoing restoration projects that are addressing similar limiting factors or are being implemented in river systems with similar scale and geomorphology.
- Ensure that most current spatial data is obtained for use in suitability analyses as analyses are refined.
- Collect data on channel morphology, vegetation and aquatic habitat from appropriate reference reaches in order to support development of channel dimensions, habitat structures and revegetation designs.
- Analyze Kootenay Lake backwater with regard to specific time periods in order to evaluate effects of controls such as Grohman Narrows, Corra Linn Dam and Libby Dam.
- Collect and analyze information about water management in diking districts, wildlife refuges and other conservation lands within the project area
- Install groundwater monitoring wells and develop a groundwater map within the Meander Reach to refine floodplain restoration suitability analysis and provide additional information about feasibility related to floodplain restoration.
- Integrate with Kootenai Tribe's Operational Loss Assessment project in to utilize and contribute to that project's planning and assessment tools to further refine limiting factors analysis in the Master Plan.
- Complete weed mapping throughout the project area, including aquatic invasive plant species.
- Incorporate additional data from B.C. portion of the Kootenai subbasin so the restoration effort is compatible with management and restoration objectives in Meander Reach 3.
- Design and implement a data management system to support the adaptive management and monitoring program that is flexible enough to incorporate data from related monitoring and evaluation programs.
- Collect baseline information on other potentially affected environmental and social resources, including cultural, recreation and wildlife resources.

Final Design Phase

- Continue specific targeted data collection, analysis and modeling as necessary to further refine designs.
- Complete construction and validation of multidimensional hydraulic and sediment model of design conditions to evaluate design performance and flood elevations.
- Conduct flume studies to evaluate performance of channel reconstruction design.
- Establish baseline-monitoring data for project.

Although no new research is proposed as part of this project, there are a number of ongoing research projects related to sturgeon habitat, spawning analog sites, and early life stage behavior that will be partially or fully complete within the preliminary and final design phase time frames. The USGS National Research Program is also developing a model for the downstream dispersal of Kootenai sturgeon early life stages as part of this project. As the design process

progresses, relevant new research findings and modeling results will also be incorporated into the design process when possible.

9.4 Environmental Compliance and Permitting

As noted in Chapter 6, the approach to environmental compliance and permitting will be critical to timely execution of project implementation, maintaining implementation flexibility, and to the ability of the Kootenai Tribe to initiate project construction in 2012. As previously noted, following release of this Master Plan, the Tribe in coordination with agency partners, co-managers and stakeholders will identify immediate implementation priorities and associated actions. This first phase project or combination of projects will proceed to preliminary design and will be analyzed through the NEPA process when design has progressed sufficiently to identify the scope of environmental effects. Following are examples of likely activities associated with environmental compliance and permitting in the interim planning, and preliminary and final design activities.

Interim Planning Phase

- Confirm NEPA approach with BPA, the lead agency.
- Identify NEPA contractor(s).
- Collect remaining environmental baseline information.

Preliminary Design Phase

- Prepare Draft EIS when preliminary design is sufficiently advanced.
- and identify permitting and consultation requirements.

Final Design Phase

- Complete Final EIS.
- Develop permit support document and conduct permitting and consultation activities.

9.5 Preliminary and Final Design

Work accomplished over the course of the preliminary and final design phases will 1) refine details of the proposed restoration treatments; 2) identify the specific reaches and floodplain areas where restoration work will occur; 3) confirm the technical, social, and cost feasibility of specific restoration scenarios; 4) identify specific proposed implementation scenario(s); 5) refine project objectives, monitoring metrics and success criteria; 6) refine cost estimates; and 7) identify the project implementation sequencing schedule; and produce construction drawings.

9.5.1 Preliminary Design

The preliminary design phase will continue to evaluate project feasibility through a series of documents that address data gaps, summarize data collection and analysis efforts, and identify the specific reaches and floodplain areas where restoration work will occur. At a 60% design

level, the preliminary design drawings may include a range of potential implementation scenarios that could be carried forward for further analysis and refinement in the final design phase.

Activities associated with preliminary design include:

- Select river reaches and floodplain areas where restoration work will occur.
- Based on reaches and floodplain areas selected for restoration work, identify landowners and entities that will need to be contacted and coordinated with. Develop a schedule for coordination (see also Section 9.2.2).
- Based on additional data and analysis, outreach to landowners and other entities, and any new information regarding focal species habitat use or needs, identify and refine proposed implementation scenario(s) and associated specific restoration treatments.
- Identify preliminary approach to implementation sequencing.
- Produce preliminary design document(s) for potential proposed implementation scenario(s) at approximately 60% design. Note there may be variance in the level of design detail among some of the component pieces (i.e., restoration treatments) of the implementation scenarios based on availability of critical data and analysis at the preliminary design phase. Design/build expertise will be incorporated in development of preliminary designs. Components will include:
 - Design dimensions for channel and floodplain components;
 - Sediment-transport analysis;
 - Preliminary channel and floodplain grading plans;
 - Hydraulic modeling;
 - Identify areas of potential modification to existing bank armoring;
 - Preliminary design of bank and instream structures;
 - Vegetation cover type plan linked to geomorphic features;
 - Soil and substrate salvage, management and placement plan based on geomorphic features and target plant communities within each vegetation cover type;
 - Infrastructure mitigation and management plan;
 - Preliminary materials and equipment requirements to support development of a procurement plan;
 - Wetland construction and enhancement plans for discrete areas in the Meander Reach floodplain;
 - Meander Reach floodplain management analysis including current water management, groundwater, pumping effects, drainage system, land use, land ownership;
 - Aquatic and terrestrial noxious weed and invasive species management plan;
 - Site preparation and salvage plan for vegetation management; and
 - Preliminary adaptive management and monitoring plan.
- Refine cost estimates to higher level of confidence based on approximately 60% design.

- Initiate permitting and consultation activities as possible.
- Begin growing plant materials that will be needed for project implementation (2 to 3 year lead time).
- Identify sources for necessary materials including woody debris, cobble, bioengineering materials, and large rock and potential sites for stockpiling necessary materials.
- Begin site preparation and weed control activities to prepare some areas for revegetation.
- Identify any critical data gaps that will impact development of final design and identify mechanisms to address those data gaps.
- Continue development of data management system for the adaptive management and monitoring program.

In addition to the specific activities identified above, project management, coordination, data collection and analysis, and environmental compliance activities described in previous sections of this chapter will all feed into the development of preliminary design.

9.5.2 Final Design

The project final design will produce 100% design drawings. The final design will also include a supplemental document or series of documents that describe the design elements for each of the river reaches and floodplain areas based on the project sequencing plan.

Activities associated with final design will include:

- Complete final design and construction documents for selected implementation scenario(s).² Develop construction drawings including:
 - Channel and floodplain grading plans;
 - Plan, profile and cross-section sheets;
 - Structure details;
 - Survey control and staking notes;
 - Materials quantities and equipment requirements;
 - Construction specifications;
 - Project infrastructure plans; and
 - Planting plan.
- Completion of implementation sequencing schedule.
- Complete permitting and consultation activities.
- Complete detailed costs for selected implementation scenario(s) and associated restoration treatments.

² Assumes any environmental compliance required prior to developing final design and construction documents is completed.

- Develop construction management and QA/AC plan.
- Complete the adaptive management and monitoring plan.
- Develop restoration design-specific monitoring plan including monitoring protocols, metrics, sampling plan, and monitoring schedule (in coordination with the project's interdisciplinary adaptive management and monitoring team).
- Complete development of data management system that will store information necessary to support the project's Adaptive Management and Monitoring program.

In addition to the specific final design activities identified above, project planning and coordination activities, procurement, data collection and analysis, and environmental compliance activities described in previous sections of this chapter will all contribute to completion of the final design.

9.6 Funding Analysis and Strategy

The Kootenai Tribe developed a funding analysis as part of this Master Plan. In the preliminary and final design phases the Tribe will coordinate with agency partners to assist them in their efforts to develop and implement a funding strategy. It is important to note that the federal agencies, while supportive of the project and committed to taking action to implement it, are prohibited from lobbying the federal government. Towards this end, the Tribe and other project sponsors and/or supporters will play a central role in educating and informing key constituents and potential funders about the project. Examples of actions that will occur in the interim, preliminary and final phases include the following.

Interim Planning Phase

- The Tribe will continue coordinating with a funding development specialist to identify strategies for long- and short-term funding, and will continue to assist the Federal agencies in identifying and securing funding.³

Preliminary Design Phase

- Identify potential short- and long-term funding opportunities associated with the preliminary design.
- Include funding requests for components of project as part of NPCC Fish and Wildlife Program project solicitation for BPA funding.
- Pursue funding opportunities identified in Master Plan funding analysis (see Chapter 8).
- Work with agency partners to help them develop and refine a short- and long-term funding strategy for the project.

Final Design Phase

³ Federal agencies are prohibited from lobbying Congress.

- Refine and finalize funding strategy based on final design, cost estimates and implementation sequencing schedule.
- Work with agency partners to help them implement funding strategy.
- Secure identified funding sources.

Implementation Phase

- Continue to secure additional funding sources as appropriate.
- Continue efforts to identify long-term funding for late sequenced project components.

9.7 Implementation

The Kootenai Tribe recognizes the urgency of implementing this project and seeks to balance sound, scientifically-based design, with an aggressive approach to address limiting factors. Towards this end, the Tribe will do everything in their power to initiate construction no later than 2012. Following are examples of activities that will be associated with project implementation:

- Initiate sequenced project implementation (construction activities) in 2012.
- Complete as-built monitoring and develop as-built report.
- Set up monitoring in field and collect necessary initial data (e.g., photo points) linked to as-built report.
- Implement monitoring and maintenance plan according to schedule.
- Review monitoring data and make adaptive management decisions based on effectiveness monitoring of an already-implemented project component.
- Review monitoring data and make adaptive management decisions regarding still to be implemented project components.

9.8 Summary

The Kootenai Tribe envisions the Kootenai River and its floodplain as a healthy ecosystem with clean, connected terrestrial and aquatic habitats that fully support traditional Tribal uses and other important societal uses. The Tribe has an ancient commitment to fulfilling and protecting this vision. The Tribe also recognizes that protection of the environment, including recovery of Kootenai River white sturgeon needs to occur within the context of a sustainable local community and economy.

The Kootenai River Habitat Restoration Project is a large and complex project. Successful design and implementation will require the ongoing cooperation and collaboration of a broad community of individuals and entities. Implementation of the conceptual framework presented in this Master Plan, in concert with implementation of the Tribe's aquaculture conservation plan, improvements to the Kootenai Tribe Sturgeon Hatchery, and complementary habitat projects will go a long way towards achieving this vision.

The Kootenai Tribe looks forward to working with the regional co-managers, agency, and community partners to implement this Kootenai River Habitat Restoration Project.