



Projects and Resources Committee (PARC) Meeting

March 12, 2015

Meeting Notes

Multi-benefit Projects – *If they offer such incredible benefits, why is it so challenging to bring them to implementation?*

- Hamilton City Flood Damage Reduction and Ecosystem Restoration Project – Mark Cowan, USACE and Jose Puente, Hamilton City RD 2140
- Kopta Slough Flood Damage Reduction and Habitat Restoration Project – Aric Lester, DWR and Supervisor Burt Bundy, Tehama County
- Riparian Sanctuary/PCGID Fish Screen – Michael Rogner, River Partners and John Garner, Princeton-Codora-Glenn Irrigation District

HAMILTON CITY

After a decade of challenges, the project is finally getting to the construction phase. Patience is a theme of the projects and what are the lessons learned to move projects more quickly.

USACE Definition of a Multi-Benefit Project:

- A project that is developed to address multiple water resource issues (i.e., flood risk-related issues, ecosystem degradation).
- Includes quantification of each benefit output (monetary for flood risk reduction and *non-monetary* for ecosystem improvements).
- Ecosystem restoration is not mitigation.

Different agencies have different definitions and how they are justified.

For monetary benefits, have to have Benefit/Cost ratio of 1 or greater. Ecosystem improvements are not measured in the same way. If you can say outputs are needed in the region, that can serve as a justification. Threatened and endangered species can be a justification. Under ecosystem restoration project with USACE, can't be done to address already imposed mitigation requirements.

Per capita income and the ability to pay the local share is one of challenges. USACE did three studies and could not justify federal interest in that area. In looking at single benefit, it did not justify federal interest.

River movement is an issue for managing the existing J levee. It is hoped that the river has moved to a point where it is influenced by geologic control. It is up against the J levee on the north end. Glenn County has installed a backup levee.

For the multi-benefit project, flooding is the issue of concern that brought USACE participation. It is not, however, the primary purpose of the project. The multiple benefits that were identified in project development are:

- Flooding
 - ▶ Reduce Flood Risk
 - ▶ Reduce Flood Damages
- Ecosystem
 - ▶ Improve Quantity and Quality of Habitat
 - ▶ Restore River Function

Three features were developed to address flood damage reduction and two to address ecosystem restoration.

- Flood Damage Reduction
 - ▶ Acquire Flowage Easements (non-structural)
 - ▶ Construct Setback Levee (North)
 - ▶ Construct Training Dike (South)
- Ecosystem Restoration
 - ▶ Restore Native Vegetation
 - ▶ Reestablish Hydrologic Connection of River and Floodplain (remove existing levee)

The ecosystem restoration project was designed first and land costs were significant contributor to overall costs. The cost for a single purpose project outweighed the benefits. By building on using the same footprint of the setback levee for both flood benefits and ecosystem benefits, the joint cost for a flood/ecosystem project reduces the overall costs. It allowed USACE to allocate the joint costs to where the benefits were derived. This allowed the costs for the flood risk reduction project to decrease so that the flood risk reduction component could be justified. This scenario can work other places where setback levees can be used to provide both ecosystem and flood risk reduction benefits. This project was the first nationwide to successfully utilize the USACE guidance to get a multi-benefit project justified.

There were five categories of challenges.

Challenge #1: Duration of Process

Duration of the project is one of the challenges, with Hamilton City starting as a concept in 1998, with a feasibility study completed in 2004 and construction not commencing until 2015.

Challenge #2: Funding

- Federal Funding
 - ▶ Difficult to Compete Nationally for Federal Funding
 - It's hard to compare the value of multi-benefit projects with projects that have easily defined economic benefits like ports, locks, and flood damage reduction.
 - ▶ Politics Plays a Role
 - Different purposes have different and sometimes conflicting supporters

- Local Funding
 - ▶ Must identify local supporters (payers) for flood damage reduction and ecosystem features.
 - ▶ In smaller communities, this can be a significant challenge.

For local match, the reclamation district sought donations and held levee festivals to build community interest. Compromise was what allowed the farming, community and environmental interests to keep the project moving forward.

Challenge #3: Multi-Benefit Policy

- Corps' multi-benefit policy is relatively new and the Hamilton City project broke new ground.
- Hamilton City was the first to successfully utilize this new policy. Several other projects have tried with less success.

Challenge #4: New Technical Expertise Needed

- Multi-Benefit Projects Require New Technical Expertise
 - ▶ Reclamation District 2140 had no technical expertise with restoration necessary to participate in the Corps' feasibility or design process.
 - ▶ Fortunate to have The Nature Conservancy's technical expertise for design and construction support of restoration area.

Having restoration specialists who can work with USACE engineers is a useful approach to integrating multi-benefit projects.

The landowners were key is making the project possible. It was a meeting of the minds of very divergent groups. The price they were willing to pay was to convert the ag land to habitat in order to protect the residents of Hamilton City and to provide some protection for other ag lands. The age of the levee contributed to the flooding problems including its impact on ag lands.

Challenge #5: Meeting Future Schedule

- Important to meet construction schedule.
 - ▶ Need show progress to maintain a constant federal funding stream.
 - ▶ Need to avoid cost increases associated with delays.
- Acquisition of lands, easements and rights of ways.

RIPARIAN SANCTUARY-PCGIC

The Princeton-Codora-Glenn and Provident Irrigation pumping plant provides water to 30,000 acres and is located across the river from the Riparian Sanctuary Unit of the SRNWR. The plant extends out into the river and had \$11M fish screens installed in 1999. River channel has provided the sweeping flows for the function of the fish screens. The bank opposite the pumping plant is eroding and, if it continues, the pumping plant and its fish screens will no longer function properly.

The Riparian Sanctuary of the Sacramento River National Wildlife Refuge has extensive non-native species and restoration of the unit is a priority for the refuge.

The original concept for protection of the pumping plant was to place rock on the opposite bank, but it is federal land and that use is not consistent with the purpose of the Refuge. So the project considered if rock on the upstream right bank could be removed and the habitat restored on the Sanctuary. This would address the federal purpose in managing that land. It was very important to meet with local stakeholders as one of the first steps of the project.

The project had the following objectives.

- Protect Pumping Plant and Fish Screen Efficiencies
 - Maintain the angle of flow and velocity of the water passing across the pumping plant fish screen
- Allow Riparian Sanctuary to Meet Ecological Potential
 - Contribute to species recovery
 - Meet natural river processes objectives
- Provide Data for Sound Floodplain Management Decisions
 - Open, inclusive process

The project was developed with to address important issues for the community.

- Maintain Flood Management Objectives
 - Butte Basin serves as a significant flood relief to downstream communities.
 - Ensure the flow split above the leveed sections, which direct flows in excess of 150,000 cfs into the Butte Basin.
- Continue PCGID-PID supplies water to 30,000 acres.
 - Contributes to the economies of Butte and Glenn Counties.
 - Pumping Plant Operation

A major challenge is the function of the flow split into the Butte Basin. One of the sticking points of the project is the modeling. Most of it is looking at what will happen with flow split. Rock on the upstream right bank was thought to be necessary to maintain the flow split. So how would removing that rock affect flows in the river? Who would take liability for changes in flows? Modeling shows that flows into the basin would not change.

River is already impacting the rock with scour holes. When the existing rock is degraded, the bend is expected to cut off, which could induce movement upstream. The land for 10 miles upstream is in conservation ownership, where river movement is appropriate.

Project benefits are:

- Protect Pumping Plant Operations
 - Protect \$11 Million investment
 - Continue irrigation supply to 30,000 acres
- Restore Natural River Processes
 - Cutoff channel
 - River meander
 - Oxbow formation
 - Floodplain Building

- Oxbow habitat development
- Natural recruitment of riparian forests
- Species Recovery
 - VELB
 - Swainson's hawk
 - Yellow-billed cuckoo
 - Neo-tropical migratory birds

KOPTA

Even though Kopta is a multi-objective project, it is being implemented as mitigation for flood management activities.

The Kopta Property was historically farmed but has had portions restored over time. As a result, Tehama County was responsible for maintenance of rock that was protecting publicly owned habitat lands.

This project is being implemented in response to the Central Valley Flood Protection Plan (CVFPP). The CVFPP was developed in response to legislation that set multiple objectives, which helps DWR focus on projects that meet multiple objectives. Kopta slough meets all of the CVFPP objectives:

- Improve Flood Risk Management - Reduce the chance of flooding and damages once flooding occurs, and improve public safety, preparedness, and emergency response;
- Improve Flood Operation and Maintenance - Reduce systemwide maintenance and repair requirements by modifying the flood management systems in ways that are compatible with natural processes, and adjust, coordinate, and streamline regulatory and institutional standards, funding, and practices for O&M, including significant repairs.
- Promote Ecosystem Functions – Integrate the recovery and restoration of key physical processes, self-sustaining ecological functions, native habitats, and species into flood management system improvements
- Promote Multi-Benefit Project – Describe flood management projects and actions that also contribute to broader integrated water management objectives identified through other programs.
- Improve Institutional Support – Develop stable institutional structures, coordination protocols, and financial frameworks that enable effective and adaptive integrated flood management (designs, O&M, permitting, preparedness, response, recovery, and land use, and development planning).

Kopta is a pilot project to develop institutional support. The approach is a new way of working through multiple agencies and stakeholders, a new way of coordinating efforts. It has the following objectives:

- Restore riparian habitat
- Restore hydrologic and geomorphic function
- Reduce flood management system O&M responsibilities
- Provide mitigation for flood management projects
- Reduce unwanted erosion and protect public resources and infrastructure
- Enhance recreation opportunities

The historical meander pattern shows connection with Kopta Slough and influence of geologic control at Woodson Bridge. DWR has coordinated very closely with Tehama County and the City of Corning.

Silos are the biggest challenge for this project. Because of its multi-benefit nature, it involves multiple agencies.

DWR sees strong cost-benefit from the mitigation, but challenges from timelines and matching up mitigation timing to impact timing. The ease of mitigation banks can meet these timing issues more expeditiously than trying to do an advance mitigation project.

Proposition 1 and Groundwater Legislation – What effects will these two major pieces of legislation have on the river corridor and the Sacramento Valley?

- David Guy, Northern California Water Association

Many bills introduced in the legislature that concern groundwater – streamlining adjudications (Alejo and administration), cleanup to groundwater management legislation, bills in opposition to groundwater management legislation. NCWA has encouraged focus on implementation. Bonds can be beneficial for north state as much of the funding comes from Southern California.

Expecting that BDCP will be a more streamlined project and may link up to new storage projects. A new package is being discussed. April is the target for a revised plan.

Mid and Upper Sacramento Regional Flood Management – What are the outcomes of the regional flood planning process for the mid and upper Sacramento River and where do we go from here?

- Barry O'Regan, Kjeldsen, Sinnock and Neudeck, Inc.

The Mid and Upper Sacramento Region for the purposes of developing a regional flood management plan consists of 7 counties, 2 cities and 15 small communities. Seventy percent of the land use is prime agricultural land or agricultural land of statewide importance.

What is regional flood management planning (RFMP)?

- Locally driven assessment of regional flood risks
- Local ideas for reducing identified flood risks
- Follow up to Central Valley Flood Protection Plan
- DWR funded the plan by providing a 100% grant
- Mid & Upper Sacramento Regions combined
- Common interests & goals & flood facilities within the regions are interconnected

RFMP goals

- Maximize local expertise and knowledge to create a meaningful flood management plan
- Document local flood management problems, opportunities and solutions
- Cooperatively and collaboratively determine appropriate flood management/protection actions and projects that:
 - Protect agricultural, environmental, and urban based infrastructure and resources

- Meet local needs
- Improve public safety and reduce flood risks
- Help shape CVFPP
- Provide multiple benefits
- Identify funding needs and sources for future actions

RFMP Approach

- Plan developed by focusing on specific areas including:
 - Small Communities
 - Urban Areas
 - Rural Areas
 - Emergency Response
 - Operations & Maintenance
 - Multi-Benefit
 - System Improvements
- Over 50 meetings, 450 stakeholders, 460 comments on the draft plan
- Final RFMP published November, 2014.
- Available at www.musacrfmp.com

One of the foci was to implement multi-benefit to meet objectives of legislation and to enhance competitiveness for funding

Prioritization:

- 100-year protection for small communities – to meet National Flood Insurance Program and Central Valley flood legislation. Important for vitality of small communities – replace buildings and ag infrastructure.
- After Katrina, more focus on maintenance meeting federal standards. Almost all levees in region do not meet standards.
- Multiple functions of bypasses – there is no comprehensive plan to manage them. The challenges are multiple ownership, multiple uses, and multiple maintainers. There is inconsistent enforcement of encroachments.
- Looked at new multi-benefit habitat projects. The region wants to focus on implementing projects that are already on the books.
- 200-year protection for urban area – Chico.
- Regional flood preparedness work underway pursuant to a grant from DWR.

Implementation Strategies:

Corridor Management Plans – how look at important issues in a section of the system and how to implement those actions from the plan.

Comprehensive Bypass Management Plans to address the multiple challenges in these systems.

System-Wide Improvement Frameworks (SWIFs) to help bring local maintaining agencies into compliance with federal standards.

Improved governance structures – small communities not equipped to take on major projects. These projects need a strong government agency to push the projects forward.

Small community feasibility studies – the RFMP group is optimistic about these for our region from Prop 1E. State will provide up to 90% of the funding. Sac Westside levee district, City of Colusa and Colusa County will provide cost share for Princeton, Colusa and Grimes. Hamilton City is the poster child project for multi-benefit projects to benefit small communities, but it took 20 years.

NEXT STEPS:

- RFMP Phase 2 – DWR has seen value of the grassroots participation and funded a next phase.
- Small Community – Colusa, Tehama and Butte Counties are interested.
- Integrate RFMP with DWR's Basin Wide Feasibility Studies (larger projects in the flood system) – our regional plan priorities get integrated.
- RFMP gets into 2017 update – the regional group has been heard, their priorities and issues get into the plan.
- Conservation Strategy – came out after RFMP, need to look at how fit together in Phase 2.

Already an outcome e.g., the RFMP identified a barrier to look at preventing returning salmon from swimming up the Colusa Basin Drain, now RD 108 moving that forward.

Update on Forum activities and projects

- Jane Dolan

The Forum evolved from the concerns of the Sacramento Valley and many meetings and questions over:

- Bond measures
- Land acquisitions – changes in ownership and impact to local tax revenue
- Implementation of federal laws & state statutes and regulations
- Agricultural landowners concerns
- How to achieve “balance” to decision-making
- Local communities expressing their concerns
- Communications with and between agencies

SB 1086 by Senator Jim Nielsen was enacted in 1986 to create the Upper Sacramento River Fisheries and Riparian Habitat Advisory Council (1086 Advisory Council). That council was charged with creating the Upper Sacramento River Fisheries and Habitat Management Plan, which as submitted to Resources Secretary in January, 1989 and the statute sunset in January, 1989.

Council members continued to volunteer as a Riparian Habitat Sub-committee, with staff from then Department of Fish & Game, and developed the Sacramento River Conservation Area Handbook, published September 2002. A recommendation within this handbook called for an organization to be established to further the work of the Advisory Council and Sub-committee. A non-profit organization was formed and its first meeting held May, 2002.

Boards of Supervisors of seven counties are requested to appoint two persons from their county: an agricultural landowner on the river corridor and a public interest representative, typically but not required to be County Supervisor. Five counties presently make appointments. In addition, seven state and federal agencies designate an Advisory Board member: CDFW, DWR, CDFPR, CVFPB, USACE, USFWS, USBR, BLM, USFS.

FORUM MISSION STATEMENT

The Sacramento River Conservation Area Forum brings communities, individuals, organizations and agencies together along the Sacramento River from Keswick to Verona to make resource management and restoration efforts more effective and sensitive to the needs of local communities. The Forum supports restoration done well, and serves as a forum for sharing, a facilitator of solutions, and a partner for projects that protect both the natural values of the Sacramento River and the communities it runs through.

Present Work

- Identify projects and provide stakeholder collaboration and involvement:
 - M & T/Llano Seco Intake & Fish screen Project, Kopta Slough Project, concerns of Board
- Administer a Programmatic Safe Harbor Agreement enacted with Forum Implementation Policy
- Investigate stakeholder interest and possibilities of a Corridor Management Plan
- Habitat Mapping & Economic Report
- Maintain www.sacramentoriver.org
 - information about the Forum, an extensive Resources Library of documents, reports and information; projects the Forum works on, projects of other agencies and an archive of projects

Roundtable discussion – What would PARC members like to see for future topics and meetings?

- PARC members

A session on recreation – what infrastructure is needed to support recreation (hotels, restaurants); tie recreation into fisheries; look at forestry/recreation studies (Family Water Alliance will provide); Blue Trail – work with Forum and NPS, how to expand paddle community; no paddle guide or narrative piece about pre-settlement through industrialization to today.

A session on the major sticking points to getting rock off the river. How deal with the issue of liability. Get people to table.

What recommendations can the group make to address other issues that stand in the way of multi-benefit projects?

Sites Reservoir presentation. Include a tour.

PARC members are to please email with any other ideas.