

Lower Yolo Bypass Planning Forum

Lower Yolo Bypass: Opportunities and Constraints
Background Report

August 22, 2008

Prepared for:



California Department of
Fish and Game



yolo basin foundation

DELTA PROTECTION COMMISSION

Prepared by:



California State University, Sacramento
Center for Collaborative Policy

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Introduction

In early 2005, the Yolo Basin Foundation (Foundation) directed the California State University Sacramento, Center for Collaborative Policy (CCP) to conduct a stakeholder assessment of a wide variety of pre-existing conditions in the Lower Yolo Bypass (Lower Bypass) (<http://www.csus.edu/ccp/projects/recent.stm#loweryolobypass>). The Lower Bypass is an area at the downstream portion of the Yolo Bypass (Bypass), a leveed 59,000 acre floodway located west of the lower Sacramento River and within Yolo and Solano Counties. The purpose of the assessment was to determine the feasibility of convening a stakeholder group to address a number of issues in the Lower Bypass. In August 2005, CCP recommended it was feasible and beneficial to convene a collaborative stakeholder group to address these issues and prepare a mutually acceptable management plan for the area. CCP recommended that the stakeholder process include five phases:

1. Discovery Phase – Initial stakeholder review and discussion of Lower Bypass conditions.
2. Organization Phase – Coordination of the “rules of engagement” and public outreach steps for the stakeholder process.
3. Education Phase – Comprehensive educational period wherein stakeholders jointly learn about Lower Bypass conditions and their respective interests.
4. Negotiation Phase – Sequential stakeholder development of consensus solutions,
5. Implementation Phase – Iterative implementation of negotiated stakeholder agreements.

CCP further recommended that this stakeholder process be jointly sponsored by the Foundation and the Delta Protection Commission (DPC). The California Department of Fish and Game (DFG) offered to fund the proposed stakeholder process. As a result, the Foundation and DPC, with funding from DFG have convened the **Lower Yolo Bypass Planning Forum** (Planning Forum). In June of 2008, the Planning Forum held its project launch field tour to formally initiate this process and begin what CCP recommended as the “Discovery Phase”. The daylong event included a half day comprehensive boat tour of the entire Lower Bypass followed by a facilitated discussion including all tour participants. During the discussion portion, stakeholders were asked to identify initial problems and opportunities to the topics discussed throughout the day. At the end of the discussion, CCP asked the stakeholders if there were enough topics warranting them to move forward with the development of a management plan through the proposed stakeholder process. The participants unanimously responded that the Forum should move forward with the process.

As a result, CCP conducted a subsequent series of stakeholder interviews to expand on the problems and opportunities discussed during the tour. The basic questions asked of all stakeholders included:

- What do you want to achieve in the Lower Bypass? How?
- What stands in the way of you achieving this?
- What have you heard about other people/organizations plans for the Lower Bypass?
- Where do conflicts exist between your plan and other plans in the area?
- Where do compatibilities exist between your plan and other plans in the area?

In most discussions stakeholders were also asked additional questions that reflected topics unique to their role or condition in the Lower Bypass. The questions addressed a wide range of topics including flood conveyance, land use changes, governance issues, habitat restoration, and public recreation and health concerns. The results of these interviews and the related input from the June 25 field tour and project kick-off are used to:

- Provide background information for the Organization Phase,
- Identify specific topics for the Education Phase, and.
- Develop a logical sequence of meetings and desired outcomes for the Negotiation Phase of the Planning Forum.

These results, discussed in the document below, are divided into three sections: **Opportunities**, **Constraints**, and **Education Topics**. Each section is organized into a number of categories including land management, flood, habitat/restoration, governance/finance, and other issues. Each category presents edited statements from a Planning Forum Member, followed by *italicized expanded analysis* provided by the CCP facilitation team. This analysis is based on the broader verbatim discussion with the Members, and background information about the Lower Bypass and Delta. The analysis does not reflect resource management opinions of the facilitation team.

Opportunities

Land Management

1. Use existing best management practices (BMPs) for vector control to reduce vector management costs. Develop new multi-benefit vector control BMPS as the basis of long-term land and water management strategies.
 - *The goal is to protect human and environmental well-being related to vector control while also accommodating the desired ecological benefits of restored/created wetland habitats. There is a willingness and desire to identify and learn from compatible BMPs.*
2. Create a balanced land management program for Prospect Island.
 - *As permanent ownership of the northern portion of Prospect Island is established after a land transfer from the US Bureau of Reclamation to another party, a more robust management plan can be developed that addresses the concerns of adjacent landowners.*
3. Develop public/private partnerships for land management within the Lower Bypass as necessary.
 - *Opportunities exist for public ownership and private management (and visa versa) of lands within the Lower Bypass for a variety of functions such as habitat restoration, agriculture, or recreational use.*
4. Maintain existing, and restore previous agricultural land use as an economically and environmentally viable practice.
 - *The flooding of several historically reclaimed land parcels greatly limited the amount of agricultural land use in the Lower Bypass. This negatively affects local*

land management and economies. There should be a way to balance the range of land uses desired for the Lower Bypass.

5. Develop a comprehensive recreation management plan that reflects the unique recreational opportunities of the Lower Bypass that do not exist elsewhere.
 - *The Lower Bypass is a potentially ideal area for hunting, fishing, nature activities, and boating. One goal of the Planning Forum management plan should be to reconcile recreational access with public safety and public access concerns.*

Flood Management

1. Expand the breadth of flood system managers to include not just Reclamation Districts, the Department of Water Resources (DWR), and the US Army Corps of Engineers (USACE) but also new habitat managers that can establish and maintain responsible land conditions that are ecologically beneficial and supportive of flood conveyance.
 - *Several current and potential landowners feel that land use is evolving in the Lower Bypass. They believe there needs to be a similar evolution of how flood conveyance is managed such that habitats and habitat managers are not considered part of a problem but rather, are land uses and people that can mutually support the historic intentions for the Bypass FCP.*
2. Modify the current footprint of Yolo Bypass FCP levees in the Lower Bypass to increase flow capacity and improve flood conveyance.
 - *Some stakeholders believe that projects within the Lower Bypass can be developed in such a way that there is at least no reduction in flood conveyance capacity of the FCP, and to ideally improve the overall flood conveyance function where possible.*
3. Removal / reduction of restricted height levees throughout the Lower Bypass could improve conveyance capacity and minimize unstable hydrodynamics that increase levee erosion.
 - *Some stakeholders believe that the original design of the Yolo Bypass FCP is insufficient for current and future conditions. They believe that it is time to consider a redesign of Bypass flood management features.*

Habitat/Restoration

1. Develop intertidal habitat for smelt and other aquatic species.
 - *The Lower Bypass has been identified by CALFED, the Bay Delta Conservation Plan (BDCP), Delta Vision, and numerous other planning processes as a key area for aquatic species habitat and tidal restoration.*
2. Unleveed areas in the Cache/Lindsay Slough Complex could be developed to meet habitat restoration goals.
 - *The lack of pre-existing levees in some areas within the Cache/Lindsay Slough Complex would not require as much land disturbance and levee disruption as some other areas. Several Federal and State resource trustee agencies and other*

organizations have identified this area as one of the most logical areas in the Delta for expanding tidal habitats to support sensitive aquatic species.

3. Habitat restoration projects in the Lower Bypass can be used as “pilot studies” for restoration elsewhere in the Delta.
 - *The publicly owned land in the Lower Bypass is believed to be suitable for restoration in many areas and can be more rapidly used to support iterative lessons before larger, costly acquisitions are conducted elsewhere in the Delta.*
4. Best design and best management practices need to be created that can support ecosystem improvements, while minimizing water quality impacts from these habitat sites. The Planning Forum offers an excellent venue to investigate such practices.
 - *The Central Valley Regional Water Quality Control Board (RWQCB) intends to regulate the production of methylmercury from habitat sites in the Delta. The RWQCB is under no obligation to support habitat goals if such efforts impact ambient water quality. Habitat advocates may have the onus of responsibility to minimize such impacts.*
5. The Planning Forum could assist in the development of “middle ground” for habitat restoration by balancing terrestrial and aquatic species restoration needs, particularly those being pursued by different habitat conservation plans (HCP) and natural community conservation plans (NCCP).
 - *The focus of BDCP appears very narrow to some stakeholders. By coordinating the Planning Forum with other upland restoration efforts, terrestrial species objectives of adjacent conservation planning efforts and the aquatic species objectives for BDCP can be balanced more effectively.*
6. Related to Flood Management - 2 above, some stakeholders support the idea of an expanded levee footprint of the Lower Bypass with an additional concept that expanding the leveed area (assuming there are willing landowners) can open up additional lands suitable and beneficial for habitat restoration while minimizing conveyance impacts because of the expanded capacity.
 - *Several stakeholders are looking for solutions that can expand ecological benefits and stay “flood neutral”.*
7. Removal / reduction of restricted height levees throughout the Lower Bypass could provide material to raise land elevations of flooded parcels in a way that increases the suitability / accessibility for habitat creation and restoration projects while maintaining the mass balance of the Bypass flood system.
 - *The intent of this idea is to redistribute existing volumes of Bypass soils, rather than introduce new volume from outside the Bypass that might constitute more restriction of flood flows.*
8. Excavated soils from Yolo Ranch habitat creation and restoration projects (and other Lower Bypass sites) can be used to raise land elevations for other habitat projects while maintaining the mass balance of the Bypass flood system.

- *See number 7 above.*
- 9. FCP levees in the Lower Bypass could be redesigned to provide transitions from upland to tidal habitats and the associated ecological benefits.
 - *Using levee design concepts from other parts of the Sacramento and San Joaquin River systems, as well as examples from other countries, could enhance and balance habitat expansion and flood management improvement goals.*
- 10. Dredge spoils may be used to raise land elevations of flooded parcels for habitat creation and restoration projects.
 - *Dredge materials from the Port of Sacramento's ongoing maintenance activities could be used to raise surface elevations or buttress FCP levees throughout the Lower Bypass, creating mutual localized and regional benefits.*

Governance/Finance

1. Public partnerships in the Lower Bypass can create grant/funding opportunities.
 - *Projects in the proposed management plan will require dedicated, long-term funding. The Planning Forum will serve as a good venue for public and private organizations to discuss funding opportunities and develop durable partnerships to accentuate the appropriateness for funding.*

Other

1. A diverse group like the Planning Forum can be used to explain the cultural/historical significance of the Lower Bypass. This explanation will include the current and future pressures on the Bypass, potential changes to the FCP system, and the potential evolution of the system to meet multiple goals.
 - *. A goal of the Planning Forum should be to explain that the multiple uses of the Lower Bypass can be developed in concert and to act as multi-interest "ambassadors" about Lower Bypass issues.*
2. Private landowners may consider ownership and land use changes in exchange for appropriate compensation.
 - *With appropriate incentives, some landowners might be willing to change their management and ownership as well as the location and management of levees. All decisions in the Lower Bypass should support best public and private business decisions and should be accomplished only with willing participants.*
3. Relocate the North Bay Aqueduct to minimize potential conflicts of water diversions with special status aquatic species.
 - *Several diverse stakeholders support the relocation of the Aqueduct intake on Barker Slough as a means to minimize environmental conflicts and improve water delivery and quality to Aqueduct users.*
4. Develop a finance and business plan as part of the Lower Bypass Management Plan to ensure adequate future funding and implementation.

- *Several previous public lands habitat efforts have been insufficiently funded, making them reliant on uncertain, alternate funding options, and challenged to maximize habitat goals.*
5. The Planning Forum can help underscore the compatibility between agriculture and habitat preservation.
 - *By building off of models such as the Yolo Bypass Wildlife Area Land Management Plan, the Planning Forum will be able to show the compatibility between habitat for sensitive terrestrial species and certain agricultural practices. Similar opportunities may exist for shallow aquatic habitats that can be passively flooded at some times of the year, and farmed / grazed at other times.*

Constraints

Land Management

1. Modification of the FCP could negate existing easements and place an undue burden on current landowners.
 - *Speculation exists that any change to the Fremont Weir at the northern end of the system or the FCP levees throughout the Bypass could alter the conditions that existing conservation and flowage easements are predicated on. The Planning Forum must determine if this is the case, and figure out how to resolve this issue.*
2. Flooding of Prospect Island is believed to cause “subbing” of ground water under Miner’s Slough and into surface water on Ryer Island, making portions of Ryer Island infeasible for farming.
 - *A rational, balanced discussion of technical data and options needs to take place between Ryer Island and Prospect Island interests to try to resolve this long-standing constraint.*
3. Managing land for the restoration of sensitive species could conflict with existing land/water management practices.
 - *Increasing habitat for smelt or other sensitive species could require a change in current land use management and costly management practices that individual landowners and districts can not afford (e.g. new construction windows, diversion restrictions, fish screen installation, etc.).*
4. Increasing recreational activities creates additional trespass and public safety concerns.
 - *Focusing management practices for recreational use in the Lower Bypass will exacerbate public access trespass conflicts and increased public safety and illegal land use conditions. Recreational uses should be discouraged rather than enhanced.*
5. Isolated, private lands within the Lower Bypass affect how larger management strategies can and should be implemented.
 - *Access easements for relatively small parcels of land must be maintained as management practices for adjacent lands change.*

6. Related to the above, there are independent landowners that do not want to sell their property or be negatively affected by adjacent habitats created by public agencies and/or other private interests.
 - *Private landowners need to be respected and not overwhelmed / intimidated by adjacent habitat planning and implementation efforts.*
7. Changing water and land use management practices on privately held parcels must be balanced with the local and regional effects of said adjustments.
 - *Water quality changes could have significant effects on local and urban water diverters. Land use changes could have significant and unacceptable vector control and flood conveyance impacts.*

Flood

1. Any significant modification to existing landforms in the Lower Bypass could constitute a change in the Federally authorized FCP, requiring reauthorization by Congress.
 - *There are recent precedents in the Delta that indicate that the USACE might exercise its assumed authorities for FCP modifications, or conversely be required to achieve Congressional reauthorization for the FCP if it undergoes significant modification.*
2. No project within the Lower Bypass can negatively affect the flood conveyance function of the Bypass and FCP as a whole.
 - *There should be zero tolerance for potential impacts by proposed habitat projects. Also, any opportunities for increased conveyance capacity must not be distributed among many uses but rather, should be protected to accommodate future capacity needs of the FCP.*
3. Current USACE guidelines and potential future guidelines / regulations regarding vegetation on FCP levees are unclear.
 - *There have been and will continue to be focused discussions between Central Valley flood management and habitat management advocates and USACE District and Headquarters leaders to develop a unified policy about vegetation on levees. Absent clear guidance, there is little likelihood that flood management and habitat restoration advocates can reach meaningful conclusions about levee based habitat as a viable option.*

Habitat/Restoration

1. Tidal and floodplain restoration sites appear to be major sources of methylmercury production.
 - *Cache Creek and the Yolo Bypass have some of the highest concentrations of inorganic mercury of any California waterways. This mercury, occurring both naturally and in runoff from historic mining operations, is not available in the food chain until it is disturbed and methylized. Tidal and floodplain restoration appear to be a major contributing factor to the methylization process. The*

RWCQB is creating a methylmercury Total Maximum Daily Load (TMDL) that will have to be taken into account in the Planning Forum management plan.

2. Restored and created wetlands often increase the level of dissolved organic carbon (DOC) coming off the habitat. Elevated DOC creates challenging water treatment conditions for water purveyors and distributors.
 - *The North Bay Aqueduct intake is located in a “dead end slough (Barker Slough). Proposed tidal habitat restoration and creation in the Lindsey, Barker and Cache Slough region (as well as upstream of that in the Bypass proper) may increase DOC levels. Similar concerns exist Delta-wide for potential water quality impacts to water being delivered through the State and Federal pumping plants to Southern California, and Central Valley water contractors.*
3. Numerous uncertainties exist about what constitutes “ideal” smelt habitat. Proposals to focus such habitats in the Lower Bypass / North Delta are unfounded and pose numerous threats to adjacent landowners with limited justification for anticipated successful outcomes.
 - *Though Cache Slough and the Lower Bypass have been identified as ideal areas for smelt habitat restoration, there is little public information on what constitutes good habitat and what the implications might be if proposed restoration efforts are not successful at minimizing smelt declines.*
4. Tidal restoration efforts may overlook the needs of Federal and State listed terrestrial species.
 - *Overlapping State and Federal habitat conservation planning efforts seem be lacking in coordination. State and Federal trustee agencies have expressed little concern about such overlaps and seem poised to accept species protections lead by anyone, regardless of whether such planning proponents are competing for the same species and habitat protection credits.*

Governance/Finance

1. There are too many planning efforts currently taking place about the Delta. It is infeasible to track, let alone participate in all of them. The Planning Forum must be coordinated with BDCP, Delta Vision, and other efforts or it will be ineffective and irrelevant.
 - *Planning Forum staff are trying to establish formal, transparent methods of cross-coordination with BDCP, Delta Vision, the Central Valley Flood Protection Plan (CVFPP), Delta Conveyance, and other efforts.*
2. Effects to the Lower Bypass from the pending Biological Opinion (BO) for the Operating Criteria and Plan (OCAP), and subsequent legal efforts are uncertain.
 - *Some stakeholders believe that habitat creation / restoration projects in the Lower Bypass are appropriate and likely mitigation related to the pending BO. . Other stakeholders are philosophically opposed to habitat creation as mitigation for adverse effects from for pump operations. Some stakeholders don’t believe that the BO will focus on land-based rather than flow-based mitigations.*

3. Moving land out of agricultural production and into habitat use could affect the tax/fee assessment base for local governments and agencies.
 - *Counties and assessment districts receive taxes and fees based on the current valuation and use of land. As this use changes and the taxes/fees are adjusted accordingly, local government could lose important revenue sources.*
4. Fair market rates (as defined by public agencies) may not create adequate compensation for landowners if they decide to change their current land use from agriculture/recreation to restoration, thus requiring additional compensation from other funding sources.
 - *Defining and acquiring effective compensation for private lands will require greater latitude than public agencies have, and/or public private investment partnerships. .*
5. Local government grading ordinances will need to be addressed as part of proposed habitat restoration and creation efforts.
 - *Some projects in the Lower Bypass will involve significant grading and soil removal. A concern exists that grading ordinances could prohibit the removal of soil in general, as well the distribution of soil from one local jurisdiction to another.*
6. Some existing conservation easements may not be modified, thus limiting or prohibiting habitat changes on private lands.
 - *Many conservation easements are written in perpetuity and do not allow any modification from the agreed to land use and habitat targets. As habitat goals in the Lower Bypass change, and/or are influenced by different agencies with different missions, this could affect the flexibility of a private landowner and managing agency to change a habitat type.*
7. Mitigation credits for the same areas might be sought by multiple parties relative to overlapping or adjacent HCP/NCCPs.
 - *A number of HCP/NCCP efforts are underway. Because the Lower Bypass is identified as a good area for restoration, multiple parties (private and public) could come into conflict over mitigation credits.*
8. Land acquisitions and subsequent habitat management strategies (including planning implementation, monitoring, etc.) are generally underfunded. Lower Bypass habitat proposals can not be successful if actual costs are not adequately planned and funded.
 - *Long term funding will be vital for the success of the management plan. Restoration projects without a long-term finance strategy could fall into disrepair over time. Monitoring programs to gauge the success of restoration efforts will also require dedicated funding mechanisms.*

9. Existing regulatory processes may be unable to move quickly enough for private restoration desires and needs.
 - *As physical conditions deteriorate or legal decisions take place, private organizations may desire to move quickly with habitat restoration / creation projects to avoid further curtailment of water deliveries, and other burdens. However, the Planning Forum and other public processes may not be able to accommodate the speed at which private parties choose / need to proceed. This could create economic and regulatory risks for those private parties in the long run as regulatory processes conclude and regulations go into affect. This could also create a risk to the relevance and effectiveness of the Planning Forum.*

Other

1. Some landowners and other affected parties may be unwilling or disinterested to participate in Planning Forum activities.
 - *The Planning Forum represents a reasonable cross-section of affected stakeholders however it does not and can not accommodate every stakeholder as a seated Member. The Planning Forum process will include an array of public participation events (public comment periods at Forum meetings, periodic public workshops, public website, etc). If individuals or organizations in the Lower Bypass do not participate in Planning Forum efforts, the management plan may not address their concerns, creating grounds for future conflict and the potential to delegitimize the results of the process.*
2. A negative perception exists among many private stakeholders about the interests and intentions of local, regional, State, and Federal organizations regarding Lower Bypass land and water.
 - *Public land acquisition and management in the Lower Bypass has had a challenged history. Long term ownership of several islands has resulted in general neglect of physical conditions. Additionally, recent land acquisitions and the ever-present concern about water rights and water transfers heighten general mistrust and the sense of threat. Developing a mutually beneficial management plan for the Lower Bypass will require the development of greater trust between some stakeholders.*
3. Soils and dredge spoils analysis are moving forward without adequate “pass/fail” criteria.
 - *Criteria to determine what constitutes polluted/non-polluted dredging spoils should be developed to adequately determine what projects spoils may be used for, and what effect they could have on the aquatic environment.*
4. Construction windows for dredging and other projects due to the presence of sensitive species may be too short to complete projects.
 - *Construction windows could be realigned to more closely match (and avoid) spawning and rearing seasons for sensitive fish species in the Lower Bypass.*

Education Topics

Based on the opportunities and constraints discussed above, the following items were identified as potential education topics:

1. A discussion of the USACE Section 404 and 408 compliance processes.
2. An analysis and discussion of the design criteria of the Lower Bypass based on the 1957 design memos and the original legal intent of the Bypass as a whole.
3. A discussion of what constitutes “ideal” smelt habitat and how it relates to specific landforms in the Lower Bypass.
4. A determination of what aquatic habitat designs are compatible with vector control concerns.
5. A description of the Yolo/Solano grading regulations and their effect on restoration efforts including their status and level of integration with other planning processes.
6. A comparison of the different hydrologic models for the Lower Bypass.
7. A presentation of state-of-the-science topographic data for the entire Lower Bypass to determine habitat restoration project suitability based on land elevation.
8. A discussion of existing soils conditions and their compatibility with historic and proposed land uses (e.g. agriculture and wetland habitats).
9. Governance models for the Delta such as the Delta Vision “California Delta Ecosystem and Water Council” and how they might affect the Lower Bypass.
10. A presentation on the OCAP BO, including its current status and potential impact on the Lower Bypass.
11. A determination of who has the O&M responsibility for different portions of the Lower Bypass and related discussions about the feasibility of O&M responsibility adjustments.
12. A description/status report of the Yolo and Solano County HCP/NCCPs and the BDCP process.
13. A status report and description of the CVFPP process.
14. A hydrologic and hydraulic analysis of the effects of raising the elevation of the flooded islands, excavating other parcels, lowering or removing restrict height levees, and moving FCP levees.
15. A review and discussion of hydrogeologic conditions between Prospect and Ryer Islands.
16. A general discussion on conservation and flowage easements in the Lower Bypass to determine what types are used and how flexible existing easements are for land use transitions.
17. A presentation on the compatibility of habitat types with flood conveyance
18. A discussion on the economic value of agricultural land in the Lower Bypass .
19. A discussion/presentation on the level of protection provided by Egbert levees to downstream communities and what happens to Rio Vista if they breach or fail?
20. An analysis of dredge spoil toxicity and how spoils may be used in other areas of the Lower Bypass.
21. A discussion of best design and best management practices to enhance public recreation opportunities while not impacting private landowners and properties.
22. A discussion of current and near-term potential habitat pilot studies that can be implemented and studied.
23. A discussion of best design and best management practices to minimize methylmercury production and transport from Delta wetland habitats.

24. A discussion of North Bay Aqueduct intake relocation options and potential associated impacts.
25. A status report on USACE guidelines and regulations regarding vegetation on levees.
26. A discussion of budget impacts associated with screening water diversions, modifying discharge points, and other infrastructure options related to increased protections for species survival and water quality.