

## WATERSHED ACTION ITEMS

### NEXT STEPS TOWARD DEVELOPMENT OF A WATERSHED MANAGEMENT PLAN

As noted in the Introduction section, the CCRCDC has a successful history of assisting landowners with land stewardship projects throughout the Colusa Basin Watershed; however, these projects were not necessarily linked to a comprehensive conservation and management strategy for the Colusa Basin Watershed. Therefore, the CCRCDC intends to develop a management plan for the Colusa Basin Watershed to identify and prioritize projects that are “best for the watershed” and locally driven. This Watershed Assessment is the first step in this process and has compiled and interpreted existing information for the watershed in a single document.

The following section provides general recommendations for initiation of the future management planning process and summarizes stakeholder concerns as a basis for developing the planning goals.

#### Preparation of an Integrated Watershed Management Plan

We recommend the preparation of an Integrated Watershed Management Plan (IWMP) for the Colusa Basin Watershed. Adopting the watershed as the planning area facilitates the successful management of water-related resources and issues because the management unit (i.e., the watershed) is the natural boundary of water flow as opposed to more arbitrary property and governmental boundaries. An “integrated watershed management” approach facilitates productive dialogue among local stakeholders within the watershed (e.g., landowners, water districts, non-profit groups, cities and counties, state and federal regulatory agencies) to establish a clear set of management goals and develop collaborative, innovative solutions/projects to achieve those goals. The solutions of an IWMP strive to balance environmental, economic, and social concerns (i.e., triple bottom line). An “integrated” approach involves developing interdisciplinary solutions that serve multiple objectives and are based upon a sound, scientifically-based understanding of physical and ecosystem processes. For example, projects that reconnect floodplains to creek channels (at appropriate landscape locations) can reduce flooding, reduce downstream channel/bank erosion, increase groundwater recharge, and improve riparian habitat quality and quantity.

California’s Watersheds, Clean Beaches, and Water Quality Act of 2002 (AB 2534) established the states’ Integrated Watershed Management Program to improve water quality, habitat, fisheries, water supply reliability, flood management, river corridor recreation, forest and fuels management, hydropower management, and for controlling erosion and sedimentation. The California Resources Agency and California Environmental Protection Agency established the California Watershed Council in 2003 to implement this program. The Integrated Watershed Management Program provides grant programs for the development of IWMPs and for the implementation of projects based on IWMPs. The reader is directed to the California Watershed Portal for more information on this program ([http://cwp.resources.ca.gov/cwc\\_about.html](http://cwp.resources.ca.gov/cwc_about.html)).

An Integrated Watershed Management Planning process for the Colusa Basin Watershed should involve the following basic elements:

- Establish a workgroup of key stakeholders to guide the preparation of the management plan. The workgroup should include representatives of local land owners and land users from all three counties and statewide groups such as: County RCDs, CA Rice Commission, County Extension Advisors, County Planning Departments, Drainage Districts, and Agricultural Commissioners. In addition, it will be essential for the workgroup to also include those government agencies that will have regulatory authority over future projects and/or have resource management responsibilities that overlap with the planning goals. Such agencies include the various water/irrigation districts, DWR, RWQCB, CDFG, USFWS, and USACE.
- Create a Memorandum of Understanding, signed by the workgroup members, to ensure their commitment to participation and collaboration.
- Facilitate the workgroups' establishment of a focused, well-defined, and achievable set of watershed management goals and measurable objectives. The goals should address the workgroups top land management concerns, while preserving and restoring natural watershed resources and processes. This is a critical step in the process.
- As part of the goals development process, the workgroup should determine how the IWMP process will interface with the existing major planning processes in the Colusa Basin Watershed including County and City General Plan Updates, the Colusa Basin Drainage District's Integrated Resource Management Program for Flood Control, and the Yolo, Colusa, and Glenn County Groundwater Management Planning process. In other words, will this IWMP serve as a vehicle for integrating all or a subset of the above planning processes with broader watershed-scale goals that reach beyond strictly flood control, groundwater management and development planning? Or will the IWMP serve to fill "holes" in the above, existing planning processes?
- Fill those data gaps necessary to conceptualize and prioritize projects to achieve the workgroups goals and objectives.
- Formulate a suite of proposed projects (at a broad, conceptual level) that achieve the workgroup's goals and objectives. For each project, identify a project leader from the workgroup, partnering agencies and landowners, environmental review/permitting requirements, estimate the duration, and provide planning-level cost estimates. Group certain projects into programs, if appropriate.
- Prioritize the proposed project/program list. This process will then serve as a basis for the acquisition of funds to implement the management plan. Consider pilot projects where there is considerable uncertainty in the science to predict results and to get actions started on the ground.
- Include consideration of the potential future effects of global warming, population increases, and development on the watershed

## Initial Identification of Stakeholder Resource Issues and Goals

As noted in the Watershed Action Items section, establishing focused, achievable goals among workgroup members will be an initial and critical step in developing a successful IWMP. As a preliminary step in this process, stakeholder concerns were identified both via public meetings and stakeholder interviews during this assessment. **Appendix 3-Introduction** provides summaries of the individual stakeholder interviews. **Table 1-Watershed Action Items** summarizes the stakeholder resource concerns and related goals/objectives that have been identified (these concerns have not yet been prioritized). These resource issues and preliminary goals can serve as a starting place for the future workgroups' development of the management plan goals and objectives.

**Table 1. Watershed Action Items. Preliminary Identification of Stakeholder Resource Issues and Goals.**

| Resource Issue                 | Preliminary Goals and Objectives  |
|--------------------------------|---|
| Water Quality and Soil Erosion | <ul style="list-style-type: none"> <li>• Improve water quality</li> <li>• Identify water quality issues and recommend water quality control measures for urban and rural areas</li> <li>• Educate landowners to help control non-point source pollution</li> <li>• Recommend and implement best management practices for agricultural and rangeland areas to reduce soil erosion and associated sediment loading into drainages</li> </ul>  |
| Flood Control                  | <ul style="list-style-type: none"> <li>• Reduce flooding along the Colusa Basin Drain and other floodprone areas</li> <li>• Assess the status and functionality of degrading flood control infrastructure (e.g., drainage canals, ditches, canal banks, levees)</li> <li>• Find ways to allow floodwaters onto floodplains without damaging crops, homes, and infrastructure.</li> <li>• Determine the cumulative effects of existing wetland and riparian restoration projects on flooding</li> <li>• Protect banks/levees of ephemeral streams: reducing localized flooding</li> <li>• Improve infiltration ability of flood-prone areas and natural drainages</li> <li>• Identify (geographically) where natural channels have been removed (through land leveling, etc.) and identify its effect upon storm runoff and localized flooding</li> <li>• Compensate farmers whose rice land is used for off stream storage</li> <li>• Develop and implement measures to control runoff in foothills, orchards, rice fields, rangelands and on all other agricultural lands</li> </ul> |
| Agricultural Land Preservation | <ul style="list-style-type: none"> <li>• Preserve as much prime Agricultural land as is reasonably possible</li> <li>• Minimize development on floodplains and highly productive agricultural lands</li> <li>• Limit 10 ac splits</li> <li>• Restrict development to the surrounding incorporated areas and sphere of influence of existing towns</li> <li>• Have development fees pay the true costs of new services</li> </ul>  |

| <b>Resource Issue</b>                   | <b>Preliminary Goals and Objectives</b>  |
|---|--|
| Weed Control                            | <ul style="list-style-type: none"> <li>• Control invasive plant species that compete with beneficial species that provide better erosion protection and habitat</li> <li>• Map the distribution of invasive plants species and develop a strategy for control (e.g., salt cedar, arundo, purple star thistle, medusa head, silver leaf nightshade, etc.)</li> <li>• Educate landowners regarding the ecology of invasive weeds and how to manage them</li> </ul> |
| Regulatory Agency Interface on Projects | <ul style="list-style-type: none"> <li>• Improve cooperation between regulatory agencies to resolve conflicting input on projects</li> <li>• Strike an effective balance between environmental and economic interests to maintain the economic viability for farmers and counties</li> <li>• Work with the economic goals established at the county level</li> <li>• Sustainably manage oak woodland habitats</li> </ul>   |
| Rice Straw                              | <ul style="list-style-type: none"> <li>• Develop effective straw removal techniques</li> <li>• Develop effect straw storage techniques</li> <li>• Develop programs to assist growers with straw related operations</li> <li>• Develop and support uses for large amounts of rice straw</li> <li>• Establish a cellulose/ethanol Technical Advisory Committee to brainstorm ideas.</li> </ul>   |
| Air Quality                             | <ul style="list-style-type: none"> <li>• Improve air quality</li> <li>• Plant more permanent crops to provide soil protection thereby greatly reducing the amount of dust and smoke in the air</li> </ul>  |

## **EXAMPLE PROJECT IDEAS**

During the course of this assessment, we began to identify potential projects that could address some of the stakeholder concerns. Since the watershed planning goals will not be formalized until the management plan is underway, the following merely provides examples of a few potential projects. The purpose of this list is simply to provide preliminary examples of projects that could come out of an integrated planning process.

### **Foothill Streams — Creek Bank Stabilization and Riparian Habitat Restoration Projects**

1. Brush Creek at Boles Road: Creek bank erosion and a lack of riparian vegetation cover were noted at this location. The following steps could be taken at various locations along this reach:
  - Establish small setback from creek bank (15-30 ft) which would not require removal of orchard to facilitate live oak woodland revegetation along the top of bank to minimize future bank erosion and improve habitat conditions.
  - Widen active channel to a sustainable width and revegetate graded slopes
  - Layback creek bank and apply bioengineering solutions
2. Elk Creek at Hillgate Road Crossing: Creek bank erosion was observed downstream of the road crossing. The creek banks could be graded to a gentler slope and revegetated with native riparian species.

## **Oak Woodland Habitat Management**

- The CCRCDD has recently developed an Oak Woodland Management Plan. Elements of this plan could be integrated into the future Colusa Basin Watershed Management Plan.
- Explore the potential to purchase conservation easements to protect intact stands of oak woodland habitat.

## **Wetland and Riparian Management and Restoration Projects**

- Assess opportunities to expand the NRCS Wetland Reserve Program within the watershed by identifying appropriate sites and willing landowners.
- Anticipate mitigation requirements for proposed flood control detention basins and initiate restoration site search, site selection criteria, and overall strategy on a watershed basis. The USACE and EPA recently issued a final rule setting forth new guidelines for compensatory mitigation for aquatic resource impacts that emphasize watershed-based approaches to mitigation (USACE/EPA 2008)
- Work with residents of the watershed that are experiencing flooding problems who may be interested in exploring the feasibility of voluntary ecological restoration opportunities on their land that could minimize soil loss, loss of arable land, and provide flood control relief.
- Survey and inquire with local stakeholders about the status of remnant historic slough channels that may be supporting riparian habitat and provide strategies for management and enhancement of these riparian habitats (e.g., Sycamore Slough contains remnant stands of Sycamore Alluvial Woodland Habitat).