

CVFPP Revised Draft Challenges Environmental Stewardship Scope Definition Workgroup September 30, 2009

The following list of challenges was summarized from the individual sticky notes prepared by the participants in ESSD Workgroup Meeting # 1. The challenges are considered drivers or constraints that influence outcomes. These are ongoing pressures or existing conditions that present challenges to achieving desired goals. Challenges are grouped into two major categories: Environmental and Human-Based. Environmental challenges encompass the physical and biological processes, and the human-based challenges encompass the institutional, social, political and economic issues.

A. Environmental (physical, biological processes)

Disruption of dynamic river processes

1. The flood management system is not large enough to accommodate natural ecological and physical processes in addition to conveying design flows.
2. Dams, levees and bank revetments disrupt fluvial geomorphic processes (e.g., channel meander, migration, sediment transport) that are required for the long-term physical and biological sustainability of the river ecosystem.
3. Dams alter in-stream flow regimes that are necessary to sustain many aquatic species and aquatic habitats.
4. Dams create physical barriers to fish passage throughout much of the system.
5. The management of river flows and isolation of floodplains reduces habitat complexity that supports many species.
6. Levees and channel incision disconnect floodplains from their rivers, disrupting or eliminating the suite of ecological processes (e.g., groundwater recharge, riparian habitat recruitment, nutrient exchange, sediment deposition, fish rearing) that are supported by or enhanced by seasonal floodplain inundation.
7. Bank revetments eliminate the physical processes vital for ecosystem function by preventing recruitment of riparian vegetation and eliminating ecological functions associated with riparian habitat within rip-rapped areas.
8. Construction and ongoing maintenance of the flood management system eliminates riparian and wetland habitats and fragments remnant habitat into disconnected patches.
9. The lack of functioning floodplains contributes to impaired water quality due to reduced infiltration and natural treatment.
10. Confinement of rivers within levees limits the capacity of river channels and their floodplains to dynamically evolve in response to future changes in hydrology
11. Simplified flow regimes and disturbances associated with construction and maintenance of the flood management system encourage replacement of native species with invasive species and increase competition for resources (e.g., space, light, nutrients, water) between native and invasive species.

Climate change



12. Rapidly changing climate stresses the environment, increases flood risk, and exacerbates inter-annual changes in water supply resulting from California's shifting climate patterns.

B. Human-Based (institutional, social, political, economic)

Conflict between habitat and other land uses

13. Floodway maintenance reduces habitat for common and rare species of plants, fish, and wildlife.
14. Supplying water for urban and agricultural needs can conflict with flood management, or the attainment of ecosystem objectives.
15. DWR maintenance plans lack a comprehensive, cohesive, corridor-based approach to channel maintenance.
16. Riparian restoration may infringe upon the rights of private landowners, and willing sellers of land suitable for riparian restoration are limited.
17. Levee setback opportunities are limited by existing development, lack of funding, local zoning restrictions, and private property rights.
18. Urban development in floodplains encroaches on existing habitat and eliminates opportunities for future habitat restoration.
19. Bank revetments, maintenance activities, infrastructure, and some habitat restoration projects contribute to the lack of public access within flood control system and limit options for the future expansion of public access opportunities.
20. The operation of reservoirs for flood management may limit recreational uses.
21. Negative experiences and public perceptions that have resulted previous planning efforts may create a lack of support for local conservation programs.

Regulatory issues

22. Permit processes and requirements delay maintenance by being complex, inflexible, not well integrated, and time consuming.
23. Subjective policies and "mitigation" may not fit the geographic or ecosystem needs of the river.
24. Regulatory compliance is challenging due to poor coordination and a lack of shared understanding and vision between and within agencies.

Maintenance

25. Levee maintenance is hampered by the lack of flexible approaches for mitigation.
26. Maintenance practices may hamper development of high quality habitat.
27. Special-status species seasonal work windows constrain when construction and maintenance can occur and techniques that may be employed.
28. Flood, transportation, and utility infrastructure constrain restoration and flood maintenance activities.

Funding

29. A lack of funding constrains project development and long-term land management.
30. Multiple agency funding streams often required to implement multi-objective projects are lacking.