

**Lower American River
Bank Protection Working Group
April 30, 2024**

Video Timestamps

**30-Year History and Accomplishments of the LAR Task Force/BPWG
(*Tim Washburn, SAFCA*)**

- 00:08:20 1986 Flood Response/Auburn Dam Proposal
- 00:09:37 Auburn Dam alternatives & formation of Lower American River Task Force
- 00:10:37 Erosion identified as long-term management issue
- 00:12:07 Erosion protection design development & formation of Bank Protection Working Group
- 00:15:27 1996 River Park levee repair & subsequent 1997 Flood
- 00:18:47 Additional erosion protection sites constructed using new design concepts & River Corridor Management Plan development
- 00:20:22 160,000 cfs flow conveyance benchmark

**Hydrology of the American River Basin/Lower American River
(*Ben Tustison, MBK*)**

- 00:29:37 Overview of American River Watershed & mean precipitation
- 00:31:47 Types of flooding in watershed (snowmelt runoff & rain flood)
- 00:37:27 Where does precipitation and runoff go
- 00:39:57 Historical rain floods
- 00:41:57 Folsom Joint Federal Project & operation during flood events
- 00:49:42 Forecast Informed Reservoir Operation (FIRO)
- 00:54:32 Folsom Dam Raise and operational effects

**Comprehensive Flood Risk Reduction Approach for the Sacramento Region
(Brian Wardman, nhc)**

- 01:07:47 Floodplain history
- 01:09:37 Folsom Dam construction and historical flood records
- 01:10:55 Flood management challenges and solutions (increase storage and controlled higher flows)
- 01:13:00 Conveyance infrastructure and levee failure methods
- 01:13:42 Flood risk and 1986 flood response: Folsom improvements and levee improvements, erosion protection remaining element

**Status Updates on Contracts 1, 2 & 3A
(William Polk, USACE, Brian Wardman, nhc)**

- 01:17:52 Status of project designs (Contracts 1, 2, 3A, 3B, 4A)
- 01:19:22 Contract 1 (River Park), worst first - construction and revegetation update and effects of superficial erosion
- 01:25:28 Contract 2, Site 2-3 (Campus Commons) design considerations, including increasing flow capacity and creating gentler slope for river access
- 01:28:47 Contract 2, Site 2-3 revegetation progress- starts summer 2024
- 01:32:07 Contract 2, Site 2-3 pre-project conditions, project implementation including off-haul of 300,000 cy of material to reduce water surface, compaction remediation
- 01:34:07 Contract 2, Site 2-3 performance, recent lower bench inundation and fish habitat
- 01:36:33 Contract 2, Site 2-2 design and revegetation progress- starts summer 2024
- 01:39:50 Contract 2, Site 2-2 pre-project conditions, design and implementation
- 01:43:47 Contract 2, Site 2-2 winter flow condition, fish habitat
- 01:44:18 Contract 2, Site 2-2 Biotech alternative considerations & discussions
- 01:46:57 Contract 3A, Site 1-1 design and status overview, contract award 2024

Status Updates on LAR Bank Protection Contract 3B (Sites 3-1, 4-1, 4-2)
(Brian Wardman, nhc and Dan Mielke, USACE)

- 02:01:37 Site selection process
- 02:02:07 2D Hydraulic model – developed post 2017, calibrated to 1997 event, includes effects of vegetation, Flora literature review
- 02:08:27 Trees on riverbanks provide limited erosion resistance
- 02:11:47 Levee failure processes: overtopping, erosion, under and through seepage
- 02:15:01 Site selection approach – river delineated into 81 individual segments
- 02:16:57 Expert Opinion Elicitation – local and national expert review of each segment and designate as Tier 1, Tier 2, Tier 3 coupled with Baseline Risk Assessment conducted by Risk Cadre (specialized multi-disciplinary risk group)
- 02:20:07 Existing Contract 3B site conditions: steep banks, undercut vegetation, past performance, weathered material
- 02:25:30 C3B overview/orientation: Sites 3-1, 4-2, 4-1 and typical cross section and project features – only high risk sections targeted
- 02:31:17 Design goals: collaboration, address lateral erosion and vertical scour potential, minimize habitat impacts, provide on-site mitigation
- 02:33:37 Design for different flow conditions – 160,000 cfs and also more seasonal flows that affect aquatic habitat 800-2,600 cfs
- 02:34:29 Design process, including collaboration timeline, iterative phases 10%, 35%, 65%, 95%, 100%, addresses one of highest flood risk systems in USACE’s portfolio across the nation, over 100 individuals involved in design and review
- 02:37:31 10% design phase overview and concepts
- 02:39:40 35% design phase overview and concepts – determine that design had high habitat impacts and did not fully meet risk objectives and design needed significant alterations
- 02:43:37 65% design phase overview and concepts- started with a new Design Charette to evaluate alternatives and refinements, habitat impacts dramatically reduced
- 02:46:27 95% design phase overview and concepts- further data collection efforts, design refinements to meet flood risk objectives and minimize impacts
- 02:48:37 Cross section review of Sites 3-1, 4-1, 4-2