

State of California
The Resources Agency
Department of Water Resources
Division of Flood Management



2005
INSPECTION & INTEGRITY
REPORT
OF THE
FLOOD CONTROL PROJECT
MAINTENANCE AND REPAIR

PUBLISHED IN FEBRUARY 2006

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FORWARD

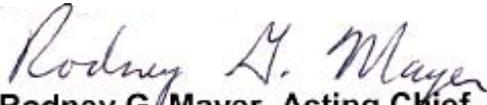
Each spring and fall since 1947, the Department of Water Resources (DWR) has inspected and reported on the status of maintenance of flood control levees, channels, and other major works operated under cooperative arrangements between federal, State and local public entities. These flood control facilities are located on the floors of the Sacramento and San Joaquin Valleys and in Plumas, Lake, Placer, Modoc, and Solano counties.

The physical and procedural context within which these inspection activities take place, are described later in the Introduction. This work is part of the process of assurances given by the State to the federal government that certain flood control facilities constructed by the U.S. Army Corps of Engineers (USACE) for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits as stated in the "Code of Federal Regulations", Title 33, Chapter II, Part 208, Flood Control Regulations. The Superintendent (or manager, engineer, engineer/manager) of each Local Maintaining Agency (LMA), including reclamation districts, levee districts, cities, county flood control districts, or county agencies, within the limits of any federal flood control project in the Sacramento and San Joaquin Rivers watersheds, is responsible for maintaining and operating the project works located within the boundaries or jurisdiction of such an agency.

To meet Federal Flood Control Regulations, each year the federal flood control facilities are to be inspected four times, in intervals not exceeding 90 days. As requested by the Reclamation Board, reports on the inspections will be submitted quarterly to the Board.

In addition to the State inspections documented in this report, it should be noted that USACE also performs their own independent "spot" inspections each year as part of the continuing federal interest in the maintenance and operation of the Sacramento and San Joaquin Rivers flood control systems.

The purpose of this report, which is one of a continuing series of reports on the status of maintenance of these facilities, is to summarize and document the results of DWR's 2005 inspections and any deficiencies affecting structural integrity of the system levees for USACE, The Reclamation Board, local maintaining agencies, and other interested parties. Prior to the 1975 report, these annual inspection reports were presented in DWR's Bulletin 149 series, "Flood Control Project Maintenance and Repair." Starting with the 1975 inspection report, the information was presented in a Central District report. Since 1981, the information has been presented in a Division of Flood Management report.


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1 INTRODUCTION

The purpose of this report is to document the results of DWR's 2005 flood control system inspections and any deficiencies that may be affecting the structural integrity of the system levees. This report is for use by the U.S. Army Corps of Engineers (USACE), The Reclamation Board, local maintaining agencies (LMA), and other interested parties.

As stated in USACE's Standard O&M Manual, each maintaining district is required to perform a detailed inspection every 90 days, including during the month of October prior to the flood season, immediately following each major high water period, and at any other time deemed necessary by the LMA Superintendent. The findings of these inspections should be reported to The Reclamation Board's Chief Engineer through DWR's Flood Project Integrity and Inspection Branch (FPIIB).

To meet Federal Flood Control Regulations, each year the federal flood control facilities are to be inspected four times, in intervals not exceeding 90 days. As requested by the Reclamation Board, reports on the inspections will be submitted quarterly to the Board.

1.1 Background

The State's extensive flood control system relies heavily on adequate operation and maintenance activities. Guidelines have been developed to assist local maintaining agencies in carrying out their responsibilities for levee and channel maintenance. To monitor these maintenance activities, DWR performs inspections and reports on the maintenance of flood control system project levees, channels and structures performed by the local maintaining agencies. The inspections thus verify that local agencies are performing their legal and statutory responsibilities and are meeting their legal obligations to operate and maintain their flood control projects. Designated floodways are also inspected periodically.

The operation and maintenance of encroachments on flood control project facilities is also very important. The Reclamation Board must authorize all encroachments on flood control project facilities prior to their construction. DWR inspects the construction of these projects to ensure conformance with the approved plans and permit conditions. DWR also reports unauthorized encroachments to the Reclamation Board and works with the local maintaining agencies to abate unauthorized encroachments.

More details and background on the flood control system, its maintenance and inspection requirements, and encroachments is provided below.

1.1.1 Flood Control System Overview

Congress authorized the Sacramento River Flood Control Project (SRFCP) in 1917, and subsequent supplemental authorizations (e.g. Sacramento River major and minor tributaries, American River levees, etc.) have added components to SRFCP over the years. The San Joaquin River Flood Control System consists of a number of separate federally authorized flood control projects, most of which have been built since the 1940's (e.g. Merced and Fresno counties stream groups, Lower San Joaquin River, federal projects and State designated floodways on virtually all the Sierra rivers draining into the San Joaquin Valley and the Tulare Lake Basin). The two major river flood control systems (Plates 1 and 1A) have combined totals of approximately 1,613 miles of federal project levees (shown on Plate 2), 1,200 miles of designated floodways (148,000 acres), several thousand acres of project channels, and 56 other major flood control works (e.g. overflow weirs, flood relief structures, outfall gates, and the Sutter Bypass pumping plants). Designated Floodways, adopted by The Reclamation Board, are a significant part of the flood control system and include many major rivers and streams that are not Flood Control Project Channels.

The federal government acting through the U.S. Army Corps of Engineers (USACE) designed and constructed many of these federal levees and other flood control works; some existing levees were also incorporated into the Sacramento and San Joaquin flood control systems through the passage of federal statute. The State generally provides lands, easements, and rights-of-ways when necessary for project construction. An exception to this process is the Lower San Joaquin River Flood Control Project that was designed and constructed to federal standards by the State (substituting physical works for acquisition of more costly flowage easements required for the authorized federal project). Local public entities within both river systems have the responsibility, liability and duty to maintain and operate the levees and other flood control works on a day-to-day basis in accordance with guidelines provided in the USACE Standard Operations and Maintenance (O&M) Manual and each applicable supplement for individual project units. The only flood control features for which operation and maintenance is not performed by local entities are those SRFCP works maintained by DWR in accordance with Water Code § 8361, and those SRFCP levees within Maintenance Areas (MA) that are maintained by DWR, with local beneficiaries paying the costs under Water Code § 12878.

1.1.2 Flood Control System Maintenance

When The Reclamation Board adopted the projects, a LMA was identified for every project feature. For SRFCP, LMA responsibilities were set in Water Code §8370. Otherwise, each LMA signed an assurance agreement. This agreement is specific and details the responsibility of the local district. It is through these agreements that both LMA and The Reclamation Board developed a level of expectation for maintenance. Each segment of the flood control project is

described in a supplement to the USACE's Standard O&M Manual. These supplemental manuals serve as a guide to assist each district in carrying out its responsibilities for levee maintenance. Section 2.3 describes some of the standards to be met by LMA's in the performance of their routine work.

1.1.3 Flood Control System Inspections

DWR, under the authority of Water Code § 8360, § 8370 and § 8371, performs a verification inspection of the maintenance of SRFCP levees performed by the local maintaining agencies, and reports to USACE periodically regarding the status of levee maintenance accomplished under the provisions of Title 33, Code of Federal Regulations (CFR), Section 208.10. While there are no specific water code provisions directing DWR to inspect and report on maintenance of the San Joaquin River Flood Control System, DWR has performed inspections and provided reports for many years as a matter of practice consistent with Title 33, CFR. The inspections thus verify, for both river systems, that local agencies are performing their legal and statutory responsibilities pursuant to Water Code § 12642 and § 12657, and are meeting their legal obligations under assurance agreements with the State, to operate and maintain their flood control projects "on any stream flowing into, or in, the Sacramento Valley or the San Joaquin Valley." In addition to project levees, the State also inspects designated floodways, project channels and flood control structures. Traditionally, the State inspects and reports only on the status of maintenance practices and on observable levee conditions and in this regard the State has not conducted field studies to assess the structural integrity of the levees or their foundations, although studies of this nature are planned for the near future.

1.1.4 Flood Control System Encroachments

California Water Code § 8710 requires The Reclamation Board's approval of all plans for encroachments on flood control project facilities. Prior to approval, The Reclamation Board receives recommendations from DWR and USACE relating to engineering, maintenance, and the flood control aspects of the encroachment to ensure that the encroachment project design does not degrade the standards of USACE's Standard O&M Manual or present a risk to the public. An environmental review committee provides an assessment of the proposed encroachment. Following approval by The Reclamation Board or its General Manager, DWR FPIIB inspectors are responsible for inspecting the encroachment construction to ensure conformance with the approved plans.

The Reclamation Board also controls encroachments within Designated Floodways, shown on Plate 3. While permits are required before construction of any encroachment within the Designated Floodway, citizens often fail to submit applications to The Reclamation Board and these encroachments are not discovered until the annual inspection of the floodway. Access is limited to these

floodways due to private property laws and some owners of private lands next to the designated floodway do not allow entry. Maintaining a clear channel for flood flows is necessary to allow water to easily pass during peak flows. Under the provisions of Title 33, Code of Federal Regulations (CFR), Section 208.10 floodways shall be inspected four times a year at intervals not exceeding 90 days.

FPIIB staff continually works with the local maintaining agencies to abate unauthorized encroachments. Following The Reclamation Board's direction, when a given reach of the system has numerous encroachments the Floodway Protection Section (FPS) has focused upon developing regional plans for rectifying unauthorized encroachments. When encroachments remain unabated after plans are executed and the local districts are unable to resolve the issues with the assistance of the FPS, the nonconforming individuals are brought before The Reclamation Board for further instruction, legal action and, if necessary, forced removal.

1.2 Inventory of Flood Control System Works

This section includes an inventory of total levee miles, number of structures by type, number and miles of project channels, and number of districts by type. The inventories are broken out by basin for the Sacramento, San Joaquin and Miscellaneous Streams basins.

Table 1-1 includes the number of project levee miles that the various types of levee maintaining agencies are responsible for. Note that levees designated as either rock sites or possible decertification are still considered project levees and are supposed to be inspected by Department of Water Resources levee inspectors.

Table 1-1: Total Levee Miles

Basin	Levee Districts	Maintained by State of California (MA)	Named Districts	Reclamation Districts	Total Miles
Sacramento River Basin	52	299	196	555	1103
San Joaquin River Basin	-	-	339	150	489
Miscellaneous Streams Basins	-	4	18	-	21
Total	52	303	553	705	1613

Table 1-2 includes a breakdown of flood control structures by type within the Sacramento River, San Joaquin River, and Miscellaneous Streams basins. Also, the location of these structures in the Sacramento and the San Joaquin Flood Control System is shown on Plate 4.

Table 1-2: Number of Flood Control Structures Inspected

Basin	Weirs	Pumping Plants	Other Diversion/Control Structures	Total Structures
Sacramento River Basin	11	6	8	25
San Joaquin River Basin	2	6	9	17
Miscellaneous Streams Basins	1	1	12	14
Total	14	13	29	56

A total of 87 channels, streams and tributaries are under the board's inspection jurisdiction. The Sacramento River project totals 40, the San Joaquin project totals 33, and 14 are from small miscellaneous projects. Table 1-3 includes the number of Flood Control Project Channels (not confined by project levees) for the Sacramento River, San Joaquin River, and Truckee River and Fairfield Vicinity.

Table 1-3: Flood Control Project Channels

Basin	Channels	Total Miles
Sacramento River Basin	7	58
San Joaquin River Basin	14	186
Truckee River and Fairfield Vicinity	4	5
Total	25	249

Table 1-4 includes a breakdown of the type and number of levee maintaining agencies within the Sacramento River, San Joaquin River, and Miscellaneous Streams basins. The location of these LMA's in the Sacramento and the San Joaquin Flood Control System is shown on Plate 1.

Table 1-4: Number of Levee Maintaining Agencies including MA's

Basin	Type of Levee Maintaining Agency			Total of all Levee Maintaining Agencies	
	Levee Districts	Maintained by State of California (MA)	Named Districts		Reclamation Districts
Sacramento River Basin	4	9	11	37	61
San Joaquin River Basin	-	-	5	24	29
Miscellaneous Streams Basins	-	1	2	-	3
Total	4	10	18	61	93

2 INSPECTION PROCEDURES AND RATING CRITERIA

2.1 Current Inspection Procedures

The current inspection program reports annually on the quantity and quality of levee maintenance performed by the local maintaining agencies of the Sacramento and San Joaquin Flood Control Projects. In addition, two separate annual reports, one on project channels and one on project structures, are also produced.

The DWR inspectors are responsible for the periodic inspection of 1613 miles of Sacramento and San Joaquin Flood Control Project levees, 1200 miles of designated floodways, several thousand acres of project channels, and 56 other major flood control works (overflow weirs, flood relief structures, outfall gates, and pumping plants). Inspectors generally perform two distinct sets of levee inspections each year as follows:

- Spring inspections occur after high water levels have receded, followed by joint inspections with each RD and local Districts to discuss non-compliance and needed improvements.
- Fall inspections occur after summer and before November (the beginning of flood season), followed by joint inspections with each RD and local Districts to discuss non-compliance and needed improvements.

In addition to the spring and fall levee inspections, summer inspections focus on structures, pumping plants, project channels, and designated floodways. The designated floodways are not currently inspected at consistent intervals. Some designated floodways are inspected once every year and others are not. These inspections may include physical on-the-ground inspections or may use aerial photography as a means to inspect the floodways. The Department is developing a more consistent program to cover these inspections and report on the status of the floodways. As outlined below in Section 2.2, changes to the current inspection procedures are going to be implemented in 2006.

Inspections of the Sacramento and San Joaquin Flood Control Project levees, designated floodways, project channels, and other major flood control works consist of visual inspections by DWR's inspectors and in some cases by the LMA. Information gathered during these inspections is used to verify adherence to the maintenance standards or to document otherwise. Separate levee inspection sheets are developed for each district during the spring and fall inspections and are shared with the local levee maintaining agencies and USACE. Based upon the fall joint inspection, inspectors rate the condition of the levees based on the rating criteria described below, but do not perform an assessment of the structural integrity of the levees or their foundations.

In addition to the field inspections for deficiencies in levees, structures, floodways and channels, the flood control system is inspected for unauthorized

encroachments and permitted construction projects on flood control facilities for compliance with the Reclamation Board permit conditions.

2.2 Future Inspection Procedures

Technically speaking, the current inspection intervals do not precisely meet the requirements outlined in Title 33 of the Code of Federal Regulations. DWR also falls short on structures, pumping plants and non-levied channels which are only inspected once a year.

DWR is developing new inspection procedures that will provide for DWR to carry out two complete inspections of its own and provide technical guidance and review for two complete independent inspections by local agencies. The four inspections should include all project features and be scheduled at intervals not exceeding 90 days. This will meet CFR requirements. The Department is also working to resolve numerous unauthorized encroachments.

DWR plans to report at 90 day intervals on flood project inspection and integrity evaluations.

2.3 Rating Criteria

The rating standards for levees used by DWR inspectors are derived from a federally prescribed O&M manual and the State's regulations for vegetation on oversized levees. Ratings of "C" for Compliant, "I" for Improvement Needed and "N" for Non-Compliant are given for each criterion. The ratings are defined as follows:

COMPLIANT (C) – *Defined as maintenance that essentially conforms to federal and State standards.*

IMPROVEMENT NEEDED (I) – *Defined as maintenance that varies considerably from federal and State guidelines.* Improvement Needed describes maintenance activity where an attempt has been made, but the effort needs to be continued, increased or improved. The present state of maintenance fails to meet the designed criteria as set forth in USACE's Standard O&M Manual upon receiving this rating. Levee maintaining agencies have 12 months from the date of this report to comply with and continue to meet USACE standards or receive a rating of non-compliant.

NON-COMPLIANT (N) – *Defined as (1) little or no maintenance work has been performed, (2) level of maintenance is significantly out of compliance with federal and State guidelines, or (3) 12 months have passed since rated improvement needed.* Districts rated non-compliant will be given official notice to improve the maintenance effort to a compliant rating within the maintenance year (12 months), or execute an approved plan to correct the deficiencies. Lacking performance or failing to adhere to their stated plan, DWR will follow the procedures as outlined in Water Code §12878.1 and recommend to The Reclamation Board that they make the district into a Maintenance Area.

Examples of non-compliant levee maintenance are: (a) failure to add gravel where needed and/or to shape the crown roadways for proper drainage during wet weather; (b) failure to either remove or seal abandoned, inoperative, or leaky pipes; (c) failure to eliminate unauthorized grazing and vehicular traffic; (d) failure to remove undesirable growth on the levee slopes or in rock revetments; (e) obvious structural deficiencies in the levee grade or cross-section; and (f) unrepaired damage from burrowing rodents.

It should be noted that the flood control project levees, channels and structures each have separate rating systems applied to them. As documented in the 2005 Project Channel Report (also discussed in Section 3.2), a rating system as defined by the Corps of Engineers Operation and Maintenance Manual is used. As documented in the 2005 Project Structure Report, more of a qualitative rating system is used.

2.4 Levee Maintenance Criteria

When applying the ratings described above, a number of factors pertaining to levee maintenance are considered. The following 12 criteria are extracted from Title 33, Code of Federal Regulations, except for the reference within Item 4 to The Reclamation Board's California Code of Regulations, Title 23, Waters, Division 1. Reclamation Board, §131, Table 8, Suitable Vegetation.

1. Readiness for Flood Emergency

Each district shall have an organized plan to combat a flood situation effectively. This should include the appointment of a Superintendent to supervise and execute the plan, maintain a stockpile of standard flood-fighting equipment and materials, and have available a network of hand held radios or cellular telephones for communication while patrolling during a flood emergency.

2. Adequate Levee Section and Grade

Each district must perform the work necessary to maintain levee side-slopes, grade, and crown width to meet the standards for its particular reach of the levee system. Crown widths for federal project levees within the Sacramento-San Joaquin Valley Flood Control system are shown on Plate 5. Levee design standards are summarized on Plate 6.

3. Presence of Encroachments

Each LMA is held responsible to prevent the construction of, or removal of any existing structures on the levee or within the ten-foot regulatory easement at the landward toe of the levee. Also, the maintaining agency must stop any modifications or alterations to the levee. If any person or organization deems any construction or modification necessary within the levee regulatory easement, that person or organization must apply for an encroachment permit. The permit may only be issued by The Reclamation Board. Failure of the local agency to

control unauthorized encroachments can threaten the integrity of the levee, interfere with levee patrol visibility, hamper a flood fight and, therefore, be cause for downgrading the district's annual rating in this report.

4. Control of Wild Vegetation Growth

Each district shall have a program to selectively control vegetation on the levee slopes and in rock revetments. This requirement provides visibility for inspection and patrol and prevents interference with flood-fighting activities. "Oversized" levees may have some vegetation on the slopes. An "oversized" levee is a levee which encompasses the minimum oversized levee cross-section which has a width of thirty (30) feet at designed freeboard elevation and standard levee slopes. Standard levee slopes means the landside levee slope is 2 horizontal feet to 1 vertical foot and the waterside levee slope is 3 horizontal feet to 1 vertical foot. Some vegetation on "oversized" levees is permitted in accordance with standards as set forth in State of California Title 23.

5. Rodent Control

It is imperative that each district has a rodent control program. Diligent efforts to eradicate burrowing animals are a necessity, and eliminating them from an infested levee is extremely difficult. Control of these animals must be pursued frequently and persistently to assure safety of the levee during flood periods. Repair of the burrows is necessary to maintain the integrity of the levee.

6. Repair of Cracks, Erosion and Caving

Each district shall repair cracks, flow current or wave wash erosion, caving or other structural problems. Repair of these problems is critical. If not repaired, these problems can rapidly become worse and could threaten the levee's integrity. Failure to repair cracks, erosion or caving could lead to levee failure.

The Superintendent is required to report to The Reclamation Board's Chief Engineer any suspected or known structural abnormalities found during his inspections. Such unrepaired structural problems are also cause for downgrading of the district rating.

7. Repair of Access Gates

All gates will be maintained and repaired to provide easy access for those who are authorized and to control unauthorized access.

8. Condition of Rock Revetment

Each district shall make all repairs to scour, wash, settlement, or failure of any portion of rock revetments. Rock revetments have been installed at locations

where stream flow conditions indicate the need for such protection. Early detection and prompt repair will result in a minimum of effort and reduce the cost to restore the revetment.

9. Condition of Levee Crown

Each district is required to keep crown roadways shaped and graded to provide proper drainage and all weather access. Repair of ruts and addition of gravel ensures a serviceable road under even the most adverse conditions.

10. Control of Livestock Grazing

Each district shall control livestock grazing on levee slopes in order to permit normal maintenance activities and to minimize damage to the slope. Damage to the slope must be repaired. Controlled livestock grazing may be used as a vegetation management tool.

11. Condition of Pipes and Appurtenances

Each district must examine all structures situated through, in or on the levee for stability and structural soundness and record their observations annually. All component parts must be examined for proper operation and reliability before the start of each flood season. New structures should be installed or older structures repaired only in accordance with adopted Reclamation Board standards and under the supervision of qualified Reclamation Board personnel. Defective structures must be repaired, replaced, or removed immediately and in coordination with the Chief Engineer.

12. Overall Rating

The Overall Ratings are given by each inspector and are based upon each inspector's observations as reported during the fall joint inspection. Crucial areas focused upon are LMA's readiness for conducting flood fights; adequate levee section and grade; presence of encroachments that would significantly impede a flood fight or obstruct a proper inspection; wild growth that would preclude a proper inspection or occlude a boil or major seepage spot; presence of excessive rodents; unrepaired burrows in the levee section; significant movement or the appearance of failure in the levee section; an inadequately engineered or maintained all-season crown roadway; and known pipe failures. Due to the nature of these observations the ratings are based on the judgment of inspection and engineering staff.

3 REPORT ON INSPECTION ACTIVITIES

This year inspections were completed on all 1613 miles of levees with ratings given to items relating to embankment, roadways, weeds, rodents and erosion. Inspections were also completed on all 43 structures and 13 pumping plants, 25 channels or tributaries, and 105 Reclamation Board approved construction or maintenance permits.

3.1 *Levee Maintenance*

3.1.1 Overall Levee Maintenance Ratings

Overall levee maintenance ratings are assigned to each LMA based on each inspector's observations as reported during the fall joint inspection. The overall ratings given are very subjective and depend on each inspector's interpretation of the overall condition of the levees. A summary of the overall status of the maintenance of the flood control system levees is provided in Figure 3.1, which shows of the 95 LMA's, 77 are compliant with required maintenance practices, 17 have been assigned an improvement needed rating, and 1 is non-compliant. Figure 3.1 also indicates those districts that have a change in status from the 2004 fall inspections. Table A-3 lists the improvement needed and non-compliant districts and the total levee miles associated with each rating criterion.

3.1.2 Levee Subsidence

There are 25 noted levee subsidence areas that have been discovered over the years. These areas should continue to be visually monitored. Of the 25 areas, 15 have been repaired, 6 are stabilized and 3 are active and 1 has unknown status. Future plans are to establish engineering oversight on each area. Although none of the sites are considered threatening, each historical subsidence area should be further evaluated to determine or verify its status.

3.1.3 Erosion Repairs

This year's inventory of documented erosion sites within the Sacramento River Flood Control System noted 174 total sites. Repairs were made at 6 sites on the Sacramento River and 2 sites on the Lower American River. The criteria for including a bank erosion site into the inventory included (a) bank erosion into the projection of the levee slope and (b) berm width of less than 35 feet.

MAINTENANCE RATING 2005

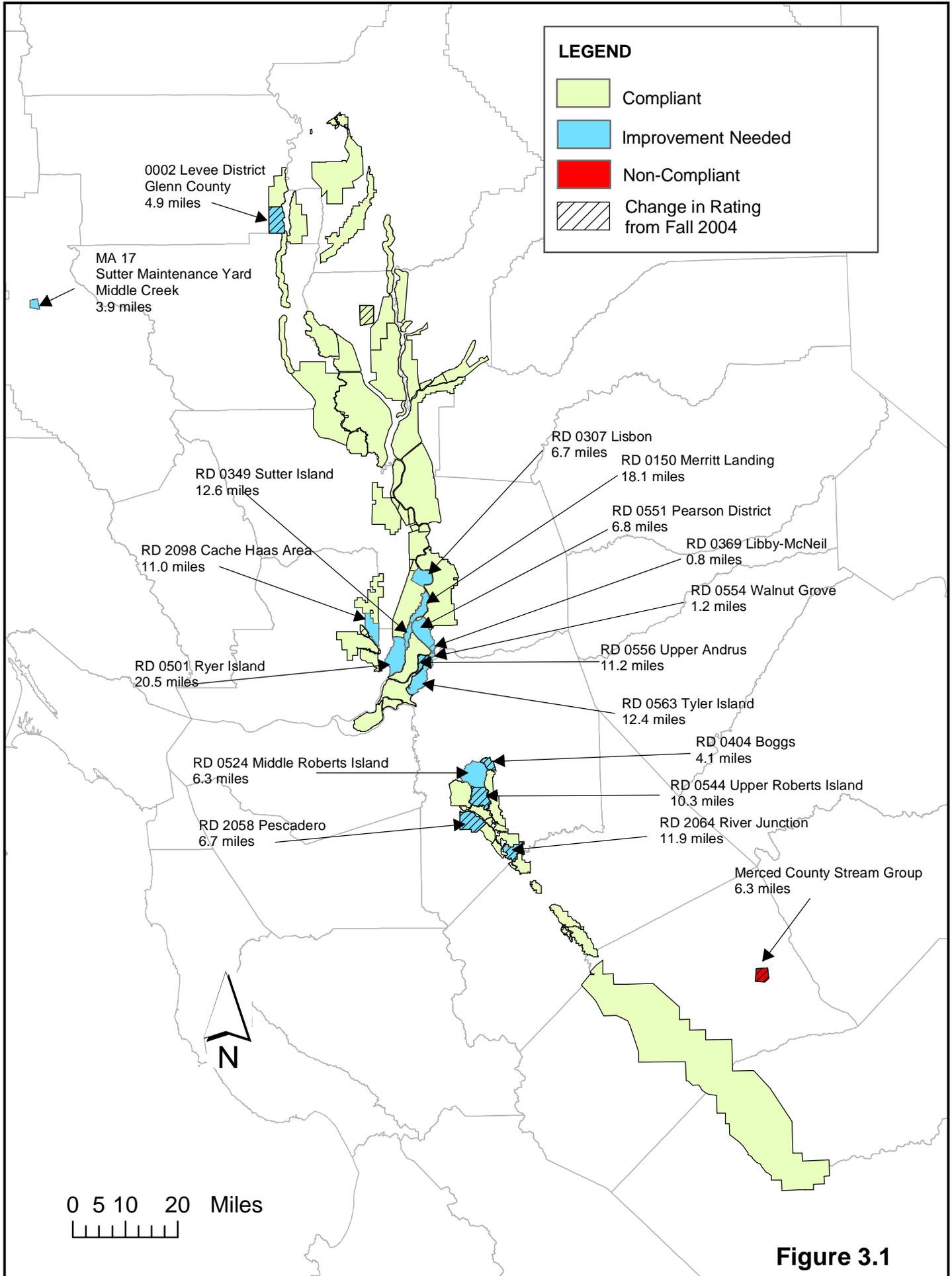


Figure 3.1

The Department has reviewed all sites and identified 24 as critical and 11 as potentially critical. At this time 6 are in the design stage and 3 are in the planning stage with repair dates in year 2006. These critical erosion and potentially-critical erosion sites are discussed further in Section 4.1.1 and are shown in Table 4-1 and Table 4-2, respectively.

3.1.4 Rodent Control

The entire 1,581 (1,613 miles minus the 25 miles of Rock Sites and 7 miles of Possible Decertification sites that were not inspected) miles of project levees were inspected for rodent activity. A review of the fall 2005 levee inspection logs revealed a total of 108 areas that were identified as having heavy rodent activity. Most of these areas are sites that averaged a few hundred feet in length. The districts were notified and instructed to exterminate rodents and fill burrows. The remaining levee areas were classified as having sparse activity and the districts were informed to eradicate where needed. This year 17 Districts received improvement needed ratings, and 1 district received a non-compliant rating for Rodent Control.

3.1.5 Seepage Repairs

There have been no noted seepage repairs this year. The project integrity section will be developing a mapping and monitoring program to identify and evaluate seepage problems.

3.1.6 Encroachments

Currently there are 175 unauthorized encroachments throughout the project. These encroachments are listed in Appendix A, Table A-20. The table includes the date, encroachment ID and file number, LMA, encroachment description and location, the overall maintenance rating assigned to the LMA in which the encroachment lies, critical hazard rating, a status of violation letters sent to each violator, and permit status indicating unauthorized encroachments with pending permit applications. Most of the encroachments are from prior years and range from minor to concerning. Encroachments include items such as fences, stairways, buildings, pipes, debris, landscaping, sprinklers, vegetation, boat ramps and docks, equipment, vehicles and others. The Department intends on working with local districts and the Board to classify and eliminate these encroachments.

Table 3-1 shows the number of encroachments opened each year for the past eight years. These encroachments are still open. The annual average of unauthorized encroachments for the past eight years is 22.

Table 3-1: Number of Open Encroachments by Year

Year	Number of Open Encroachments
1998	5
1999	12
2000	79
2001	63
2002	3
2003	4
2004	5
2005	4
Total	175
Annual Average (total divided by 8 years)	22

A critical hazard rating system was developed for different kinds of encroachments. The critical hazard rating assigned to each unauthorized encroachment is intended to prioritize the encroachments based on their potential to seriously threaten the integrity of the flood control system. This priority rating method suggests that all encroachments with a critical hazard rating of 1, 2, 3 or 4 require strong follow-up action. Table 3-2 summarizes the criteria used to prioritize the unauthorized encroachments. The ratings assigned to these unauthorized encroachments are based on office verification only. In other words, field verification has not yet been completed; however, this is necessary to verify the status and seriousness of each unauthorized encroachment. Table 3-3 summarizes the number of unauthorized encroachments assigned by each critical hazard rating. Of all 175 unauthorized encroachments, 44 have been assigned a rating of 1, 2, 3 or 4 and require strong follow up action. Priority should be given to these to verify their seriousness.

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Table 3-2: Critical Hazard Rating Criteria for Encroachments

Critical Hazard Rating	General Description of Encroachment	Potential Impacts
1	Excavations within or near any levee, and unauthorized excavations or building of levees within the floodway.	<ul style="list-style-type: none"> • Can present an imminent threat to the structural integrity. • Can obstruct or redirect flows causing erosion.
2	Debris or fill materials placed on the waterside of the levee or within the floodway.	<ul style="list-style-type: none"> • Can cause blockage or restriction problems. • Can redirect water flows and cause major erosion. • Encourages rodent activity.
3	Major Structures built within or near levees and within the floodway.	<ul style="list-style-type: none"> • Could create structural problems. • Impedes maintenance activities. • Could cause erosion problems. • Could hide problem areas.
4	Non-authorized ramps fill materials or placement of rock.	<ul style="list-style-type: none"> • If not put in properly can create erosion problems. • Extreme cases could cause restriction or stability problems.
5	Fences within and at the easement line.	<ul style="list-style-type: none"> • Can create a visibility problem. • Can cause maintenance access problems.
6	Trees next to and on levees.	<ul style="list-style-type: none"> • Can impede visibility for inspection and patrols. • Causes major problems for maintenance activities. • Increases rodent activity.
7	Walkways, stairs, sprinklers and electric lines.	<ul style="list-style-type: none"> • Can cause minor erosion problems. • Mostly impede maintenance activities.
8	Landscaping / non-approved plants and bushes.	<ul style="list-style-type: none"> • Impedes visibility for inspection. • Causes maintenance problems. • Can increase rodent activity.
9	Debris landside, mostly tree pruning's, stumps, old equipment etc.	<ul style="list-style-type: none"> • Impedes inspection • Encourages rodent activity. • Impedes maintenance activities.
10	Temporary encroachments, seasonal irrigation pipes, grassing fences, bee hives etc.	<ul style="list-style-type: none"> • These types of encroachments generally do not create a structural problem if removed prior to the flood season. • Can create maintenance problems.

Table 3-3: Critical Hazard Rating Criteria for Encroachments

	Critical Hazard Rating									
	1	2	3	4	5	6	7	8	9	10
Number of Encroachments Assigned by Each Rating	8	25	3	8	36	65	4	19	4	3

3.2 Unleveled Channel Maintenance

A total of 87 channels, streams and tributaries are under the board’s inspection jurisdiction. The Sacramento River project totals 40, the San Joaquin project totals 33, and 14 are from small miscellaneous projects.

The status of channel maintenance activities has been reported in two different ways. Section 3.2.1 discusses the channel clearance activities that have been reported by each LMA for all channels. Section 3.2.2 discusses the overall channel maintenance ratings for the 25 “project channels” that are not confined by project levees.

3.2.1 Unleveled Channel Clearance Status

Reports on channel clearance activities and overall conditions have been submitted to DWR by most LMA’s. Information collected related to 2005 channel clearing activities is presented in Tables A-17, A-18 and A-19. Missing information indicates that a request was made to the LMA, but no information was submitted in writing to DWR. The table notes the channels that were included in the 2005 Project Channel Report, as discussed below.

3.2.2 Overall Unleveled Channel Maintenance Ratings

Inspections of the 25 flood control project channels (248.6 miles) on the Sacramento River tributaries, the San Joaquin River tributaries, the Fairfield Vicinity streams, and the Truckee River tributaries were completed by DWR between July and September of 2005. The inspected channels are not confined by project levees; however, some of them are confined by private levees.

The purpose of the channel inspections is to identify and report to the constructing authority and the local maintaining agency any conditions that may diminish channel capacity. In general, maintaining the channels to the condition that existed after the completion of the initial construction should preserve their

flood flow characteristics. With that said the standard of comparison for the inspection is the condition immediately after construction.

Of the 25 unleveed channels inspected by DWR, 10 received a Compliant rating (17.7 miles), 13 received an Improvement Needed rating (211.3 miles), and 2 received a Non-Compliant rating (19.6 miles). Table 3-4 shows ratings for each channel inspected by DWR Inspectors during the 2005 summer months and the reason for this rating. The local maintenance agencies provided information on channel clearance activities in writing in December 2005 and based on this written information, updated compliance status is shown in the last column in Table 3-4.

3.3 Flood Control Project Structures

The 2005 Structures Inspection Report was prepared in October, 2005 and provides information on present conditions of all flood control system structures on the Sacramento River and tributaries and on the San Joaquin River and tributaries.

A total of 56 flood control structures, including drainage, drop and diversion structures, weirs, and pumping plants were inspected. Of these, 54 received compliant ratings and 2 received improvement needed ratings. The ratings assigned to each structure are based on more of a qualitative rating that was used in the 2005 Project Structure Report.

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Table 3-4: Overall Unleveed Channel Maintenance Ratings

Project Channels	Length (miles)	DWR Rating (Reason)	LMA Rating (Reason)
On the Sacramento River and Tributaries			
Ash Creek	1.0	C	
Dry Creek	0.2	C	
McClure Creek	1.7	C	
Salt Creek	1.6	N (V)	C
Big Chico Creek	22.0	I (V)	C
Lindo Channel and Sandy Gulch	13.0	I (V,S)	C
Little Chico Creek	18.0	N (V,S)	I
<i>Subtotal Miles:</i>	57.5		
On the Truckee River and the Fairfield Vicinity Streams			
Truckee River	0.6	C	
McCoy Creek	1.2	C	I (V)
Laurel Creek	2.8	C	I (V)
Union Avenue Diversion	0.7	C	C
<i>Subtotal Miles:</i>	5.3		
On the San Joaquin River and Tributaries			
Bear Creek	21.0	I (V)	C
Black Rascal Creek	6.5	C	
Burns Creek	2.0	C	
Mariposa Creek/Duck Slough	16.5	I (V)	C
Miles Creek	12.0	I (V)	C
Owens Creek	2.0	I (V)	C
Ash Slough	19.0	I (V)	C
Brenda Slough	18.5	I (V)	C
Chowchilla River	28.5	I (V)	C
Fresno River	13.0	I (V)	C
North Little John Creek	18.0	I (V)	I (S)
Duck Creek Diversion Channel	1.0	C	
South Littleton Creek	21.7	I (V)	C
South Littlejohn Creek, North Branch	6.1	I (V)	C
<i>Subtotal Miles:</i>	185.8		
Total Miles for all Sreams	248.6		

C - Compliant I - Improvement Needed V - Vegetation S - Sedimentation

Note: The rating shown in the 2005 Project Channel Report has been converted from the USACE "S", "M" and "U" rating to DWR's "C", "I" and "N" rating in Table 3-4.

4 FLOOD CONTROL SYSTEM INTEGRITY

The Division of Flood Management was reorganized in November of 2005, and the existing Flood Project Inspection Section was incorporated into the new Flood Project Integrity and Inspection Branch. The Flood Project Integrity Sections of this new branch will be evaluating the overall integrity of the Sacramento and San Joaquin River Flood Control System project levees. The evaluations will include hydrologic and hydraulic assessments to confirm that design conveyance capacity has not been compromised. Geotechnical assessments will also be conducted to evaluate the structural stability of the levees.

4.1 Identified and Repaired Maintenance Deficiencies and Damages

The existing flood control system has deficiencies due to inadequate maintenance practices and high water events. Either way, they should all be addressed. This section presents critical erosion issues and their repair status, identifies levee districts that are not meeting required maintenance standards, and discusses the damages experienced from the December 2005 floods.

4.1.1 Critical Erosion Issues

Sacramento River System – The Sacramento River Flood Control System is inventoried annually by boat to determine critical and potentially-critical sites. Table 4-1 represents the repair status of various critical erosion sites identified in both the 2004 and 2005 Ayres reports titled “Ayres Atlas of Bank Erosion Sites”. In the year 2004, 31 sites were classified as critical; repairs have been completed on 8 of these sites and 2 were removed from the critical list in 2005. Twenty-four critical sites have yet to be repaired as of December 2005. The approximate cost to repair these sites has been estimated at \$75 million to \$100 million. These sites are shown in Figure 4.1.

Table 4-2 represents the repair status of various *potentially*-critical erosion sites identified in both the 2004 and 2005 Ayres reports titled “Ayres Atlas of Bank Erosion Sites”. In the year 2004, 9 sites were classified as potentially critical, which were increased to 11 in the year 2005. None of these sites have been repaired, and the repair cost estimate for these sites is \$27 million. These sites are also shown in Figure 4.1.

San Joaquin River System – Annual field reconnaissance is not currently performed for the San Joaquin River Flood Control System. While the Sacramento River Flood Control System is inventoried annually by boat to

determine critical and potentially-critical sites, the San Joaquin system is evaluated by our levee inspectors during routine inspections. As a result, the LMA's in Table 4-3 do not delineate between critical and potentially-critical sites. Table 4-3 shows those locations where deficiencies exist and various improvements are needed. This table is based on the fall 2005 inspections. These deficiencies are shown in Figure 4.2.

4.1.2 Status of Reclamation and Levee Districts not Meeting Maintenance Standards

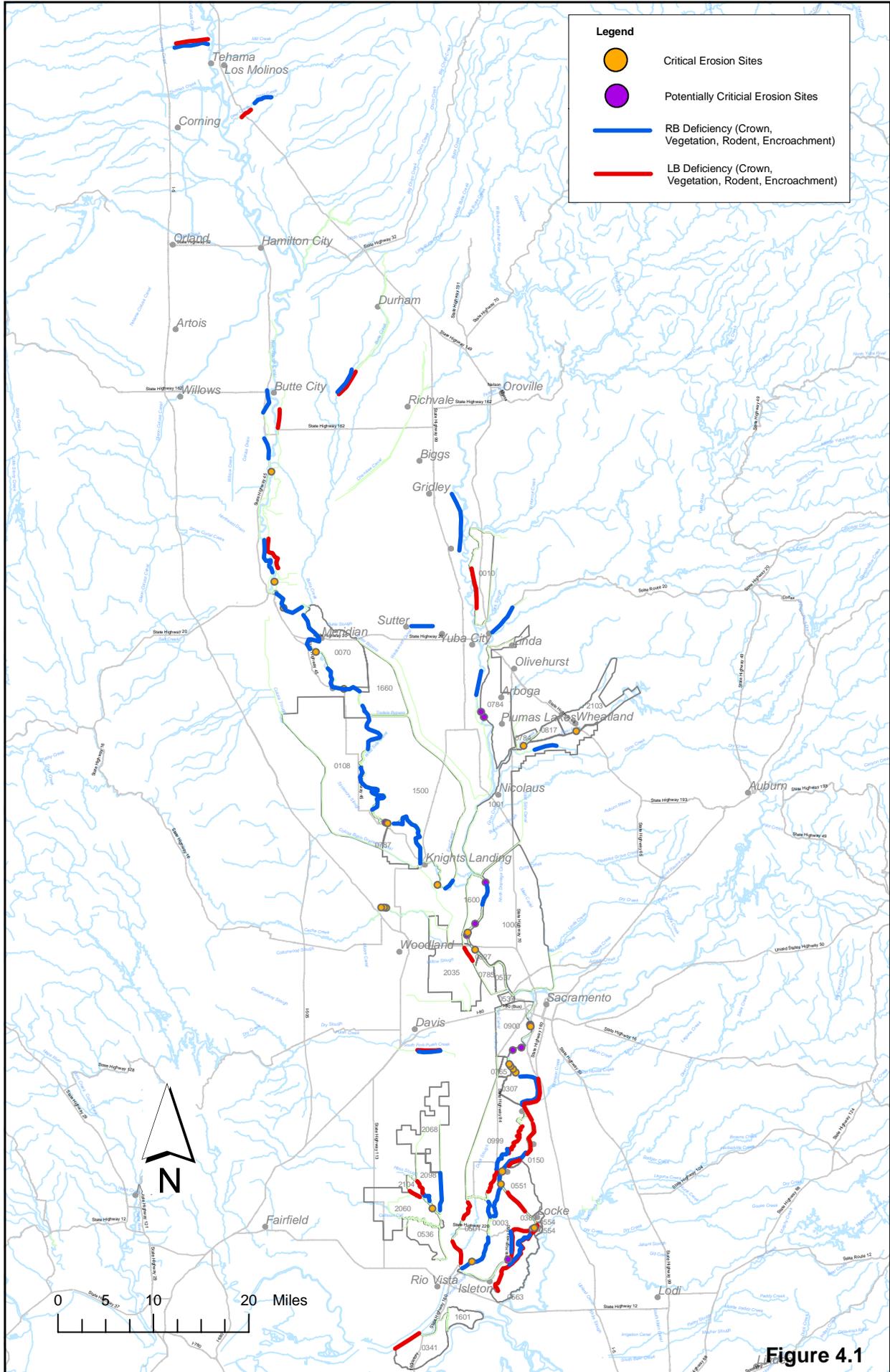
The Flood Project Integrity Section reviewed the 2005 fall levee inspections logs and ranked potential candidate districts for Maintenance Area formation based on using erosion as the primary consideration. Each district was also evaluated on historical overall ratings and critical areas including active subsidence, levee geometry, vegetation and levee crown condition. The potential list of areas for Maintenance Area formation is given in Table 4-4. The recommendation is to monitor these areas, and to meet with these districts to discuss compliance achievement.

4.1.3 Damage from December 2005 Storms

December 2005 marked the fourth wettest December in record accumulating a total of 26" of precipitation - 310% compared to average. Peak stages for areas within the Central Valley and Delta regions approached 1997 high water marks and caused levee breaches at five locations. The breaches occurred at Van Sickle Island, Simmons-Wheeler, Cosumnes River, Petaluma River and Fay Island. DWR responded to over 60 reported high water incidents and California Department of Forestry (CDF) and California Conservation Corps (CCC) crews were deployed to aid in the flood event. On December 27, 2005 the State Flood Operations Center (FOC) operated extended hours to increase flood information processing and to facilitate flood fight efforts. By December 29, 2005 the FOC was staffed 24-hours a day and DWR levee inspectors patrolled daily at high priority locations. The late December early January high water event resulted in about \$5.5 million dollars in labor, materials, and damage repair expenses.

Once the high water began receding, DWR levee inspectors began post-flood inspections to assess the storm related damage to the levee infrastructure. Roughly 38 Field Investigation Reports were completed for each high water incident as well as other problem areas that were discovered during the post-flood inspections. USACE PL 84-99 levee rehabilitation assistance requests are being collected from local agencies that experienced damage from the high water event. Further joint Corps and DWR investigations will be conducted and qualifying damage sites will be repaired.

SACRAMENTO RIVER SYSTEM DEFICIENCIES



SAN JOAQUIN RIVER SYSTEM DEFICIENCIES

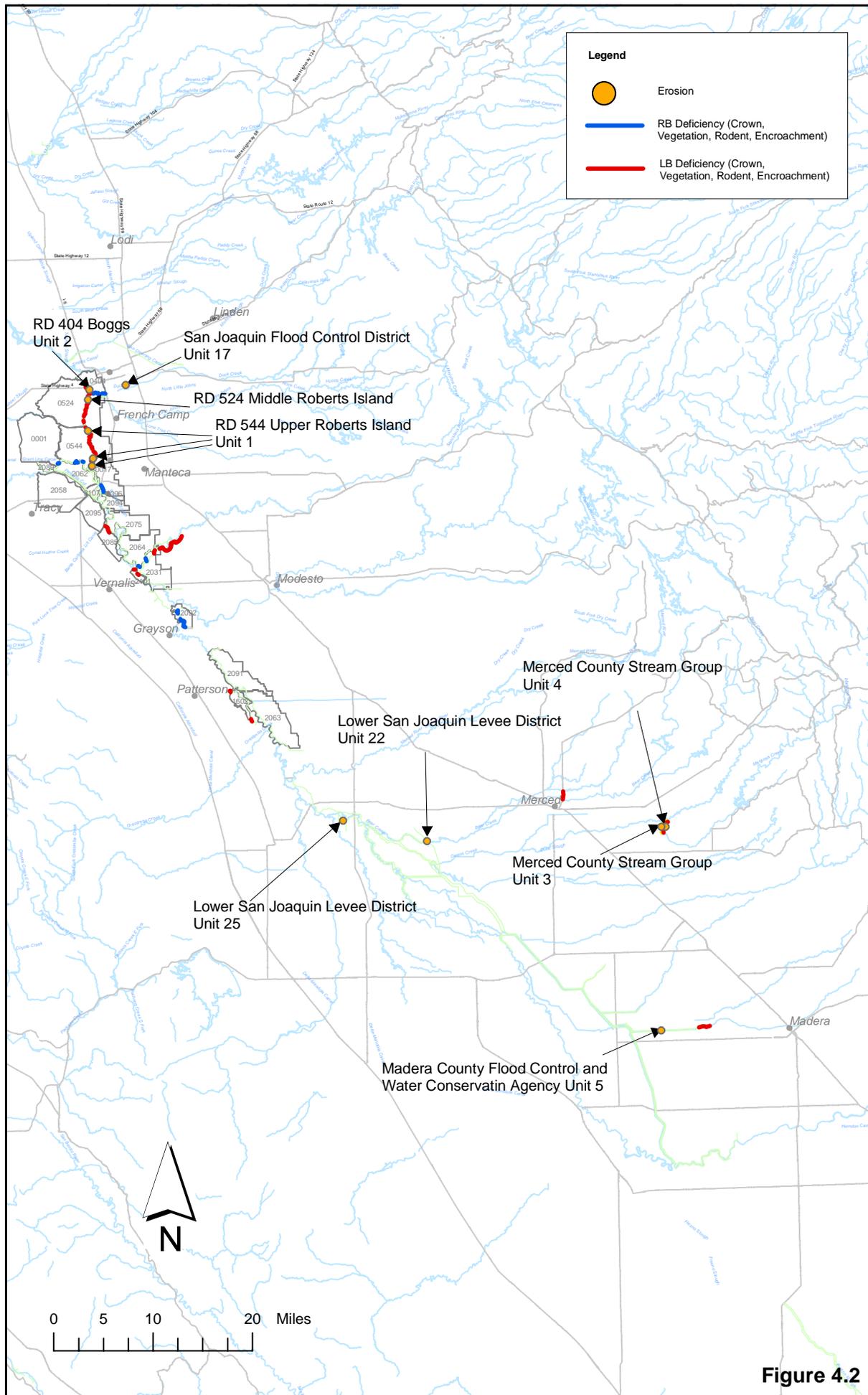


Figure 4.2

Table 4-1: Repair Status for 2004 and New 2005 Critical Erosion Sites (Sacramento River Basin)

River	River Mile	Bank	Est. Length (m)	Est. Length (ft)	Design Length (ft)*	Local Agency	Critical Site in 2004?	Critical Site in 2005?	2005 Status	Repair Year	If repaired by whom
Bear	2.4	Left	152	499		RD 1001	Y	Y		No Repair Date	
Bear	10.1	Right	213	699		RD 2103	Y	Y		No Repair Date	
Cache Creek	LM 3.6	Right	200	656		DWR	Y	N	Removed from critical list	No Repair Date	
Cache Creek	LM 0.8	Left	350	1148		DWR	Y	Y	In planning stage	2006	SRBPP
Cache Creek	LM 1.1	Left	525	1722		DWR	Y	Y	In planning stage	2006	SRBPP
Cache Creek	LM 2.4	Left	570	1870		DWR	Y	Y	In planning stage	2006	SRBPP
Cache Slough	21.8	Right	485	1591		RD 2060	Y	Y		No Repair Date	
Steamboat Sl.	16.2	Right	30	98		RD 501	N	Y	New 2005 Site	No Repair Date	
Lower American	4.2	Left	unknown	unknown		ARFCD	Y	N	Repaired in 2005	2005	ARFCD
Lower American	10.0	Left	unknown	unknown		ARFCD	Y	N	Repaired in 2005	2005	SAFCA
Sacramento	26.9	Left	85	279		RD 554	Y	Y	Bank cleared of veg, no repair	No Repair Date	
Sacramento	32.5	Right	565	1854		RD 349	Y	Y		No Repair Date	
Sacramento	34.5	Right	130	427		RD 150	Y	Y	Only upstream end repaired	No Repair Date	
Sacramento	43.3	Right	325	1066		RD 307	Y	N	New riprap repair -2005	2005	RD 307
Sacramento	49.6	Left	50	164	298	MA 9	Y	Y	In design stage	2006	SRBPP
Sacramento	49.9	Left	10	33	268	MA 9	Y	Y	In design stage	2006	SRBPP
Sacramento	50.2	Left	200	656	1473	MA 9	Y	Y	In design stage	2006	SRBPP
Sacramento	50.4	Left	12	39	329	MA 9	Y	Y	In design stage	2006	SRBPP
Sacramento	50.8	Left	1000	3281		MA 9	Y	N	Removed from critical list	No Repair Date	
Sacramento	52.4	Left	12	39		MA 9	Y	N	Repaired in 2004	2004	DWR
Sacramento	56.7	Left	510	1673		City of Sac.	Y	Y	Phase I complete 2005, II - 2006 contract in place.	2005 & 2006	SRBPP
Sacramento	60.0	Left	230	755		City of Sac.	Y	N	Repaired in 2005	2005	SAFCA
Sacramento	69.9	Right	610	2001		RD 827	Y	Y		No Repair Date	
Sacramento	72.2	Right	415	1362		RD 1600	Y	Y		No Repair Date	
Sacramento	85.6	Right	130	427		RD 730	Y	Y		No Repair Date	
Sacramento	99.3	Right	30	98		RD 108	N	Y	New 2005 Site	No Repair Date	
Sacramento	123.5	Left	100	328		RD 70	Y	Y		No Repair Date	
Sacramento	125.8	Left	50	164		RD 70	Y	N	Repaired	2005	Local
Sacramento	130.0	Left	170	558		RD 70	Y	N	New riprap repair -2005	2005	Local
Sacramento	130.8	Right	60	197		Westside LD	Y	Y		No Repair Date	
Sacramento	141.4	Right	610	2001		Westside LD	Y	Y		No Repair Date	
Sacramento	145.9	Left	100	328		DWR	N	Y	New 2005 site - staked and monitored by DWR	No Repair Date	
Sacramento	154.5	Right	65	213		MA 1	Y	N	Repaired in 2005	2005	DWR
Sacramento	164.0	Right	150	492		MA 1	Y	Y		No Repair Date	
Critical Site Totals per Year							31	24			

* Note: All erosion lengths taken from 2005 Ayres report. Design lengths for RM 49.6L through 50.4L from most recent Corps designs for repair

Repaired Not repaired but no longer critical

Table 4-2: Repair Status for 2004 and New 2005 Potentially Critical Erosion Sites (Sacramento River Basin)

River	River Mile	Bank	Est. Length (m)	Est. Length (ft)	Design Length (ft) *	Local Agency	Potentially Critical Site in 2004?	Potentially Critical Site in 2005?	2005 Status	Repair Year	If repaired by whom
Feather	17.8	Left	100	330		Sutter Co. LD 1	Yes	Yes	No Repair Date		
Feather	19.7	Left	100	330		Sutter Co. LD 2	Yes	Yes	No Repair Date		
Sacramento	20.8	Left	120	394		RD 556	No	Yes	1999 Part. Repair No repair date		
Sacramento	26.5	Left	140	460		RD 554	Yes	Yes	No Repair Date		
Sacramento	51.5	Left	400	1314	888	MA 9	Yes	Yes	In design stage	2006	SRBPP
Sacramento	53.1	Left	20	66	120	MA 9	Yes	Yes	In design stage	2006	SRBPP
Sacramento	56.8	Right	225	740		RD 900	No	Yes	No Repair Date		
Sacramento	71.7	Right	170	558		RD 1600	Yes	Yes	No Repair Date		
Sacramento	73.0	Right	15	50		RD 1600	Yes	Yes	No Repair Date		
Sacramento	78.0	Left	335	1100		RD 1000	Yes	Yes	Site is staked, No Repair Date		
Sacramento	99.5	Right	310	1018		RD 108	Yes	Yes	No Repair Date		
Sacramento	78.0	Left	335	1100		RD 1000	Yes	Yes	Site is staked, No Repair Date		
Sacramento	99.5	Right	310	1018		RD 108	Yes	Yes	No Repair Date		
Feather	17.8	Left	100	330		Sutter Co. LD 1	Yes	Yes	No Repair Date		
Potentially Critical Site Totals per Year							9	11			

* Note: All erosion lengths taken from 2005 Ayres report. Design lengths for RM 51.5 L and 53.1L from most recent Corps designs for repair

Table 4-3: San Joaquin River System Deficiencies

District Number	Waterway	Overall Rating	Deficiency	Reason (based on 2005 Inspection Report)	10-yr History/Comment
Merced County Unit 3 and 4	Owens Creek Diversion	N	Unit 3: crown=I, rodent=N Unit 4: erosion=N, crown=N, rodent=N, encroachment=I	Owens Creek, Unit 3 (1.4 mi.) crown and rodent needs work. Unit 4 (1.4 mi.) problem with noncompliant erosion, rodent control, crown roadway, and improvement with encroachment.	I=9 out of last 10 years N=2005
RD 544 Unit 1	San Joaquin River	I	erosion=I, rodent=I, encroachment=I	Unit 1 (6.1 mi.) has rating of I for erosion, rodent control and encroachments.	I=2 out of last 10 years
RD 404 Unit 2	French Camp Slough	I	erosion=I, rodent=I	Unit 2 (1.8 mi.) has rating of I for erosion and rodent control.	I=4 out of last 10 years
SJFCD Unit 17	Potter Creek	I	erosion=I, crown=I, vegetation WS=I	Improvement needed for Unit 17 (0.9 mi.) vegetation, erosion, and crown and roadway.	I=4, N=2, C=4
RD 524 Middle Roberts Island	San Joaquin River	I	vegetation=I LS, encroachment=N	Improvement needed (6.3 mi.) for vegetation and noncompliant for encroachment.	I= 10 out of the last 10 years
RD 2058 Pescadero	Paradise Cut	I	vegetation=I WS, encroachment=I	Improvement needed (6.7 mi.) for vegetation and encroachment. District unable to remove encroachment and possible channel conveyance problem at Paradise Cut.	I=3, C=7
RD 2064 River Junction Unit 2	Stanislaus River	I	vegetation=I	Improvement needed for Unit 2 (6.2 mi.) vegetation.	I=5, C=5
Madera County Flood Control and Water Conservation Agency Unit 5	Fresno River	I	erosion=I	Improvement needed for Unit 5 (9.2 mi.) erosion.	Cracks and erosion problems for the last 2 years
San Joaquin County Flood Control District Unit 15 and Unit 16	Mormon Slough	I	Unit 15: crown=I, rodent=I, encroachment=I Unit 16: crown=I, rodent=I, encroachment=I	Improvement needed for Unit 15 and Unit 16 for crown, rodent, and encroachment.	I=4, N=2, C=4
Lower San Joaquin Levee District Unit 22 and Unit 25	East Side Canal (Unit 22) Salt Slough (Unit 25)	I	Unit 22: erosion=I, encroachment=I Unit 25: erosion=N	Improvement needed for Unit 22 (5.5 mi.) for erosion and encroachment. Noncompliant for Unit 25 (2.5mi.) for erosion.	Erosion problems for the last 2 years

Rating legend: C = Compliant , I = Improvement Needed , N = Non-Compliant

Table 4-4: Potential List of Areas to Form Maintenance Areas

District Number	Waterway	Overall Rating	Reason (based on 2005 Inspection Report)	Comment
RD 501	Sacramento River (Steamboat, Cache, Sutter Slough)	I	Unit 2 (3.6 mi.) has rating of N for erosion, levee crown & roadway; Units 1 and 4 overall rating = I, Unit 3 levee crown has active subsidence from LM 3.0 to 5.0. Four erosion sites.	Meet and work with district to improve, monitor Unit 2 and 3 for erosion/subsidence. Historical overall rating of C in 8 of last 10 years, but recent noncompliance.
Merced County Stream Group	Stream Group	N	Owens Creek (Unit 4) is problem with noncompliant erosion and rodent control, minimal maintenance. Has overall rating of I previous 10 years and rated N in 2005 for Units 3, 4.	Monitor Units 3 and 4. Encourage County/MID to continue and remove Owens Creek from the project (possible State Maintenance Area).
RD 150 Unit 2 and 3	Sacramento River	I	Unit 2 (8.0 mi.) has erosion and rock revetment rating=I. Unit 3 (9.6 mi.) has erosion rating = I, history of overall maintenance deficiencies.	Work with District to improve maintenance, and consider making it a State maintenance area unless resolved. Monitor Unit 2 and 3.
RD 2098 Unit 3 and 4	Cache Haas Area	I	No maintenance for years, erosion rating = I in Units 3 (1.9 mi.) and 4 (2.9 mi.).	Monitor Units 3 and 4. If maintenance does not improve then consider making it a State maintenance area.
RD 544 Unit 1	San Joaquin	I	Unit 1 (6.1 mi.) has rating of I for erosion, rodent control and encroachments, overall rating = I.	Work with District to improve, monitor Unit 1 erosion. Has overall rating of C for 8 of last 10 years.
RD 349 Unit 1 and Unit 2	Sacramento River (Unit 2)	I	Unit 2 (4.4 mi.) has rating of I for erosion.	Work with District to improve, monitor Unit 2 erosion. Has overall rating of I for 6 of last 10 years. Possible MA unless improvement.
RD 404 Unit 2	San Joaquin	I	Unit 1 (2.3 mi.) and Unit 2 (1.8 mi.) has rating of I for erosion.	Work with District to improve, monitor Units 1 & 2 erosion. Has overall rating of C for 7 of last 10 years.
RD 307	Sacramento River	I	Minimal maintenance, encroachments and erosion sites. RM 43.3 was repaired in 2005, and RM 44.7 repair scheduled for 2006.	Continue working with district to finish the work or consider forming a State Maintenance Area. Erosion rating = I and emergency readiness and encroachment control rating = N.
RD 563	Georgiana Slough	I	Erosion, vegetation and levee crown rating = I (12.4 mi.), history of deficient maintenance.	Continue working with district to improve maintenance (overall rating is improving). If the maintenance does not improve then consider making it a State maintenance area.
RD 556	Sacramento River Georgiana Slough	I	Minimal maintenance and erosion sites, C rating on erosion, rock revetment needs improvement. Non-compliant on encroachment control, levee/revetment and control of growth.	District has not done any work in the area. RD 556 is the top priority district to convert it into a State Maintenance Area, based upon overall maintenance.

Rating legend: C = Compliant , I = Improvement Needed , N = Non-Compliant

4.2 Future Needs and Directions

Several areas of improvement are underway in regard to levee inspections and levee system integrity evaluations. These include automation of inspection procedures using databases and remote computing techniques, addressing deficiencies within the flood control system, and conducting risk analyses of project levees.

4.2.1 System Automation

Current inspections and integrity evaluation activities rely heavily on manual data entry, which involves transferring of data. An automated multi-use database is envisioned to accommodate GIS, GPS locations, inspections, permits, encroachments and construction database management capabilities so that inspectors can record field inspection information directly into an electronic reporting program as needed. Each structure, pipe, drain system, encroachment, etc. would be identified by levee miles and GPS coordinates, have photos, specific items requiring inspections, as well as an area for comments and a rating. The intent is to allow inspectors and engineers remote access to the program so that they can make field changes to the levee log, record inspection observations, identify unauthorized encroachments, and review specific items requiring inspection. When inspections are completed and all data is entered, the program will have the ability to produce a list of problem areas, and print complete inspection reports. The database will automatically update changes, which simplifies the tracking system. In addition, staff will have access to the Reclamation Board permit database so that each inspector can monitor illegal encroachments, construction sites, or any other activities that may compromise the integrity of the levee system. The database could be available to both DWR and the maintaining agencies.

The automated system will standardize inspections, streamline quarterly inspection reports, and allow inspectors more time for field inspection and monitoring activities. With an automated system, quarterly report preparation would consist mainly of assembling available information instead of converting hardcopy data into electronic format.

4.2.2 Methodology to Address Deficiencies

Given the many documented deficiencies in the maintenance of the flood control system, there are several ways to address these deficiencies:

- Form State Maintenance Areas where deficiencies have repeatedly exceeded regulations
- Develop stronger enforcement abilities

- Perform levee crown and channel capacity surveys
- Gather all available geotechnical information and perform additional geotechnical field investigations and analysis where required
- Perform computer modeling, including hydraulic modeling for channel capacity evaluations and other geotechnical related modeling for levee stability evaluations

Forming State Maintenance Areas

Flood Management is considering the formation of additional State Maintenance Areas using property assessments to fund operations and maintenance expenses. Local districts are facing challenges with available funding and stricter maintenance requirements, resulting in an overall decline in maintenance activity. The State's liability exposure to substandard maintenance has been substantially increased as a result of the Paterno decision, and the State needs to become more proactive in reducing legal liability and ensuring public safety.

Develop Stronger Enforcement Abilities

The development of stronger enforcement abilities would allow the State to ensure that LMA's and private land owners adhere to the regulations set forth in the California Water Code.

Perform Levee Crown and Channel Capacity Surveys

A levee crown and channel capacity surveys program will be established to obtain existing cross-sectional topographic data. This data will be compared with levee and channel design standards, with a priority given to levees protecting urban areas. Future plans include channel capacity and levee structural integrity analysis using measured cross sections and identification of areas that need improvements.

Geotechnical Evaluations

Flood Management is planning to produce a Geotechnical Scoping Report (GSR) which will include collection of available geotechnical information, assessment of data gaps and evaluation needs for geotechnical analysis. This study will identify and collect all available geologic/geotechnical information for the 1,613 miles of project levees. Exploratory drilling requirements will be evaluated for planned capital projects in the next three years. The Corps' Standard Operating Procedure for geotechnical investigations will be reviewed for compliance requirements on future levee seepage and stability investigations. The GSR will make recommendations for future geotechnical investigations. The GSR will include recommendations on how to conduct a system wide geotechnical evaluation including geographical priority areas, schedules, cost, and geotechnical techniques.

As a follow up action to this effort, a GIS database will be developed for geotechnical information. This will include assessment of GIS database standards and requirements, development of a database for 1,613 miles of

project levees, and incorporation of all currently available geotechnical information into the GIS database. This component of development will also identify anticipated geotechnical information needs, including additional information to comply with the Corps' Standard Operating Procedure for geotechnical investigations.

Perform Computer Modeling

Flood Management will be developing computer modeling and database tools to analyze hydrologic and geotechnical data, and continually develop and update these tools to incorporate levee failure methodology into flood control system assessments. Complex slope stability, settlement, and seepage evaluations will be performed to assess levee integrity. Hydraulic and geotechnical modeling programs are essential tools to evaluate the flood control system function and will serve as a guide for necessary improvements to the flood control system's internal infrastructure.

Flood Management will use the HEC-RAS model developed by the Hydrologic Engineering Center (HEC) of the U.S. Army Corps of Engineers. The purpose of the HEC-RAS model is to establish water surface profiles and determine floodplain inundation areas. It will also be used to assess overall system conveyance capacity. Excessive uncontrolled vegetation growth and changes in channel cross section geometry have a detrimental effect on channel conveyance capacity. Environmental restrictions have hindered the ability of DWR and local maintaining agencies to clear channels and ensure adequate conveyance capacity.

4.2.3 Risk Analysis

The Corps certification guidance requires that all levees requiring certification should provide risk analysis for project levees. The future flood control project integrity evaluations will include risk analysis evaluations. Completed or planned evaluations will be reported to the USACE, The Reclamation Board and local area agencies on a regular basis.

APPENDIX A – INSPECTION RATING TABLES

A.1 Description of Inspection Rating Tables

As required by USACE’s Standard O&M Manual, DWR staff inspects the Sacramento-San Joaquin River Flood Control System to verify adherence to the specified maintenance standards. As a result of each inspection, levee inspection sheets are developed for each district during the spring and fall inspections and are shared with the local levee maintaining agencies and USACE. The information gathered during these inspections is then summarized by DWR’s inspectors into several tables. The tables presented in this appendix reflect the general status of maintenance of the flood control system based on subjective ratings by individual inspectors. These tables do not reflect an assessment of the structural integrity of the levees or their foundations.

To find the rating of a specific district in this report the reader must know the district number and which waterway borders the district. Once the reader has this information, details of the ratings may be found in the appropriate Table. To understand the basis for the reported ratings, refer to the rating criteria in Section 2.3.

To determine the district number and along which waterway the district lies, refer to Plates 1 and 1A and locate the district. However, it may take careful observation to find the district in this manner. There is no relationship between the district numbers and their locations because districts are numbered sequentially when officially chartered by the legislature (district numbers are established by order of the date of the legislative act). Another way is to use Tables A-4, A-5 and A-6 (Summary of Overall Maintenance Ratings), which are listed by waterway group, and scan the lists to determine along which waterway the district lies. There are three major waterway listings; Sacramento River, San Joaquin River and Miscellaneous Streams.

Table A-1

Table A-1 summarizes new levee construction or rehabilitation that has occurred in 2005. The construction and rehabilitation work reported in this table reflect those projects known to the FPIIB. Details are not available at this time, but will be provided in the future. No new construction has been reported directly to the FPIIB by the Corps or any local agencies. As an emergency precaution, several areas of rock revetment have been placed as a result of the January 2006 New Years Flooding, but these areas are not reported here.

Table A-2

Table A-2 is a summary of maintenance ratings by project basin for 2005. The table shows the total project levee miles for the Sacramento River basin, San Joaquin River basin and Miscellaneous Streams basins and a break down of the percentage of levee miles within each basin that are rated compliant, improvement needed and non-compliant. The miles in Table A-2 are based on overall ratings for individual units within each district and therefore may not match with miles on Tables A-3, A-4, A-5 and A-6 (in which the miles are based on Composite Ratings of Multi-Unit Districts).

Table A-3

Table A-3 is a list of improvement needed and non-compliant areas for 2005. The list is broken into districts by project basin and includes the number of levee miles that are rated improvement needed and non-compliant. The miles in Table A-3 are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2. For an explanation of Composite Ratings of Multi-Unit Districts, see paragraph below under Tables A-7, A-8 and A-9.

Tables A-4, A-5 and A-6

Tables A-4, A-5 and A-6 include a summary of overall maintenance ratings for the Sacramento River basin, San Joaquin River basin and Miscellaneous Streams basins, respectively. The tables list districts by their respective ratings, compliant, improvement needed and non-compliant, and include the total number and percentage of miles for each rating by district type. The miles in these tables are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2. For an explanation of Composite Ratings of Multi-Unit Districts, see paragraph below under Tables A-7, A-8 and A-9.

Tables A-7, A-8 and A-9

Tables A-7, A-8 and A-9 include the ten-year levee maintenance ratings for each district in the Sacramento River basin, San Joaquin River basin and miscellaneous streams basins, respectively. Some districts or maintenance areas are made up by multiple units. The ratings shown in these tables are composite maintenance ratings given for each district. In other words, not all units within the same district are rated the same. This composite rating reflects these differences and is based on the subjective opinion of the individual inspectors. Unless otherwise noted, a composite rating of compliant means that the district was rated compliant for all applicable levee criteria.

Tables A-10, A-11 and A-12

Tables A-10, A-11 and A-12 show project levee maintenance within the Sacramento River basin, San Joaquin River basin and miscellaneous streams basins, respectively. These tables show each district's compliance with federal regulations governing maintenance of flood protection works. The ratings represent a field assessment by DWR's inspection staff. The observations are from the top of the levee and describe conditions at the time of the fall inspection.

In some cases, maintenance activity may have taken place after the joint inspection; however, this is not reflected in these ratings. Any rating for an individual levee reach does not make any statement regarding the structural integrity of the flood control facility.

Table A-13

Table A-13 summarizes the information on levee subsidence and slope stability problems. The locations are provided along with the status of the problem.

Tables A-14, A-15 and A-16

Tables A-14, A-15 and A-16 summarize the condition of flood control project structures for the Sacramento River basin, San Joaquin River basin and miscellaneous streams basins, respectively. These ratings are based on the information provided in the October 2005 Structures Inspection Report.

Tables A-17, A-18 and A-19

Tables A-17, A-18 and A-19 summarize the status of channel clearance maintenance activities and the overall condition of flood control project channels for the Sacramento River basin, San Joaquin River basin and miscellaneous streams basins, respectively as reported by LMA. Missing information indicates that the required information was not submitted to DWR in writing by the district.

Tables A-20

Table A-20 includes a list of open unauthorized encroachments in the Sacramento River, San Joaquin River and Miscellaneous Stream Basins. The table includes the date, encroachment ID and file number, LMA, encroachment description and location, the overall maintenance rating assigned to the LMA in which the encroachment lies, critical hazard rating, a status of violation letters sent to each violator, and permit status indicating unauthorized encroachments with pending permit applications. See Section 3.1.6 for further information regarding these unauthorized encroachments.

TABLE A-1. LEVEE CONSTRUCTION - 2005

District	Project Description
RD 784 (Plumas-Arboga area)	Several levee rehabilitation and construction projects are currently underway.
West Sacramento	Ship Channel Levee strengthening.
City of Sacramento	Levee restoration on Sacramento River near Miller Park.
MA-0009	New slurry wall on Left Bank (SAFCA & USACE).

Note: The construction and rehabilitation work reported in this table reflect those projects known to the FPIIB. Details are not available at this time, but will be provided in the future. No new construction has been reported to directly to the FPIIB by the Corps or any local agencies. As an emergency precaution, several areas of rock revetment have been placed as a result of the January 2006 New Years Flooding, but these areas are not reported here.

TABLE A-2. Summary of Maintenance Ratings by Project - 2005

Levee and Bank Protection Maintenance Rating (Percentage of miles in the given waterway)

Project	Total Miles	Compliant		Improvement Needed		Non-Compliant	
		Miles	% of Total Miles	Miles	% of Total Miles	Miles	% of Total Miles
<u>Sacramento River Basin</u>							
Sacramento River And Tributaries	1077.8	985.4	91.4%	92.4	8.6%	0.0	0.0%
Subtotal:	1077.8	985.4	91.4%	92.4	8.6%	0.0	0.0%
<u>San Joaquin River Basin</u>							
Lower San Joaquin Levee District	200.9	200.9	100.0%	0.0	0.0%	0.0	0.0%
Madera County Flood Control and Water Conservation Agency	26.7	26.7	100.0%	0.0	0.0%	0.0	0.0%
Merced County Stream Group (Merced Irrigation District)	6.3	3.5	55.6%	0.0	0.0%	2.8	44.4%
San Joaquin County Flood Control District	104.5	103.6	99.1%	0.9	0.9%	0.0	0.0%
San Joaquin River and Tributaries (includes all SJR Reclamation Districts)	143.5	116.4	81.1%	27.1	18.9%	0.0	0.0%
Turlock Irrigation District Gomes Lake Spur Levee (Formerly RD 2091, Unit 2)	0.3	0.3	100.0%	0.0	0.0%	0.0	0.0%
Subtotal:	482.2	451.4	93.6%	28.0	5.8%	2.8	0.6%
<u>Miscellaneous Streams and Basins</u>							
Lake County (Sutter Maintenance Yard)	3.9	0.0	0.0%	3.9	100.0%	0.0	0.0%
Lake County Flood Control District	14.3	14.3	100.0%	0.0	0.0%	0.0	0.0%
Plumas County	3.2	3.2	100.0%	0.0	0.0%	0.0	0.0%
Subtotal:	21.4	17.5	81.8%	3.9	18.2%	0.0	0.0%
Grand Total:	1581.4	1454.3	92.0%	124.3	7.9%	2.8	0.2%

Note: Does not include 25 miles of Rock Sites in the Sacramento River Basin and 6.9 miles of possible decertification sites in the San Joaquin River Basin.

Note: The miles in this table are based on overall ratings for individual units within each district and therefore may not match with miles on Tables A-3, A-4, A-5 and A-6 (in which the miles are based on Composite Ratings of Multi-Unit Districts).

Table A-3. List of IMPROVEMENT NEEDED & NON-COMPLIANT Areas - 2005

		Miles	
Levee District		Improvement Needed	Non-Compliant
0002	Glenn County	4.9	
<i>Levee District Subtotal Miles:</i>		4.9	
Reclamation District			
0150	Merritt Landing	18.1	
0307	Lisbon	6.7	
0349	Sutter Island	12.6	
0369	Libby-McNeil	0.8	
0501	Ryer Island	20.5	
0551	Pearson District	6.8	
0554	Walnut Grove	1.2	
0556	Upper Andrus	11.2	
0563	Tyler Island	12.4	
2098	Cache Haas Area	11.0	
<i>Reclamation District Subtotal Miles:</i>		101.3	
San Joaquin River Basin			
Reclamation District			
0404	Boggs	4.1	
0524	Middle Roberts Island	6.3	
0544	Upper Roberts Island	10.3	
2058	Pescadero	6.7	
2064	River Junction	11.9	
<i>Reclamation District Subtotal Miles:</i>		39.3	
Named District			
Merced County Stream Group (Merced Irrigation District)			6.3
<i>Named District Subtotal Miles:</i>			6.3
Miscellaneous Streams Basins			
Maintenance Area			
MA-17	Sutter Maintenance Yard - Middle Creek	3.9	
<i>Maintenance Area Subtotal Miles:</i>		3.9	
TOTAL Miles for each Rating:		149.4	6.3
Grand Total for All Basins:		155.7 Miles	

Note: Total miles for each rating are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

**TABLE A-4. SUMMARY OF OVERALL MAINTENANCE RATINGS - 2005
SACRAMENTO RIVER BASIN**

LEVEE DISTRICTS

Compliant

No. 0001

No. 0001

No. 0003

No. 0009

Subtotal

Compliant Miles: 47.5

% of Total Levee

District Miles: 90.6%

Total Levee District Miles: 52.4

Improvement Needed

No. 0002

Subtotal

**Improvement
Needed Miles: 4.9**

% of Total Levee

District Miles: 9.4%

RECLAMATION DISTRICTS

Compliant

0003-Grand Island

0010-Simmerly

0070-Meridian

0108-River Farm

0341-Sherman Island

0536-Egbert Tract

0537-Lovdal

0755-Randall

0765-Glide

0784-Plumas Lake

0785-Driver

0787-Fair

0817-Carlin

0827-Elkhorn

0900-West Sacramento

0999-Holland Land

1000-Natomas

1001-Nicolaus

1500-Sutter Basin

1600-Mull

1601-Twitchell

1660-Tisdale

2035-Conway Ranch

2060-Hastings Island

2068-Yolano

2103-Wheatland

2104-Peters Pocket

Subtotal

Compliant Miles: 453.4

% of Total

Reclamation

District Miles: 81.7%

Total Reclamation District Miles: 555.0

Improvement Needed

0150-Merritt Landing

0307-Lisbon

0349-Sutter Island

0369-Libby-McNeil

0501-Ryer Island

0551-Pearson District

0554-Walnut Grove

0556-Upper Andrus

0563-Tyler Island

2098-Cache Haas Area

Subtotal

**Improvement
Needed Miles: 101.6**

% of Total

Reclamation

District Miles: 18.3%

Note: Subtotal miles are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

TABLE A-4. SUMMARY OF OVERALL MAINTENANCE RATINGS - 2005
SACRAMENTO RIVER BASIN

NAMED DISTRICTS

Compliant

American River Flood District
Brannan-Andrus Levee Maintenance District
Butte County Chico, Mud and Sandy Creeks
City of Sacramento
Eastern Honcut Creek Area
Knights Landing Ridge Drainage District
Marysville Levee District
Sacramento River West Side Levee District
Solano County
Tehama County, Deer Creek
Tehama County, Elder Creek
Yolo County
Yolo County

Subtotal

Compliant Miles: 178.0 *

% of Total

Named

District Miles: 100.0 *

Total Named District Miles: 196.3 (Includes 18.3 miles of Rock Sites; Did Not Inspect.)

* Does not include Rock Sites.

Note: Subtotal miles are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

TABLE A-4. SUMMARY OF OVERALL MAINTENANCE RATINGS - 2005
SACRAMENTO RIVER BASIN

STATE MAINTAINED

Compliant

- MA-0001 Reclamation District 2047
- MA-0003 Reclamation District 803 - 823
- MA-0004 Reclamation District 81/Washington Levee District
- MA-0005 Butte Creek
- MA-0007 Drainage District 1 and Unorganized
- MA-0009 East Levee Sacramento River
- MA-0012 Colusa Basin Drain
- MA-0013 Cherokee Canal
- MA-0016 Reclamation District 777
- Cache Creek
- East Interceptor Canal
- East Levee Sacramento River
- East Levee
- East Levee
- Fish and Game (Shea)
- Murphy Slough at M&T Ranch
- Putah Creek
- Sacramento Bypass
- Tisdale Bypass
- Wadsworth Canal
- West Interceptor Canal
- West Levee
- West Levee
- West Levee Yolo Bypass
- Willow Slough Bypass

Subtotal

Compliant Miles: 292.4 *

% of Total State

Maintained Miles: 100.0 *

Total State Maintained Miles: 299.1 (Includes 6.7 miles of Rock Sites; Did Not Inspect.)

* Does not include Rock Sites.

Note: Subtotal miles are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

**TABLE A-5. SUMMARY OF OVERALL MAINTENANCE RATINGS - 2005
SAN JOAQUIN RIVER BASIN**

LEVEE DISTRICTS

There are no levee districts in the San Joaquin River basin.

RECLAMATION DISTRICTS

Compliant

0001-Union Island
0017-Mossdale
1602-Del Puerto
2031-Elliot
2062-Stewart Tract
2063-Crows Landing
2075-McMullin
2085-Kasson
2089-Stark Grove
2091-Chase
2092-Dos Rios
2094-Walthall
2095-Paradise Junction
2096-Wetherbee Lake
2101-Blewett
2107-Mossdale Landing

**Subtotal
Compliant Miles: 104.2 ***
**% of Total
Reclamation
District Miles: 72.6% ***

Improvement Needed

0404-Boggs
0524-Middle Roberts Island
0544-Upper Roberts Island
2058-Pescadero
2064-River Junction

**Subtotal
Improvement
Needed Miles: 39.3 ***
**% of Total
Reclamation
District Miles: 27.4% ***

Total Reclamation District Miles: 150.4 (Includes 6.9 miles of possible decertification sites:
RD 2099, RD 2100, RD 2102; Did Not Inspect.)

NAMED DISTRICTS

Compliant

Lower San Joaquin Levee District
Madera County Flood Control and Water
Conservation Agency
San Joaquin County Flood Control District -
Bear Creek
San Joaquin County Flood Control District -
Littlejohn Creek
San Joaquin County Flood Control District -
Mormon Slough, Stockton Diverting Canal and
Calaveras River
Turlock Irrigation District

**Subtotal
Compliant Miles: 319.2**
**% of Total
Named District
Miles: 98.1%**

Total Named District Miles: 325.5

Non-Compliant

Merced County Stream Group (Merced
Irrigation District)

**Subtotal
Non-Compliant
Miles: 6.3**
**% of Total
Named District
Miles: 1.9%**

STATE MAINTAINED

There are no State maintained areas in the San Joaquin River basin.

* Does not include Possible Decertification Sites.

Note: Subtotal miles are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

**TABLE A-6. SUMMARY OF OVERALL MAINTENANCE RATINGS - 2005
MISCELLANEOUS STREAMS BASINS**

LEVEE DISTRICTS

There are no levee districts in the Miscellaneous Streams basins.

RECLAMATION DISTRICTS

There are no reclamation districts in the Miscellaneous Streams basins.

NAMED DISTRICTS

Compliant

Lake County Flood Control District

Plumas County

**Subtotal
Compliant Miles: 17.5
% of Total
Named
District Miles: 100.0%**

Total Named District Miles: 17.5

MAINTENANCE AREAS

Improvement Needed

MA-0017

**Subtotal
Improvement
Needed Miles: 3.9
% of Total
Maintenance
Area Miles: 100.0%**

Total Maintenance Area Miles: 3.9

Note: Subtotal miles are based on Composite Ratings of Multi-Unit Districts and therefore may not match with miles on Table A-2.

TABLE A-7. TEN-YEAR LEVEE MAINTENANCE RECORD ON SACRAMENTO RIVER BASIN, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
Levee District											
No. 0001	12.4	C	C	C	C	C	C	C	C	C	C
No. 0001	16.7	C	C	C	C	C	C	C	C	C	C
No. 0002	4.9	C	C	C	C	C	C	C	C	C	I
No. 0003	12.2	N	I	I	C	C	C	C	C	C	C
No. 0009	6.2	C	C	C	C	C	C	C	C	C	C
Maintained by State of California											
MA-0001 Reclamation District 2047	17.1	C	C	C	C	C	C	C	C	C	C
MA-0003 Reclamation District 803 - 823	5.2	C	C	C	C	C	C	C	C	C	C
MA-0004 Reclamation District 81/Washington Levee District	3.4	C	C	C	C	C	C	C	C	C	C
MA-0005 Butte Creek	33.4	C	C	C	C	C	C	C	C	C	C
MA-0007 Drainage District 1 and Unorganized	12.1	C	C	C	C	C	C	C	C	C	C
MA-0009 East Levee Sacramento River	19.6	C	C	C	C	C	C	C	C	C	C
MA-0012 Colusa Basin Drain	11.3	C	C	C	C	C	C	C	C	C	C
MA-0013 Cherokee Canal	42.0	C	C	C	C	C	C	C	C	C	C
MA-0016 Reclamation District 777	4.1	I	I	C	C	C	C	C	C	C	C
Cache Creek	25.1	C	C	C	C	C	C	C	C	C	C
East Interceptor Canal	3.0	C	C	C	C	C	C	N	N	C	C
East Levee Sacramento River	27.3	C	C	C	C	C	C	C	C	C	C
East Levee	22.1	C	C	C	C	C	C	C	C	C	C
East Levee	2.0	C	C	C	C	C	C	C	C	C	C
Fish and Game (Shea)	0.3	C	C	C	C	C	C	C	C	C	C
Murphy Slough at M&T Ranch	7.5	I	I	I	C	I	C	C	C	C	C
Putah Creek	16.3	C	C	C	C	C	C	C	C	C	C
Sacramento Bypass	3.6	C	C	C	C	C	C	C	C	C	C
Tisdale Bypass	9.0	C	C	C	C	C	C	C	C	C	C
Wadsworth Canal	9.4	C	C	C	C	C	C	C	C	C	C
West Interceptor Canal	1.8	C	C	I	C	C	C	C	C	C	C
West Levee	1.2	C	C	C	C	C	C	C	C	C	C

TABLE A-7. TEN-YEAR LEVEE MAINTENANCE RECORD ON SACRAMENTO RIVER BASIN, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
West Levee	0.5	C	C	C	I	N	N	C	C	C	C
West Levee Yolo Bypass	9.3	C	C	C	C	C	C	C	C	C	C
Willow Slough Bypass	12.5	C	C	C	C	C	C	C	C	C	C
Named District											
American River Flood District	34.2	C	C	C	C	C	C	C	C	C	C
Brannan-Andrus Levee Maintenance District	19.3	N	C	C	C	C	C	C	C	I	C *
Butte County Chico, Mud and Sandy Creeks	24.7	C	C	C	C	C	C	C	C	C	C
Butte County, Sacramento River (Rock Sites)	3.5	Did Not Inspect; Rock Sites									
Marysville Levee District	11.4	C	C	C	C	C	C	C	C	C	C
City of Sacramento	3.6	C	C	C	C	C	C	C	C	C	C
Eastern Honcut Creek Area	1.5	C	C	C	C	C	C	C	C	C	C
Glenn County (Rock Sites)	1.5	I	N	N	N	Did Not Inspect; Rock Sites					
Knights Landing Ridge Drainage District	12.6	C	C	C	C	C	C	C	C	C	C
Sacramento River West Side Levee District	50.2	C	C	C	C	C	C	C	C	C	C
Solano County	0.6	C	C	N	C	C	C	C	C	C	C
Tehama County, Deer Creek	5.6	N	I	C	C	I	C	C	C	C	C
Tehama County, Elder Creek	8.0	C	C	C	C	C	C	C	C	C	C
Tehama County, Sacramento River (Rock Sites)	13.3	I	I	I	I	Did Not Inspect; Rock Sites					
Yolo County	0.3	C	C	C	C	C	C	C	C	C	C
Yolo County	6.0	N	N	N	N	I	C	C	C	C	C
Reclamation District											
0003-Grand Island	28.6	C	C	C	C	C	C	C	C	C	C
0010-Simmerly	21.9	C	C	C	C	C	C	C	C	C	C
0070-Meridian	23.6	C	C	C	C	C	C	C	C	C	C
0108-River Farm	20.6	C	C	C	C	C	C	C	C	C	C
0150-Merritt Landing	18.1	I	I	N	N	I	I	I	I	I	I
0307-Lisbon	6.7	N	N	N	N	N	I	I	I	I	I
0341-Sherman Island	9.7	C	C	I	C	C	C	C	C	C	C
0349-Sutter Island	12.6	I	I	I	I	C	C	I	I	C	I

* Overall Integrity O.K. Was given 'I' rating for 69% of total levee miles for the District on Sacramento River. Improvements needed for adequate encroachment control and control of growth on Levee/Revetment.

TABLE A-7. TEN-YEAR LEVEE MAINTENANCE RECORD ON SACRAMENTO RIVER BASIN, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
0369-Libby-McNeil	0.8	I	I	I	N	N	I	I	I	C	I
0501-Ryer Island	20.5	C	C	C	C	C	C	I	I	C	I
0536-Egbert Tract	10.7	N	N	I	I	I	C	C	C	C	C
0537-Lovdal	6.0	I	I	I	C	C	C	C	C	C	C
0551-Pearson District	6.8	I	N	N	N	N	I	I	I	I	I
0554-Walnut Grove	1.2	I	I	I	N	N	I	I	I	I	I
0556-Upper Andrus	11.2	N	N	N	N	N	N	N	N	I	I
0563-Tyler Island	12.4	N	N	N	N	I	I	I	I	I	I
0755-Randall	1.9	N	N	N	N	N	C	C	C	I	C
0765-Glide	1.7	C	C	C	C	C	C	C	C	C	C
0784-Plumas Lake	35.2	C	C	C	C	C	C	C	C	C	C
0785-Driver	5.6	I	I	I	N	I	C	C	C	C	C
0787-Fair	4.4	C	C	C	C	C	C	C	C	C	C
0817-Carlin	9.0	I	C	I	N	N	C	C	C	C	C
0827-Elkhorn	4.2	I	I	N	N	N	C	C	C	C	C
0900-West Sacramento	13.6	C	C	C	C	C	C	C	C	C	C
0999-Holland Land	32.4	C	C	C	C	C	C	C	C	C	C
1000-Natomas	42.6	C	C	C	C	C	C	C	C	C	C
1001-Nicolaus	44.0	C	C	C	C	C	C	C	C	C	C
1500-Sutter Basin	54.4	C	C	C	C	C	C	C	C	C	C
1600-Mull	14.7	N	N	N	N	I	C	C	C	C	C
1601-Twitchell	2.5	C	C	C	C	C	C	C	C	C	C
1660-Tisdale	12.1	C	C	C	C	C	C	C	C	C	C
2035-Conway Ranch	12.1	C	C	C	C	C	C	C	C	C	C
2060-Hastings Island	16.0	C	C	C	C	C	C	C	C	C	C
2068-Yolano	8.7	C	C	C	C	C	C	C	C	C	C
2098-Cache Haas Area	11.3	I	I	I	I	I	I	I	I	I	I
2103-Wheatland	9.8	I	C	C	C	C	C	C	C	C	C
2104-Peters Pocket	7.4	I	I	I	C	I	I	C	I	C	C

TABLE A-8. TEN-YEAR LEVEE MAINTENANCE RECORD ON SAN JOAQUIN RIVER BASIN, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
Named District											
Lower San Joaquin Levee District	200.9	C	C	C	C	C	C	C	C	C	C
Madera County Flood Control and Water Conservation Agency	26.7	C	C	C	C	C	C	C	C	C	C
Merced County Stream Group (Merced Irrigation District)	6.3	I	I	I	I	I	I	I	I	I	N
San Joaquin County Flood Control District - Bear Creek	33.3	C	C	C	C	C	C	C	C	C	C
San Joaquin County Flood Control District - Littlejohn Creek	6.4	C	C	C	C	C	C	C	C	C	C
San Joaquin County Flood Control District - Mormon Slough, Stockton Diverting Canal and Calaveras River	51.6	I	I	I	N	N	I	C	C	C	C
Turlock Irrigation District	0.3	-	-	-	-	-	C	C	C	C	C
Reclamation District											
0001-Union Island	1.2	C	C	C	C	C	C	C	C	C	C
0017-Mosssdale	16.2	C	C	C	C	C	C	C	C	C	C
0404-Boggs	4.1	C	C	C	I	I	I	C	C	C	I
0524-Middle Roberts Island	6.3	I	I	I	I	I	I	I	I	I	I
0544-Upper Roberts Island	10.3	I	C	C	C	C	C	C	C	C	I
1602-Del Puerto	6.3	C	I	C	N	I	I	I	I	C	C
2031-Elliot	13.2	C	C	C	C	C	C	C	C	C	C
2058-Pescadero	6.7	I	C	C	C	C	C	C	C	I	I
2062-Stewart Tract	12.3	C	C	C	C	C	C	C	C	C	C
2063-Crows Landing	10.6	C	I	I	N	C	C	C	C	C	C
2064-River Junction	11.9	I	I	I	I	C	C	C	C	C	I
2075-McMullin	7.5	C	C	C	I	C	C	C	C	C	C
2085-Kasson	6.2	C	C	C	C	C	C	C	C	C	C
2089-Stark Grove	2.9	C	C	C	C	C	C	C	C	C	C
2091-Chase	7.9	C	C	C	C	C	C	C	C	C	C
2092-Dos Rios	3.8	C	C	C	C	C	C	C	C	C	C
2094-Walthall	3.3	C	C	C	C	C	C	C	C	C	C
2095-Paradise Junction	4.9	I	C	C	C	C	C	C	C	C	C

TABLE A-8. TEN-YEAR LEVEE MAINTENANCE RECORD ON SAN JOAQUIN RIVER BASIN, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
2096-Wetherbee Lake	0.2	C	C	C	C	C	C	C	C	C	C
2099 El Soya Ranch	2.4	Did Not Inspect; Possible Decertification.									
2100 White Lake Ranch	2.7	Did Not Inspect; Possible Decertification.									
2101-Blewett	3.5	I	C	C	C	I	I	C	C	C	C
2102-Lara Ranch	1.8	Did Not Inspect; Possible Decertification.									
2107-Mosssdale Landing	4.2	I	C	C	C	C	C	C	C	C	C

TABLE A-9. TEN-YEAR LEVEE MAINTENANCE RECORD ON MISCELLANEOUS STREAMS BASINS, 1996-2005
Overall Maintenance Ratings, By Year (Composite Ratings of Multi-Unit Districts)

Maintaining Agency	Miles	96	97	98	99	00	01	02	03	04	05
Maintenance Area											
MA-0017	3.9	-	-	-	-	-	C	I	I	I	I
Named District											
Lake County Flood Control District	14.3	C	C	C	C	C	C	C	C	C	C
Plumas County	3.2	C	C	C	C	C	C	C	C	C	C

TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Retement	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Retement	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program	
Levee District																
No. 0001																
Glenn County, Sacramento River	140	X	12.4	C	C	I	I C	I C	C C	C C	C C	C	-	C	C	
Sutter County, Feather River	144	X	16.7	C	C	C	C C	C C	C C	C C	C C	C	-	C	C	
No. 0002																
Glenn County, Sacramento River	139	X	4.9	C	C	C	I C	I C	C C	C C	C C	C	-	C	I	
No. 0003																
Glenn County, Sacramento River	2	X	12.2	C	C	C	I C	I C	C C	C C	C C	C	-	C	C	
No. 0009																
Sutter County, Feather River	148	X	6.2	C	C	C	C C	C C	C C	C C	C C	C	-	C	C	
Reclamation District																
No. 0003																
Unit 1, Steamboat Slough	104	X	11.0	C	C	C	C C	C C	C C	C C	C C	C	-	C	C	
Unit 2, Sacramento River	104	X	17.6	C	C	I	C C	C C	C C	C C	C C	C	-	C	C	
No. 0010																
Unit 1, Simmerly Slough	151	X	7.7	C	C	C	C C	C C	C C	C C	- C	C	-	C	C	
Unit 2, Feather River	151	X	11.2	C	C	C	C C	I C	C C	C C	- C	C	-	C	C	
Unit 3, Honcut Creek	151	X	3.0	C	C	C	C C	C C	C C	C C	- C	C	-	C	C	
No. 0070																
Unit 1, Sutter Bypass	133	X	8.0	C	C	C	C C	C C	C C	C C	- C	C	C	C	C	

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RS : Rock Site

TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit 2, Sacramento River No. 0108	134	X	15.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Colusa Basin Drain No. 0150	132	X	20.6	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit 1, Sutter Slough	112	X	0.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit 2, Sacramento River	112	X	8.0	C	C	I	N	N	C	I	-	I	C	-	C	I
Unit 3, Elk Slough No. 0307	112	X	9.6	C	I	I	I	I	C	I	C	C	C	-	C	I
Sacramento River No. 0341	114	X	6.7	N	C	N	I	I	I	I	-	I	C	-	I	I
Unit No. 1 Threemile Slough	101	X	3.3	C	C	C	C	C	C	C	-	C	C	C	C	C
Unit No. 2 Sacramento River No. 0349	101	X	6.4	C	C	C	I	C	C	C	C	C	C	-	C	C
Unit No. 1 Sacramento River	110	X	1.6	I	C	C	C	C	C	C	-	I	C	-	C	I
Unit No. 2 Steamboat Slough	110	X	4.4	I	C	I	C	I	C	I	-	C	C	-	C	C
Unit No. 3 Sutter Slough No. 0369	110	X	6.6	I	C	C	C	I	C	C	C	C	C	-	C	C
Sacramento River No. 0501	111	X	0.8	I	C	C	C	C	C	C	-	I	C	-	C	I
Unit No. 1 Steamboat Slough	105	X	6.8	C	C	C	I	I	C	C	-	I	C	-	I	I

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Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Retement		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Retement	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 2 Cache Slough	105	X	3.6	C	C	C	C	C	C	N	-	I	N	-	C	C
Unit No. 3 Miner Slough	105	X	7.8	C	C	C	I	I	C	C	-	I	C	-	C	C
Unit No. 4 Sutter Slough	105	X	2.3	C	C	C	I	N	C	C	-	I	C	-	C	I
No. 0536																
Unit No. 1 Lindsey Slough	106	X	5.7	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Yolo Bypass	106	X	5.0	C	C	C	C	C	C	C	C	-	C	C	C	C
No. 0537																
Unit No. 1 Sacramento River	9/116	X	4.8	C	C	C	C	C	C	C	-	C	C	-	C	C
Unit No. 2 Yolo Bypass	116	X	1.2	C	C	C	C	C	C	C	-	C	C	-	C	C
No. 0551																
Sacramento River	111	X	6.8	C	I	I	I	I	C	C	-	C	C	-	C	I
No. 0554																
Sacramento River	111	X	1.2	C	C	C	C	I	C	C	-	I	C	-	C	I
No. 0556																
Unit No. 1 Georgiana Slough	103	X	5.5	C	C	N	N	N	C	C	C	I	I	-	C	I
Unit No. 2 Sacramento River	103	X	5.7	C	C	N	N	N	I	C	-	I	C	-	C	I
No. 0563																
Georgiana Slough (Tyler Island)	103	X	12.4	C	C	I	I	I	C	I	C	C	C	-	C	I
No. 0755																
Sacramento River	111	X	1.9	C	C	C	I	I	C	C	-	C	C	-	C	C

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM Levee/Revetment	SM	RS	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
No. 0765																	
Sacramento River	114	X	1.7	C	C	C	C	C	C	C	C	-	C	C	-	C	C
No. 0784																	
Unit No. 1 Yuba River	149	X	2.2	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Feather River	145	X	13.6	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 3 Bear River	5	X	4.7	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 4 Interceptor Canal	145	X	6.3	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 5 Interceptor Canal	145	X	4.2	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 6 South Dry Creek	145	X	0.3	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 7 Yuba River	149	X	3.9	C	C	C	C	C	C	C	C	C	-	C	-	C	C
No. 0785																	
Unit No. 1 Sacramento River	122	X	2.3	C	C	C	C	C	C	C	C	-	C	C	-	C	C
Unit No. 2 Yolo Bypass	122	X	3.3	C	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 0787																	
Colusa Basin Drain	132	X	4.4	C	C	C	C	C	C	C	C	-	-	C	-	C	C
No. 0817																	
Unit No. 1 South Dry Creek	146	X	3.8	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Bear River	146	X	3.9	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 3 Dry Creek	146	X	1.3	C	C	C	C	C	C	C	C	C	-	C	-	C	C

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program	
No. 0827																
Unit No. 1 Sacramento River	122	X	1.4	C	C	C	C C	C	C	I	C	C	-	C	C	
Unit No. 2 Yolo Bypass	122	X	2.8	C	C	C	C C	I	C	I	C	I	-	C	C	
No. 0900																
Unit No. 1 Sacramento River	116	X	7.9	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 2 Yolo Bypass	116	X	5.7	C	C	C	C C	C	C	C	C	C	-	C	C	
No. 0999																
Unit No. 1 Yolo Bypass	113	X	15.4	C	C	C	C C	C	C	C	-	C	C	C	C	
Unit No. 2 Miner Slough	113	X	2.3	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 3 Sutter Slough	113	X	3.8	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 4 Sacramento River	113	X	1.2	C	C	C	C C	C	C	-	C	C	-	C	C	
Unit No. 5 Elk Slough	113	X	9.7	C	C	C	I I	C	C	C	-	C	-	C	C	
No. 1000																
Unit No. 1 Sacramento River	124	X	18.6	C	C	C	C C	C	C	-	C	C	-	C	C	
Unit No. 2 American River	124	X	2.3	C	C	C	C C	C	C	C	-	C	-	C	C	
Unit No. 3 Natomas E Canal	124	X	17.3	C	C	C	C C	C	C	C	-	C	-	C	C	
Unit No. 4 Natomas X Canal	124	X	4.4	C	C	C	C C	C	C	C	-	C	-	C	C	
No. 1001																
Unit No. 1 Yankee Slough	141	X	4.2	C	C	I	C C	C	C	C	-	C	-	C	C	
Unit No. 2 Yankee Slough	141	X	3.7	C	C	C	C C	C	C	C	-	C	-	C	C	
Unit No. 3 Bear River	5/141	X	12.6	C	C	C	C C	C	C	C	C	C	-	C	C	

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RS : Rock Site

TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 4 Feather River	141	X	13.3	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 5 Natomas X Canal	142	X	5.4	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 6 East Side Canal	142	X	4.8	C	C	C	C	C	C	C	C	-	C	-	C	C
No. 1500																
Unit No. 1 Sacramento River	1/12	X	33.6	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Sutter Bypass	128/129	X	20.8	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 1600																
Unit No. 1 Sacramento	123	X	10.5	C	C	C	C	C	C	C	C	I	I	-	C	C
Unit No. 2 Yolo Bypass	123	X	4.2	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 1601																
Threemile Slough	102	X	2.5	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 1660																
Unit No. 1 Sacramento River	133	X	3.0	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Sutter Bypass	133	X	9.1	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 2035																
Unit No. 1 Cache Creek Settling Basin	126	X	2.0	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 2 Yolo Bypass	120/121	X	7.6	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 3 Willow Slough Bypass	120	X	2.5	C	C	C	C	C	C	C	C	-	C	-	C	C
No. 2060																
Unit No. 1 Lindsey Slough	107	X	7.2	C	C	C	C	C	C	C	C	C	C	C	C	C

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Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 2 Ulatis Creek	107	X	3.7	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 3 Cache Slough	107	X	5.1	C	C	C	C	C	C	C	C	C	C	C	C	C
No. 2068																
Unit No. 1 Yolo Bypass	109	X	5.5	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 2 Back Levee	109	X	3.2	C	C	C	C	C	C	C	C	-	C	C	C	C
No. 2098																
Unit No. 1 Yolo Bypass	109	X	3.9	C	C	C	I	I	C	C	I	C	C	C	C	I
Unit No. 1A Cross Levee	109	X	0.6	C	C	C	I	I	C	C	C	C	C	C	C	C
Unit No. 2 Cache Slough	109	X	2.0	C	C	C	C	C	C	C	C	C	C	I	C	C
Unit No. 3 Haas Slough	109	X	1.9	C	C	C	C	C	C	I	C	C	I	I	C	C
Unit No. 4 Back Levee	109	X	2.9	C	C	C	I	C	C	I	I	C	I	C	C	I
No. 2103																
Unit No. 1 South Dry Creek	146	X	4.8	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 2 Bear River	146	X	5.0	C	C	C	C	C	C	I	C	C	C	C	C	C
No. 2104																
Unit No. 1 Cache Slough	108	X	2.6	C	C	C	I	C	C	C	C	C	N	C	C	C
Unit No. 2 Haas Slough	108	X	4.8	C	C	C	C	C	C	C	C	C	C	C	C	C
Named District																
American River Flood Control District																
Unit No. 1 Arcade Creek	118	X	2.1	C	C	C	C	C	C	C	C	C	C	-	C	C

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RS : Rock Site

TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program	
Unit No. 10 American River	a	X	4.0	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 2 Natomas E Canal	118	X	4.0	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 3A American River	118	X	1.9	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 3B American River	118	X	1.6	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 4 American River	118	X	11.0	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 5 Sacramento River	118	X	0.4	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 6 Linda Creek	118	X	1.3	C	C	C	C C	C	C	C	C	C	C	C	C	
Unit No. 7 Arcade Creek	118	X	1.9	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 8 Magpie Creek Diversion	118	X	1.5	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 9 American River	a	X	4.5	C	C	C	C C	C	C	C	C	C	-	C	C	
Brannan-Andrus Levee Maintenance District																
Unit No. 1 Georgiana Slough	103	X	6.0	C	C	C	C C	C	C	C	C	C	C	C	C	
Unit No. 2 Sacramento River	11/102	X	13.3	C	C	I	I I	C	C	C	C	C	C	C	I	
Butte County																
Unit No. 1 Mud Creek	a	X	7.3	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 10 Sacramento River (RS)	a	X	0.3	Did Not Inspect; Rock Site												
Unit No. 11 Sacramento River (RS)	a	X	0.4	Did Not Inspect; Rock Site												
Unit No. 12 Sacramento River (RS)	a	X	0.8	Did Not Inspect; Rock Site												
Unit No. 2 Mud Creek	a	X	8.2	C	C	C	C C	C	C	C	C	C	-	C	C	
Unit No. 2A Channel Slough	a	X	0.3	C	C	C	C C	C	C	-	-	C	-	C	C	

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank	Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment	SM	SL	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 3 Sycamore and Sheep Hollow Creeks	a	X	X	4.2	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 4 Sycamore and Dry Creeks	a	X	X	2.9	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 5 Big Chico Diversion	a		X	1.8	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 6 Sacramento River (RS)	a		X	0.4	Did Not Inspect; Rock Site													
Unit No. 7 Sacramento River (RS)	a		X	0.3	Did Not Inspect; Rock Site													
Unit No. 8 Sacramento River (RS)	a		X	0.8	Did Not Inspect; Rock Site													
Unit No. 9 Sacramento River (RS)	a		X	0.5	Did Not Inspect; Rock Site													
City of Sacramento																		
City of Sacramento	117/118		X	3.6	C	C	C	C	C	C	C	C	C	C	C	-	C	C
Eastern Honcut Creek Area																		
Van Tress	151		X	1.5	C	C	C	C	C	C	C	C	-	-	C	C	C	C
Glenn County																		
Unit No. 1 Sacramento River (RS)	a		X	1.3	Did Not Inspect; Rock Site													
Unit No. 2 Sacramento River (RS)	a		X	0.1	Did Not Inspect; Rock Site													
Unit No. 3 Sacramento River (RS)	a		X	0.1	Did Not Inspect; Rock Site													
Knights Landing Ridge Drainage District																		
Unit No. 1 Knights Landing Ridge Cut	127		X	6.4	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 2 Knights Landing Ridge Cut	127		X	6.2	C	C	C	C	C	C	C	C	C	-	C	-	C	C
Marysville Levee District																		
Unit No. 1 Simmerly Slough	147		X	3.2	C	C	C	C	C	C	C	C	C	-	C	-	C	C

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 2 Feather River	147	X	1.3	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 3 Yuba River	17	X	6.9	C	C	I	C	C	C	C	C	C	C	C	C	C
Sacramento River West Side Levee District																
Sacramento River	130/131	X	50.2	C	C	C	C	C	I	C	C	C	C	-	C	C
Solano County																
Mellin Levee	119	X	0.6	C	C	C	C	C	C	C	-	-	-	-	C	C
Tehama County Flood Control District																
Unit No. 1 Deer Creek	a	X	4.1	C	I	I	C	C	C	C	C	C	I	I	C	C
Unit No. 10 Sacramento River (RS)	a	X	0.7	Did Not Inspect; Rock Site												
Unit No. 11 Sacramento River (RS)	a	X	0.5	Did Not Inspect; Rock Site												
Unit No. 12 Sacramento River (RS)	a	X	0.6	Did Not Inspect; Rock Site												
Unit No. 13 Sacramento River (RS)	a	X	0.7	Did Not Inspect; Rock Site												
Unit No. 14 Sacramento River (RS)	a	X	0.7	Did Not Inspect; Rock Site												
Unit No. 15 Sacramento River (RS)	a	X	0.1	Did Not Inspect; Rock Site												
Unit No. 16 Sacramento River (RS)	a	X	0.5	Did Not Inspect; Rock Site												
Unit No. 17 Sacramento River (RS)	a	X	0.7	Did Not Inspect; Rock Site												
Unit No. 18 Sacramento River (RS)	a	X	1.3	Did Not Inspect; Rock Site												
Unit No. 19 Sacramento River (RS)	a	X	0.3	Did Not Inspect; Rock Site												
Unit No. 2 Deer Creek	a	X	1.5	C	I	I	C	C	C	C	C	C	I	C	C	C
Unit No. 20 Sacramento River (RS)	a	X	0.1	Did Not Inspect; Rock Site												
Unit No. 21 Sacramento River (RS)	a	X	0.6	Did Not Inspect; Rock Site												

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank	Right Bank	Length In Miles	Readiness for Flood Emergency		Adequate Encroachment Control	Control of Growth on Levee/Retement		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
					Adequate Levee Section and Grade	Condition		WS	LS								
Unit No. 22 Sacramento River (RS)	a	X		0.6	Did Not Inspect; Rock Site												
Unit No. 23 Sacramento River (RS)	a	X		0.9	Did Not Inspect; Rock Site												
Unit No. 24 Sacramento River (RS)	a	X		1.2	Did Not Inspect; Rock Site												
Unit No. 3 Deer Creek Rock Sites (RS)	a	X	X	1.3	Did Not Inspect; Rock Site												
Unit No. 4 Elder Creek	a	X		4.1	C	C	I	I	I	C	C	C	C	C	-	C	C
Unit No. 5 Elder Creek	a	X		3.9	C	C	I	I	I	C	C	C	C	C	-	C	C
Unit No. 6 Sacramento River (RS)	a	X		0.5	Did Not Inspect; Rock Site												
Unit No. 7 Sacramento River (RS)	a	X		0.8	Did Not Inspect; Rock Site												
Unit No. 8 Sacramento River (RS)	a	X		1.0	Did Not Inspect; Rock Site												
Unit No. 9 Sacramento River (RS)	a	X		0.2	Did Not Inspect; Rock Site												
Yolo County																	
Cache Creek	126	X		0.3	C	I	C	C	C	C	C	C	-	C	-	C	C
Service Area No. 6 Sacramento River	7/127	X		6.0	C	C	I	C	C	C	C	C	C	C	-	C	C
Maintained by State of California																	
Cache Creek																	
Unit No. 1	126	X		11.8	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2	126	X		11.0	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 4	126	X		2.3	C	C	C	C	C	C	C	C	C	C	-	C	C
East Interceptor Canal																	
South Levee				3.0	C	C	I	N	C	C	C	C	-	C	-	C	C

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Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM	Control of Growth on LS	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
East Levee																
Sutter Bypass	135	X	22.1	C	C	C	C	C	C	C	C	C	C	-	C	C
Yolo Bypass Levee	123	X	2.0	C	C	C	C	C	C	C	C	C	C	-	C	C
East Levee Sacramento River																
Unit No. 1 Sacramento River	2/136/154	X	20.4	C	C	C	C	C	I	C	C	C	C	C	C	C
Unit No. 2 Colusa Bypass	155	X	2.3	C	C	C	C	C	C	C	C	C	C	C	-	C
Unit No. 3 Colusa Bypass	155	X	2.3	C	C	C	C	C	C	C	C	C	C	C	-	C
Unit No. 4 Moulton Bypass	154	X	0.3	C	C	C	C	C	C	C	C	C	C	C	-	C
Unit No. 5 Moulton Bypass	154	X	2.0	C	C	C	C	C	C	C	C	-	C	C	C	C
Fish and Game (Shea)																
Sacramento River	3	X	0.3	-	C	C	C	C	C	C	-	C	C	-	-	C
Murphy Slough at M&T Ranch																
Unit No. 1 Murphy Slough at M&T Ranch	a	X	0.8	C	C	C	I	I	C	C	C	C	I	C	-	C
Unit No. 10 Sacramento River (RS)	a	X	0.9	Did Not Inspect; Rock Site												
Unit No. 2 Sacramento River (RS)	a	X	0.6	Did Not Inspect; Rock Site												
Unit No. 3A Sacramento River (RS)	a	X	0.5	Did Not Inspect; Rock Site												
Unit No. 3B Sacramento River (RS)	a	X	0.5	Did Not Inspect; Rock Site												
Unit No. 3C Sacramento River (RS)	a	X	0.1	Did Not Inspect; Rock Site												
Unit No. 4 Sacramento River (RS)	a	X	0.6	Did Not Inspect; Rock Site												
Unit No. 5 Sacramento River (RS)	a	X	0.9	Did Not Inspect; Rock Site												
Unit No. 6 Sacramento River (RS)	a	X	0.5	Did Not Inspect; Rock Site												

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TABLE A-10. PROJECT LEVEE MAINTENANCE RECORD WITHIN SACRAMENTO RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 7 Sacramento River (RS)	a	X	0.8	Did Not Inspect; Rock Site												
Unit No. 8 Sacramento River (RS)	a	X	0.3	Did Not Inspect; Rock Site												
Unit No. 9 Sacramento River (RS)	a	X	1.0	Did Not Inspect; Rock Site												
Putah Creek																
Unit No. 1	119	X	9.0	C	C	C	C	C	I	C	C	C	C	-	C	C
Unit No. 2	119	X	7.3	C	C	C	C	C	I	C	C	-	C	-	C	C
Sacramento Bypass																
Unit No. 1	122	X	1.8	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2	116	X	1.8	C	C	C	C	C	C	C	C	C	C	-	C	C
Tisdale Bypass																
Unit No. 1	156/133	X	4.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2	129	X	4.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Wadsworth Canal																
Unit No. 1	135	X	4.7	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 2	135	X	4.7	C	C	C	C	C	C	C	C	-	C	C	C	C
West Interceptor Canal																
South Levee			1.8	C	C	I	C	C	C	C	C	-	C	-	C	C
West Levee																
Feather River Hamilton Bend	13	X	1.2	C	C	C	I	I	C	C	C	C	C	-	C	C
Feather River Nelson Bend	13	X	0.5	C	C	I	I	I	I	I	C	C	C	-	C	C

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District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM	Control of Growth on RS	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
West Levee Yolo Bypass																
Unit No. 1	127	X	2.7	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2	127	X	1.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 3	127	X	1.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 4	119/120	X	3.6	C	C	C	C	C	C	C	C	C	C	-	C	C
Willow Slough Bypass																
Unit No. 1	120	X	5.1	C	C	C	C	C	C	C	C	-	C	-	C	C
Unit No. 2	120	X	7.4	C	C	C	C	C	C	C	C	C	C	-	C	C
<u>Maintenance Area</u>																
MA-0001																
Sacramento River	6	X	17.1	C	C	C	C	C	I	C	C	C	C	-	C	C
MA-0003																
Feather River	143/13	X	5.2	C	C	C	C	C	C	C	C	-	C	-	C	C
MA-0004																
Sacramento River	9/116	X	3.4	C	C	C	C	C	C	C	C	C	C	-	C	C
MA-0005																
Unit No. 1 Butte Creek 1	153, c	X	15.4	C	C	N	C	C	C	C	C	C	C	C	C	C
Unit No. 2 Butte Creek 1	153, c	X	16.5	C	C	N	C	C	C	C	C	C	C	C	C	C
Unit No. 3 Little Chico Creek Diversion 1	153, c		1.5	C	-	C	C	-	-	-	-	-	C	-	-	C

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Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment	Control of Growth on Levee/Revetment	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
MA-0007																
Feather River	152	X	12.1	C	C	I	C	C	C	C	C	C	C	-	C	C
MA-0009																
Sacramento River	111/115	X	19.6	C	C	C	I	C	C	C	C	C	C	-	C	C
MA-0012																
Colusa Drain	132	X	11.3	C	C	C	C	C	C	C	C	C	C	-	C	C
MA-0013																
Unit No. 1 Cherokee Canal	a	X	18.9	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 Cherokee Canal	a	X	23.1	C	C	C	C	C	C	C	C	C	C	-	C	C
MA-0016																
Feather River	4/148	X	4.1	C	C	I	C	C	C	C	C	C	C	-	C	C

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Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program	
Reclamation District																
No. 0001																
Old River	8	X	1.2	C	C	C	C	I	C	C	C	C	-	C	C	
No. 0017																
Unit No. 1 French Camp Slough	2	X	1.8	C	C	C	C	C	C	C	C	C	-	C	C	
Unit No. 2 San Joaquin River	2	X	14.4	C	C	I	C	C	C	C	C	C	-	C	C	
No. 0404																
Unit No. 1 San Joaquin River	1	X	2.3	I	I	C	C	C	I	C	C	C	-	C	C	
Unit No. 2 French Camp Slough	1	X	1.8	I	C	C	C	C	I	I	C	C	-	C	I	
No. 0524																
San Joaquin River	7	X	6.3	C	C	N	C	I	C	C	C	C	-	C	I	
No. 0544																
Unit No. 1 San Joaquin River	7	X	6.1	C	C	I	C	C	I	I	I	C	C	-	C	I
Unit No. 2 Old River	7	X	4.2	C	C	I	C	C	C	C	C	C	-	C	C	
No. 1602																
San Joaquin River	13	X	6.3	C	C	C	C	C	I	C	C	C	C	C	C	
No. 2031																
Unit No. 1 Stanislaus River	4	X	7.2	I	C	C	C	C	C	C	C	C	I	C	C	C
Unit No. 2 San Joaquin River	4	X	6.0	I	C	C	C	C	C	C	C	C	C	C	C	C

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TABLE A-11. PROJECT LEVEE MAINTENANCE RECORD WITHIN SAN JOAQUIN RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM SL		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
No. 2058																
Paradise Cut	10	X	6.7	C	C	I	I	C	C	C	C	C	C	-	C	I
No. 2062																
Unit No. 1 San Joaquin River	9	X	2.7	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 2 Paradise Cut	9	X	4.0	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 3 Old River	9	X	5.6	C	C	C	C	C	C	C	C	C	C	C	C	C
No. 2063																
San Joaquin River	6	X	10.6	C	C	C	C	C	C	C	C	C	C	C	C	C
No. 2064																
Unit No. 1 San Joaquin River	3	X	5.7	C	C	C	I	C	C	C	I	C	C	-	C	C
Unit No. 2 Stanislaus River	3	X	6.2	C	C	I	I	I	C	C	C	C	C	-	C	I
No. 2075																
San Joaquin River	3	X	7.5	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 2085																
Unit No. 1 San Joaquin River	11	X	5.2	C	C	C	I	I	C	C	C	C	I	C	C	C
Unit No. 2 San Joaquin River	11		0.7	C	C	C	C	C	C	C	C	C	C	C	-	C
Unit No. 3 San Joaquin River	11		0.3	C	C	C	C	C	C	C	C	C	C	C	-	C
No. 2089																
Unit No. 1 Old River	8	X	1.5	C	C	C	C	C	C	C	C	C	C	-	I	C
Unit No. 2 Salmon Slough	8	X	1.4	C	C	C	C	C	C	C	C	C	C	-	C	C

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RS : Rock Site

TABLE A-11. PROJECT LEVEE MAINTENANCE RECORD WITHIN SAN JOAQUIN RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM	Control of Growth on RS	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
No. 2091																
Unit No. 1 San Joaquin River	6/6A	X	7.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 2 San Joaquin River	6A		0.3	C	C	C	C	C	C	C	C	C	C	C	-	C
No. 2092																
San Joaquin River	5	X	3.8	C	C	C	C	C	C	C	C	C	I	C	C	C
No. 2094																
Unit No. 1 San Joaquin River	3	X	2.8	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 San Joaquin River	3		0.5	C	C	C	C	C	C	-	C	C	C	-	-	C
No. 2095																
Unit No. 1 Paradise Cut	10	X	1.5	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 2 San Joaquin River	11	X	3.4	C	C	C	C	C	C	C	C	C	C	-	C	C
No. 2096																
San Joaquin River	3	X	0.2	C	C	C	C	C	C	C	C	C	C	C	C	C
No. 2099																
San Joaquin River	12	X	2.4	Did Not Inspect; Possible Decertification.												
No. 2100																
San Joaquin River	12	X	2.7	Did Not Inspect; Possible Decertification.												
No. 2101																
Unit No. 1 San Joaquin River	12	X	3.2	U	C	C	N	C	C	C	C	C	C	-	C	C
Unit No. 2 San Joaquin River	12	X	0.3	U	C	C	C	C	C	C	C	C	C	-	-	C

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TABLE A-11. PROJECT LEVEE MAINTENANCE RECORD WITHIN SAN JOAQUIN RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on Levee/Revetment		Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
No. 2102																
San Joaquin River	12	X	1.8	Did Not Inspect; Possible Decertification.												
No. 2107																
Unit No. 1 San Joaquin River	9	X	2.4	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 2 Paradise Cut	9	X	1.8	C	C	C	C	C	C	C	C	C	C	C	C	C
Named District																
Lower San Joaquin Levee District																
Unit No. 01 San Joaquin River	a	X	22.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 02A San Joaquin River	a, b	X	7.9	C	I	C	C	C	C	C	C	C	C	C	C	C
Unit No. 02B San Joaquin River	a, b	X	5.9	C	C	C	C	C	C	C	C	C	C	-	C	C
Unit No. 03 San Joaquin River	a	X	2.2	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 04 San Joaquin River	a	X	1.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 05 East Side Bypass	a	X	34.7	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 06 East Side Bypass	a	X	36.4	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 07 Bear Creek Bypass	a	X	3.6	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 08 Bear Creek Bypass	a	X	3.6	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 09 Owens Creek Bypass	a	X	0.9	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 10 Owens Creek Bypass	a	X	0.8	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 11 Mariposa Bypass	a	X	3.3	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 12 Mariposa Bypass	a	X	3.4	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 13 Ash Slough	a	X	1.3	C	C	C	C	C	C	C	C	C	C	C	C	C

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RS : Rock Site

TABLE A-11. PROJECT LEVEE MAINTENANCE RECORD WITHIN SAN JOAQUIN RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM	Control of Growth on L	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 14 Ash Slough	a	X	1.3	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 15 Berenda Slough	a	X	2.0	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 16 Berenda Slough	a	X	2.0	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 17A Chowchilla Canal Bypass	a, b	X	10.3	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 17B Chowchilla Canal Bypass (LM 2.50 to 8.35)	a, b	X	15.3	C	C	C	C	C	C	C	-	-	C	-	-	C
Unit No. 18 Chowchilla Canal Bypass	a	X	15.3	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 22 East Side Canal	a	X	5.5	C	C	I	C	C	C	I	C	-	C	C	C	C
Unit No. 23 San Joaquin River	a	X	10.2	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 24 Chowchilla Canal Bypass	a	X	8.3	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 25 Salt Slough	a	X	2.5	C	C	C	C	C	C	N	C	C	C	C	C	C
Madera County Flood Control and Water Conservation Agency																
Unit No. 1 Ash Slough	a	X	2.4	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 2 Ash Slough	a	X	2.1	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 3 Berenda Slough	a	X	1.6	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 4 Berenda Slough	a	X	2.3	C	C	C	C	C	C	C	C	-	C	C	C	C
Unit No. 5 Fresno River	a	X	9.2	C	C	C	C	C	C	I	C	C	C	C	C	C
Unit No. 6 Fresno River	a	X	9.1	C	C	C	C	C	I	C	C	C	C	C	C	C
Merced County Stream Group																
Unit No. 1 Black Rascal Diversion	a	X	1.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 2 Black Rascal Diversion	a	X	1.9	C	C	C	C	C	C	C	C	-	I	C	C	C

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RS : Rock Site

TABLE A-11. PROJECT LEVEE MAINTENANCE RECORD WITHIN SAN JOAQUIN RIVER BASIN - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM	Control of Growth on S1	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program
Unit No. 3 Owens Creek Diversion	a	X	1.4	C	I	C	C	C	N	C	I	C	I	N	C	N
Unit No. 4 Owens Creek Diversion	a	X	1.4	C	I	I	C	C	N	N	I	C	N	N	C	N
San Joaquin County Flood Control District																
Unit No. 01 Littlejohn Creek	a	X	2.9	C	I	C	C	C	C	C	C	-	C	C	C	C
Unit No. 02 Littlejohn Creek	a, d	X	3.5	C	I	C	C	C	C	C	C	C	C	C	C	C
Unit No. 06 SPRR Drain	a	X	0.5	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 07 Bear Creek	a	X	16.8	C	C	I	C	C	C	C	C	C	C	C	C	C
Unit No. 08 Bear Creek	a	X	16.5	C	C	I	C	C	C	C	C	C	C	C	C	C
Unit No. 09 Paddy Creek	a	X	1.5	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 10 Paddy Creek	a	X	1.4	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 11 North Paddy Creek	a	X	3.6	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 12 North Paddy Creek	a	X	3.9	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 13 Middle Paddy Creek	a	X	1.4	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 14 Middle Paddy Creek	a		1.4	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 15 Mormon Slough	a	X	25.6	C	C	I	C	C	I	C	C	C	I	C	C	C
Unit No. 16 Mormon Slough	a	X	23.7	C	C	I	C	C	I	C	C	C	I	C	C	C
Unit No. 17 Potter Creek		X	0.9	C	C	C	I	C	C	I	C	C	I	C	C	I
Unit No. 18 Potter Creek	a	X	0.9	C	C	C	C	C	C	C	C	C	C	C	C	C
Turlock Irrigation District																
Gomes Lake Spur Levee (Formerly RD 2091, Unit 2)	6A		0.3	C	C	C	C	C	C	C	C	C	C	C	-	C

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RS : Rock Site

TABLE A-12. PROJECT LEVEE MAINTENANCE RECORD WITHIN MISCELLANEOUS STREAMS BASINS - 2005
Compliance with Federal Regulations Governing Maintenance of Flood Protection Works

District or Area	Corps Operations and Maintenance Manual Unit Number	Left Bank Right Bank	Length In Miles	Readiness for Flood Emergency	Adequate Levee Section and Grade	Adequate Encroachment Control	Control of Growth on SM Level/Revetment	Rodent Control	Repair of Cracks, Erosion, and Caving	Repair of Gates	Condition of Rock Revetment	Condition of Crown and Roadway	Control of Livestock Pasturing	Condition of Pipes	Overall Ratings and District Maintenance Program	
Named District																
Lake County Flood Control District																
Unit No. 1A Middle Creek	a	X	4.2	C	C	C	C	C	C	C	C	C	C	C	C	C
Unit No. 1B Middle Creek	a	X	3.1	C	I	C	C	C	C	C	C	C	-	C	C	C
Unit No. 2 Middle Creek	a	X	3.1	C	C	C	C	C	C	C	C	C	-	C	C	C
Unit No. 3 Scotts Creek	a	X	1.4	C	C	C	C	C	C	C	C	C	-	C	C	C
Unit No. 4 Page, Alley, and Clover Creek Diversion	a	X	1.5	C	C	C	C	C	C	C	C	C	-	C	C	C
Unit No. 5 Clover Creek and Clover Creek Diversion	a	X	1.0	C	C	C	C	C	C	C	C	C	-	C	C	C
Plumas County																
Unit No. 1 North Fork Feather River	a	X	1.9	C	C	C	C	C	C	C	C	C	-	C	C	C
Unit No. 2 North Fork Feather River	a	X	1.3	C	C	C	C	C	C	C	C	C	-	C	C	C
Maintenance Area																
MA-0017																
Lake County Sutter Maintenance Yard - Middle Creek	a	X	3.9	C	N	C	-	-	C	C	C	-	C	C	C	I

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RS : Rock Site

TABLE A-13. Information on Levee Subsidence and Slope Stability - 2005

	Location	Status	Repair Date
RD No. 0341	Unit 2		
	Levee Mile 8.75 to 9.03 landward slope	Repaired	2002
	Levee Mile 9.03 to 9.06 levee crown	Repaired	1999
	Levee Mile 9.10 to 9.15 levee crown	Repaired	1999
RD No. 0501	Unit 3		
	Levee Mile 3.0 to 5.0 levee crown	Repaired	See Note 1.
	Levee Mile 9.24 to 9.74 levee crown	Repaired	See Note 1.
RD No. 0900	Unit 2		
	Levee Mile 4.85 to 4.87 levee crown	Repaired	1999
	Levee Mile 4.99 to 5.03 landward slope	Repaired	1999
	Levee Mile 5.13 to 5.14 landward slope	Repaired	1999
	Levee Mile 5.15 to 5.17 landward slope	Repaired	1999
RD No. 0999	Unit 1		
	Levee Mile 0.00 to 1.00 levee crown	Repaired	2004
RD No. 1601			
	Levee Mile 1.80 to 1.90 levee crown	Active	See Note 2.
	Levee Mile 0.51 to 0.58 levee crown	Repaired	1999
	Levee Mile 0.62 to 0.72 levee crown	Repaired	1999
RD No. 2035	Unit 2		
	Levee Mile 0.76 to 0.82 landward shoulder and slope	Repaired	1999
	Levee Mile 2.2 crown elevation below 6' freeboard	Unknown	See Note 3.
RD No. 2098	Unit 3		
	Levee Mile 6.35 landward slope	No Change	
	Levee Mile 6.75 to 6.77 levee crown and landward slope	No Change	
	Levee Mile 6.89 to 6.90 landward slope	No Change	
	Levee Mile 6.91 to 6.92 landward slope	No Change	
	Levee Mile 7.12 to 7.15 levee crown and landward slope	No Change	
	Levee Mile 7.48 to 7.50 water ward shoulder	Active	See Note 4.
	Levee Mile 7.55 to 7.77 levee crown and landward slope	Active	See Note 4.
Levee Mile 7.80 to 7.81 landward slope	No Change		

Active - reoccurrence at same location

Incipient - new locations of observable activity reported this year

No Change - no observable change from last year

Repaired - by U.S. Army Corps of Engineers' contract or by maintaining agency

Note 1: These sites appear to have originally been cracks in the levee crown that were paved over roughly 2 years ago. There is no evidence that these sites were ever subsiding. Further investigation is warranted.

Note 2: Per RD 999 District Manager, Caltrans will repair this site.

Note 3: Previously an Active Site. Status is currently unknown and will be assessed in 2006. Multiple surveys have been completed but are not consistent with one another.

Note 4: RD 2098 did not accept USACE repair job.

**TABLE A-14. FLOOD CONTROL PROJECT STRUCTURES - 2005
SACRAMENTO RIVER BASIN**

No.	Structure	Maintaining Agency	Stream	Rating	Remarks
1	North Fork Feather River Diversion Structure	Plumas County	North Fork Feather River	C	All drop structures are in good condition. The diversion structure was inspected by the Army Corps, Plumas Co. and DWR and found to be in good overall condition.
2	North Fork Feather River Diversion Channel Drop Structures 1 - 7	Plumas County	North Fork Feather River	C	Minimal growth exists in the channel and should be controlled.
3	Lindo Channel Diversion Weir	Butte County	Lindo Diversion	C	There are minor joint separations at both abutments and repair gauging house.
4	Lindo Channel Control Structure	Butte County	Lindo Diversion	C	There is a half inch separation between the south end bulkhead and the structure. The downstream rock and granite skirt is severely damaged.
5	Big Chico Creek Diversion Structure	Butte County	Big Chico Creek	C	Butte County tested the gate and mechanisms and found the in good working condition.
6	Little Chico Creek Control and Weir Structures	Sutter Maintenance Yard	Little Chico Creek	C	The control structure base downstream has been repaired (2005).
7	Moulton Weir	Sutter Maintenance Yard	Moulton Bypass	C	
8	Colusa Weir	Sutter Maintenance Yard	Colusa Bypass	C	
9	Tisdale Weir	Sutter Maintenance Yard	Tisdale Bypass	C	Tighten or replace north hand railing.
10	Fremont Weir	Sacramento Maintenance Yard	Yolo Bypass	C	Moderate cracks and spalling along the overall structure. Previously reported cracks at abutments have stabilized.
11	Sacramento Weir	Sacramento Maintenance Yard	Sacramento Bypass	C	Minimal cracks and spalling in structure.
12	Sutter Bypass Pumping Plant No.1	Sutter Maintenance Yard	Sutter Bypass	C	
13	Sutter Bypass Pumping Plant No.2	Sutter Maintenance Yard	Sutter Bypass Pumping Plant No. 2	C	
14	Sutter Bypass Pumping Plant No.3	Sutter Maintenance Yard	Sutter Bypass Pumping Plant No. 3	C	

**TABLE A-14. FLOOD CONTROL PROJECT STRUCTURES - 2005
SACRAMENTO RIVER BASIN**

No.	Structure	Maintaining Agency	Stream	Rating	Remarks
15	Sutter Bypass Weir No. 2	Sutter Maintenance Yard	Sutter Bypass Weir No. 2 (East Borrow Pit)	C	
16	Wadsworth Canal Weir No. 4	Sutter Maintenance Yard	Wadsworth Canal Weir No, 4	C	Good Maintenance
17	Butte Slough Outfall Structure	Sutter Maintenance Yard	Butte Slough Outfall Structure	C	
18	Butte Slough Drainage Structure	Sutter Maintenance Yard	Butte Slough Drainage Structure	C	
19	Knights Landing Outfall Structure	Sutter Maintenance Yard	Knights Landing Outfall Structure	C	Previously reported cracks and displacement have stabilized. Clear vegetation on and around log boom.
20	Nelson Bend Quarry Rock Weir	Sutter Maintenance Yard	Nelson Bend Quarry Rock Weir	C	Heavy vegetation growth has been removed along the entire length of the weir including large trees (2005).
21	Cache Creek Settling Basin Weir and Drainage Structure	Sacramento Maintenance Yard	Cache Creek Settling Basin Weir & Drainage Structure	C	Remove the accumulated debris around the drainage structure.
22	Magpie Creek Pumping Plant	City of Sacramento	Magpie Creek Pumping Plant	C	Replace flap gate.
23	American River Pumping Plant No. 1	Sacramento County (Howe Avenue Storm Drain D-05)	American River Pumping Plant No. 1	C	Remove K-Rail from the Inlet on landward side of the right bank. Outstanding maintenance.
24	American River Pumping Plant No. 2	Sacramento County (Willhaggin Storm Drain D-43)	American River Pumping Plant No. 2	C	The 3 5/8 inch deflection in the retaining wall next to the stairs has appeared to have stabilized. Outstanding maintenance.
25	Elk Slough Inlet Structure	RD 999	Elk Slough Inlet Structure	C	Monitor and remove growth around outlets as needed

**TABLE A-15. FLOOD CONTROL PROJECT STRUCTURES - 2005
SAN JOAQUIN RIVER BASIN**

No.	Structure	Maintaining Agency	Stream	Rating	Remarks
26	Mormon Slough Pumping Plant No. 1	San Joaquin County	Mormon Slough	C	Large hole on east side under the screen area has been repaired (2005).
27	Mormon Slough Pumping Plant No. 2	San Joaquin County	Mormon Slough	C	
28	Mormon Slough Pumping Plant No. 3	San Joaquin County	Mormon Slough	C	
29	Duck Creek Diversion Weir and Control Structure	San Joaquin County	Duck Creek	C	Water seeps through the weir at a joint at the left abutment. Remove trees and grass.
30	Paradise Dam	None	Paradise Cut	C	Small willow trees on the upstream side of the structure have not been removed.
31	Wetherbee Lake Pumping Plant and Navigation Gate	RD 2096	San Joaquin River	C	There is a 3/4 inch separation in the joint between left retainer wall and wing wall. Remained stable for several years.
32	Gomes Lake Pumping Plant	Turlock Irrigation District	San Joaquin River	C	Erosion and large holes in the bank between structure and top of the levee. Monitor and repair as needed.
33	RD No. 2063 Pumping Plant	RD 2063	San Joaquin River	I	The district should consider replacement or reconstruction of the pump house platform and trash racks.
34	Black Rascal Creek Drop Structure	Merced Irrigation District	Black Rascal Creek	C	Remove growth upstream of structure.
35	Owens Creek Siphon Structure	Merced Irrigation District	Owens Creek	C	Heavy weed and tule growth at the upstream and downstream ends of the structure.
36	Ash and Brenda Slough Control Structure	Madera County F.C. & W.C.A.	Ash Slough	C	Repair cable on top of structure.
37	Fresno River Diversion Weir	Madera County F.C. & W.C.A.	Fresno River	C	Debris accumulation at structure, moderate tule and willows upstream and downstream. Fair maintenance.
38	Bear Creek Diversion Structure	Lower San Joaquin Levee District	Bear Creek	C	Damage to the left bank upstream of the structure.

**TABLE A-15. FLOOD CONTROL PROJECT STRUCTURES - 2005
SAN JOAQUIN RIVER BASIN**

No.	Structure	Maintaining Agency	Stream	Rating	Remarks
39	Owens Creek Control Structure	Lower San Joaquin Levee District	Owens Creek	C	There are 2 inch cracks, 4 to 5 inch in length in the right and left bank abutments.
40	Owens Creek Overflow Structure	Lower San Joaquin Levee District	Owens Creek	C	No damage noted on structure.
41	San Joaquin River Structure and San Slough Structure	Lower San Joaquin Levee District	San Joaquin River	C	
42	Fresno River Drainage Structure	Lower San Joaquin Levee District	San Joaquin River	C	Moderate growth upstream and downstream. The control mechanism for the gate needs to be straightened but otherwise this structure is in good condition.

**TABLE A-16. FLOOD CONTROL PROJECT STRUCTURES - 2005
MISCELLANEOUS STREAMS BASINS**

No.	Structure	Maintaining Agency	Stream	Rating	Remarks
43	Ash Slough Drop Structure No. 1	Lower San Joaquin Levee District	Ash Slough Drop Structure No. 1	C	
44	Ash Slough Drop Structure No. 2	Lower San Joaquin Levee District	Ash Slough Drop Structure No. 2	C	
45	Ash Slough Drop Structure No. 3	Lower San Joaquin Levee District	Ash Slough Drop Structure No. 3	C	Sand is covering a portion of the stilling basin and velocity dissipaters.
46	Ash Slough Drop Structure No. 4	Lower San Joaquin Levee District	Ash Slough Drop Structure No. 4	C	Remove bamboo. Gauging house not functioning.
47	Mariposa Bypass Drop Structure	Lower San Joaquin Levee District	Mariposa Bypass Drop Structure	C	3 inch separation in left wing wall.
48	Mariposa Bypass Control Structure	Lower San Joaquin Levee District	Mariposa Bypass Control Structure	C	Some separation at expansion joints.
49	Eastside Bypass Drop Structure No. 1	Lower San Joaquin Levee District	Eastside Bypass Drop Structure No. 1	C	
50	Eastside Bypass Drop Structure No. 2	Lower San Joaquin Levee District	Eastside Bypass Drop Structure No. 2	C	
51	Eastside Bypass Control Structure	Lower San Joaquin Levee District	Eastside Bypass Control Structure	C	
52	Chowchilla Canal Bypass Control Structure	Lower San Joaquin Levee District	Chowchilla Canal Bypass Control Structure	C	
53	San Joaquin River Control Structure	Lower San Joaquin Levee District	San Joaquin River Control Structure	C	
54	Clover Creek Diversion Structure	Lake County Flood Control and Water Conservation District	Clover Creek Diversion Structure	I	Remove accumulated rock, dirt, boulders and gravel upstream of weir and the outlet. Remove vegetation.
55	Middle Creek Pumping Plant	Sutter Maintenance Yard	Middle Creek Pumping Plant	C	The displacements previously reported appear stable.
56	Highland Canal Diversion Weir and Drainage Structure	Lake County FCD	Middle Creek	C	Some tule growth at discharge end of structure. Displacement between both wing walls. Stable for at least 7 years.

**TABLE A-17. CHANNEL CLEARANCE AND CONDITION - 2005
SACRAMENTO RIVER BASIN**

Stream	Maintaining Agency	Brush Mechanically Cleared (acres)	Brush Hand Cleared (acres)	Brush Chemically Controlled (acres)	Sediment Removed (cubic yards)	Overall Condition	Reason for Condition
American River	DWR-S.M.Y.	0.0	0.0	0.0	0.0	C	
Arcade Creek	DWR-S.M.Y.	0.0		6.0	0.0	C	
Cache Creek	DWR-S.M.Y.	25.0		5.0	0.0	I	V
Cache Creek Settling Basin	DWR-S.M.Y.						
Knights Landing Ridge Cut	DWR-S.M.Y.	55.0		14.0			
Linda Creek	DWR-S.M.Y.						
Magpie Creek	DWR-S.M.Y.	0.0		5.0	0.0	I	V
Natomas Cross Canal	DWR-S.M.Y.	10.0		18.0	0.0	C	
Natomas East Main Drain	DWR-S.M.Y.	0.0		8.0	0.0	C	
Putah Creek	DWR-S.M.Y.	0.0		6.0	0.0		
Sacramento Bypass	DWR-S.M.Y.	0.0		62.0	0.0		
Willow Slough	DWR-S.M.Y.	0.0		4.0	0.0		
Yolo Bypass (Freemont Weir)	DWR-S.M.Y.	270.0				I	S
Bear River	DWR-S.Y.	0.0		0.0	0.0	C	
Big Chico Creek *	DWR-S.Y.	0.0		0.0	0.0	C	
Big Chico Creek (Diversion)	DWR-S.Y.	0.0		1.0	0.0	C	
Butte Creek	DWR-S.Y.	0.0	20.0	12.0	0.0	C	
Butte Slough (to Mawson Bridge)	DWR-S.Y.	90.0		0.0	0.0	C	
Cherokee Canal	DWR-S.Y.	535.0	60.0	0.0	0.0	C	
Colusa Basin Drain	DWR-S.Y.	0.0		0.0	0.0	I	V
Colusa Bypass	DWR-S.Y.	40.0		0.0		C	
Deer Creek *	DWR-S.Y. (Maintenance performed by Tehama County)	3.0		5.0	0.0	C	
Dry Creek (Bear River)	DWR-S.Y.	0.0		0.0	0.0	I	V
East and West Interceptor Canal	DWR-S.Y.	0.0	4.5	0.0	0.0	C	
Elder Creek	DWR-S.Y. (Maintenance performed by Tehama County)	1.0		7.0	0.0	C	V,S
Feather River	DWR-S.Y.	499.0	2.0	2.0	0.0	C	
Honcut Creek	DWR-S.Y.	0.0		0.0	0.0	C	
Lindo Channel *	DWR-S.Y.	0.0		0.0	0.0	I	
Little Chico Creek (See Note) *	DWR-S.Y.	0.0	7.5	4.0	0.0	C	
Mud Creek	DWR-S.Y.	0.0	45.0	0.0	0.0	C	
Sacramento River	DWR-S.Y.	112.0		0.0	0.0	C	
Sutter Bypass (Mawson Bridge-South)	DWR-S.Y.	30.0	18.0	0.0	0.0	C	
Sycamore Creek	DWR-S.Y.	85.0	0.0	0.0	0.0	C	
Tisdale Bypass	DWR-S.Y.	280.0		0.0	5.0	I	S
Wadsworth Canal	DWR-S.Y.	0.0	4.0	0.0	0.0	C	
Western Pacific Interceptor	DWR-S.Y.	0.0		0.0	0.0	I	
Yuba River	DWR-S.Y.	0.0		0.0	0.0	C	
McClure Creek *	Tehama	1.0		3.0		C	
Salt Creek *	Tehama	3.0		0.0		C	
Basin Subtotals :		2,039.0	161.0	162.0	5.0		

* Included in 2005 Project Channel Report.

Note: Per R. Duffy, Little Chico Creek no longer maintained by City of Chico, Sutter Yard maintains all of it now.

MID = Merced Irrigation District

S.M.Y. = Sacramento Maintenance Yard

V = Vegetation greater than OM manual standards causing deposition of sediment.

SJCFCD = San Joaquin County Flood Control District

S.Y. = Sutter Maintenance Yard

LSJLD = Lower San Joaquin Levee District

S=Sedimentation degrading channel capacity.

**TABLE A-18. CHANNEL CLEARANCE AND CONDITION - 2005
SAN JOAQUIN RIVER BASIN**

Stream	Maintaining Agency	Brush Mechanically Cleared (acres)	Brush Hand Cleared (acres)	Brush Chemically Controlled (acres)	Sediment Removed (cubic yards)	Overall Condition	Reason for Condition
Ash Slough *	LSJLD	0.0		0.0	0.0	C	
Berenda Slough *	LSJLD	0.0		1.0	0.0	C	
Eastside Bypass	LSJLD	0.0			0.0	C	
Mariposa Bypass	LSJLD	0.0		0.0	0.0	C	
Owens Creek *	LSJLD	0.0		0.0	0.0	C	
San Joaquin River (Chowchilla Canal Bypass to Gravelly Ford)	LSJLD	0.0		1.0	25,000.0	I	V
San Joaquin River (Merced River to Mendota Dam)	LSJLD	0.0		0.0	5,000.0	N	V
Bear Creek (Merced County) *	LSJLD	0.0		0.0	0.0	C	
Chowchilla Canal Bypass	LSJLD	0.0		7.0	18,633.0	C	
Ash Slough *	Madera County	0.0	0.0	0.0	0.0	(See Note)	
Berenda Slough *	Madera County	0.0	0.0	0.0	0.0	(See Note)	
Chowchilla River *	Madera County	0.0	0.0	0.0	0.0	(See Note)	
Fresno River *	Madera County	0.0	0.0	0.0	0.0	(See Note)	
Black Rascal Creek *	MID					I	V
Burns Creek *	MID					C	
Mariposa Creek *	MID	2.5	27.5			C	
Miles Creek *	MID	2.5				I	V
Owens Creek *	MID					I	V
Owens Creek Diversion	MID					C	
Bear Creek (Merced County) *	MID		23.3			I	V
Black Rascal Creek Diversion	MID		2.0			C	
Canal Creek	MID	16.0				C	
French Camp Slough	None						
Paradise Cut	None						
San Joaquin River (Mendota Dam to Chowchilla Canal Bypass)	None						
San Joaquin River (Merced River to Mossdale)	None						
Stanislaus River	None						
Littlejohn Creek, Unit 3*, 4*,5*	SJCFCFCD						
Mormon Slough	SJCFCFCD						
North Littlejohn Creek *	SJCFCFCD						
Paddy Creek Group	SJCFCFCD						
Bear Creek (San Joaquin County)	SJCFCFCD						
Duck Creek Diversion, Unit 5 *	SJCFCFCD						
Basin Subtotals :		21.0	52.8	9.0	48,633.0		

* Included in 2005 Project Channel Report.

Note: Madera County Flood Control reported that they were unable to perform channel clearance work due to personnel shortages.

MID = Merced Irrigation District

SJCFCFCD = San Joaquin County Flood Control District

LSJLD = Lower San Joaquin Levee District

S.M.Y. = Sacramento Maintenance Yard

S.Y. = Sutter Maintenance Yard

V = Vegetation greater than OM manual standards causing deposition of sediment.

S=Sedimentation degrading channel capacity.

**TABLE A-19. CHANNEL CLEARANCE AND CONDITION - 2005
MISCELLANEOUS STREAMS BASINS**

Stream	Maintaining Agency	Brush Mechanically Cleared (acres)	Brush Hand Cleared (acres)	Brush Chemically Controlled (acres)	Sediment Removed (cubic yards)	Overall Condition	Reason for Condition
Ash Creek *	Adin CSD	0.5	0.0	0.0	0.0	C	
Dry Creek *	Adin CSD	0.5	0.0	0.0	50.0	C	
Alonzo Drain	Fairfield-Suisun Sewer District	18.0		7.8		C	
Laurel Creek Diversion	Fairfield-Suisun Sewer District	6.2		0.0	0.0	I	
Ledgewood Creek	Fairfield-Suisun Sewer District	22.0		6.3	0.0	C	
McCoy Creek *	Fairfield-Suisun Sewer District	3.3		0.0	0.0	I	
Union Avenue Diversion *	Fairfield-Suisun Sewer District	2.3		7.2	0.0	C	
Alley Creek	Lake County FCD	0.0	0.0	0.0	0.0	C	
Clover Creek	Lake County FCD	0.0	0.0	0.0	0.0	I	
Clover Creek Diversion	Lake County FCD	0.0	0.0	0.0	0.0	I	
Middle Creek	Lake County FCD	0.0	0.0	0.0	1,616.0	C	
Page Creek	Lake County FCD	0.0	0.0	0.0	0.0	C	
Scotts Creek	Lake County FCD	0.0	0.0	0.0	0.0	C	
Truckee River *	Placer County						
Basin Subtotals :		52.8	0.0	21.2	1,666.0		
All Basins Grand Totals :		2,112.8	213.8	192.2	50,304.0		

* Included in 2005 Project Channel Report.

MID = Merced Irrigation District S.M.Y. = Sacramento Maintenance Yard V = Vegetation greater than OM manual standards causing deposition of sediment.
 SJCFC = San Joaquin County Flood Control District S.Y. = Sutter Maintenance Yard S=Sedimentation degrading channel capacity.
 LSJLD = Lower San Joaquin Levee District

TABLE A-20 - OPEN ENCROACHMENTS IN THE SACRAMENTO RIVER, SAN JOAQUIN RIVER AND MISCELLANEOUS STREAM BASINS

Date	ID	File Number	Levee Maintaining Agency	Description of Encroachment	Location (LS, WS; LB, RB RM, LM)	Overall Rating	Critical Hazard Rating	Encroachment Letters/Notices Issued					Permit Status		
								First Letter	First Letter Sent By	Second Letter*	Notice of Violation	Sent to Rec Board	Applied for Permit	Resolved	
7/10/1998	86	12	Sacramento Maintenance Yard	Miscellaneous			1	7/19/99	Department Of Water Resources					N	N
10/13/2000	327	2	Mokelumne River Designated Floodway	Buildings	RM: 16.05		1		N/A					N	N
9/20/2001	390	2	Reclamation District 3	Miscellaneous	LM: 12.02	C	1		N/A					N	N
9/25/2001	402	3	Feather River Designated Floodway	Excavation			1		N/A					N	N
9/24/2002	429	52	Sutter Maintenance Yard	Fence/ Miscellaneous	RM: 7.4, LM: 0.00-0.5		1		N/A			12/4/02		Y	N
9/4/2003	462	12	Reclamation District 784	Pipe	LM: 3.30	C	1	9/4/03	Department Of Water Resources			9/4/03	1/13/05		N
4/14/2005	493	53	Sutter Maintenance Yard	Miscellaneous			1	6/27/05	Department Of Water Resources			4/15/05		N	N
6/10/2005	495	47	American River Flood Control District	Miscellaneous	LS	C	1	6/10/05	American River Flood Control						N
7/22/1998	102	3	Merced Irrigation District	Miscellaneous		N	2	3/24/99	Department Of Water Resources					N	N
12/21/1999	162	5	Reclamation District 784	Garbage	LM: 0.2020	C	2	2/8/00	N/A					N	N
4/19/2000	211	8	Reclamation District 1000	Vegetation	WS; LM: 1.71-1.75	C	2		N/A					N	N
4/19/2000	212	9	Reclamation District 1000	Trees/ Landscaping/ Prunings	WS; LM: 1.75-1.78	C	2		N/A					N	N
4/19/2000	213	10	Reclamation District 1000	Trees/ Landscaping	WS; LM: 1.78-1.82	C	2		N/A					N	N
4/21/2000	214	11	Reclamation District 1000	Trees/ Landscaping	WS; LM: 1.86-1.88	C	2		N/A					N	N
4/24/2000	215	12	Reclamation District 1000	Landscaping	WS; LM: 1.88-1.90	C	2		N/A					N	N
4/24/2000	216	13	Reclamation District 1000	Landscaping	WS; LM: 1.90-1.93	C	2		N/A					N	N
4/24/2000	217	14	Reclamation District 1000	Trees/ Landscaping	WS; LM: 2.0-2.03	C	2		N/A					N	N
4/24/2000	218	15	Reclamation District 1000	Trees/ Landscaping	WS; LM: 2.10-2.13	C	2		N/A					N	N
5/1/2000	222	16	Reclamation District 1000	Landscaping	WS; LM: 5.31-5.37	C	2		N/A					N	N
6/14/2000	242	17	Reclamation District 1000	Landscaping	WS; LM: 5.72-5.74	C	2		N/A					N	N
6/14/2000	243	18	Reclamation District 1000	Trees/ Landscaping	WS; LM: 5.74-5.79	C	2		N/A					N	N
9/1/2000	301	6	Marysville Levee District	Abandoned Vehicles	LM: 0.5	C	2	8/30/00	Department Of Water Resources					N	N
9/1/2000	325	4	City of Chico	Fences			2	10/18/00	Department Of Water Resources					N	N
10/10/2000	334	19	Sacramento Maintenance Yard	Tree or Limb	LS; LM: 15.00		2	11/13/00	Department Of Water Resources					N	N
1/22/2001	345	10	Reclamation District 784	Debris/ Miscellaneous	LM: 3.30	C	2	1/22/01	Department Of Water Resources					N	N
9/7/2001	367	5	Tuolumne River Designated Floodway	Prunings	RM: 20.5-20.7		2	9/10/01	Department Of Water Resources					N	N
9/12/2001	404	4	Feather River Designated Floodway	Debris	LB; LM: 16		2		N/A					N	N
9/12/2001	405	5	Feather River Designated Floodway	Fences	LB; LM: 18		2		N/A					N	N
9/26/2001	407	44	Sutter Maintenance Yard	Fence/ Landscaping	LS; LM: 0.97-1.00		2		N/A					N	N
10/16/2001	415	24	Reclamation District 1000	Landscaping/ Sprinklers	WS; LM: 6.45	C	2		N/A					N	N
8/30/2000	423	7	Marysville Levee District	Equipment/ Materials	LM: 0.6	C	2	8/30/00	Department Of Water Resources						N
10/25/2002	428	25	Reclamation District 1000	Debris	LM: 9.4; 10.7	C	2	4/3/03	Department Of Water Resources	7/11/03	10/25/02	8/15/03			N
6/14/2004	481	1	Reclamation District 1660	Equipment/ Materials		C	2	6/14/04	Reclamation District 1660			7/30/04			N
8/20/1998	89	2	Merced Irrigation District	Miscellaneous		N	3		N/A					N	N
4/28/2000	221	15	Levee District 1	Buildings	LM: 2.90	C	3	5/1/00	Department Of Water Resources					N	N
12/5/2000	341	20	Sacramento Maintenance Yard	Fence/ Building/ Trees/ Tank	LS; LM: 8.52-8.82		3		N/A					N	N
10/22/1998	80	1	Lower San Joaquin Levee District	Low Water Crossing		C	4	3/30/01	Department Of Water Resources					N	N
10/22/1998	81	2	Lower San Joaquin Levee District	Low Water Crossing		C	4	3/30/01	Department Of Water Resources					N	N
7/9/1999	124	4	Merced Irrigation District	Ramp - Boat Area		N	4	5/11/00	Department Of Water Resources	5/11/00				N	N
10/10/2000	329	17	Sacramento Maintenance Yard	Fence/ Sprinklers	LS; LM: 4.28-4.30		4		N/A					N	N
10/20/2000	339	3	Lake County Flood Control	Ramp - Boat Area		C	4	10/27/00	Lake County					N	N
9/24/2001	395	37	Sutter Maintenance Yard	Fence/ Landscaping	LS; LM: 0.79-0.84		4		N/A					N	N
6/28/2001	406	5	Sacramento Designated Floodway	Miscellaneous	RM: 185.5		4		N/A					N	N
10/13/2005	496	2	Reclamation District 501	Trees/ Ramp/ Stairways	LS; LM: 4.80-5.00	I	4	11/3/05	Department Of Water Resources			10/13/05			N
6/22/1999	121	9	Lake County	Fence/ Landscaping		C	5	6/23/99	Department Of Water Resources	10/28/99				N	N
11/1/1999	143	2	Reclamation District 1000	Fences	WS; LM: 12.57	C	5	11/9/99	N/A					N	N
12/1/1999	168	14	Sacramento Maintenance Yard	Pipe	LS; LM: 6.61-6.92		5	12/10/99	Department Of Water Resources					N	N
12/30/1999	185	5	Butte County	Fences	LM: 1.26-1.29	C	5	2/4/00	Department Of Water Resources					N	N
7/5/2000	248	3	Maintenance Area 5	Fences	LS; LM: 1.40-1.38	C	5		N/A					N	N
7/6/2000	249	4	Maintenance Area 5	Fence/ Landscaping	LM: 1.36-1.38	C	5		N/A					N	N

TABLE A-20 - OPEN ENCROACHMENTS IN THE SACRAMENTO RIVER, SAN JOAQUIN RIVER AND MISCELLANEOUS STREAM BASINS

Date	ID	File Number	Levee Maintaining Agency	Description of Encroachment	Location (LS, WS; LB, RB RM, LM)	Overall Rating	Critical Hazard Rating	Encroachment Letters/Notices Issued					Permit Status	
								First Letter	First Letter Sent By	Second Letter*	Notice of Violation	Sent to Rec Board	Applied for Permit	Resolved
7/10/2000	251	5	Maintenance Area 5	Fence/ Trees	LS; LM: 1.34-1.36	C	5	N/A					N	N
7/10/2000	252	6	Maintenance Area 5	Fence/ Trees	LS; LM: 1.32-1.34	C	5	N/A					N	N
7/10/2000	253	7	Maintenance Area 5	Vegetation	LS; LM: 1.30	C	5	N/A					N	N
7/10/2000	255	8	Maintenance Area 5	Fence/ Vegetation	LS; LM: 1.28	C	5	N/A					N	N
9/1/2000	323	2	City of Chico	Fences			5	10/11/00	Department Of Water Resources	5/1/01			N	N
9/1/2000	324	3	City of Chico	Fences			5	10/11/00	Department Of Water Resources	8/7/01			N	N
10/10/2000	332	18	Sacramento Maintenance Yard	Miscellaneous	LS; LM: 3.86-3.88		5	N/A					N	N
5/7/2001	347	1	Levee District 9	Fence/Miscellaneous	WS; LM: 4.1	C	5	N/A			2/7/01		N	N
3/26/2001	358	1	Reclamation District 3	Fences	LM: 10.25	C	5	4/26/01	Department Of Water Resources				N	N
6/17/2001	362	28	Sacramento Maintenance Yard	Fence/ Building	LS; LM: 18.33		5	N/A					N	N
6/17/2001	363	29	Sacramento Maintenance Yard	Fences	LS; LM: 18.27		5	N/A					N	N
6/17/2001	369	34	Sacramento Maintenance Yard	Landscaping	LS; LB; LM: 15.78		5	N/A					N	N
6/17/2001	370	35	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 14.42		5	N/A					N	N
9/5/2001	380	45	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 11.18		5	N/A					N	N
9/20/2001	389	18	San Joaquin County Flood Control Dist	Fence/ Sprinklers/ Miscellaneous	LS, WS; LM: 22.58	C	5	N/A			7/31/01		N	N
9/24/2001	392	34	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LM: 0.36-0.69		5	N/A					N	N
9/24/2001	393	35	Sutter Maintenance Yard	Fence/ Landscaping	LS; LM: 0.69-0.74		5	N/A					N	N
9/24/2001	394	36	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LS; LM: 0.74-0.77		5	N/A					N	N
9/24/2001	397	38	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LS; LM: 0.84-0.85		5	N/A					N	N
9/25/2001	398	39	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LS; LM: 0.85-0.88		5	N/A					N	N
9/25/2001	399	40	Sutter Maintenance Yard	Fences	LS; LM: 0.88-0.90		5	N/A					N	N
9/25/2001	400	41	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LS; LM: 0.90-0.92		5	N/A					N	N
9/25/2001	401	42	Sutter Maintenance Yard	Fence/ Landscaping/ Trees	LS; LM: 0.92-0.94		5	N/A					N	N
9/26/2001	403	43	Sutter Maintenance Yard	Fence/ Trees	LS, WS; LM: 0.94-0.97		5	N/A					N	N
9/27/2001	411	48	Sutter Maintenance Yard	Fence/ Miscellaneous	LS; LM: 1.06-1.08		5	N/A					N	N
10/30/2001	416	5	City of Chico	Fences			5	N/A					N	N
3/5/2002	431	6	City of Chico	Fence/ Landscaping/ Tree/ Debris			5	3/5/02	Department Of Water Resources	7/10/02			N	N
6/22/1999	432	11	Lake County	Fences	LS	I	5	N/A				7/1/02	N	N
11/1/2004	482	7	Reclamation District 3	Fences	WS; LM: 4.50	C	5	2/9/05	Department Of Water Resources		11/1/04	4/13/05	N	N
2/17/2005	483	3	Reclamation District 551	Fences	LS; RM: 5.01	I	5	3/4/05	Department Of Water Resources	4/25/05	2/17/05	6/22/05	N	N
10/19/1999	137	21	Sutter Maintenance Yard	Tree or Limb	LS; LM: 1.5		6	11/17/99	Department Of Water Resources	11/17/99			N	N
12/29/1999	177	2	Maintenance Area 7	Tree or Limb	WS; LM: 1.50-1.68	C	6	N/A					N	N
12/29/1999	178	3	Maintenance Area 7	Tree or Limb	WS; LM: 7.00-7.38	C	6	N/A					N	N
12/29/1999	179	14	Levee District 1	Tree or Limb	LM: 2.29	C	6	4/13/00	Department Of Water Resources				N	N
1/19/2000	186	1	Reclamation District 785	Trees/ Landscaping	LS; LM: 2.07-2.31	C	6	12/1/99	Department Of Water Resources				N	N
2/29/2000	196	4	Reclamation District 10	Tree or Limb	LM: 6.65; 6.65-7.15	C	6	3/1/00	Department Of Water Resources				N	N
2/29/2000	202	10	Reclamation District 10	Trees/ Tanks	LS; LM: 1.85-1.90	C	6	3/24/00	Department Of Water Resources				N	N
4/19/2000	208	5	Reclamation District 1000	Tree or Limb	WS; LM: 0.08-0.2	C	6	N/A					N	N
4/19/2000	209	6	Reclamation District 1000	Trees/ Landscaping	WS; LM: 1.66-1.69	C	6	N/A					N	N
4/19/2000	210	7	Reclamation District 1000	Vegetation	WS; LM: 1.69-1.71	C	6	N/A					N	N
5/30/2000	230	2	Reclamation District 1600	Tree or Limb	LM: 6.92-7.56	C	6	10/3/01	Department Of Water Resources				N	N
5/30/2000	232	2	Reclamation District 1001	Tree or Limb	LM: 2.85	C	6	N/A					N	N
7/5/2000	246	1	Maintenance Area 5	Landscaping	LS; LM: 1.49	C	6	N/A					N	N

TABLE A-20 - OPEN ENCROACHMENTS IN THE SACRAMENTO RIVER, SAN JOAQUIN RIVER AND MISCELLANEOUS STREAM BASINS

Date	ID	File Number	Levee Maintaining Agency	Description of Encroachment	Location (LS, WS; LB, RB RM, LM)	Overall Rating	Critical Hazard Rating	Encroachment Letters/Notices Issued					Permit Status	
								First Letter	First Letter Sent By	Second Letter*	Notice of Violation	Sent to Rec Board	Applied for Permit	Resolved
7/5/2000	247	2	Maintenance Area 5	Landscaping	LM: 1.40-1.45	C	6	N/A					N	N
7/11/2000	257	10	Maintenance Area 5	Vegetation	LM: 1.24-1.26	C	6	N/A					N	N
7/11/2000	258	11	Maintenance Area 5	Tree/ Vegetation	LM: 1.23-1.24	C	6	N/A					N	N
9/1/2000	268	6	Reclamation District 307	Trees/ Landscaping	LS; LM: 1.62	I	6	3/19/01	Department Of Water Resources				N	N
9/1/2000	272	8	Reclamation District 307	Trees/ Landscaping/ Stairways	LS; LM: 1.96	I	6	3/19/01	Department Of Water Resources				N	N
9/1/2000	277	11	Reclamation District 307	Tree or Limb	LS; LM: 2.26	I	6	3/20/01	Department Of Water Resources				N	N
9/1/2000	284	18	Reclamation District 307	Trees/ Landscaping	LS; LM: 3.04	I	6	3/22/01	Department Of Water Resources				N	N
9/1/2000	287	20	Reclamation District 307	Fence/ Landscaping/ Trees/ Sprinklers	LS; LM: 3.24	I	6	3/23/01	Department Of Water Resources				N	N
9/1/2000	288	21	Reclamation District 307	Trees/ Landscaping/ Stairways	LS; LM: 3.31	I	6	3/27/01	Department Of Water Resources				N	N
9/1/2000	290	23	Reclamation District 307	Fence/ Landscaping/ Trees/ Sprinklers	LS; LM: 3.56	I	6	4/17/01	Department Of Water Resources				N	N
9/1/2000	291	24	Reclamation District 307	Fence/ Landscaping/ rees/ Sprinklers	LS; LM: 3.61	I	6	3/30/01	Department Of Water Resources				N	N
9/1/2000	292	25	Reclamation District 307	Trees/ Landscaping/ Sprinklers	LS; LM: 3.71	I	6	3/30/01	Department Of Water Resources				N	N
9/1/2000	293	26	Reclamation District 307	Trees/ Landscaping	LS; LM: 3.86	I	6	4/24/01	Department Of Water Resources				N	N
9/1/2000	294	27	Reclamation District 307	Trees/ Sprinklers	LS; LM: 3.92	I	6	3/30/01	Department Of Water Resources				N	N
9/1/2000	297	30	Reclamation District 307	Fence/ Trees/ Ramp	LS; LM: 4.27	I	6	4/5/01	Department Of Water Resources				N	N
9/1/2000	298	31	Reclamation District 307	Landscaping	LS; LM: 4.35	I	6	4/5/01	Department Of Water Resources				N	N
9/1/2000	299	32	Reclamation District 307	Trees/ Landscaping	LS; LM: 4.44	I	6	4/5/01	Department Of Water Resources				N	N
9/1/2000	305	35	Reclamation District 307	Trees/ Landscaping	LS; LM: 4.81	I	6	N/A					N	N
9/1/2000	306	36	Reclamation District 307	Trees/ Landscaping	LS; LM: 4.81	I	6	N/A					N	N
9/1/2000	307	37	Reclamation District 307	Fence/ Landscaping/ Trees	LS; LM: 5.03	I	6	N/A					N	N
9/1/2000	308	38	Reclamation District 307	Trees/ Landscaping	LS; LM: 5.06	I	6	N/A					N	N
9/1/2000	309	39	Reclamation District 307	Trees/ Ramp	LS; LM: 5.20	I	6	N/A					N	N
9/1/2000	311	41	Reclamation District 307	Trees/ Landscaping/ Sprinklers	LS; LM: 5.39	I	6	N/A					N	N
9/1/2000	312	42	Reclamation District 307	Trees/ Landscaping/ Stairways/ Miscelaneous	LS; LM: 5.48	I	6	N/A					N	N
9/1/2000	314	44	Reclamation District 307	Trees/ Landscaping/ Sprinklers	LS; LM: 5.60	I	6	N/A					N	N
9/1/2000	315	45	Reclamation District 307	Trees/ Landscaping/ Sprinklers	LS; LM: 5.67	I	6	N/A					N	N
9/1/2000	317	47	Reclamation District 307	Trees/ Landscaping	LS; LM: 5.84	I	6	N/A					N	N
9/1/2000	318	48	Reclamation District 307	Trees/ Stairways	LS; LM: 5.97	I	6	N/A					N	N
9/1/2000	319	49	Reclamation District 307	Landscaping	LS; LM: 6.40	I	6	N/A					N	N
9/1/2000	320	50	Reclamation District 307	Trees/ Landscaping	LS; LM: 6.51	I	6	N/A					N	N
9/1/2000	321	51	Reclamation District 307	Trees/ Landscaping	LS; LM: 6.65	I	6	N/A					N	N
3/1/2001	353	25	Sacramento Maintenance Yard	Fence/ Landscaping	LS; LM: 18.15		6	3/9/01	Department Of Water Resources				N	N
3/20/2001	357	52	Reclamation District 307	Trees/ Landscaping/ Stairways	LM: 4.50	I	6	5/4/01	Department Of Water Resources				N	N
6/15/2001	359	26	Sacramento Maintenance Yard	Trees/ Landscaping/ Prunings	LS; LM: 19.2		6	N/A					N	N
6/17/2001	364	30	Sacramento Maintenance Yard	Miscellaneous	LS; LB; LM: 17.60		6	N/A					N	N
6/17/2001	365	31	Sacramento Maintenance Yard	Fences	LS; LB; LM: 16.30		6	N/A					N	N
6/17/2001	368	33	Sacramento Maintenance Yard	Trees/ Landscaping/ Sprinklers	LS; LB; LM: 15.91		6	N/A					N	N
6/17/2001	371	36	Sacramento Maintenance Yard	Fence/ Trees	LS; LB; LM: 13.62		6	N/A					N	N
6/17/2001	372	37	Sacramento Maintenance Yard	Fence/ Landscaping/ Trees/ Stairways	LS; LB; LM: 12.92		6	N/A					N	N

TABLE A-20 - OPEN ENCROACHMENTS IN THE SACRAMENTO RIVER, SAN JOAQUIN RIVER AND MISCELLANEOUS STREAM BASINS

Date	ID	File Number	Levee Maintaining Agency	Description of Encroachment	Location (LS, WS; LB, RB RM, LM)	Overall Rating	Critical Hazard Rating	Encroachment Letters/Notices Issued					Permit Status	
								First Letter	First Letter Sent By	Second Letter*	Notice of Violation	Sent to Rec Board	Applied for Permit	Resolved
6/17/2001	374	39	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 12.00		6	N/A					N	N
6/17/2001	375	40	Sacramento Maintenance Yard	Landscaping/ Sprinklers	LS; LB; LM: 11.98		6	N/A					N	N
6/17/2001	377	42	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 11.5		6	N/A					N	N
9/4/2001	378	43	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 11.26		6	N/A					N	N
9/5/2001	381	46	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 11.87		6	N/A					N	N
9/5/2001	382	47	Sacramento Maintenance Yard	Fence/ Trees	LS; LB; LM: 11.1		6	N/A					N	N
9/5/2001	383	48	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 10.95		6	N/A					N	N
9/5/2001	385	50	Sacramento Maintenance Yard	Trees/ Landscaping/ Stairways	LS; LB; LM: 10.90		6	N/A					N	N
9/20/2001	391	3	Reclamation District 70	Tree or Limb	WS; LM: 10.73-11.65	C	6	7/17/01	Reclamation District 70				N	N
9/26/2001	409	46	Sutter Maintenance Yard	Fence/ Landscaping/ Prunings	LS; LM: 1.02-1.04		6	N/A					N	N
9/27/2001	410	47	Sutter Maintenance Yard	Trees/ Landscaping	LS; LM: 1.04-1.06		6	N/A					N	N
10/1/2001	414	51	Sutter Maintenance Yard	Trees/ Landscaping	LS; LM: 1.16-1.18		6	N/A					N	N
11/1/2001	417	53	Sacramento Maintenance Yard	Landscaping	LB; LM: 0.86		6	N/A					N	N
2/9/2000	191	2	Levee District 3	Pipe	LS; LM: 6.0	C	7	N/A					N	N
7/11/2000	259	12	Maintenance Area 5	Stairways/ Vegetaton	LS; LM: 1.21-1.23	C	7	N/A					N	N
6/4/2003	449	20	American River Flood Control District	Stairways		C	7	6/4/03	American River Flood Control		9/30/03		Y	N
10/9/2003	466	11	Reclamation District 10	Poles	LM: 0.00-0.17	C	7	3/17/04	Department Of Water Resources		10/9/03		N	N
5/30/2000	226	3	Yolo County Service Area # 6	Landscaping	LS; LM: 0.58-0.71	C	8	6/20/00	Department Of Water Resources				N	N
5/30/2000	227	4	Yolo County Service Area # 6	Landscaping/ Sprinklers	LS; LM: 1.84-1.90	C	8	6/20/00	Department Of Water Resources				N	N
7/11/2000	256	9	Maintenance Area 5	Landscaping	LM: 1.26-1.28	C	8	N/A					N	N
7/11/2000	260	13	Maintenance Area 5	Vegetation	LM: 1.19-1.21	C	8	N/A					N	N
9/1/2000	310	40	Reclamation District 307	Vegetation/ Sprinklers/ Ramp	LS; LM: 5.27	I	8	N/A					N	N
9/1/2000	313	43	Reclamation District 307	Trees/ Landscaping/ Sprinklers	LS; LM: 5.59	I	8	N/A					N	N
6/15/2001	360	27	Sacramento Maintenance Yard	Landscaping	LS; LM: 19.03		8	N/A					N	N
4/11/2001	361	3	Reclamation District 551	Landscaping	LS; LB	I	8	N/A					N	N
6/17/2001	366	32	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 16.15		8	N/A					N	N
6/17/2001	373	38	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 12.14		8	N/A					N	N
6/17/2001	376	41	Sacramento Maintenance Yard	Landscaping	LS; LB; LM: 11.69		8	N/A					N	N
9/5/2001	384	49	Sacramento Maintenance Yard	Trees/ Landscaping	LS; LB; LM: 10.90		8	N/A					N	N
9/12/2001	388	23	Reclamation District 1000	Landscaping	LS; LM: 10.90	C	8	2/22/11	N/A				N	N
9/26/2001	408	45	Sutter Maintenance Yard	Fence/ Landscaping/ Trees			8	N/A					N	N
9/27/2001	412	49	Sutter Maintenance Yard	Fence/ Landscaping	LS; LM: 1.10-1.13		8	N/A					N	N
10/1/2001	413	50	Sutter Maintenance Yard	Fence/ Landscaping	LS; LM: 1.15-1.16		8	N/A					N	N
5/3/2004	476	26	Reclamation District 1000	Landscaping	WS; LM: 7.85	C	8	5/7/05	Department Of Water Resources	8/17/05	5/3/04		N	
6/1/2004	477	27	Reclamation District 1000	Landscaping	WS; LM: 6.42	C	8	4/8/05	Department Of Water Resources	6/30/05	6/1/04		N	
6/1/2004	478	28	Reclamation District 1000	Landscaping	WS; LM: 8.05	C	8	4/8/05	Department Of Water Resources	5/26/05	6/1/04		Y	N
4/5/2000	219	1	Reclamation District 1001	Debris	LS	C	9	4/5/00	N/A				N	N
9/4/2001	285	2	Reclamation District 1602	Equipment/ Vehicles	LM: 5.02	C	9	N/A					N	N
9/20/2001	356	2	Reclamation District 2068	Garbage		C	9	2/13/01	Department Of Water Resources	4/27/01			N	N
4/1/2003	447	18	American River Flood Control District	Pipe/ Debris		C	9	4/1/03	American River Flood Control		9/30/03		Y	N
12/29/1999	175	2	Dry Creek Designated Floodway	Pipe	RM: 1.0		10	N/A					N	N
5/30/2000	231	5	West Side Levee District	Pipe	LM: 40.39		10	N/A					N	N
9/6/2001	386	51	Sacramento Maintenance Yard	Fence/ Trees	LS; LB; LM: 5.5		10	N/A					N	N

Flood Control Projects and Agencies

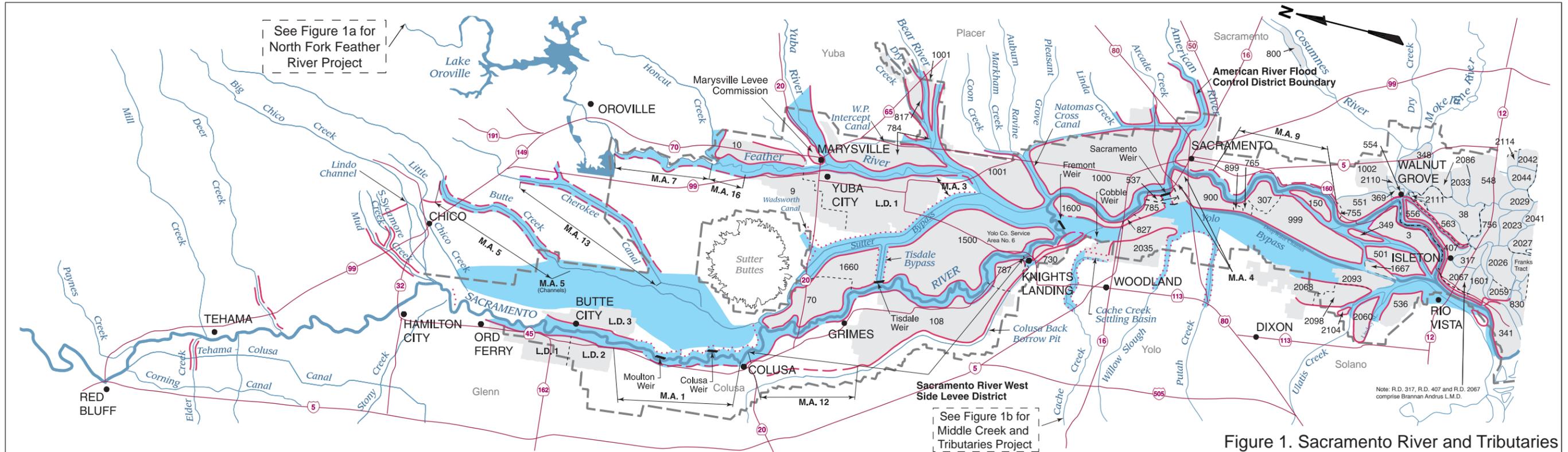


Figure 1. Sacramento River and Tributaries

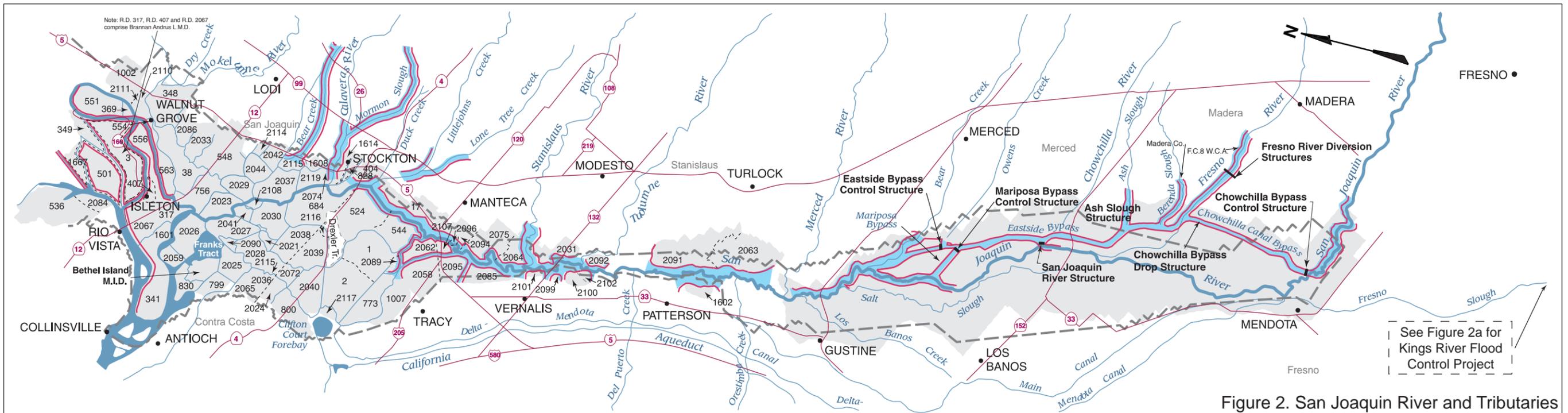
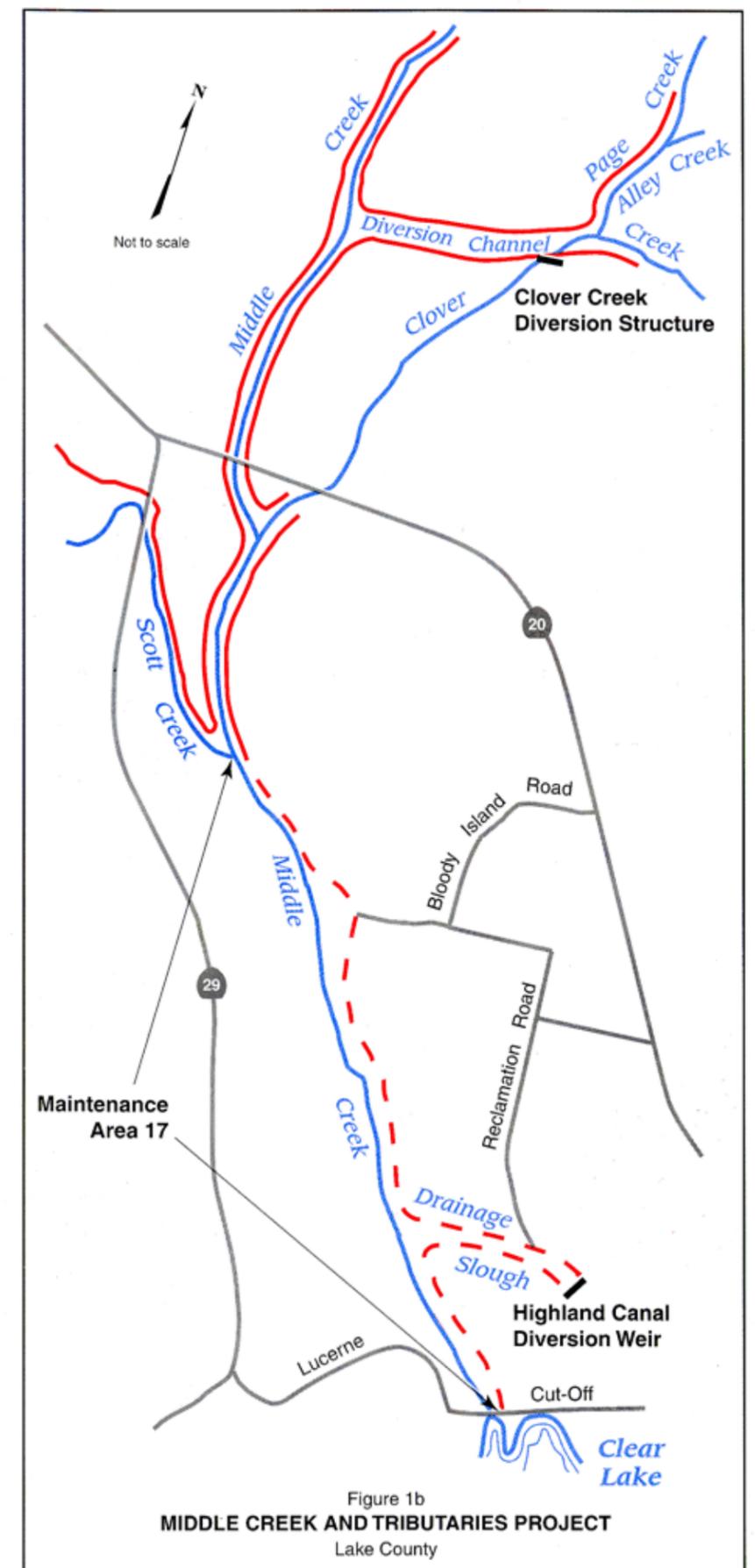
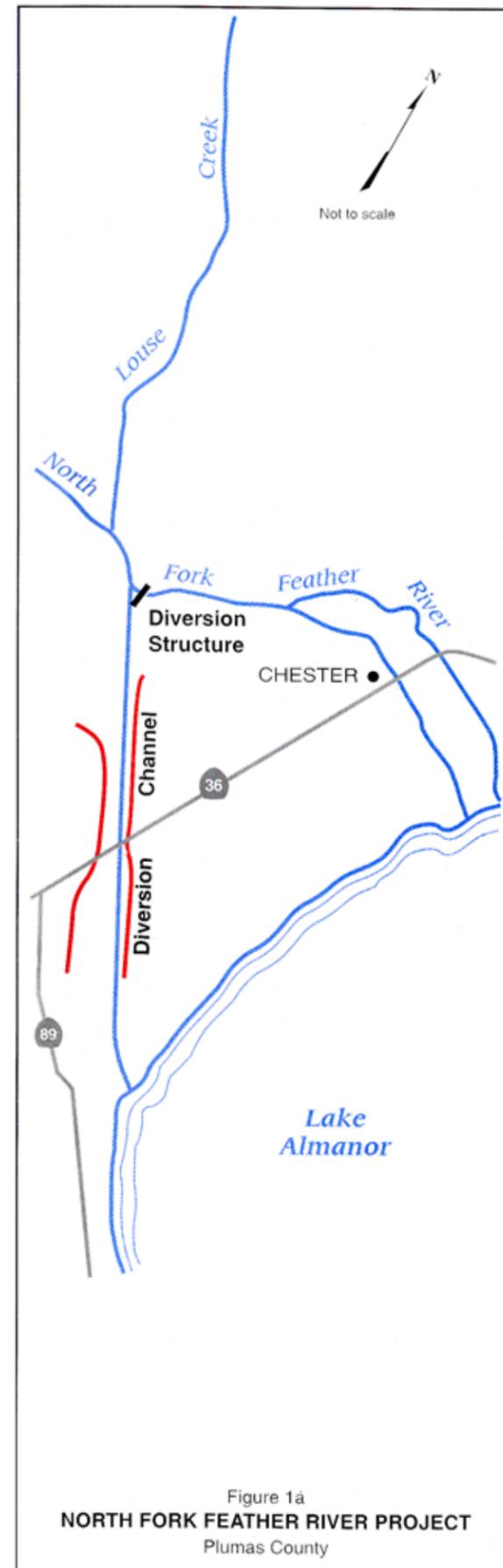
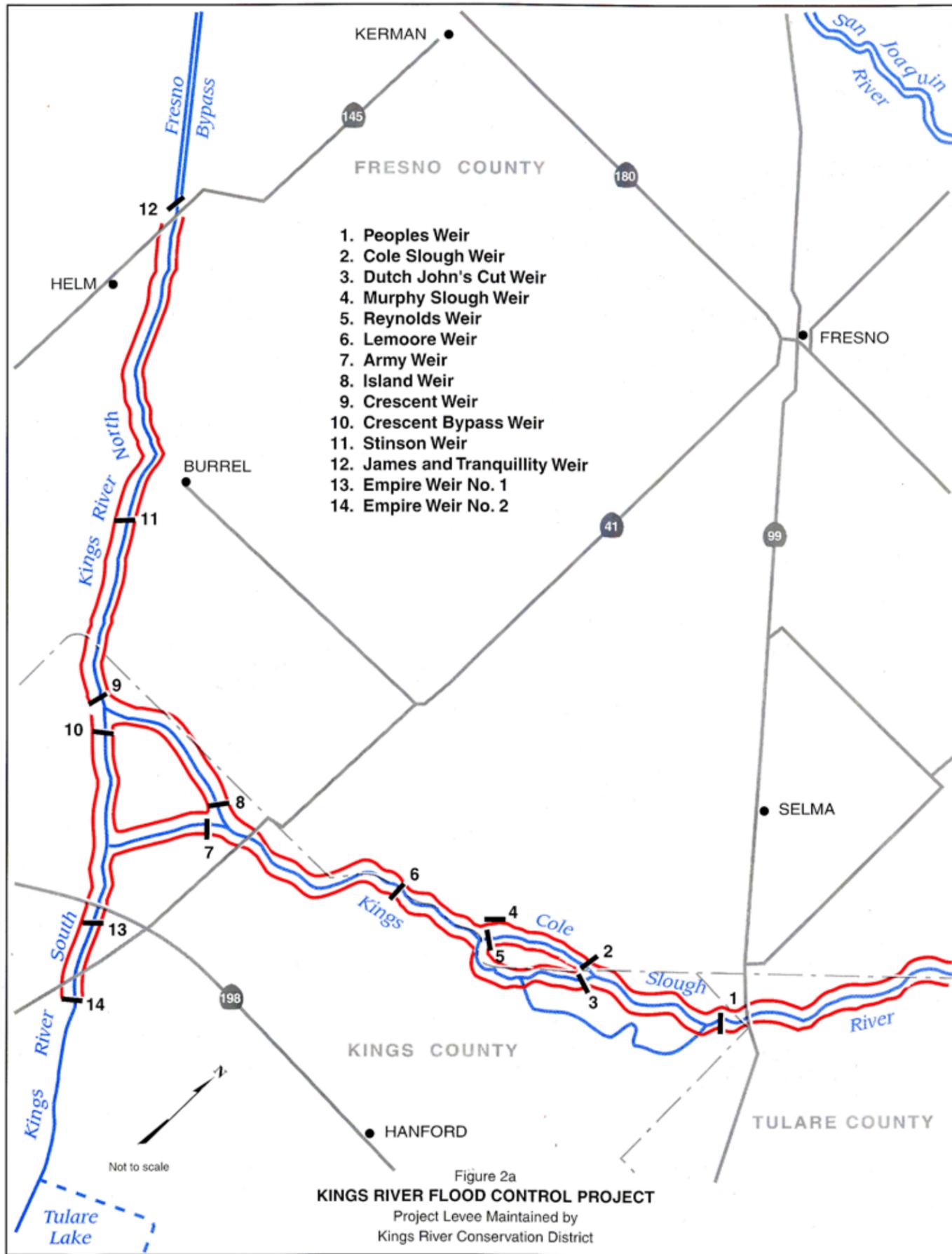
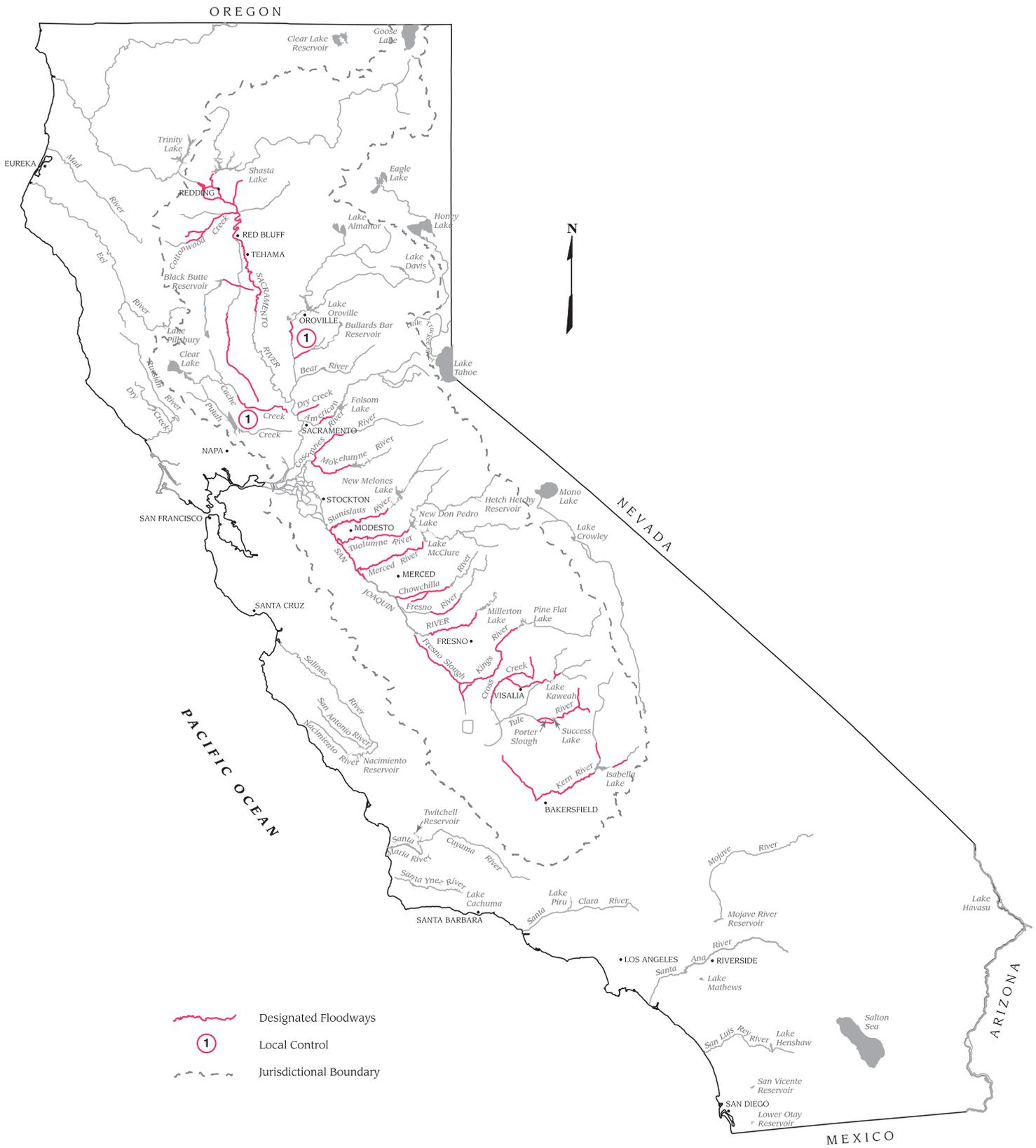


Figure 2. San Joaquin River and Tributaries

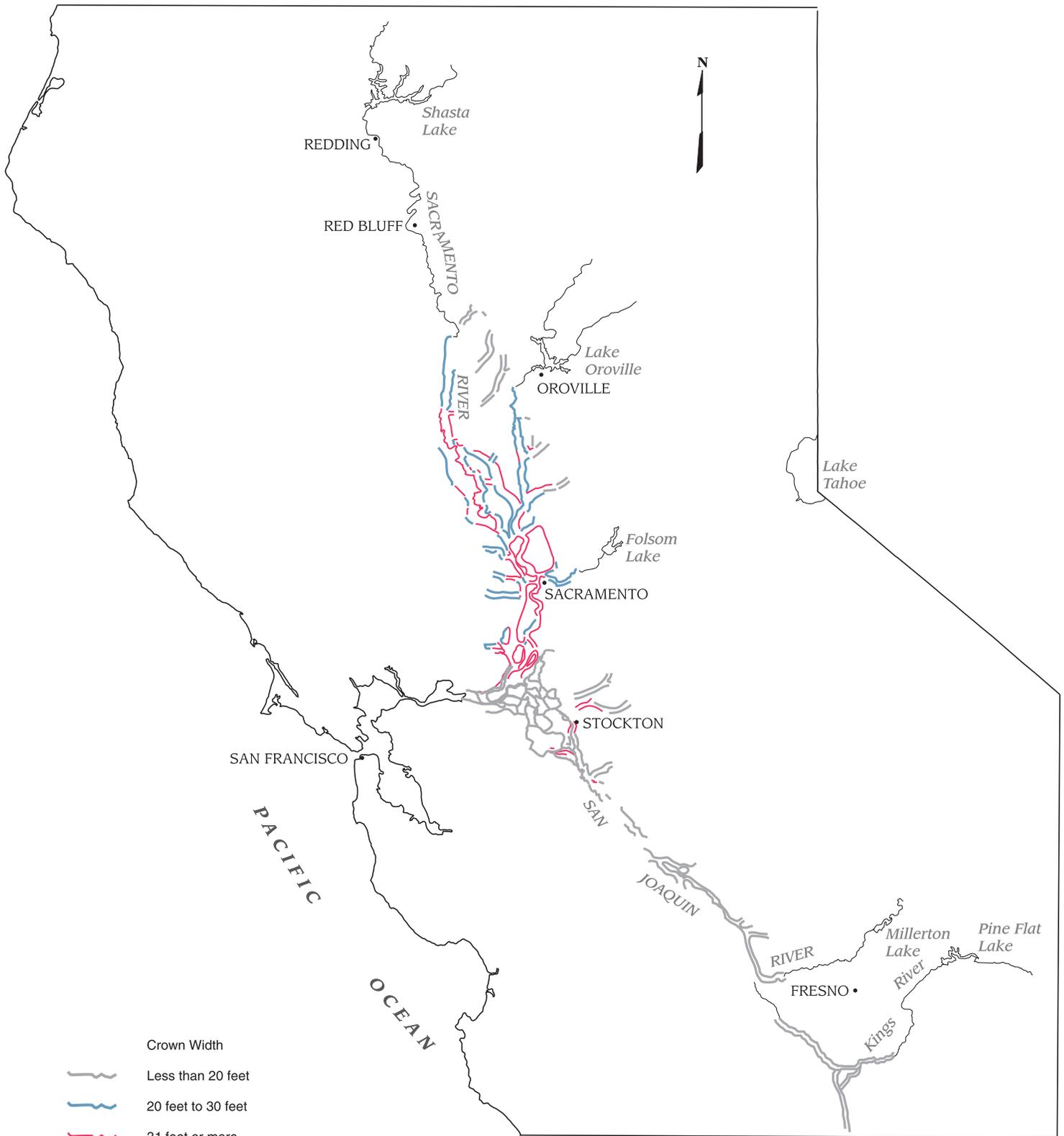
- R.D. 20 Reclamation and Levee Districts
- Project Levees Maintained by Department of Water Resources, Sec. 12878 to Sec. 1278.45 of the Water Code
- Project Levees Maintained by Department of Water Resources, Sec. 8361 of the Water Code
- Project Levees Maintained by Reclamation, Levee, and Drainage Districts and Municipalities
- Boundary of Sacramento-San Joaquin Drainage District





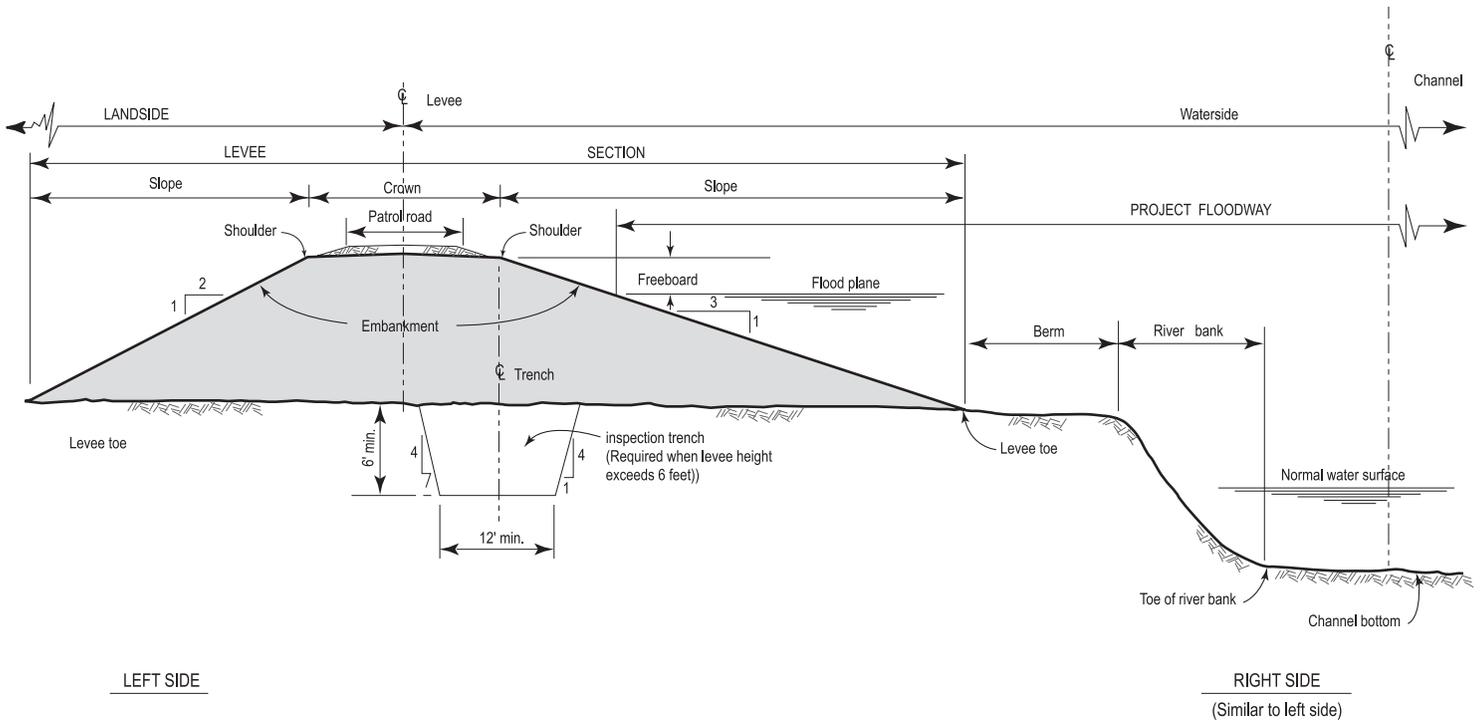
-  Designated Floodways
-  Local Control
-  Jurisdictional Boundary

The Sacramento River and the San Joaquin River Flood Control System
Reclamation Board Adopted Designated Floodways



The Sacramento River and the
San Joaquin River Flood Control System
**Crown Width of Sacramento-San Joaquin
Flood Control Project Levees**

Project Levee Standards and Terminology



TYPICAL FLOODWAY
LOOKING DOWNSTREAM
Not to Scale

ITEM	MINIMUM DIMENSIONS OF STANDARD LEVEE SECTIONS			
	MAIN RIVER CHANNELS	MAJOR TRIBUTARIES	MINOR TRIBUTARIES	BY PASSES
CROWN WIDTH	20"	20'	12'	20'
LAND SLOPE	1 on 2	1 on 2	1 on 2	1 on 2
WATER SLOPE	1 on 3	1 on 3	1 on 3	1 on 3
FREEBOARD	3' (1)	3'	3'	4' to 6'
PATROL ROAD WIDTH	12	12'	10'	12'

NOTE (1) 5 FEET ON MAIN CHANNEL BELOW CACHE SLOUGH (SACRAMENTO RIVER)