EXPLANATION OF NUMBERS IN TABLES OF PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER

Segment of the Main Stem of the San Joaquin River Plus Tributaries (including North Fork Kings River)	Assigned Number
Friant Dam to just upstream of Gravelly Ford	1
Gravelly Ford to just upstream of Mendota Pool	2
Mendota Pool to just upstream of mouth of Merced River	3
Mouth of Merced River to just upstream of mouth of Tuolumne River	4
Mouth of Tuolumne River to just upstream of mouth of Stanislaus River	5
Mouth of Stanislaus River through South Delta Water Agency to just upstream of Clifton Court Forebay	6
North Fork Kings River	7
Merced River from mouth upstream to New Exchequer Dam	8
Tuolumne River from mouth upstream to New Don Pedro Dam	9
Stanislaus River from mouth upstream to New Melones Reservoir Dam	10

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH
WATER SUPPLY

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Insufficient flows to attract and support the various life stages of anadromous fisheries.	x	x	x	x	x	x		x	x	x
Insufficient flows to support resident fisheries.	x	x	x	x	x				?	x
Insufficient flows for beneficial riparian water use.	x	x	x					x		
Possible impact on wetland and riparian habitat from timing and amount of flow.	x	x	x	x	x					
Periodic insufficient flows for certain instream recreation.	x	x	x	x	x			x	x	x
Periodic insufficient flows for dilution of seasonal discharges (waste water and/or agricultural drainage) which affect beneficial uses.	x		x	x	x	x		x		x
Possible impact on flows from surrounding ground water overdraft.	x	x								
Inadequate pump draft in some stretches for diverters.				x	x	x		x		

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH
WATER QUALITY

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Degradation from urban runoff (storm drainage and golf courses).	x			x	x				x	x
Degradation from agricultural drainage (including aquaculture and dairy waste).	?	?	x	x	x			x	x	x
Upstream degradation.				x	x	x				
Degradation from point source discharges (waste water treatment plants).				x	x				?	x
Concentration of constituents resulting from agricultural and other uses.						x				x
Increase in water temperature due to routing of water through gravel ponds.	x									x
Possible increase in water temperature (lack of riparian vegetation and widening of the channel).	x	x	x	x	x	x		x	x	x
Dissolved oxygen problems.						x				?
Aquatic plant nuisances (water hyacinth).				x	x	x		x	x	

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH

FLOOD PROTECTION

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Lack of knowledge on flood hydrology, floodplain delineation, sediment budget, and flood-stage flow.	x	x	x	x	x	x	x	x	x	x
Inappropriate development in floodplain.	x							x	x	x
Sediment deposition resulting from decrease in river velocity.						x				
Decreased channel capacity due to sediment being washed downstream when Mendota Pool is flushed.			x	x	x	x				
Decreased channel capacity from sedimentation and/or vegetation encroachment, causing out-of-bank flooding.	x	x	x	x	x	x	?	?	?	?
Instream and bank erosion, causing sloughing and threatening levee security.	x			x	x	x	x	x		x
Localized erosion from Stanislaus River to Old River.						x				
Existing levees inadequate for floodflows.		x	x	x	x	x		x	x	x
Existing bypass system inadequate for floodflows.		x	x							
Design flood capacity possibly inadequate for revised floodflows.	x	x	x	x	x	x	?	?	?	?
Inadequate maintenance of levees and riverbed.	x	x	x	x	x	x	x	?	?	?
Environmental constraints which conflict with maintenance activities.	x	x	x	x	x	x	x	?	?	?
Possible increase in peak flow due to urban runoff.	x		x	x	x	x			x	x
Possible point sources adding to peak flow, resulting in increased erosion.				x	x	x				
Need for coordination of reservoir operations.	x	x	x	x	x	x	x	x	x	x
Potential flooding of Firebaugh by seepage and/or overtopping.			x							
Possible localized seepage; storm drainage problems.			x	x	x	x				
Levee damage from off-highway vehicles.						x	?	?		?

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH
FISHERIES

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Extirpation of anadromous fish due to reduced flows, increased temperatures, and/or water quality.	x	x	x							
Limited production of anadromous fish due to lack of habitat.	x							x	x	x
Limited fishery and spawning capacity due to low flows.	x	x	x					x	x	x
Hatchery unable to expand due to inadequate flows.	x									
Small fish possibly stranded or subject to heavy predation.	x	x	x	x	x	x		x	x	x
Upstream fish migration impeded by barriers.	x									
Reverse flows resulting from water project pumps.						x				
Fish losses caused by unscreened diversions.				x	x	x		?	x	x
Warmwater fisheries habitat lost due to sedimentation.		x	x	x	x	x				
Fisheries possibly impacted by point discharges.	x		x	x	x	x		x	x	x

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH

WILDLIFE HABITAT

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Insufficient quantity and diversity of riparian habitat resulting in loss of species numbers and diversity.	x	x	x	x	x	x	x	x	x	x
Fragmentation of remaining riparian habitats.	x	x	x	x	x	x	x	x	x	x
Insufficient wetland habitat to support wetland-dependent wildlife.	x	x	x	x	x	x				
Land use conversion continuing to threaten sensitive species.	x	x	x	x	x	x	x	x	x	x
Wildlife subjected to hazardous or toxic conditions.			x	x	x	x				
Possible hazardous conditions to aquatic species from discharges.	x	x	x	x	x	x		x	x	x
Possible degradation of habitat and disturbed wildlife due to access by public.	x	x	x	x	x	x	x	x	x	x

PROBLEMS ON MAIN STEM AND TRIBUTARIES OF THE SAN JOAQUIN RIVER
ASSOCIATED WITH

RECREATION

October 31, 1989

Problem	Assigned Number									
	1	2	3	4	5	6	7	8	9	10
Limited recreational opportunities and variety of activities.	x	x					x	x	x	
Impact on recreation from operation of Mendota Pool.			x							
Recreation constraints from aquatic plant nuisance (water hyacinth).				x	x	x		x	x	
Limitations imposed by health and water quality constraints.			x							x
Lack of managed fishing sites.	x							x	x	
Lack of managed access, including boating.	x	x	x					x	x	
Hunting constraints by county ordinances and/or access.			x							
Lack of water.	x	x	x	?	?	?	x	x	x	x