Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan

Title	Date	Agency	Geography	Major Objectives	Findings and Provisions	Comments
1. Goal, Policy and Strategy Recommendations for Stream Management in Placer County	October 1991	Placer County Flood Control and Water Conservation District-Stream Management Task Force, Technical and Policy Advisory committees and District Staff; local jurisdictions staff; state agencies, and federal agencies	Western Placer County including, Roseville, Loomis Basin, Lincoln, and Auburn.	The task force was charged with developing guidelines/policies and implementation strategies relating to the following: 1. minimizing the effects of flooding 2. protecting stream banks from failure 3 protecting riparian vegetation 4. properly managing stream environment flora and fauna 5. providing for recreation and open space needs, where possible.	Ten key principles emerged: 1. Stormwater management and the protection of natural resources and environment are not mutually exclusive, but rather are interdependent interests that require concurrent consideration. 2. Protection of natural areas and floodplains should be a high priority. 3. Homeowner education is essential. 4. Updated information is necessary for flood control planning. 5. The opportunities and problems require a regional approach. 6. Environmentally sound solutions to flood control are preferred. 7. Water quality BMP's should be incorporated into flood management plans. 8. Systematic information regarding plant and animal life resources should be gathered. 9. Habitat and species loss are grave concerns. Mitigation should replace like kind of habitat on site, if possible. 10. An interdisciplinary approach to resource studies is important to assure protection from flooding, water pollution, and environmental degradation.	This is the seminal document in stream management for Placer County. The Task Force goes on to recommend specific goals, policies and implementation strategies. It states that the report is advisory, but that it is intended that PCFCD and other jurisdictions consider the Task Force recommendation in developing goals and policies related to regional stream resources. This is still a worthy goal. The Task Force report would be a solid basis for any stream management plan. Its initial adoption of its principles in any planning process would save much time and money.
2. Dry Creek Parkway Draft and Dry Creek Parkway Master Plan and EIR	November 1992 and 2003	County of Sacramento, Department of Parks, Recreation and Open Space	A six mile corridor starting at the Sacramento/ Placer County line extending to the East Natomas Drain (now called Steelhead Creek.)	The Parkway was created to preserve open space and wildlife habitat in an urbanizing area, provide recreational opportunities in the North County, and to improve flood protection	The Plan is a policy document containing concepts for the creation of the Dry Creek Parkway. The Plan ensures the preservation of natural resources while providing limited public use. A list of goals and policies is provided related to the major objectives above.	This 1992 plan is superseded by the Dry Creek Parkway Recreation Master Plan (2003) which preserves the original intent. A resource survey done for the plan is listed under resource surveys. Under guidance of this plan, a land acquisition plan has been pursued by a partnership of County of Sacramento, Sacramento Valley Conservancy (Formerly Sacramento Valley Open Space Conservancy), and the Sacramento Area Flood Control Agency

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

3. Kakini Parkway Project (Name later changed to Ueda Parkway.)	January 1995	Sacramento Area Flood Control Agency, City of Sacramento, and County of Sacramento	Natomas East Main Drainage Canal (Now known as Steelhead Creek.), and the lower sections of Dry, Robla, and Arcade Creeks in Sacramento County.	To foster cooperation among the community and relevant agencies to develop parks and open space, provide passive recreation, provide trail linkages to other regions, and restore and enhance environmental values while implementing flood control measures.	The plan provides trail design and alignments, guidelines for implementation and community stewardship.	The plan is to be implemented by City of Sacramento, with cooperation from SAFCA and flood control districts. The plan was recently updated.
4. Dry Creek Parkway Concept Plan	January 1995	Dry Creek Parkway Citizens Advisory Committee, which included: a collaboration of the following Placer County organizations: Placer Greenbelt Alliance, West Placer Citizens Committee, Sierra College, Placer Land Trust, Floodplain Management Association, Placer Bikeways and Trails Partnership, Granite Bay Community Association, Friends of the Roseville Parkway, Placer County Coalition, Placer Nature Center, and Save Our Rocklin Environment.	The Dry Creek Watershed in Placer County	To ensure the preservation of the Dry Creek Watershed's sensitive resources, rural character, and visual quality and to provide the concept or "framework" for the creation of future open space recreational opportunities.	The Plan proposed an open space greenway park and trail system and a Joint Powers Authority made up of local jurisdictions to manage it. It lists a set of planning concepts including preservation of natural and cultural resources, floodplain protection, restoration, development standards, and an interpretive program. It suggests implementation guidelines including a JPA, processes for planning, development, and approval of projects, land acquisition, and volunteer participation.	This plan was modeled after the highly successful San Diegito Parkway. It was distributed widely among local jurisdictions but received little attention except for a public meeting on March 11, 1995 supported by National Park Service Rivers, Trails, and Conservation Assistance Program to bring citizens, officials, and agency staff together to discuss the Dry Creek Parkway concept. Over 50 citizens and staff from Placer and Sacramento Counties attended the meeting. Major recommendations of the meeting were to form a nonprofit advocacy organization to champion the Parkway and to seek planning and implementation funding. The effort led to the Dry Creek Regional Greenway Concept Report as part of the 1995 FEMA application. It was also the basis for the successful grant application to Caltrans for greenway planning (below). The Citizens Advisory Committee evolved into Dry Creek Conservancy which incorporated in 1996 as the main advocate of the greenway concept.
5. Dry Creek Regional Greenway Concept Report	January 1996, revised March 1996	Placer County, City of Roseville, City of Rocklin, Town of Loomis, Sacramento County, City of	The floodplain corridor from the headwaters of the four major tributaries in Penryn,	The Dry Creek Greenway is envisioned as a regional open space park and trail system that celebrates the	The Report used the FEMA publication A UNIFIED NATIONAL PROGRAM FOR FLOODPLAIN MANAGEMENT (1994) as the framework for a multi-objective approach that coordinates flood	The 1995 FEMA application was an effort of flood control officials from jurisdictions in Sacramento and Placer Counties to address flood damage from the 1995 storms. The grant proposal was developed during

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

		Sacramento, Sacramento Area Flood Control Agency, Trust for Public Land, National Park Service, and Dry Creek Conservancy.	Newcastle, and Loomis to the confluence with the Ueda Parkway.	vibrant riverine setting and ecology of the Dry Creek floodplain in Placer and Sacramento Counties.	damage reduction with natural resource protection. The plan provides a survey of relevant goals and policies of local plans and other policy documents, as well as a list of existing proposed projects from each jurisdiction that would contribute to development of the Greenway. The Greenway is envisioned as a truly regional, multi-jurisdiction project requiring the coordination and participation of all affected local jurisdictions. The plan includes a development strategy, an analysis of local fiscal impacts, and list of local stakeholders.	frequent regular meetings over a period of about nine months. The Greenway component of the application was developed by a sub committee composed of a dedicated group of local staff and citizens with the help of two major national conservation organizations. The resulting report is a very comprehensive model for a regional greenway. Though the inclusion of this element was strongly advocated by local FEMA and California Office of Emergency Services staff, it did not receive funding in the final proposal. It appears that faced with limited funding and pressure from local jurisdictions, FEMA chose to fund elevation of flood damaged structures and a large (and ultimately controversial) channelization project in the City of Roseville, despite strong state and federal policies supporting a multi-objective approach.
6. Memorandum of Understanding Regarding the Development of Dry Creek Coordinated Resource Management Planning Initiative	November 1997	The CRMP was organized in 1996 by Dry Creek Conservancy, Placer County RCD, and National Park Service-Rivers, Trails and Conservation Assistance Program. The name was later changed to the Dry Creek Watershed Council (DCWC). A wide array of state, federal, local and private interests participate. The following organizations have signed the MOU: Adelante High School, California	The area of interest includes the entire Dry Creek Watershed	The MOU establishes a voluntary and cooperative commitment by the signatories to work together toward common goals in a watershed planning and enhancement process to the extent of their authority. The MOU is intended to serve as a framework to develop the CRMP for the Dry Creek watershed and to establish guidelines for a joint and cooperative planning and implementation process. The CRMP will include, but not be limited to, short and long term projects that protect and restore fish and wildlife resources and their related habitat in the Dry	The goals of the DCWC (CRMP) are summarized below: 1. Protect and restore the watershed to enhance fish, wildlife, and other natural resources. 2. Recognize the rights and cultural heritage of landowners in the watershed. 3. Promote recreational use of the watershed consistent with the protection of private property and natural cultural resources. 4. Promote cooperative partnerships among federal state and local agencies, landowners, and other stakeholders. 5. Promote the education of individuals, organizations, and agencies on the function and management of a healthy watershed. 6. Enhance the general public's understanding and support. 7. Promote individual projects along the creeks to protect and enhance the anadromous fishery and riparian corridors. 8. Promote optimal passage of	Placer County has supported the DCWC by funding the Placer County RCD to distribute agenda and minutes and facilitate some meetings. The DCWC is an association of interests who uses members such as Dry Creek Conservancy, Placer County, and Placer County RCD to obtain funding and implement its initiatives. In turn, DCWC participants seek approval and endorsement for their projects. DCWC activity has been hampered by lack of a dedicated coordinator.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

		Conservation Corps, California Department of Fish and Game, California Native Plant Society, Sacramento Valley Chapter, Central Valley Regional Water Quality Control Board, City of Roseville, Granite Bay Flycasters, Dry Creek Conservancy, Placer County Board of Supervisors, Placer County Department of Environmental Health, Placer County Fish and Game Commission Placer County Flood Control District, Placer County Resource Conservation District, Rio Linda Elverta Recreation and Park District, Roseville Joint Union High School District, Sierra College, Sacramento County Board of Supervisors, Sacramento Urban Creeks Council, Sacramento Valley Open Space Conservancy, U.S. Fish and Wildlife Service		Creek watershed.	stormwater to: a. Minimize future flood losses b. Protect streambanks from accelerated erosion c. Protect riparian vegetation d. Properly manage stream environment flora and fauna e. Provide for recreation and open space needs, where possible f. Discourage filling and building in the floodplain.	

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

7. Hansen Ranch Master Plan: Drafts of Opportunities for the Hansen Ranch Master Plan and Constraints and Endangered Species Mitigation, Monitoring, and Management Plan.	June and July 1999	Sacramento Area Flood Control Agency	Approximately 250 acres within levees at the mouth of Dry Creek where it enters Steelhead Creek. The site is within the City of Sacramento.	Long-term management and maintenance of the resources to provide perpetual habitat for the Valley elderberry longhorned beetle and vernal pool crustaceans	The Hansen Ranch is recognized as an example of multiple watershed issues such as waters quality, flood control, habitat corridors, regional mitigation, recreation, and agriculture. Recommendations are made for managing the site to maximize the value of each of these values, and for coordinating operations and maintenance with surrounding jurisdictions and agencies. Next steps for the Hansen Ranch planning process are: 1. Approval of endangered species mitigation plan and banking concept; 2. Finalization of Ueda Parkway construction documents; 3. Execution of conservation easement for Hansen Ranch; 4. Implementation of mitigation plan; 5. Development of Hansen Ranch master pan; and Development f Dry Creek Watershed plan.	The plan is an attempt to develop income to support operations and maintenance by developing surplus mitigation banking and allowing grazing. The site is a major open space parcel in the Dry Creek Watershed and part of the Pacific flyway. Current status of the steps listed above should be determined.
8. Draft Stoneridge Open Space Management Plan	August 2000	City of Roseville, US Army Corps of Engineers, US fish and Wildlife Service, Actium Development	1,089 acres in the City of Roseville bounded by I-80, City of Rocklin, Sierra College Blvd, Roseville Parkway and Secret Ravine Parkway. It includes sections of Miners Ravine, False Ravine, and Secret Ravine, as well as some upland vernal pools. Actual acreage to be preserved is approximately 263 acres.	Intended to be a long term cooperative effort between the City and federal agencies to maintain the physical, biological, and environmental processes needed to maintain the riparian and oak woodland ecosystem as habitat for plant and animal communities.	The plan lists permitted uses, including infrastructure and recreational facilities. Prohibited uses include grading, dumping, use of motorized vehicles, and removing native vegetation within specified conditions. The preserve will be monitored by a manager designated by City of Roseville. Ownership will be transferred to City of Roseville. The developing companies will form a community facilities district that will be funded by landowners to maintain infrastructure and public open space.	A general description of topography and soils, hydrology, and biological resources is given. This is a very important piece of the remaining natural area in the watershed. There are many other agreements for mitigation and preservation associated with development throughout the watershed. A goal of the WMP is to discover, describe and map as many as possible. That map will provide a basis for evaluating the condition of the remaining natural areas of the watershed, and for developing management strategies that will improve their function.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

9. Secret Ravine Adaptive Management Plan	December 2001	Dry Creek Conservancy, Dry Creek Watershed Council, local stakeholders	The Secret Ravine Watershed, tributary to Dry Creek in Placer County	To define a process to restore the Secret Ravine riparian corridor to sustain native terrestrial and aquatic species, and to help meet the Central Valley Project Improvement Act goal to double natural production of Chinook salmon and steelhead.	A conceptual model of the life history of salmonids is developed, including functional requirements for each life stage, stressors, hypotheses regarding negative impacts of stressors, and proposed remedial actions. Major stressors proposed are lack of flow, migration barriers, lack of channel complexity, and sedimentation, lack of vegetative cover, and poor stormwater management.	This plan is based on an existing conditions report by a multidisciplinary team (listed under resource studies). A number of the suggested actions have been done by other projects with other funding sources. The Bren student thesis (listed under resource studies) investigated some of the questions raised. Management areas and conceptual restoration designs are included in the plan
10. Dry Creek Greenway Master Plan	in progress	Placer County, stakeholders.	The Portion of the Dry Creek watershed within Placer County.	The proposed Dry Creek Greenway will provide a continuous and coordinated system of preserved lands and habitat, with a connecting corridor of walking, equestrian, and bicycle trails, from the Sacramento border to Dry Creek's sources, and to Folsom Lake State Recreation Area.	Draft goals are**:** 1. Preserve and restore riparian and aquatic habitat located within the Greenway boundary and enhance value of habitat areas adjacent to the Greenway; 2. Preserve and protect historic, cultural, and scenic resources of the Greenway; 3. Provide a natural, continuous open space corridor from the Placer County boundary at Dry Creek and Watt Avenue to the American River Parkway (ARP) and Folsom Lake State Recreation Area (FLSRA) as part of the 70-mile regional greenway loop, and including the upper portions of the Dry Creek Watershed; 4. Provide adequate management of facilities, natural resources, operations, and activities within the Greenway to assure public safety; 5. Provide for the integration of active and passive recreational uses that will have minimal impacts on the natural resources; 6. Preserve critical flood conveyance and capacity within the Dry Creek floodway; 7. Develop and implement the Greenway in a manner that is consistent with existing plans developed by the local governments and special districts with Greenway jurisdiction; 8. Secure adequate funding and resources to sustain and complete implementation of the Greenway; 9. Provide direction for immediate	The Plan will include components such as recommended locations for trails and improvements, guidelines for facilities and maintenance, and funding mechanisms. Though it is not expected that all local jurisdictions will adopt the Plan, it is hoped that jurisdictions will formally express their support for its vision and incorporate its concepts into local plans and processes. The Plan is intended to facilitate implementation of the Greenway by accommodating needs and values of local jurisdictions and providing guidance for consistent design, implementation, and management throughout the Greenway

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

					and long-term land use planning and management practices within the Greenway; and 10. Promote the Greenway as a local and regional asset through collaboration and coordination with regional partners, resource agencies, and public education	
11. City of Roseville Creek and Riparian Management and Restoration Plan	in progress	City of Roseville, stakeholders	Includes all watersheds within City of Roseville, principally Pleasant Grove Watershed and Dry Creek Watershed.	The objective of this plan is to develop management guidelines that will improve creek resources while addressing creek corridor development, public safety, and regulatory requirements.	Goals include: 1. Providing a net benefit to the environment, 2. Addressing stakeholder issues, 3. Describing existing conditions, 4. Describe "model" creek conditions, 5. Describe existing restoration efforts, 6. dentify future areas for restoration, 7. Develop conceptual guidelines for restoration, creek side development and decision making, 8. Invasive weed management strategy, 9. Streamline review process for maintenance, construction, and restoration projects in the creek corridor =, 10. Further the City's efforts to work with regulatory agency requirements, 11. Coordinate with other local planning efforts, 12. Establish long term public outreach, 13. Identify funding opportunities.	It is a difficult, though worthy, undertaking to promote ecological improvement while balancing it with development impacts, regulatory requirements, stakeholder values, and flood and erosion protection. It will take time to please all these interests.
12. Dry Creek Watershed Flood Control Plan	April 1992	Placer County Flood Control and Water Conservation District and Sacramento County Water Agency	Entire Dry Creek Watershed	To provide PCFCD and other agencies with information and recommendations for policies necessary to manage storm waters within the Dry Creek watershed.	The recommended plan includes: Structural Components • Regional detention • Channel improvements, levees, and floodwalls • Bridge and culvert replacement. Nonstructural Components • On-site detention • Floodplain management • Regional flood warning and data acquisition system • District rates and charges Funding related to new development	Finding sites for regional detention has been problematic, due to environmental and political issues. There are promising initiatives to develop an off-stream detention basin on Miners Ravine, and to restore floodplain storage capacity with stream restoration projects. This is the first attempt to deal with problems on a watershed wide scale. Protection of floodplain resources is stressed.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

13. History and Status of Flood Control Planning for Dry Creek and the Natomas East Stream Group	February 1994	Water Resources Division, Public Works, County of Sacramento	Dry Creek and the Natomas East Stream Group	This is a staff report to provide a reference for elected officials of Sacramento County, involved agencies, and the general public of the various plans, policies, and projects affecting flood control on Dry Creek; and to provide a context for policy making.	A review of the documents resulted in the following conclusions: 1. Local and regional flood detention above Roseville is needed to halt increases in peak flood flows. 2. Levee improvement proposed by SAFCA will protect areas near the mouth of Dry Creek. 3. Local projects are needed to protect areas throughout the watershed. 4. Channelizing lower reaches of Dry Creek would severely impact riparian and oak forest habitat, and should be avoided. 5. No economically-feasible project along Lower Dry Creek will provide flood protection for that area. 6. No feasible project will protect Cherry Island from a 100 year flood. 7. A bypass channel might provide some flood protection benefits to Cherry Island.	This is a thorough and detailed review of plans, policies, conditions, and problems throughout the watershed. It makes clear the origin of recent projects, such as levee raising and construction, development of Hansen Ranch Preserve, and the Elkhorn Blvd. bridge improvements and bypass channel.
14. Dry Creek Watershed Flood Detention and Stream Restoration Feasibility Study	May 2000	Sacramento Area Flood Control Agency	Dry Creek tributaries above Roseville.	To develop an alternative flood detention plan that would also incorporate common environmental elements such as stream habitat restoration projects, water quality improvement, addition of transportation elements, and open space/recreational amenities.	Available detention sites were evaluated and numerous opportunities multi-objective detention projects with less than 100 year event effectiveness were found. Two sites were analyzed at a conceptual level including preliminary cost estimates.	This study updated the list of possible detention sites in the 1992 plan. It identified projects that could contribute to the goals of many organizations.
15. Analysis of Dry Creek Alternatives to Detention	May 2000	Placer County Flood Control District	Dry Creek tributaries above Roseville.	To investigate possible alternative regional detention sites to those listed in the 1992 plan.	1. Opportunities for regional detention still exist but are difficult to develop due to local residents objections to impacts on their area. 2. Local detention for developing areas would reduce regional peak flows. 3. Local detention should be investigated further. 4. Off channel storage in lower Dry Creek should be investigated. 5. Promising sites should be studied to better understand watershed wide effects	This study did not focus on environmentally attractive alternatives.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

16. City of Roseville Creek Maintenance program	2000	City of Roseville, California Department of Fish and Game	Improved and unimproved channels within the City of Roseville	To maintain the design capacity of the natural and improved storm drainage system.	Routine maintenance includes removal or displacement of silt, sand, sediment, debris, vegetation, or other obstructions to water flow; control of weeds, grasses, and emergent vegetation; and cleaning, clearing, repair, and replacement of erosion control facilities and constructed channel improvements.	The plan is based on an MOU with Fish and Game; other cities and counties have similar MOU's. These activities are allowed by CDFG in the name of flood control but there are no data to support their effectiveness. They may result in severe impacts to stream ecology such as loss of habitat, stream bank erosion, channel incision, and serial channelization especially if activities are not carefully supervised
17. Preliminary Feasibility Report: Miners Ravine Off-channel Detention Basin	July 2001	Placer County Flood Control and Water Conservation District	Miners Ravine, downstream of Sierra College Blvd.			Copy of the report has been requested
18. Draft Secret Ravine-floodplain and Restoration Feasibility Study	May 2003	Placer County Flood Control and Water Conservation District and stakeholders.	Three sites on Secret Ravine, downstream of Sierra College Blvd.	An engineering feasibility study for floodplain restoration projects that will: 1. Reduce peak flood flows over a wide range of events 2. Provide environmental, recreational, and educational enhancements.	A combination of sites will provide the necessary amount of peak flow reduction at a feasible cost per unit of storage.	Combining several sites will take advantage of the qualities of each and maximize function within the whole watershed resulting in long life of the projects and their benefits.
19. California Department of Fish and Game memos	1963-1992	California Department of Fish and Game	Watershed wide	To document spawning and out migration	**1963** – 300 estimated spawners on Secret Ravine **1964** – An effort to estimate population resulted in- Estimated spawners • Secret Ravine – 600-800 • Miners Ravine – 100 • Antelope Creek – 10 Out-migrants were seen during trapping from February to March on Secret Ravine and Miners Ravine. **1966** – A one day bank side survey of Secret Ravine yielded 4 carcasses and one live fish. **1972** – One time electro fishing yielded juvenile salmonids on Secret Ravine and Cirby Creeks. **1984** – Seining at two locations on Secret	Though there have been minimal survey efforts, the data show a persistent salmonid presence.

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					Ravine from February to May yielded juvenile salmon for every event. **1985** – A one day survey yielded carcasses and live fish on Antelope, Miners Ravine, and Secret Ravine Creeks. **1992** – A one day July seining and electro fishing sampling on the NEMDC yielded no salmonids.	
20. The Fish and Wildlife Resources of the Secret Ravine Creek Area of Placer County and Recommendations for Their Protection	June 1965	California Department of Fish and Game	Secret Ravine	Describe resources and recommend protective measures	Notable observations about wildlife: • Mink and bobcats were present • Beaver were not present • Over 100 species of birds use the area • Rainbow trout are one of the most commonly caught fish. Major threats were considered to be: • Sewage plant discharge • Increased impervious surface causing flashy runoff resulting in scouring • Channel alteration due to construction of roads and bridges • Gravel mining • Small dams • Floodplain development. Recommendations were: • Minimum lots of one acre within a quarter mile of the stream, and no industrial or commercial land use within a quarter mile. • A 100-200 foot buffer on either side of the creek • Acquisition of stream bottom park areas downstream of Rocklin Road • No sewer effluent directly into the creek. • Developers notified of CDFG codes about stream bank alteration, discharge of harmful materials, and dam construction obstructing fish passage.	This simple four page report said just about all that needed to be said about preserving Secret Ravine. Some of these recommendations came to pass, at least in part, and Secret Ravine is one of the better preserved areas of the watershed, especially within the City of Roseville. If these or similar recommendations had been followed closely many dollars of public money used for studies, plans, and remediation could have been saved.
21. Urban Streams Study, Linda and Cirby Creeks, Placer and Sacramento Counties	1981	Department of Water Resources, City of Roseville, Placer County, Sacramento County.	Cirby/Linda Creeks	To assess the desirability and feasibility of restoring or enhancing historical summer flow.	• The creeks support a variety of fish, wildlife, recreation, and esthetic resources; low flow impairs instream use. • The study recommended tht local agencies form a task group to cooperatively implement a permanent summer flow augmentation program. • There is a discussion about the amount and source of additional flow. • Steelhead were found in Cirby Creek in 1972 but not in 1980. • Four sites were chosen for water	This study provides comparison to current conditions. There are a number of photographs that could be used to study changes in channel morphology, vegetation, etc.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

					quality and flow monitoring including: o Air and water temperatures o Dissolved oxygen o Turbidity o Conductivity o Fecal coliform bacteria	
22. Peter Moyle fish population study field notes	1985 (data from a 1973 CDFG study is also provided.)	Peter Moyle and Associates	Dry Creek at Ascot Road and Q St. in Rio Linda, and Secret Ravine at Rocklin Road, an unknown location, and Penryn Road in Placer County.	Not stated. To gather baseline information.	• Population composition, basic habitat survey, and water quality data for July and September 1985, and August 1973. • In 1985 ranges for a composite of the sampling sites for the following two categories were: o Total species: Rio Linda-1 to 8, Placer-3 to 6 o Percent native: Rio Linda-0 to 25, Placer-60 to 100 • Rainbow trout were found in Placer, but not in Rio Linda.	The study provides historical data study for comparison to current conditions.
23. Dry Creek Thermal Effluent analysis	March 1990	City of Roseville	Secret Ravine, Miners Ravine, and the lower portion of Antelope Creek	To assess the potential impact of increased temperatures in Dry Creek, due to effluent from the wastewater treatment plant.	The study estimates potential Salmonid population. Field assessment is used to estimate useable spawning areas.	CDFG had substantial disagreement with the study.
24. The Miners Ravine Creek Watershed Enhancement and Restoration Plan for the Reduction of Flood Hazards and the Enhancement and Protection of Environmental Resources	February 1992	Granite Bay Community Association, agency personnel, private developers and representatives of Placer County	Miners Ravine, between Sierra College Blvd and Dick Cook Road	Design a management plan to protect and enhance the natural resources of streams in the Miners Ravine Watershed, while reducing flooding and erosion hazards and future expenditures for providing flood protection. • Characterize the natural setting and processes • Identify present problems from human activities and prescribe solutions • Identify planning strategies to	• The steams in the Miners Ravine Watershed are of exceptional environmental quality. • The streams have small channels that carry floods only up to five year events. • The watershed is underlain by bedrock and shallow soils. • Rapid urbanization has reduced floodplain storage and increased impervious surface resulting in higher and more frequent flood peaks. • Streamside residents landscaping practices have a negative impact on flooding and environmental quality. • Three bridges need to be replaced. • Key general recommendations: o Development should create no net increase in peak stormwater runoff. o Trap urban pollutant runoff. o Preserve and restore drainages with vegetation. o Design systems that require minimal maintenance and which mimic natural systems. • Placer County should adopt BMP's	This is a comprehensive and exhaustive study for managing Miners Ravine. It should be incorporated into the WMP with little further study. Some of its suggestions have been implemented.

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				maximize environmental value and minimize flooding • Demonstrate that a multidisciplinary approach is necessary.	Develop effective regulations for preserving stream corridors (suggestors are made). • Design flood control projects that work with nature and use multi objective criteria. • Educate about watershed issues in the schools and through community participation in restoration projects. • Specific projects are listed. • A comprehensive resource survey is provided including a plant and animal list. • Four major problem areas cited are: o flooding o Erosion and Sedimentation o Water quality o Vegetation, Fish and Wildlife • Locations of problem areas are mapped. • A series of recommended policies, projects, BMP's, and designs is provided.	
25. Dry Creek Parkway: A Resource Assessment	October 1992	Sacramento County Department of Parks and Recreation	Dry Creek Corridor in Sacramento County	Resource Assessment	Provides a general survey with natural communities types, plant lists, and wildlife lists. The area of study is divided into 13 reaches for which the following parameters are evaluated. • Reach boundaries • Tree species • Shrub species • Understory species • Corridor characteristics • Wildlife observations • Hydrogeomorphology • Bed characteristics • Bank erosion • Debris in channel • Secondary channels • Soils adjacent land uses Other observations	The survey shows conditions improve in upstream reaches. It also shows little stream bank erosion problems. In recent years observers have noted significant erosion and raised the topic at DCWC meetings. A new survey should be done to assess current conditions.
26. Wildlife Inventory of Dry Creek, Sacramento County	February 1993	Dry Creek Advisory Committee, UCD students	Dry Creek in Rio Linda	Identify and quantify resident birds and mammals in the Dry Creek riparian habitat of northern Sacramento County.	Three sites were studied with rigorous protocols on two consecutive days. Thirty avian and ten mammalian species were identified. The study concluded Dry Creek has: • significant biological value • High native species diversity, • Few exotic species • Excellent riparian woodland • Possible Swainson's hawk habitat	Studies such as this should be carried out by college programs at regular intervals throughout the watershed.

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					• Rich variety of life histories and feeding guilds that indicates a thriving, intact natural community.	
27. Fisheries Habitat Evaluation of Dry Creek, Antelope Creek, Secret Ravine, and Miners Ravine	August 1993	EIP Associates, CSUS Hornet Foundation	City of Roseville	The first phase of a five-year program to evaluate stream habitat conditions and fish populations of Dry Creek, and its tributaries within the city limits of Roseville. • Describe general stream conditions. • Monitor salmon spawning. • Describe stream conditions during each salmon life history phase • Determine species composition of resident fish population • Make recommendations for habitat management.	The stream segments were divided into 13 reaches. Each reach is rated and major features are mapped. In summary, the following observations are made: • Aquatic habitat quality varies in the study area with the best in Secret and Miners Ravines and the poorest in the lower Dry Creek Reaches. • The 1992 spawning run was small, maybe due to late rains. • The major constraints for salmon are lack of quality pools and instream cover in the lower reaches. • The presence of four native species gives hope that the biotic integrity of the stream can be saved. • Management observations were: o Low barriers create pools and don't inhibit migration in high flows. o Beaver dams should be monitored and removed or breached if they seem to prevent passage. o Stream habitat can be improved in the lower reaches by pool creation and addition of cover. o Resident fish population should be monitored regularly as an indication of stream health. o Protect the riparian zone and maintain stream flows.	This is a useful historical baseline with present day management implications for restoration. Some of these areas have been assessed 2 or 3 times since this study. The studies should be analyzed in detail for possible trends.
28. An evaluation of Dry Creek and Its Major Tributaries in Placer County, California	Spring 1997	Debra Bishop-Masters Thesis, Dry Creek Conservancy	Dry Creek Tributaries in Placer County	Provide a reconnaissance survey with management strategies. The study intends to: • Characterize the natural setting and processes. • Identify problems resulting from human activities and prescribe solutions. • Recommend strategies for creek	Field studies were conducted over 14 months and covering 60 linear miles of creek. Streams were divided into a total of 71 reaches for which evaluation and recommendations were mapped. For each reach: A. The following general feature were evaluated: • Width of low flow channel • Depth of water • Clarity of water • Substrate • Height of banks • Condition of banks • High flow debris B. Plant species, community types, and floodplain features were recorded. C. Disturbances recorded included:	The study includes a comprehensive discussion of stream ecology, local conditions, local land use and land use regulations, and descriptions of recommended treatments. This is primarily a qualitative study that is both an excellent guide to further investigation of specific sites, and the basis for a management program.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

				preservation in an urbanizing area.	• Structure encroachment • Bridge crossings • Pipeline crossings • Outflows • Constructed ponds • Vegetative landscape features] • Mining • General degradation • Grazing impacts • Fences • Bank protection • Other. D. Remedies suggested include: • Bank protection • Vegetation control • Recontouring • Areas for landowner assistance • High priority preservation areas • Restoration areas. The study concludes that land use is having negative impact on the value and function of the creeks, and that there is no cohesive plan for their management and protection. It makes the following general recommendations: • Construct infiltration areas to offset increased impermeable surfaces. • Construct vegetative filters • Use and enforce BMP's for construction. • Construct off steam sediment detention basins • Construct secondary channels. • Incorporate natural areas into developments. • Plan restoration and mitigation for ecological reasons rather than convenience. • Study and regulate homeowner lakes. • Provide guidance to landowners.	
29. Species lists for Dry Creek CRMP Watershed Planning, Placer County, California	September 1997	US Fish and Wildlife Service, Dry Creek CRMP	Quads 511B, 512A, 527A, 527C, 527D, 528D.	Discover information concerning threatened and endangered species.	Lists for the above Quads were provided.	Dry Creek Conservancy inquired to USFWS on behalf of the DC CRMP.
30. Sierra Foothills Audubon Society Bird List	May 24, 1997	Sierra Foothills Audubon, Dry Creek Conservancy	Miners Ravine, downstream of Sierra College Blvd.	Document species	Twenty-seven species listed	This walk from the confluence to Sierra College Blvd. was sponsored by Dry Creek Conservancy to view the area before it was developed.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

31. Secret Ravine Existing Conditions Report	Spring 1999 to Spring 2000	Stacy Li, Wayne Fields, Robert Holland, Mitch Swanson, Dry Creek Conservancy	Secret Ravine corridor	To document the existing condition of instream habitat	The existing deeply entrenched channel, which has apparently formed as a result of human land use practices, theoretically could be reconstructed to a more favorable stable form that could be sustained by current hydrologic and geomorphic conditions. Improvements such as channel re-construction or installation of roughness objects will increase pool depth, gravel quality, etc. Opportunities for restoration of vegetation are greatest where the valley floor is broadest, mostly downstream of Rustic Hills. Terraces outside the flood channel are appropriate for Valley oak-dominated communities. Floodplains are more appropriately planted with species of the cottonwood and willow dominated communities. While plantings within the bankfull channels may be considered, for example to armor a channel modification, they must be recognized as temporary. For stream morphology - Develop and implement projects that introduce large roughness objects into stream channels to promote greater hydraulic diversity, bed scour for pools and sorting and flushing mechanisms for gravel. These objects could include logs, root wads and boulders placed along the edges of the entrenched channel. _ Where channels are excessively eroding in the headwaters, the channel banks should be regraded to create the natural three-stage channel configuration (low flow, bankfull and flood channel). This would be accomplished by excavating one side of the channel to the proper overall flood channel width with a flat geomorphic flood plain at the proper elevation and a transition slope no steeper than 2:1 - Off Road Vehicle Access to the creek should be eliminated. Significant erosion and	Principles of this report have been adopted by Placer County Flood Control District in their development of restoration sites listed in item 18 of this report. Questions raised were further investigated for Item 39 of this report.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

					water quality impacts are occurring in several reaches. The entry points should be identified and closed off.	
32. Information on Placer County natural communities and species.	July 1999	Placer Legacy	Placer County	Develop Habitat Conservation Plan	Habitat types and species are listed and described.	This includes landscape level info for western Placer County
33. Ueda Parkway Bird List	January 2000	Dry Creek Conservancy	Hansen Ranch and adjacent mitigation site	An educational event as part of Dry Creek Conservancy Family Walks.	Thirty-five species were listed	A turnout of about 30 adults and children. Two spotting scopes were available.
34. Secret Ravine: Existing Conditions Fisheries Report, with Emphasis on Habitat Conditions for Steelhead Trout	November 2000	Biology 173 Class, California State University, Sacramento	Secret Ravine	Characterize conditions for Steelhead Trout	The study found excessive sediment in the lower reaches, but representative selection of native fish. Steelhead use the upper reaches for spawning and rearing which have faster colder water and smaller gravels.	The study was done under supervision of Rob Titus, fisheries biologist for Department of Fish and Game.
35. CDFG memos- Perennial Rearing Habitat for Juvenile Steelhead in the Dry Creek Drainage (Placer County) • Fishes in Secret Ravine	November 2001, February 2003	California Department of Fish and Game Stream Evaluation Program	Dry Creek Drainage, Secret Ravine	Reconnaissance level assessment of steelhead distribution and abundance relative to stream habitat conditions	The Upper Dry Creek drainage continues to support production of steelhead, as recognized historically but presumably at lower levels due to habitat impacts form urban development. The upper creek areas appear to be especially important for spawning and rearing, given the stream gradient and temperature conditions there. Any actions which protect or improve access to and the quality of these areas will benefit steelhead production in the system. The lower creek areas need to be protected and improved for Chinook salmon spawning, juvenile rearing and emigration and for seasonal rearing and migration of steelhead. The most conspicuous needs are to identify, control, and prevent sources of sediment pollution, and to discourage land-use and waterway practices that favor production of introduced warm water fishes, especially as related to pond development and stocking of these species within the system. Cottonwood Dam limits steelhead production on Miners Ravine by limiting access to favorable gradient and temperature conditions for spawning and juvenile rearing. Localized water quality conditions	The study provides tangible current evidence of the value of the Dry Creek Drainage for steelhead production.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

					appear to be limiting steelhead production and should be monitored.	
36. Cirby-Linda-Dry Creek Flood Control Project Adult and Juvenile Salmonid Surveys and Water Temperature Monitoring, and Flow Measurements, Placer County, California	Annually from 1999 to 2003	City of Roseville for National Marine Fisheries Service	Dry, Cirby, and Linda Creeks in Roseville	Monitor Salmonid fall/winter adult spawning within, and upstream, of the project area, and winter/spring juvenile emigration within and below, the project areas for five years. Monitor water temperatures and flow/discharge during seasonal Salmonid migration periods.	In general, habitat conditions are suboptimal in Linda and Cirby Creeks, but successful egg incubation and fry emergence are evident. Fish communities are dominated by high temperature-tolerant native fish and non-native fish.	This five year study by Garcia and Associates will be complete in 2004. It provides a wealth of data for Cirby/Linda Creek.
37. Miners Ravine Habitat Assessment	October 2002	DWR Fish Passage Improvement Group, Dry Creek CRMP	Miners Ravine	To determine the quality and quantity of habitat for anadromous fish species on Miners Ravine and to document natural and man-made structures in the creek that may be impediments for Salmonid migration.	Suitable spawning areas in Miners Ravine are becoming harder to find due to: • Migratory barriers both natural and manmade o At least 19 structures that are potential passage barriers to anadromous fish. o Cottonwood Dam prevents access to the best habitat o Large number of beaver dams • Encroachment of homes within the floodplain • Embeddedness of substrate Lack of instream cover	Recommendations include • Further study of substrate quality and quantity • Beaver dam management • Non-native vegetation removal • Further study of potential barriers • Increase in-stream cover • Increase suitable spawning substrate • Collect temperature information • Educate landowners about ecosystem friendly erosion and flood protection practices.
38. Dry Creek Bank Erosion Management Plan, Roseville, California	November 2002	City of Roseville, Dry Creek Conservancy	A 1.5 mile section of Dry Creek in Central Roseville	• Develop a reach-specific bank protection planning and design process that leads to designs that optimize site and local reach stability, while incorporating relevant ecological features; • Enumerate a variety of bank protection designs that address local bank stability factors and long-term and short-term geomorphic processes; • Address the long-	The study is an exhaustive field study of bank condition. It catalogues sites for floodplain enhancement opportunities, as well as a list of bank stability, erosion site and existing bank protection site surveys. Top priority sites are recommended.	This study is a model for managing erosion while maximizing ecological values in an urbanized setting.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

				term stability of Dry Creek channel through consideration of the effects land use development has on channel stability; • Conduct field surveys to determine the areas of immediate near-term and long-term project needs and develop a bank stability rating criteria specific to Dry Creek project reach; and Develop environmental enhancement features that address the habitat needs of local sensitive wildlife species that can be incorporated in future erosion control management.		
39. Assessment of Stressors on Fall-Run Chinook Salmon in Secret Ravine (Placer County, CA)	March 2003	Student group masters thesis project from UC Santa Barbara Bren School of Environmental Science and Management, CalEPA Office of Environmental Health Hazard Assessment, Dry Creek Watershed Council	Secret Ravine	To assess the physical, chemical, and biological stressors on the fall-run Chinook salmon in Secret Ravine, and to prioritize sources and stressors for local organizations so restorative and preventative measures can be taken to protect the salmon population.	Flow, sediment, morphology, reduced access and toxicity ranked as top stressors. Each stressor was investigated to determine contributing sources. Priority management actions are: • Sediment – BMP's to mitigate impervious surfaces and off road vehicles • Toxicity – bio-filtration for peak runoff, riparian vegetation protection and a pesticide use reporting program Reduced access – beaver dam management	The study compiles a large amount of existing information as well as contributing key new data. As part of its academic purpose the study compares results of several methods of assessing stressors and determines which method is most useful for Secret Ravine. Recommendations will be further refined in a report by CalEPA OEHA.
40. Impervious Surface Analysis of the Secret Ravine Watershed, Placer County	Spring 2003	CalEPA Office of Environmental Health Hazard Assessment	Secret Ravine	To develop a method of assessing the impact of impervious cover on subwatersheds of Secret Ravine.	A relatively simple method to estimate impervious cover was developed, though further work is necessary to clarify issues such as properly defining subwatersheds. Five subwatersheds are ranked as to degree of impact due to percent impervious cover.	This method is being refined based on further investigation of similar studies.
41. Dry Creek Conservancy monitoring program	1997 to present	Dry Creek Conservancy	Dry Creek Watershed	To assess baseline conditions as well as discover local problems.	Data for physical/chemical and biological parameters is currently being compiled and is available in the Dry Creek Watershed Management Plan	The program has been funded by a number of grants which allowed purchase of equipment and consultation with professional practitioners.

Table 1.1. Plans, Policy Documents, and Studies with Particular Relevance to the Development of the Coordinated Resource Management Plan (Continued)

42. Dry Creek Watershed Management Plan Field Studies	2002-2003	Placer County, Dry Creek Watershed Council	Dry Creek Watershed in Placer County	Survey of habitat, vegetation, outfalls and other structures to characterize the watershed.	Reported in Dry Creek Watershed Management Plan.	Future funding will be sought to permit completion of these studies to cover the entire watershed. Current studies performed by ECORP Consulting.
43. Miners Ravine monitoring program	2003-2006	City of Roseville, National Marine Fisheries Service	Miners Ravine, Secret Ravine, and False Ravine within the City of Roseville	To monitor water quality and sediment to determine impacts of the Roseville Parkway Bridge.	program is beginning	Resulting from NMFS requirements related to construction of the Roseville Parkway Bridge. Due to delay in agreement on a scope of work, the program will not provide preconstruction data.