



Kings River FISHERIES NEWS

Historic Fishery Plan Is A Reality

A cooperative and voluntary Fishery Management Program that has the potential to become a national model is now in place on the Kings River.



CDFG Director Robert Hight (left), KRWA Chairman Dean Jensen (center) and KRCD General Manager Jeff Taylor celebrate the May 28 signing.

The Kings River Water Association, Kings River Conservation District and California Department of Fish and Game all approved the historic agreement during a brief ceremony May 28.

The agreement also sets the stage for many physical improvements to Kings River habitat below Pine Flat Dam while maintaining and respecting Kings River water rights and water uses within the one million acre Kings River service area in portions of Fresno, Kings and Tulare counties. Monitoring and review are to be major program components.

Adaptive management, with maximum flexibility, is to govern the program, based upon the best available scientific and technical information.

Robert Hight, new Department of Fish and Game director, signed the Management Plan's framework agreement on behalf of the state.

"I want to express our gratitude to everyone involved in this process," Hight said. "This is truly a historic time. It proves that government and agribusiness can work together."

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It will result in increased minimum river flow releases, colder water and more dry year Pine Flat Reservoir storage using water resources and assets voluntarily made available by Kings River interests.

A 'Fisheries News' Special Report

This issue of Kings River Fisheries News is devoted to introducing and explaining the new Kings River Fisheries Management Program that was approved May 28.

Fisheries News is a publication of the Kings River Conservation District, in cooperation with the Kings River Water Association and California Department of Fish and Game. Published on an occasional basis, Fisheries News is aimed at improving understanding of the river, its beneficial uses, and fishery issues, studies and plans.

Your comments and questions are welcomed. Please write to the Kings River Conservation District, 4886 East Jensen Avenue, Fresno, California 93725.

ExCom Meeting Notice
(open to the public)
Thursday, September 2, 1999

Clovis Memorial District
Veterans Hall
5th and Hughes, Clovis

4-7 p.m.

Agenda to be posted on KRCD
website: www.krkd.org

Summer 1999

Volume 2, No. 1

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Major Features And Benefits

Enhanced Minimum Flows, Temperature Control Pool And Other Improvements Are All A Part Of Fisheries Management Program

There are many important aspects to the new Kings River Fish and Wildlife Management Program but among the most visible will be increased minimum flow release requirements and establishment of a Pine Flat Reservoir temperature control pool.

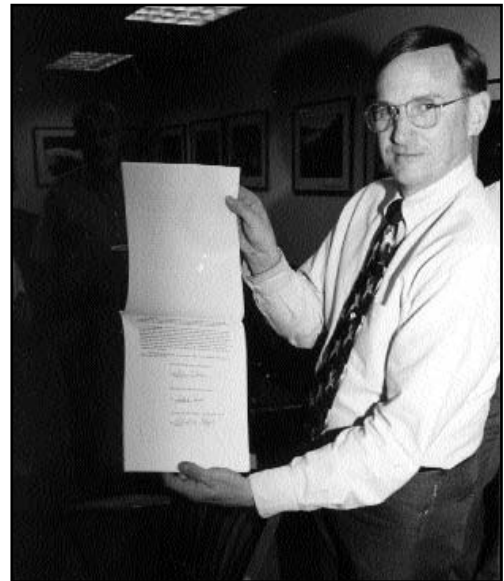
Physical improvements, program monitoring, increased stream gaging, additional fish planting and angling enforcement are all part of the program that was agreed upon May 28.

The Fisheries Management Program and its enabling agreements are the culmination of an exciting and extraordinary partnership between the Kings River Water Association (KRWA), Kings River Conservation District (KRCD) and California Department of Fish and Game (CDFG).

An entirely new set of operating criteria are already being put in place by the KRWA and readied for implementation under terms of the framework agreement that was also signed by the CDFG and KRCD.

A 1964 agreement between the CDFG and KRWA, adopted to establish minimum river flow requirements below Pine Flat Dam, has been superceded by the new framework agreement.

The Fisheries Management Program is defined by the framework agreement as "an enhancement program which will, among other benefits, extend trout habitat suitability throughout the year in most years, and for longer periods in every year than existed historically."



Dale Mitchell of the California Department of Fish and Game shows the signatures on the agreement he helped frame.

Major features of the Fishery Management Program that are being implemented immediately include:

Enhanced Flows

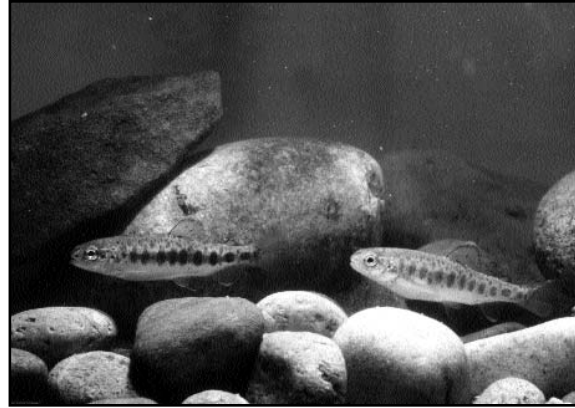
Ⓟ KRWA members will provide increased minimum flows of at least 100 cubic feet per second at Piedra. That amount is twice that required under the previous agreement in most years. The enhanced flows, typically in late summer and fall months, will maintain water temperatures and habitat from Pine Flat Dam to Fresno Weir (about nine river miles downstream) that are suitable for trout. Trout acceptable temperatures will actually extend much further downstream most of the time, at least to Highway 180 or beyond. Cool-season temperatures and irrigation flows will continue to support trout all the way to Reedley. Flows of between 35-45 c.f.s. (depending upon the time of year) over Fresno Weir and into the lower river, toward Highway 180 and downstream areas, will be required. A minimum flow of 5 cubic feet per second is to be required in Dennis Cut, a small channel that leaves the river on its left (south) bank near Avocado Lake. New gaging stations with flow recorders will be added at Fresno Weir and at Dennis Cut. These together with existing gauges and measurement points at the Corps of Engineers Bridge, Mill Creek and the various canals, will assure that flow objectives are met. Further flow enhancements are targeted for 2005 for water years with runoff of more than 1,550,000 acre-feet. Parties to the agreement recognize that achieving the future flow enhancements will require development of conjunctive water use programs to provide the additional water in a manner that avoids unacceptable impacts to beneficial water uses or injury to Kings River water users.

Stream Temperatures

Ⓟ By utilizing enhanced flows, the KRWA will attempt to maintain water temperatures suitable for trout in as much of the river as possible. Temperature monitoring will take place at the Fresno Weir; however, cool temperatures will usually extend well downstream of that point. There is acknowledgement that there may be infrequent circumstances in which the river's conditions may prevent stream temperature goals from being achieved. If so, the parties agree that they will as quickly as possible aid in the recovery of any fishery losses. There is also recognition that optimum management of Kings River water release temperatures will depend upon development of the proposed turbine bypass system at the base of Pine Flat Dam and development of a multi-level water intake structure over the penstock inlets on the dam's upstream face.

Temperature Control Pool

Ⓟ KRWA member units are modifying operations to maintain Pine Flat Reservoir storage of not less than 100,000 acre-feet, subject to conditions beyond the reasonable control of the KRWA and its members. This will help maintain a pool of cool water for use in reservoir and downstream fisheries under many, although possibly not all, critically dry conditions. Pine Flat Reservoir has never previously had any sort of minimum storage requirement. KRWA member units have made available approximately 12% of their storage rights. That storage is to provide water for the temperature control pool as well as specified amounts of water Pacific Gas and Electric Company will be entitled



Minimum flows for trout habitat below Pine Flat Dam will be enhanced.

The Fisheries

Management Program is "...an enhancement program which will, among other benefits, extend trout habitat suitability throughout the year in most years, and for longer periods in every year than existed historically."

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'Targets' For Kings Projects And Programs

Goals For Various River Reaches Reflect Adaptive Management

Aquatic Resource Enhancement Goals adopted as part of the Kings River Fisheries Management Program reflect the plan's adaptive management technique.

The initial goals, covering Pine Flat Reservoir and the Kings River downstream from the dam, identify a set of desired future conditions in different river segments.

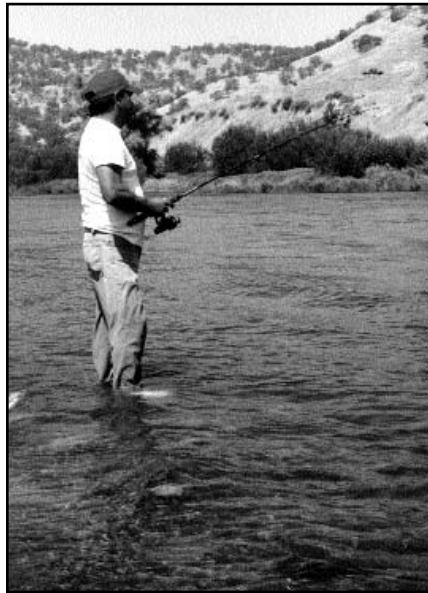
According to the plan, the enhancement goals "are intended to serve as initial `targets' for such projects and programs as may be undertaken" as a result of a statement of intent adopted in August 1994.

That statement, adopted by the Kings River Conservation District, Kings River Water Association and California Department of Fish and Game, proved to be the foundation for the Fisheries Management Program that was approved by the three agencies May 28.

The plan cautions that its Aquatic Resource Management Goals "should not be interpreted as requirements or standards, but rather as general guidance for programmatic decisions, with respect to divergent opportunities that may present themselves today and in the future. As such, they are likely to be adjusted to reflect changing needs, opportunities and constraints, as tempered by experience."

The agencies agreed that it is desirable to retain flexibility "to adapt and refocus the program."

Another statement recognizes "known inherent conflicts" within the



An angler tries his luck in the Kings River below Pine Flat Dam

goals, including necessary operation and maintenance of lower river channels for safely conveying flood waters.

A consensus basis is to be utilized for pursuing and implementing the initial goals, although it is acknowledged that portions "may not be fully realized to the satisfaction of everyone. Expectations in this process must, therefore, be reasonable, respecting the natural physical limitations imposed by the river and watershed, as well as the broad range of beneficial water uses."

As an example, the parties agreed that they must "consider the natural variation in water availability when establishing flow, temperature and reservoir carryover storage targets."

The best possible scientific information and techniques are to be employed. All parties agree they will cooperate in balancing needs of trout, native species and the reservoir's fisheries with other beneficial uses.

Fishery management objectives taking maximum advantage of opportunities for conjunctive or sequential uses of water are to be identified.

The Aquatic Resource Enhancement Goals include six planning area segments. There are provisions to monitor and manage non-native species and, in many areas, native species. Where possible, improved angler access is to be sought. To the extent possible, riparian habitat improvements, including water shading and aesthetics, will be pursued.

By river segment, other initial goals include:

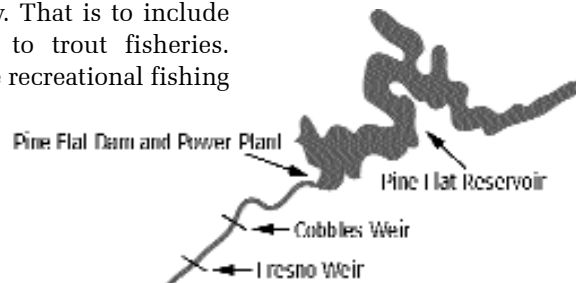
Pine Flat Reservoir -

PG&E Kings River Powerhouse Downstream To Pine Flat Dam

Emphasis is to be on all-year mixed fishery opportunities, including maintenance of warm-water fisheries and providing seasonally stocked trout. Consistent with other fishery priorities, beneficial uses and flood control requirements, the parties will seek to maintain a volume of cool and well oxygenated water sufficient to support carryover "put and grow" reservoir trout fisheries from year to year, to support trophy fisheries in the reservoir and upstream. 🐟

River Reach 1 - Pine Flat Dam to Cobbles Weir

Emphasis is to be on an all-year, high-yield trout fishery. That is to include cooperative efforts to provide habitat that is conducive to trout fisheries. Supplemental trout stocking is to be used to provide intensive recreational fishing (without damaging natural trout populations).



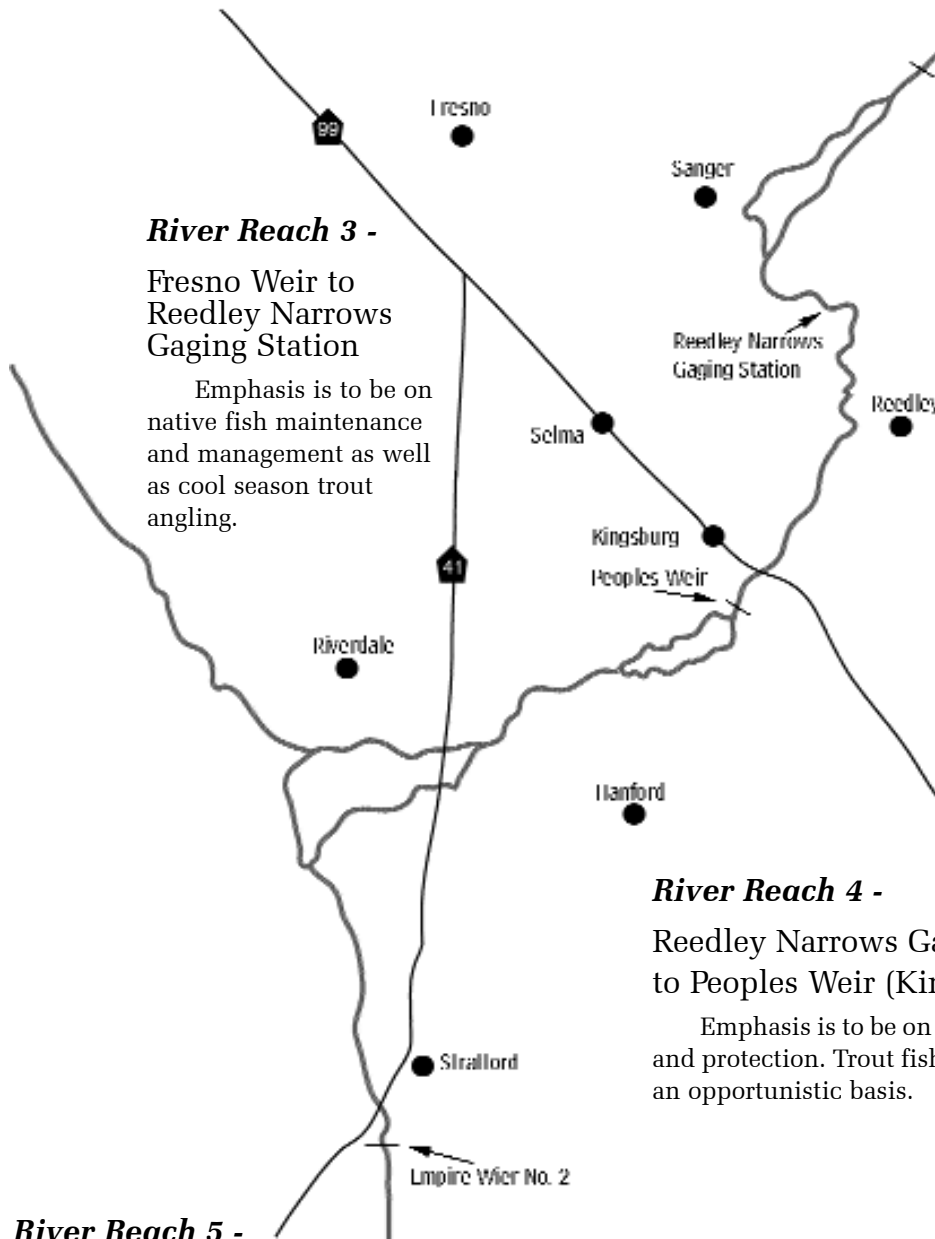
River Reach 2 - Cobbles Weir to Fresno Weir

Emphasis is to be on an all-year premium-quality trout fishery, with habitat suitability and focused management to promote continuous trout fisheries characterized by trophy trout of older age-classes. Self-reproducing trout fisheries are to be promoted to the extent they can be maintained consistently with other fishery goals and Kings River beneficial uses. Supplemental fish stocking is to be utilized on an as-needed basis.

River Reach 3 - Fresno Weir to Reedley Narrows Gaging Station

Emphasis is to be on native fish maintenance and management as well as cool season trout angling.

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River Reach 4 - Reedley Narrows Gaging Station to Peoples Weir (Kingsburg)

Emphasis is to be on native species maintenance and protection. Trout fisheries can be maintained on an opportunistic basis.

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River Reach 5 - Peoples Weir to Empire No. 2 Weir (Highway 41, Stratford)

Emphasis is to be on native species maintenance and opportunistic warm water angling as water is available. Flows are not to be specifically provided to sustain these fisheries at times when water is not being released for other conjunctive purposes due to extensive channel percolation losses sustained below Peoples Weir and the effect of these water demands have on the upstream fisheries programs in the driest years.

Emphasis is to be on native species maintenance and opportunistic warm water angling as water is available. Flows are not to be specifically provided to sustain these fisheries at times when water is not being released for other conjunctive purposes due to extensive channel percolation losses sustained below Peoples Weir and the effect of these water demands have on the upstream fisheries programs in the driest years.

Major Features And Benefits, *contin-*

to hold in Lake Wishon and Courtright Lake under certain circumstances defined in the new KRWA-PG&E agreement, also signed May 28. The PG&E agreement and the upstream water release modifications it requires were necessary to be able to create and protect Pine Flat Reservoir's temperature control pool.

Funding and Improvement Projects

⌘ KRWA and KRCD will collectively provide \$100,000 annually (in cash and/or in-kind services) during the next 10 years to install, operate and maintain Kings River physical improvements to enhance fish and wildlife resources. These may include, but are not limited to, creation of spawning sites, fish passage facilities and fish habitat improvements. The CDFG will seek appropriations, grants and other funding sources of at least \$1 million during the same period. Private parties with interests in the Kings River fishery and/or recreation will also be approached about sharing in additional funding for specific programs.



A new gaging station will be developed at Fresno Weir (lower center) to help monitor the new program's flows.

Adaptive Management

⌘ The program identifies desired future fishery conditions for different Kings River segments but makes it clear that these are neither requirements nor standards. Rather, they are general guides for programmatic decisions. Adaptive management is to guide the program, adjusting to changing needs, opportunities and constraints, as well as provisions to facilitate public participation and involvement.

Cooperative Strategies

⌘ The program will be implemented to achieve a number of multi-species aquatic resource goals. It will consider natural variations in water availability when establishing flow, temperature and reservoir carryover storage targets. Good science will be developed and used. All parties will balance fishery needs with other beneficial uses, keeping established water rights in focus. Maximum advantage is to be made of conjunctive or sequential uses of water.

Consensus Based

⌘ Decisions and technical efforts are to be conducted by consensus among members of the program's Executive Policy Committee and Technical Steering Committee, upon which each agency will be represented. Opportunities for public participation and involvement in program development will be encouraged. Meetings of the Executive Policy Committee are to be public. A public advisory group will be created.

Increased stocking and enforcement will help improve fishing in the Kings River below Pine Flat Dam.

To Help the Fishery

⌘ CDFG will consult with the public, the KRWA and KRCD in examining the need for new fishing regulations. If new regulations are determined by the Department to have potential to improve or preserve the enhanced trout fishery

New Life For An Old Channel

An old Piedra area channel that only a few months ago was choked and blanketed with overgrowth is on the brink of becoming the young Kings River Fisheries Management Program's most visible and tangible sign of habitat enhancement progress.

Construction is scheduled to be completed this spring along the alignment of the old channel of a new, specially designed channel to be conducive to the natural spawning and rearing of trout.

Known as the Thorburn Spawning Gravel Project, the work is taking place alongside Piedra Road, immediately downstream from Winton Park.

Preliminary work began last fall when the Kings River Conservation District hired a contractor to clear the project site of its thick, practically impenetrable stands of arundo (also known as "false bamboo.") With an extensive root structure in place, KRCD anticipates an extended struggle to fully eliminate the arundo.

The extensive site work was necessary to provide visibility for KRCD engineers to be able to see the setting and calculate channel earthwork quantities. "As we were completing the project's feasibility study last April, it was difficult to even estimate the cross section of the channel," said Dale Stanton, KRCD engineering division chief.

Total project cost is projected to be \$222,000. The cost will be partially offset by a \$116,000 grant obtained by KRCD from Caltrans under their Environmental Enhancement and Mitigation Program. The remaining costs will be shared equally by KRCD and Kings River Water Association.

"We hope to have the project completed by May 20," Stanton told members of the Kings River Fisheries

Management Program Public Advisory Group.

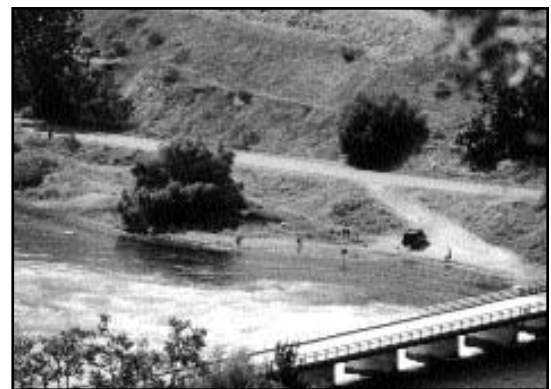
The channel is approximately one-half mile in length, along the left (southeast) bank of the main river. A feasibility study, completed by the KRCD prior to enactment of the Kings River Fisheries Management Program, determined that the channel will be an effective spawning site for trout.

Project designers have added meanders to the channel in order to optimize its length and habitat benefit in the space available. Further habitat enhancement will be achieved through the planting of trees that are native to the area, such as oak, cottonwood and willow.

Water will flow from the river into the channel through a gated inlet structure that, together with the shape and slope of the channel, will allow control of the depth and velocity of water in the channel. This will create conditions favorable for spawning, hatching and rearing of trout. Additionally, hiding cover will be provided by strategically placed logs and boulders.

The channel's outflow has been designed to blend naturally into the river from a calm pond, in which young fish can safely grow. Trout will be able to enter and exit the spawning channel at the lower end. It will be available for use all year.

The project is being pursued ahead of the major portion of the Kings River Fisheries Management Program planning process because of availability of funding and the fact that studies had been completed.



These picture represent before and after views of stage one (channel clearing) of the Thorburn Spawning Garvel Project. The sycamore in the left of both pcitures shows the heavy undergrowth of non-native flase bam-boo which had invaded the area for many years, choking out native plants.

Construction of the project at this ideal location would not have been possible were it not for the generosity of the owners of the site, Jack and Margaret Thorburn. Because of their avid interest in environmental issues, particularly those concerning rivers and fisheries, they were prompted to enter into an easement agreement for use of the property.

While the project promises to be a shot in the arm for the Kings River's overall fishery health there is bad news for anglers: The Thorburn Spawning Gravel Project will be off limits to all fishing.

Historic Fishery Plan, *continued*

Dean Jensen, KRWA chairman, inked the agreement for the river's member units. He, too, thanked those who labored several years to make the new Fisheries Management Plan a reality.

"I'm sure this will work out for the best," Jensen said. "I hope the fishing is excellent."

Signing for KRCD was General Manager-Chief Engineer Jeff L. Taylor who said of the occasion, "It was a very significant day."

Another important agreement, between Pacific Gas and Electric Company and the KRWA, was signed, modifying a number of upstream storage and release arrangements between the agencies. That agreement, involving PG&E's Courtright Lake and Lake Wishon, was necessary to provide the water needed to make the broader framework agreement work as intended.

"The PG&E agreement was crucial," Taylor noted. "Without it, the framework agreement could not happen."

All 28 member units of the KRWA signed a separate implementation agreement that will internally govern river operations under the framework agreement. KRWA officials and leaders of the river's irriga-

tion districts and water companies immediately began implementation of the various agreements.

Hundreds of hours of meetings and negotiations, and immeasurable study and research, went into making the new program a reality, particularly following execution of a Statement of Intent to pursue the process by the Parties five years ago.

"It did not come easily," observed Dale Mitchell, one of the Department of Fish and Game's key negotiators.

Because the agreement is completely voluntary, Mitchell said, "More public benefits (a broader scope of beneficial water uses) will be achieved. We are enhancing the situation."

Many elements contained within the program "are in there because anglers wanted them in there," Mitchell said. He termed the program "a workable and voluntary balance of the river's beneficial uses that is considered a national showcase example of multi-party cooperation."

Kings River Watermaster Douglas J. Woodman, who manages the KRWA, termed the program "a unique partnership. By working together, we have been able to enact a program that all concerned hope will immediately improve the Kings River's fish-

ery habitat below Pine Flat Dam."

The framework agreement makes possible phased implementation, to begin putting the program in place while continuing work to develop other program phases as longer term objectives.

Along with agreeing to work together and involve the public, the Department of Fish and Game, KRWA and KRCD have agreed to continue working closely with the U.S. Army Corps of Engineers on feasibility studies of possible environmental projects at Pine Flat Dam and along the Kings River.

Historically, river temperatures within the lower foothill and valley reaches were seasonally too warm to support trout in most years. Completion of Pine Flat Dam in 1954 made possible an all-year trout fishery, surviving in the dam's cool downstream "tailwater." Thanks to stocking of hatchery-produced trout, a popular trout fishery resulted. The new Program is expected to further enhance those trout fisheries through increases in river flows and better management of water temperatures. It will also provide for the needs of other native fish species which inhabit the lower river area.

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