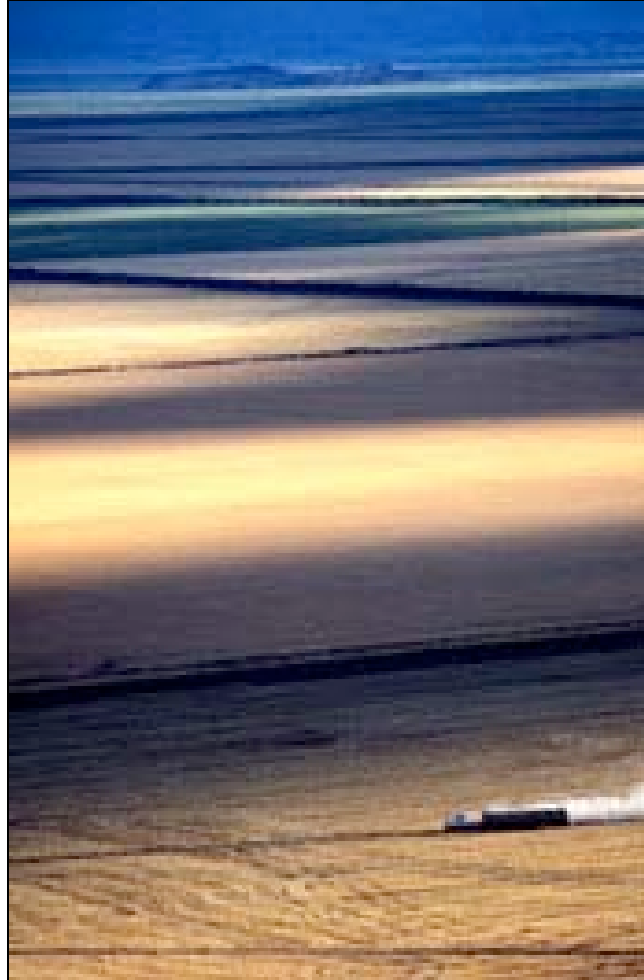


The Klamath Project at 100:
Conserving our Resources, Preserving our Heritage

1905-2005: The First Century of Water for the Klamath Project



Grain Truck, Lower Klamath Lake, 2004

Prepared by Dan Keppen, Executive Director
Klamath Water Users Association
December 2004

Background of Klamath Water Users Association

The original Klamath Water Users Association was organized on March 4, 1905 under Oregon statute and capitalized in the amount of \$2,000,000. That Association was created by local farmers, livestock producers, businessmen, bankers, attorneys, and community leaders interested in seeing the Klamath Reclamation Project constructed with the least amount of cost and for the lasting benefit of the entire Klamath community.

Working in cooperation with Reclamation the stockholders of the Association contracted with the U.S. Secretary of the Interior to assume the responsibility of payment to the United States the cost of the Klamath Project irrigation works on November 3, 1905. The Association was active in bringing in lands to be served by the Project and addressing water right matters of those lands. By the 1950's much of the construction costs of the project had been reimbursed to the United States, and irrigation districts assumed the contractual obligations for maintaining and operating the Project.

The current Klamath Water Users Association (KWUA) has its origins in the Klamath Water Users Protective Association, bylaws adopted June 22, 1953, organized to address water right and electrical power issues for Klamath Basin irrigators. The Protective Association reformed itself March 16, 1993 with amended bylaws, and incorporated in 1994 as the modern Klamath Water Users Association.

The KWUA represents private rural and suburban irrigation districts and ditch companies within the Klamath Project, along with private irrigation interests outside the Project in both Oregon and California in the Upper Klamath Basin. The KWUA is governed by an eleven-person board of directors elected from supporting irrigation districts, private irrigation interests, and the business community. The KWUA now represents over 5,000 water users on 1,400 family farms.

ASSOCIATION

KWUA's mission statement: *To preserve, protect and defend the water and power rights of the landowners of the Klamath Basin while promoting wise management of ecosystem resources.*

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Executive Summary

The Klamath Project in 2005 marks its 100-year anniversary. This report summarizes the original formation of the Project, describes the enthusiastic response of the local community to the federal water project, and steps through the development of the Project in ensuing decades. The story of the pioneers, early settlers, and homesteaders who helped settle the area – veterans of both world wars - provides a sense of the character possessed by local farmers and ranchers, who had to rely on similar traits to keep their community alive when irrigation supplies were curtailed in 2001. And it explains a very important dynamic of the region, especially in recent years, where local water users are attempting to proactively address water supply challenges while at the same time trying to stave off a furious round of attacks launched by environmental activists.

The immediate future remains uncertain for Klamath Project irrigators, but their marked propensity for adapting to change will keep local farmers and ranchers in business for another 100 years. In order to deal with the uncertain water situation, and facing higher power costs in 2006, the 21st century Klamath Project irrigator is adapting, by developing new market niches for products, creating innovative approaches to energy use, conserving and marketing water, and developing habitat for fish and wildlife. The same abilities shown by pioneers and veteran homesteaders beginning over a century ago to carve out new communities from the wilderness will now be employed to conserve resources and preserve their remarkable and uniquely American heritage.



A load of produce from the Klamath Fair, October 1907.

The Klamath Project at 100: Conserving our Resources, Preserving our Heritage

“We desire to impress upon your mind the fact that 99% of the people in the Klamath Basin are a unit, and are clamoring for the assistance which might be rendered by the Government under the Reclamation Act.”

1905 Petition from Basin residents to the Secretary of the Interior

“The vision of the Klamath Basin as a place for human habitation must include agriculture, and an agricultural sector of sufficient size to be economically viable. This place ought to have an urban center and a scattering of pleasant small towns - and in between green fields with dancing water from irrigation works.”

Klamath Falls *Herald & News* Editorial

June 20, 2004

“Agriculture plays a vital role in this state’s economy. An economic issue is one thing, for the farmers who need the resource, need the water, to be able to make a living. There’s another piece to this that’s much larger for all Oregon, and that is a cultural issue. The people here are very, very important to the future of this state.”

Oregon Governor Ted Kulongoski,

At the A Canal Fish Screen, Klamath Falls, Oregon.

April 17, 2003

Introduction

The year 2005 marks the one hundred-year birthday of one of the oldest federal water projects in the western United States – the Klamath Irrigation Project. As was painfully made evident in 2001, when Klamath Project supplies were curtailed for the first time in 95 years, the local community and its economy are interwoven with the health of this irrigation project. One hundred years after overwhelming national policy supported its construction, the Klamath Project continues to play a critical role in the local community.

“The Klamath Project started out as a good thing, and it remains a good thing”, said Tulelake farmer Rob Crawford. “When the Project was created, Klamath Basin people were meeting a national call by doing what they were supposed to do - settle the West. Today, our efforts focus on preserving our heritage, while conserving our resources.”

At the beginning of the last century, when the local community learned that the Klamath Project would be developed, an “incredible celebration” ensued, said Paul Simmons, an attorney for the Klamath Water Users Association.

“The people of the Klamath Basin basically posed a proposal to the federal government,” said Simmons. “They told the government, ‘if you will be the plumber and the banker, we can do something good for the country.’”

The federal government did just that by constructing the irrigation project. Local growers repaid the construction costs in the ensuing decades. Today, thousands of people – family farmers and ranchers, their employees, and agriculture-related businesses – make their living directly from farming and ranching in the Klamath Project. In turn, their activities support the communities of Malin, Merrill, Midland, Bonanza, Tulelake, Newell, and Klamath Falls. And, equally important, their efforts yield high-quality safe food for the country and the world.

The last century has been one of massive transformation, vitality, shining hope, and deep despair for the farmers and ranchers served by the Klamath Project. The core reason for the creation of the Klamath Project – to develop water supplies and storage for irrigation uses – has been diminished as new competing demands, intended to satisfy Endangered Species Act (ESA) and tribal trust conditions, have come on line. As a result, after perceived ESA and tribal trust obligations are met, Klamath Project irrigators and national wildlife refuges essentially get the remaining water. Because very little carryover storage is provided by Klamath Project reservoirs, the farmers now find themselves becoming increasingly reliant on incoming flows to the reservoirs, rather than the stored water that was originally developed to provide them with a reliable summertime irrigation supply.

In essence, because of new laws and policies developed in the recent past, the original purpose of the Klamath Project has been somewhat lost in the shuffle. This became glaringly obvious in 2001, when for the first time in 95 years, water supplies to the Klamath Project from Upper Klamath Lake were curtailed before the irrigation season had even begun, to meet conditions set by federal fishery agencies to purportedly prevent harm to three fish species.

Three and one-half years after Klamath Irrigation Project (Project) water deliveries were terminated by the federal government, local water users are attempting to proactively address water supply challenges while at the same time trying to stave off a furious round of attacks launched by environmental activists. Project irrigators – who farm on lands straddling the California-Oregon state line - remain apprehensive about the future certainty of water supplies. However, the strong traits shown by the original Klamath Project settlers – self-independence, creativity, a sense of community – are still apparent, one hundred years later. Without these characteristics, the tragic events of 2001 might have become nothing more than passing headlines in the local newspaper. Instead, a galvanized community grabbed national media and political attention by forcing the rest of the country to see that things had gone too far.

Now, Klamath Project irrigators are preparing for the next 100 years. In order to deal with the uncertain water situation, and facing higher power costs in 2006, the 21st century Klamath Project irrigator is adapting, by developing new market niches for his products, creating innovative approaches to energy use, conserving and marketing water, developing habitat for fish and wildlife, and improving the symbiotic relationship he has with neighboring national wildlife refuges. The same abilities shown by pioneers and veteran homesteaders to carve out new communities from the wilderness will now be employed to conserve resources and preserve their remarkable and uniquely American heritage.

Overview

The irrigable lands of the Klamath Project (Project) are in south-central Oregon (62 percent) and north-central California (38 percent). Two main sources supply water for the Project: Upper Klamath Lake and the Klamath River on the Klamath system; and Clear Lake Reservoir, Gerber Reservoir, and Lost River on the Lost River system, are in a closed basin. The total drainage area for the Klamath Project, including the Lost River and the Klamath River watershed above Keno, Oregon is approximately 5,700 square miles.

Currently, approximately 225,000 acres, many previously submerged, have been transformed into productive farmland. The crops grown within the Klamath Project area consist of grain, hay, pasture, silage, mint, potatoes, onions, other vegetables, alfalfa, strawberry rootstock, and horseradish. This list of crops represents the majority of planted acreage within the Klamath Project over the last 40 to 50 years. The cropping pattern has varied from year to year, but the overall planted acreage has remained consistent.

The Bureau of Reclamation operates Clear Lake Dam, Gerber Dam, and the Lost River Diversion Dam. The Link River Dam is operated by the Pacific Power and Light Company in accordance with Project needs, or more recently also as directed by federal agencies. The Tulelake Irrigation District operates the Anderson-Rose Dam, and the Langell Valley Irrigation District operates the Malone and Miller Diversion Dams. The various irrigation districts operate the canals and pumping plants.

The original Klamath Project plan included construction of facilities to divert and distribute water for irrigation of basin lands, including reclamation of Tule and Lower Klamath Lakes, and control of floods in the area. The development of the stored water provided by the Klamath Project allowed for the controlled, beneficial use of water in the Upper Basin. Currently, late summer and fall flows in the Lower Klamath River are augmented with stored water that would not be there, but for the Project.

Under pre-Project conditions, natural controls existed below both Upper Klamath Lake and Lake Ewauna which stabilized lake levels except during critical droughts. Those controls were natural reefs of hard earth material in the channel and other channel constrictions. Under these pre-Project conditions, the Klamath River flowed into the Lower Klamath Lake

area. A 1906 map titled “Topographic and Drainage Map, Upper and Lower Klamath Project” shows the invert of the Klamath Strait approximately the same level as the Klamath River channel bottom near Keno. In addition, the Lost River terminated at Tule Lake. These flows flooded approximately 183,000 acres within Lower Klamath and Tule Lake. In general, under pre-Project conditions, Klamath River flows downstream of Keno likely occurred after a certain water level was reached in the Klamath River and Lower Klamath Lake.

An engineer speaking in the early days of the Project observed that adequate Klamath Project water supplies were not a worry. Rather – something that would be inconceivable today - dealing with too much water was more of a concern at the time:

“It contains an irrigation problem, an evaporation problem, a run-off problem, any one of which is difficult in itself but all of which together form a most perplexing whole,” said the engineer. “In nearly all reclamation projects water has to be conserved. In this project there is more than enough and the question of disposing of it becomes an important part.”



1906 Map of Pre-Project Area

Pioneers

Irrigation development began in areas now served by the Klamath Project in the latter half of the nineteenth century. Various landowners and entrepreneurs utilized water of the Klamath River and its tributaries, and undertook a wide range of visionary activities.

Prime farmland, exposed around the edges of old historic Tule Lake as early as 1846 stimulated early settlers' interest in irrigation. Similarly, early settlers beginning in the early 1860s relied on "naturally irrigated" greases and forage in the Lower Klamath area for pasture and hay. The first irrigation ditch was dug by George Nurse and Joseph Conger in the bottom of Linkville Canyon in 1868. In 1878, this ditch was expanded and incorporated into the Linkville Water Ditch Company. Early pioneers Steele and Ankeny pursued a canal to deliver water to land between Klamath Falls and Merrill. Ultimately, the canal system was replaced by the A Canal and its distribution system which, operated by Klamath Irrigation District, continues to serve Project land to this day.



Adams Cut, July 18, 1906.

Diversion for irrigation of additional agricultural lands in the area now comprising the Klamath Project was initiated in 1882 with construction of an irrigation ditch by the Van Brimmer brothers to the land from White Lake, which was fed by the Klamath River. Private interests further developed this project by constructing the Adams Canal in 1886, which was supplied also from White Lake. Frank Adams, with assistance from the Van Brimmer

Brothers, cut a canal through tule roots using hay-knives and a derrick, in order to improve diversion from White Lake. This canal ultimately extended to a length of 22 miles. By 1903, approximately 13,000 acres were irrigated by private interests, with the canal system in progress to deliver much more.

After the 1905 authorization of the Klamath Project (see below), many water rights were acquired to facilitate, and for the benefit of, the Klamath Project enterprise, and other agreements were made with other water right-holders. The Project utilized, extended, expanded and/or improved previously existing systems, and included construction of other facilities.

The Reclamation Act

In 1902 Congress enacted the Reclamation Act, which encouraged the settlement of lands in the western states and the development of agricultural economies to feed the nation. The 1902 Act provided for federal financing of irrigation works, with the construction costs to be repaid over time by project water users. In addition, public lands were made available for homesteaders who accepted the responsibility to undertake improvements and pay the water charges. Both the Oregon and California legislatures also enacted laws making state-owned land available for use in the Klamath Project.

The Klamath Basin Calls in the United States Government

In 1903, the Reclamation Service conducted investigations that led in 1904 to the first withdrawal of land by the Secretary of the Interior for developing a federal irrigation project. J.B. Lippincott, a supervising engineer from Los Angeles –who also played a key role in the City of Los Angeles’ securing of Owens Valley water supplies – personally toured the Klamath Basin in June of 1904.¹

Although private irrigation projects were moving forward by the turn of the century, and some large-scale projects were being planned, most local citizens saw great value in a federally authorized and supported project. In 1905, local residents sent numerous petitions to Washington, D.C. requesting government irrigation assistance. By this time, a private corporation had given notion of its plans to develop water for what would ultimately become virtually the entire Klamath Project.

¹ Ironically, after Owens Valley agricultural water rights were secured by the City of Los Angeles, many of the displaced farmers moved to the Klamath Basin for the “reliable” water supplies of the Klamath Project. On their way north, they passed the first Reclamation Project in the West – the Newlands Project, near Reno, Nevada.

“We desire to impress upon your mind the fact that 99% of the people in the Klamath Basin are a unit, and are clamoring for the assistance which might be rendered by the Government under the Reclamation Act,” stated one petitioner.

In November 1904, F.H. Newell, Chief Engineer of the federal Reclamation Service, told a large audience of enthusiastic farmers in Klamath Falls that, in his judgment, they had “a great irrigation project”.

Early in 1905, California and Oregon had ceded certain rights in the Upper and Lower Klamath Lakes and Tule Lake to the United States. On May 1, 1904, a board of engineers made a report that served as the basis for authorization of the Project. Congress authorized the use of lands and water in accordance with the State Acts of February 1905. The Secretary of the Interior authorized development of the Project on May 15, 1905, under provisions of the Reclamation Act of 1902.

Construction Begins

The Interior Secretary’s 1905 authorization provided for project works to drain and reclaim lake bed lands of the Lower Klamath and Tule Lakes, to store waters of the Klamath and Lost Rivers, to divert irrigation supplies, and to control flooding of the reclaimed lands. The states of Oregon and California ceded then-submerged land to the federal government for the specific purpose of having the land drained and reclaimed for irrigation use by homesteaders. The Oregon Legislature also authorized the raising and lowering of Upper Klamath Lake in connection with the Project, and allowed the use of the bed of Upper Klamath Lake for storage of water for irrigation.

Construction began on the Project in 1906 with the building of the main “A” Canal. Water was first made available May 22, 1907, to the lands now known as the Main Division.



1907 Completion of the A Canal Headgates

This initial construction was followed by the completion of Clear Lake Dam in 1910, the Lost River Diversion Dam and many of the distribution structures in 1912, and the Lower Lost River Diversion Dam in 1921. (In 1970, a public dedication at the Lower Lost River Diversion Dam officially changed the name of the structure to Anderson-Rose Dam.)



Constructing Clear Lake Dam, September 1909.

Large stone in self-dumping car.

A contract executed February 24, 1917, between the California-Oregon Power Company (now the Pacific Power and Light Company) and the United States authorized the company to construct Link River Dam for the benefit of the Project and for the company's use, and also extended to the water users of the Klamath Project certain preferential power rates. The dam was completed in 1921. The contract was amended and further extended for a 50-year period on April 16, 1956.

The Malone Diversion Dam on the Lost River was built in 1923 to divert water to Langell Valley. The Gerber Dam on Miller Creek was completed in 1925, and the Miller Diversion Dam was built in 1924 to divert water released from Gerber Dam.

In the Great Depression, continued settlement and leasing and distribution construction resulted in a significant increase, between 1930 and 1939 of the acres receiving water directly from Project facilities. The project work undertaken during this period included the enlargement of the Lost River Diversion Channel.

In 1940, construction was begun on Pumping Plant D and the Tule Lake Tunnel. By 1942, these facilities, as well as the P-Canal were completed. In 1943, the Ady pumping plant was placed in operation, and in the next two years, the Straits Drain and pumps were constructed and installed and began operation.

Homesteaders

The story of the homesteaders is a source of great pride in the Klamath Project. As Tule Lake receded according to plan, the lake bottom became suitable for cultivation. The land that ultimately became homesteads was under jurisdiction of the U.S. Bureau of Reclamation (Reclamation). Homesteading and developing more productive agricultural land was the goal of the reclamation project that “reclaimed” the beds of Tule Lake and Lower Klamath Lake to expose more arable land. After Tule Lake was dewatered, a large area of public land became available for agriculture. The government would lease this land to settlers, and in fact leased as much as 50,000 acres in Tule Lake in the 1920s. Over time, most of this land was homesteaded.

In 1917, 180 people applied for the 37 homestead parcels the Reclamation made available on the drained wetlands and lake beds. Between 1922 and 1937 there were five more homestead offerings and hundreds of homesteaders settled in on the fertile soil of the drained lake bed. Then, World War II curtailed the homesteading process.

1927 Homesteader Affidavit

In three drawings held in 1946, 1948 and 1949, a total of 216 World War II veterans were awarded homesteads on farmland in the Tule Lake Basin, as a thank you from a grateful nation. The number of applicants was far greater than the number of available homesteads. Veterans and the community gathered to watch the names drawn from a pickle jar. Farm homesteads and crop-producing land were the goals of reclamation, and the Tule Lake Basin became a showcase for reclamation work.



Farm Lottery Article - Life Magazine

Each winner received a small plot of land, and brought their hopes and young families to the empty basin to further the development of the irrigation project.

“When I heard about a homesteading opportunity in Tulelake, California I applied,” Dave Carman told a congressional subcommittee in the summer of 2004. “In 1948 I was one of 44 applicants chosen out of 2,000. At the time I had never heard of Tulelake except as a great hunting area.”



The sign says it all.

“When I arrived to see my homestead there was nothing there, just an expanse of opportunity,” recalls Carman. “No roads, no houses, no trees, just bare ground. I then pitched my tent in the corner of my homestead.” My wife Eleanor was expecting our second child, but could not join me until later. A tent was not acceptable living quarters for a young woman, a small child and another baby on the way.”

The settlers formed organizations, elected a school board, and went about creating a society.

“When I began my new life as a Tulelake homesteader there were approximately 300 homesteaders, most of them with families,” said Carman. “We united and began to build schools, churches and a hospital in Klamath Falls. We started a community. We were living the American dream and our dream was achieved by hard work and dedication, and I must say we could never have done this without our wives.”



Homesteaders: Robinsons in 2001 Remember Days Gone By

The Klamath River Compact

The Klamath River Compact (Compact) is a law of both Oregon and California, consented to by and Act of Congress. In the following decade, a variety of concerns and issues led to the passage of the Compact in 1957. These included:

- Differing positions regarding the extent of development that could occur under Klamath Project water rights;

- The related issue of priority of Klamath Project and overall Upper Klamath Basin irrigation development as against other uses, especially generation of hydro-electric power on the mainstem Klamath River; and
- Concerns over potential future out-of-basin water exports.

The development of the Compact was closely tied to an application for a water right filed by the California Oregon Power Company (Copco) in 1951. This application anticipated using water at a proposed hydroelectric project on the Klamath River known as “Big Bend No. 2.” In turn, this dispute folded in past dealings, agreements and opinions related to the operation of Link River Dam on Upper Klamath Lake.

The agreements made between Copco and the Bureau of Reclamation at the time of construction of Link River Dam around 1920 had been controversial. Upper Klamath Basin irrigation interests had three primary concerns:

1. Power development, as an incident of the Project’s reclamation purpose, should be undertaken only by the United States;
2. That the agreements threatened Klamath Project water supplies; and
3. The agreements were inconsistent with state legislation authorizing use of Upper Klamath Lake by the United States for storage or reclamation purposes.

In 1951, Copco filed an application with the Oregon Hydroelectric Commission (OHC) for a water right for the proposed Big Bend No. 2 hydroelectric facility. The OHC at that time had authority and jurisdiction over issuance of water rights for hydropower facilities. Copco at the time of filing took the position that water was available for appropriation and Copco was entitled to a right, senior in priority, to any future Upper Klamath Basin irrigation that was not then actually developed.



J.C. Boyle Dam on the Klamath River.

Copco's application to the OHC, and its parallel application to the Federal Power Commission (FPC) for a license under the Federal Power Act, were contested and opposed by the Department of the Interior and various agricultural and irrigation interests. The OHC did not act on Copco's application until 1956.

The States of California and Oregon appointed commissioners to negotiate an interstate Compact. At the same time, Reclamation and local water users were negotiating a new agreement with Copco for operation of Link River Dam. It appeared that such an agreement might be concluded prior to enactment by the States of a Compact. The draft Copco contract was brought before the Compact negotiating commissioners, who sought to ensure consistency with the Compact being developed. During the course of several meetings of the Compact commissioners, terms were developed which resulted in conditions in the FPC license, the water right certificate, and a new contract for Copco's operating of Link River Dam.

After preparation of various drafts, negotiation of the Compact was concluded and the legislatures of Oregon, California, as well as the United States Congress, acted in 1957. The major purposes of this compact are, with respect to the water resources of the Klamath River Basin:

- A. *To facilitate and promote the orderly, integrated and comprehensive development, use, conservation and control thereof for various purposes, including, among others: the use of water for domestic purposes; the development of lands by irrigation and other means; the protection and enhancement of fish, wildlife, and recreational resources; the use of water for industrial purposes and hydroelectric power production; and the use and control of water for navigation and flood prevention.*
- B. *To further intergovernmental cooperation and comity with respect to these resources and programs for their use and development and to remove causes of present and future controversies by providing (1) for equitable distribution and use of water among the two states and the Federal Government, (2) for preferential rights to the use of water after the effective date of this compact for the anticipated ultimate requirements for domestic and irrigation purposes in the Upper Klamath River Basin in Oregon and California, and (3) for prescribed relationships between beneficial uses of water as a practicable means of accomplishing such distribution and use.*

The Compact recognized water rights for then-existing and future needs in the Klamath Project service area. It also established a system of priority for new water rights under which Upper Basin irrigation (up to a specified number of acres) had superior rights over water for power generation, fish or wildlife, or recreation.

In short, the Klamath Compact provided guidelines to lead the competing interests of the Klamath River watershed towards a more harmonious future. For the next 40 years, the intent of the Compact was essentially fulfilled, until the early 1990s, when new pressures to address endangered fish and tribal trust demands resulted in the reemergence of fractionalized conflict into the Upper Basin. Although it had been seen as a resolution for future disputes, the Compact has been interpreted not to override the Endangered Species Act or tribal trust water rights.

The Klamath Project’s Finishing Touches

Through the 1950s, Reclamation envisioned continued development of the Project that would have doubled its current size by including Butte Valley, California and other areas. The plans were not implemented and the Project acreage has not significantly increased since the end of the 1940s. In the following decades, the delivery system has been improved, bottlenecks eliminated, and relatively small areas have both been brought under irrigation and converted to commercial or residential development.

By 1960, due in part to improvements made on Tule Lake dikes, the M Canal, the Lost River Diversion Channel, and installation of new canals in the southern portion of the Tulelake Irrigation District (TID) service area and the Miller Hill Pumping Plant, the Project provided irrigation service to nearly 216,000 acres.



Tulelake, California

In the 1960’s, improvements and expansion of certain facilities led to the formation of Klamath Basin Improvement District. The Stukel and Poe Valley Pumping Plants were constructed and the Miller Hill Pumping Plant enlarged. The D, F and G-Canals were also

enlarged. These facilities provided more reliable service to certain lands and also added land to the area that could receive water from Project works.

In the 1970's, Shasta View Irrigation District and Reclamation entered a \$3.2 million contract for installation of a pressure irrigation system to replace the previous gravity-fed system. The 1972 Project history reported, "...the Project provided irrigation and drainage service to 223,661 acres," while the total harvested acreage "...was 193,160, down 2,329 acres from 1971." Also in the 1970's, the Straits Drain was enlarged.

Because of the Klamath Project's design and the interrelated nature of water use within it, including the use of return flows by farmers and the refuge, Project efficiency is very high. A recent assessment of Klamath Project water use efficiency² implies that a sophisticated seasonal pattern of water use has evolved in the Klamath Project. One must understand that the Klamath Project has developed into a highly effective, highly interconnected form of water management. According to the 1998 Davids study (see footnote), effective efficiency for the overall Project is 93 percent, making the Klamath Project one of the most efficient in the country³.

New Demands

For eighty years, Klamath Project irrigation supplies proved sufficient to meet the needs of the area's burgeoning farming and ranching communities. Although there were years where Mother Nature and Klamath Project storage capacity proved insufficient to meet full irrigation demands, the local community managed to stretch thin supplies and make things work. That all changed in the early 1990s, when steadily more restrictive government agency decisions made to meet Endangered Species Act (ESA) goals began to steadily chip away at the stored water supply originally developed for irrigation.

Two sucker species were listed (1988) as endangered and coho salmon were listed (1997) as threatened under the ESA. Since then, biological opinions rendered by the U.S. Fish and Wildlife Service (for the suckers) and NOAA Fisheries (for the coho), have increasingly emphasized the reallocation of Project water as the sole means of avoiding jeopardizing these fish. Klamath Project "operations plans" based on these biological opinions also factor in tribal trust obligations, although the nature and extent of such obligations is undefined.

² "Klamath Project Historical Water Use Analysis", Davids Engineering for U.S. Bureau of Reclamation, October 1998.

³ For example, Tulelake Irrigation District irrigates 62,000 acres of farmland. In the 1990s, the district diverted an average of 131,000 acre-feet of water. Each year, an average of 80,000 acre-feet was pumped out of the district. Consumptive use within the district is considerably less than the amount of water diverted. The reason is the difference from the return flow from other districts and the reuse of water within the Project.

Sucker Listings

In the past twelve years, political and regulatory demands have affected activities at the Klamath Project. In 1988, the short nose sucker and the Lost River sucker, two species that live in Upper Klamath Lake, were designated as endangered under the ESA. Biological opinions issued by the U.S. Fish and Wildlife Service (USFWS) in 1992 and 1994 concerning operation of the Klamath Project identified actions to avoid jeopardy to suckers. When the suckers were listed, there had been no mention whatsoever of reservoir elevations as a factor affecting sucker populations. These operation elevations were adopted by Reclamation. The reservoir elevations pertaining to Upper Klamath Lake generally allowed the Project to operate for its intended purposes. However, the United States District Court of Oregon found that the reservoir elevations pertaining to Clear Lake and Gerber Reservoirs to be arbitrary and capricious, and they were invalidated in a succession of decisions⁴.

The most compelling and prominent reason why the federal government justified listing the two sucker species as “endangered” in 1988 was an apparent abrupt downturn in both populations during the mid-1980s. To support the decision to list the suckers, the USFWS believed the only significant remaining populations were in Upper Klamath Lake. We now know that the assumptions by the USFWS were in error and the assumed sucker population crisis never materialized. In fact, shortly after listing of the species, the populations demonstrated dramatic increases⁵.

Just prior to the listing of the suckers in 1988, a sport snag fishery was allowed. Before 1969, the fishery was largely unregulated with no harvest limit; in 1969 a generous bag limit of 10 fish per angler was imposed. During the early to mid-1980s, despite the belief that the numbers of fish were in a state of rapid decline, the State of Oregon still allowed the sport snag fishery. Ultimately, because of increased focus on the status of the sucker populations, Oregon eliminated the fishery in 1987. Some fisheries experts believe that if the USFWS would have properly assessed the known impacts on the suckers caused by the snag fishery and the benefits from ceasing the fishery, it very likely could have affected the ultimate listing decision.

“Simply stated, the largely unregulated snag fishery slaughtered the sucker populations,” said Dave Vogel, with Natural Resource Scientists, Inc. “Since the fishery was eliminated in 1987, the two sucker populations dramatically rebounded. The threat was removed and the populations increased ten-fold.”

⁴ *Bennett v Spear*, 520 U.S. 154 (1997); 5 F. Jupp. 2d 887 (D. Or. 1998); *Bennett v. Badgely*, No. 93-6075-HO (April 13, 1999, June 11, 1999).

⁵ Vogel, David, 2004. Testimony Before the Committee on Resources (Subcommittee on Water and Power), United States House of Representatives. Oversight Field Hearing on The Endangered Species Act 30 Years Later: The Klamath Project.

At the time of the listings in 1988, the Klamath Project was not identified as having known adverse effects on the sucker populations, yet four years after the listing, using limited or no empirical data, the USFWS turned to the Klamath Project as their singular focus.

Paradoxically, since the early 1990s, despite new beneficial empirical evidence on the improving status of the species and lack of relationship with Klamath Project operations, the USFWS became ever more centered on Project operations and increased restrictions on irrigators instead of paying attention to more obvious, fundamental problems for the species. This circumstance caused tremendous expense in dollars and time by diverting resources away from other known factors affecting the species.

Coho Salmon Listing

A similar circumstance occurred with NOAA Fisheries during and after the coho salmon listing in the lower basin in the late 1990s. It cited the reasons to list coho salmon, excluding Klamath Project operations as a significant factor affecting the species. There are many other documented factors that have affected salmon runs in the Klamath River⁶. The USFWS in the 1980s described the most important eight factors as “most frequently referred to with regard to recent population declines” of anadromous fish in the Klamath River. Those factors are:

- Over fishing
- Logging
- Trinity River transbasin diversion
- Irrigation diversions in lower Klamath tributaries
- 1964 flood
- 1976-1977 drought
- Sea lion predation
- Brown trout predation.

However, shortly following the listing, and with no supporting data, NOAA Fisheries chose to center its attention on the Klamath Project as the principal factor affecting coho salmon. In its biological opinions, NOAA Fisheries opined that much higher than historic flow levels, released from the stored water of the Klamath Project, would be needed to protect coho salmon downstream of Iron Gate Dam. Iron Gate Dam is located forty miles away and coho are generally found further downstream and in tributaries.⁷

In essence, both agencies adopted a single-minded approach of focusing on Klamath Project operations to artificially create high reservoir levels and high reservoir releases. This puzzling, similar sequence of events has yet to be explained by agency officials.

⁶ KWUA biologists compiled a comprehensive listing of those factors in March 1997.

⁷ Vogel, David, 2004. Testimony Before the Committee on Resources (Subcommittee on Water and Power), United States House of Representatives. Oversight Field Hearing on The Endangered Species Act 30 Years Later: The Klamath Project.



Commercial harvests of salmon intensified with the development of canning technology. By the early 20th century, habitat destruction combined with commercial harvests had resulted in serious salmon depletion on the Klamath River. Cobb (1930) estimated that the peak of the Klamath River salmon runs occurred in 1912, Snyder (1931) observed “in 1912 three [canneries] operated on or near the estuary and the river was heavily fished, no limit being placed on the activities of anyone”.

Problems on the East Side

Irrigation districts on the east side of the Klamath Project felt the first impacts from increased regulatory focus on lake levels in the early 1990s. Langell Valley Irrigation District (LVID) and Horsefly Irrigation District (HID) receive water from Clear Lake and Gerber reservoirs. Historically, stored water was released from these two reservoirs beginning about April 15 and ending about October 15 each year. These reservoirs are not large, but they provide the essential water supply to an otherwise arid area. In an average year, Clear Lake releases about 36,000 acre-feet of irrigation water, and Gerber releases about 40,000 acre-feet.

Clear Lake Reservoir contains populations of both endangered sucker species, and Gerber reservoir hosts one of the species. ESA-“threatened” bald eagles are also known to inhabit the Klamath Project area. In 1991, at the request of the USFWS, Reclamation initiated ESA consultation to assess the impact of the long-term operation of the Klamath Project on the suckers and the bald eagle. In the next year, three biological opinions were rendered by USFWS that imposed minimum levels in Clear Lake to purportedly protect the sucker populations.

As a result of the minimum lake levels imposed by the draft biological opinions, and the water lost to evaporation before the USFWS allowed any water releases, the Districts were not able to make their normal irrigation releases during the 1992 water year. Neither district received its first seasonal water delivery until May 15, 1992, a full four weeks later than normal. By

that date, 12,000 acre-feet of the water that had been stored in Clear Lake in March 1992 had evaporated, an amount that represents about 60% of LVID's total yearly withdrawal from Clear Lake Reservoir. As a result of the minimum lake levels and the evaporation losses, only 2,148 acres of the 16,800 irrigable acres within the LVID received *any* Klamath Project water at all.

The lack of water reduced both acreage farmed and per-acre yields that year. As a result of reduced yields, farm properties lost up to 70% of their assessed values in 1992. The lack of water also hurt the region's cattle ranching operations, because some ranchers could not produce pasture for their cattle. Water users who could afford the extra expense purchased feed to sustain their herds. Others had to cut back substantially on their herds or sell their cattle.

Wildlife also suffered as a result of the decision to impose minimum surface levels in the reservoirs. Because the Lost River obtains most of its water from releases from Clear Lake Dam and return flows from agricultural operations, the water levels in the Lost River and its tributaries were exceedingly low in 1992. As a direct result, wildlife relying on Lost River water, including deer, sandhill cranes, hawks, turtles, frogs, ducks, and more, were all noticeably scarce that year.

On July 22, 1992, USFWS finally issued its final biological opinion on the long-term operations of the Klamath Project. While the 1992 opinion conceded that "little" was known about Gerber Reservoir's shortnose sucker population, the opinion reported "good numbers" of these fish and noted that the Gerber sucker population appeared to be successfully reproducing, despite the lowered lake levels of the early 1990s.

Despite this *undisputed* evidence, the 1992 biological opinion concluded that continuing to operate the Project, including Clear Lake and Gerber reservoirs, in its historic manner was likely to jeopardize the continued existence of both sucker fish species. Reclamation accepted the USFWS recommendations for continued adherence to minimum lake levels, prompting the Districts and two of the individual farmers to sue the federal agencies.

Even after the federal district court entered judgment invalidating the jeopardy conclusions, USFWS defied this judgment, and the districts were forced to bring several additional motions to enforce the Court's rulings. At each stage of the legal proceedings, the districts prevailed, based largely on the fact that USFWS had *no* scientific evidence to justify its actions. When the United States Supreme Court considered the Districts' case against the USFWS, the Court described the purpose of the ESA's science requirement as follows:

The obvious purpose of the requirement that each agency "use the best available scientific and commercial data available" is to ensure that the ESA *not be implemented haphazardly, on the basis of speculation or surmise*. While this no doubt serves to advance the ESA's overall goal of species preservation, we think it readily apparent that another objective (if not indeed the

primary one) is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives.

Now, ten years later, HID and LVID enjoy positive relationships with USFWS and Reclamation. However, the problems they suffered in the early 1990s were a harbinger of things to come for other Klamath Project irrigators shortly after the turn of the new century.

2001 Curtailment

The net result of increasing restrictions on other Klamath Project water users was fully realized on April 6, 2001, when Reclamation announced its water allocation for the Project after U.S. Fish and Wildlife Service and NOAA Fisheries officials finalized the biological opinions (BOs) for project operations in a critically dry year. Based on those regulatory actions, Reclamation announced that – for the first time in Project’s 95-year history - no water would be available from Upper Klamath Lake to supply Project irrigators.



April 6, 2001 Local Headlines

The resulting impacts to the local community were immediate and far-reaching. Even with a later release of a small percentage of needed water over a 30-day period in July and August, thousands of acres of valuable farmland were left without water. In addition to harming those property owners, managers, and workers, also imparted an economic “ripple” effect through the broader community. The wildlife benefits provided by those farms – particularly the food provided for area waterfowl – were also lost with the water.



Kliewer Family in Dry Fields South of Klamath Falls - 2001

The local farming community is still reeling from the April 6, 2001 decision, and severe business losses echoed the hardship endured by farmers and farm employees. As farmers and laborers attempted to deal with the loss of jobs, a year's income, and in some cases the land itself, referrals for mental health counseling increased dramatically. The Tulelake school district lost around 50 students after farm families sold their land and moved on. Students were under stress, understandably confused as to why three species of fish were more important than their lifelong homes. Tragically, one Hispanic family had started out as field workers, and after a lifetime of piecework under the sun had saved enough to buy their own farm. They lost everything as a direct result of the irrigation cutoff⁸.

Veteran homesteaders, who fifty years ago were promised reliable water, felt betrayed by the same government, who chose to provide water to fish instead of farmers in 2001.

"I want the government to honor the contract that promised me and my heirs water rights forever," said Jess Prosser, a World War II veteran and Tulelake homesteader, in 2001, after water supplies were cut. "This land is our life. Farmers and fish have survived previous drought years when the farmers voluntarily cut back on water consumption. The Klamath Project was designed to withstand drought conditions, and right now there is more than ample water for agriculture and fish. The government took 100% of the water for fish, disregarding farmers, ranchers, families and numerous other species of wildlife in the Klamath Basin. This is a man-made disaster. This will be the end of a way of life and an entire community."

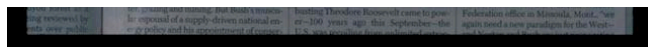
⁸ "Calamity in Klamath", Blake Hurst. The American Enterprise magazine. October / November 2002, pp 28-29.



Cemeteries Went Dry in 2001

The Farmers Fight Back

The local community did not take the decision lying down. Employing the ingenuity and perseverance that allowed them to successfully create brand new communities over the past century, local farmers, ranchers, elected officials and business leaders organized a “bucket brigade” to dramatize their plight, drawing nearly 20,000 sympathizers to the streets of Klamath Falls. A web site and cell phone calling tree were set up, and farmers, who only a year before were working their fields, suddenly became knowledgeable about the media. Civil disobedience, in the form of peaceful protests at the A Canal headgates, drew television crews from throughout the Pacific Northwest. The 2001 Klamath Basin crisis became the topic of front-page coverage and sympathetic editorials in publications like Time magazine, the Los Angeles Times, the Wall Street Journal, and the New York Times.



Time Magazine Captures Rob Crawford & Family, Summer 2001.

In part because of the tremendous media and political attention generated by the local community, a congressional field hearing was held in the summer of 2001 at the Klamath County fairgrounds, which drew the largest audience to ever attend such a hearing in the nation’s history. Much of the focus was on the decision-making and processes that led to the fishery agencies’ recommendation to curtail irrigation supplies.

In 2001, a desperate community essentially was looked in the eye and told, “sorry, we know it may hurt, but ‘the science’ is compelling and requires you to go without water.” This was wrong, literally, and as a matter of policy. For whatever reason, the agencies had become too close to, and too much a part of, the side-taking that had come to dominate issues surrounding the Klamath Project. For this reason alone, outside review was needed.



Nearly 20,000 marchers support the Klamath Bucket Brigade, May 2001.



Prayer / protest at the A Canal headgates, 2001.

Elected officials – from county commissioners and supervisors, to state representatives and senators, to U.S. Senators and Representatives, continued the fight, and ultimately, later in 2001, the U.S. Secretary of the Interior, Gale Norton, directed the National Academy of Sciences to conduct an independent peer-review of the agency decision to curtail irrigation supplies. Also, in early 2002, President Bush himself took a personal interest in the plight of the Klamath Project irrigator.

Enter President Bush

In January 2002, just months after the federal government curtailed Klamath Project irrigation deliveries for the first time in 97 years, Sen. Gordon Smith and Rep. Greg Walden met the president in southern California, boarded Air Force One, and took a slight detour over the Basin on their way to a Portland high school where the Mr. Bush was to deliver a speech. On the flight north, the president was briefed on the 2001 Klamath water crisis. When he entered the gymnasium at Park Rose High School, he opened his speech up with a pledge to help both the farmers and the fish of the Klamath Basin.



Compassion: George W. Bush Meets and Greets

Klamath Basin Residents in Redmond, Oregon, 2003.

In the ensuing two years, President Bush has followed through with his pledge by establishing a Klamath Basin cabinet-level working group, promoting sound and independent peer-reviewed science, and making funding of Klamath River water and environmental projects a priority. Enacted and requested Bush Administration funding in the Klamath River watershed for fiscal years 2003-2005 exceeds \$260 million dollars, according to a federal government summary. This includes \$105 million proposed by the administration for Klamath Basin federal funding in the Fiscal Year 2005 budget.

Vindication: The National Research Council Steps In

The Klamath Water Users Association and others in the community in 2001 strongly advocated for an independent peer review of the 2001 fishery agency biological opinions, the underlying science, and the related overall scientific process. In early 2002, an interim report from the National Research Council (NRC) Committee on Endangered and Threatened Fishes in the Klamath Basin was released. This represented a critical step towards ensuring proper assessment and maintenance of healthy fish populations.

The panel successfully completed an objective, unbiased initial review of the information used by the U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries to formulate the agencies' two 2001 Biological Opinions (BOs). The interim NRC report concluded that there was insufficient scientific evidence used by USFWS and NOAA Fisheries in 2001 to support changing the recent historical water operations of the Klamath Project. Specifically, the NRC interim report concluded that higher or lower than recent historical lake levels or Klamath

River flows were not scientifically justified based on the available information used by the USFWS and NOAA Fisheries.

Despite varying interpretations of the data used by the USFWS and NOAA Fisheries in the BOs, it is especially noteworthy that the NRC panel achieved consensus on the Interim Report's conclusions for not just one, but both BOs. The report's conclusions were adequately supported by the available evidence and analyses used by USFWS and NOAA Fisheries. It was particularly evident that the NRC Committee report was fair and impartial, essential attributes that were sorely lacking in Klamath basin issues to date.

The Assault on the Klamath Project Intensifies

The release of the NRC Committee's interim report in early 2002 unleashed a barrage of criticism from environmental activists and their allies in academia and government agencies. Two Oregon State University professors, supporters of the high lake level requirements that contributed to the 2001 water curtailment, submitted a formal "rebuttal" of the interim report to a fisheries journal. The "rebuttal" (so labeled when transmitted by its authors) and other media developments caused the Klamath Project community to fear that the NRC work would be diluted. The local community simply did not have the resources or the networks of contacts to continually counter the anti-Klamath Project messages that were being sent to the public and policymakers, primarily by outside environmental activist organizations. The NRC Committee's interim report triggered what grew to be an extraordinary, and obviously coordinated, attack on the Klamath Project by these interests. Media outlets seemingly relish a good western fight, and many uncritically reprinted a good deal of information that was not fair to Klamath Basin irrigators.

The scrutiny on the Klamath Project and the Bush Administration's reliance on the NRC interim report intensified further that fall, when 33,000 salmon died on the lower Klamath River. Immediately after the unfortunate die-off, vocal critics of Project operations and Bush Administration environmental policy used the event to renew attacks on irrigated agriculture in the Klamath Basin. Even though the fish die-off occurred 200 miles downstream from the Project, at a location below the confluence of the main stem Klamath River and the Trinity River, traditional advocates for higher river flows quickly assigned blame to Klamath Project farmers and ranchers.

Some of these same interests and others in the environmental community even attempted to directly link the fish die-off to alleged political maneuvering orchestrated by senior policy officials in the Bush Administration. As a result, presidential hopeful Senator John Kerry called on the U.S. Interior Department's Inspector General to look into whether "political pressure from the White House is intimidating staff and influencing policy" in Klamath River management decisions. Interior Department Inspector General Earl Devaney's report – released in March 2004- found "no evidence of political influence affecting the decisions pertaining to the water in the Klamath Project."

Eugene Register-Guard

Why the salmon died: Pattern points to Bush administration policies

A Register-Guard Editorial

A 2002 Editorial Headline

Between 2002-2004, the fish die-off was effectively spun by Klamath Project critics to drive a dizzying array of attacks aimed at the Bush Administration and federal agencies responsible for Klamath Project management. Well-coordinated media coverage surrounding several acts of litigation and proposed federal legislation in the two years since the fish die-off have effectively imprinted the environmentalists' message in the minds of many:

- “Fish need water”;
- “Klamath Project farmers were denied water in 2001 and no fish died in the Klamath River”;
- “Klamath Project farmers received full supplies in 2002, and 33,000 salmon died in the river”;
- “The Bush Administration sacrificed fish for the benefit of farmers.”

The claims discussed above are just a few of the more prominent arguments that Klamath Project critics have employed to justify a series of actions undertaken in the wake of the public release of the interim NRC Committee report, including the following:

- Federal legislation that would finalize a controversial and flawed draft Klamath River flow report.
- Unsuccessful federal legislation that would restrict the ability of local lease land farmers to grow row crops.
- Litigation (*PCFFA v. USBR*) that, if successful, would have likely shut down Klamath Project operations in 2003.
- Public protests staged by tribal members and environmentalists in Klamath Falls in 2002 and in Sacramento in 2003.

- Listing of the Klamath River as the third most endangered waterway in the country by American Rivers, a Washington, D.C. – based activist group.
- An unsuccessful lawsuit filed by environmental groups against NOAA Fisheries to hasten the potential ESA listing of the green sturgeon.
- The release of an Oregon Natural Resources Council (ONRC) report, which contends that voluntary buyouts of willing sellers within the Project “remain the most politically responsible, socially just, and economically viable method” to address power and ecological challenges.
- A subsequent letter sent by ONRC to Project landowners, tempting them with the promise of a buyout that would provide them with 2 _ times the fair market value of their land.
- Numerous editorials, journal articles and magazine stories that clearly accept the arguments made by Project critics.

However, others did not jump so quickly on to the “blame game bandwagon.” During late summer and early fall of 2002, Dave Vogel, a fisheries biologist with 28 years of experience, conducted a field investigation to assess water temperatures in the main stem Klamath River. Vogel noted that main stem water temperatures in the Klamath River were measured hourly just prior to and during the fall-run Chinook salmon migration season. He found that water temperatures in the upper Klamath River downstream of Iron Gate Dam during September 2002 were unsuitable for adult salmon, a finding that was similar to that of previous studies. As expected, a normal seasonal cooling trend at the end of September and early October provided the moderating influence lowering Klamath River temperatures to tolerable levels for salmon. Vogel also found that large numbers of salmon entered the lower Klamath River earlier than usual and were exposed to two dramatic and uncharacteristic cooling and warming conditions causing disease outbreak from warm water and crowded conditions.

The combination of these factors was chronically and cumulatively stressful to fish and is probably the most plausible reason for the fish die-off.

“In my opinion, the best available scientific data and information indicate that the continued operation and maintenance of historical flows at Iron Gate Dam will not jeopardize coho salmon,” said Vogel in March 2003. “Furthermore, in my opinion the operations of Iron Gate Dam during the summer and fall of 2002 did not cause and could not have prevented the fish die-off in the lower Klamath River.”

Unfortunately, scant media coverage was afforded to Vogel’s findings. Outside of the Upper Basin, the press made no mention of the fact that, despite the die-off, the numbers of fish returning to Iron Gate hatchery on the Klamath River were the third highest in 40 years. The media also largely ignored a similar finding made in October 2003 by the National Research Council Committee on Endangered and Threatened Fish in the Klamath Basin. In its final report, the Committee failed to find a linkage between the operation of the Klamath Project and the fish die-off, and questioned whether changes federal project operations at the time would have prevented it.

Clearly, the hard working landowners of the Upper Klamath Basin have been on the receiving end of a cruel and long-distance war being waged by environmental activists who assert that the federal water project – representing only 2 percent of the total land base of the Klamath River watershed, and consuming only 3-4 percent of the average annual flows to the Pacific Ocean – is somehow responsible for all of the environmental woes of the river system. These advocates are intent on portraying the Klamath Basin as a poster child to help fuel outside efforts that are focused on litigating, legislating and publicly condemning the local community for doing what it has done for 98 of the last 99 years – irrigating farm and ranch land.

These interests know that federal water projects are an easy target of litigation, since federal environmental and clean water laws govern project operations. The lawsuits are often aimed at federal entities – such as the U.S. Bureau of Reclamation and fishery agencies – which, on the surface, give the appearance that the environmental plaintiffs are simply interested in correcting errors made by some non-descript governmental agency. The true intended target of these actions, however, ultimately becomes the landowners and water users who fall under the management jurisdiction of the federal agencies. It is the farmers and ranchers that pay the price of litigation through altered management practices, increased uncertainty, and escalating legal expenses to defend their interests.

For the most part, the potentially damaging effects these actions could cause family farmers and ranchers have been deflected. However, local water users are concerned that permanent Klamath River policy will be influenced by misinformation in the future.

Vindication, Part II

After an 18-month barrage of anti-Klamath Project attacks in the media and courtrooms, the long-awaited final report from the National Research Council (NRC) Committee on Endangered and Threatened Fishes in the Klamath Basin was released in October 2003. The final NRC report is important to local farmers and ranchers for several key reasons:

1. The report clearly indicated that recovery of endangered suckers and threatened coho salmon in the Klamath Basin cannot be achieved by actions that are exclusively or primarily focused on operation of the Klamath Project.
2. The committee also reconfirmed its findings from the earlier interim report that found no evidence of a causal connection between Upper Klamath Lake water levels and sucker health, or that higher flows on the Klamath River mainstem help coho salmon.
3. The NRC committee did not accept arguments that the operation of the Klamath Project caused the 2002 fish die-off or that changes in the operation of the Project at the time would have prevented it.

Despite the final conclusions, some environmentalists and many in the media continue to maintain the sensational but unsupported position that the Klamath Project was responsible for the 2002 fish mortality that occurred over 200 miles from the Klamath Project.

The final NRC report was consistent with what Upper Basin interests have been saying for years: the Klamath Project cannot solely bear the burden for species recovery in this basin. A watershed-wide approach to species recovery – one that addresses all the stressors to fish – is essential to improving the environment and saving the local economy.

Local water users shared the NRC report's vision that increased knowledge, improved management, and cohesive community action would promote recovery of the fishes. At the same time, they remained extremely concerned that the "business as usual" approach - regulation of the Klamath Project – would remain the dominant aspect of ESA biological opinions and advocacy of Project opponents.

For reasons now clearly evident, the irrigators' original recommendation for an outside technical review of the ESA activities in the Klamath basin by an objective group such as the National Academy of Sciences back in 1993 (KWUA 1993) was an important first step. The benefits of an ESA peer review are obvious after reading the NRC's final report.

"We are beginning to see signs of progress with ESA activities in the basin," said Dave Vogel, nearly one year after the release of the final NRC Committee report. "However, alarmingly, there are some individuals within the agencies that are in a state of denial over the findings and conclusions of the NRC's report. Despite the NRC's final report, the USFWS and NOAA Fisheries still have too much focus on the Klamath Project and not enough emphasis on a watershed-wide approach."

Other experts agree.

"We found that the prevailing scientific sentiment in the basin—'More water is better for fish'—was the wrong approach," NRC Committee member Jeffrey Mount told *California Farmer* magazine in December 2003, two months after the final NRC report was released.

"We hate to say we told you so, but...."

It is very important to note that many of the most pertinent findings, conclusions, and recommendations of the NRC Klamath Committee were not new to the USFWS or NOAA Fisheries. Dave Vogel elaborated on this in testimony he provided to the House Resources Committee at a field hearing held in Klamath Falls in June 2004.

"The NRC final report advocates a watershed approach, peer review, greater stakeholder involvement, oversight of agency actions, focus on factors other than the Klamath Project

operations, reduction of resource conflicts, and incorporation of the principles of adaptive management toward species recovery,” said Vogel. “Over the past decade, local water users and their allies forwarded much of the same and similar technical findings and recommendations to those two agencies, but were mainly ignored. Additionally, the NRC’s major conclusion that there is insufficient scientific justification for high reservoir levels and high instream flows was always prominent in water users’ technical comments on the agencies’ biological opinions during the past decade.”

“The NRC Klamath Committee’s final report was an outstanding effort and the product must serve as a catalyst to advance balanced natural resource management in the basin,” Vogel said. “If federal agencies meaningfully incorporate many of the NRC’s principal findings, conclusions, and recommendations, we fully expect positive results to the species recovery and reduced resource conflicts. We should use the momentum of the NRC’s final report to guide recovery efforts and watershed improvements. However, if the agencies do not take this pro-active approach, we could again return to the disaster that transpired in 2001.”

Dr. Mount agrees.

“For too long, Klamath managers have relied on fixing their problems by turning only one knob- the knob of raising and lowering water levels in Upper Klamath Lake and the river,” said Mount, a University of California professor. “They need to take new approaches that support multiple populations of fish and healthy ecosystems throughout the watershed,” he said.

The Klamath Project Regulatory Regime: 3 Years After the Curtailment

The U.S. Bureau of Reclamation’s final 10-year Biological Assessment for Klamath Project 2002-2012 operations properly incorporated the findings of the 2002 interim National Research Council’s (NRC) interim report, and generally captured the essence of the “watershed-wide” philosophy endorsed in the final 2003 NRC report.

Unfortunately, the fishery agency biological opinions (BOs) do not. Despite the so-called ecosystem approach to species recovery advocated by the USFWS and NMFS, their actions in the Klamath basin over the past decade amply demonstrates that the exact opposite took place. They focused on: 1) a single-species approach; and 2) Klamath Project operations.

The USFWS opinion continues to perpetuate the questionable assumption that lake level management is the principle mechanism affecting sucker survival in Upper Klamath Lake (UKL). The NOAA Fisheries jeopardy decision similarly continues to place high emphasis on downstream flows. The stored water developed for Klamath Project farmers continues to be reallocated to meet the artificial demands set by agency biologists.

The combined – and apparently, unanticipated – impacts placed on the Upper Basin community from the application of the two opinions are unacceptable. On June 25th, 2003, local irrigators were told by Reclamation officials that UKL diversions to the Project would be shut down for a minimum of 5 days – in the middle of the growing season. By day’s end, reason prevailed: the agencies backed off their initial request⁹ and instead, Reclamation notified farmers to continue their efforts to reduce diversions from the lake. This was driven by one apparent agency mission: to avoid dropping UKL **one inch** below a lake level requirement established by the USFWS.



Rancher Gary Wright learns that the Klamath Project would be shut down in the middle of the irrigation season, June 25, 2003. Common sense prevailed, and later in the day, Reclamation rescinded its earlier decision.

In addition to the continued uncertainty irrigators face, the opinions are generating new, unanticipated impacts to the community. In the past 40 to 50 years, while the cropping pattern in the Klamath Project has varied from year to year, the overall planted acreage has remained consistent. On the other hand, the 2002-2012 biological opinion created by NOAA Fisheries for coho salmon established the river flow schedule and an “environmental water bank” – which ratchets up to 100,000 acre-feet in 2005, regardless of actual hydrologic conditions – that is the primary source of new demand for water in the Klamath River watershed.

The result: stored water that has flowed to farms, ranches and the refuges for nearly 100 years is now sent downstream at such high levels, that groundwater pumped from the Lost River basin is being used to supplement the resulting “coho salmon demand” in the Klamath River.

⁹ Improved coordination between USFWS managers and their Reclamation counterparts in Klamath Falls and Sacramento was one important reason for the positive corrective action that was taken.

It is not the farmers who have imposed new water demands that, in essence, have made groundwater the default supplemental supply to the Klamath Project. It is the opinions of agency fishery biologists who have fundamentally altered how this century-old water project operates, and who have apparently failed to anticipate the resulting impacts to the community.

While Reclamation in 2002 sharply disagreed with the findings of both fishery agency biological opinions, it is not yet clear how consultation will be reinitiated to create a new operations plan.

Proactive Efforts of Upper Basin Landowners

Since the early 1990s, and particularly in the new millennium, local water users – both within the Klamath Project and those who farm in upstream areas north of Upper Klamath Lake – have taken proactive steps to protect and enhance water supplies, enhance the environment, and stabilize the agricultural economy. Farmers and ranchers in the Klamath Project have consistently supported restoration actions to improve habitat for the basin’s fish and wildlife species.

Sucker Recovery Planning

KWUA in 1993 published the *Initial Ecosystem Restoration Plan* – the first ecosystem-based, scientifically valid planning document on Klamath Basin restoration. The plan placed particular emphasis on real, on-the-ground projects to recover endangered species. It was widely recognized as a meaningful assessment of necessary restoration activities. KWUA in 2001 reiterated its previous call with the release of a report entitled *Protecting the Beneficial Uses of Upper Klamath Lake: A Plan to Accelerate Recovery of the Lost River and Shortnose Suckers*. The 2001 report provided timelines and budgets for dozens of projects that could provide real benefits. Regrettably, until the past three years, there has been failure to effectively implement most of the on-the-ground activities proposed by KWUA.

On-the-Ground Actions

Local agricultural and business leaders have dedicated thousands of volunteer hours and have spent millions of dollars in the past ten years to participate in processes associated with environmental restoration, Klamath Basin water rights adjudication, dispute resolution, drought-proofing, and water supply enhancement. Most impressive, however, is the multitude of actions undertaken on-the-ground:

- Local efforts to assist National Wildlife Refuges (e.g. “Walking Wetlands”)
- Ecosystem Enhancement and Sucker Recovery Efforts in the Upper Basin
- Fish Passage Improvement Projects
- Wildlife Enhancement and Wetland Restoration Efforts
- Local Efforts to Improve Water Quality
- Power Resource Development

- Efforts to Improve Klamath Project Water Supply Reliability and Water Use Efficiency

Many of these efforts were driven by an initial desire to implement meaningful restoration actions intended to provide some sort of mitigation “credit” that could be applied towards reducing the burden carried by Klamath Project irrigators to “protect” threatened and endangered fish species. For many years, that credit was not recognized.

For example, Federal agencies or non-profit conservation groups have acquired over 25,000 acres of farmland in the Upper Klamath Basin for habitat purposes. Each time the agencies sought additional land, they promised that each acquisition would provide environmental benefits, reducing pressure on the Klamath Project’s family farmers and ranchers. Those promises have not materialized, and Project irrigation water still remains the sole regulatory tool used to address federal ESA objectives for endangered suckers and threatened coho salmon in the Klamath River watershed.

Ducks Unlimited, Klamath Water Users Association, USDA NRCS, Leaseland Advisory Council, and numerous volunteer organizations.

A page from the “Refuge” section of the tule-lake.com website.

Environmental Water Bank

KWUA in early March 2003 announced it would support, and assist the Department of Interior in the implementation of, a Klamath Project Pilot Environmental Water Bank in 2003 to provide over 50,000 acre-feet of additional water for environmental purposes. Reclamation’s 10-year Biological Assessment (BA) developed in February 2002 proposed an environmental water bank through which willing buyers and sellers will provide additional water supplies for fish and wildlife purposes and to enhance tribal trust resources. The 2002-2012 biological opinion created by NOAA Fisheries for coho salmon firmly established the river flow schedule and the water bank – which ratchets up to 100,000 acre-feet in 2005, regardless of actual hydrologic conditions – that is the primary source of new demand for water in the Klamath River watershed.

The coho biological opinion's rigid water bank schedule, which steps up the magnitude of the bank for the first four years, regardless of actual hydrology, is difficult to justify. This type of water bank does not reflect the intent of either the proposal put forth by KWUA in 2002 (see below), or the original USBR biological assessment, which proposed implementation of a water bank in drier years, not every year.

Water users committed to pursue developing a water bank with Reclamation in January 2002. At that time, KWUA was asked by Reclamation to develop a Project-wide water bank to assist with meeting environmental water demands in drier years. KWUA's Water Bank and Supply Enhancement Committee held over 30 meetings in 2002-03 to develop the 65-page report/proposal for a long-term water bank, which differs substantially from the pilot water bank proposed by Reclamation this past year. Certainty of water supplies is a key principle imbedded in KWUA's long-term water bank proposal. Local water users insist that, in exchange for voluntary participation in a Project water bank – which would be used to “fund” environmental water needs - 100% of the irrigation demand for remaining Project acreage will be satisfied, season-long. Water users further believe that the water bank cannot be viewed as a stand-alone element. While Reclamation's 2003 and 2004 pilot programs did not closely resemble KWUA's vision for a long-term bank, water users are hopeful that Reclamation and Interior will look to the irrigators' document to complete its 10-year water bank proposal.

EQIP Funding in Klamath Basin

The federal government in 2003 released \$7 million in conservation funding to the Klamath Basin. This sum represents a portion of the \$50 million in funding earmarked for the Basin in the 2002 Farm Bill under the Environmental Quality Incentives Program (EQIP). KWUA was instrumental in securing these provisions during Farm Bill negotiations. In 2004, Interior Secretary Norton included another \$12 million for this program in the president's 2005 budget request. The funds provided cost-share payments to farmers and ranchers to employ water conservation measures. Over 800 Klamath Basin landowners have applied to participate in this program, despite the requirement that they pay 25% of the costs. This shows remarkable commitment by local irrigators to do the right thing, despite the fact that many of these landowners are still recovering from the financial impacts of the 2001 water curtailment.

Recognition at Last

In the past year, local irrigators have finally begun to get the recognition –if not the actual regulatory relief - they deserve for their proactive efforts. To wit:

- KWUA was awarded the 2003 “Leadership in Conservation” award by the Oregon Department of Agriculture;
- KWUA in 2004 was honored on the steps of the Oregon state capitol for “exemplifying the spirit” of the Oregon Plan for Salmon and Watersheds;

- Tulelake Irrigation District in January 2004 received the F. Gordon Johnston award for its innovative canal lining project completed near Newell; and
- U.S. Secretary of Agriculture Ann Veneman and NRCS chief Bruce Knight in 2004 recognized local rancher Mike Byrne for his leadership in conservation.



**NRCS Chief Bruce Knight (left) with 2004
Excellence in Conservation Award winner Mike Byrne.**

It is clear that local irrigators have not been idle in the past ten years. Their efforts to improve their environment are all the more impressive when one considers that the uncertainty and difficulty associated with keeping their farming operations profitable have not diminished.



**Oregon Governor Ted Kulongoski, Congressman Greg Walden and
KWUA Executive Director Dan Keppen at the new A Canal Headgates, April 2003.**

50 Years After the Compact – Back to the Watershed-Wide Approach

Klamath Project water users in October 2004 enthusiastically greeted the announcement that the states of California and Oregon and the Bush Administration had signed the historic “Klamath River Watershed Coordination Agreement”. The agreement –signed by California Governor Arnold Schwarzenegger, Oregon Governor Ted Kulongoski, and four of President Bush’s cabinet level secretaries – underscored the commitment of these parties to solve the fisheries challenges of the Klamath River on a watershed – wide basis.

The state-federal Klamath agreement reflects the philosophy embedded in both the Klamath River Basin Compact and the 2003 NRC Klamath report, which confirmed that Klamath Basin issues must be dealt with in an integrated and comprehensive way for a lasting solution of the challenges facing the basin. The NRC committee report makes clear that merely closing the spigot on the Klamath Project will not solve the problems facing Klamath Basin fisheries, and that strategy obviously was disastrous for farming and ranching communities. The coordination agreement recognizes that message and promotes a unified effort that many water users believe is much needed.

An important part of this agreement is that it supports the Conservation Implementation Program (CIP), a work in progress proposed by federal agencies to coordinate management actions in the Klamath River watershed. The CIP would meld a scientific advisory body, local communities, and resource agencies to identify, coordinate and resolve the Basin’s critical water quality, water quantity and fish and wildlife restoration challenges.

KWUA is working with other producer groups and local government to develop guidelines that make the CIP workable and acceptable to Klamath Basin communities.

USBR Study on Pre-Project Flow Conditions on Upper Klamath River

Reclamation in late 2004 finalized a draft study intended to provide a glimpse at how the Klamath River might have looked before the Klamath Project was built. The report shows that– especially in drier years – historic flows in the Klamath River near Keno, Oregon dwindled to a mere trickle. The report provides compelling evidence that supports claims made by local residents for decades – the stored water provided by the Klamath Project may actually provide more flows downriver than what would have flowed before the Project was built. This is primarily due to the developed storage and the fact that farmlands that were once under water now use less water than what was historically lost to consumptive and evaporative use of the former marshes.

Excerpt from Draft BOR Flow Study

Conclusion – The Future

To solve the problems of the Klamath River watershed, we need a coordinated management program that spans two states in a watershed that is characterized by a strong federal presence. Competition among stakeholder groups – including four tribes, agricultural water users, and countless environmental groups – is fierce. In order to be successful, we need to better understand the real state of the watershed by developing the facts and best possible information to make the best possible decisions. Collaborations need to replace ideological

advocacies; watershed wide approaches need to replace regionalism; and honest exchanges of information need to displace environmental sensationalism.

A June 20, 2004 editorial published by the Klamath Falls Herald & News provides an apt glimpse of what the future might bring to the Klamath irrigation community and how the Klamath Water Users Association will address that future:

Recently, the Klamath Water Users Association got an award for not using water, which is not a contradiction in terms at all. It's a matter of doing what has to be done to keep farming and ranching alive in the Klamath Basin.

The award was from the state of Oregon and recognized the water users' efforts in behalf of the Oregon Plan for Salmon and Watersheds. It was presented to the group in a ceremony on the steps of the Capitol, with leaders such as Gov. Ted Kulongoski and the Democratic and Republican leaders of the Legislature participating.

The award recognizes a welter of actions in the Basin, some using federal and state dollars and some not, many aimed at making agricultural operations more efficient water users. Some have given agriculture interests heartache, such as the conversion of farmlands to wetlands - the water users cite 24,000 acres in the past decade, equal to more than a tenth of the Klamath Reclamation Project.

Nevertheless, it's clear that farmers and ranchers have recognized their predicament given the pressure of the Endangered Species Act and competition for water from Indian tribes upstream and down. Agriculture is in the midst of a struggle that could take decades yet to play out, and its defenders are determined that they will survive.

This is a longer-term version of the creativity they showed in 2001, when, faced with imminent ruin, they responded with skill and imagination in a political protest that brought national attention and saved Basin agriculture to fight another day.

The vision of the Klamath Basin as a place for human habitation must include agriculture, and an agricultural sector of sufficient size to be economically viable. This place ought to have an urban center and a scattering of pleasant small towns - and in between green fields with dancing water from irrigation works.

Whatever alternate vision exists involves blowing away towns such as Merrill, Malin and Tulelake and shriveling the city of Klamath Falls. It involves throwing lots of people off the land, and it's not acceptable.

This is not the first such award, and won't be the last. It is a signal of a widening recognition in Oregon and the nation that farmers and ranchers will do good things here to make sure that they can continue in their necessary and honorable work.

The Klamath Water Users Association, with the talents and support of the community, will continue to address the resource needs of its constituency in a proactive and creative manner. The KWUA has shown itself to be steadfast and able in protecting water users while being receptive to innovative and reasonable solutions. Our irrigating communities, through the continued efforts of the KWUA, will always be persistent and adaptable representatives of our American heritage. The “future”...bring it on, we can handle it.



Father and daughter ride to the headgates, summer 2001.

Notes

Information sources used in the preceding report sections are further described below.

Overview

The source for much of this information comes from the Klamath Water Users Association 2003 Water Bank report.

Pioneers

The Department of the Interior, United States Reclamation Service 1913 report entitled “History of the Klamath Project. Oregon-California. From May 1, 1903 to December 13, 1912”, written by I.S. Voorhees, contains detailed accounting of early irrigation works in the Upper Klamath Basin. Paul Simmons of Somach Simmons and Dunn also made significant contributions based on research he and his staff conducted on behalf of Klamath Project water users in the State of Oregon Klamath River adjudication process.

The Klamath Basin Calls in the United States Government

The Voorhees document, noted above, details this issue.

Construction Begins

The source for much of this information comes from the Klamath Water Users Association 2003 Water Bank report, the Voorhees report, and the affidavit and testimony of Rebecca Meta Bunse, who in 2004 prepared a detailed historic summary of Klamath Project development on behalf of Klamath Project irrigators for the Klamath River adjudication process. (Reference No. 003E00040050, before the Office of Administrative Hearings, State of Oregon, for the Water Resources Department). Paul Simmons of Somach Simmons and Dunn also made significant contributions based on research he and his staff conducted on behalf of Klamath Project water users in the State of Oregon Klamath River adjudication process. The Bureau of Reclamation Klamath Basin Area Office also provided factual data on the Klamath Project.

Homesteaders

The *Journal of the Modoc County Historical Society*, No. 18-1996, focuses exclusively on twentieth century development of the Tule Lake area. Betty Lou Byrne-Shirely’s “The Reclamation of Tule Lake” and the February 1947 *Reclamation Era* article “Gold Mine in the Sky”, both included in the Modoc County historical journal, served as sources for the homesteader information. Quotes made by Dave Carman, a World War II veteran Tule Lake homesteader, were pulled from his testimony submitted at a House Resources Committee field hearing in Klamath Falls in June 2004.

The Klamath River Compact

The source for much of this information regarding development of the Compact comes from the affidavit and testimony of Stephen R. Wee, who in 2004 prepared a detailed historic summary of Klamath Project water rights and related issues on behalf of Klamath Project irrigators for the Klamath River adjudication process. (Reference No. 003E00040049, before the Office of Administrative Hearings, State of Oregon, for the Water Resources Department). The conclusion of this section contains the actual purposes of the Compact, as identified in Article I of that document.

The Klamath Project’s Finishing Touches

The source for much of this information comes from the Klamath Water Users Association 2003 Water Bank report, the Voorhees report, and the affidavit and testimony of Rebecca Meta Bunse, who in 2004 prepared a detailed historic summary of Klamath Project development on behalf of Klamath Project irrigators for the Klamath River adjudication process. (Reference No. 003E00040050, before

the Office of Administrative Hearings, State of Oregon, for the Water Resources Department). Paul Simmons of Somach Simmons and Dunn also made significant contributions based on research he and his staff conducted on behalf of Klamath Project water users in the State of Oregon Klamath River adjudication process.

New Demands

Legal documents prepared by the Klamath Water Users Association attorney – Paul Simmons, of Somach, Simmons & Dunn – provide much of the background information regarding the steadily increasing regulations faced by Project irrigators, starting in the 1990s. Specifically, the plaintiffs’ memorandum of points and authorities in support of motion for preliminary injunction (*Kandra et al v. United States of America*) was relied upon. Also, David Vogel’s testimony before the U.S. House of Representatives Committee on Resources oversight field hearing in June 2004 provides an excellent treatise on the real reasons for the decline of suckers in the Upper Klamath Basin. The Klamath Water Users Association previously developed the section that assesses stressors to coho salmon during the 1990s.

Problems on the East Side

This section derives from an excellent letter (dated July 28, 2004) prepared by Best Best & Krieger on behalf of Horsefly Irrigation District and Langell Valley Irrigation District. The letter was submitted to the U.S. House of Representatives Resources Committee in connection with a congressional field hearing held in Klamath Falls in July 2004.

2001 Curtailment

Of the numerous media accounts of the 2001 water cutoff, I believe Blake Hurst’s piece “Calamity in Klamath”, which originally was published in The American Enterprise magazine in late 2002, is the best. I have borrowed liberally from Mr. Hurst, particularly his assessment of the impacts to the community of Tulelake, California. Jess Prosser’s comments were originally printed in *Range Magazine* in 2001.

The Farmers Fight Back

The comments regarding the “desperate community” were pulled from an outstanding paper presented by Paul Simmons at the American Bar Association Environmental Section Fall 2004 Meeting.

Enter President Bush

I was in the audience when President Bush made his speech in Portland. After the president’s speech, I met Congressman Greg Walden for the first time; he conveyed to me some of the details of the president’s flight over the Klamath Basin earlier in the day.

Vindication: The National Research Council Steps In

This section was derived from press statements developed by KWUA in early 2002.

The Assault on the Klamath Project Intensifies

Most of this section derives from personal experience, and the latter part was pulled directly from an opinion piece I was asked to write for a Boise, Idaho newspaper at the request of Idaho water users who were also being attacked by some of the same activists engaged in Klamath issues.

Vindication, Part II / “We hate to say we told you so, but....”

Much of this information originates in Dave Vogel’s written testimony that he submitted to the House Resources Committee in June 2004. After more than a decade of professional and sometimes, personal criticism by agency and tribal biologists, the final NRC Report perhaps vindicated Dave Vogel more than anyone else.

The Klamath Project Regulatory Regime: 3 Years After the Curtailment

This section was written based on personal experience of the author.

Proactive Efforts of Upper Basin Landowners

We refer you to www.kwua.org and a 45-page document entitled Summary of Recent and Proposed Environmental Restoration and Water Conservation Efforts Undertaken by Klamath Water Users and Basin Landowners for further information on this topic.

50 Years After the Compact – Back to the Watershed-Wide Approach

This perspective comes from KWUA assessments and press releases.

USBR Study on Pre-Project Flow Conditions on Upper Klamath River

The USBR study is incredibly important, because, for the first time, it provides a numerical modeling assessment of the conditions that likely existed on the Upper Klamath River before Europeans settled the area. Prior to this effort, assertions that flow conditions in the river were likely lower than the present could only be backed up by anecdotal (albeit accurate) reports and incomplete flow studies.

Conclusion – The Future

The June 20, 2004 *Herald & News* editorial on recent water user efforts provided a fitting ending to this report, which is further enhanced by language developed by Steve Kandra, 2004-05 KWUA President.



Lower Klamath Lake National Wildlife Refuge, California

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2. Map of Klamath Project – courtesy of Bureau of Reclamation.
3. “A load of produce from the Klamath Fair, October 1907” – courtesy of Tulelake-Butte Valley Fair, Museum of Local History (TBVF Museum).
4. “1906 Map of Pre-Project Area” – courtesy of Oregon Water Resources Department.
5. “Adams Cut, July 18, 1906” – courtesy of Tulelake -Butte Valley Fair, Museum of Local History.
6. “1907 Completion of the A Canal Headgates” – courtesy of U.S. Bureau of Reclamation.
7. “Constructing Clear Lake Dam, September, 1909” – courtesy of TBVF Museum.
8. “1927 Homesteader Affidavit” – courtesy of Somach, Simmons and Dunn
9. “Farm Lottery Article, Life Magazine” – courtesy of Bureau of Reclamation.
10. “The Sign Says it All” – courtesy of U.S. Bureau of Reclamation.
11. “Homesteaders: Robinsons in 2001 Remember Days Gone By” – courtesy of Anders Tomlinson
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20. Prayer / Protest at Headgates – courtesy of Klamath Relief Fund.
21. President Bush Photo courtesy of Rob Crawford
22. Tulelake Rancher Gary Wright, June 2003 – courtesy of Pat Ratliff
23. Walking Wetlands photo – courtesy of Anders Tomlinson.
24. Bruce Knight and Mike Byrne – courtesy of U.S. Department of Agriculture
25. Gov. Kulongoski, Rep. Walden, and Dan Keppen at the A Canal, 2003 – Courtesy of Pat Ratliff
26. Undepleted Natural Flow of the Upper Klamath River – U.S. Bureau of Reclamation.
27. “Father and Daughter Ride to the Headgates” – courtesy of Rob Crawford
28. “Lower Klamath Lake National Wildlife Refuge, California” – courtesy of Scott Harding Photography