RATEPAYER RIP-OFF

Electric Power Subsidies in the Klamath Irrigation Project

by Jim McCarthy

Oregon Natural Resources Council

Photo by Anonymous

The Reames Golf and Country Club receives the same power subsidies available to Klamath Basin farmers. While this case represents perhaps the most egregious abuse of the electric subsidy, the Bureau of Reclamation has supported the granting of subsidy benefits to numerous non-farming entities in the area.

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Abstract

Through an exclusive, 85-year-old subsidy deal with a private utility company, irrigators in and near the U.S. Bureau of Reclamation's Klamath Irrigation Project pay approximately one sixteenth the price other farmers in Oregon and California pay to run agricultural irrigation pumps. The cost of this subsidy –nearly $10 million annually– falls on other PacifiCorp rate-payers and share-holders. Unless renewed, this subsidy will end in 2006. Given current wariness about utility price shocks and increased awareness of the destructive, region-wide affects of water resource over-allocation in the Klamath Basin, prospects for perpetuating this deal are not good. Continuing poor crop prices, subsidy over-dependence, water conflicts with tribal, commercial, and sport fishing interests, as well as serious wildlife and water quality issues combine to make it increasingly problematic to continue current levels and methods of Klamath Irrigation Project farming.

Introduction

The farmers of the Klamath Irrigation Project (KIP) have not had a power rate increase since 1917. Other residential, commercial, industrial, and agricultural customers of PacifiCorp in Oregon, California, and other states collectively pay over $9.9 million a year in higher utility bills to provide KIP irrigators a considerable competitive advantage over agricultural producers in the rest of the country.[1] The electric power costs for irrigators in the KIP and surrounding Upper Klamath River Basin –for moving water through canals, bringing well water to the surface, pressurizing sprinkler systems, and draining flooded fields– represent one sixteenth of the power costs their fellow farmers in Oregon and California must pay to raise the same crops. This subsidy is perhaps the largest of its kind in the United States, but benefits fewer than 2,600 irrigators.

Through the 1917 contract, the USBR gained both the Link River Dam and a hefty power subsidy for KIP irrigators.

This unique subsidy is granted through a longstanding arrangement between PacifiCorp and the U.S. Bureau of Reclamation (USBR). In 1917, a predecessor of PacifiCorp (Copco, the California and Oregon Power Company)[2] and the USBR entered into a fifty-year contract concerning the construction and operation of the Link River Dam (LRD) at the outlet of Upper Klamath Lake near Klamath Falls, Oregon.[3] In exchange for the opportunity to develop and use Upper Klamath Lake as a hydropower reservoir, Copco provided various benefits to the USBR. For example, the utility built and operated the LRD at its own expense, but the contract granted the USBR ownership of the structure. Copco also granted the irrigators of the Bureau's fledgling KIP an exclusive subsidy: preferential electric power rates for pumping and draining water and free powerline extensions for large-volume users.[4]

Before the first fifteen years of the contract passed, the USBR and the KIP irrigators had used the leverage of the contract and the power of the federal government to extract further allowances from the utility; namely free powerline extensions for all users, regardless of size, and an exemption from standard "delivery" or "minimum" fees. Thus, by 1931, the Klamath Basin irrigators' special subsidy plan had evolved into a three-part form:

(1) rock-bottom electrical rates;
(2) exemption from standard fees;[5] and
(3) free powerline extensions.

Copco and the USBR renewed the Link River contract in 1956,[6] thereby insuring that PacifiCorp customers would continue to pay for these three guarantees to this day. Table 1 shows recent annual costs for the triple subsidy in both Oregon and California. The contract renewal allowed the company to retain the ability to manipulate lake levels and river flows, while the KIP irrigators of Oregon and California maintained their three-part subsidy. In addition, the new contract created a new irrigation subsidy zone in Oregon, known as the "Upper Klamath River Basin" (UKRB, essentially the southern three-quarters of Klamath County outside the KIP) where non-KIP irrigators receive rock-bottom electrical rates and an exemption from standard fees, but do not enjoy free powerline extensions. The UKRB subsidy zone is exclusive to Oregon. At the time of the contract renewal, California utility regulators rejected a similar proposal for non-KIP irrigators on the California side of the Upper Klamath River Basin.

TABLE I
Total Klamath Subsidy Recipients and Triple Subsidy Cost 1997-2001[8]

Year	Average # of Recipients	Total Triple Subsidy Cost
1997	2,573	$10,485,222
1998	2,554	$8,584,111
1999	2,567	$10,541,471
2000	2,562	$10,475,260
2001	2,605	$9,668,216
Average	2,572	$9,950,856

Part 1: Rock-Bottom Electrical Rates

The special power rates, originally between 0.5¢ and 0.7¢ per kilowatt-hour (kWh), are the long-term subsidy that made expansion of irrigated lands in the Klamath Basin possible, despite the economic irrationality of doing so. The 1956 contract provided an even lower KIP power rate schedule, between 0.3¢ and 0.6¢ per kWh. Meanwhile, irrigators in Oregon's UKRB received a special rate of 0.7¢ per kWh. These rates remain in effect for the duration of the agreement, until January 31, 2006. For comparison, other agricultural producers in Oregon and California outside of the KIP and the UKRB currently pay "cost of service" rates. These rates are 5.444¢ per kWh in Oregon and 5.55¢ per kWh in California.[7] The current cost of this central component of the Klamath Basin subsidy is approximately $6.2 million annually.

Part 2: Exemption from Standard Fees

The second component of the subsidy allows KIP irrigators in both Oregon and California, as well as Oregon's UKRB irrigators, to avoid standard pump fees. Oregon and California farmers outside of the Klamath Basin pay monthly and annual charges, calculated by pump size and peak demand. These fees are in addition to any consumption charges, and can range from $190 a year for a 10 horsepower (hp) pump to $13,000 a year for a pump of 750 hp. A highly conservative estimate for the current value of the fee exemption subsidy alone, for the roughly 2,600 agricultural pumping service customers in the Klamath Basin, is $2.6 million annually.

Part 3: Free Powerline Extensions

The third component of the contract subsidy has provided KIP irrigators with free powerline extensions since 1917. Typically, power customers must pay the cost of extending power from the nearest existing pole to any new end use. Such service extensions can cost tens of thousands of dollars per extension. Through the Link River Dam contracts, the USBR and PacifiCorp have passed the cost of electrifying the pumping system of the entire Klamath Irrigation Project onto PacifiCorp customers. The estimated cost of this exclusive KIP subsidy is roughly $1.1 million

annually. Non-KIP irrigators within Oregon's UKRB do not benefit from this aspect of the Klamath Basin subsidy.

The language of the contracts indicates the special power rates are to facilitate pumping Klamath water for irrigation purposes, but an examination of the USBR files reveals that many customers receiving this subsidy do not grow commercial crops. The USBR has promoted an extremely broad interpretation of the provisions of the contract, even extending the subsidized power to Reames Golf and Country Club, a private country club.

Throughout its history, the Link River Dam has remained an essential flow-regulating point within PacifiCorp's Klamath Hydroelectric Power Project. However, the requirements of the Endangered Species Act, Clean Water Act, Federal Power Act, other pertinent laws, and tribal trust obligations have significantly limited the utility's ability to use Upper Klamath Lake as a hydroelectric power reservoir and to run the hydroelectric project for "peaking" (producing power only when there is high demand). Since 1992, lake levels and river flows have, in theory, been regulated to prevent the extinction of the two endangered fish species (the Lost River sucker and shortnose sucker) in Upper Klamath Lake and the coho salmon in the lower Klamath River.[9] The effects of lake levels and river flows on fishery health are not completely understood. Many fishery biologists in the Klamath Basin assert further restrictions are necessary to protect and restore populations of listed fish in the region. In addition, Oregon's pending water rights adjudication may result in further restrictions on the use of Upper Klamath Lake water for hydroelectric purposes. According to PacifiCorp representatives, these changes have eliminated the benefits the contract previously provided, and nearly prompted the company to pull out of the current contract ten years early in 1996.

The triple subsidy provides Klamath Basin irrigators with rock-bottom electrical rates, exemption from standard fees, and free powerline extensions.

Even if PacifiCorp were willing to renew the contract at current rates, the public utility commissions of Oregon and California must still give final approval. In the current political climate, it seems highly unlikely the states would again burden ratepayers with the cost of such a large subsidy benefiting so few. In the unlikely event PacifiCorp did continue this $9.9 million annual subsidy for another 50 years, the estimated total cost, at current rates, to the ratepayers and shareholders of the utility range between $161 million and $216 million.[10] For purposes of this analysis, PacifiCorp ratepayers were presumed to have the same internal rate of return as federal taxpayers.[11] PacifiCorp, however, may well have a higher internal discount rate than the federal government, so the actual cost could be higher. In comparison, the estimated current fair market value of the 212,000 acres of private irrigated farmland within the Klamath Irrigation Project is approximately $290 million.[12] According to a recently released U.S. Geological Survey economic report, retiring all the KIP lands and restoring the natural hydrology of the Klamath Basin would result in an increased financial benefit of $3 billion per year from river-related recreation alone.[13]

Many irrigation operations in the heavily subsidy-dependent Klamath Irrigation Project may become completely untenable upon reversion to fair and equitable agricultural power rates in 2006. For example, irrigators in the 41,000-acre Tulelake Irrigation District (TID) currently pay approximately $40,000 a year for the 11,000,000 kWh necessary to power one of 24 pumping plants essential to district operations. Upon reversion to the standard California agricultural rate schedule, the same level of operation at this plant alone will cost approximately $667,820 annually.

Sources within TID acknowledge numerous power-related farm bankruptcies can be expected after the rate change in 2006.

Unfortunately, neither the USBR, state governments, nor the local political leadership appears to have any plan to address such changes. To avoid yet another crisis in the Klamath Basin, prudence would dictate planning ahead. Voluntary buyouts of willing sellers within the KIP remain the most politically responsible, socially just, and economically viable method to avert the coming power crisis, and to address the current ecological crisis.

A Brief History of the Construction, Ownership, and Operation of Link River Dam

According to an USBR report, the KIP's "lax irrigation farming methods, ample water supply, and leaky canals" increased flood risk in the Tule Lake area.

On February 24, 1917, the California and Oregon Power Company (Copco) entered into an agreement with the USBR to construct the Link River Dam (LRD) at the outlet of Upper Klamath Lake near Klamath Falls, Oregon. The contract specifically cited an Oregon law, enacted January 20, 1905, granting the federal government the power "to lower the water level of Upper Klamath Lake…" and to use the waters for irrigation.[14] Through the 1917 contract, the Bureau of Reclamation temporarily assigned this authority to Copco. In return, the USBR received a dam and a hefty power subsidy for KIP irrigators.

To build the dam, Copco destroyed the natural bedrock reef at the outlet of Upper Klamath Lake (UKL) and replaced it with a man-made structure that enabled operators to lower the lake to an elevation of 4137 feet mean sea level. USBR hydrographs from 1916 and 1917 indicate a pre-dam maximum elevation of UKL at 4142.6 feet, while the maximum elevation of the post-dam UKL eventually became 4143.3 feet.[15]

Upon completion of the structure in 1921, Copco transferred ownership of LRD to the USBR. Copco retained the right to operate the dam and manipulate lake levels for a period of fifty years.

Link River Dam, a concrete structure with flow-regulating gates, should not be confused with the two hydropower facilities at the same location, known as "Eastside" and "Westside." These structures were built separately from the dam and are wholly owned by PacifiCorp. The Westside structure pre-dates the LRD. Before the dam, engineers had used UKL's natural bedrock reef to provide head for the Westside turbine. LRD itself does not generate electricity, but does provide head for the Eastside powerhouse.

The LRD, at River Mile (RM) 254, is the first in a series of six dams along the Klamath River. Because of the dam's first-in-line position at the outlet of the largest body of water in the system, it is key to flow regulation through all other PacifiCorp hydropower facilities on the mainstem Klamath, including the Keno (RM 233, completed 1967), J. C. Boyle (RM 225, 1958), Copco 1 (RM 199, 1918), Copco 2 (RM 198, 1925), and Iron Gate (RM 190, 1962) dams.[16]

On January 31, 1956, Copco and the federal government agreed to extend the provisions of the 1917 contract for another fifty years, with a few significant changes detailed below.

Thus, Copco-PacifiCorp operated LRD under essentially the same arrangement from 1917 until 1992. From 1992 on, Endangered Species Act requirements compelled PacifiCorp to modify LRD operations to sustain native fish populations which remain on the

brink of extinction.[17] Because PacifiCorp considered these new, extra-contractual operational regimes for the LRD unfavorable to hydroelectric generation, PacifiCorp considered revoking the 1956 contract. The USBR persuaded PacifiCorp to continue to honor the contract by offering to shift the LRD's operating liability cost onto American taxpayers. Further discussion of the post-1992 contract modification follows below.

Contract History and Analysis

The 1917 contract contained provisions beneficial to Copco's hydroelectric interests, as well as other provisions concerning water supply, local electrical power distribution, and service rates beneficial to irrigators in the then-fledgling federal Klamath Irrigation Project.

The first two amendments or "supplements" to the 1917 contract, signed January 28, 1919, and April 27, 1920, granted Copco more time to construct the dam under contract Article 3. On December 10, 1920, the parties again amended the contract, this time to further clarify the water rights of the two parties, as well as those of various other users in the region, including corporations.[18]

In the 1940's, the USBR proceeded with a proposal to drain the Tule Lake area wetlands for irrigation even after determining the project would not be economically viable without a massive power subsidy.

A September 10, 1931 amendment represented the first significant change to the 1917 contract, and contained new provisions still more favorable for irrigation. Contemporary correspondence shows the Klamath Irrigation District (KID) and the USBR threatened to obstruct further hydropower development on the Klamath River to extract an even larger electrical subsidy for KIP irrigators. In an internal 1931 memorandum, Klamath Project Superintendent B. E. Hayden wrote:

(Copco) is very anxious to be permitted to secure a water right at what is known as the Grant Power Site below Keno and clear up all matters of difference between that company and the (KID) so that the development of power may proceed at various points along the Klamath River.[19]

There is no indication in the Hayden memo, or in any other available USBR correspondence regarding the arrangement, that such a quid pro quo was considered inappropriate.

The 1931 amendment altered Article 9 of the contract to provide free power line extensions to irrigation pumps smaller than 100 hp. Before this amendment, Copco had not been obliged to provide free line extensions to new pump installations smaller than 100 hp. For smaller installations, the company had charged standard "minimum" fees to cover the cost of line extensions. In 1931, Copco agreed to absorb the cost of line extensions (in reality, such costs, both then and now are absorbed by other customers and shareholders of the utility) provided each customer met a token consumption minimum considered comfortably below ordinary use for even the smallest of users.[20]

A later contract amendment, dated April 22, 1941, granted even larger subsidies exclusively to the Tule Lake area of the KIP. The USBR sought this amendment after determining their proposal to drain wetlands in an area known as the "Modoc Unit" (now the Tule Lake National Wildlife Refuge leaselands, Copic Bay, the Panhandle, and the Lower Klamath Lake area) would not be economically viable without a massive power subsidy for the Tule Lake area. In a 1955 memorandum, Project Manager J. P. Elmore stated, "Negotiations for a special power rate evidently began by informal discussion with power company personnel some time in 1937, based on the assumption that the Modoc Unit… could not be financially feasible without a low power rate."[21]

The USBR's Modoc Unit plan called for the construction of a tunnel –rising roughly 60 feet in elevation and extending 7,000 feet in length– through the volcanic basalts of Sheepy Ridge. The tunnel would move 50,000 acre-feet of excess agricultural runoff per year out of Tule Lake and into Lower Klamath Lake.[22] Of course, in flood years, the plant would have to pump more water. Such a project would require a massive pumping plant, consuming large quantities of energy.

At the time, the Tule Lake irrigators already enjoyed power rates of 0.5¢/kWh, nearly 30% lower than the general 0.7¢/kWh KIP subsidy rate. Even so, the USBR asked Copco to *double* the Tule Lake subsidy.[23]

Development of the Modoc Unit meant runoff into Tule Lake could eventually augment Klamath River flows after passing through Sheepy Ridge and the Lower Klamath Lake area. Swayed by promises of more water for hydropower and more residential users brought in by further agricultural development, Copco provided power to the areas of Tule Lake and Lower Klamath Lake at 0.5¢/kWh on-peak, 0.3¢/kWh off-peak. ("On-peak" is currently defined as 8 a.m. to 8 p.m. weekdays. "Off-peak" is defined as 8 p.m. to 8 a.m. weekdays and all day weekends and holidays.)[24]

Sources within TID acknowledge numerous power-related farm bankruptcies can be expected after the rate change in 2006.

This development enabled the USBR to expand the arable acreage of the KIP, and to address several acute problems created by early Project development. According to an internal 1938 USBR report by Senior Engineer J. R. Iakisch, these problems included excessive agricultural runoff into the closed basin of Tule Lake "due to lax irrigation farming methods, ample water supply, and leaky canals."[25] This water threatened to overtake the leaseland acreage in the area, and raised the likelihood of homesite inundation during flood. The town of Tulelake itself sits on the drained bed of the original Tule Lake, roughly 20 feet below the pre-KIP midsummer lake level.

At the time, the KIP's stagnant agricultural runoff had caused widespread botulism among the birds of the Tule Lake refuge.[26] According to Iakisch, this tailwater would eventually turn the lake saline, eradicate the native plant life, and ruin the fertile soils in the area.[27] To the west, the decades-long de-watering of Lower Klamath Lake had dried out the alkali soil lakebed. The waterless peat within the former marshes of the lake frequently caught fire, creating large areas of ash.[28] The strong winds typical of the region engendered ash storms "of considerable magnitude"[29] which beset Klamath Falls like a plague. Residents considered the storms to be a "direct menace to the health of the community."[30]

The Modoc Unit development solved the most pressing of these problems, but at a hefty price. The Sheepy Ridge pumping operation, known as Pumping Plant D, currently requires five pumps, totaling 3,650 hp, to push water uphill at 300 cubic feet per second. Pumping Plant D represents the largest single point of electrical consumption on the KIP, using approximately 11,000,000 kWh per year.[31] Under the 1956 contract, TID irrigators pay roughly $40,000 for this amount of energy. PacifiCorp ratepayers and shareholders currently provide approximately $627,000 annually to subsidize this pumping.[32]

Given the extreme nature of the problems facing the KIP before development of the Modoc Unit solution, it seems reasonable to conclude that without the Sheepy Ridge tunnel, and by extension, without the hefty electrical subsidies that made the tunnel viable, much of the Klamath Project would likely have failed decades ago. The region's naturally short growing season and year-round frost threat already presented significant obstacles to agrarian development.

Combined with the burning lakebeds, poisonous ash storms, high flood risk, and spreading saline sumps caused by Project development, these problems would likely have driven away existing homesteaders and convinced potential settlers to look elsewhere.

In 1956, the LRD contract was renewed –eleven years before the 50-year expiration of the 1917 contract. This seemingly premature renewal coincided with the relicensing of Copco's Klamath Hydroelectric Project by the Federal Power Commission (FPC, the predecessor to the Federal Energy Regulatory Commission [FERC]). By pressing for a contract renewal at that time, the USBR was able to use the FPC relicensing process to extract continued subsidies for KIP irrigators. Although circumstances have changed considerably, and although it has no official connection to the hydropower facility license, the LRD contract remains an important political element of the current relicensing process for the Klamath Hydroelectric Project.

TABLE 2
Electrical Subsidy Comparison 1917 versus 1956

Subsidy	1917 Contract	1956 Contract (Current)
KIP Energy Charge (except Tule Lake)	0.7¢/kWh	0.6¢/kWh
Tulelake Irrigation District Energy Charge	0.5¢/kWh (11:01 p.m.to 5:59p.m.) 0.7¢/kWh (6 p.m. to 11 p.m.)	0.3¢/kWh off-peak (8 p.m. to 8 a.m. weekdays, all day weekends and holidays) 0.5¢/kWh on-peak (8 a.m. to 8 p.m. weekdays)
Oregon's Non-KIP Upper Klamath River Basin Energy Charge	Not included under contract	0.7¢/kWh
Exemption from Standard Pump Fees	Only on pumps 100 hp and above	All pumps
Free Powerline Extensions (KIP only)	Only on pumps 100 hp and above	All pumps

The electrical rates for irrigation in the KIP changed substantially between 1917 and 1956. Table 2 depicts these changes in subsidized power rates by subsidy zone. The 1956 contract maintained the concessions granted to irrigators in 1931 and 1941, and added a few more. The 1917 contract stipulated a rate of 0.7¢/kWh for irrigation pumping or drainage within the Project, except for a special provision for the Tule Lake area. The Tule Lake farmers received a special 0.5¢/kWh rate when pumping between 11 p.m. and 6 p.m. In 1956, the general in-Project irrigation rate fell to 0.6¢/kWh, while the 0.7¢/kWh rate was extended to irrigators in the Upper Klamath River Basin area of Oregon outside of the Project. The Tule Lake irrigators continued to receive the special rate granted in the April 22, 1941 amendment: a 0.5¢/kWh rate for on-peak pumping, and a 0.3¢/kWh for off-peak pumping. Lower Klamath Lake, an area not under cultivation in 1917, was also included in this special rate. Thus, the Tule Lake irrigators have historically received the greatest benefit from the LRD contracts, and have been the most dependent upon the power subsidy.

Under this contract, all Klamath Irrigation Project beneficiaries pay less for electricity in 2002 than their predecessors paid in 1917. Accounting for inflation over this eighty-five year period, KIP electrical rates have fallen steadily to a fraction of their original 1917 price. For example, 0.5¢ in 1917 pennies, adjusted by the Consumer Price Index, would be 8¢ in today's pennies.[33] As noted above, the agricultural "cost of service" rates for electric power in Oregon and in California are 5.444¢/kWh and 5.55¢/kWh respectively.

The two contracts contain other significant differences. Article 5 of the original 1917 contract states:

The lowering and raising of the waters of the lake below or above the normal fluctuations while in a state of nature shall be undertaken by the Company only after making satisfactory adjustments at its own expense in regard to all interests which may be affected thereby, whether for the state of navigation or other purposes, or of any private individuals, or Indians.

The various modifications of the 1917 contract all retained mention of tribal rights, but the 1956 contract makes no such accommodation to Native Americans. In fact, there is no mention whatsoever of tribal rights in the current contract. This may be because the

federal government had "terminated" The Klamath Tribes in 1954, and chose to ignore the effects of dam operations on the downstream tribal fisheries of the Karuk, Hupa, and Yurok. The Klamath Tribes regained federal recognition in 1986. In the sixteen years since tribal restoration, the current contract has not been modified to reflect the status of Upper Klamath Lake's most senior water users. The contract has remained consistent in its neglect of downriver tribes and other interests since 1956.

The 1956 contract increased the minimum required flow into the Klamath Project "A" Canal. In 1917, Copco maintained a flow of at least 1200 cubic feet per second (cfs) in June, July, and August, with a drop to a 1000 cfs requirement "at all other times." The 1956 version stipulates a constant 1200 cfs flow minimum.

In 1997, PacifiCorp and the USBR made a temporary modification to the existing contract. To reduce the company's liability under the Endangered Species Act "for the consequences of operating Link River Dam" the USBR assumed all "responsibility for UKL levels and minimum stream flows"[34] Thus, the Bureau effectively transferred the liability costs to federal taxpayers. The USBR and PacifiCorp have renewed this temporary modification of the contract every year since 1997.

The language of the contracts indicates the special power rates are to facilitate use of Klamath project water for irrigation purposes, but an examination of USBR files indicates the USBR has allowed an extremely broad interpretation of the contract provisions. For example, the Reames Golf and Country Club, a private Klamath Falls country club with a $3,000 membership fee and $2,500 annual dues, receives the Klamath subsidy. Thanks to PacifiCorp's other ratepayers, Reames Golf & Country Club enjoys perhaps the lowest electrical pumping rates of any country club in the nation.

Production, Consumption, and Costs

Between 1981 and 1990, before the Biological Opinions issued for the Klamath Basin fish listed under the Endangered Species Act, Klamath Hydroelectric Project generation averaged 775,273,000 kWh annually. Between 1992 and 2000, after the first of several Biological Opinions were issued, average production fell roughly 10% to 696,171,000 kWh annually.[35] If the Biological Opinions become more restrictive and are implemented, production will decrease further.

Table 3 shows the subsidized power in both kilowatt-hours and dollars by major subsidy zone. Table 4 and

TABLE 3
Annual Subsidized Electrical Consumption, Energy Charge Revenue, and Energy Charge Subsidy Cost in the Klamath Irrigation Project / Upper Klamath River Basin 2000-2001[36]

Region	Year	Consumption (kWh)	PacificCorp Revenue	Estimated Energy Charge Revenue Without Subsidy[37]	Energy Charge Subsidy Cost[38]
CA KIP	2000	30,218,251	$154,137	$1,677,113	$1,522,976
	2001	22,795,960	$129,456	$1,265,176	$1,135,720
OR KIP	2000	58,430,583	$342,942	$3,180,961	$2,838,019
	2001	38,549,629	$229,587	$2,098,642	$1,869,055
OR Non-KIP	2000	51,006,999	$382,556	$2,776,821	$2,394,265
	2001	61,150,073	$458,629	$3,329,010	$2,870,381
TOTAL	2000	139,655,833	$879,634	$7,634,895	$6,755,261
	2001	122,495,622	$817,672	$6,692,828	$5,875,156

Table 5 show annual electric power consumption and total Klamath triple subsidy costs in Oregon and California respectively. Table 6 depicts the costs of direct irrigation to various crops with and without the rate subsidies.

TABLE 4

Oregon's Klamath Irrigation Project and Non-KIP Power Subsidy Recipients, Power Consumption, and Total Triple Subsidy Cost 1997-2001[39]

Year	Average Number of Recipients	Consumption (kWh)	Energy Charge Subsidy Cost	Standard Fee Subsidy Cost (Estimate)[40]	Powerline Extension Subsidy Cost (Estimate)[41]	Total Triple Subsidy Cost
1997	1,977	102,326,000	$5,299,450	$1,977,000	$896,000	$8,172,450
1998	1,968	77,341,000	$3,704,488	$1,968,000	$896,000	$6,568,488
1999	1,979	107,477,000	$5,144,689	$1,979,000	$896,000	$8,019,689
2000	1,986	109,437,582	$5,232,285	$1,986,000	$896,000	$8,114,285
2001	1,999	99,699,702	$4,787,496	$1,999,000	$896,000	$7,682,496
Average	1,982	99,256,257	$4,833,682	$1,982,000	$896,000	$7,711,482

TABLE 5

California's Klamath Irrigation Project Power Subsidy Recipients, Power Consumption, and Total Triple Subsidy Cost 1997-2001[42]

Year	Average Number of Recipients	Consumption (kWh)	Energy Charge Subsidy Cost	Standard Fee Subsidy Cost (Estimate)[43]	Powerline Extension Subsidy Cost (Estimate)[44]	Total Triple Subsidy Cost
1997	596	29,545,000	$1,472,772	$596,000	$244,000	$2,312,772
1998	586	23,395,905	$1,185,623	$586,000	$244,000	$2,015,623
1999	588	33,385,302	$1,689,782	$588,000	$244,000	$2,521,782
2000	594	30,218,251	$1,522,975	$594,000	$244,000	$2,360,975
2001	606	22,795,960	$1,135,720	$606,000	$244,000	$1,985,720
Average	594	27,868,084	$1,401,374	$594,000	$244,000	$2,239,374

TABLE 6

Direct Irrigation Pumping Costs Per Crop Klamath Schedule versus Standard Agricultural Rates*

Crop	Subsidized (0.5¢/kWh) Electric Power Costs in $/Acre/Year	Estimated Unsubsidized (5.5¢/kWh) Electric Power Costs in $/Acre/Year[45]	Average Profit With Electrical Subsidy ($/Acre/Year)[46]	Estimated Average Profit Without Electrical Subsidy ($/Acre/Year)
Onions	$10-12	$160-192	$500	$320-350
Potatoes	$10-12	$160-192	$400	$220-250
Alfalfa	$15-20	$240-320	$200	-$25-110
Wheat	$15	$240	$50	-$175
Barley	$5	$80	$50	-$25

** The figures above represent rough estimates and do not consider increased annual irrigation district fees caused by increased pumping costs associated with district operations.*

Looking to the Future

PacifiCorp has appointed an internal committee to handle the possible renewal of the Link River Dam contract. According to PacifiCorp representatives, the company has no official position on the Klamath power subsidy issue because too many variables are involved, and the FERC re-licensing is still too far off. The draft application for license renewal is due March 1, 2003, with the final application due one year later.

The USBR has given no official position on the renegotiation of the power contract. Nevertheless, USBR officials have met with irrigator "power committees" to discuss the issue. They have also recently met with PacifiCorp employees and members of the Klamath Water Users Association to discuss the power contract issue.

A voluntary buyout plan for willing sellers offers a common sense solution to the mulitiple conflicts that plague the Klamath River Basin.

Meanwhile, the Tulelake Irrigation District, the irrigation district most dependent upon the power subsidy, has drawn up a study on the potential costs of irrigating without special rates. The district has also convened a "power committee." Sources within the TID acknowledge that the committee has not been able to persuade PacifiCorp to seriously consider continuing the subsidy. Possible contingency plans include the construction of a district-owned cogeneration power plant. Sources within the district also acknowledge that even if such a plant is constructed, it will not be able to supply power at the rock-bottom price the district currently enjoys, and numerous power-related farm bankruptcies can be expected after the rate change in 2006.

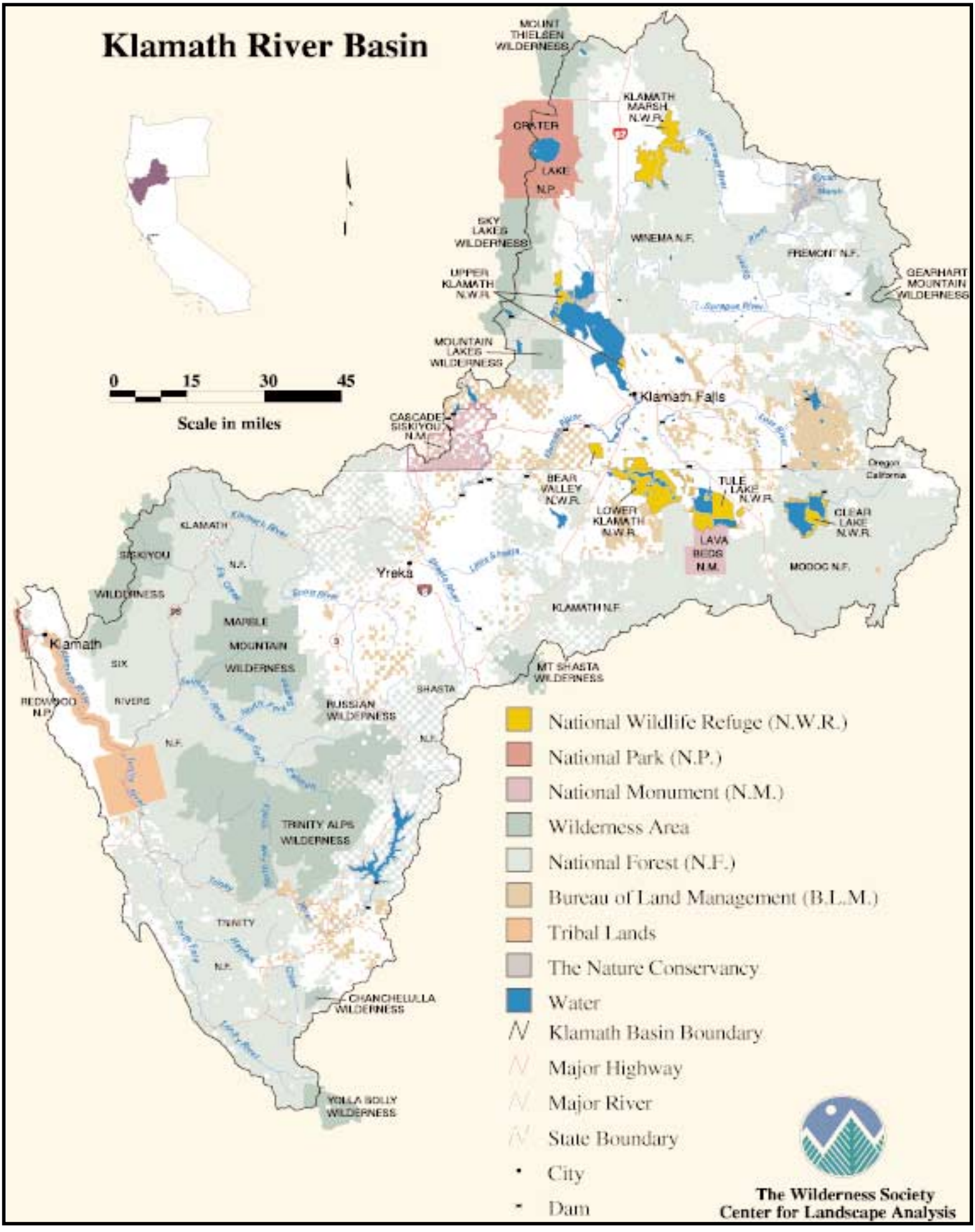
The power rate elements of the 1956 contract required approval from the Oregon and California public utility commissions. Originally, the USBR requested special rates only for irrigators on federal KIP land. After non-project irrigators in the rest of the Klamath Basin learned of the plan, they requested inclusion under the contract. The Oregon Public Utility Commission (PUC) approved special power rates for irrigators in the entire Upper Klamath River Basin, both inside and outside the KIP area. The California PUC allowed special rates only on KIP land within the state, and rejected requests from other agricultural areas within the Klamath region.

Any special power rate renewal for Klamath Basin irrigators would again require state PUC approvals. Given the current atmosphere in California, it seems highly unlikely the PUC there will approve special rates for a small group of irrigators more favorable than those provided to agriculture in the rest of the state. Oregon government sources indicate approval in that state would also be highly unlikely. Given all of these factors, a power-related crisis in the Klamath Basin appears likely.

Over the history of the Klamath Irrigation Project, the US Bureau of Reclamation successfully shifted the costs of mistakes, mismanagement, and over-expansion within the project onto others outside of the Upper Klamath Basin. The KIP's historic avoidance of responsible economic sustainability mirrors its evasion of responsible environmental sustainability. Today, the entire Klamath River Basin is paying a bitter price for maintaining this dysfunctional irrigation project for so long. The looming power crisis is just one of many ongoing quagmires in the KIP's legacy. Perpetuating the status quo in the Klamath is not an acceptable option for communities, economies, or ecosystems. A voluntary buyout plan for willing sellers within the Klamath Irrigation Project is the most rational method to resolve the multiple ecological, social, and economic conflicts cascading downward in the Klamath River Basin.

Endnotes

1. PacifiCorp's ratebase includes California, Oregon, Idaho, Utah, Washington, and Wyoming. Company shareholders also pay a portion of the California subsidy.
2. Over the decades, Copco became Pacific Power and Light, then Pacific Power, then PacifiCorp, now a subsidiary of Scottish Power.
3. Contract I1r-406, USBR files.
4. Large users are defined in Article 9 of the 1917 contract as "an installation (water pump)… of 100 horsepower or more."
5. Standard pump fees have evolved considerably since 1931, and now have various layers and names in California and Oregon rate schedules. For clarity, these fees are referred to in this report as "standard" fees, or by their place in the billing cycle, as "monthly and annual" fees.
6. Contract No. 14-06-200-5075, USBR files.
7. Rates are available on PacifiCorp's website at http://newwww.pacificorp.com/autoindex/autoindex2565.html. The agricultural pumping rate in Oregon is under Schedule 41; the California rate is under Schedule PA-20.
8. Data derived from PacifiCorp's 1997 to 2001 FERC Form 1 documents, "Sales of Electricity by Rate Schedules," p. 304. Available at http://www.ferc.gov.
9. ONRC and other entities believe the current minimum lake levels and river flows are inadequate to conserve and recover the fish and wildlife resources of the Klamath River Basin.
10. Office of Management and Budget, 2002. Memorandum to Heads of Executive Departments and Establishments, re: guidelines and discount rates for bene fit-cost analysis of federal programs. Circular No. A-94, app. C (Oct. 29, 1992). Revised February 2002. (5.8% nominal interest [factors inflation] rate and 3.9% real interest rate.) Available at http://www.whitehouse. gov/omb/circulars/ a094/a94_appx-c.html.
11. The internal rate of return represents a firm's goal for return on investment of capital. Rates vary depending on the nature of the business, the willingness of a firm to invest its capital in opportunities other than its own business, and other factors.
12. Derived from property tax data provided by the Klamath, Modoc, and Siskiyou county assessors.
13. Aaron Douglas and Andrew Sleeper, Estimating Recreation Trip Related Benefits for the Klamath River Basin with TCM and Contingent Use Data, U.S. Geological Survey, 2002.
14. Chapter 5 General Laws of Oregon, 1905, p.63.
15. Article 2, 1917 and 1956 contracts.
16. The Fall Creek hydroelectric facility (completed 1903) is not a Klamath main stem dam affected by LRD operations, but is considered a part of the Klamath Hydroelectric Project under the FERC relicensing process. The waters of Fall Creek, a smaller tributary entering the Klamath River at Iron Gate Reservoir (approx. RM 195), power this facility.
17. The C'waam ("TCH-waam" also known as the Lost River sucker) and Qupdo ("KUP doe" also know as the short-nosed sucker) live in Upper Klamath Lake. Coho salmon spawn below Irongate Dam. All are listed species under the Endangered Species Act. The massive downriver fish kill of September 2002 was mostly Chinook salmon.
18. "California-Oregon Power Company - Contract dated December 10, 1920." Article 5.
19. Memorandum dated February 24, 1931, "Amendment of contract of February 24, 1917…" Paragraph 2. USBR files.
20. Memorandum dated February 24, 1931, Paragraph 3: "The enclosed letter quotes paragraph 9… and adds a new sentence which, if adopted, would give the small users on the project a minimum that falls below their ordinary use." USBR files.
21. Memorandum to the USBR Regional Director dated June 23, 1955, "Special power rate granted by California Oregon Power Company…" USBR files.
22. J. R. lakisch, Report on Tule Lake Reclamation, U.S. Bureau of Reclamation, April 1938, p. 57.
23. Memorandum dated June 23, 1955, "Special power rate granted by California Oregon Power Company…" Paragraph 4: "An unsuccessful attempt was made to get an off-peak rate of 2.5 mills per kilowatt-hour (0.25¢/kWh)." USBR files.
24. 1956 contract, "Special Conditions" section.
25. lakisch, p. 48.
26. Ibid. p. B.
27. Ibid. p. 52.
28. Ibid. p. 74.
29. Ibid. p. B.
30. Ibid. p. 75.
31. Personal communication, Grace Phillips, Tulelake Irrigation District Office Manager, July 31, 2002.
32. Calculated using California's PA-20 energy charge of 5.55¢/kWh, plus monthly and annual charges. It is interesting to note that under the standard California schedule, the annual and monthly charges for a single year of Plant D function, without any energy charges for actual operations, would be $61,820.
33. http://www.westegg.com/inflation/infl.cgi
34. "Explanation of Facilities and Operational Issues associated with PacifiCorp's Klamath Hydroelectric Project," Draft version, PacifiCorp, May 1, 2002, p. 7.
35. Data provided by Jennifer Kelly, PacifiCorp Engineer Planner, personal communication May 1, 2002.
36. Consumption and revenue data provided by Robert Smead, PacifiCorp Irrigation Specialist, personal communication May 15, 2002; Laura-Lei Strain, California PUC Analyst, personal communication May 23, 2002; Lee Sparling, Oregon PUC Analyst, personal communication May 26, 2002.
37. PacifiCorp revenue if the KIP and Oregon's Upper Klamath River Basin irrigators paid PacifiCorp's standard agricultural energy charges: 5.444¢/kWh (Schedule 41) in OR, 5.55¢/kWh (Schedule PA-20) in CA. Figures do not include standard monthly and annual charges.
38. Difference between published PacifiCorp revenue and estimated revenue under standard rate schedules.
39. Data derived from PacifiCorp's 1997 to 2001 FERC Form 1 documents, "Sales of Electricity by Rate Schedules," p. 304. Available at http://www.ferc.gov.
40. All other Oregon and California farmers pay standard annual and monthly charges, calculated by pump size and load, in addition to any consumption charges. These fees defray the utility's cost of maintaining enough power in the grid to run all the pumps connected to the system, even if all the pumps never run concurrently. The utility would otherwise sell this reserve power. Fees can range from approximately $190 per year for a 10 horsepower (hp) pump, to $1,400 per year for a 65 hp pump, to over $13,000 per year for a 750 hp pump. One 80-acre field of potatoes will typically use two 40 hp pumps working in tandem, while one 65 hp pump is not unusual for 80 acres of alfalfa, the most common crop in the Basin. Pumps from 150 hp to 750 hp are general ly used for wells or district pumping plants. Given the range of pump power in the Klamath Basin, an exact calculation of this aspect of the subsidy is impos sible. By using a conservative annual fee average of $1,000 per pump, multiplied by the roughly 2,600 agricultural pumping customers in the Klamath Basin, the estimated annual cost of the fee exemption reaches $2,600,000. This estimate relies on one highly conservative assuption: the total pump horsepower necessary to irrigate the subsidy area, a region containing hundreds of thousands of acres, is the equivalent of each Klamath subsidy recipient possessing one pump in the 60 hp range. Considering the massive scale and duration of the Klamath subsidy has greatly reduced the cost of developing and using pumps in the Basin over the last 85 years, this should be considered an absolute minimum estimate. This cost is passed onto PacifiCorp's other ratepayers and shareholders.
41. The irrigators in the KIP also receive the benefit of free powerline extensions (the construction of power poles, lines, transformers, etc., to serve any new pump installation), paid for by PacifiCorp's other ratepayers and shareholders. Klamath Basin irrigators outside of the KIP do not receive this subsidy. According to company representatives, the cost for a single line extension may range from $4,000 to $100,000. Using a highly conservative average of $20,000 per line extension, if each of the 1,400 customers within the KIP received only one free line extension within the last 25 years, the annual cost of this subsidy for PacifiCorp ratepayers would be roughly $28 million, or $1,120,000 per year since 1977. The free line extension subsidy has existed in the KIP for 85 years.
42. Data derived from PacifiCorp's 1997 to 2001 FERC Form 1 documents, "Sales of Electricity by Rate Schedules," p. 304. Available at http://www.ferc.gov.
43. See endnote 38.
44. See endnote 39.
45. Estimates provided by an anonymous Tulelake grower.
46. Stretching the water: A New Approach for the Klamath, American Land Conservancy, 2002.


Klamath River Basin
MOUNT THIELSEN WILDERNESS
KLAMATH MARSH N.W.R.
CRATER LAKE N.P.
SKY LAKES WILDERNESS
WINEMA N.F.
FREMONT N.F.
GEARHART MOUNTAIN WILDERNESS
UPPER KLAMATH N.W.R.
MOUNTAIN LAKES WILDERNESS
Klamath Falls
CASCADE SISKIYOU N.M.
BEAR VALLEY N.W.R.
LOWER KLAMATH N.W.R.
TULE LAKE N.W.R.
LAVA BEDS N.M.
CLEAR LAKE N.W.R.
MODOC N.F.
KLAMATH N.F.
Yreka
KLAMATH
SISKIYOU N.F.
WILDERNESS
MARBLE MOUNTAIN WILDERNESS
Klamath
SIX RIVERS N.F.
REDWOOD N.P.
RUSSIAN WILDERNESS
SHASTA
MT SHASTA WILDERNESS
TRINITY ALPS WILDERNESS
TRINITY N.F.
CHANCHELULLA WILDERNESS
YOLLA BOLLY WILDERNESS
0 15 30 45
Scale in miles
National Wildlife Refuge (N.W.R.)
National Park (N.P.)
National Monument (N.M.)
Wilderness Area
National Forest (N.F.)
Bureau of Land Management (B.L.M.)
Tribal Lands
The Nature Conservancy
Water
Klamath Basin Boundary
Major Highway
Major River
State Boundary
City
Dam
The Wilderness Society
Center for Landscape Analysis