RESIGHINI RANCHERIA

A Federally Recognized Indian Tribe

ENVIRONMENTAL PROTECTION AUTHORITY

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January 18, 2005

Ms. Magalie R. Salas
Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: Follow-up Comments Regarding December 16, 2004 Government-to-Government Meeting with FERC Representatives – P2082-027

Dear Ms. Salas:

We want to thank John Mudre, Fred Winchell and Rollie Wilson, Commission Staff, for coming to the Resighini Rancheria for Government to Government consultations representing the Federal Energy Regulatory Commission. We would like to follow up on the points that we made regarding the Area of Potential Effect (APE) of the Klamath River Hydroelectric Project. We recognize that FERC views environmental impacts related to the Project as separate from Native American cultural issues, which fall under Section 106 of the Federal Power Act. We are re-stating our case of impacts to the Resighini Reservation from the Project and accept your treating them under environmental issues because we view our culture and the environment as inseparable. We also will show that effects of the Project are well downstream of the Scott River, the point below which PacifiCorp (2004) contends there are none.

Klamath River Hydroelectric Project Impacts That Extend to the Resighini Rancheria

The Resighini Rancheria is located at the top of the Klamath River estuary and only about three miles above its convergence with the Pacific Ocean. The impacts of the Klamath River Hydroelectric Project that directly impact the Rancheria are 1) low survival of juvenile anadromous fish below the Project, 2) nutrient spiraling caused by the Project, and 3) the occurrence of *Aphanezoemenon flos aquae* from the Project in all parts of the river, including the estuary.

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Anadromous Fish Survival: We have provided evidence that nutrient pollution below Iron Gate Dam is causing algae blooms that in turn cause major swings in water quality (Kier Associates, 2004). High pH, high levels of dissolved ammonia, elevated water temperature and low dissolved oxygen can act individually or in combination to create highly stressful or directly lethal conditions for juvenile salmonids. Fish disease surveys (Foott et al., 2003) find much higher rates of infection and mortality in the Klamath River proper than tributaries like the Salmon and Trinity rivers that do not suffer similar nutrient pollution (Figure 1).

It is clear from fisheries studies that a significant percentage of juvenile salmon migrating downstream from Iron Gate Hatchery are succumbing to disease, with mortality in several recent years ranging estimated at over 40% (Foott et al., 2003). Water pollution caused by the Project has the same impact on Shasta River salmon and steelhead, and a lesser but still significant impact on juveniles from other Klamath tributaries further downstream. Juvenile fish, stressed by pollution, that succumb to disease and die do not make their journey to the ocean. This translates to lost adult salmon that cannot be caught in fisheries at the mouth of the Klamath and has a direct impact on Native Americans along the whole Klamath River as a function of lost fishing opportunity.

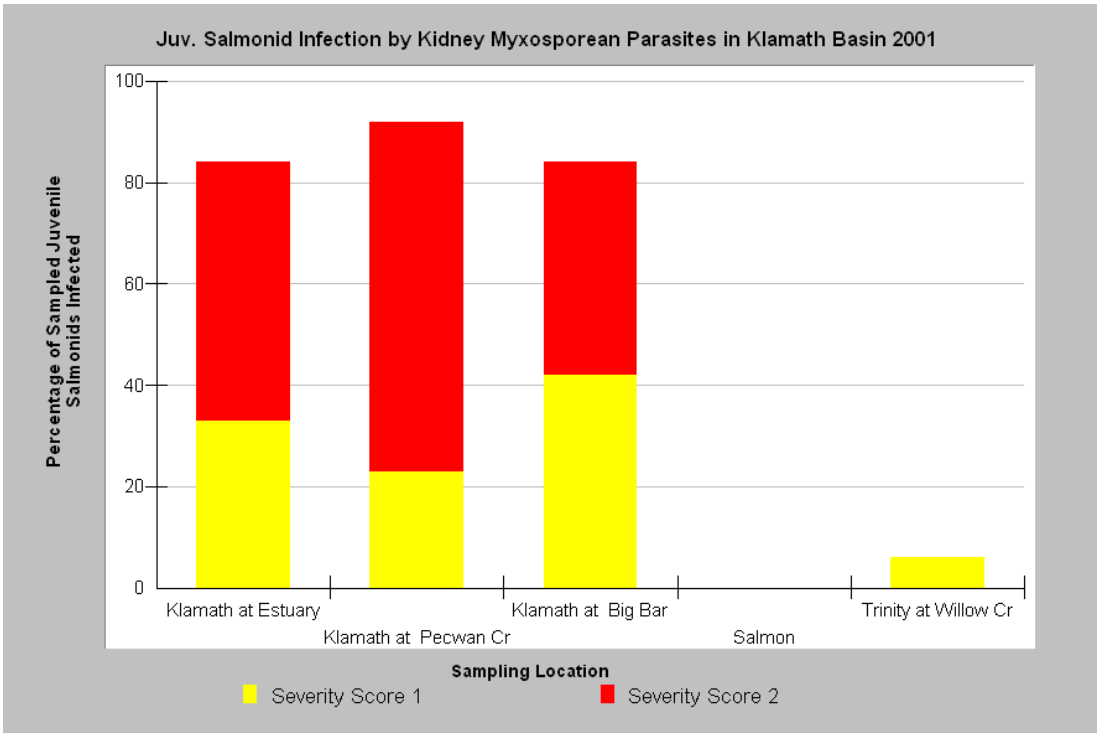

Figure 1. This chart displays salmon kidney disease results for the Klamath, Salmon and Trinity rivers from Foott et al. (2003), which shows a much higher incidence in the Klamath than the other less polluted tributaries. Chart from KRIS V 3.0 (TCRCD, 2003).

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Nutrient Spiraling: While Deas and Orlob (1999) showed that dense beds of benthic algae in the Klamath River below Iron Gate Reservoir capture nutrients, this capture can only occur during the day when photosynthesis is occurring. Nutrients emitted from the reservoir at night pass downstream and stimulate algae blooms elsewhere. The capture of nitrogen by algae beds can also be temporary, and nutrients are released downstream as algae die or as segments break off and are suspended in the drift. Deas and Orlob (1999) show that inorganic nitrogen levels drop as a function of distance from Iron Gate Dam, but then show an increase again in the lower Klamath River. There are no major nutrient sources below the Scott River; consequently, this increase must be a result of Iron Gate Reservoir nutrients, and those from agricultural basins like the Shasta, recycling or "spiraling". This fuels blooms in lower river areas, starting another cycle of pollution.

Other evidence of the effects of nutrient pollution well downstream are unionized or dissolved ammonia levels at Ikes Falls, more than 100 miles below Iron Gate Dam. Figure 2 shows unionized ammonia levels of 0.05 mg/l, which is more than double the level recognized as acutely stressful by the U.S. Environmental Protection Agency (1984). Dissolved ammonia is converted from ammonium ions in the presence of high pH in combination with water temperatures over 25 degrees C (Goldman and Horne, 1983). Water temperatures in the Klamath River in summer commonly exceed 25 C and field studies also find elevated pH levels (Figure 3). The high pH is a function of photosynthesis stimulated by nutrients made available due to the spiraling described above.

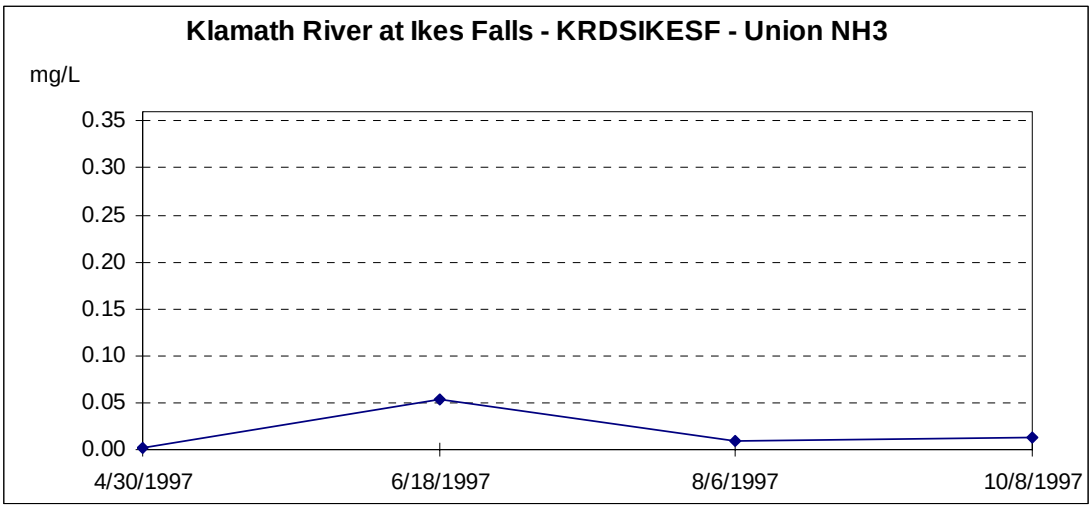

Figure 2. Unionized ammonia (Union NH3) at Ikes Falls on the Klamath River during the summer of 1997 shows a spike to highly stressful or lethal levels for salmonids on June 18. Data from the North Coast Regional Water Quality Control Board.

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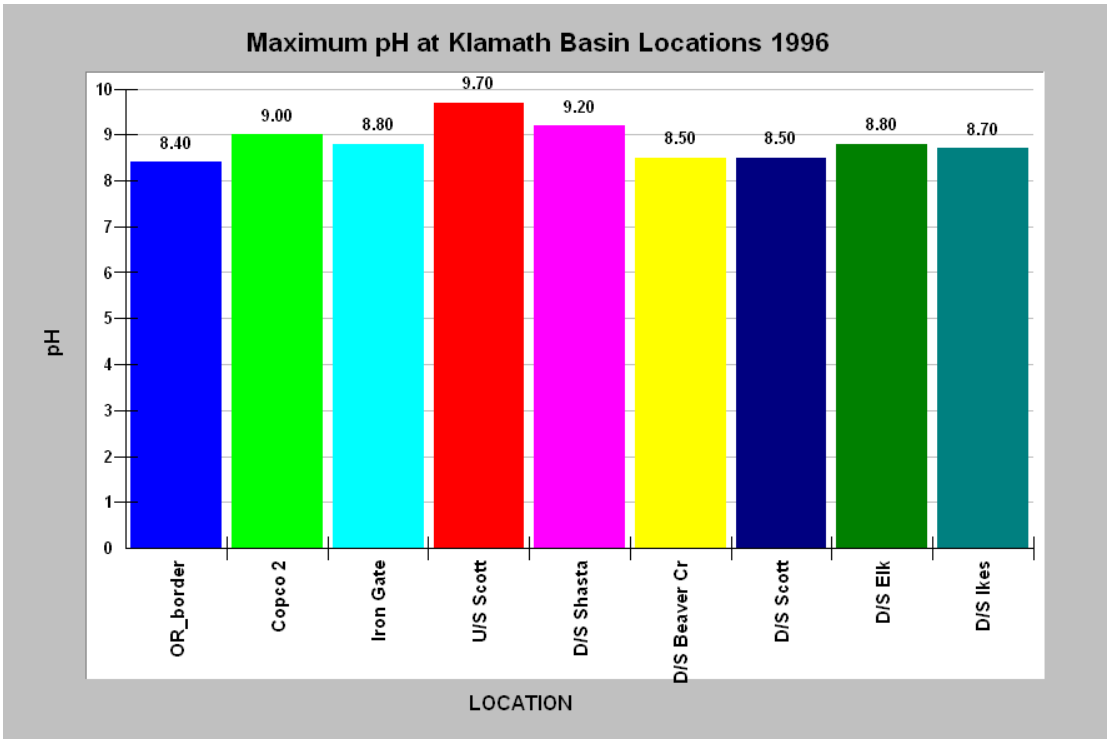

Figure 3. This chart shows the maximum pH values measured by the North Coast Regional Water Quality Control Board during the summer of 1997 with values over 8.0 indicating substantial photosynthetic activity as far downstream as Ikes Falls. Chart from KRIS Version 3.0 (TCRCD, 2003).

There is also evidence that problems with dissolved oxygen (D.O.) in the lower Klamath River are linked to nutrient emissions from the Project and spiraling downstream. The U.S. Fish and Wildlife Service (Halstead, 1997) found D.O. below lethal levels for salmonids on August 9, 1997 (Figure 4). Their reconnaissance of D.O. was prompted by their finding not just dead juvenile salmon and steelhead in their downstream migrant trap, but also other species more tolerant of poor water quality, like suckers and dace (Figure 5).

Both the high dissolved ammonia levels at Ikes Falls and the low D.O. at Big Bar occurred far downstream of the Project and the Scott River (Figure 6). While the Trinity River greatly improves water quality in the lower Klamath River, the effects of nutrient spiraling continue, although somewhat dampened, all the way to the Resighini Reservation.

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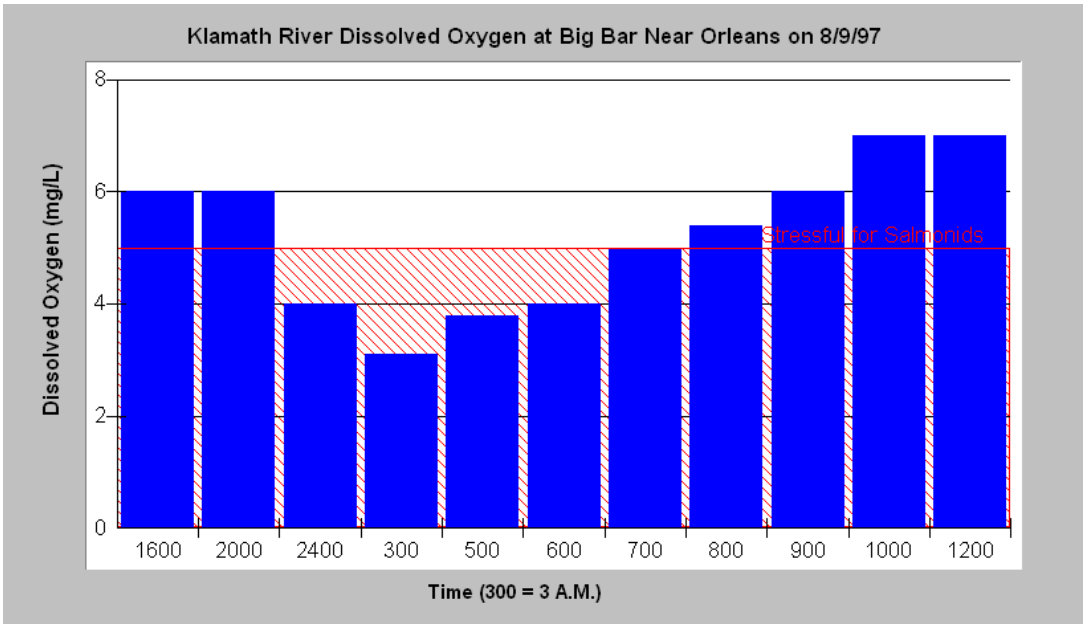

Figure 4. Dissolved oxygen dropped to 3.1 at 3 A.M according to measurements taken by the U.S. Fish and Wildlife Service Arcata Office (Halstead, 1997). Chart from KRIS Version 3.0.

Figure 5. U.S. Fish and Wildlife Service downstream migrant traps often catch sick and dying fish. The fact that both salmonids and warm water species, like Klamath small scale suckers and speckled dace, are also dying is a sign of acute water quality problems.

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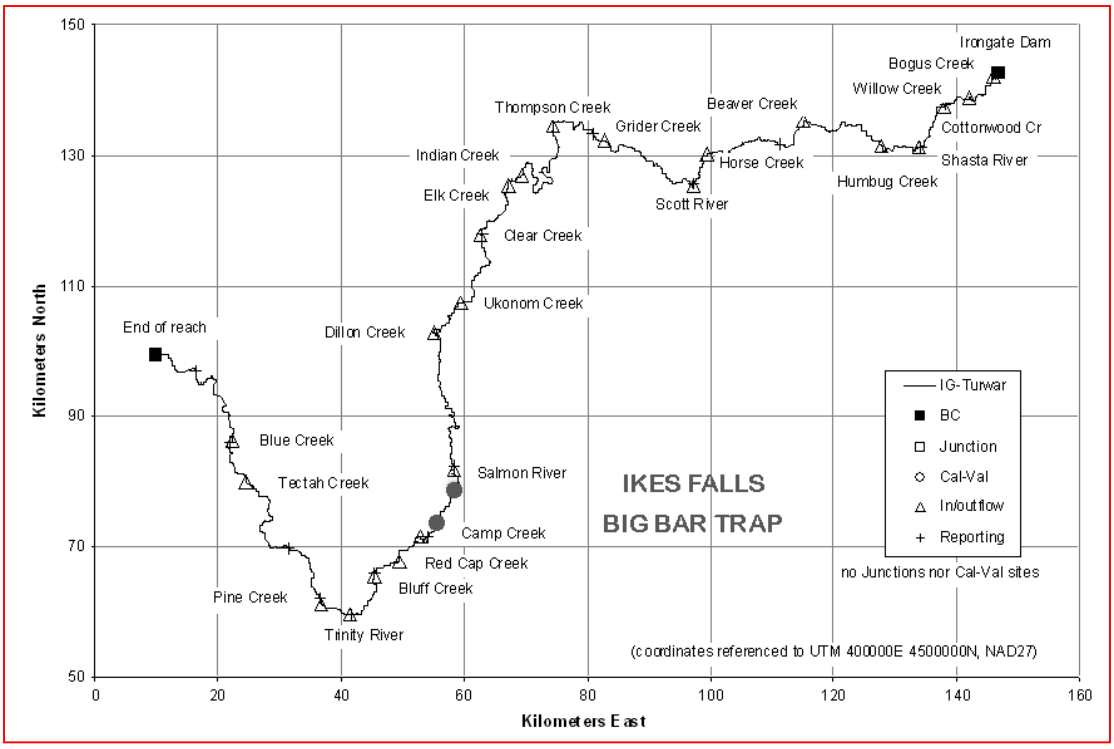

Figure 6. Map of the Klamath River showing the location of Ikes Falls and the USFWS Big Bar trap (black circles), below the Salmon River. This shows acute water quality problems caused by nutrient pollution are manifest well below the Scott River.

Aphanezomenon flos aquae: *A. flos aqua* is nitrogen fixing bacteria that inhabits Upper Klamath Lake and causes an increase in the outflow of the lake of 3.5 times the level of nitrogen versus tributaries above the lake. This species then sets up blooms in all reservoirs downstream and in the Klamath River below (Phinney and Peek, 1960). Phinney and Peek (1960) documented blooms of A. flos aquae in slow backwaters of the Klamath and even in the estuary. *A. flos aquae* flourishes in Upper Klamath Lake and in the Project reservoirs. If the only source of this blue green algae were Upper Klamath Lake, 60 miles upstream of Iron Gate Reservoir, it would be much less abundant and less likely to be able to create blooms in the lower Klamath River (Jake Kann, personal communication). The fact that *A. flos aquae* travels downstream from the Project and may set up blooms all the way to the ocean is a direct Project effect to the Resighini Rancheria and to other Tribes along the river.

Cultural Perspective

Tribes bring a different perspective on time to relicensing discussions with FERC. According to anthropologists, Klamath River Tribes have been in place for at least

10,000 years, but Native People know they have been here since time immemorial. The non-native culture typically thinks in one to five year corporate or government planning cycles. FERC is involved in oversight of a permit to affect our river for the next 50 years. The Yurok People of the Resighini Rancheria believe the Project has had huge and unforeseen consequences since its last license in 1956, and if FERC actions cause loss of fish stocks over the next 50 years, modern science enables us to foresee that we will loose fishing opportunities in perpetuity.

Scientific studies show that there are also ocean and climatic cycles in our region that are currently favorable, but change about every two and a half decades (Collison et al., 2003). If freshwater habitats are not improved by 2015 to 2025, when the cycle switches to poor ocean and dry on land conditions, weak fish stocks will go extinct and formerly strong stocks will become so weak there will be no harvestable surplus (Collison et al., 2003). We hope this gives FERC a sense of urgency in its deliberation.

The Yurok People of the Resighini Reservation and other Indian Tribes on the lower Klamath River have harmony based cultures. The people are indivisible from the environment and, if the environment is treated well, then the culture of the people will thrive. The Business Council of the Resighini Rancheria contends that the PacifiCorp Hydroelectric Project is not in balance with the river and represents a disruptive force to the harmony of man and nature in the basin. The Project represents an unnatural event which is having unnatural consequences on the environment and the Tribes. The unnaturally low flows imposed by the U.S. Bureau of Reclamation as part of its Ten Year Operations Plan that caused the fish kill of September 2002 (CDFG, 2003; Guillen, 2003) serves as another such example.

Whether your Environmental Impact Statement considers us as a people, a living culture and treats our arguments as germane under Section 106 of the Federal Power Act, or as part of the food web and under environmental law, matters only for the sake of argument. We will, however, expect you to remedy the abridgement of our traditional rights as long recognized by the federal government and guide the river's return to good health and allow the restoration of the fish on which we and other Tribes rely. The Council believes that dam removal is the path you must follow to honor that commitment and that such actions must be taken expeditiously to avoid irretrievable and irreversible harm to both Public Trust and Tribal Trust resources.

Sincerely,

Phil Smith, Director
cc: The Business Council
Tribal Manager

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California Indian Legal Services
Kier Associates

References

California Department of Fish and Game (CDFG). 2003. September 2002 Klamath River Fish Kill: Preliminary analysis of contributing factors

Collison, A., W. Emmingham, F. Everest, W. Hanneberg, R. Martston, D. Tarboton, R. Twiss. 2003. Phase II Report: Independent Scientific Review Panel on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks. Independent Science Review Panel performed analysis on retainer to the North Coast Regional water Quality Control Board, Santa Rosa, CA.

Deas, M. L. and G. T. Orlob. 1999. Klamath River Modeling Project. Project #96-HP-01. Assessment of alternatives for flow and water quality control in the Klamath River below Iron Gate Dam. University of California Davis Center for Environmental and Water Resources Engineering. Report No. 99-04. 379 pp.

Foott J.S., R. Harmon, and R. Stone. 2003. FY2002 Investigational Report: Ceratomyxosis resistance in juvenile chinook salmon and steelhead trout from the Klamath River. U. S. Fish and Wildlife Service, California- Nevada Fish Health Center. Anderson, CA. 25 pp.

Goldman, C.R. and A.J. Horne. 1983. Limnology. McGraw-Hill, Inc. New York. 464 pp.

Guillen, G. 2003. Klamath River fish die-off, September 2002: Report on estimate of mortality. Report number AFWO-01-03 . U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office. Arcata, CA. 35 pp.

Halstead, B. G. 1997. Memorandum to Bruce Gwynne of the California North Coast Regional Water Quality Control Board concerning water quality in the Klamath River. Unpublished letter of 23 September 1997. US Fish and Wildlife Service. Coastal California Fish and Wildlife Office. Arcata, CA. 14 pp.

Kann, Jacob, PhD. Personal Communication. Klamath River and Upper Klamath Lake water quality specialist. Aquatic Ecosystem Sciences, Ashland OR.

Kier Associates. 2004. Analysis of Sufficiency of the PacifiCorp Klamath Hydroelectric Project Final License Application With Regard to Project Water Quality Impacts. Performed under contract to the Klamath Basin Tribal Water Quality Work Group. 33 pp.

National Academies of Science (NAS). 2003. Endangered and Threatened Fishes in the Klamath River Basin: Causes of decline and strategies for recovery. Prepared for the NAS by the National Research Council, Division on Earth and Life Studies, Board on Environmental Studies and Toxicology, Committee on Endangered and Threatened Fishes in the Klamath River Basin. Washington, D.C. 358 pp.

PacifiCorp. 2004. Final License Application for the Klamath River Hydroelectric Project (FLA). Filed with the Federal Energy Regulatory Commission on February 25, 2004. PacifiCorp, Portland, OR. 7000 pp.

Phinney, H. and C.H. Peek. 1960. Klamath Lake, an instance of natural enrichment. Transactions of the Seminar on Algae and Metropolitan Wastes, April 27-29, 1960. U.S. Public Health Service, Robert A. Taft Sanitary Engineering Center, Cincinnati, OH.

Trinity County Resource Conservation District. 2004. Klamath Resource Information System Version 3.0 database for the Klamath-Trinity Basin. Funded by the Trinity River Restoration Program. See on-line at www.krisweb.com.

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