https://www.voterspetition.com/SaveKlamathRiverHydroelectricDams.html

SAVE KLAMATH RIVER HYDROELECTRIC DAMS

(This file may sometimes lack updating)

Amend U.N. Charter Petition, Files #52 .pdf & #55 .zip. These amendments will help the UN founding nations, to for a greater numerical range of UN Security Council minority numerical voting summations -- e.g.: tallies such as 1 of 15, 6 of 15, 2 of 5, 3 of 12, etc. --, avoid and/or prevent those UN Security Council minority numerical tallies (summations), from simplifying the Security Council's vote to wrongful violence results, where those minority tallies veto UN peacekeeping deployment security measures, that are for UN correct intervention against trespass.

dental access Petition, Files #15 .pdf & .zip, #16 .pdf, and #57 .zip. Files #15 present much information supporting the same petition that Files #15, #16, and #57 contain. Files #15 and #16 may be the best chance in your lifetime to prevent mandatory dental X-rays of yourself!!!

East Asia with East Asia Visitation Petition, files #58 .pdf & .zip, offer you a rare opportunity to advocate for international political peace with Chinese Taiwan and the (largely Asian continental) People's Republic of China. Hopefully here we may help the "ugly American", to avoid selfishly claiming that "if we don't annex Taiwan, someone else will". China, U.S.A., U.K. and some other countries, are much about participating in world trade, per international residence in foreign trading posts.

Files 66 & 67, 3 National Senators, Vehicle Manual Window Crank, U.N. Charter, Asian Visitation, Dental Care sans X-Rays, Windmill Whistles Lights & Contrast Color Petitions .pdf & .zip respectively. Petitions providing greatly for each of the given topics.

Web Page Topics A1, files #50.pdf & #54.zip, provide several concerns that are worthy of your analysis and comment, including:

(1) Popular Vote per the Electoral College? (a real slogfest, if you like mushing thru what may seem as hours of bleakness, you may enjoy it, for I show why I support a current "National Popular Vote State Compact System" movement, per an arduous trek of explaining how a compact of States assigning all of there electoral college votes to the candidate who wins the national popular vote majority summation -- i.e. the majority of the national individual citizens' votes -- is satisfactory for establishing a U.S.A. national popular vote election of the U.S.A.'s President and Vice President; something that the U.S.A. currently doesn't have!);

(2) U.N. Charter Amendment Proposals (so that the U.N. may deploy peacekeeping multinational forces to wars and/or insurrections, without the U.N. being blocked of so doing by nations that are participating of other than U.N. deployment in those wars and/or insurrections);

(3) Ike Eisenhower's 01/17/1961 Farewell Address (if you've been painfully lonely about developing and supporting U.S.A. national policy, Ike's Farewell address may provide great solace for you. I highly recommend that you read both Ike's 01/17/1961 Farewell Address, File #51, and my annotated version of Ike's 01/17/1961 Farewell Address.);

(4) Is Russia Required to Abstain from Voting in U.N. Security Council Voting on the combined east Ukrainian, Crimean, and Russian Dispute?;

(5) Artificial Intelligence (AI) Commentary on UN Charter Chapter V Article 27 (AI gives a stringent per word interpretation here for some of the voting procedure aspect of UN Charter Chapter V Article 27);

(6) Requirement for a Vehicle Manually Operable Window Crank;

(7) Requirement for Whistles, flashing Lights, and same color contrast Coloring on Large Windmill propeller Blade surfaces.

government representatives, per INTERNET ADDRESSES

Files #37 Save Klamath River Hydroelectric Dams webpage .pdf & .zip, has downloadable .pdf and .zip compilations of most of this webpage, however it isn't always up to date.

Files #64 J.C. Boyle Dam Reservoir Drawdown Pictures 1_ 20 - 21 _ 2024 .pdf & .zip, shows PacifiCorps', some ecoterrorists', some pro fossil fuel combusters', and the Democratic and Republican parties' treacherous -- per the created to destroy the dams, Klamath River Renewal Corporation's deconstruction application -- drawdown of J.C. Boyle Dam Reservoir. (How so the Republicans?; like “conspicuous in their absence” maybe?) J.C. Boyle Dam and Reservoir was anadromous fish passage adequate already, although the dam could've been improved with alternating fish ladder steps roofs, notched fish ladder steps for the parasitic lamprey (ugh, who needs those fish diseasers?), and a fish counting station.

To a big question of "will young salmon survive Klamath River reservoir predators sufficiently?", I observe that native trout and migratory fish in the Klamath River drainage area, used and survived Upper Klamath Lake Reservoir, Link River Dam fish ladder and stilling basin, Keno Dam Reservoir and fish ladder, J.C. Boyle Dam fish ladder and reservoir, and Copco 1, 2, and Iron Gate Dams' reservoirs well enough.

California's Trinity River drains into the Klamath River about 42 miles up the Klamath River from the Pacific Ocean, near Weitchpec. The near 63 mile length of Klamath River that starts at the Pacific Ocean, is where much of the low water-caused anadromous fish die-offs occurred. California diverts much of the Trinity River flow to the Sacramento River, for irrigation and salmon habitat. California

also irrigated heavily from the Shasta and the Scott River tributaries of the Klamath River, that drain into the Klamath River near Klamath River miles 177 and 143 respectively, resulting in greatly reduced water flow into the Klamath River from those tributaries.

According to California Trout (https://caltrout.org/regions/mount-shasta-region/shasta-river), "Historically, over 80,000 Chinook salmon returned annually to the Shasta River making it the second most productive tributary to the Klamath River behind the Trinity. Currently less than 10% of the historic Chinook salmon numbers return and coho salmon are on the verge of extirpation. Small irrigation dams and tailwater returns from agricultural fields impair water temperature and river flow. Clean Water Act and federal and state Endangered Species Acts influence management and policy on the river. Fortunately, the Shasta River has high restoration potential."

Recall that extinction has happened naturally of wild environment biology.

{How is it that the U.S.A. federal Government claimed it deserved to reduce Upper Klamath Lake water "A" Canal irrigation to Southern Oregon and the California Tulelake basin, so that Upper Klamath Lake retained more water and/or Klamath River carried more water in California? The U.S.A. federal Government claimed that drought and/or the Endangered Species Act (ESA) listing of fish required the federal government to close its "A" Canal so, although some Upper Klamath River basin area farmers have priority right for Upper Klamath Lake water irrigation usage, per any water delivery method, including "A" Canal delivery, that the water may be delivered of to the farmers.

Thus I found that the government court system should require, that per a U.S.A. Department of the Interior annually determined minimum critical Klamath River flow allocation from Upper Klamath Lake, the farmers receive an annual ESA-adjusted allocation, of their rightful and non-minimum critical Klamath River flow allocation-reducing, Upper Klamath Lake water entitlement, plus wealth compensation to the farmers for all Upper Klamath Lake water that, in consequence of ESA listing species-unique recovery project strategy, though not in consequence of annually determined minimum critical Klamath River flow allocation from Upper Klamath Lake, the court denies the farmers; similar to how loss of legal U.S.A. livestock that is due to ESA-protected predator predation, should be compensated for with wealth compensation from the U.S.A. federal Government.

Construction of "A" Canal originally commenced of private farming, however the U.S. federal Government Department of the Interior insisted on purchasing the "A" Canal construction project, as part of the federal Government's reclamation crop irrigation and wildlife habitat development of the upper Klamath River drainage and Tulelake basins. Link River Dam, built in the 1918 to 1923 interval, allows for seasonally greater Upper Klamath Lake and Klamath River water presences, than nature averaged for those water bodies.}

(False modesty aside: What about this "First come, only serve" situation for a drink of water now? How about "Native Americans' right to Native American blood transfusion, predates Native

Americans' right to European-lineage emigrant blood transfusion, so European-lineage emigrants have no multiuse right to transfusion from Native American blood, and Native Americans have no multiuse right to transfusion from European-lineage emigrant blood?" Shore enuf, Native American and European-lineage emigrant genetic inheritance medic, some may betcha.)

Obviously this webpage isn't for the irresponsible who like to stumble in the dark, the "I don't know no betters", who of their deliberate ignorance, claim they deserve a second chance to not know better again. Ruination of the Klamath River hydroelectric dams, is another example of big money's "One pass harvest profit, with a concomitant superfund waste to all of humanity" profiteering. Since PacifiCorp didn't want to pay on legal challenges for fish passage, mostly only governments, such as the U.S.A. national Government, could afford the Klamath River hydroelectric dams.

2024 ADVERTISING UPDATE

This webpage exclusively has been advertised in year 2024, per popular preference for the Files **#53,** #56 **"Save Klamath River Hydroelectric Dams Petition"** .pdf & .zip, Files **#52** & **#55** **"Amend U.N. Charter petition"** .pdf & .zip**,** Files **#58** **"East Asia with East Asia Visitation Petition" .pdf** & **.zip,** and Files #**15, #16,** and **#57** "**dental access**" **(#15** and **#16** may be the **best** chance in your lifetime to prevent mandatory dental X-rays of yourself!**)** petitions of this webpage, to receive a viewing and hopefully gain support with the **Southern Oregon** community.

Newspaper advertising for this webpage starts from about $23 to $250, depending upon several factors, including the size of the newspaper's circulation and the advertisement's size. Since this webpage's petitions have only been paid publicly-advertised anywhere, including regionally in Oregon and nationally, per the author of the petitions spending greater than $4300 of the author's less than $15,500 annual total income; any additional paid public advertising of the petitions should come from voluntary financial donations, per such as PayPal so:

https://www.paypal.com/donate/?hosted_button_id=A8TMK4KGWDTQW

Respectfully yours, Danny L. Hull, B.S. Biology (Medical Technology major), A.A.S. Environmental Health Technology (Water Quality Control major).

Although this webpage serves primarily for the purpose of allowing free downloads of information pertinent for understanding, repurposing, and saving Klamath River hydroelectric dams, current statements and petitions regarding dental access (Files **#15, #16,** and **#57. #15** may be the best chance in your lifetime to prevent mandatory dental X-rays of yourself!), Lost River Sucker habitat (**File #17**), Klamath River water quality upgrade (**File #17**), and Homeless Home Camping (**File #36**) are also available here. **File #37** has downloadable .pdf and .zip compilations of most of this webpage, and **File #49** is a link for a transitional housing – including homeless shelter – opportunity.

{**Flash**: Our colleagues have recently observed that leaked hydrogen (H2) in the stratosphere may there intervene with hydroxyl (OH) radicals' degradation of methane (CH4) greenhouse gas, resulting in prolonged methane heat trapping in the stratosphere. Since hydrogen is the smallest and lightest chemical element, it slips out of many containers readily, so it appears best to reject hydrogen as being a practical green fuel for mass transit refuelings. I find that electric from clean "green" renewable energy, is best for ground travel; and local-brewed ammonia (NH3)(AmmPower Corp. OTC: AMMPF, **https://www.iamm.green/,** FuelPositive OTCQB: NHHHF, https://fuelpositive.com/) is showing strong potential for mass transit -- including air flight -- and domestic agriculture.

https://www.ilika.com/ may provide ILIKA company (stock ticker ILIKF) information concerning research and development of silicon anode solid state electric vehicle battery (SSB) production. https://www.quantumscape.com/ may provide QUANTUMSCAPE company (stock ticker QS) information concerning research and development of lithium metal anode ceramic separator organic liquid cathode (catholyte) solid state electric vehicle battery (SSB) production.

Distressingly, electric battery makers/users are greatly ignoring substituting **graphene/aluminum batteries(!)** (you may try the GMGMF stock exchange ticker address in an internet Google Search for graphene/aluminum battery (https://graphenemg.com/energy-storage-solutions/aluminum-ion-battery/) investment information) for flammable lithium ion batteries! For example, New York has been reporting five lithium battery fires per week.}

Removal of any of the Klamath River hydroelectric dams is worse than asinine, it is subversive to agriculture, aquaculture, clean renewable energy-based human survival, and United States of America national security. KRRC (Klamath River Renewal Corporation) has much money that it wants to start spending, and likely could have so began per destroying the 3.6MW Link River hydroelectric complex, rather than destroying 27 MW Copco 2, which was the easiest dam of the three Klamath River hydroelectric dams (i.e. Copco 1, Copco 2, Irongate) without fish ladders, to build a fish ladder for.

Flash!: Deconstruction of Copco 2 Dam **commenced** in the week prior to 6/24/2023, and as of 11/2023, Copco 2 Dam has thus been completely removed, and the former Copco 2 Dam Klamath River riparian area completely artificially rehabilitated. At the request of the State of California, the Copco 2 Dam powerhouse has been left as an interpretive center. Copco 1, Iron Gate, and J.C. Boyle dams are scheduled to be completely removed in 2024.

As of 03/13/2024, explosive demolition of Copco 1 Dam has much occurred, and both Iron Gate Dam and J.C. Boyle Dam have been holed low for reservoir drainage. There is no adequate reason to remove J.C. Boyle Dam yet. Major destruction of Iron Gate Dam and J.C. Boyle Dam is likely to commence in May 2024.

Drawdown of Iron Gate Reservoir commenced 01/11/2024, of J.C. Boyle Resevoir 01/16/2024, and of Copco 1 Reservoir 01/23/2024. **Files #64.** provide .pdf and .zip extensions of the same J.C. Boyle Dam Reservoir Drawdown Pictures 1_ 20 - 21 _ 2024 file. **(I recommend withholding and refusing to provide U.S.A. political party financial donations, until the U.S.A. Government stops destruction of at least J.C. Boyle hydroelectric dam.)**

Files 59 & 60 "**JUNE 2023 SCHEDULED COPCO 2 RUINATION**".zip & .pdf respectively, provide recent **detailed scheduling** planned for Klamath River hydroelectric dam destruction, and stringent comment against destroying any of the Klamath River hydroelectric dams, and some unusual insider comment about drugs and HIV (Human Immunodeficiency Virus).

False modesty about "salmon survival per natural environment means only", hiding behind science findings of pristine, naturally ideal, only natural salmonid environment salmon survival, continues to strongly oppose: (1) human multiuse of salmonid river habitat, (2) human-augmented salmon survival in several salmon-compatible environments, including both some human-shared salmonid environment, and some salmonid-containing of humanly transplanted salmonids, not previously salmonid-occupied, aquatic environments, (3) emigrant-descent humans' access to and development of originally-piscinely salmon-colonized aquatic piscine environment.

What collusion has supported and allowed the Copco 2 dam destruction reduction of humanities' environmental support and security fitness? From a lot of commercial fishing-, fossil fuel support-, and ecoterrorism-backed vanity motivation, a collusion of some of each of several obvious culprits (some, tho not all of those, happening as monopoly-like, "business as usual", false modesty "pig-outs"*(*e.g., slang here for "unnecessary degradations")), including: **(1)** A famous "Silent Majority" "Great Society" group of the 1960's, the "Yes Men with Dependants to Feed"; **(2)** The "We're only trying to help" crying towel-wringing "Gimmees"; **(3)** The "We're only trying to help" crying towel-wringing "Compromisers"; **(4)** The "That's them other guys, so done already" apathetics; **(5)** Pro fossil fuel "Pump and Dump" advocacy; **(6)** "Let's Stampede over the Ledge with the Buffalo chased by the Horsemen, You First" fatalists; **(7)** Quick dirty buck wreckers; **(8)** The "Santa Clause Failed to Provide" vengeance seekers; e.g. "The conveyor belt of unlimited convenience is late to provide at my door"; something like a "What do you mean that climate change shut down wine production?" champagne appetite on a beer budget; **(9)** A simpletons' claim that "If it ain't natural, it ain't good enough"; **(10)** A "Bureaucrats have something -- like the party way -- else than buying privately owned dams, to spend government bucks on" government policy; **(11)** "Substitute Government Agriculture-Land Financial Subsidies for Dam Reservoir Water Storage" freebiers; **(12)** An anti-agriculture movement to reduce ag production, increase ag transportation costs, and thus reduce human population presence; **(13)** Denial that during the immediately forthcoming several years of adverse climate change reversal effort, neither fish could adequately -- including healthily enough -- swim past adequately managed and adequately fish ladder equipped, Klamath River hydroelectric dams, nor could Klamath River water be equitably enough divided between Klamath River fish habitat and other uses; **(14)** "The Little Guy Shall Overcome" rally; **(15)** An old favorite of ours, the "We Don't No-No Better" commitment; **(16)** Another old favorite of ours, the "Hindsight happy, "See I Told You So", that was them other guys so gimmee" resolution; **(17)** Here's a run around “Tra-la-la”:

"When in "Roam" (-mode) do as the "Roamer" (-mode, e.g.: "I'm from Missouri, I have to be shown.") does, and since of one's placement so, one is to perform while and in the same way that that so placed performs, "why don't we yes, but"; and have me that “Roamer” way, and/or of that “Roamer”, have me different, like chase a carrot you donkey, time is money, and if you can't buy me different, you're going to have me the same, as I'm as good as I can be, I can't be improved; meaning here I support both ways and either way."; i.e. here Pro Neutrality's (i.e. for -- as in "satisfactory" -- either way) split vote is in collusion with both sides.

May we here show a parallel with, paraphrase, or even emulate E. Burke, so: {Somewhere, all it takes for enslavement to prevail, is for responsible citizens to cease opposing enslavement.}? Many people don't like being lonely for voting correctly, as a previous, current, and/or forthcoming consequence ("safety in numbers" complex hang up); and many people don't like spending pluripotentially good money on futilely being correct against wrongful opposition, where the wrongful opposition can and does remain wrongful, per the wrongful opposition outspending good money that is spent against the wrongful opposition.

Files #50 & **#54** "Web Page Topics A1" provide in different accessibility format extensions (.pdf and .zip), the same compilation of topics, including health care trespass, witnessed events of prayers, East Asia with visitation?, popular majority vote per electoral college vote opportunity, my annotated version of Ike Eisenhower's Farewell Address, and U.N. Security Council Russian voting abstention. Some of the topics have brief development, and others have extensive development. (With fond regard for the "**East Asia with visitation?**" topic, .pdf and .zip petition **Files** #58, I'm pleased to here note that the U.S.A. has successfully peacefully maintained peace with Cuba per Cuban emigrant enlistees -- I served with a couple of them -- in the U.S. Navy, and since 1903, with U.S.A. peaceful rent of the Cuban Guantanamo Bay, U.S.A. naval facility area. Similarly, Taiwan has a substantially good opportunity for successfully maintaining peace with mainland China, per Taiwan renting peacefully Taiwan island location naval base areas with mainland China, for peaceful mainland China military naval base naval installations and operations.) **File #51** is a copy of President Dwight Eisenhower's 01/17/1961 Farewell Address. **Files #52** & **#55** "Amend U.N. Charter petition" (additional reference per **Files #50 & #54**, Web Page Topics A1.pdf or .zip, near and/or in pages 17-32) provide the same petition in different accessibility format extensions (.pdf and .zip) to amend the United Nations Charter, so that the U.N. Security Council may vote on candidate resolutions that pertain to discordances involving disputes, and/or threats to the peace, and/or breaches of the peace, and/or acts of aggression, none of which discordances any of the U.N. Security Council 15 member nations that vote on any of the candidate resolutions that pertain to the discordances, are a non-U.N.-deployed party to.

Files #53 & #56 "**Save Klamath River Hydroelectric Dams Petition**", provide in different accessibility format extensions (.pdf and .zip), the same petition that summarizes some strong key points as to why and how the Klamath River hydroelectric dams should be saved; and from which persons may copy and paste petition advocacy for neighbors, including **government representatives**, per INTERNET ADDRESSES on this webpage that are given several paragraphs below the black and white, 9-30-21, Upper Reef Link River photograph on this page.

I hope that many readers of this webpage will please **bookmark** **this webpage**, since I can't financially afford to often advertise this webpage per news media, and since unfortunately the **File #37** .pdf compilation of most of this webpage, may lack several functional download links from this

webpage. I am sorry that I must usually state in detail lengthily here, as I know that reading details so can be tedious; however this webpage is composed to be factually **much** worth your time. Also I'll likely provide updates for this webpage, including new file listings, during the immediately forthcoming several months after April 2024. **Files 61 & 62** "Some of a Save Klamath River Dams Advocate's ID Verification" .zip & .pdf respectively, provide some ID verification of one Save Klamath River Dams advocate.

This webpage has much information on **why** to save the dams. **How** to save the dams though? We need people to **convince the federal government to save the dams**. Thus we need to prove to the Office of the President, the Department of the Interior, the Federal Energy Regulatory Commission, and the federal Congress that saving the dams -- for example **per** the **federal government buying**, and where necessary, upgrading **the dams** with fishway modifications -- is one of the most humanity-benefiting, best interests of humanity. As I'll soon explain briefly and at length, there is **no sufficient reason to destroy J.C. Boyle Dam**.

Federal court intervention to require the federal government administration to evaluate the dams, for the benefit that the dams may provide to humanity as U.S.A. federally owned hydroelectric power production facilities, and/or fish habitat and multi-use water conservation facilities, is appropriate and worthy of petitioning the court for. We need a formally organized "Save the Klamath River Hydroelectric Dams" concerned citizens group, to convince the U.S.A. federal Government that the dams are and may continue to be adequately beneficial to all of humanity, and that the dams aren't excessively deleterious to humanity; and we don't have that "Save the Klamath River Hydroelectric Dams" concerned citizens group! Even with FERC's (Federal Energy Regulatory Commission) December 2022 decision that allows the Klamath River Renewal Corporation, rather than Pacificorp, to now possess and destroy the Klamath River hydroelectric dams, a federal court decision can yet prevail to save any of the dams.

Too many people want us to believe that its unAmerican to save the dams, and to pout that we don't recognize them as real Americans if we want to save the dams. That's not me, all the while that my ancestry and nationality yet is validated as American cosmopolitan global heritage, only per extrapolation of my chronologically documented European and N. American lineage (no DNA genotype matching yet). Recognize them as real Americans? Certainly, for example as I can recognize many Americans of the previous several years, to have been real Americans who were swindled by good-money-after-bad big money, special interest groups, bad laws and worse -- bad legal administration, personal vanity, climate change reactionaries, apathy, and foreign negligence; I can recognize them as real Americans of conflicted interests.

Some of the reasons that saving Klamath River hydroelectric dams appears daunting, are: Klamath River is a naturally and anthropogenically nutrient rich river; global warming has reduced Klamath river drainage surface water and increased Klamath River drainage heat exposure; global warming has adversely affected ocean and Klamath River drainage salmon habitat; evaluating the Klamath River dams and the Klamath River (KR) ecosystem is a complex task of many details; California taxes, and also ample private wealth from diverse sources, including the dams' former owner and current owner, have been dedicated to destroying the dams; labor is in short supply to save the dams; toxic to people, though tolerated of fish, seasonally varying quantities of mostly Microcystis (some Microcystis produces hepatotoxic microcystin toxin) and lesser prevalent Anabaena blue-green algae occurs substantially in Copco 1, Copco 2, and Iron Gate reservoirs; microcystin toxin-producing Microcystis

has of recent years occurred in Upper Klamath Lake (UKL) sufficiently to support seasonal water safety hazard advisories for the lake; nontoxic Aphanizomenon flos-aquae algae – that is of the same Klamath River drainage algae population from which UKL Aphanizomenon flos-aquae algae has been harvested and sold as a health food supplement of UKL – continues to thrive as 70% or greater of the large floating/drifting algae populations of UKL and the Klamath River dams' reservoirs.

The Klamath River hydroelectric dams are mostly challenged to be destroyed, per the dams' effect to salmon. Upon providing adequate anadromous fish passage facilities for all of the dams (and J.C. Boyle Dam has, since its 1958 completion, always had a salmonid-adequate fish ladder and an upstream fish passage blocking adequate turbine canal fish screen), the primary salmon challenge to the dams is: Can the downriver salmon migrations adequately survive nonnative fish predation of the migrating salmon in Copco 1 and Iron Gate reservoirs? That question should have been, though hasn't been, assayed with actual release in both reservoirs, of downriver migrating juvenile salmon. However, resident red band trout salmonids, have apparently naturally readily survived Copco 1 and Iron Gate reservoirs' nonnative fish predator populations.

Tear out the dams before **at least** trucking some fall run spawner salmon from Klamath river at the base of Iron Gate Dam (IGD), to IGD Reservoir at IGD, and releasing those spawner salmon in good condition in IGD Reservoir, to see if those spawner salmon will swim through IGD Reservoir to Fall Creek Hatchery **(**Fall Creek Hatchery was installed in 1919 on Fall Creek about .8 mile from the Fall Creek/KR confluence that is about 1.4 mile downriver of 1918-completed Copco 1 Dam, to provide substitute KR salmon production for salmon production that Copco 1 and Copco 2 blocked. Fall Creek Hatchery was used in 2022 for cool water raising of salmon.**)** and/or Copco 2 Dam**?**? I haven't found evidence of spawner salmon being so introduced into IGD Reservoir.

Too many people want to claim, "If the salmon can't survive global warming with or without the dams, the dams don't deserve to survive global warming either". The KR Fall run salmon have survived global warming with the dams and Iron Gate hatchery very reasonably well; and although the KR Spring run chinook salmon are extinct for a reason I haven't discovered, perhaps because they weren't hatchery reproduced or otherwise managed sufficiently?, claiming neither run can be sufficiently established to survive well per installation of adequate fishways in the dams and continued operation of Iron Gate Fish Hatchery, is blatantly ignoring the great success of Iron Gate Fish Hatchery each year since 1963 to maintain the mainstem KR chinook salmon run, especially as many of those years were heavily fished by Soviet Union trawlers.

Keeping Iron Gate hatchery functional for salmonids, especially jeopardized salmonids such as Coho salmon, and keeping 24/7 clean renewable KR hydroelectric power, per 27MW from Copco 2 and 98MW from J.C. Boyle dams, while forever terminating Iron Gate Dam's 18MW and Copco 1's 20MW of hydroelectric power production, per adequately furnishing all of the dams with fishways and repurposing Iron Gate and Copco 1 dams for water conservation -- including fish habitat always and agriculture sometimes -- is adequate reason for the dams to survive global warming, with each dam's salmon survival effect then being determined, so as to determine and then resolve the dam's global warming compatibility with the salmon. I am very confident that J.C. Boyle Dam and reservoir are already sufficiently salmon safe, and that Copco 2 Dam only needs an inexpensive low fish ladder and turbine canal screen to be very salmon safe.

There is also an interesting corollary story with this advocacy page, about how a local government agency preferred to extort the local population, until "oops", the local government discovered that per good 'ol checks and balances parent government, anonymous observers (like "stoolies" of the

underworld) were previously locally in place to record government infractions; however that is a story for a different environment survival critical, power production conservation.

*(Incidentally, commencing longer than a year ago, greater than five different dental practices have refused to cap two of my teeth and composite-fill a wisdom tooth, because being over 70 years old, I have already received an excessive quantity of dental X-rays -- in particular, the larger X-ray doses of 55 years ago -- and so I have refused additional dental X-rays. And do I know the dental professions' "superstitious-like" approximations about wisdom teeth?! Like the medical professions' tonsils approximations, you know the story from the "feeling"**:** "For adequate respect from my neighbor, I need to impose -- even trespass -- towards my neighbor". Disease has been supported as a reason for right of way, including trespass-based right of way.*

Dental ethics are recurrently deficient **mostly** *of excessive X-ray demand, and possibly second mostly of unnecessary "preemptive" wisdom teeth extraction. (Please see* ***File #15****) Medical practice ethics are deficient in* **several ways***, including: Beneficial new drug public availability; insufficient off-label prescribing because of insufficient malpractice insurance availability; lack of nutritional substitution for drug therapy prescription alternative recommendation; lack of over-the-counter (OTC) antibiotic availability; lack of multi-valent drug prescribing; lack of medical therapeutic approval for medically therapeutic biochemicals; no national government of any country in the world approval of Glycoprotein 160 (GP 160), GP 120, or/and GP 41 vaccine(s) against HIV (Human Immunodeficiency Virus); lack of OTC disodium ethylene diamine tetraacetic acid -- a.k.a. EDTA disodium -- therapy substitution for atherosclerosis surgery; private for-excessive-profit enterprise financial cost of hospitalization and medical care; and likely sometimes, time-dependent anesthesia safety.* **(Hint***: For medical fee fairness, try an annually revised, court-appealable, United States of America national government-mandated medical services and some medical commodities, limited maximum financial fee schedule; such as a National Annual Medical Fee Schedule, NAMFS, or National Annual Medical Pricing Schedule, NAMPS, for the Veterans Administration Health Care system and/or the MediCare system and/or the MediCaid system; that would provide a nationally annually revised limited maximum medical fee schedule, like private dental insurance companies annually provide dental care fee compensation, per the dental insurance companies' itemization of maximum fee schedules for dental services and dental supplies.)*

"A Rose by any other Name, yet has the same Fragrance"

As a beneficiary of world environment health-respectful, **responsible** international production, and per the **deep mutual embarrassment** of our many good Russian, Western Hemispherean, Western European, and Ukrainian neighbors, herewith I provide a www.WRRU.org URL, and a https://crm.ocalenie.org.pl/civicrm/contribute/transact?reset=1&id=36 URL, and a https://16620.thankyou4caring.org/pages/ukraine-relief-fund URL, and a https://www.forbes.com/advisor/personal-finance/donate-relief-to-ukraine/ URL, and a https://give.unrefugees.org/220224ukr_emer_d_4983/ URL, and a https://www.unitingforukrainerv.org/ URL; so that we may peacefully, soon together restore **inalienable rights-respecting decency**, and accomplish **mutual** Ukrainian and Russian **co-operative protection of**, and prosperously fair **co-existence** in eastern Ukraine. Eastern Ukraine has been piratically infiltrated and invaded, however a multilateral ceasefire along with the Ukrainian and Russian cultures' mutual commonalities, should soon enough allow for diplomatic accordance, whereof Ukraine and Russia may both jointly peacefully co-produce within eastern Ukraine and

Crimea **prosperously for all nations**, and may jointly peacefully provide and respect a mutual security pact, that allows both Ukrainians and Russians to retain and own much of east Ukraine; as for example that allows Russia to have some historic ownership in the Crimean peninsula, and Ukraine to own most of east Ukraine, with both Ukraine and Russia allowed legal physical access to east Ukraine and the Crimean Peninsula, per Ukraine's rental and/or sale of some of East Ukraine.

Continuing to devastate Ukrainian and Russian infrastructures is not in the best prosperity interests of Ukraine, Russia, or the rest of the world's nations, especially the many nations that are reliant on Black Sea-area **agriculture for sustenance**. We may ask "To what extent have Russia and Ukraine together peacefully negotiated for Russia to peacefully financially buy or financially rent parts of Crimea and/or parts of east Ukraine?" A contention of either party that all of east Ukraine and Crimea must belong to only one of the parties, appears to greatly ignore the possibility for mutual or separate ownership, of some of Crimea and of only some that is less than all of Crimea and east Ukraine.

Discord among humanity is generationally recurrent of a personal maturation basis, however European and North American cultures, having greatly acquired a common media, language, and history together, are now -- much of a common contrition -- resolved, that Ukraine and Russia shall of eastern Ukraine co-exist together **respectfully to all** of the worlds' **nations**. Of many persons, Russia is not favored to dupe the world as a port for pirates, like sea-roving brigands have historically employed long distance supply routes to accomplish. Although Russia has been much courted with and for good international trade policies, one should always recognize that like North America and China, Russia is much self-supporting.

Per early political extrapolation, I'll offer this: Russia is much European, like "can't see the forest for the trees", however humanities' "don't keep all of your eggs in one basket" civil insecurity, has deeply divided Europe, a geographic area historically greatly divided into near 350 mile x 350 mile square, human culturally-distinct, culturally homogenous geologic areas; and Russia apparently has found itself lonesome for international mutual defense pacts; so to have the best peaceful cultural accordance with Europe, Asia, etc., I estimate that Russia may increase its mutual accordance with the Mideast, an area that Russia has been significantly populated from. Recognize that Russia is the geographically largest country in the world (near 1.73 times the U.S.A. size, or near .86 times the size of Canada and the U.S.A. combined), yet only has near 146 million citizens (the U.S.A. has near 320 million citizens). I estimate that if Russia were to again predominantly use the Roman alphabet rather than the Cyrillic alphabet, Russia would greatly improve its foreign relations.

That Russia has annexed some of east Ukraine and Crimea, doesn't necessarily denote that Russia deserves to seize all of Ukraine. Thus United Nations multinational peacekeeping troops should be -- and should have been -- deployed in Ukraine's Kyiv capital, to establish and maintain adequately effective defense, of western Ukraine's Ukrainian sovereignty and independence. Those UN peacekeeping troops could've been partly composed of U.S. troops, and yet appropriately, the U.S.A. could independently deploy peacekeeping troops in Ukraine's Kyiv capital, to adequately defend only western and west central Ukraine from seizure from insurgents and/or a foreign nation.

Although Crimea may plausibly be nationally geographically annexed with Russia, per both an ocean Kerch Straits bridge from Russia into Crimea, and a Ukraine-approved purchase or donation of Crimea from Ukraine, geographically and culturally Crimea has legitimately belonged to Ukraine. If Ukraine prefers to rent, sell, or donate some of east

Ukraine and/or Crimea to Russia, I find those transactions adequately legitimate. For example, I find that Ukraine has a strong natural eastern border per the Sea of Azov, that Russia could respect as Ukrainian, while for the purpose of Russia governing Crimea and the Sea of Azov with Ukraine, Russia peacefully rents Crimea from Ukraine.

Russia's desire for Crimea appears similar to a hypothetical U.S.A. State of Washington desire for seizing Vancouver Island BC, a convenient possession for Washington to more greatly control Puget Sound of, however disrespectfully selfish -- e.g. "if Washington doesn't annex it, Russia might" -- and superfluous seizing and possessing so is. Russia appears motivated to govern Crimea, per a desire to control access for and use of the Azov Sea, and to conscript some or all of Ukraine to Russian fealty.

A brief note on domestic weapons safety. The U.S.A. has been perplexed about both domestic and privately possessed weapons safety, for many generations now. We can afford to employ **MPPs** -- i.e. military police persons -- from the Army and Marine Corps, to provide business hours security for government buildings, like we employ the U.S. Coast Guard to help persons with aquatic activities. Per the U.S.A. banning nongovernment-licensed, nonsecurity personnel, private citizen (in other words, private citizens who aren't government-licensed security personnel) possession of fully automatic and of semi-automatic firearms, and banning large capacity firearm ammunition magazines, the U.S.A. public should have much greater safety also.

Nuclear weapons have, of a majority of United Nations membership countries, been globally banned. I estimate that greater than Mach 1.7 velocity, first-assault launch, hypersonic large explosive capacity, bomb delivery rockets should be globally banned; while allowing faster, though speed limited to avoid excessive –- atmosphere disruption-caused and/or material impact-caused --- environment damage, hypersonic velocity, only **small** explosive capacity payload and/or kinetic or other physically disruptive impact anti-missile missiles, global legal existence. The defense security stratagem so, is to intercept and destroy both accidentally and deliberately launched first-assault rockets, so that opposing sides aren't damaged of rocket attacks. Incidentally a small, near bowling ball size, nuclear explosive anti-tank projectile was effectively produced in the early 1960s.

Persons who prefer that some nations possess a public arsenal of a few small explosive power nuclear weapons, should provide a petition measure in support of that possession to the United Nations, for a nuclear weapons possession exemption from the United Nations ban on nuclear weapons possession.

The best short overview **for saving all four** Klamath River **hydroelectric dams, as hydroelectric dams**, is **File #4**; however **File #14** provides a concise case for saving two of the dams as hydroelectric dams, and repurposing two of the dams as within-river water storage facilities, for fish habitat and upriver above-the-dams-irrigation compensating reservoirs. **Be sure** and **observe page 20 of File #7** -- i.e. the PacifiCorpHCP etc. file -- for the size, depth, and water retention times of the Klamath River dams' reservoirs, and then ask yourself "slower reservoir water there heats up for how long and how deep?", recognizing that in many moderately deep and deeper reservoirs, seasonal thermal stratification provides much warmer or colder **surface** water than it respectively provides warm or cool bottom water.

Example: Copco 1 and Iron Gate Reservoirs are deep and long (115.5 feet and 162.6 feet deep and 4.6 miles and 6.2 miles long respectively), have a seasonably variable, often dense, upper water layer drifting algae -- a majority being usually benign Aphanizomenon blue-green alga, and minorities being toxic Anabaena and toxic Microcystis blue-green alga -- sunscreen/insulator biomass layer, definitely thermally stratify (separate into distinct horizontal water thermal layers) annually, are both supercharged and depleted of oxygen daily per algae activity, and the native red band rainbow trout thrive advantageously inhabiting the reservoirs' waters.

There is no sufficient reason to destroy 98 MW (maximum) **J.C. Boyle Dam!** Briefly: Like trout have always done at J.C. Boyle Dam, salmon should also be able to easily swim upriver and downriver past J.C. Boyle Dam in the J.C. Boyle Dam fish ladder, while those fish are adequately **kept away** from the dam's turbines, per the now currently fish passage excluding, screened pipeline, canal and tunnel to the dam's powerhouse turbines, that are 4.3 river miles (RMs) downriver from the dam. Boyle Reservoir is only 3.6 miles long, almost all of the lower half of which is a cool 41.7 feet deep, and has cool clear salmonid-spawning water Spencer Creek discharging at the reservoirs head end, and a reservoir water retention time of 0.6 to 2.5 days. Quite frankly, because the native red band trout grew to large size in the difficult to access Klamath River Canyon from J.C. Boyle Dam to Copco 1 Dam, the trout that migrated through J.C. Boyle Dam fish ladder were greatly overfished, and thus per actual formal assay, fewer trout were observed swimming up J.C. Boyle fish ladder.

I believe that United States of America (U.S.A.) national citizen nonaccidental destruction to any of the Klamath River hydroelectric dams, that is not for repair and/or improvement to those dams, or is not for replacement of those dams with a better dam near the same location of those dams, is treasonous and seditious against the United States of America, and is also **a sinful crime against** humanities' **clean renewable energy-dependent survival,** and against water conservation for Klamath River fish habitat, and against U.S.A. annually variable irrigation-assisted agriculture!

The dams are falsely claimed as being too bad for adequate fish -- especially anadromous salmonids -- habitat, because three of the dams lack fish ladders, dam reservoir waters heat up of reduced water flow velocity, and a polychaete worm that harbors two Pacific Northwest watershed salmonid diseases, flourishes immediately below Iron Gate Dam, although the same worm occurs from the Williamson River tributary of Upper Klamath Lake to lower Klamath River, and in the Columbia River and other river systems.

Between Link River and J.C. Boyle powerhouse tailrace, (nonhydroelectric) Keno Dam RM (river mile) 233 Reservoir at 19.5' maximum depth, 495 acre-feet of active storage capacity, and a water retention time of 3 to 13 days, provides much more water surface/atmosphere thermal contact time, than does J.C. Boyle Dam RM 224.7 Reservoir at 41.7' maximum depth, 1724 acre-feet of active storage capacity, and a water retention time of 0.6 to 2.5 days. J.C. Boyle has a large variety of native and non-native -- including crappie, bass, perch, gold fish, and even big (non upper river native) sturgeon -- fishes though, because its the only gentle flow pool between the 4.7 RMs long, small rapids and riffles run from Keno Dam to Klamath River/Spencer Creek mouth confluence, and the medium size rapids from J.C. Boyle Dam 4.3 RMs to J.C. Boyle powerhouse tailrace. In fact, because J.C. Boyle Dam is built at the beginning of a near 20 river miles of 1,192' elevation decline and medium to large rapids occurrence, the Klamath River Sucker -- a fish I actually saw caught on a silver 1/4 ounce metric lure in the big bend reach immediately downriver of J.C. Boyle Dam -- marks the extreme north boundary of its Klamath River habitat range at or near J.C. Boyle Dam.

(If I recall and estimate correctly, during each of two 1960's years, during low warm water periods, there was in the "Klamath River Canyon" -- likely between Keno Dam and J.C. Boyle Dam -- and

near simultaneously one of those years in a small area of Upper Klamath Lake, a mostly nonsalmonid fish die-off that I suspect was greatly of shortnose suckers, that apparently occurred of the large resident fish population in the area being crowded of low warm water, and refusing to migrate up the low flow Klamath River riffle-rapids upriver of J.C. Boyle Dam and past whichever of two Keno dams -- if possible of the older dam presence, before it was replaced of the newer and yet present with fish ladder, Keno Dam -- that singularly and exclusively served as the Keno Dam then, to Lake Ewauna and/or Klamath Lake. Perhaps J.C. Boyle Reservoir was rapidly lowered then, and so concentrated the reservoir fish population suddenly.

Although that was a time of laundry detergent phosphate pollution, UKL and KR to J.C. Boyle Dam drifting algae visually appeared greatly present then, though I estimate substantially less dense than I've seen it of recent years. Also during the 1960s, UKL and KR drifting Aphanizomenon algae, would in the cold seasons resort to their akinete (dormant cell) forms, so that UKL and KR appeared less green and less algae populated, than now -- apparently of both the algae's numbers and perhaps global warming -- happens in the cold seasons. I find that the Aphanizomenon algae filamentous form is greener than what I observe as being the yellowish akinete form. Per reference, in the 1960s I lived for 2 months within from 80 yards to 160 yards of flowing UKL Link River-derived A Canal; and our High School was bordered on two sides with that A Canal.)

Frankly, upon comparing the Keno Dam “Lake Ewauna” Reservoir's 22.5 RM length, with 3.6 RM length J.C. Boyle Reservoir; an above 65 degrees F temperature of the Klamath River flow from Keno Dam Reservoir 4.7 miles into J.C. Boyle Reservoir, seems reasonably frequently supported of summer weather, as from Lake Ewauna's Link River inflow 22.5 RMs to Keno Dam, Upper Klamath River is wide, slow, and without shade; and south Upper Klamath Lake that is only distant the Link River 1.25 RMs upstream from Lake Ewauna, is reliably in the upper 60's°F or lower 70's°F from June to near mid-September.

For example, in the interval of 6/28/2022 to 7/03/2022, the USGS (United States Geological Survey) water temperature at Link River Dam varied from 72.95°F to 69.55°F; Keno Dam varied from 72.55°F to 68.85°F; and Klamath River temperature below J.C. Boyle Dam power plant varied from 71.1°F to 57.95°F! (For current Link River Dam Link River, Keno Dam Klamath River, and Klamath River near immediately below J.C. Boyle Dam power plant outflow channel water temperatures, USGS references are: https://waterdata.usgs.gov/usa/nwis/uv?11507500; https://waterdata.usgs.gov/nwis/uv?site_no=11509500; https://waterdata.usgs.gov/nwis/uv?11510700.)

Restoration of the Chinook salmon migration past Iron Gate Dam is particularly in contention here (the Coho salmon are not much substantiated to have migrated to Upper Klamath Lake, though a few Coho salmon bones apparently have been exhumed from Sprague River area middens). Anthropogenic-caused **global warming-**produced climate change, **is crowding** the **Chinook salmon** out of their former southern U.S. Pacific Northwest habitat, from the San Francisco Bay area rivers to the Columbia River drainage, per adverse ocean upwellings and reduced atmospheric precipitation. However per transplantation of Chinook salmon to Lake Michigan, South America, and New Zealand, humanity has substantially supplemented, expanded, and diversified the **former** habitat range of naturally reproducing Chinook salmon.

Climate change requires mitigation. Crater Lake's annual average snowfall has **declined 36%** (ex. File #46, per the 2010 – 2021 years' average snowfall of 395") since 1940**!** We need the Klamath River hydroelectric dams' clean renewable electric power, and the Klamath River water shed irrigated agriculture, more than we need the currently successfully annually artificially reproduced Klamath River Chinook salmon migrations, that each year result in a large number of Chinook salmon unable to pass upriver past river mile 190.1 Iron Gate Dam and Iron Gate Dam fish hatchery collection ponds.

However, per providing inexpensive fish passage facilities, such as converting Iron Gate and Copco 1 dams' turbine tubes to fish ladders or fish downriver slides, and installing a fish ladder in each of Copco 1, Copco 2, and Iron Gate Dams; and possibly installing **Whooshh®** (**https://www.whooshh.com/**) selective fish elevator tubes at some of the dams, and per operating both Copco 1 and Iron Gate dams primarily for fish habitat, including river flow volume and flushing flows; not only can we restore annual Chinook migrations to the Upper Klamath Lake watershed, but we can also augment Klamath River's flow for at least 200.9 river miles to the Pacific Ocean, especially in the late summer and fall, when then low and thus warm Klamath River water from the Trinity River confluence to the Klamath River Estuary, has caused warm-water augmented ich fish disease-produced salmon die-off.

Speaking of "warm-water augmented . . . fish disease-produced salmon die-off", what would you expect has happened to many salmon that upon being born and released at Iron Gate Dam Fish Hatchery, about one-half mile downriver from Iron Gate Dam, became infected with one or two of the salmon diseases (i.e. Ceratomyxa shasta and Parvicapsula minibicornis) that inhabit the Manayunkia speciosa polychaete worms that have been found from the Williamson River to the lower Klamath River, then migrated to ocean waters **cool enough to repress** the diseases, then three or four years later returned to the Iron Gate Dam Reservoir warmer **upper** water dam spillage that was released **primarily** for hydroelectric production **only**, and were **there** at elevation 2,328 feet Klamath River Mile 190.1 from the ocean, and from approximately 45 miles to 100 miles to 150 miles downriver from their cooler former Klamath River tributaries spawning areas, because of no fish passage way to further ascend Klamath River to cooler, higher altitude (e.g. 4,165 feet) Klamath River tributary flows that would thermally repress the salmons' infectious diseases, **required** -- of being stalled by Iron Gate Dam -- to complete their naturally required only once in their lifetime spawning migration?

Many of those salmon have been collected at the Iron Gate Dam fish hatchery collection ponds, and after they were artificially evacuated of their eggs or roe, their meat was donated to charity food banks. Many other of those salmon have been sport fishery caught for home table fare. Also, many of those salmon died early of their infectious disease, because they couldn't swim further upriver, and of course, many of those salmon did their best to reproduce near Iron Gate Dam; however one time in the past 25 years or so, the salmon were so overheated substantially downriver of Iron Gate Dam, that they turned back downriver seeking cooler river water.

Speaking of "seeking cooler river water", has it been **curious** how from the two big Trinity River dams, Trinity and Lewiston, during lower Klamath River low water fall salmon runs, Trinity River water has often artificially been sent to the Sacramento River, that drains through Carquinez Straight to San Francisco Bay, rather than of increased release from Lewiston Dam, **naturally** flowing to Klamath River at near Klamath River Mile 60? Such denial of flow may be curable with electricity storage batteries, that will store Whiskeytown Lake area excess dam-generated electricity.

https://www.paypal.com/donate/?hosted_button_id=A8TMK4KGWDTQW

Files and/or Links:

1. EIR for the Lower Klamath Project License Surrender vol_1.pdf

2. Comment of 12_27_2019 EIR.pdf

3.http://klamathbasincrisis.org/kogan/ITSSDCommentsCAStateWaterResourcesBoardKlamDamsEIR_022619.pdf

4. Don't Ruin the Klamath River Hydroelectric Dams!.pdf

5. FWS-BiOp-Klamath-Project-Operation-VI508.pdf

6. 01_05_2021 Klamath River Hydroelectric Power Reservoirs' Water Retention Times Letter Copy.pdf

7. PacifiCorpHCP_Feb162012Final.pdf or https://www.nfwf.org/sites/default/files/klamathriver/Documents/PacifiCorpHCP_Feb162012Final.pdf

8. Fwd_ Danny Hull's Promised 02_22_2021 H&N Letter Forward.pdf

9. 02_26_2021 Letter about Letter for H&N.pdf

10. https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html

11. beckham_klamath.pdf

12. Fish_Passage_Conditions_on_the_Upper_Klamath_River_July_2000.pdf or https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/hydro/klamath-river/relicensing/resource-reports-and-data/Fish_Passage_Conditions_on_the_Upper_Klamath_River_July_2000.pdf

13. http://www.pikeminnow.org/

14. 02_25_2022 Repurpose Dams Newspaper Letter.pdf

15.Dental Trespass Question.pdf, Dental Trespass Question.zip

16.Petition for Dental Access Without X-rays Legal Clause.pdf

17.4_ & 5_2022 Klamath River Water Quality Upgrade and Lost River Sucker Habitat Proposals.pdf

18.KlamathFacilitiesRemoval_EISEIR_09222011.pdf

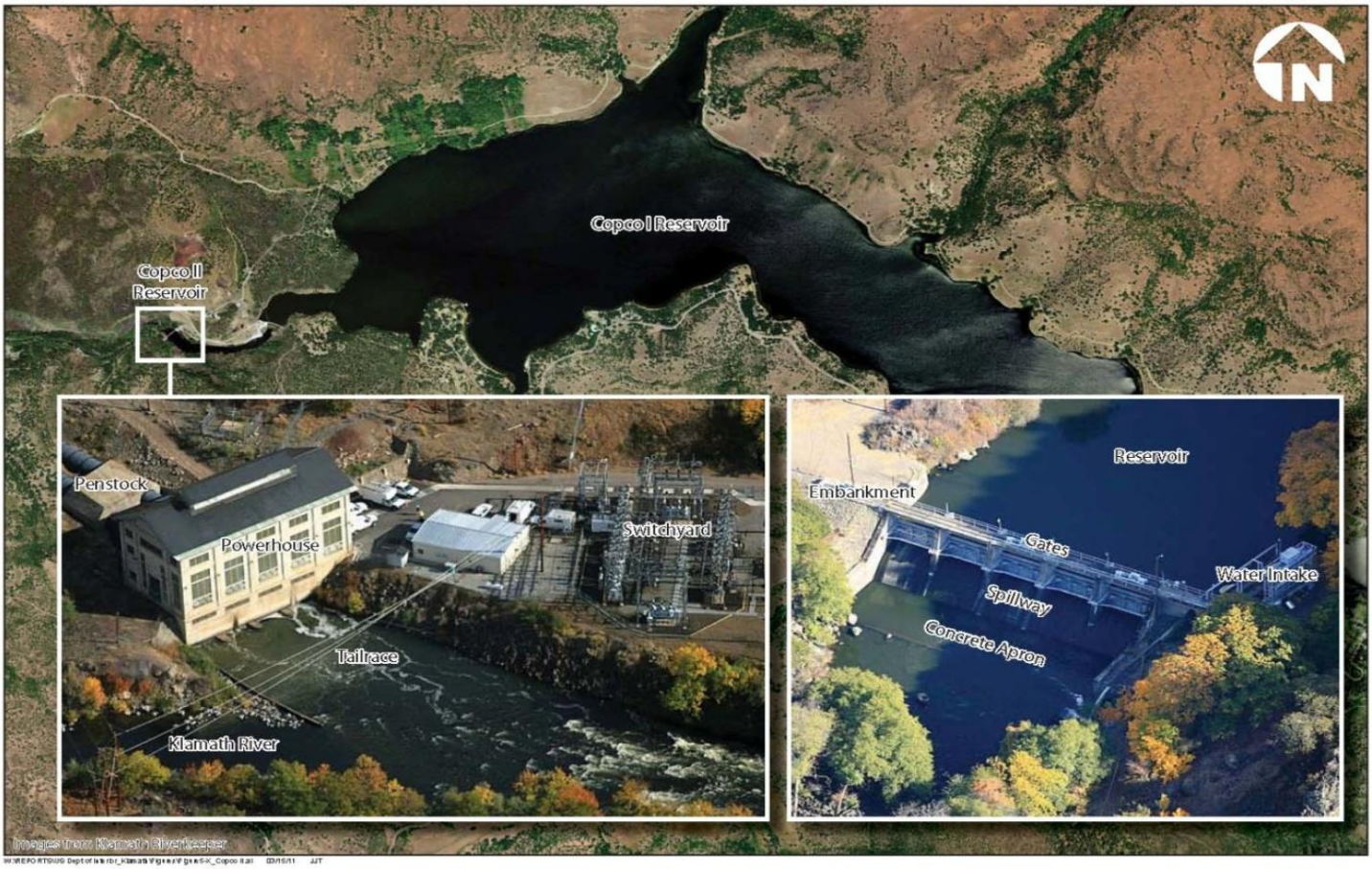
19.Klamath-Hydroelectric-Settlement-Agreement-2-18-10signed.pdf

20.KlamathBasinRestorationAgreement2-18-10.pdf

21.Draft Klamath Dam Removal Overview ReportDDDD.SDOR.Full.1.24.12.pdf

J.C. Boyle Dam, zigzag Fish Ladder (upper right picture), Reservoir (backgound picture), and Powerhouse (lower right picture). Not depicted is canal from Conveyance Pipe to hillside tunnel to Penstock pipes (lower left of background picture). Figure ES-3 of page ES-15 from KlamathFacilitiesRemoval_EISEIR_09222011.pdf, File #18.

Above: Copco 1 Dam, Powerhouse, and Reservoir. Figure ES-4 of page ES-15 from KlamathFacilitiesRemoval_EISEIR_09222011.pdf, File #18.



Above: Copco 2 Powerhouse (left picture) downstream of Copco 2 Dam. Copco 2 Dam (right picture). Copco 2 Dam Reservoir from Copco 1 Dam (background picture). Figure ES-5 of page ES-16 from KlamathFacilitiesRemoval_EISEIR_09222011.pdf, File #18. Not depicted are tunnels and pipeline from Copco 2 Dam to Copco 2 Penstock pipes.

Above: Iron Gate Dam (both pictures) and Iron Gate Reservoir (background picture). Iron Gate Fish Hatchery complex is likely visible near the extreme lower left of the reservoir background picture. Figure ES-6 of page ES-16 from KlamathFacilitiesRemoval_EISEIR_09222011.pdf, File #18.

22. Klamath River below J.C. Boyle Power Plant.jpg

23. link_river.pdf ("Fishing on the Link River in 1891 (top), and the dry riverbed in 1900 (bottom)", dates quoted though unconfirmed)

24. clarke_rock_walls.pdf (1885 date quoted though unconfirmed)

25. USFW 2002 Klamath River Salmon Loss.pdf

26. 2002 Klamath River Salmon Loss.pdf

27. 2016-IB-StdyRptF2015(7-29-16).pdf

28. 2017-10-31_2016-IG-IntakeBarrierRptF.pdf

29. 2019WQAR.pdf

30. klamath_nrsi_vogel_2002_temp.pdf

31. 2004_0259_Paleolimnological-evidence-of-change-in-Upper-Klamath-Lake.pdf

32. Paleolimnology Studies in UKL17224713.pdf

33.The_History_of_Recent_Limnological_Chang.pdf

Nearly Dry California Scott River Tributary to Klamath River

34.Chronology_of_Sediment_Deposition_in_Upper_Klamath.pdf

35.2009-22 Media Statements.pdf

36.Homeless Home Camping.pdf

37.Save Klamath River Hydroelectric Dams webpage.pdf, Save Klamath River Hydroelectric Dams webpage.zip

38.PaddlewheelGeneratorBoat08282022_0001.jpg

39.'Klamath Project History (92 KB).pdf

40. An 1826 to 2007 Timeline of Klamath Basin Water Development.pdf

41. 2014_0033_Recovery-of-Fall-run-Chinook-and-Coho-Salmon-at-IGH.pdf

42. Hatchery_genetic_management_plan_Iron_Gate_Hatchery_coho_salmon_2014.pdf

43. Recolonization potential for Coho salmon (Oncorhynchus kisutch) i.pdf

44. Climate-Change-at-Crater-Lake-2.pdf (the 2010 - 2021 11 years' average of 395" is absent)

45. Crater Lake National Park HQ_weather 1931-nov 2021 exported fr access and removed duplicate dates.xlsx

46. Crater Lake National Park snowfall through the years updated 2021.xlsx

47. Crater Lake National Park annual snowfall by decade updated nov 2021 - included last winter as part of the 2010s.pdf

48. After a dry winter Crater Lake prepares for summer

49. Sleep Trailer, LLC

50. Web Page Topics A1.pdf

51. Ike Eisenhower's 01_17_1961 Farewell Speech.pdf

52. Amend U.N. Charter.pdf

53. Save Klamath River Hydroelectric Dams Petition.pdf

54. Web Page Topics A1.zip

55. Amend U.N. Charter petition.zip

56. Save Klamath River Hydroelectric Dams Petition.zip

57. Petition for Dental Access Without X-rays Legal Clause.zip

58. East Asia with East Asia Visitation Petition.pdf, East Asia with East Asia Visitation Petition.zip

59. June 23 Scheduled Copco 2 Ruination.zip

60. June 23 Scheduled Copco 2 Ruination.pdf

61. Some of a Save Klamath River Dams Advocate's ID Verification.zip

62. Some of a Save Klamath River Dams Advocate's ID Verification.pdf

63. Whooshh® https://www.whooshh.com/ selective fish elevator tubes

64. J.C. Boyle Dam Reservoir Drawdown Pictures 1_ 20 - 21 _ 2024.pdf; J.C. Boyle Dam Reservoir Drawdown Pictures 1_ 20 - 21 _ 2024.zip

65. KID_WM&CP_Update_2021_Final_2021_08_16

66. 3 National Senators, Vehicle Manual Window Crank, U.N. Charter, Asian Visitation, Dental Care sans X-Rays, Windmill Whistles Lights & Contrast Color Petitions.pdf

67. 3 National Senators, Vehicle Manual Window Crank, U.N. Charter, Asian Visitation, Dental Care sans X-Rays, Windmill Whistles Lights & Contrast Color Petitions.zip

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I am a nonsalaried, volunteer advocate for saving all of the Klamath River (KR) hydroelectric dams. I belong to no formal "Save the Klamath River Hydroelectric Dams" group. If you read this advocacy

and/or some of my above listed postings, you may likely observe my home address and/or my epost address for this advocacy; however I am severely kidney ulcer-disabled for 30 years now (I relapsed greatly 6/10-16/2022, so that now per diet I can very easily lapse from mild pain to nearly unbearable pain), so if correspondence for me concerning the dams becomes too laborious, I'll likely delete my epost address and/or ignore some of my paper mail. For any truly important -- like singular attention ASAP -- correspondence that we may have, I'll try to keep this -- my – fairpranisms@voterspetitions.com epost address, publicly available and functional.

I have no doubt that J.C. Boyle Dam and Copco 2 Dam should both definitely be saved, except could Copco 2 Dam be strong enough to restrain more reservoir if Copco 1 was removed? (Probably so of either a little strengthening, or because Klamath River would broaden just upstream and outside of short, narrow Ward canyon where Copco 1 is built.) Aside from Copco 1, Copco 2, and Iron Gate Dams definitely needing -- and currently required by court order to have -- anadromous fish passage facilities for those dams' legal recertification for continued use, one of the most significant complaints against **some** of the dams, is climate change-supported free-drifting toxic blue green algae -- primarily Microcystis aeruginosa and Anabaena sp. -- growth in Copco 1 and Iron Gate Dams' reservoirs; however neither of those growths is too toxic for fishes' **migrant** health through those reservoirs, or for **many** (e.g. perch!, other panfish) fishes' year-round resident health in those reservoirs; although decaying algae sometimes contributes to oxygen depletion of Klamath River waters. Every summer, and perhaps other times of the year also, officials advise persons to not eat fish from Iron Gate and Copco 1 Reservoirs, because microcystin toxin has tainted the fish, and the toxin can't be detoxified by cooking or pickling the fish for food consumption.

The great majority of KR-commercially caught salmon, are caught in KR within 65 RMs of the KR's ocean mouth. I have found no historical instance where returned from the sea, KR commercially or sport caught salmon were listed of blue-green algae exposure as being to toxic for human consumption, including the salmon sport-caught near RM 190.1 Iron Gate Dam. Of a recent previous few years, Upper Klamath Lake (UKL) for the first few times in my 66 years of experience with UKL, has commencing from its warmer south end, been found of Microcystis -- and probably Anabaena also, as both were observed years ago at Link River Dam -- blue-green algae toxin to be of different years, different locations (UKL is 17 miles long S to N), and different summer weeks, hazardous for human contact, including inhalation of UKL spray. Curiously KR drainage, including UKL, Aphanizomenon flos-aquae blue-green algae, has not been found to produce toxin; indeed UKL Aphanizomenon flos-aquae blue-green algae has been sold as an encapsulated health food supplement for about 40 years, though Aphanizomenon flos-aquae blue-green algae has produced toxin in other surface waters.

From page 3-22 of **File #27** (2016-IB-StdyRptF2015(7-29-16)): "Upstream locations also experience variable microcystin concentrations both inter- and intra-annually, which can affect the amount of microcystin that comes into PacifiCorp’s reservoirs from upstream sources. Variability in microcystin is evident, for example, in data collected from baseline water quality samples collected over several years in the Klamath River downstream of Iron Gate reservoir and at Link River dam, the outflow from Upper Klamath Lake (Figure 29). The pattern of higher concentrations downstream of Iron Gate dam as compared to Link River dam from 2010 through 2013 reversed in 2014 when **microcystin levels at Link River dam were higher than those downstream of Iron Gate reservoir**. This pattern repeats in 2015 with microcystin levels at Link River dam remaining substantially higher than those in the Klamath below Iron Gate dam throughout the period during the curtain study. There are many factors that influence microcystin concentrations between Link River dam and downstream of Iron

Gate dam including riverine and reservoir reach processes, tributary and spring flow accretions, and other conditions. Nonetheless, these data illustrate notable variability in microcystin concentrations in both space and time in the Klamath River basin."

Iron Gate Dam (IGD) and Copco 1 Dam Reservoirs' Microcystis aeruginosa blue-green algae microcystin toxin presence, has often been declared hazardous to humans during the immediately previous 20 summers or so, in truly large multiples of the World Health Organization's (WHO) maximum safe exposure limit. The toxins' presence varies seasonally in the reservoirs, and a question to be resolved is: "Will migrating spawner salmon swimming the 11.5 RMs upriver from Iron Gate Dam to the head of Copco 1 Reservoir, be permanently excessively tainted of microcystin?" I am not aware of having ever seen resident red band trout, from J.C. Boyle power house tailrace to Sprague River, being listed as excessively tainted of microcystin at any time. In July 2022, persons were advised during what of recent years has become an annual summer UKL microcystis algae bloom, to remove skin and fatty tissue from all fish caught from UKL that were to be consumed for food, as microcystin toxin is concentrated in fatty tissue. **File #29** (2019WQAR) has a report of laboratory **findings of microcystin in** some Iron Gate Dam Reservoir **fish**.

What condition should we expect chinook salmon that have migrated 254.3 RMs, and 4,142' in elevation, to at Link River Dam arrive in, 1/4 mile from UKL? Briefly, I was taught that some salmon don't eat on their spawning run, because their throats swell shut, so the salmons' bodies degrade to provide energy for the salmon's fatal spawning effort. Typically the farther those salmon are in freshwater away from the ocean, the greater their bodies have deteriorated. However near-river mouth fisherman have often observed, as did I on the Chetco River within 175 yards of the ocean in 1972, that fresh run near the sea, still on the hook and in the river, chinook salmon can be way to dark and mushily deteriorated for table use.

(A lone 1972 Chetco River south jetty fisherman with a heavy rod bent strongly, fishing what I recall as a then popular large, rounded, 4X longer-than-wide, rectangular single-hook chrome spoon, was being approached by several people who were smiling about the force of his catch. The fisherman was calculating, moderately flexible, and determined. As a minor city official port attendant, I thought to keep my distance so as to not complicate his efforts with my government presence, when of a sudden several of the observers voiced an involuntary exclamation of dismay, "Aauuhh!". Had he lost the fish?, I wondered. No, the rod was yet bent strongly, so perhaps I should view what was hooked so close to the ocean. And there it was, a perhaps 30 to 40 pound darkly altered and mushy chinook salmon, that had soon become exhausted in the moderate river flow. The attitude of we onlookers quickly changed to "Oh sure, if you want it, you can tag it." I quickly turned away, so as to allow the unfortunate fisherman his singular dignity, in carefully of the jetty's low swell moderate current, river-side hazard, retrieving his expensive lure from the greatly deteriorated fish. From what I subsequently viewed, he left without the fish.

Incidentally, fisherman weren't required to wear life jackets while fishing the jetty or beaches there; however a retired Umpqua River commercial net fisherman there, saw a young fellow swimming in a scuba wet suit drown in the ocean off of that jetty; and all of the scuba wet suits that I then was aware of, were buoyant. Certainly many ocean river mouths are an opportunity for excessive turbulence and sneaker waves!)

Dam-caused elevated water temperatures per slowed dam reservoir water movement, is also a major complaint against the dams. **However** both J.C. Boyle and Copco 2 have **short** reservoir water **retention times**, and so do not greatly increase their reservoir water's temperature, and near half of J.C. Boyle Reservoir has a 41' depth that provides cool water stratification. Both Copco 1 and Iron

Gate dams' reservoirs are deep enough that ample cool mid-level and bottom water, may be siphoned from them for usual river flow. Global warming isn't helping many of the Upper Klamath Lake and Klamath River fish though.

Although I don't find that I agree with some of the statements from the **File #30 year 2002 "klamath_nrsi . . . temp " report**, here are three quotes from that file that I find worthy of review: (1) From page 3 ". . . from a comparison between RM 190 and RM 183, only small diel" (24 hour interval) "water temperature fluctuations occurred at IGD (approx. 1-2°F) whereas significant diel water temperature fluctuations (approx. 5-8°F) occurred only 7 miles downstream, a function of ambient air temperatures affecting river temperatures."; (2) From page 15 "Sudden increased flow events have stimulated upstream migration of chinook salmon in other river systems. The available data indicates that if pulse flows are released from IGD early in the season (e.g., late August or early September as advocated by some downriver fishing interests at the time) it may stimulate upstream salmon migration in the Klamath River and prematurely attract more fish into intolerable thermal conditions for salmon."; (3) Page 15". . .promoting water temperatures of less than 69.8 – 71.6°F as satisfactory for adult salmonids. The prevailing scientific research and opinions indicate otherwise. For example, Table 1" (page 14) "provides well-known and documented temperature tolerances for salmon that are much lower than that suggested as satisfactory . . . .".

File #30 quote (3) appears to me as likely a proofreader's "Freudian error" oversight, per relying on a misdefinition of "adult salmonids" as "spawning migration chinook salmon", that perhaps correctly was preferred to be " . . . promoting water temperatures of more than 69.8 – 71.6°F as satisfactory for spawning migration chinook salmon."; however I haven't viewed the original quote that **File #30** quote (3) refers to. There are a variety of trout -- e.g. Red Band trout and Pyramid Lake strain Lahontan Trout -- that are salmonids that can tolerate 65°F to 71.6°F for days, and that can't tolerate less than 32°F for more than a few minutes. **File #30** Table 1 of page 14 is historically relevant for estimating chinook salmon spawning migration thermal tolerance. The **File #30 pages 15, 16, and 17** EPA (2002) document quotes, are well worth analyzing from the perspective of the historically annually successful Pacific ocean to Iron Gate Dam chinook salmon spawning migrations, for estimating possible chinook salmon spawning migration performance **per both** adequate fishways in all of the Klamath River hydroelectric dams, and per water release from Copco 1 and Iron Gate dams' reservoirs that is optimized for chinook salmon spawning migration.

In 2002 there was a massive chinook salmon die-off in the Klamath River, within 60 miles -- much of it within 40 miles -- of the Klamath River mouth, because medium water flow was so warm there that Ichthyopthirius multifilis (ich), an external fish protozoan-caused disease, and the bacterial pathogen Flavobacter columnare (columnaris) quickly killed the salmon, way before they got to swim 190 miles to Iron Gate Dam; and do you find that Iron Gate Dam Reservoir water will, within a few miles downstream of Iron Gate Dam, equilibrate in temperature to the natural free-flowing Klamath River's natural ambient temperature? Of course the reservoir water does so! And could supplemental water release from Lewiston Dam of the Trinity River and/or Iron Gate Dam, several days to even a few weeks before the salmon die-off, perhaps have helped the salmon run? Likely so some, however apparently the KR from RM 60 or so to the Pacific Ocean was **anomalously warm** from 9/01 -9/19 2002. Why wasn't there Iron Gate Dam water release so? Please recall, the Klamath River hydroelectric dams were built and -- with just a few greatly significant rare exceptions in recent decades -- **operated exclusively for** opportune **hydroelectric power generation**, rather than operated for fish habitat and/or to assist agriculture.

From **File #30**, **page 1** "Additionally, there is no evidence that releasing more water from IGD **during early or mid-September** could have prevented a fish kill more than 150 river miles downstream because both dam discharge temperatures and river temperatures in the mainstem downstream of IGD were within the range known to cause mortality or reproductive failure in salmon. The gradual declining temperatures in the Klamath River downstream of IGD during the fall are primarily attributable to normal seasonal declines in ambient air temperatures, not river flow."

Observing that greater water release was available from 7/2002 to 10/2002 at IGD, what were the Shasta, Scott, Salmon, and Trinity Rivers 7/2002 to 9/18/2002 tributary flow temperatures to the 2002 KR 2010 cfs flow salmon die-off**???** I find that RM 190.1 IGD reservoir, then had **ample deep cool "spare" water** that could have been timely released to increase KR oxygenated fish habitat volume and depth in the RM 187 to RM 184 KR reach; and although that cool water **soon**, of the river's motion, thermally and gaseously equilibrates to its natural ambience status, I estimate that from RM 65 to RM 0 the additional volume and depth of that release likely would allow for less fish crowding for ich to be transmitted of, and likely would provide more shade, thermal stratification, and oxygenation opportunity support for the fish.

From **File #26 page 2**: "In this instance, low flow from Iron Gate Dam was a substantial causative factor in the fish kill of 2002. It is also the only factor that is controllable by human action. **Had** the **flow from Iron Gate Dam in August and September been** at or above approximately **1000 cfs**, **as** they were **in all other years** of above average escapements, it is likely that the fish kill would not have occurred." From File **#26** page 16: "Flows released at Iron Gate Dam have a profound influence on the magnitude of flow downstream in low water years. In 2002 in response to the fish kill PacifiCorp released additional flows from Iron Gate Dam raising the flow rate from 757 cfs to 1350 cfs. Figure 10 shows the percent of Iron Gate contribution to flows passing select down stream gauge sites. At the **onset of the fish kill on September 19**, the flows at the estuary are estimated to have been **2010 cfs**. **After** the **release** of extra water from Iron Gate the flows increased to an estimated **2580 cfs**; an increase in volume of about 28 percent."

From **File #30**, **page 1 again**: "Vogel and Marine (1994) **recommended** that **any increased flows from IGD**, pulsed or otherwise, to benefit adult salmon **should occur during late September or early October** to coincide with normal seasonal declines in air temperatures and concomitant cooler river flows. This study provides further data and rationale to support that scientific advice. Additionally, it is **strongly recommended that a coordinated process for water project operations in the Klamath basin, including tributaries such as the Trinity River, be implemented, but be based on technical data and information.**"

Water temperature information for the entire water columns of the Klamath River hydroelectric dams, often isn't easy to find. Per page 4-2, Fig 58 of **File #27** (2016-IB-StdyRptF2015(7-29-16)), there is a good display of the 41 °F to 77.5 °F, 131' Iron Gate Dam Reservoir water column near Iron Gate Dam (9/5°C + 32 = °F). Per pages 4-9 & 4-10, Figs 4-12 & 4-13 of **File #28** (2017-10-31_2016-IG-IntakeBarrierRptF.pdf), there is a good display of the **Vertical Temperature Profile Upstream and Downstream of Iron Gate Dam Reservoir Curtain, Respectively on Weekly Intervals Throughout the Curtain Deployment Period**, near Iron Gate Dam.

I estimate that 110' deep Copco 1 Dam reservoir has a very similar thermal profile, however Copco 1 Reservoir receives KR water from the 21.5 miles, 1,192' elevation decline, KR canyon rapids flow, that probably usually is cooler than the complete KR inflow water to Iron Gate Dam (IGD) Reservoir, all of which from Copco 1 Reservoir 1 RM mile upstream of IGD Reservoir, passes through Copco 2

Reservoir to IGD Reservoir (e.g. from page 4-11, **File #28** "A thermograph installed just downstream of the Copco 2 powerhouse collected water temperatures through the same time period. These data show that in June, water entering Iron Gate reservoir was approximately the same temperature as the 6 m water at the log boom."(approximately 550 m upstream of Iron Gate Dam)).

"Water temperatures in the Klamath River downstream of IGD during September 2002 were unsuitable for adult salmon." (page 18, **File #30** klamath_nrsi_vogel_2002_temp.pdf)

This time reader, I find that we should see the IGD Reservoir 6/13/2016 - 11/16/2016 0' - 65.5' (20M) water column 56.6°F (12C) - 74°F (23.34C) temp range graphs of **File #28** (2017-10-31_2016-IG-IntakeBarrierRptF.pdf) **page 4-9**, and the IGD Reservoir 7/14/2010 -9/25/2013 131' (40M) water column 43°F (6.12C) - 82°F (27.78C) temp range graphs of **File #27** (2016-1B-StdyRptF2015(7-29-16).pdf) **page 4-2**; and **realize** that IGD Res. and similarly Copco 1 Res. have **ample** cool water 24/7 to deliver the entire RM 190 mainstem 24/7 Klamath River flow of. Name your temp from mid September's 0' - 131' IGD water column 82°F to near 43°F, to mid November's 0' - 33' IGD water column 53.96°F to 52.88°F, for the entire RM 190 mainstem KR flow; and Copco 1/IGD can deliver it, with water current downstream of IGD motion-tumbled, current IGD turbine tube enhanced oxygenation, or even yet to be added artificial forced air oxygenation, if preferred.

I hope that you have time to review the **Files #27 and #28 (**2016-IB-StdyRptF2015(7-29-16), and 2017-10-31_2016-IG-IntakeBarrierRptF respectively**)** reports, of PacifiCorp's well conceived and well accomplished Iron Gate Dam Reservoir **IGD ALGAE CURTAIN EXPERIMENT**. I find that the curtain greatly improved IGD turbine operation, per the curtain greatly reducing downriver migration of toxic algae, and per the curtain directing **cooler water** through the turbine. However variable temperature water withdrawal from IGD reservoir, could be accomplished with the curtain in place, per providing the turbine intake pipe with a multi-valved pipe that extends deeper into IGD reservoir. A conventional 6"/step, semi-open-air fish ladder for IGD, doesn't appear to me compatible to be fitted with a greatly algae blocking-effective curtain, because the algae curtain would need to allow fish to swim shallowly under and/or -- think minnows -- around the curtain to and from the fish ladder. (For **pictures of proposed fish passage installations** -- that would retain hydroelectric production at the Klamath River Hydroelectric Dams -- for the Klamath River Hydroelectric Dams, please see pages 2-75 to 2-81 (**in** Chapter 2 – Proposed Action and Description of the Alternatives) of the **File #18 KlamathFacilitiesRemoval_EISEIR_09222011.pdf**)

Here are some excerpts from the IGD reservoir **Files # 27** and # **28 IGD ALGAE CURTAIN EXPERIMENT** study:

(1) "Installation of the curtain was completed on June 26, **2015**, and it was operationally tested over the next few days (to July 1). Subsequently, the curtain was unfurled incrementally on the following dates to specific depths as follows:
1. July 10 curtain unfurling to 10-ft depth
2. July 16 curtain unfurling to 15-ft depth
3. July 27 curtain unfurling to 20-ft depth
4. July 31 curtain unfurling to 25-ft depth
5. August 17 curtain unfurling to 30-ft depth
6. August 27 curtain unfurling to 35-ft depth

These incremental unfurling steps allowed for testing of performance at various depths and assessment of impacts to downstream dissolved oxygen concentrations as the curtain was lowered. The curtain was furled to its minimum depth of 5 ft on November 13, 2015." (**File #27** 2016-1B-StdyRpt Pg 2-2)

"The curtain was gradually lowered from late June through mid-July to its maximum depth of depth of 10.7 m. It remained at this depth until August 22 and 23 when it was raised to 7.6 and 6.1 m, respectively (Table 3-1). It remained at 6.1 m until September 29 when it was raised to 3.0 m. The curtain was fully furled on November 9.

Table 3-1. **2016** Deployment Dates and Depths in Meters (m) for the Intake Barrier Curtain in Iron Gate Reservoir.

Date	Depth (m)
June 28	4.6
June 30	7.6
July 12	9.1
July 19	10.7
August 22	7.6
August 23	6.1
September 2	9.3
November 9	1.5" (**File #28** 2017-10-31 page 3-2)

(2) "Use of an intake barrier curtain is one strategy PacifiCorp is employing to limit BGA" (blue-green algae) "releases from Iron Gate reservoir into the Klamath River. Seasonal BGA blooms in Iron Gate reservoir typically occur near-surface waters of the photic zone where light and nutrients are available. The penstock intake for Iron Gate powerhouse has an invert elevation that is approximately 10.7 meters (m) [35 feet(ft)] below normal water surface elevation. The intake tower is open from the reservoir bottom at that" [35 feet(ft)] "depth to the surface of the reservoir. Thus, the intake tower entrains water from the full depth of the water column at the location of the intake and withdraws water from the photic zone which can result in releases of BGA to the Klamath River downstream." (**File #28** 2017-10-31_2016-IG page ES ix)

(3) "As a secondary benefit, the curtain also functions as a simple selective withdrawal device that isolates warmer surface waters and preferentially **draws deeper cooler waters for release** to the Klamath River. This selective withdrawal ability can allow for some manipulation of reservoir release temperatures, which **may be beneficial for managing fish disease** because disease levels can be exacerbated by higher water temperatures." (**File #28** 2017-10-31_2016-IG page ES ix)

(4) "Three hypotheses used to develop the 2016 field studies included:

1. The curtain isolates surface waters upstream of the curtain, segregating shallow and deep waters.

2. Shallow and deep water downstream of the curtain are similar to deep-water conditions upstream of the curtain because of withdrawal from beneath the curtain and mixing downstream of the curtain in the relatively shallow waters in the vicinity of the intake tower.

3. Conditions downstream of Iron Gate dam are similar to those downstream of the curtain, with the exception of dissolved oxygen, which is increased as the **water is re-aerated** as it passes through the Iron Gate powerhouse.

These three hypotheses were evaluated by using a suite of sub-hypotheses that guided development of a study plan. Implementation of that study plan resulted in data that was used to confirm the hypotheses. . . .

Overall, the 2016 field studies indicate that the curtain is an effective water quality management tool to isolate the algae-rich near-surface waters in Iron Gate reservoir and reduce the amount of algae entrained into the intake tower and subsequently transported downstream of the dam into the Klamath River. As a secondary benefit, the curtain can also isolate warmer near-surface waters and thus

seasonally release relatively **lower temperature water** into the river below the dam. The potential benefits of the curtain in reducing water temperatures (under some conditions) should be factored into potential flow release management strategies designed **to provide benefits to anadromous fish**." (**File #28** 2017-10-31 pages 6-1 & 6-2)

(5) " . . . water velocities under the curtain could theoretically affect the stratified conditions in Iron Gate reservoir. Theoretical calculations based on physical parameters show that stratified conditions would persist through the summer months when the curtain is installed. This indicates that the curtain can take advantage of stratified reservoir conditions to withdraw water from below the epilimnion during seasonal BGA blooms, and thus improve water quality conditions downstream of the curtain and subsequently downstream of Iron Gate dam." (**File #28** 2017-10-31 Pg 2-7)

(6) "Dissolved oxygen levels downstream of the curtain reflected dissolved oxygen levels from deeper water upstream of the curtain. Dissolved oxygen levels in powerhouse releases remained within established water quality criteria because of **turbine venting** at the Iron Gate powerhouse, which was previously initiated on an ongoing basis in 2010." (**File #27** 2016-1B-StdyRpt Pg ES-1)

(7) "Samples collected at 12 m (39.4 ft) represent waters beneath the maximum deployment depth of the curtain and beneath the photic zone both upstream and downstream of the curtain. Samples from deeper waters reflect the accumulation of dissolved inorganic nutrients beneath the photic zone that is not utilized by algae and the accumulation of nutrients in organic matter (e.g., settling detritus due to algae mortality)." (**File #27** 2016-1B-StdyRpt Pg 3-13)

(8) "Given the typical meteorological conditions at Iron Gate reservoir and summer stratification conditions, wind events will not adversely impact curtain performance. Winds at Iron Gate reservoir are unlikely to mix the epilimnion or create internal thermocline tilt such that epilimnion waters would be drawn under the curtain." (**File #27** 2016-1B-StdyRpt Pages 5-1)

(9) ". . . waters of the photic zone, where the majority of cyanobacteria occur, were largely isolated to the upstream side of the curtain. Waters that ultimately passed under the curtain were drawn from deeper, cooler depths in Iron Gate reservoir upstream of the curtain (Figure 1-3). The 2015 study indicated that the curtain was effective at isolating near-surface waters of Iron Gate reservoir upstream of the curtain . . ." (**File #28** 2017-10-31 page 1-3)

(10) ". . . the effectiveness of the curtain benefits from stratified reservoir conditions, allowing the curtain to isolate warmer, less dense surface waters upstream (those waters that contain higher concentrations of BGA) and reduce BGA concentrations released to the Klamath River downstream of the dam." (**File #28** 2017-10-31 page 2-1)

(11) "During winter, lakes are often **isothermal**, with equal temperatures from top to bottom. Iron Gate reservoir exhibits this annual cycle of isothermal winter conditions, the onset and persistence of thermal stratification through summer, and the breakdown of stratification in the fall leading to winter isothermal conditions once again." (**File #28** 2017-10-31_2016-IG page 1-1)

Since free-drifting blue-green algae (BGA) of Copco 1 and IGD reservoirs, float densely together at and near the water surface in a photic zone blanket-like mass layer -- that I estmate is near 35' deep -- to photosynthesize energy in daylight hours, that dense algae blanket shades and insulates the reservoirs' depths below it, and per daylight photosynthesis releases oxygen into the reservoirs' waters. During the night when utilizing chemical energy, the drifting blue-green algae remove oxygen from the reservoirs' waters. Also throughout the 24 hour day, decaying organic material -- including algae -- remove oxygen from the reservoirs' waters. Thus the reservoirs gain daily cyclic thermal and

oxygen variation and stratification, that seasonally daily blends with reservoir water motion per reservoir thermocline and Fall season reservoir water column turn over.

How so "seasonally", "thermocline", and "turn over"? Briefly: Many fair size and larger, deep, still or slow moving bodies of water, have surface and near-surface water (upper, warmest layer of a stratified lake is the epilimnion layer; see **File #28** 2017-10-31 page 1-1) warming of Spring and Summer, that reduces upper water surface density, so that a thermal water layer -- i.e. a thermocline -- forms between cooler denser deeper water, and warmer upper surface water, and the water body is then stratified of different thermal water layers; and when the upper water surface density increases of Fall and Winter cooling, the resulting denser cooler surface water sinks through the thermocline and "turns over" the water body column depths, pushing less dense water aside. UKL, J.C. Boyle, Copco 1, and Iron Gate reservoirs all have measurable thermal stratifications that are attributable to summer surface heating and winter surface cooling.

With a constant 110', 46F to 87F water column temperature presence, at Iron Gate Dam and at Copco 1 Dam, a 6.2 mile Iron Gate Dam Reservoir length that tapers from 162' deep to above and near 14' deep, a 4.6 mile Copco 1 Dam Reservoir length that tapers from 115.5' deep to above and near 14' deep, and fish ladder and/or fish elevator tube passageways past Iron Gate, Copco 1, and Copco 2 dams, I'm confident that chinook salmon can easily and rapidly swim from IGD RM 190.1, 13.1 miles upstream to KR at the head of Copco 1 Reservoir. That **13.1 mile swim** likely would be the salmon's greatest exposure to highest concentration microcystin in the salmon's journey to their headwater spawning areas, because microcystis algae aren't present nearly so much downstream of RM 183 as they are in IGD and Copco 1 reservoirs, and per climate change, microcystis is a recent substantial colonizer of UKL, that there has only been water-contact toxically hazardous in the mid-June to mid-September interval, and the spawner salmon migrate KR upriver mostly from March to June and September to January.

Even with ongoing global warming climate change, nether J.C. Boyle nor Copco 2 dams substantially increase free-drifting algae growth in their reservoirs, again because both dams' reservoirs have **short water retention times** (see "PacifiCorpHCP_Feb162012Final.pdf" above, page 20). Also water released downriver from J.C. Boyle Dam, at an elevation of 3,796' and a location of river mile (RM) 224.7 miles (from the Pacific ocean), soon enters and travels for 21.6 miles and 1,192' of elevation decline, in often fast (gradient ave. of 42' to 55'/mile, sometimes 75'/mile) flow and several medium length large rapids (Class II to IV+/V), that **greatly** break up free-drifting algae and aerate the water clear to elevation 2,606' RM 203.1 Copco 1 Reservoir.

(I saw it personally in August 1987 at Frain Ranch, KR RM 214.8. Then from KR's bank edge, I could see bowling ball size rocks that were submerged 2' - 4' 16' away, and I had to crouch close to the water and look intently to see an occasional drifting Aphanizomenon flos-aquae algal filament; all on the same day that Aphanizomenon flos-aquae algae density in J.C. Boyle Reservoir just 10 river miles upriver, was as dense as when I have stood there in KR to my legs' length while fishing, and was unable to see my shoes!) In August 1987 when I drove from California Interstate 5 west to Weitchpec, on Highway 96 constantly and mostly near Klamath River's south bank, Klamath River's water was a clear light amber color, like I had that day observed at Frain Ranch, and I couldn't see any drifting blue-green algae, although while traveling I could from the road occasionally see large, long aquatic kelp-like sessiley benthic attached "macrophyte" plant growth, that was floating vertically beneath the river's surface.

The claim that insufficient quantities of chinook salmon will swim past all four of the Klamath River hydroelectric dams, once all of those dams are equipped with upper Klamath River fish-adequate fish passageways, depends greatly on how chinook salmon fry and fingerlings adapt and develop in the agriculturally altered and nonnative fish-inhabited Sprague River, Williamson River, Wood River, and Seven Mile Creek Upper Klamath Lake (UKL) tributary system, and how chinook salmon fingerlings adapt and develop in the greatly algaenated and greatly nonnative fish species populated waters of Agency Lake, Upper Klamath Lake, and the Klamath River hydroelectric dams' reservoirs, and how many chinook salmon may survive 1) increasing ocean acidity that is due to increasing atmospheric carbon dioxide, 2) climate change-produced ocean warming, 3) ocean fishing, 4) river fishing, including netting, and 5) the rather small Klamath River estuary, and is **not justified as a requisite consequence of fish passage-adequate fish passageway equipage of** the **Klamath River hydroelectric dams.** Also we should here recall, that since IGD fish hatchery was established in 1962, chinook salmon have usually returned in at least moderate-sized numbers to IGD.

How well will chinook salmon fry and fingerlings evade predation and survive their downriver journey through 17 - 20 miles of UKL/Agency Lake, 21.5 miles of Lake Ewauna/Keno Reservoir, 3.6 miles of J.C. Boyle Reservoir, 4.8 miles of Copco 1 Reservoir, .75 miles of Copco 2 Reservoir, and 6.2 miles of Iron Gate Reservoir, observing that the Klamath River hydroelectric dams' reservoirs **cover only 15.35 river miles** of Klamath River? In 7/2022 a few authors noted to the effect that "400 miles of spawning habitat would become available to KR salmon when the four KR hydroelectric dams were removed" (implication as usual of "'never heard of J.C. Boyle's currently adequately functional fish ladder, or of installing fish ladders in the other KR hydroelectric dams"). Recalling that 230 years ago, Klamath River was the number three salmon producer in the area from Monterey California to Olympic Peninsula Washington, with Columbia River and Sacramento River respectively being the number 1 and number 2 salmon producers in that area then; and observing a distinct possibility that with installation of a Whooshh® fish elevator tube, spawner salmon may be elevated over what appeared to my view from the east, as a fish upriver migration-terminating waterfall – I don't know if it was “Root Beer Falls” – on the Williamson River significantly north of the Williamson River/Spring Creek confluence, so that perhaps a few to several miles of ample, clear, cold upper Williamson River water that naturally was inaccessable to migratory salmonids, and that now supports trout, may be accessed of migrating salmon; anticipating a **large**, successful migratory salmonid spawning success in the UKL tributaries -- including Seven Mile Creek, Wood River, Williamson River, Spring Creek, Sprague River, Dairy Creek, and Sycan River -- and in the Spencer Creek KR tributary, once a large quantity of fertilized salmonid eggs, such as may be produced readily at KR Iron Gate Dam Hatchery, is planted in the UKL and KR tributary spawning bed areas, is easy.

Yes a large reproduction of KR salmon is likely in the UKL and upper KR tributaries, and that translates to "**safety in numbers**" for the many salmon so reproduced, whether or not those salmon glide downriver through **15.35 RMs** of Klamath River hydroelectric dams reservoirs, to the Pacific Ocean. Truly however, fertilized salmon eggs should have been planted in those tributaries while the KR dams were all in place, so as to assay both salmon fry survival and development in those tributaries, and salmon fingerling development and presence, if any, in both Link River Dam restrained UKL, and in the five KR dam reservoirs.

Apparently within a few years near when Link River Dam was completed in 1921, UKL first commenced blooming blue-green aphanizomenon algae profusely. From page 135 of the **File #32** Paleolimnology Studies. . . in UKL . . . **UKL lake bed sediment core analysis report**, ". . . suggest

that both diatoms and remains of blue–green algae mark progressive eutrophication of the lake in the 20th century, especially after about 1920." From pages13 and 16 respectively of the **File #31** . . . Paleolimnological-evidence-of-change . . . "Although cyanobacteria normally decompose within the lake or the sediments, some species produce resting cysts, termed akinetes, which can remain preserved for thousands of years . . . .", "Because Aphanizomenon generally requires high P levels to dominate . . . and has a competitive advantage at lower N:P ratios . . ., the apparent absence of Aphanizomenon akinetes in sediments deeper than 20 cm and its transition to become the dominant phytoplankton taxon is indicative of a transition to a hypereutrophic system in the **20th century**. From pages 155 and 163 respectively of the **File #33** . . . History of Recent Limnological . . . "Wetland drainage began in 1889 . . ., and at present,"(year 2004) "about 64% (about 12 500 ha) of the natural wetlands adjacent to Upper Klamath Lake have been drained for various agricultural pursuits . . . .", "The diatom stratigraphy documents increased eutrophication of Upper Klamath Lake by minor changes in sensitive diatoms that prosper with increased supply of phosphorus and silicon. The apparent timing of the first change (ca. **1875**) suggests that the initial settlement of the Upper Klamath Lake basin, even before widespread modification of marshlands, may have changed **the lake's trophic status.** Further increases of Stephanodiscus species certainly reflects nutrient increases due to marsh drainage, but shortly after ca. **1900**, pennate eutrophic diatoms (Fragilaria capucina and Asterionella formosa), which indicate increased supply ratios of Si/P, document the progressive importance of cyanobacteria (Aphanizomenon flos-aquae) and their successful competition for P in this eutrophic lake. The great abundance and competitive success of cyanobacteria probably has limited the diatom response to severe eutrophication in Upper Klamath Lake. In addition to nutrient utilization, the cyanobacteria can effectively compete with planktic diatoms for light as they shade productive waters beneath them."

From pages 14 and 16 respectively of the **File #31** . . . Paleolimnological-evidence-of-change . . . "It is conceivable that the increasing dominance of Aphanizomenon in the 20th century may be a consequence of either the increase in P loading or a change in the ratio of N:P. Naturally high concentrations of phosphorus in the major tributaries would suggest that changes in nitrogen inputs would be important to the phytoplankton composition. However, **Aphanizomenon flos-aquae is capable of fixing nitrogen** and presumably would be less affected by direct changes in N availability than taxa such as **Microcystis** which **is not capable of fixing nitrogen** . . . ." "Upper Klamath Lake, for at least the period of record represented by this study (~1000 yr), has been a very productive lake. The diatom stratigraphy shows a diverse assemblage of taxa typically found in eutrophic and hypereutrophic lakes. Cyanobacteria have been present throughout this period and nutrient concentrations in the sediment have been high. Nevertheless, the recent sediments show a coherent record of higher nutrient concentrations, decreased ratios of N:P, elevated erosional inputs, higher rates of sediment accumulation, and appearance of phytoplankton taxa previously unseen in the lake. The new phyto plankton taxa are without exception indicative of extremely productive waters. The evidence indicates that Upper Klamath Lake has experienced a substantial increases in erosional inputs, nutrients, and Aphanizomenon flos-aquae – all consistent with changes in the watershed during the 20th century."

The **File #33** year 2004 page 155 statement, that "Today, lake level fluctuates about **±1 m** around the former minimum level of the lake, which was controlled by the bedrock sill at 1262 m (4140 feet)." is likely an inaccurate estimate, because the "bedrock sill" (a reef at Putnam's Point near the head of Link River) elevation was -- and very likely yet may partly be -- **4,137.8'** (I've sailed a dinghy twice over the sill's excavated west end area); and because per the internet a few years ago, I viewed two different Link River Dam official managing agency records, of several decades of Link River Dam

water elevations since Link River Dam was completed in 1921 (needless to say I would provide copies here if I could find them again), and both of those records of Link River Dam water elevations, showed that Link River Dam water levels never dropped below 4,138.3'. Also, a year 2007 statement from **File #40** provides that in "1994: A second drought hits the Klamath Basin. The surface elevation of Upper Klamath Lake falls to 4,136.86 on Sept. 27, the lowest level since records began in 1905."; and one meter below UKL's historic 4,137.8 feet Putnam's Point reef minimum outflow restriction, would yet be at or near 4,134.52', and thus much lower than records to year 2007 of UKL that I am aware of, provide.

I estimate that the dense floating blue-green algae provides cover habitat for young fish of several species in UKL and the KR hydroelectric dams' reservoirs. Many of the different species of UKL and KR fish, apparently have localized and seasonalized their presence in UKL and KR. Let's here recall that UKL is a **Pacific flyway** migratory waterfowl, migration **confluence** destination, for many western U.S.A. and Canadian migratory waterfowl. UKL has year-round ring-billed seagulls and cormorants, and seasonal western grebes, terns, snowy egrets, great blue herons, and white pelicans, all of which like some UKL migratory waterfowl, **feast on minnows**. Anyway, native red band trout thrive to large size quickly from Copco 1 Reservoir up KR through UKL and far into Sprague River; and they survive in dam-locked IGD reservoir, regardless of the dense floating blue-green algae bloom, and the several species -- including Umpqua River northern pikeminnow, catfish, crappie, perch, small mouth and large mouth bass -- of nonnative predatory fish, that are found living healthily in some areas from downriver of IGD through Lake Ewauna to the middle of Sprague River.

(For perspective on upper KR drainage water quality from 193? to 2018, I'll here note that sturgeon were planted in UKL in the 1930s. For some reason the sturgeon "never reproduced", though they survived to 11' or longer in length. One of the largest sturgeon was roped out of "the Klamath River Canyon" -- presumably in the 9 miles between J.C. Boyle Dam and Keno Dam -- in the 1960s. An 8' sturgeon was stranded in apparently one of the smaller upper Klamath basin irrigation canals, and was partly consumed as food. A 9' or longer sturgeon was for about 25 minutes, apparently hooked (and published picture documented) on a maribou-similar fishing jig at Pelican Bay near Rocky Point, within the last 14 years or so of 2022. Within the past 5 years or so of 2022, an 8' sturgeon was found dead up against the downriver side of Keno Dam. Before and after installation of the KR dams, sturgeon couldn't migrate to UKL.)

Per J.C Boyle, Copco 1, and Iron Gate dams' reservoirs' annual summer thermal stratifications and large temperature fluctuations, both native and nonnative Klamath River fishes live in those reservoirs when and as they need to, and migratory fishes should be able to find adequate **swim channels** in those reservoirs, for the **short transit time** those fish need in those reservoirs. KR canyon from Copco 1 Reservoir to J.C. Boyle Dam, has been heavily fished for trout for decades. Similarly, since at least 1965 I have observed native red band trout to annually in June, commence migrating north 17 miles from Upper Klamath Lake's (approximately 8' av. total depth) warmer (upper 60's°F or more) south end, to the much cooler waters of Pelican Bay, Agency Lake, and Williamson River. (See **File #12** Fish_Passage_Conditions_on_the_Upper_Klamath_River_July_2000.pdf, page 5-55)

Observing the historical annual Klamath River Chinook salmon Fall and Spring run commencement month times of mid-September and late March respectively, one may surmise the salmon's 271 mile upriver swim period seasonal and elevation-dependent exposure to Klamath River and lake temperatures, and also those Chinook salmons' spawn-resulting, young salmon's 271 mile downriver

swim/glide seasonal and elevation-dependent period exposure to Klamath River and lake temperatures. Young salmon and steelhead like to mature in the river and river estuary, however because of **global warming continuing to reduce** the Klamath River (including Trinity River) **watershed snowpack** size and KR late Spring/Summer water presence, less KR water is available from Summer to late Fall for KR young salmon nurturing. Also, since 1995 there have occurred years when the KR estuary was so deficient of water, that the salmon had difficulty maturing in the estuary and transiting the river's mouth.

I haven't found any discovery of ammonia and/or low dissolved oxygen level from IGD Reservoir, near and below IGD, having been excessively deleterious for chinook salmon. IGD's aerated turbine discharge, likely always soon vigorously exchanges gases -- including CO2, oxygen, and ammonia -- readily, in equilibrating with the atmosphere upon moving in the much shallower than IGD Reservoir -- I estimate approximately 12'-23' deep -- KR bed, immediately downriver of IGD. Native Klamath River red band trout annually live in IGD Reservoir, and other fish live healthily year-round there also, regardless of dissolved oxygen and ammonia fluctuations in IGD reservoir.

(As goes the southern Pacific Northwest salmon and global warming --- which I estimate is going to continue elevated above earth's roughly 225 CO2 ppm 800,000 year atmospheric temperature average (https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide), after humanity achieves atmospheric carbon neutrality, and until earth's atmospheric CO2 ppm, which is at 422.23 ppm now this year 2024 (https://gml.noaa.gov/ccgg/trends/monthly.html), substantially returns to near 300 ppm --- I am reminded of the old adage "A champagne appetite on a beer budget". I always leave water in the river for wildlife, until a human needs to drink the last drop, and that doesn't usually necessarily mean that I can't afford dams in the river.)

Thus Copco 1 and Iron Gate reservoirs, with a combined water storage of **18%** of Upper Klamath Lake (UKL), may be used to **greatly augment** salmon and steelhead habitat, both within the reservoirs, and for the 190.1 river miles from Iron Gate Dam to the Pacific Ocean. I hope that you are asking “how?”, because some of that augmentation has already been shown, and some is yet hypothetical to be proved. For example:

(1) Recalling that the four KR hydroelectric dams were built and are operated **primarily** for electricity generation; since 2013 water has been twice released in KR from Iron Gate Reservoir, primarily and successfully to assist KR fish habitat downriver of Iron Gate Dam;

(2) a **File #4**-conforming **alternative** to my **File #14** proposal for saving two of the dams as hydroelectric dams, and repurposing two of the dams as in-river water storage facilities, is: Per removing both the hydroelectric turbine from Iron Gate Dam, and both of the two hydroelectric turbines from Copco 1 Dam, and equipping those turbines' former intake pipes with valves that allow selective water withdrawal per water temperature and water depth, and then inexpensively extending those pipes deeply into the dams' reservoirs, Iron Gate Dam and Copco 1 Dam, in conjunction with a 24/7, yet to be installed, variable depth fish ladder for each of them, could each provide both constant unimpeded downriver fish passage, and variable KR water flow, while the KR hydroelectric generation facilities would only be reduced in capacity from 24/7 (hrs/wk) 163MW to 24/7 125MW (for comparison, some windmills intermittently generate 35MW maximum) maximum generation capacity.

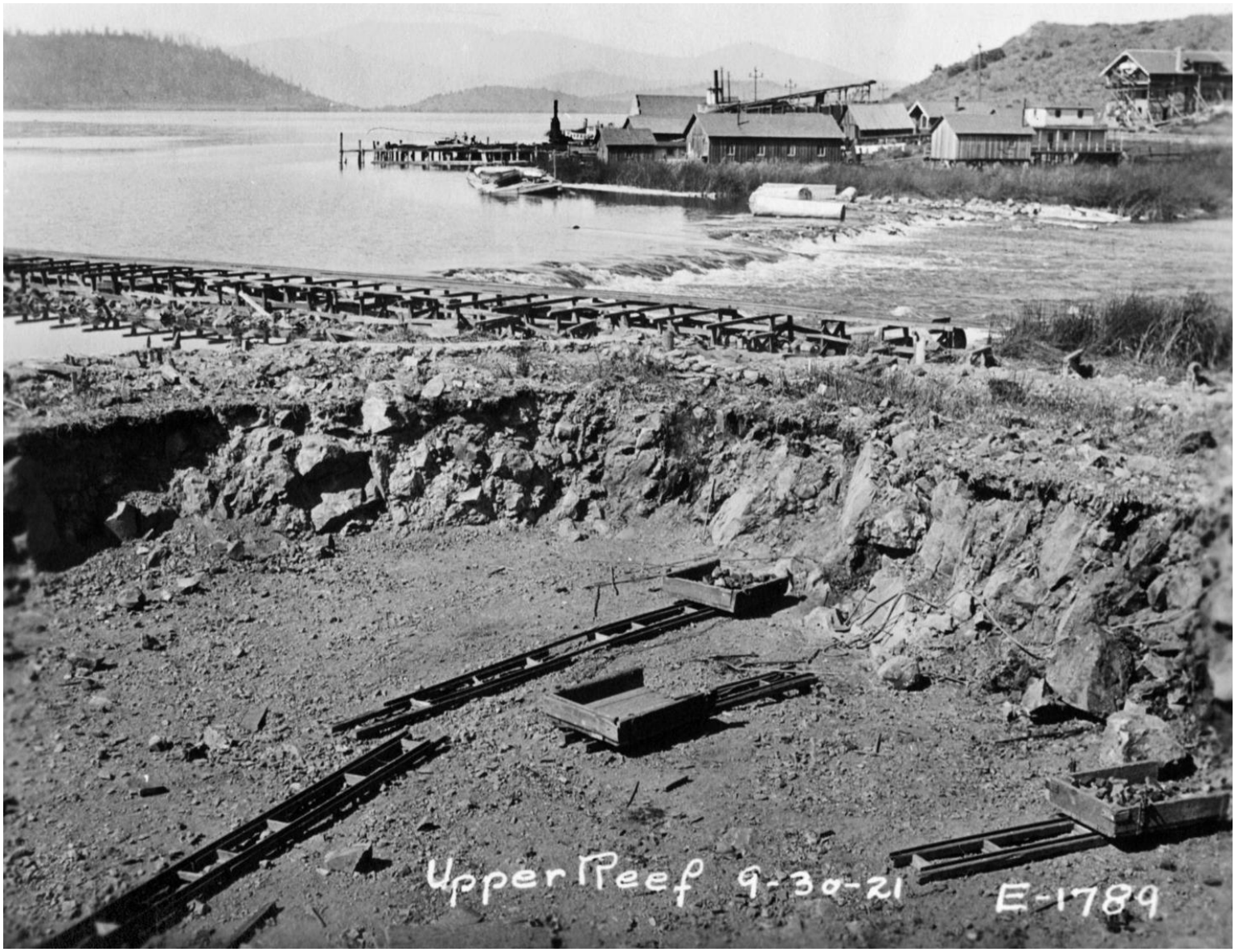
(For **pictures of proposed fish passage installations** -- that would retain hydroelectric production at the Klamath River Hydroelectric Dams -- for the Klamath River Hydroelectric Dams, please see pages 2-75 to 2-81 (**in** Chapter 2 – Proposed Action and Description of the Alternatives) of the **File**

#18 KlamathFacilitiesRemoval_EISEIR_09222011.pdf);

(3) variable depth fish ladders, that have concrete roof coverings over **alternate** fish ladder steps, would allow greater reservoir water level variability, and might provide more security for fish that use the fish ladders. Divided double-wide fish ladders could be installed at J.C. Boyle and Copco 2 dams, for the purpose of allowing extra high water spillage safe fish passage. The KR hydroelectric dam fish ladders should all completely **exclude bear ingress** into the fish ladders. One possible bear excluding build for those ladders, entails completely submersing a long concrete fish passage pipe, that has a concrete bear-excluding barred downriver end, that at all times is 5' to 7' below the river's surface, and that has periodic lateral side “skylight” approximately 10” X 18” openings parallel with the pipe's length, and that enters each high-concrete-walled fish ladder, entirely encased – except possibly with high water flow runoff, above average fish ladder water flow level, fish ladder end wall vertical slit openings – with concrete.

(4) the algae density in Iron Gate and Copco 1 reservoirs is much similar to June to October Upper Klamath Lake algae density, where I couldn't see my fingers at my arm's length extension below UKL's water's, though I was viewing from above the water's surface. That algae density of those reservoirs and UKL --- (UKL – though originally a natural lake per a natural or partly natural 4,137.8' reef at the head of Link River – is sometimes referred to as a reservoir, because of the 4,145' (15' above the Link River **streambed** grade **minimum 4,130'** elevation) Link River Dam that substitutes for and within .5 miles of UKL's formerly intact **4,137.8' reef)** --- has served native red band trout and nonnative fish well for habitat, so may it also well serve young anadromous salmonids for habitat?

Recalling that the Klamath County "A" Canal that originates at Link River, was much completed by 1908 (for irrigation, Lost River and Tulelake wildlife habitat, etc), here's a picture of the 1921, 8' deep, west Link River bank, "log channel" excavation through -- and/or maybe around -- the 4,137.8' altitude reef at the head of Link River, about 3/16 of a mile up and across river from "A" Canal intake:



(5) a dam front high water wedge spillway, made of concrete triangular vertical sides that are filled with aggregate and covered with a concrete slope, and that guide high water spill over the dam, safely for fish, to the downstream base of the dam; may effectively be placed in J.C. Boyle Dam's spillway (33' height + possible few feet for foundation), and in Copco 1 Dam's spillway (near 113' height + possible several feet for foundation), and in Copco 2 Dam's spillway (33' height + possible 19' for foundation)

(6) the inexpensive to install, maintain, and operate; safe and effective for fish transportation; fish sorting, diverting, and counting; flexible hose fish elevator "Whooshh®" https://www.whooshh.com/ system, may be utilized 24/7 to assist upriver transit of fishes, in sizes to accommodate most migrating fish species' adult fish. A flexible hose fish elevator sorting and diverting system, might also be used to harvest invasive nonnative fish species, and highly juvenile salmonid predatory Umpqua northern pikeminnow (Columbia River Dace) fish, from KR for pet food and/or fertilizer production. (I've caught an Umpqua northern pikeminnow on a nightcrawler worm in the Sprague River 5.5 miles east of Chiloquin, and on a 1/4 ounce chrome wobblerite spoon in the Willamette River at Corvallis, OR.)

Incidentally, the maximum 1,150 cubic feet/second flow "A" Canal, that can draw water from Link River about ¼ mile upriver from Link River Dam, received a $16 million fish screen, fish bypass, and head gate renewal installation in 2003. If anadromous salmonid migration to and from the Pacific

Ocean is restored to UKL, what practices will be utilized to keep those fish from entering other KR diversion canals?

The **File #12** “Fish_Passage_Conditions_on_the_Upper_Klamath_River_July_2000.pdf” file, that of this page is available, though historically very descriptive and speculative at the time of its composition, has error and is out of date in a few places, including:

(1) Link River Dam was completed from 1919 to 1921, not in 1927;

(2) Link River Dam was early built with a west side (“right bank”) “stilling basin” (apparently concrete blocks below the dam, to slow outflow from the dam), that per an open and closable gate receives what is **usually** the majority of Link River's flow past Link River Dam. The gate/stilling basin apparently is yet Link River fishes' preferred way to pass Link River Dam upriver, as in 2005 the U.S.A.'s second lowest fish ladder – a completely open to the sky, upriver direction, 180° turn downriver direction, 180° turn upriver direction, 10-foot climb over a 300-foot run, $2.3 million ladder – was installed -- in particular for the endangered sucker fish -- just west of the open gate/stilling basin complex, and per assay the native sucker fish use it very little;

(3) the original Link River Dam east side – narrow, L-shaped – fish ladder is functional, though not used very much because it opens to rather shallow water, and the fish prefer the greater flow of the stilling basin;

(4) the KR hydroelectric project is usually considered comprised of only J.C. Boyle, Copco 1, Copco 2, and Iron Gate projects' facilities; while the former PacifiCorp-owned KR hydroelectric project facilities, are sometimes listed as including the aforespecified KR hydroelectric project facilities, and the Link River – exclusive of Bureau of Reclamation-owned Link River Dam – and Fall Creek hydroelectric power generation facilities.

The proposed Klamath River Renewal Corporation (KRRC) anthropogenic destructive removal of the Klamath River Hydroelectric Dams, is a **swindle,** because there definitely is **No** sufficient reason to destroy J.C. Boyle Dam; and the dams can affordably be made to operate much more compatibly with the salmon's healthy use of Klamath River; and the salmon are less important to humanities' survival than is the water storage and already much environmentally paid for (as in the dam-building carbon emissions were either wood combustion or have been much rainfall soaked-earth absorbed), clean renewable energy that the dams provide; and the salmon both have already been relocated to other salmon-supporting global habitat (exs.: Chile, New Zealand, Lake Michigan), and can yet be introduced to new additional salmon-supporting global habitat; and two of the dams provide substantial beneficial water storage for KR fish habitat; and etc. (see **File #4** for example).

To accomplish the Klamath River Hydroelectric Dams destruction **swindle**, to the extent that ownership of the Klamath River Hydroelectric Dams has been transferred to a temporary holding company (**i.e**. the KRRC (Klamath River Renewal Corporation) that will destroy the dams, and is solely for accomplishing complete destruction of the Klamath River Hydroelectric Dams and "restoring Klamath River environment" that the Klamath River Hydroelectric Dams altered; and to the extent of a final anthropogenic destruction of all of the dams; the **File #19** KHSA (**Klamath Hydroelectric Settlement Agreement**) was as soon as possible **ratified**, to dominate all subsequent "Shall the Dams be saved" question, with a KHSA-facilitating, **precedent** prerequisite-type accordance **priority**, **that** the **"KHSA approves for the dams to be destroyed"**; thus all post-ratified KHSA proposals and accordance for saving the dams, contradicted the ″already declared, ratified, official KHSA″ (quotes mine) *approval* for the dams to be destroyed.

This resulted in **apologetic-type** "Save the Dams" examples, that repeatedly had to note to the effect of "however, this opportunity to save the dams is not supported by, would contradict, and is opposed by the KHSA approval to waste the dams". Yes the KHSA was ratified to be "business as usual" destruction of the dams. Here is a post-KHSA dam saving proposal **example** quote from page ES-25 (Executive Summary-25) of **File #18** KlamathFacilitiesRemoval_EISEIR_09222011.pdf: "The Fish Passage at Four Dams Alternative would not satisfy the conditions in the KHSA."

The **File #20** KBRA (**Klamath Basin Restoration Agreement**) was a domineering river pact designed to dominate the entire Klamath River drainage for fish first, and deservedly failed to be voted on per the federal congress, so failed to be enacted; however it is a much relied upon development plan for dominating Klamath River use for fish first, last, and most places -- except a little water for Lower Klamath National Wildlife Refuge (established of Theodore Roosevelt in 1908, the U.S.A.'s first waterfowl refuge) -- in between. Regardless however, I do believe in **always** maintaining **minimally adequate** Klamath River flow from Lake Ewauna, for both Klamath River fish habitat, and necessary replenishment of Lower Klamath National Wildlife Refuge lake water.

We should remind ourselves that UKL (Upper Klamath Lake), of which Klamath River per Link River and Lake Ewauna exclusively commences, is nearly or somewhat naturally hypereutrophic, i.e. super nutrient rich, and thus it greatly supports algae growth and quite a bit of fish food! None of the larger UKL tributaries -- including Sprague River, Spring Creek, Williamson River, Seven Mile Creek, and Wood River have readily visible drifting algae. **We should also ask ourself: Is the claim that "*We usually can never annually derive enough fish from KR, while J.C. Boyle, Copco 1, Copco 2, or/and Iron Gate dam(s) is/are in KR.*" necessarily true?** I certainly don't believe that claim is true!

Pacific Northwest (PNW) native salmon -- and based on Atlantic salmons' ecologic niche (i.e. necessary life-support habitat), I strongly find that Atlantic salmon are NW Pacific Ocean wild compatible with native PNW salmon -- are very dynamic throughout their lifetime. After hatching in fresh water, they seek to mature minimally before going to the ocean for a group foraging and growth rove; then in 3 to 6 years or so, they waste no time swimming back to their freshwater spawning beds. Thus they are primed not to dally in unhealthily warm waters, where diseases that the salmon may have carried most of their life, can more readily increase in presence. Reportedly chinook salmon may survive to 83 degrees F, and I find 81F is likely near extremely hot to them.

Incidentally, in just the previous few years, the question of the difference between freshwater rainbow trout and sea-going steelhead, has been found apparently dependent on available freshwater food for resident freshwater rainbow trout; so that freshwater rainbow trout lacking food of freshwater, venture into the ocean questing for food, and thus become steelhead.

The fall run chinook salmon species that used to migrate into UKL, currently **aren't** Endangered Species Act listed as threatened or endangered. The spring run chinook salmon species that used to migrate into UKL, is **extinct**, however I estimate that the Klamath River spring chinook salmon run can readily be re-established from Oregon Rogue River spring chinook stock, once fish passage up and down Klamath River is restored. Perhaps you aren't aware that because of a great amount of chinook salmon transplants between **different** Pacific Northwest rivers, pure single river chinook salmon stock is currently much a manifestation of the past.

In my opinion Bureau of Reclamation (BOR) definitely should have opened "A" Canal to full capacity flow this April 01, 2023, and certainly no later than April 16, 2023. I find that BOR's false modesty about river water for endangered fish, is not supported hard and fast per Endangered Species Act

“letter of the law”, because that act allows flexible compensation for endangered or threatened species, per arbitrary and variable temporary measures, that the government administration bureaucracy may, without additional Congressional or Court ruling, change at their discretion. Thus several Klamath Basin farmers appear late to provide legal counsel to challenge BOR's blockade of Upper Klamath Lake water that belongs to those farmers.

Having been intermittently following government financial compensation to local farmers, I find that apparently governments and some local farmers are content for farmers to receive government financial compensation, in lieu of those farmers farming of Upper Klamath Lake-derived water irrigation. Klamath Basin farmers south of Klamath Falls have already dropped many wells excessively low for agriculture irrigation, and because of low well water, some Klamath Basin farmers have been restricted from irrigating with well water. I estimate that a recent grant to study improving “A” Canal delivery of water for irrigation and Tulelake and Lower Klamath National Wildlife Refuges, should emphasize farmer's Upper Klamath Lake water withdrawal rights, per both “A” canal and Lost River Diversion Channel transfer of Upper Klamath Lake water. Possibly farmers with water rights per “A” Canal water delivery, might be compensated with Lake Ewauna water delivery from Lost River Diversion Channel?

With our current administration’s emphasis on **United States of America infrastructure improvement**, whereof we may fairly increase our energy production safety and our prosperity, I herewith now **vote** that the United States of America Department of the Interior should purchase and manage the Klamath River hydroelectric dams and the Link River hydroelectric facilities, so that the dams and hydroelectric facilities are responsibly managed **as public property** per the United States of America's national citizenship, and so that the United States of America Department of the Interior shall, where necessary with fish passageways -- such as fish ladders, dam front high water wedge spillways, and/or fish elevator flexible hose systems -- and fish screens that together are adequate to allow all adequately beneficial to humanity Klamath River fishes, both those fishes' historically evolved life cycle itinerary travels upriver and downriver past the Klamath River hydroelectric dams' and Link River hydroelectric facilities' locations, and passage upriver and downriver throughout those fishes' remaining historic Klamath River habitat; improve the Klamath River hydroelectric dams and Link River hydroelectric facilities, so that the Klamath River dams and Link River hydroelectric facilities together, provide greater and continue to provide much **multi-use**, including substantial hydroelectric power production, of the Klamath and Link rivers together and respectively. Both Copco 1 and Iron Gate dams should be **repurposed and reprioritized**, for fish migration and dam-conserved water fish habitat. Funding for destruction of the dams, including both the funds already collected so and other funding that has been reserved so, is adequate to pay for most of the fish passage construction improvements that are necessary for the dams.

So that you may copy and paste from, and perhaps provide comments concerning, information of this webpage, and then forward that information effectively for government representation, herewith I have listed some Oregon and California Congresspersons' ((D) = Democrat, (R) = Republican) internet addresses as follows:

Directory for finding U.S.A. Senate Senators communication addresses
https://www.senate.gov/senators/senators-contact.htm

Directory for finding U.S.A. House of Representatives Congressional Districts and Representatives addresses https://www.house.gov/representatives/find-your-representative

Directory of U.S.A. House of Representatives Representatives government addresses

https://www.house.gov/representatives
U.S.A. National Oregon 1st District Representative Suzanne Bonamici (D)
https://bonamici.house.gov/address_authentication?form=/contact/email , https://bonamici.house.gov/

U.S.A. National Oregon 2nd District Representative Cliff Bentz, (R), https://bentz.house.gov/ , https://bentz.house.gov/contact
U.S.A. National Oregon 3rd District Representative Earl Blumenauer (D)
https://blumenauerforms.house.gov/forms/writeyourrep/ , https://blumenauer.house.gov/
U.S.A. National Oregon 4th District Representative Val Hoyle (D)
https://hoyle.house.gov/address_authentication?form=/contact , https://hoyle.house.gov/

U.S.A. National Oregon 5th District Representative (R) https://chavez-deremer.house.gov/address_authentication?form=/contact , https://chavez-deremer.house.gov/

U.S.A. National Oregon 6th District Representative (D)
https://salinas.house.gov/address_authentication?form=/contact , https://salinas.house.gov/

Oregon State 56th District Representative E. Werner Reschke, (R),
Rep.EWernerReschke@oregonlegislature.gov http://www.oregonlegislature.gov/reschke
Oregon State 28th District Senator Dennis Linthicum, (R),
Sen.DennisLinthicum@oregonlegislature.gov
http://www.oregonlegislature.gov/linthicum
U.S.A. National Oregon Senator Jeff Merkley, (D), https://www.merkley.senate.gov/contact
U.S.A. National Oregon Senator Ron Wyden, (D), https://www.wyden.senate.gov/contact/email-ron
U.S.A. National California Senator Alejandro “Alex” Padilla (D),
https://www.senate.gov/senators/senators-contact.htm
U.S.A. National California Senator Dianne Feinstein, (D),
https://www.feinstein.senate.gov/public/index.cfm/contact
U.S.A. National California 1st District Representative Doug LaMalfa, (R),
https://lamalfa.house.gov/contact
U.S.A. National California 2nd District Representative Jared Huffman, (D),
https://huffman.house.gov/contact/email-me
California State District 1 Assemblymember Megan Dahle, (R),
https://lcmspubcontact.lc.ca.gov/PublicLCMS/ContactPopup.php?district=AD01&width=600px&height=700px&iframe=true
California State District 2 Assemblymember Jim Wood, (D),
https://lcmspubcontact.lc.ca.gov/PublicLCMS/ContactPopup.php?district=AD02
California State District 1 Senator Brian Dahle, (R),
https://lcmspubcontact.lc.ca.gov/PublicLCMS/ContactPopup.php?district=SD01&inframe=N
California State District 2 Senator Mike McGuire, (D),
https://lcmspubcontact.lc.ca.gov/PublicLCMS/ContactPopup.php?district=SD02&inframe=N
Also here is a contact link for communication with the Federal Energy Regulatory Commission:
https://www.ferc.gov/contact-us
Here is a URL for communication with the U.S.A. administration:
https://www.whitehouse.gov/contact/

I don't mind testifying in court to save the dams, however I know of no court action pending or

planned to save the dams.

I'll likely post some of my unusual experiences -- e.g., my survival menu for my chronic kidney ulcers -- in .pdf files on this webpage also. In fact, here is an unusual experience now: Many Klamath River Basin residents and other citizens, have for years now been wanting to support and prove, that the Klamath River hydroelectric dams should be both saved, and where necessary, improved with adequate fishways; and no one would "pass the hat" -- i.e. collect funds -- to strongly publicly state the case in the U.S.A. federal legislature and/or the U.S.A. federal court system, although **ample** and **sustained funding** has **often** in the U.S.A. Government **opposed saving the dams**, during those years.

Of this dilemma I find that I am currently unable to receive financial commendations, that are exclusively for myself having strongly publicly stated the “SaveKlamathRiverHydroelectricDams” case, as I have herewith, and that I could apply towards funding a “SaveKlamathRiverHydroelectricDams” legal case, because much pertinently, my health is so poor of kidney ulcers, double hernia (earned honorably from single-handedly harvesting, processing and selling 100 cords of stove wood), stubborn and recurrent lower back sprain, what may be an incurable subcutaneous skin nematode infestation (these nematodes are **tough.** I've tried many different drugs – both prescription and nonprescription – and herbs, however my kidney ulcers don't tolerate strong toxins, and I almost died from trying nicotine lozenges for 10 days (the worms got a little lethargic then after 5 days), and several months later from trying neonicotinoid Imidacloprid topical pesticide for 5 hours! Typically when I confront the worms with an adverse agent to them, such as the once/month prescription drug Levamisole, they simply become less active like they are hibernating, and wait out the exposure! Also my Covid 19 Pfizer and Moderna mRNA vaccinations, may have caused a Herxheimer-similar type of reaction in me, of the nematode worms.), living unassisted as a bachelor at all times, and currently comfortable though protracted dental infirmities. Also I have no “SaveKlamathRiverHydroelectricDams” group individuals or group to personally, of our mutual in person personal identification and acquaintance with each other, develop effective SaveKlamathRiverHydroelectricDams advocacy and/or litigation with (here cringeth some: A person may be a point, *however* two points may form a line, “2 out of 3 ain't bad”, and has history shown “safety in numbers”?)(leave it to beaver already).

Of here for now then, futile understanding abandoned or resolute commitment realized, this webpage herewith is available for your referral. Will you please consider sharing this webpage's URL address (i.e. https://www.voterspetition.com/SaveKlamathRiverHydroelectricDams.html) **with citizens who are concerned for the best development of the Klamath River hydroelectric dams?**

The Klamath River Hydroelectric dams are more than just some financial-donation reinforced, legally wrangling beach kids' **sand castle toys**, to knock down before and because an earthquake may knock the dams down anyway. The dams are a necessary bandage for anthropogenic-caused global warming injury (e.g. increased environment heat and reduced snowpack) to humanities' vital life support environment. Engineering contractors may say "knock 'em down or build 'em up, either way pays us the same hourly rate", however **wasting good dams costs** us equipment wear, forfeited refined materials, forfeited infrastructure hardware, forfeited -- including sometimes forfeited water conservation -- developed product application, forfeited adequately beneficial different production, dam substitute expense, environment pollution per any fossil fuels combusted to accomplish wasting the dams, wasted construction and destruction labor, unnecessary labor hazard, degradation of responsible social behavior reinforcement, loss of social trust, loss of social morale, loss of cultural river multi-use heritage, and wasted funding.

We <u>can</u> have plenty of adequate fish habitat, fish presence, and fish passage in Klamath River, per keeping the four Klamath River hydroelectric dams in Klamath River, and where necessary, equipping those dams with adequate fish passageway modifications! (Commencing > 71 years ago, I am an Oregon resident of mostly southern Oregon (Klamath Falls, Sprague River 6 miles east of Chiloquin, Ashland, Brookings, Gold Beach, Myrtle Point, Canyonville, Roseburg, Sutherlin, N. Fork Smith River, Eugene) inhabitation, plus a few years of northern Oregon (Corvallis, Estacada) inhabitation, for a combined total of > 67.5 years Oregon residency; and a former resident of near 33 months total inhabitation of other areas, including plenty of weeks or months in San Francisco Bay area Mountain View California, San Diego CA, Philadelphia PA, Lakehurst NJ, Jacksonville Fl, North Africa, Mediterranean ports and open ocean, and mid Atlantic ocean (including a storm that our 990' boat ran from, because the ocean was permanently changing our boat's build!). Per climate change we recurrently have droughts-ville of the El Nino Southern Oscillation, much greater now in southern Oregon and California!)

<u>What groups strongly opposed the dams and weakly supported the dams?</u> Here are some:

COMMERCIAL FISHERS

<u>Possible motivation and/or rationale</u>: The river is for fish mostly. The dam reservoirs' warm 16 miles of the river's surface waters, support nonnative predator fish in the river, support toxic drifting algae growth in the reservoirs, suppress salmon disease host polychaete (Manayunkia speciosa) worms with sediment and slow water flow in the reservoirs, however support that polychaete in moderate water flow with warmer water for a **short** distance downriver of Iron Gate Dam; and since only three of the four dams have no upriver fish passage, all of the dams should be destroyed. The fact that since 1962 the majority of the main stem Klamath River (KR) Chinook fall run above the Trinity River confluence has come from Iron Gate hatchery is irrelevant, because many more salmon used to come from the Upper Klamath Lake (UKL) drainage.

That climate change has reduced Crater Lake snowfall **36%** (ex. File #46, per the 2010 – 2021 years' average snowfall of 395")is covered by **reducing** irrigation water withdrawal from UKL, Klamath River, and Klamath River tributaries. We don't find that the facts, that the PNW (Pacific Northwest) climate most likely shall remain warmer and likely drier per climate change for several years to several decades, and that climate change has made the north Pacific Ocean less supportive of salmon, are **adequately partly compensated for** with Copco 1 and Iron Gate dams' within-river reservoirs' water storage for fish, **rather than** they are adequately partly compensated for with **only** Keno Dam's and Link River Dam's water storage for fish, plus no agriculture irrigation from UKL, UKL tributaries, and Klamath River. **Also**, would young salmon survive J.C. Boyle, Copco 1, Copco 2, and Iron Gate dams' reservoirs as well as native red band trout do**?** And if nature is so good at shuttling migrating salmonids into irrigation ditches, shouldn't we provide fish screens to avoid landlocking salmon with ESA-listed suckers in water releases from KR to Lower Klamath National Wildlife Refuge (our nation's first waterfowl refuge)?

They tell us we should get it right the first time, so the small expense of providing adequate fishways in the KR hydroelectric dams is assay money well spent, for discovering the best KR fish habitat provision that is possible with -- and thus then discovered of ongoing climate change, possibly better than without -- the dams in the river; but we ignore them per claiming the only dam assistance the fish need from UKL to the KR Shasta River confluence, is KR flow volume regulation from Link River Dam, and maybe Keno Dam; except that the Keno Dam "Lake Ewauna" Reservoir supports algae and nonnative predator fish, though that reservoir averages 18' deep per 21 miles of length, so that some cool water stratification occurs, while the KR flow upper surface temperature through the reservoir remains near the UKL-derived Link River flow temperature into Lake Ewauna.

Incidentally, extensively dredging Upper Klamath Lake (UKL, 17 miles long, average 6' - 8' depth) so as to provide lake bed silt for soil amendment and soil replacement to Sacramento Valley farms that have lost more than 25' of topsoil to farming, could also remove much anthropogenic activity-deposited phosphorous from UKL, and could supplement Upper Klamath Basin industrial revenue, and could produce a deeper, cooler lake, with greater water storage and fish habitat for cool water fishes. 4,145' to 4,138.3' surface elevation UKL, is drained by 4,130' river bed elevation Link River.

Government tends to overtax, overrestrict, and underperform recurrently. Thus per daily healthy peaceful survival, humanity needs, deserves, and strives to have constantly fairly affordably available, a better system than, for example, unnecessary generation of waste, and/or wrongful ruination of correctly beneficial production, to correct government authority of. The 19th century observation that "the government that governs least, governs best", is true in likely a majority of most ways, however there are substantial exceptions -- such as backup safety equipment or safety personnel -- where governing greater than least often provides better average government. For "backup safety equipment or safety personnel" to save Klamath River hydroelectric dams of, humanity now needs petitioners to petition U.S.A. federal government -- that may include legislative, administrative, and/or judiciary government -- to save, and where necessary improve with fish passageway modifications, Klamath River hydroelectric dams.

HUNTER/GATHERERS

Possible motivation and/or rationale: I can't eat the dams, but I can eat the salmon. Without dams, and without dam fish passageways for the fish to slide down and climb or be drawn up of, there will have to be fish that travel farther in the river. I want to catch some of those fish, fondle them with my **dry hands** -- rather than my **wet hands** -- so that those fish develop **infections where my dry hands removed protective mucus and/or scales**, that my wet hands would not have removed from those fish. I want to eat some of those fish too.

Even though climate change has reduced the river's flow, when I'm by the river the river will have water for me to drink; just look at pictures of the salmon habitat **dry** Scott River tributary to the Klamath River, near 9/16/2021 for example, or consider Mt. Shasta continuing to lose its glaciers. Some of us have been referred to in a letter to the editor, as "hunter/gatherer bigots" (except that term then got published as only "bigots") because we're **territorial sports folks from different** racial **lineages**, who of eventuality prefer t**o reduce multi-use** of Klamath River, **to mostly** fishing and providing fish **habitat** for us only. Without dam reservoirs, we'll be able to ford the

river easier.

Some of our well-wishing neighbors have informed us that power companies, demolition companies, eco-advocacy organizations, and "on-the-take" fish biologists are exploiting our heritage, to leave us to blame for destroying good Klamath River hydroelectric dams. We tell them "That's good enough for us, because we didn't inherit the Klamath River dams production from our ancestors, we're borrowing it from our children".

Its all about climate change-produced parchedness, nakedness, and "See I told you so" social legacy anyway. Per an 11/05/2013 internet-published article entitled *Hunter-Gatherers No More* (**https://hungermath.wordpress.com/2013/11/05/hunter-gatherers-no-more/**), embarrassed industrialist consumers estimated that of the then available wild-craftable world land, in the land's deficient to most ideal, and greater than sufficient to moderately favorable, ecosystem form for wild-crafting survival, likely no greater than 136 million people could, per wild-crafting exclusively for their daily survival, annually survive. We are some of those people.

Oh how I yearn to stand barefoot streamside in my G-string or loincloth, and with my sharp stick spear, for I don't want to break my rock spear points, and my long handle nettle twine fishnet, harvest the migrating anadromous fishes as they swim by me in my nation's designated exclusive fishing area, for truly in all cases of river use, "First come, only serve" justly applies every time.

POWER PRODUCTION COMPANIES

Possible motivation and/or rationale: We don't need recurrent dam fish passage and dam water temperature lawsuits from donation-seeking environmental advocacy groups who are funded of ecoterrorists, because we can open up and operate new fossil fuel natural gas-fired electricity generating plants *cheaply*. We also have strong enough support to petition Congress to fund and endorse us to produce new long-term lethally radioactive nuclear waste, by opening new uranium and plutonium fission-powered nuclear reactor electricity generating plants, that will produce lethally radioactive nuclear waste that stays lethally radioactive for **hundreds of thousands of years** (give us this day our daily **baked** bread already!), and that partly may be converted to nuclear explosives. Consider producing more fissile material for more nuclear explosives already!(**???**)

Did you know that nuclear fission-powered electricity generation was so expensive, that the only way in the U.S. and the U.K. that nuclear fission-powered electricity was commercially profitable competitively against clean renewable energy-powered electricity production, was per **government subsidy?** That's right. **Nuclear fission power is** so exorbitantly **dirty**, insecurely **hazardous**, and facilities **expensive**, that government subsidy is necessary to make it an affordable substitute for safe clean renewable energy power.

Even if science fair students successfully deploy the world's first large scale thorium and nuclear waste powered nuclear reactor commercial electricity generator, that converts long-term (hundreds of thousands of years) nuclear waste with thorium, to short-term 300 years lasting nuclear waste, the "short-term" 300 years lasting nuclear waste that the reactor produces from the reactor's thorium and long-term nuclear waste fuel, must be safely stored so

that it doesn't lethally afflict biology for substantially over 300 years.

And that situation introduces us to the government's public voters'-supported intransigence to require that we privately owned electric power generation utilities, substitute clean renewable electric power generation for our fossil fuel-powered electric power generation. Doesn't the government realize that we have invested in the fossil fuel supply market for a cost recovery fossil fuel supply to ourselves, and that our company structure, maintenance, and facilities investment costs come greatly from electricity consumers' rate paying, because our company ownership and/or management siphons off much of the company profit to pay itself, like cream is siphoned off of settled whole milk? Can we not even write off our fossil fuel investments on our taxes?

Thus for example, even though PacifiCorp subsidiary Pacific Power and Light receives many monthly electricity consumer ratepayer donations expressly for funding construction of PP&L clean renewable electricity generation facilities, on 02/15/2024 PP&L had the brashness to file with the Oregon Public Utilities Commission (PUC), a request to raise their electricity consumers' rates about $29.47/month per customer account, for a total collection of "roughly $304 million", so as to "support continued investments in wildfire risk management strategies, transmission infrastructure and renewable generation projects." Can we soon forget that per a PacifiCorp PP&L-required fee increase levy on the PP&L electricity consumers' PP&L electricity rates, PP&L exclusively "paid" near $200 million to KRRC for destruction of four good, adequately fish passage improvable, clean renewable energy producing Klamath River hydroelectric dams?

In a time proven robber baron tradition of squatters' rights, from which such great words and phrases as "monopoly", "over-priced", "first come, only serve", "laziness", "garnishment", "debtors' prison", "enslavement", "bankruptcy", "golden parachute", "selfishness", "greed", "confiscation", "profiteering", "manifest destiny", "transient", "loitering", "sugar daddy", "establishment", "any port in a storm", "take up residence", and "set up housekeeping" have been defined, may the Oregon PUC and the government courts avoid bribery, in providing government management assistance for humanities' vitally necessary transition to environmentally good enough, clean renewable energy production?

FOSSIL FUEL NATURAL GAS VENDORS

Possible motivation and/or rationale: (We've found a **hell** of a lot of easily sourced fossil fuel natural gas that we want to sell.) Ahem, we're here to help (quick dirty buck business as usual) humanity with its transition with climate change, and since humanity has deemed Klamath River hydroelectric power generation **incompatible** with humanities' best public interest, and that will deprive humanity of a maximum of **163MW** of daily clean renewable energy production, similarly to how in California in 2022, climate change aridity has resulted in a reduced hydroelectric power generation forecast; we find that humanity needs fast electric power generation **loss compensation**, without incurring impurities-containing fossil fuel combustion caused, sulfur, mercury, and/or lead rainout or byproduct, or lord forbid, long-term easily-enough converted to nuclear explosive, radioactive nuclear waste; so we've already built pipelines and natural gas-fired power generation facilities within and near California and Oregon, that can increase natural gas-fired electricity production.

Although California has outlawed construction of new natural gas-fired electricity generation plants and new natural gas pipelines in California, the

Klamath Basin has two large natural gas pipelines, one from Canada and one from Wyoming, that can fuel an expansion of the near **620MW** natural gas-fired Klamath Cogeneration electricity generation plant, that was the **WORLD'S biggest natural gas-fired electricity generation plant** in 2006, and that legally can export electricity to California. So how about we quickly expand the Klamath Cogeneration plant and activate the much legally and market-blocked Ruby (Wyoming) pipeline, so as to soon: deliver grid electricity; acquire market share and outcompete controversial-to-locate and smaller power generation capacity clean renewable energy production facilities (exs.: abundant mostly untapped north Nevada geothermal, Klamath Basin geothermal, Pacific Ocean windmills, southern California -- like California City area? -- solar cell parks); acquire market share for and outcompete the approaching arrival of new technology **grid electricity storage batteries**, including lithium, graphene (of GMGMF stock exchange address) and aluminum, gravity column, and vanadium storage batteries; continue to enslave the people to receive their grid electricity per their electricity generation polluting the atmosphere with carbon dioxide (CO2) and methane (CH4) greenhouse gases; acquire market share from and outcompete electricity for home appliance (exs.: range, oven, refrigerator, space heater) fueling.

If we stop Upper Klamath Lake and Klamath River irrigation of land crops, upper Klamath basin residents and many customers of the upper Klamath basin residents' Upper Klamath Lake and Klamath River irrigated crop products, must either haul crop products -- while utilizing fossil fuel greatly to do so -- from farther away than the upper Klamath basin is to those residents and customers, or move to a locale that is closer to a food supply substitute for Upper Klamath Lake and Klamath River irrigated crop products. Hauling crop products from farther away sells more fossil fuel for fossil fuel vendors!

By the way, Lake and Klamath counties qualify to tax Ruby Pipeline natural gas delivery.

ENVIRONMENT & ANIMAL RIGHTS ACTIVISTS

Possible motivation and/or rationale: (“Ye blind guides, which strain at a gnat, and swallow a camel”, J.C.; Matthew 23:24)Hey some labor unions aren't the only ones who use controversy to garner support and bum a buck. This problem of revenue generation and **self-seeking** during climate change, has a great alibi along the "**No technology is good technology if it ain't 100% natural**" lines; and if or when grownups get tired of LGBT (rated XXX) pining, displays, and neutral modeling, as, some of the same as, or completely different than they get tired of heterosexual cultural manifestations, they may have **spare change** for an aberrant, California Condor Crying Towel Chorus-type of "We're only trying to help", "We don't know no better", "We don't no no better", "**You can't prevail against City Hall**, **they have tax say so**", "If you can't compromise 'em, join 'em", "'still got to show the extinct bear flag", "That's them other guys", "Snooze you lose", "no choice but to rip off", "practice makes perfect"("seek, and ye shall find" J.C.; Matthew 7:7), biologically-based, conceit and false modesty conversion (how to be a square, or like they say in the Navy “Shift Status", or again “what you see is what you get; and even “Viva the Same” along with “Viva the Difference”) "business as usual" election **rally**; with the endowment and/or premium that you can tell embarrassed industrialists "You weren't good enough to have it right, where I wasn't good enough to make it right", and be a "good ol' neighbor".

How so "**conceit**"? Try "If at **your expense** you don't convert me to be

comfortably correct and fair, I deserve to be incorrect and unfair; perhaps even while then, to my satisfaction, blaming something other than myself for so being." Humans are to a varying extent social beings -- for example witness new borns' and many disabled elderlies' great social dependency -- and humanity optimizes its self-support per both **mass production and cottage industry custom production**; however per here noting a stock observation from the 1960's, that "Some people follow better than they lead", and also the older adage that "too many cooks spoil the broth"; if we're all going to operate our common truly correct and truly fair mutual accordance biologic social vehicle **(**known of some aberrantly as "chaos" or "randomness"; "*aberrantly*" here in the sense that biologic survival is definitely limited per inviolable environmental chemical, physical, etc. constraints, and so there definitely is a biologic survival-based correct social "right" and "wrong" in the world**)**, we'd best be organized together accordingly so, and thence to each their own.

Alas, "correct and fair" is sometimes, especially in the short term, in some way more expensive than trespass (yes, though some trespass happens accidentally yet), and so we don't have "correct and fair mutual accordance", rather than "vanity fair"* sometimes; a circumstance that often leaves us embarrassed and/or frustrated, of for example, irresponsibility, or ignorance-based "near irresponsibility" (a relative condition, colloquially understandable per "finding the fine updated print", or is that "red tape", for example) and/or aresponsibility.(Example: My neighbor and I have so many nonthieving neighbors, because my neighbor worked **overtime** installing security systems to prevent my neighbor from being stolen of! Yet I'm fairly tired enough before overtime, and so stolen of. Neither fair enough for my neighbor nor me, so much labor to keep our neighbors nonthieving. Upon comparing notes with me, my neighbor exclaimed "So that's why we failed to keep our obligation to each other, you didn't realize my extra theft deterrence effort was required for our neighborhood's low theft occurrence status quo, and I didn't realize that you were ignorant so, and so you weren't providing equivalent theft deterrence for our neighborhood's low theft occurrence status quo. Thence per theft's occurrence of you, we realized our ignorance-based "near irresponsibility" towards our neighborhood of each other).

*("Vanity Fair"; as in "vanity sufficiently decently satisfactory", a happening of John Bunyan's (1628-1688) The Pilgrim's Progress figurative book, where maybe right and wrong may be implied to coexist pretentiously (i.e., neither necessarily deserving right of way), no? Similar to "Ignorance is bliss"? Sounds like a big mystery with "no-fault annoyance" right of way, like maybe trolls and drawbridges and floating ferries; though with biology, right and wrong are often soon identifiable, as per gravity for example.)

"All is fair in love and war"? Nay, for love is nonsinful affection, so not all is fair in love; and though unfairness possibly be purported as “fair enough” in war, it is contradictory to persons' sinlessly and/or morally correct development. "Love thy neighbor as thy love thyself" (A Leviticus 19:18 commandment.)? Aye, for love is nonsinful affection, so go figure already. "God doesn't need your love, you need God's love" (Father Dreisbach, now deceased).

I know, "I know", "If they say you have a more than minimally adequate dam, would you hold it against them?" sounds like an anti-thesis cult -- e.g. a contrary faction -- mantra projection, for **a default auction bid**; however the "Save Klamath River Hydroelectric Dams" advocacy greatly approves of peaceful support to save the Klamath River hydroelectric dams, is soon ready to "turn

the other cheek" to welcome former opposition support to save any of the Klamath River hydroelectric dams; and anyway in America, "projecting or representing opposition **their** way, so as to not have their opposition **your** way", is very common. Where the opposition seeks contentment per antithesis, it perhaps may welcome **luck** that provides social support and approval for fish passage restoration that keeps all or some of the dams functionally in place, repurposes Iron Gate dam and/or Copco 1 dam primarily for fish habitat and water sharing, and improves each or some of the dams with fishways modifications, as is necessary for optimal 24/7 anadromous fish passage past those dams kept. You might like the book entitled Games People Play, by Eric Berne.

The UKL watershed/Klamath River Basin Klamath River ecosystem, is replete with complexities, well developed for ecosystem-compatible multiuse, and strongly affected by climate change complications; therefore humanity may **only** best co-exist with the ecosystem, by allowing no human interaction with the ecosystem except supporting **legally limited traditional fishing**, and staring at the **human-restricted** ecosystem while chanting "awesome". Speaking of "legally limited traditional fishing", within a few years often we may be claiming that, unfortunately for humanity, a pod of PNW (Pacific Northwest) orcas long ago evolved to critically rely on salmon for survival, so with PNW salmon ocean survival **substantially** reduced of climate change, and the PNW orcas pod starving in consequence of the reduced PNW salmon survival, humanity should not harvest PNW salmon from Monterey, California to Skeena River, Canada, until the salmon return of good times again.

So where else can we oversimplify for some entity's "Gimmee", and claim that "we don't know no better"? We don't want another Condit Dam removal type of controversy, where recent technology upgrades such as the Whooshh fish elevator and the Iron Gate Dam algae curtain, and yet to be developed seal excluder cages at Bonneville Dam fish ladders, and the overdue to be developed, Bonneville Dam deep water sturgeon tunnel with both a downriver dam side seal excluder cage, and alternately opening and closing tunnel gates, can augment dam operation, fish habitat, and multi-use of rivers.

Condit Dam was a 125' high concrete dam built in 1913 of native rock from the site of its construction on Washington State's Mt. Adam's glacier-fed White Salmon River, that 75.6 miles east of Portland Oregon, is a 44 miles-long tributary to the Columbia River. However the dam originally had an adequately functional wooden fish ladder that washed out in a flood. Subsequent to that washout, another wooden fish ladder was installed at the dam, and washed out also.

From Wikipedia https://en.wikipedia.org/wiki/Condit_Hydroelectric_Project:

“The Washington State Fisheries Department then required Northwestern Electric to participate in a fish hatchery instead of rebuilding the fish ladders. This ended natural salmonid migration on the river. After PacifiCorp's license application failed in 1993, FERC prepared an environmental impact statement that proposed installation of a state-of-the-art fish passage system as conditions for license renewal. The enhancements were to include fish ladders to allow upstream migrations of spawning salmon, and other modifications of the dam and operating procedures to allow a 95% survival rate of downstream migrating salmon. The investment needed to comply with the new requirements was estimated at $30 to $50 million, while at the same time reducing the amount of water available for power production.[1] In 1996, the federal government ordered PacifiCorp to alter the dam and add fish ladders to meet environmental codes.[1] PacifiCorp decided the project was no longer economically viable, and began negotiations for decommissioning. The dam was breached at noon (Pacific Time) on October 26, 2011."

Wikipedia lists Condit Dam's annual operating costs as $400,000., Condit Dam's annual power benefits as $2,896,000., and annual value of power at consumer rates as $4.8 million ($0.06/kWh). Condit Dam had a round wooden flume conduit pipeline to the dam's 14.7MW turbine, and the pipeline probably was or could have been screened against fish passage like J.C. Boyle Dam's pipeline is so

screened. Being in a narrow and apparently fairly rapidly elevation-gaining canyon, Condit Dam had a maximum reservoir capacity of only 1,300 acre-feet (compare that to Copco 2 Reservoir maximum capacity of only 73 acre-feet; J.C. Boyle Dam Reservoir maximum capacity of only 3,405 acre-feet; and Iron Gate Dam Reservoir maximum capacity of a bountiful 58,794 acre-feet!), so lacking reservoir storage water for much reserve power production flow, Condit Dam powerhouse was intermittently operated on a water flow run-of-the-river basis.

Condit Dam's $50 million fishways upgrade would now have been paid for from Condit Dam operation, except for $1.6 million of 10 years operating expenses, that would be paid for within another year, and we could have had Condit Dam clean renewable hydropower since 2011. With climate change increasing glacier melt from Alaska to the California Sierras, and Bonneville Power Administration (BPA) continuing to ignore seal and sea lion depredations of sturgeon and salmon at Bonneville Dam, **by the time that sturgeon are allowed through a Bonneville Dam sturgeon tunnel, so that they might utilize at least some of the 3.3 miles of White Salmon River that is below where Condit Dam was, White Salmon River may have a substantially reduced annual flow.**

BPA occasionally asks for our comments on power production issues, and one time we recommended that they try salmon attractant liquid drops (e.g. Dr. Juice® fish attractant scent) at the tops of Bonneville Dam's fish ladders, so as to help guide the salmon across that 2,690' long dam to the fish ladders, before predators intercepted the salmon. I don't know if they ever tried so though.

In recent years PacifiCorp's ownership of PP&L (Pacific Power & Light) has dominated PP&L to reject new dam -- including hydroelectric dam -- construction proposals on the basis of "the dam would alter the native fishes environment, and we're still negotiable to burn more fossil fuel anyway" basis. Since we're "nature first" folks, we tolerate PacifiCorp's rejection of new dams as unnatural, and continue to oppose any PacifiCorp middleman "value added" fossil fuel burn approach to electricity generation.

Of course you remember how our animal rights blocked captive breeding of, and therefore release of captive-bred, orcas, so that orcas could starve in the ocean without a captive breeding program to repopulate them. We were also prominent in closing American circuses, per observing "horses and cows are fine as working draught animals in harness, however its inhumane to save elephants that way." Also there's nothing like teaming up with the beef industry and loggers, to "get natural" again, clear-cutting "range-expanding" Juniper trees that many birds -- including magpies that can learn to talk -- and deer rely upon for habitat and foraging, and that are virtually the only sagebrush prairie native trees that are yet fairly well surviving, in thousands of square miles of recently climate-changed, newly more arid, sagebrush prairie; especially when Joshua trees are of climate change aridity and forest fire **fairing poorly** of their already naturally greatly restricted range; all because the coyotes are thriving on the prairie **eating sage grouse** (a.k.a. "sage hens") and other critters, and even though the windmills don't have whistles, **two** blades **out of three** contrast painting, and LED lights to alert the birds -- including big raptors -- against collision, raptors in Junipers still pose a hazard to sage grouse, and the U.S. Fish and Wildlife Service won't captive breed sage grouse, and public land Junipers are claimed to drink too much cattle-feed grass water, and the State of Oregon in recent years has continued to allow sport hunting of sage grouse, and though the greater sage-grouse is popularly considered as "near threatened", per the Endangered Species Act (ESA) the greater sage-grouse is not listed as endangered, though the Gunnison sage-grouse of lesser prairie range is ESA-listed as "threatened" and thereof we can legally employ other than Juniper clear cutting to try to assist it.

I mean how many travelers have gazed on hundreds of miles of sage brush prairie and thought to themselves "Thank God that Junipers grow and provide some naturally beautiful, **multi-use** shelter material and industrially beneficial resource in **more than only a few** places here"? Thus since the question of how to save the sage grouse, is framed as "juniper tree raptor roosts and juniper wood lightning rod wildfire fuel **vs** open sage brush prairie sage grouse shelter, with cattle grazing, controlled burns, wild horse stampedes and migration, antelope and deer inhabitation, climate change enhanced wildfires, and very little predator-controlled prolific coyote presence"; I support keeping the junipers, having annual limited coyote hunting for bounty, having annual bag-limited sport hunting of coyotes, sage prairie release of annually captive bred sage grouse, and banning sport hunting of sage grouse.

Do you realize that Sierra Club, Natural Resources Defense Council, Center for Biologic Diversity, Earth Justice, and at least one other prominent environmental advocacy group have rallied to destroy the Klamath River hydroelectric dams? Let's mature those nature childs, per denying their request for permission for them to commit wrong, and remind them that we respect and commend them for both their correct opposition to excessive fossil fuel combustion, and for their correct opposition to excessive deprivation of wildlife habitat to humanly beneficial wildlife. Beware of wolves -- such as ecoterrorists -- in wildlife advocates' sheeps' clothing.

"ON THE TAKE" (BRIBED) FISH BIOLOGISTS

Possible motivation and/or rationale: Throughout natural history, **extinction** has been **a normal part of evolution**. You may have heard that we are in the 6th great mass extinction now, for example. Biology has competitively and cooperatively specialized to unique species "niche" (i.e. environment integration) habitats, roles, interactions, dependencies etc., that were relative to and/or dependent on existing environmental conditions. Oftentimes when those environmental conditions changed, species couldn't evolve fast enough to avoid extinction, because of the species' formerly adequate but then outdated environmental adaptation.

We want to reduce humanities' survival opportunity, and thus drive humanity closer to extinction, per wasting humanities' labor and much non-renewable materials based, vital human life support security -- including clean, renewable electricity production and fish-habitat benign agriculture irrigation -- providing, greatly expensive to produce Klamath River hydroelectric dams, so as to leave the greatly anthropogenically-changed, climate-affected, Klamath River and greatly anthropogenically-modified Pacific Ocean aqueous habitat, for mainstem KR fish to evolve with, without any human intervention on behalf of those fish, except **annual fishing limits**, timed Link River Dam UKL -- and maybe Keno Dam -- water releases, and greatly limited upper Klamath Basin agriculture irrigation and Lower Klamath National Wildlife Refuge water releases; while lying in our teeth that deriving **enough** salmon from the mainstem Klamath River, can only be **impossible** with any (think J.C. Boyle Dam and/or Copco 2 Dam) Klamath River hydroelectric dam that has the best possible fish passageways for it, present in the Klamath River. We even want to restore the up to 6' long anadromous lamprey salmonid parasite fish to UKL tributaries, in the name of the **ESA** (Endangered Species Act) of course, especially as UKL currently has resident lamprey salmonid parasite fish in it!

Speaking of the ESA, since every biologic species is unique, **bring your lawyer**

for a court-approvable unique government-funded restoration plan, for each ESA-listed biologic species. According to several stewardship advocacy groups that hire us, just because something is living and has a sparse population somewhere, **proves** that something is **too good** -- per evolution, climate change, urban renewal, human famine, disease transmission to humans, superiorly beneficial to humanity nonnative species range expansion, human medication, natural habitat succession, vital human life and climate supporting, clean renewable electricity production, etc. -- **to lose** to extinction in its **historic** previous range, when the ESA may nurse that something's survival someplace at **human labor derived expense**; just as long as the ESA insists that that something must be restored to its **fully self-supporting population** in its **historic** previous range, no matter how much that historic previous range now **varies** -- as in for example, practical climate benign support for anthropogenically and/or naturally altered environment-displaced humanity -- from its historic norm. Its like each biologic species, is uniquely adapted to the environment, and per environmental change (exs. rising oceans, melting glaciers, lava flows), needs to continue to adapt uniquely to the environment; so when we biologists recommend **transplanting** environmentally-distressed species to new homes that are of the same ecosystem entirely or mostly, though of a different location than those species' historic range, we try to explain that the ESA recovery of species pertains to re-establishing the species' self-support per the species' necessary environmental -- including ecosystem -- parameters, so that the species maintains an adequate population on earth, regardless of whether the species is able to survive in its historic previous range or not.

We see the salmon source of food for people, as more of a "boom/bust" "feast today, famine tomorrow" food source for people, and a more environmentally-polluted food source for people, than is much current anthropogenically-changed-climate based, irrigation-dependent agriculture; and we favor that higher risk food insecurity as reducing human overpopulation. Similarly we oppose GMOs that reduce disease, e.g. disease vector insects that are genetically modified to misbreed themselves so that the population of the insects is unable to transmit disease, or is reduced, or is completely eliminated (wouldn't that violate the Endangered Species Act?), because we adhere to "survival of the fittest" -- even though perpetuating disease is a great alibi for crime -- as a basic translation of Darwinian evolution, that relies on "do or die" <u>competition</u> with biology-derived parasites, toxins, robot viruses, predators, etc. to establish current “worthy” biologic survival.

Take away the disease or other bio-produced biology debilitation, and like other top of the food web, omnivore mammals, we stunt ourselves with a small bank balance and self-overpopulation.

What previously may have evolved, as a popular "I don't know no better", "ban fish hatcheries as too unnatural" movement, doesn't suffice with some of our neighbors. They claim those kind of all or nothing, other side of the coin, teeter-totter symmetrical commitments, are way too often immature of well-researched, peer reviewed rational policy advocacy. Truly California, Oregon and Washington fish hatcheries have for many years successfully, and much adequately, compensated U.S. West coast fish populations, with healthy and successfully reproducing hatchery-raised fish stock plantings.

In recent previous years, one or a few fish hatcheries have suffered hatchery water source microbe-caused fish disease outbreaks, and a neighbor of ours

estimates that ultra-violet light treatment, of fish hatchery inflow water, might greatly reduce those microbe-caused diseases. Yes, that neighbor is aware of nature's contamination paradoxes (ex. from Oregon folklore: Eating a little of poison oak leaf, seemed for some people to confer lifetime immunity to urushiol, the irritant chemical of poison oak.), where "a little modified hair of the dog that bit ye", such as a laboratory-deactivated natural virus, might stimulate immunity system recognition and opposition to the health disrupting agent (and let's here breezily recall a dearth of human health safe modified virus-inoculated, and/or human health safe virus component-inoculated, test subjects' public declarations, of the test subjects' findings for the never legalized for public sale, experimentally successful, viral component-containing candidate vaccine(s), that the test subjects were inoculated with.), and therefore strengthen the contamination-exposed organism. So sterilized fish hatchery inflow water, especially as salmon rely on home stream scent for navigation, might need to be spiked with untreated water, that is derived from substantially upstream, less adversely contaminated, hatchery inflow-contributing watershed sources.

Since "Salmon rely on home stream scent for navigation"; is information of the alternative salmon spawning streams, documented as chosen of Klamath River salmon due to Iron Gate Dam's salmon impassability, worthy of sharing with the public, for common public knowledge and development of a responsible public conscience (ex. **File #43**, page 19)? Chinook salmon have been very successfully transplanted to waters of nations -- including Chile and New Zealand -- that Chinook salmon aren't native of, and to Lake Michigan that also the Chinook salmon aren't native of (subsequent salmon stock from Lake Michigan-reared and reproduced Chinook salmon, was successfully transplanted into California's Russian River), and the Chinook salmon currently thrive in those waters. Apparently Chinook salmon have substantially colonized extremely southern South America waters, as wild fish that were derived from introduced from North America, nonnative of South America Chinook salmon.

A major complaint against the current Iron Gate Dam (IGD), is that disease-causing biologic parasites tend to occur greatly in some locales where the parasites' host species frequently locates, and IGD has been mostly operated without a 30' deep algae curtain that forces cold deep IGD reservoir water through the turbine intake and outflow, with the consequence that (1) IGD reservoir surface water that sometimes was warmer than IGD reservoir water below it, usually passed through IGD turbine tube and supported large populations of Manayunkia speciosa polychaete worms from IGD for a distance of likely two to five miles (RMs 190 -185), while the turbine outflow equilibrated to ambient environment-caused water temperature as Klamath River flow; and that (2) since the Manayunkia speciosa polychaete worms, host Ceratomyxa shasta and Parvicapsula minibicornis parasites of Chinook salmon, and the upriver migrating Chinook salmon are unable to proceed past IGD, and IGD hatchery is only about 2400' downriver from IGD, and IGD hatchery releases hatchery-produced salmon stock to Bogus Creek and Klamath River within three miles downriver of IGD; many young salmon were being infected of C. shasta and P. minibicornis. The Manayunkia speciosa polychaete worms have been found from the Williamson River tributary of Upper Klamath Lake, to near the Klamath River/Pacific Ocean confluence, and in the Columbia River system.

Reduction of the three to five Klamath River miles -- RMs 185 - 190 -- Manayunkia speciosa polychaete worm population density, has been successfully produced with timely flushing flows from IGD reservoir; and likely may greatly

be accomplished per restricting IGD reservoir releases to cold subsurface water from IGD reservoir, and per providing up- and downriver anadromous fish passageways for fish passage past Iron Gate Dam. Also, per dividing IGD hatchery stock releases to Bogus Creek (near 380' downriver from IGD hatchery) and five miles downriver (RM 185) of IGD, likely parasite infection of waterway-released hatchery stock may be reduced.

In our estimate both IGD hatchery and Fall Creek hatchery are worthy of keeping for salmon production, and operation of both of them could easily be annually financially paid for, from J.C. Boyle hydroelectric power production revenue. IGD hatchery might need an inflow water cooler though, if IGD is removed.

POLITICIANS

Possible motivation and/or rationale: Represent, that we shall, both party and across the aisle, and listen certainly. As you have stated of your tax-bracketed grass roots, the Klamath River hydroelectric dams are privately owned, and let us here now make clear beyond all doubt and any "business as usual" geosurface biocycle methane production of any ecoterrorist industrialist's still, that had the federal government owned those dams from their inception, there would now be no question as to if Chinook salmon migrations to and from the historic UKL watershed/Klamath River Basin Chinook salmon spawning grounds, are compatible with the Klamath River hydroelectric dams! That being said, and recognizing that on the condition that the dams would be destroyed, by whoever the dams were -- at no cost to their former owner -- given away to, many constituents have appealed to Uncle Sam to "**forfeit the dam give away**, and **buy the dams** from the dams' former owner and/or the dams' owner from gratis (grant), **and improve with fish passageway(s) repair, and/or fish passageway installation(s), where necessary, and retain all of the** Klamath River hydroelectric **dams**; and primarily **operate for fish habitat and** upriver of the dams **agricultural irrigation**, the two largest reservoirs of the dams".

We now await to hear about the dams more from constituents; and if constituents are able to prevail with a lawsuit that finds us guilty of procrastination and negligence, for us not yet introducing a bill specifically to purchase, and improve with fish passageway(s) repair and/or fish passageway installation(s) where necessary, and retain all of the Klamath River hydroelectric dams, for fish habitat, river-withdrawn agriculture irrigation river flow compensation, and hydroelectric power production; we are prepared to quote **administration findings that if the dams were removed, Klamath River would continue to flow,** so what needs the dams anyway**?**

Currently on the Administration's table is our recently ratified **Infrastructure Hope Development** bill, that includes sufficient **funding that may**, of the administration -- in this case the Department of the Interior (DOI) -- **be** diverted(?) from restoring water to Lower Klamath National Wildlife Resources Quilting Materials Preserve (our nation's first wildlife resources quilting materials preserve), and **applied to purchasing, and improving with fish passageway(s) repair, amendment, and/or fish passageway installation(s) where necessary, and retaining, all of the Klamath River hydroelectric dams;** particularly J.C. Boyle Dam, as farmers and fishers seem quite indifferent(!?) about the within-river water storage value of Copco 1 and Iron Gate Dams.

In consequence of our Government's current particular commitment to coordinate

and accomplish U.S.A. infrastructure upgrades with U.S.A. subset groups, the odds may appear similar to those for a snowball from an active volcano, that the U.S.A. federal Government Administration will direct the DOI to soon purchase, and improve with fish passageway(s) repair and/or fish passageway installation(s) where necessary, and retain, all of the Klamath River hydroelectric dams; however the dams were freely given away for free, so they **should be** very **inexpensive to purchase**. Noteworthy here also, is that annual tax revenues lost per destruction of J.C. Boyle Dam, may be recoverable -- perhaps even greatly surpassable -- from annual taxes on Ruby Pipeline natural gas, that is **burned** into the atmosphere to power a yet to be greatly expanded, Klamath Cogeneration electricity generation facility, for the purpose of both replacing the lost Klamath Hydroelectric dams' clean renewable electricity production, and providing increased electricity delivery for California.

That two separate polls of the upper Klamath River basin predominantly resident citizen population, gave an 80% to 81.5% "Save the Klamath Hydroelectric Dams" average commitment, that is close to a 5/6 ratio, shows a statistically **substantially significant choice** that is much greater than a random 1:1, 50/50 average ratio, that occurs of flipping a two different image sides coin randomly repetitively. Three denominator multiples of 12 ratios, that often are near U.S.A. election result percentages, are 1/1, 2/3, and 5/6.

Therefore the polls' results may provide **strong support for amending the U.S.A. Constitution**, so that each U.S.A. State is uniquely represented individually in the U.S.A. national Senate, per three U.S.A. federal senators, who each are separately elected from that individual U.S.A. State only, and who may not serve simultaneously as U.S.A. national Congressional senators from any other U.S.A. State or region, with the sole exception of those Senators' U.S.A. national senatorial service, that in consequence of those Senators being U.S.A. national Congressional senators of a U.S.A. State, concomitantly those Senators already perform simultaneously, in being and as U.S.A. national senators of the entire U.S.A. nation; because **per three senators**, the 1/1, 2/3, and 5/6 ratios support voting majority rule of a **greater diversity and quantity of representation**, **than** do the 1/1, 2/3, and 5/6 ratios so support **of just two senators**.

The party membership possibility of two senators only, is per party difference lines mostly limited to one party per senator, so only two party representation is usually possible in each U.S.A. State's federal two senators only, senate delegation. The party membership possibility of three senators only, is again per party difference lines, mostly limited to one party per senator, however **three party** representation is then usually possible in each U.S.A. State's federal senate **delegation**, per each State having three senators who each may be of only -- or of at least -- one party that is different than any party membership of the other two senators.

Voting possibilities for each U.S.A. State's two senator only, federal senate delegation, are: (0, 0), (-1, 1), (0,±1), (±2). Voting possibilities for each U.S.A. State's three senator only, federal senate delegation, are: (0, 0, 0 vote) majority rule of 0; (-1, 0, 1) majority tie rule of 0; (0 0 ±1 vote) majority rule of ±1; (0, ±2 vote) majority rule of ±2; (-1, 2 vote) majority rule of 1; 1, -2 vote (majority rule of -1); ±3 (majority rule of ±3); where (-) is for example an "against" vote, and (+) is for example a "for" vote, and (0) is no vote or an abstained vote.

EDITORS

Possible motivation and/or rationale: "All the news that fits our views". "Where's the (big) **money** on these "Klamath Dam Scams?" "Removal of the dams is scheduled to start in 2023 or 2024".

"Yesterday's news is often financially late with us, like today's happening exceeds yesterday's development, and wildlife that per global warming displacement, becomes competitive against human survival, may qualify for Endangered Species Act protection to the detriment of optimum long term human survival. Lately, the trend has been to sponsor cultural craft sectors with locality-rare -- though neither necessarily cosmopolitanly rare, as per transplantation for example, nor necessarily ever to be discovered of science, substantially supportive to humanity – species, that are endemic to the locality where they are rare, and that the groups can, if at the expense **of government funding**, tend **only** for the species' **full recovery to the species rarity locality**, that the species are endemic to. The government however should recognize that climate change is sometimes providing ecosystem change, so that as of days of yore, necessary species **migration to escape** ecosystem incompatibility, rarifies the species in some of its prior range.

The old argument that mutualism symbiosis -- that is mutual survival assistance from different species correlative cooperation -- is inferior to "winner take all" interspecies competition, has its financial analogue as "capitalism". A new financial system term, "**fairpranism**", that is derived from "fair profit transactionism", is an analogue for mutualism, and is touted as providing a higher level of civilization, and a more humane and civil rights-respecting human culture, than does dog-eat-dog capitalism.

Opponents claim fairpranism does not sufficiently disallow capitalism from extorting humanity, and so capitalism is therefore the more affordably dominant financial foundation of human society. However, capitalism doesn't sufficiently disallow capitalism from extorting humanity, either.

(Caution: Belabored "zero profit that is no profit is profit" theme, follows) And even though zero is greater value than -1, what financial auditor is going to claim that "zero as a profit, is no profit that is profit"; rather than "zero profit is only no profit"? So when can zero -- or no -- profit equal fair profit as profit, other than if the financial auditor claims "no profit is fair profit enough", or "fair profit enough is no profit", -- the same as a greedy profiteer claims that getting enough profit to have a fair profit, is impossible -- so a fair profit that is zero profit doesn't exist (DNE; again, the fair profit is no profit), the same as no profit or zero profit -- a "real" oxymoron -- is no existing profit or no profit existing? Also since zero -- or no – profit doesn't exist (DNE) as profit, (DNE) = (DNE), i.e. zero fair profit = no profit, and from "no profit is fair profit enough", calling anything "fair profit" is describing it as nonexistent profit."

Thus again, "Beauty is in the eye of the beholder", and, with respect for those who cherish the concept of anarchy; government that is application of law -- including natural inviolable law of physics and chemistry -- is oh so innate of our elemental existence.

ANTI-AGRICULTURISTS

Possible motivation and/or rationale: Chinook salmon are food. Even a pod of adversely climate change affected PNW Orcas eats 'em. Who needs Iron Gate fish

hatchery and Klamath River hydroelectric dam fish passage impediments, when without those anthropogenic interventions, Chinook salmon could freely travel the Klamath River and freely provide free food instead of the **pay-for-kind** that farms sell? And farms use 20 times the water that cities do, even while **the salmon should use the whole river**!

Even though climate change has reduced the river's flow, without the dams when I'm by the river, the river will have water for me to drink; just look at pictures of the salmon habitat **dry** Scott River tributary to the Klamath River, near 9/16/2021, after Scott River Valley **agriculture drained** -- per reduced mountain water precipitation -- the Scott River **dry**, for example.

Before there was anthropogenic laboriously deliberate artificial pollination seed-to-seed agriculture, and artificial insemination, and selective nonhuman animal to nonhuman animal anthropogenic husbandry, and genetically modified organisms (GMOs), nature's bounty was humanities' food harvest sustenance, yes even in the Old Testament's Garden of Eden.

Humanity yet remains consumers as then, and a Klamath River restored in this climate-changed world to the closest facsimile of its **pre-human visitation**, shall provide within the river only, the **optimal** river-based food production -- i.e. **wild-crafted** fish and water cress -- and food availability, that **fairly** humanity **can only derive** from the river.

Withdrawing water for irrigation from UKL and/or Klamath River, is a **sinful trespass** against Klamath River-dependent wildlife, and Klamath River-dependent wild-crafted food harvest.

Files 31 & 33 provide an effort per UKL lake bed and marsh bed sediment analysis, to identify changes and possible causes of changes up to 2004 in UKL's water composition, that may explain UKL's historical water quality occurrence for a substantial time up to year 2004. Some parameters that I find the studies and myself need to better account for are:

(1) I've fished the Williamson River at least 25 miles upriver from Klamath Marsh where the river had no floating algae that I saw, and was very clear and cold meandering through cow pastures in the river's original channel; however after Williamson River leaves Klamath Marsh -- and incidentally Klamath Marsh received considerable guano from historically migrating waterfowl -- the river often is deeply amber colored, clear and cold, with no floating algae upriver of the Williamson River/Sprague River confluence that I have seen, so I am inclined to estimate that Klamath marsh vegetation decomposition contributes **tannic marsh "compost tea"** to the river, that like from the "64%" (pg 155 **File #33**) of UKL's drained and diked former marshlands, and from the now current -- including some restored from the aforementioned "64%" -- marshlands, may have suppressed blue-green algae growth in the historically naturally **eutrophic** UKL.

(2) Per corollary to what was mentioned in **File** #31 page 15, anadromous (sea migrating) fish remains may have contributed substantial phosphorous to UKL prior to 1918.

(3) After the 1864 treaty establishment of a Klamath basin tribes reservation, Klamath basin native Americans were encouraged to farm hay, raise livestock, and log on the Klamath basin tribes' reservation in the Williamson River and Sprague River areas. Linkville -- renamed Klamath Falls in 1893 -- apparently

mostly only had a trading post and what may have been a rope ferry on Link River in the 1867 to 1872 period. That the small population of UKL watershed inhabitants, including Euro-American settlers, native Americans, tradespersons, and Fort Klamath personnel, during the 1855 until presumably steam powered dredging commenced on UKL in the 1890s period, may have substantially altered UKL inflow so that the "apparent timing of the first" "increased eutrophication of Upper Klamath Lake" (**File #33**, page 163) was circa 1875, may show that aphanizomenon blue-green algae was barely repressed of UKL watershed marshland "compost teas" prior to 1889.

(4) If the case (3) above, small aforementioned population of UKL watershed inhabitants, substantially altered UKL inflow so that the "apparent timing of the first" "increased eutrophication of Upper Klamath Lake" was circa 1875, then since 1875, the presence in UKL of non-UKL watershed-derived nutrient flow from Williamson and Sprague river area septic tanks, and from the City of Chiloquin wastewater secondary treatment plant, likely has contributed significantly to supporting aphanizomenon blue-green algae growth in UKL.

(5) Do you remember when phosphates were banned from laundry detergents in the late '60s or early '70s? Since then detergent foam blocks floating on eddies downstream from U.S. American riffle or rapids rocks, have been much less frequently observed. However in UKL, phosphate inflow disburses into UKL sediments substantially, and per wind generated wave action is resuspended in UKL's waters where blue-green algae are able to grow of it.

(6) Simplot Soilbuilders fertilizer company was well established and active in Klamath Falls in the mid 1960s, though had closed its Klamath Falls fertilizer facility by about early 1970s.

(7) Regarding UKL sediment dating carbon, building stove fires may have contributed charcoal ash to UKL lake bed sediments substantially from 1885 to 2004. Rogue valley municipality and agricultural smoke -- e.g. Harry & David Co.'s "Royal Riviera" pear orchard oil-fired smudge pots, used to send a dark gray-black spring-time smoke pall over the SW UKL shoreline -- may

have contributed charcoal ash to UKL lake bed sediments substantially during the 1905 to 2004 interval.

(8) Of the current year 2022 ENSO (El Nino Southern Oscillation) cycle, in general like for the rest of the Pacific Northwest, the La Nina period rather than the El Nino period tends to be the time of greatest annual water precipitation in the upper Klamath river basin; unlike the year 2004 **File #32** page 132 statement that "El Nino years tend to have greater than average precipitation." I estimate that per momentum, we should allow for the weather to "adjust", "coast" or "wind down" from La Nina to El Nino to La Nina, etc., especially from consecutive years of those periods.

Upper Klamath basin has much prime residential land and infrastructure -- including Cascade mountain range aquifer well water -- available for new construction residential uses, including retirement homes. However the military jets were too noisy -- in the shadow of the great Mt. Stealfirst (also known as Hogback mountain) -- for decades, and many senior folk don't like the cool, increasingly dry, upper Klamath basin winters, so housing wasn't built even though Klamath Falls has a much utilized geothermal access with at least 20MWs of potential electricity production possible, good 6-month solar access, good

that can be great Highway 97 access, very good city roadway access, very good colleges, very good plaza shopping, and good that can be better internet access. With new fish passageways for Copco 1, Copco 2, and Iron Gate dams, Klamath Falls should again have good anadromous fish runs also.

CULTURAL LEGACY HERITAGISTS

Possible motivation and/or rationale: People have different ways, but each of those people has a way (gimmee). Some people change their ways. Some people don't. The way of many people has been "first come, only serve(d)", like Andrew Jackson's "to the victor goes the spoils", and along with Solomon's "time and chance happeneth to them all". All people have inalienable equal rights, and unequal right of way. Klamath River need not be restored to "the closest facsimile of its pre-human visitation", to adequately accommodate humanities' currently civilly legally recognized accordance, of truly legal use of the Klamath River, because original human discovery of Klamath River has been legally codified as legally negotiated legal right of way, for kinfolk -- including their kindred race folk -- of a person or people who originally discovered parts of the Klamath River for humanity. No, the issue of "company restoration of Klamath River" in this exercise of rhetoric, is an issue of "what company shall restore what of climate-changed Klamath River how?". The what and how is this: **Usually, ruining humanities' human derived human vital life support provision, is easier than preventing humanities' human derived human vital life support provision from being ruined**, so let's make it easy on ourselves and oversimplify by ruining the Klamath River hydroelectric dams.

We'll have successful salmon migrations, and 20 miles of sometimes Klamath River reduced surface water temperatures, and reduced algae presence to claim accomplishment of improvement of Klamath River habitat of, and since three of the dams were never furnished with fish passageways, there will be no complete salmon life cycle migrations past the Klamath River hydroelectric dams, to compare the restored free flowing Klamath River salmon migrations with, so no numerically validated Klamath River salmon population information, that might strongly support **multi-use** -- including the dams' presence in Klamath River -- of Klamath River.

Then as climate change progresses, we may further devolve civilization to our inherited, more basic, or "primitive" as you will, less sophisticated access to Klamath River opportunity, such as removing the artificial **4,145'** Link River Dam and restoring **the previous -- possibly only partly natural -- 4,137.8' Link River reef**, that previously maintained -- from Putnam's Point -- UKL's minimum flow-out water level from near 1/4 mile up Link River from Link River Dam. That'll show folks that, when it comes to climate change and us, it's **fish first, humans last**; like if the fish **can or can't make it** with the river **au naturel of climate change**, good enough that we don't make it with the river anthropogenically altered anyway. Engineering the river for **multi-use** is for beavers, not for people.

CLIMATE DENIERS

Possible motivation and/or rationale: The fossil fuel economy is fully functional and status quo, so who needs clean renewable hydroelectric power competition to shut down our fossil fuel economy and bankrupt our fossil fuel-required equipment and fossil fuel infrastructure investments? Indeed, enough natural fossil fuel deposits have been discovered in North America alone, to power and burn-out the world for the forthcoming three centuries. And what about the

proven, **commercially viable**, new technology of capture and **conversion of atmospheric carbon to jet fuel**? Can that be competition to the fossil fuel pump?!!

Speaking of carbon dioxide (CO2), and of methane (CH4) for that matter, they're both biologically produced, and so some of both are geosurface biocycle carbon chemicals, as you would separate them from volcanically-derived and fossil fuel emissions, however as everyone else knows, what goes up must come down (i.e. both directions are arbitrarily assigned), and neither CO2 or CH4 can have thermal properties if you **magically** assign them to not have thermal properties, so let's combust fossil fuels like the sky is the limit for so doing, and destroy the dams with fossil fuel-powered equipment, because the changed-climate water conservation that the dams provide, and the clean renewable energy that the dams provide, is not worth losing fossil fuel sales for.

Oh yes, and fish will still swim in the river, after the dams are removed and the river and riparian environment are "restored" and "rehabilitated" with fossil fuel-powered equipment, that could have instead furnished the dams with fish passage upgrades.

FICTITIOUS ENTREPRENEURIAL DEVELOPMENT GROUPS (these groups don't yet publicly formally exist)
Possible motivation and/or rationale:

Sunrise Natural Materials Development Project: "We parlayed our habit of nomadic wildlife materials wild-crafting, into a hobby production of woven materials for charities, until we realized that anthropogenic-caused climate change was diverting Klamath River water away from Lower Klamath National Wildlife Resources Quilting Materials Preserve (our nation's first wildlife resources quilting materials preserve), and that for the purpose of producing hydroelectric power to sell, the privately owned Klamath River hydroelectric dams also were diverting Klamath River water away from Lower Klamath National Wildlife Resources Quilting Materials Preserve! Since then we have become a federally recognized nonprofit charity organization, that lobbies for installation of adequate up- and downriver anadromous fish passage facilities in Copco 1 and Iron Gate dams, with or without removal of turbines from those dams; so that adequate anadromous fish passage facilities will be installed in each of those dams,

(1) outside of each currently electric power generator turbine-containing, thru dam water flow tube of each dam, that concomitantly turbine-containing so, is a current turbine tube of the dam; or if any turbine is removed from any so current turbine tube of either one of those dams, so that in each of those dams, adequate anadromous fish passage facilities then will be installed

(1)(A) outside of a so current turbine tube, if yet present, and

(1)(A)(1) outside of each then so noncurrent -- i.e., vacant of turbine and therefore not then simultaneously, although previously, turbine-containing -- turbine tube, thru dam water flow tube, of all thru dam water flow tubes that are present; or

(1)(A)(2) inside and/or outside of any then so noncurrent -- and therefore vacant of turbine, and not then simultaneously, although previously, turbine-

containing -- turbine tube, thru dam water flow tube that is present; or

(1)(A)(3) only inside of one of any then so noncurrent -- and vacant therefore of turbine, and not then simultaneously, although previously, turbine-containing -- turbine tube, thru dam water flow tube that is present; or more briefly

(1) outside of each currently electric power generator turbine-containing, thru dam water flow tube of each dam, that so turbine-containing, concomitantly is a current turbine tube of the dam; or if any turbine is removed from any so current turbine tube of either one of those dams, so that adequate anadromous fish passage facilities then **will be installed in each** of those dams

(1)(A) outside of a so current turbine tube, if yet present, and
(1)(A)(1) outside of each then so noncurrent turbine tube, thru dam water flow tube, of all thru dam water flow tubes that are present; or
(1)(A)(2) inside and/or outside of any then so noncurrent turbine tube, thru dam water flow tube that is present; or
(1)(A)(3) only inside of one of any then so noncurrent turbine tube, thru dam water flow tube that is present;

in all cases for the purpose of **repurposing** both Copco 1 and Iron Gate dams, as within-river water storage facilities, that have adequate anadromous fish upriver and downriver passage facilities, so as to provide greater fish habitat for 200.9 RM of Klamath River, from Copco 1 Reservoir to the Pacific Ocean, and to re-establish large spring-time diversion of Klamath Co-generation area Klamath River water, to Lower Klamath National Wildlife Resources Quilting Materials Preserve, for maintenance of wildlife habitat and natural aquaculture.

We recognize that although humanity has diverted nature within nature's range of existence, humanity yet is partly able to restore some of nature, such as partnering with nature to reduce fossil fuel combustion-caused heat retention in earth's atmosphere. With us like many other resource developers, a circumstance that allows intervention with the environment, is a significant opportunity for developers to intervene; however depending on the variety or uniqueness of exigencies, that are contingent with, to, and/or of the circumstance, the circumstance may not sometimes provide adequate justification for developers to intervene.

We currently find that there is ample time, funding, and scientific and engineering consensus available, to improve Copco 1 and Iron Gate dams with adequate anadromous up- and downriver fish passageways.”

Middleman SPAC (Special Purpose Acquisition Company): "One man's trash is another man's treasure". "We've found a silver lining to Klamath Cogeneration's CO2 greenhouse gas cloud. With California anticipating reduced hydroelectric generation this 2022 year, and at least some of the Klamath River hydroelectric dams' turbines soon to be removed and not replaced, we are poised to buy out Klamath Cogeneration Plant, and then to sue for federal **Infrastructure Hope Development** bill funds, to expand Klamath Cogeneration Plant so that it again remains **the WORLD'S biggest methane combustion-powered electricity generation facility**!"

Ruby Pipeline SPAC: "One man's trash is another man's treasure". "We've found a silver lining to Klamath Cogeneration's CO2 greenhouse gas cloud. After the climate change-prompted "knee jerk" expansion of Klamath Cogeneration Plant is declared **globally criminal** and internationally outlawed, and Middleman SPAC collects a "golden parachute" **bankruptcy pay off** from the federal government, we're poised to buy the Ruby natural gas pipeline, and with federal **Infrastructure Hope Development** bill funds, try to repurpose the Ruby natural gas pipeline as an internet fiberoptic transmission route."

"A" Canal Paddlewheel Electricity-Generation Pontoon Boat SPAC:

"A" Canal Our "A" Canal (A Requiem?)

"A" Canal our "A" Canal,
Ever Lost River Diversion Channel's second or third Lost River pal,
Flow for food and/or your in situ 1 MW electricity power plant per adequate wildlife (including Tulelake wildlife) habitat conditionals,
"A" Canal our "A" Canal.

"A" Canal Users Edition our "A" Canal users' addition,
Per your water rights holders and Bureau of Reclamation,
Issue to us a joint accordance proclamation,
That provides to us paddlewheel pontoon boat electricity generation.

"A" Canal Utility our "A" Canal utility,
Remind us of thy year 2003-installed 16 million dollars fish exclusion facility,
That allows thy waters to flow without fish passage futility,
And provides significant business-as-usual industrial tranquility.

"A" Canal our "A" Canal,
With your good Lost River neighbor pal,
The seminatural Lost River Diversion Channel canal,
Provide 24/7 annual paddlewheel pontoon boat-generated electricity power locale;
"A" Canal our "A" Canal.

Early 20th Century Klamath Basin residents resolved that much former lakebed Klamath Basin prairie, could be developed into highly productive farmland, if Link River water was diverted to irrigate the prairie. The residents commenced a movement towards a system of canals -- including the Link River-connected "A" Canal, and the Lake Ewauna-connected "Lost River Diversion Channel" -- excavation, provision, and implementation for irrigation of the Klamath Basin prairie lands, however also in that period, Teddy Roosevelt was seeking to improve America's Industry and Wildlife support of America, and so Ted's Bureau of Reclamation bought and developed as the Klamath project, the residents' canal system movement.(See **File #39** Klamath Project History, pages 4 - 6.)

Now however, due to the Crater Lake annual average snowfall having declined 36% (ex. **File #46**, per the 2010 - 2021 years' average snowfall of 395")(!) in the most recent 75 years, and Klamath River Coho salmon currently being listed as "threatened", unfortunately for citizens and nonGovernment agencies with legal water right to withdraw Link River-derived water from "A" Canal, Bureau of Reclamation **hijacked** their water right per closing "A" Canal, so as to send

Link River's flow to Lake Ewauna.

We seek to either (1) provide Bureau of Reclamation with an "A" Canal Water Withdrawal Right Holder Compact, that promises that every nonGovernment holder of "A" Canal water withdrawal right, will abstain from withdrawing water from "A" Canal, on any days greater than 35 days of which, out of each calendar year, Bureau of Reclamation doesn't in those days find that "A" Canal water withdrawal is most satisfactory; or

(2) buy all "A" Canal nonGovernment water withdrawal rights, lease those rights to the highest nongovernment bidder(s), and promise Bureau of Reclamation that we won't allow "A" Canal water withdrawal per those leased water withdrawal rights, on any days greater than 35 days of which, out of each calendar year, Bureau of Reclamation doesn't in those days find that "A" Canal water withdrawal is most satisfactory;

and then rent both "A" Canal-retained water flow, from Homedale St. to "A" Canal powerhouse; and "A" Canal-derived, Lost River Diversion Channel canal water flow, from near Lost River Diversion Dam to Lake Ewauna; so that we may generate electricity from a fleet of "A" Canal, and sometimes, "A" Canal and Lost River Diversion Channel canal, paddlewheel pontoon electricity generation boats, 24/7 annually.

Klamath Reclamation Ruination Company (KRRC): "California voters have, per California's 2014 Water Bond Proposition 1, entitled us to California tax revenue for, and we've already received funding -- coerced from Klamath River hydroelectric dams' electricity sales customers -- for ruining the Klamath River hydroelectric dams. Though we may appear small numerically, we're actually a main part of the largest publicly semiformal, and covertly formal, international e**coterrorist** group that the world has. If we can't convert our Klamath River hydroelectric dams destruction into a "cash cow" to derive federal **Infrastructure Hope Development** bill funds of, we plan to electrically disable -- such as remove all turbines from Copco 1 and Iron Gate dams -- some of the Klamath River hydroelectric dams, and then **pout** to the community that, "recession or not, we need more financing to waste the dams of". We're much assured that other pouters -- such as "Wolf! Wolf! Wolf!" -- will request donations on their and our behalf to petition governments for additional financing to continue dam **alteration** of.

Although **other dams have gone down fast!**, we're counting on the federal reserve failing to stop inflation, and the federal government seeking to spend more on job stimulus, to channel federal funds that could have removed turbines from Copco 1 and Iron Gate dams and furnished fish passageway improvements in all of the dams, to assist us in altering the dams. If a foreign nation were to damage any of the Klamath River hydroelectric dams with a tomahawk **cruise missile**, for example because the U.S.A. had militarily trespassed with a foreign nation, likely the U.S.A. would

diplomatically and/or militarily respond. However our domestic inside tract for **wrecking** U.S.A. infrastructure, that is similar to what Al Solzhenitsyn -- in his book "The Gulag Archipelago" -- described occurred in Russia, is able to provide foreign money into a variety of "We're only trying to help the environment" **ecoterrorism** destruction of U.S.A. infrastructure.

The U.S.A.'s false modesty about U.S.A. subset interest groups --- and here shall I note that **a preference to sue a majority as a minority**, though recurrent in history so that it appears to be an **inherited temperament** tendency, is certainly an acquirable habit for many, and is reinforceable by persons' predominantly single body build; indeed it is to many thieves a comfortable reason to commit crime --- has been a great resource for making a claim of "Land use right of way per group affiliation", that seeks for often available funding for land conversion and development companies (LCDCs) to dominate land use of.

If we can't convince the public that all nonmobile dams on flowing water bodies, function as settling pond sediment traps, that trap toxins, including if present, municipal waste toxins, so nonmobile dams should never be installed on flowing water bodies, and all nonmobile dams must immediately be removed; then we're going to demand that all nonmobile dams be regularly drained and bulldozed of their accumulated reservoir bed sediments, so that toxins that have accumulated in those sediments and that would have traveled downstream, are removed from those dams' reservoirs' beds forever!”

Wolf! Wolf! Wolf! (W!W!W!): "BLM wasn't able to declare 7.9 RM of Klamath River Canyon, from Spencer Creek to J.C. Boyle Dam complex turbines' outflow, as Wild and Scenic because one of the best dam compromises in Oregon, and every dam of a natural river provides compromise through alteration of the river, was situated there. After the ecoterrorist KRRC group has destroyed all of the Klamath River hydroelectric dams, W!W!W! plans to petition the federal government to designate the 7.9 RMs of Klamath River Canyon, that are immediately downriver from the Klamath River/Spencer Creek confluence, as "Wild and Scenic", with a particular emphasis on establishing pneumonia-vaccinated Big Horn sheep (and we don't believe that *"because"* chemistry that provides a safe and effective wild sheep and wild goat anti-pneumonia vaccine has -- unlike human pneumonia vaccine -- "never" been discovered, veterinarian medicine hasn't been able to make a safe and effective pneumonia vaccine for wild sheep and wild goats!) in the area for wolf food. In conjunction with re-establishing the area as wildlife habitat, W!W!W! shall be petitioning for donations and federal grants to definitively establish and stabilize the Rogue Wolf Pack as a tourist attraction.

Here's the plan: Since about year 2,000, if not forever before, the State of Oregon didn't formally reintroduce the Grey Wolf into Oregon; instead **Idaho wolves invited themselves into Oregon.** Oregon then very amiably and skillfully soon included the wolves in a predator depredation of domestic animals financial compensation fund. Although less than something like 3% of Oregon's forests are yet old growth, stereotyped estimates of Oregon's wild lands support excessively large wild wolf Oregon populations, where in reality because of Oregon's mildness and easy access for humans, Oregon very likely cannot support wildly more than about 170 wolves annually. Oregon Department of Fish and Wildlife (ODFW) has recurrently been timely in radio collaring first live-trapped Oregon wolves, however ODFW's other wild wolf management is rather decrepit, although it has vastly shown the need for improved wolf management technology.

W!W!W! will make a new electronic GPS (Global Positioning System) wolf collar, that is designed to alert farmers', ranchers', and wild life managers' electric fences, wolf deterrent -- including guard dogs -- systems, and computers; and to allow on a delayed basis, public internet viewing of the wolves travels; and to administer an unpleasant noise or shock to the wolf, when the wolf is near domestic livestock and/or domestic livestock grazing range. In order to regularly recharge or replace the wolf collar batteries (and with recent battery technology advances, such as graphene/aluminum (of GMGMF stock exchange address) batteries and wireless recharging, rapid remote automatic wild land wolf collar recharging may be possible in some locations in a few years), and so that wildlife managers may in other ways service -- such as relocate, DNA sample, euthanize, or field microchip -- wolves, W!W!W! shall deploy the Texas rapid setup and take down, remotely operated electric gate(s), chain link fence hog trap that can be sized to live-trap an entire free-ranging wolf pack!

Here's how the trap works: ODFW wolf trappers don't realize that once a wolf is trapped in a steel wolf body part-seizing trap, that wolf forever after remembers to smell for steel wolf body part-seizing traps. The Texas hog trap is sizable spaciously with 8' - 12' or higher steel chain link fencing that is mounted to steel posts that may be set permanently or temporarily in buried concrete casings that may be left in the field or removed. A 6" to 12" trench may be dug in a straight line that connects from each of the posts, so that the chain link fence may be secured below the ground. Rocks may be placed along the bottom of the fence. Once mounted to the posts, the chain link fencing may be temporarily stapled to the ground between posts, so as to deter wolfies from nosing under the fence.

The trap is configured to provide a spacious-feeling interior that

has two sliding gates that directly oppose each other. The opposed gates are **important** because wolves are running machines that both easily travel 50 miles daily, and that like plenty of wide open travel. The gates may be operated remotely a number of different ways, including: GPS Wolf collar, bait area pressure plate, video camera, drone, lookout tower personnel, infrared beam, clockwork. Leaving the assembled trap in the field with the gate(s) open at all times, while baiting the trap with fresh animal carcasses such as road kill, may help the wolves habituate to passing through the trap.

The W!W!W! GPS wolf collar, employs greatly laboratory- and time-proven B.F. Skinner operant conditioning techniques, that will educate wolves to both avoid preying on domesticated livestock, and to coexist naturally, without trespassing on restricted human habitat, with humanity. Wolves are smart canines, and a leader wolf that is uncomfortably shocked a few times for approaching domestic livestock -- such as sheep dogs or sheep -- will soon routinely lead the wolf pack away from the domestic livestock."

Thank you for your help with this **Save Klamath River Hydroelectric Dams** appraisal compendium!

Respectfully yours,

Danny L. Hull, B.S. Biology (Medical Technology major, Oregon State University, 1982), Associate of Applied Sciences, Environmental Health Technology (Water Quality Control major, Oregon Institute of Technology, 1979).

Post Scripts:

PIV (electric Power = current x voltage) = PIV (electric Power = current x voltage), don't it?

Although Oregon's resident human population increase has been reducing towards a recurrent stable numerical range of individuals, and of the most recently past 36 months, California has been reducing its resident population per migration for economic and/or environmental reasons; environment quality necessary substitution of clean renewable electricity generation, for both fossil fuel combustion reduction, and greatly increased electricity consumption for mobility propulsion, make removal of the from 81 MWs up to 163 MWs of 24 hrs. each day, 7 days each week, KR hydroelectric power generation from the power grid, greatly ambiguous to humanities' environment quality survival necessity for increasing clean renewable electricity generation. Also greatly ambiguous to humanities' environment quality survival necessity, is the large loss of Klamath River water storage, that removing the Klamath River hydroelectric dams, especially Copco 1 and Iron Gate dams, would cause.

Removal of the from 81 MWs up to 163 MWs of 24 hrs. each day, 7 days each week, KR hydroelectric power generation from the power grid, would necessitate electric power replacement. Klamath basin has a drill-proven though undeveloped geothermal source near Olene, near 9 miles east of Klamath Falls, that has been estimated to be worth 20 MWs of 24/7 clean renewable electricity production. Klamath Falls would likely have difficulty employing a large windmill to use the abundant daily predominantly SW wind and 2nd most

frequent NW wind, most places except immediately NW of the OIT campus, because of bird migrations and viewshed preferences.

Per Klamath basin historically having been much a logging, wood milling, farming, and ranching community, Klamath basin residents have often found environment-transformative and environment-extractive equipment compellingly practical and attractive. Many Klamath basin acres of solar cells would likely need SW solar exposure hillsides in the Klamath Basin, because most of Klamath Basin's flatlands are already well developed for agriculture and ranching, per judicious irrigation from Upper Klamath Lake and severely limited ground water pumping. Solar cells would be at a wind, dust, snow, reduced winter daylight, and vandalism interference disadvantage in the Klamath Basin, and would require ample guarding, power storage backup, and maintenance surveillance for the solar cells comparatively small daily electricity generation output, compared to the Klamath River hydroelectric dams proven reliable, strongly built, and conveniently safely located electricity production.

One form of solar electric power production that has been proven practical in North Africa, and might provide a greatly variable few, plus a few additional, megawatts of daily electric power production in the Klamath basin, entails using long concave metal mirrors that resemble pipes that are split in half lengthways, to focus sunlight on a centered pipe that extends the length of the mirrors, and that collects heat in a circulating fluid that then transfers the heat to storage and/or a vaporizer, of which the heat eventually causes a turbine electricity generator to produce electric power. That facility has substantially greater parts complexity and requires greater operator involvement than do the KR hydroelectric dams.

When the Klamath fossil fuel natural gas powered 536 MW electricity cogeneration plant was built in 2001, near 6 miles from downtown Klamath Falls, it was the largest MW output natural gas-fired electricity generation plant in the world. It was fossil fuel natural gas powered per a Canadian natural gas pipeline. It is easily expandable. California outlawed all new natural gas powered electricity generation facilities from being built in California. However electric power generated in Oregon may be transmitted to and sold in California.

You may be aware of the Ruby fossil fuel natural gas 42” pipeline that was built from Wyoming to Malin, OR, near 24.09 miles from Klamath Falls, in 2010-11. Both Klamath and Lake counties qualified to tax the Ruby pipeline. The Ruby pipeline was advocated to join with a never built “Pacific Connector Pipeline”, for the purpose of exporting liquified natural gas from Coos Bay, OR to Asia.

Obviously Klamath Basin has ample pipeline fossil fuel natural gas available to greatly generate electric power of. But fossil fuel natural gas, unlike geosurface biocycle natural gas, is not clean, renewable fuel; although it is less polluting than sulfur and mercury laden coal.

A Rant about "Geosurface Biocycle Natural Gas"

What is “geosurface biocycle natural gas”? Geosurface biocycle natural gas, strictly is methane only, however of nature it frequently is a mixture of methane, alkanes (methane series hydrocarbons), carbon dioxide, and sometimes hydrogen sulfide; and is a natural gas subset that is less than all natural gas, and that comes from only recent earth surface and recent near earth surface microbial anaerobic respiration methanogenesis (i.e. a form of anaerobic digestion) of biologic carboniferous compounds, and is a flammable gas of swamps, compost piles, city landfills, and bovine and equine flatulence.

Many communities utilize landfill biocycle natural gas (called LFG for landfill gas) (https://www.wm.com/us/en/inside-wm/sustainable-technology/renewable-energy) for fuel; and home geosurface biocycle natural gas generators are used in middle Asia to fuel home small stoves.

The next time someone wants to tell me that with methanogenesis **methane production,** dam reservoir's cause global warming, I'll be ready to remind them that like "natural North American bison" (America had 30 million of them on the hoof in the 19th century) burp and flatulate greenhouse gases the same as "anthropogenic" cows do, the dam reservoirs cycle original geosurface **biocycle carbon**, of the biosphere's **geosurface-limited**, natural maximum life support natural carbon budget **(**earth's atmosphere varied from approximately 170 parts per million (ppm) to 300 ppm CO2 for 800,000 years, up to very near 1915 (please see https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide); and I'll bet that there was plenty of biocycle methanogenesis in **that interval)**, that is a **vital necessity** for, and a limit of earth photosynthesis-dependent life's survival; and that naturally did not, nor does cause **excessive** global warming to biology, and that is currently **much** deleteriously enriched with anthropogenically derived and combusted fossil fuels, which do cause excessive global warming; well before I'll nearly be ready to tell them to go jump into an anthropogenically drained natural lake, that is similar to Upper Klamath Lake, to reduce methanogenesis cycling of naturally geosurface present carbon.

Upper Klamath Lake has three moderately deep underwater ravine areas, from north to south in its west central area, that are about 1/2 mile wide, and together are about 5 miles long, and are connected by 10' depths, and range from 25' to 40' to 59' to 33' deep. All three ravines have cold winter surface water turnover, and probably receive year-round cold -- starting near 45°F -- UKL bottom water flow from Odessa Springs, with the central and south ravines likely receiving seasonally cool -- from 46°F to 58°F -- water flow from Williamson River; so that like Copco 1 and Iron Gate reservoirs, those UKL submerged ravines probably have year-round habitat for microbial methanogenesis methane construction, and microbial methanotrophy methane alteration.

I don't have any reports of any Klamath River hydroelectric dam reservoir methane production measurement. However I estimate that the KR hydroelectric dam reservoirs are currently **virtually maximized** in the amount of algae that sunlight, CO2, dissolve nutrients, and possible forthcoming warmer temperatures can in the reservoirs ever produce; and therefore I don't anticipate greatly increased methane production from those reservoirs. Copco 1 and Iron Gate reservoirs are respectively 115' and 162' deep, with a much surface algae-shaded greater than 45' deep, cold reservoir bottom water layer, and therefore should have substantial CH4-oxidizing methanotroph (**methane altering**) microbes **contact opportunity**, per the substantial temperature and depth variation of the reservoirs, with whatever methane, methanogen (methane generating) archaea microorganisms produce in the reservoirs. Of course 11 miles of free-flowing Klamath River very likely has benthic (water body bottom flora and fauna) methanogenesis also, though not nearly as substantially as does the combined 11 miles of Copco 1 and Iron Gate reservoirs.

J.C. Boyle Dam Reservoir is 41' deep in approximately 30% of its 3.6 mile length, has cool, clear adequately oxygenated Spencer Creek inflow in the 6' to 14' or so deep KR headwaters of the

reservoir, and a short reservoir water retention time of .6 to 2.5 days, so methane production in the reservoir is likely substantially inhibited. Copco 2 Reservoir appears to vary from approximately 18' to 28' deep, and being only .30 miles long and 335' wide, has a very short 18 to 75 minutes water retention time, so is not a substantial source of climate significant methane production.

Methane (CH4) = Methane (CH4) doesn"t it? **The cycle of** geo-surface **grass** to bison or cow, per archaea (prokaryote single cell bacteria-like microorganisms) anaerobic respiration methanogenesis to upper atmosphere blanketing methane, per UV cleavage and reaction with atmospheric chlorine and hydroxyl (OH) to CO2, to geo-surface grass via photosynthesis, to buried sod anaerobic digestion (methanogenesis again), to upper atmosphere blanketing methane, per UV cleavage and reaction with atmospheric chlorine and hydroxyl (OH) to CO2, to geo-surface grass via photosynthesis = from geo-surface grass to dam reservoir, lake, or wetland to archaea (prokaryote single cell bacteria-like microorganisms) anaerobic respiration methanogenesis, to upper atmosphere blanketing methane, per UV cleavage and reaction with atmospheric chlorine and hydroxyl (OH) to CO2, **to** geo-surface **grass** via photosynthesis; has been within earth's global warming safe, atmospheric carbon-based environmental tolerance for humanity, for millennia. (Incidentally, there's a theory that North America used to have more peat bogs, and the peat bogs froze and reflected sunlight longer into the spring-time, and thus helped cause the last ice age. Not all carbon that enters most exposed-to-the-atmosphere water bodies, necessarily becomes methane of course.)

In short, for most of earth's recent 800 millenniums' of both photosynthetic biosphere existence, and of 170 to 300 ppm CO2 presence, there has been atmospheric **carbon** presence -- including CO2 and methane -- that didn't excessively warm earth, and that was **cyclically derived from and rebuilt into** terrestrial **life**, and that was absolutely necessary for recurrence of both earth's surface photosynthetic biosphere life, and earth's life that is photosynthetic plant-dependent. **That carbon**, which I call geosurface **biocycle carbon**, didn't then and **doesn't now cause excessive global warming**. **In designating** what sources of greenhouse gases have increased and/or are increasing global warming beyond the atmospheric CO2 280ppm level of the 1850s, we should recognize that earth's geosurface **biosphere range of presence**, is our baseline of geosurface biologic existence, and **not misconstrue** that baseline biologic existence's **minimum dependency on** environmental -- both atmospheric and terrestrial -- **carbon**, as causing excessive global warming at the current -- though certainly not every possible, rather near future -- CO2 ppm level. Earth's geosurface biosphere simply must have a minimum quantity, of both atmospheric and terrestrial carbon, for biology to survive on earth's upper surface. (Here I should mention that millions of our cows are now **"carbon neutral"**, as far as increasing global warming beyond 1850s levels, because those cows replaced millions of 1850s' buffalo. However, our neighbors don't intend to let climate deniers drive all of humanities' buffalo over a ledge of extinction, with fossil fuel combustion-caused global warming.)

What limits "earth's geosurface **biosphere range of presence"**, and how may we **compare biologic presence per CO2 ppm intervals**? Some of the limits so, include: Elemental building blocks of life, including carbon of course; water; suitable substrate and substrate space; adequate temperature; short wavelength radiation compensation, solar access, enzymatic activity. Carbon's substantially greater than zero geosurface presence, in the immediately previous 800 millennia, has not been the limitation that disallowed greater biologic existence in many, if not most, upper geosurface environments.

Observe for example, that at a constant body temperature below 32°F freezing, or above 150°F, that is from a natural exposure, most life doesn't grow or even survive. We may compare biologic presence per CO2 ppm intervals, from observing for example, that CO2 ppm affects photosynthesis opportunity, and affects ambient atmosphere-exposed habitat temperature.

So does CO2 enrichment of earth's atmosphere, fertilize the environment for greater biologic existence, and also increase "earth's geosurface **biosphere range of presence"**? Biologic carbon uptake is speed limited per temperature and other constraints, so where there has been adequate carbon access for top speed biology development, biology sometimes developed as fast as possible, regardless of whether the available carbon exceeded top speed development-required carbon presence. However CO2 ppm varied during the millennia, so much of biology evolved carbon uptake efficiency per a variable carbon supply. Thus CO2 enrichment of earth's atmosphere can ensure sufficient carbon availability for biologic top speed carbon uptake for some situations, however other constraints, including CO2 caused atmospheric warming, may impair carbon uptake from the CO2 enriched atmosphere. Considering increased terrestrial substrate availability for biologic colonization per CO2-caused frozen water thawing, we may see that CO2 enrichment of earth's atmosphere at some ppm levels, will change earth's "dry land" geosurface **biosphere range of presence spatially**, and likely **alter** biologic existence presence, including possibly of biology migration from tropical and/or midlatitude reduced biologically favorable "dry land" environment, to northern and southern latitude increased biologically favorable "dry land" environment; while at the same time, not necessarily increasing biologic population density greatly in earth's "dry land" geosurface **biosphere range of presence.** Of earth's geosurface water bodies however, allowing for CO2-produced water acidification, and growth-limiting dissolved nutrients such as iron, I don't find that increased atmospheric CO2 supports increased populations of much of the marine flora and marine fauna, however it may provide substantial support for amplification and reduction of some resident species, and for biological replacement or succession of resident marine species with other species, and for increased biologic production in polar area waters that were formerly iced over.

Will the "greenhouse effect" of a carbon-enriched-atmosphere caused global warming, increase the biosphere's biologic presence enough, so that biology maintains **excessive** to human survival, atmospheric carbon-caused global warming, per recurrent living biologic presence? I don't find that increase of the biosphere's biologic presence, in consequence of fossil fuel combustion-produced carbon enrichment of the atmosphere, is enough to produce a "critical mass" of biosphere macro-size organisms -- exs., trees, cows, whales, etc. -- that together of themselves only, can in a biologic presence majority way, cause and maintain the earth to be overheated with greenhouse gases greatly beyond those organisms historic presence in the CO2 near 280 ppm 19th century period. That **microorganisms**, per a greatly carbon enriched atmosphere, might evolve or proliferate to maintain earth atmosphere-overheating, elevated atmospheric levels of CO2 and/or methane for several centuries, may be possible; for example as a microbial succession to ocean-acidification-caused oxygen-releasing plankter loss (Lord forbid), until perhaps enough atmospheric and geosurface carbon is sequestered deep enough below earth's surface per dust accumulation and water seepage "weathering". I do find that the immense subsurface sources -- including permafrost methane, ocean bed clathrate methane, coal, tar, petroleum, and oil -- of carbon can readily be excessively released into earth's atmosphere, so that earth's atmosphere is constantly inanimately overheated per carbon presence, until much of that carbon is again, per dust accumulation and water seepage, deeply

sequestered below earth's surface.

Oh yes, and methane is described as being a 25 times greater global warming-producing gas than CO2; however the same as all methane, bio-produced methane is mostly transformed into CO2 after 9.1 years in the atmosphere, and since earth can't support many more methane-producing large animals (and sadly has lost immense large wild animal herds), I'm not substantially worried about large animal-produced, methane contribution to earth's atmosphere, with the exception of impoverishment-increasing human overpopulation. Here we should recognize that **a common biology tactic against disease, is increased biologic reproduction.**

So how did earth stay below 301 ppm CO2 for 800,000 years (https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide), up to very near 1915? I estimate the **dry land absorption of carbonic acid rain** greatly moderated earth's atmospheric CO2 content. However there is a tremendous amount of clathrate -- i.e. frozen methane -- below much of the ocean's bed, and a tremendous amount of frozen methane in arctic permafrost.

The **SCAM** of "cap and trade", that relies on forests growing into a single wooden block that then falls over and is soon aqueously inundated to become a peat bog, that sends carbon acid leachates deep into earth's crust -- without ventilating carbon back into the atmosphere – with resultant carbonate formation before, and while, the peat bog is buried by earth and crushed into coal and diamonds, with a gross result of below earth surface, *great* carbon sequestration of former atmospheric, especially anthropogenic fossil fuel-released, carbon; seems popular for raising consumer prices per government mandate, while continuing to pollute the atmosphere with anthropogenic fossil fuel carbon emissions to the usual extent. How *great* the below earth surface carbon sequestration so? Actually much of the carbon sequestration from forests is likely due to the humidity of the forests grounding CO2 as carbonic acid. Forest presence has declined since the 1760's advent of the industrial revolution, and both forest presence and atmospheric CO2 were much constant for millennia immediately before 1760, so accelerated uptake and soil deposition of anthropogenically CO2-enriched atmospheric carbon per post 1760 forests, seems likely sparse, given the pre-1760 forests' growth maturities, per the pre-1760 adequately for forest growth abundant, approximately 250 ppm CO2 average atmospheric concentrations.

From University of Rochester per *Science Daily*, February 19, 2020, here's another way to consider methane: **Methane emitted by humans vastly underestimated**

"Methane emitted into the atmosphere can be sorted into two categories, based on its signature of carbon-14, a rare radioactive isotope. There is fossil methane, which has been sequestered for millions of years in ancient hydrocarbon deposits and no longer contains carbon-14 because the isotope has decayed; and there is biological methane, which is in contact with plants and wildlife on the planet's surface and does contain carbon-14. Biological methane can be released naturally from sources such as wetlands or via anthropogenic sources such as landfills, rice fields, and livestock. Fossil methane, which is the focus of" [the University of Rochester] "study, can be emitted via natural geologic seeps or as a result of humans extracting and using fossil fuels including oil, gas, and coal.

By measuring the carbon-14 isotopes in air from more than 200 years ago, the researchers found that almost all of the methane emitted to the atmosphere was biological in nature until about 1870. That's when the fossil component began to rise rapidly. The timing coincides with a sharp increase in the use of fossil fuels.

The levels of naturally released fossil methane are about 10 times lower than previous research reported. Given the total fossil emissions measured in the atmosphere today," [the University of Rochester] "study colleagues deduce that the manmade fossil component is higher than expected -- 25-40 percent higher, they found."

Can humanity release so much CO2 into the atmosphere, that fish suffocate because they cannot passively or actively transport CO2 out of their system? Parameters related to the answer for that question include: CO2 solubility per pv = nRt {Boyle's Law: (pressure)(volume) = (number of moles of gas)(universal gas constant)(temperature)}; CO2 solubility in H2O per H2O temperature, other H2O-dissolved gas partial pressures, and atmospheric pressure; and solute that might conjugate or react with aqueous CO2 so as to sequester or change the miscibility of CO2. Observing that many bodies of water that are open to the atmosphere, have stagnate, oxygen deficient bottom water, that fish can't survive in, I estimate that available nondeliberate future anthropogenic atmospheric CO2 enrichment of fish habitat water bodies that are open to the atmosphere, is not likely to suffocate the fish. Now that's a totally "ball park" type of estimate that I'm currently "fishing" with.