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A voice in the desert wilderness

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By Lloyd G. Carter

On the day before the start of summer in June of 1980, Russian oceanographer/hydrologist/fisheries biologist and political exile Michael Rozengurt, along with American marine biologist Irwin Haydock, co-wrote then Gov. Edmund G. "Jerry" Brown Jr. a two-page letter warning that a proposed "Peripheral Canal" to funnel Northern California river water around the problem-plagued Delta, would result in the demise of the Delta ecosystem and its abundant fishery.

Rozengurt, now 78 and living in Los Angeles, was no stranger to gloomy predictions. In his 1986 epic on western water "Cadillac Desert", the late author Marc Reisner described Rozengurt as "an expatriate Russian fisheries biologist, who compared California's situation to what the Russians had done to the Sea of Azov, a spectacular fishery turned into a biological desert by Stalin's directive to irrigate a limitless acreage of cotton." He had also watched the Soviet construction of a peripheral canal on the Volga River in 1974 which had caused "mind-boggling" damage to the river's fishery.

Zeke Grader, former Executive Director at the Institute for Fisheries Resources and past president of the Pacific Coast Federation of Fishermen's Associations, had been using reports and scientific articles by Rozengurt to foster the argument by fishing groups that the Peripheral Canal would devastate the Delta's salmon fishery, as had been done to sturgeon, beluga, and anadromous fish by hydraulic projects on the Volga River/Estuary of the Northern Caspian Sea ecosystem.

Rozengurt, a native of Odessa, Ukraine, had more than 80 published papers (some in the Library of Congress) on the effects of human activity on river/delta/estuary/coastal sea ecosystems and had been a principal investigator into these issues in the former Academy of Sciences in the U.S.S.R. He had also accurately predicted the collapse of fisheries in dewatered rivers feeding the Black and Azov seas, and the demise of the Aral Sea in Central Asia, once the world's fourth largest freshwater lake, by another Soviet-style cotton farming scheme that diverted two fabled rivers in history (The Amu Daria and the Syr Daria rivers) which had fed the

Aral Sea, destroying the sea's legendary fishery that had once fed ten percent of Russia. Rozengurt fled Russia in 1978 with his warnings going unheeded.

In their 1980 letter to Brown, Rozengurt and Haydock made the following points regarding the wisdom of a Peripheral Canal which would divert enormous amounts of water from the Bay-Delta.

1. Based on their extensive research, continuing diversion of more than 25 to 30 percent of the fresh water flowing into the Delta would cause permanent alteration of the Bay-Delta estuary and send its ecosystem into irreversible decline. Dr. Rozengurt wrote that the Delta death process corresponded to the Universal Laws of Thermodynamics and entropy, which was a sign of the gradual demise of the estuary. He noted 55-60 years of records revealed the Spring runoff of the Sacramento and San Joaquin Rivers had been reduced to 10 to 30 percent of what once was an average runoff of 11 million acre-feet (an acre-foot is 325,851 gallons).
2. Continued diversion of river water feeding the Delta, in excess of 30 percent of volume, which Rozengurt said was the natural limit of what a river/estuary could take, would change the Delta's chemistry and lead to its demise. Part of this demise would be the cumulative loss of million tons of oxygen and sediment load [blocked by upstream dams] and gradual increases in salty seawater intrusion "that will lead to salinization of deltaic water that [would] intensify light penetration, eutrophication, decreased dissolved oxygen, and dangerously chip away at levee foundations." Based on his extensive international experience, Rozengurt predicted "massive" collapse of the Delta fishery if diversions were not reduced. He said continued massive diversion would salt up the Delta with incoming sea water.

Brown never responded to the letter and continued to support construction of a Peripheral Canal backed by Southern California developers and some segments of western San Joaquin Valley agriculture. Fortunately, California voters rejected the Peripheral Canal measure on the 1982 ballot, with Northern Californians overwhelmingly in opposition. Nonetheless, massive diversions of Delta water continued with the pumps at Tracy not only pumping huge amounts of water but also grinding up the young of several fish species, including the Delta Smelt. And this the Delta continues its downward spiral with numerous fish species threatened with extinction.

Rozengurt tried to sound the alarm again in the late 1980s during proceedings on the fate of the Bay-Delta estuary before the State Water Resources Control Board, co-authoring one of several reports for the Paul F. Romberg Tiburon Center for Environmental Studies on the health of the Delta. One of those reports (unpublished) had been written by the late Luna Leopold, son of famed naturalist Aldo Leopold.

Among other things, Rozengurt noted that withdrawals of water from the rivers feeding the Delta did the most damage in dry and critically dry years when there was little fresh water in the system to start with. One of those Tiburon Center reports said that cumulative withdrawals of fresh water from the Bay-Delta Estuary between 1944 and 1983 - water not reaching San Francisco Bay - totaled 366 million acre-feet, or 60 times the volume of the Bay.

The Water Board, following the footsteps of Gov. Brown, ignored Rozengurt's findings despite his calling attention to the environmental damage Soviet dam construction and river withdrawals had caused.

Rozengurt said that in 1991, David Kennedy, then director of the California Department of Water Resources (DWR), sent DWR biologist Randall Brown (now deceased) to Russia to meet with Russian officials administering the Peripheral Canal (costing billions of rubles) of the Volga Delta to inquire whether Rozengurt's claims were accurate. Rozengurt, who described

Brown as a friend, said Brown told him when he returned that he had concluded Rozengurt's claims were true and accurate. Brown told Rozengurt he had produced a report for David Kennedy "about the environmental and economical role of the Volga Delta peripheral canal in the entirely negative transformation of Volga Delta regime characteristics." When asked what happened to that report, Rozengurt said it had disappeared, "gone with the winds."

Fast forward another quarter of a century with evidence growing annually that something was terribly wrong with the Delta ecosystem. In April of 2010, Rozengurt, by then 75 years old, again wrote (an email) to the Governor, only this time it was Hollywood Actor Arnold Schwarzenegger who again was supporting another scheme to seize freshwater in the Sacramento River north of the Delta and funnel it via canals or tunnels to the Tracy pumps. State officials repeatedly made the preposterous claim that the tunnels would actually help the struggling Delta fishery. Rozengurt copied in NOAA and EPA officials, as well as representatives of the Delta Council.

Rozengurt, in somewhat fractured English, wrote Schwarzenegger, "I urge you and State Administration to facilitate a more rational water policy based on statistically validated results of scientific investigation of runoff and fishery over 40-60 years." He was ignored.

Rozengurt did not give up. Last month he emailed Chris Knopp, Executive Director of the Delta Stewardship Council, pointing out his warnings about an ecological catastrophe in the Delta dated back to the late 1970s and early 1980s.

Rozengurt was again ignored and today a much older Gov. Jerry Brown has forgotten his "small is beautiful" environmentalism of his first term and is engaging in Soviet "giantism" in promoting the huge tunnels which will cost more than \$54 billion to build. Gov. Brown, and his political underlings, again choose to ignore overwhelming evidence of damage to estuaries and large freshwater lakes around the world caused by excessive diversions of river water. One Brown official, Jerry Meral, of course, has acknowledged the tunnels will do nothing to improve the Delta ecosystem. Meral appears to be the only honest one in the bunch. The rest of the bureaucrats fall in line.

In the mid 1980s, when I was covering the selenium-tainted drainage debacle at the Kesterson National Wildlife Refuge, I interviewed Dr. Rozengurt. I remember he was concerned that Soviet agents might be out to get him. In those days, before the fall of the Soviet Empire, such fears were well justified. Today, 35 years after leaving his homeland, he has assimilated into American society and has a Facebook page.

He now believes the political corruption in California water issues is as deep as it was in Russia decades ago and that political leaders like Brown are not interested in validated scientific conclusions about the impacts of continued efforts to remove huge volumes of water out of the Bay-Delta estuary.

He says if the tunnel plan goes through the only way to save the Bay-Delta estuary is with a nuclear-powered desalinization plant similar to several of those in operation in Russia and other countries. Of course, few, if any, California environmentalists will support construction of a nuclear desalinization plant in the Delta region. But Rozengurt says any talk of a Delta restoration through other band-aid means if the tunnels are built is a "dangerous fallacy."

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