The Kesterson Caper: How a Wildlife Refuge Became a Toxic Waste Dump

In April 1984 large numbers of malformed ducklings were discovered at the Kesterson National Wildlife Refuge 20 miles west of the San Joaquin Valley city of Merced. Surveys of nests by Fish and Wildlife Service biologists showed that in 347 nests examined in the refuge, 40% of the remaining unhatched eggs contained dead embryos and another 20% of them contained crippled embryos. By May 15, 1984 the culprit was identified: selenium, a gray, non-metallic chemical element of the group that includes sulfur. According to reports of tests conducted by the U.S. Geological Survey, selenium is present in the vast ponds at Kesterson in amounts up to 140 times higher than is allowed by Federal drinking water standards.

Selenium is brought to Kesterson as a contaminant present in agricultural drainage that comes from about 8,000 acres of farm land near Mendota, a small town located 30 miles west of Fresno. The dumping of irrigation waste water into Kesterson's holding ponds began in 1980 as a part of the U.S. Department of Interior's Reclamation Project that irrigates more than 500,000 acres of western San Joaquin Valley land.

Selenium has been found in the soil of about 77,000 acres of land on the West side of the Valley. A necessary nutrient in very small amounts it can be fatal at high doses. Plants absorb selenium containing compounds from the soil and, if they are saturated with the material, can be highly toxic.

Drainage of westside land is needed because of a set of circumstances peculiar to that area. A thick layer of clay (known locally as Corcoran clay) is beneath the topsoil of the region preventing percolation of applied irrigation water through the ground. A three foot deep layer of water is applied each growing season to produce crops such as cotton. Scientists estimate that about one ton of salts are ~~brought in to~~ deposited on each acre of land by the irrigation water that is applied every year. With no excape though the ground possible, the water - and the salts - build up year after year eventually creating an alkaline marsh that could not be farmed.

To solve the problem of salt buildup farmers have installed tile drains (actually perforated plastic pipes) under the topsoil and leach out the salts by flushing the ground with additional water. The "tile" is laid in a gravel envelope 8 to 12 feet below the surface, spaced at intervals of 200 feet. The tile drain system was installed in 42,000 acres of westside farmland to collect this waste water and, starting in 1980, dumped a large part of the drainage into Kesterson's ponds. However, when the flushing occurs other materials present in the soil, such as selenium, are carried away as well. Water tests show that waste water flowing into Kesterson contains pesticide residues in addition to dangerous concentrations of selenium.

The Westlands Water District and Federal Reclamation Project

Prior to 1950 nearly all of the vast westside area of the San Joaquin Valley could not be farmed. Comprising 1.2 million acres stretching from Kern County northward to the Sacramento- San Joaquin Delta, the land was known to be irrigable and well suited to

growing a wide variety of crops. However, it lacks a local water supply. Located in the up-sloping part of the Valley bounded by the Coast Mountain Range, rainfall averages less than 10 inches per year. Unlike the east side of the Valley, where the yearly run-off of the melting Sierra snowpack is the source of dozens of rivers and streams, there are no rivers and few streams flowing out of the arid Coast range. Water wells drilled in the area produce only brackish salt water that even range cattle don't want to drink.

Faced with the dilemna of irrigable land, some of which is top quality Class I soils, and the absence of a local water supply, landowners in the area successfully lobbied to get a major Federal irrigation project built. Much of the westside farming area is now irrigated with water furnished by the San Luis Unit of the Central Valley Project. Operated by the U.S. Department of Interior's Bureau of Reclamation, the project's biggest customer is the 650,000 acre Westlands Water District. Project water originates in the Sacramento-San Joquin Delta. It is pumped out of the Delta, carried by canals to the San Luis Dam west of Los Banos, stored in that giant reservoir and is then released, as needed, to be used by farmers in the Westlands. Westlands Water District is essentially a distributor of water to farmers in the District. It is this water that eventually carries toxic materials into Kesterson.

The San Luis Unit and its main water user, Westlands Water District (WWD), have been a scandal ever since the project was first authorized. Taxpayer subsidized water, such as that provided to WWD farmers, was intended to benefit only small-scale family farmers. In fact, the U.S. Congress in its 1902 Reclamation Act establishing the basis for all such projects limited individual land owners to enough taxpayer subsidized water to farm 160 acres. However, the law was never enforced. Giant corporations, such as Southern Pacific Co. and Chevron USA have illegally benefited from Project water sold to them at rock-bottom prices. Moreover, land values in the area rose sharply as essentially worthless desert land was converted to irrigated farming land. Every investigation of Westlands by Congress and by special state task forces have reached the same conclusion: only the biggest landowning corporations have reaped the benefits of taxpayer subsidized water.

Court action brought by the Fresno-based National Land for People (NLP) determined that large landowning corporations were in violation of the Reclamation Law - they were criminals no different than burglars or swindlers. Faced with court orders to implement the law the U.S. Department of Interior began to slowly formulate regulations that would have put a stop to the illegal practices. Threatened by the prospect of having to become law-abiding the corporate farming interests went back to the Congress and successfully lobbied for passage of the Reclamation Reform Act of 1982. NLP leader George Ballis has characterized this law as nothing less than "legalizing the crimes." Under the new law most of the previously illegal subsidies are now permitted.

Who Farms the Land that Drains into Kesterson?

When the San Luis Unit was authorized, then Congressmember B.F. Sisk stated, "Recent surveys show that the land proposed to be irrigated is in 1,050 ownerships...[If the

project is] built, there will be 6,100 farms, nearly a six-fold increase..." Today, only 275 farm businesses operate in the Westlands - the number is actually fewer if owners with multiple entities are recognized.

The land with tile drains installed comprises only about 42,000 acres - less than one-tenth of the irrigated land of the Westlands. Because some land lying uphill of that which is drained contributes seepage the WWD has identified a total area of some 49,000 acres as its Drainage Study Area. It is this land that drains into Kesterson.

A 1985 study of farming in the Drainage Study Area was conducted by the California Institute for Rural Studies (CIRS) under contract with the California State Assembly Office of Research. The study was intended to identify land owners and farm operators in the area being drained. Titled "Agricultural Land Ownership and Operations in the 49,000 Acre Drainage Study Area of the Westland Water District," the study was done by Don Villarejo.

Just 53 farm businesses conduct operations on the land of the Drainage Study Area. And 48 of these 53 businesses have additional significant operating acreage outside of this area. Altogether, these 53 farm operations have an average of 4,329 acres each on a statewide basis and, of that, about 896 acres each in the Study Area. By contrast, the average California farm is just 405 acres. So the farmers whose land is being drained are at least ten time bigger than the average farm in the state. By any measure these are large scale farm businesses.

The farm with the biggest acreage in the study area is TIMCO, a partnership. TIMCO is an acronym for Turner Island-Murietta Company. The company has 9,579 acres in the study area and a total of 13,408 acres statewide. According to Dun and Bradstreet's Million Dollar Directory (1984), TIMCO has annual sales of $18 million. The main family involved in the partnership is the Wolfsen family, a well-known and highly respected name in California agriculture. The family has extensive additional agricultural operations as described below.

Wolfsen Family Agribusinesses

Wolfsen Land and Cattle Co., a Corporation Cattle and row crops Stanislaus and Merced Counties	12,304 acres
Wolfsen Brothers, A Partnership Farming Fresno County	2,012 acres
Romero Ranch, Inc., A Corporation Cattle ranching Merced County	38,000 acres
Simon Newman, Inc., A Corporation Cattle ranching and livestock feed production Merced County	54,195 acres
Wolfsen Feed Lots, Inc., A Corporation	
Santa Nella Development Co.	

Growing Surplus Cotton

One of the curious paradoxes of the problem at Kesterson Wildlife Refuge is that

the main crop grown in the Drainage Study Area is cotton, a commodity that is in substantial surplus in the United States and world markets. Altogether, 28,000 acres of the 49,000 acre Study Area is planted to cotton. Because of the cotton glut, and correspondingly depressed market prices, the U.S. Department of Agriculture (USDA) is paying eligible cotton farmers to idle 30% of their normal cotton acreage and divert ~~another~~ an additional 10% of that acreage to another crop.

However, USDA support payments are limited to a total of $50,000 per farm. For this ~~reason~~ reason virtually all of the huge farms in the Study Area find it more profitable to plant all of their cotton acreage. For example, TIMCO has a cotton base acreage of 4,909.7 acres. If they idled 30% of this total and diverted an additional 10% of it to another crop, as required by USDA's program, their total cotton production would be reduced from 5,950,556 pounds to 3,570,334 pounds - a 40% decrease. Based on the current world market price of 60¢ per pound of cotton TIMCO's participation in the USDA program would result in a sales loss of $1.4 million. Since they would be eligible for only $50,000 in USDA payments in return it is obvious that they would not sign up for the 1985 cotton program.

To get around the problem of large scale farmers not participating in USDA acreage reduction programs a special program, called payment-in-kind (PIK), was set up to operate in 1983. Since Congress limited USDA payments to $50,000 per farm in the form of cash it was argued that giving farmers surplus government owned commodities, such as cotton, did not have any limitation. Thus, USDA could give unlimited amounts of the commodities in return for having large farmers reduce their planted acreage. Under this 1983 program TIMCO received cotton then valued at about $700,000. Since large farmers were getting huge payments in return for not growing there was an enormous outcry about the PIK program and so it was abandoned in 1984.

Solving the Problem

Since stopping the flow into Kesterson immediately would likely mean shutting off irrigation water to a substantial portion if not all of the 49,000 acre drainage area, both farmers and government bureaucrats who operate the Central Valley Project argue that farming must continue. Merced County rancher Jim Claus, whose land has been affected by polluted waste water from the Westlands area, has brought legal action to stop the poisoning of Kesterson Refuge. Meanwhile, the Department of Interior and the Westlands, representing landowning interests as well as farmers, have reached a "compromise" under which farming will continue ~~this growing~~ to grow this season but use of Kesterson as a toxic waste dump site will be discontinued before the next growing season. While this buys time it does not deal with the difficulty of finding a long term solution not only for the 49,000 acre area currently at issue but the additional thousands of acres that will need to be drained in the future if farming is to continue there.

One possible technical solution to the problem of cleaning up contaminated water is the use of "reverse osmosis," a process of forcing water through a membrane with tiny pores to separate salt molecules from water molecules. Though it has yet to be shown

that this process removes selenium from contaminated water Department of Water Resources staff scientists are hopeful that it will work. A $14 million desalting plant has been built by DWR at Los Banos. It has a capacity of about 345,000 gallons per day. Since this amounts to about 1 acre-foot of water (an acre-foot of water is a volume large enough to cover an acre of ground to a depth of one foot), the yearly capacity of this plant is only about 400 acre-ft. Since 8,000 acre-ft per year are going into Kesterson from the agricultural drains it is clear that even if the process works for selenium the capacity is sufficient to handle only 5% of the total. Put another way, 19 more plants would have to be built to handle to amount of water now being drained into Kesterson, again assuming that the process will be shown to remove selenium.

Many landowners and growers argue that shutting off drainage would mean an end to farming on the west side of the Valley. They also say that severe job loss and economic hardship would result. But it is fair to ask who has benefited from the huge Federal water project that has turned land without significant value into productive cropland. Sociologist Dean MacCannell, in a 1984 book titled Land Reform, American Style, points out that West side communities such as Mendota and Tranquillity suffer from chronic poverty and are among the poorest in the state. Whether measured by median household income, average number of years of school completed, or average number of persons living in each room of residences, all social indicators demonstrate that the billions of Federal dollars spent on Reclamation Projects and USDA price support programs have not resulted in any significant improvement of the lives of the people who live in the area. All that is certain is that the "trickle down" economic theories of public officials have enriched big landowners and large scale farmers while the majority of the people just end up with polluted water.

END

WATER

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"We are for closing Kesterson, but we have to have enough time" to prepare, he said.

David Houston, the bureau's regional director, said the region's 274 corporate and family landowners provide 1,450 jobs and annually produce $40 million to $45 million worth of cotton, tomatoes and other row crops.

The dollar amount is roughly 2 percent of the 1984 gross production value from farms in Fresno County — the nation's No. 1 farm county by value.

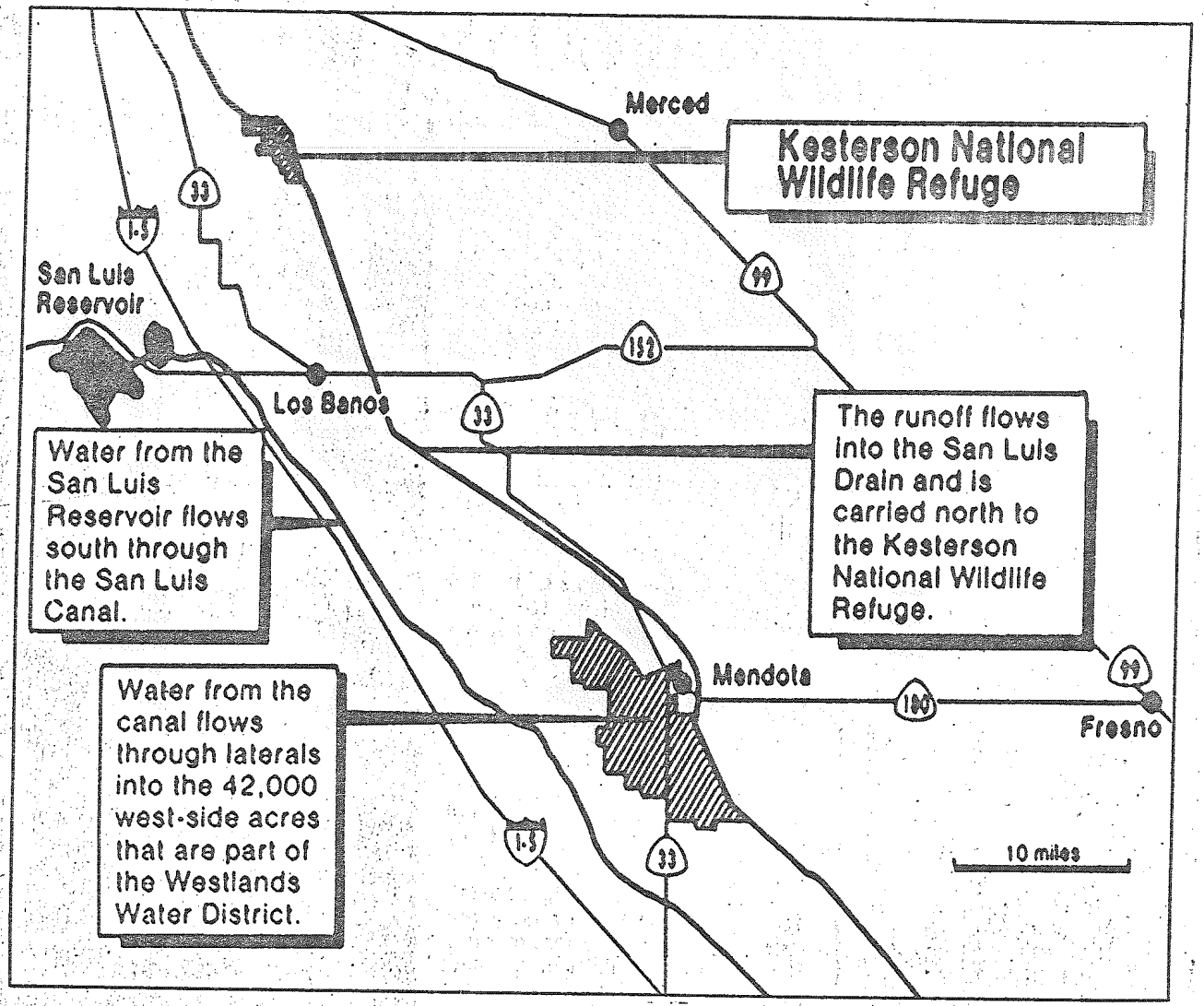
"The impact of this is severe," Rep. Tony Coelho, D-Merced, told the 500 people attending the hearing of the House Interior Subcommittee on Water and Power Resources. "I don't even know what to tell you guys."

Craig Ulrici, a Westlands board member who runs a cotton gin, predicted "financial disaster" if drainage to Kesterson ends. "If you don't have any cotton to run, we're out of business."

Most farmers already have received their annual production loans but now don't know whether to spend the money.

Fresno County Supervisor Deran Koligian said he will ask his five-member board to consider suing the bureau and declaring a disaster area.

Meanwwhile, at a Town Hall meeting in Antioch Saturday, Rep. George Miller, D-Martinez, said the Interior Department's action apparently signals the end of the proposed San Luis Drain extension, which would have dumped the selenium-polluted waste water into the Sacramento-San Joaquin Delta near Pittsburg.



But Miller said the agency's rationale for closing the refuge — that the poisoning of Kesterson violated the Migratory Bird Treaty Act — "set up a new debate that pits a couple of mud hens against the farming industry. That's not the issue — the issue is public health.

"The secretary's order suggests the problem only relates to ducks. It's a clever argument, but the problem is that there is a health hazard at issue due to Kesterson and that's something the department doesn't want to admit."

Miller said his subcommittee will subpoena Interior officials and records next week to determine how and why the agency arrived at its decision.

The subcommittee also intends to hold hearings in the near future on the general oversight and operation of the Bureau of Reclamation which, Miller said, has implemented numerous wasteful irrigation projects around the country and remains the source of repeated policy problems.