

CONSERVATION CORNER

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By Mel Odemar V.P. Conservation Granite Bay Flycasters

Lake Davis Fish Health Program

The December Conservation meeting featured a presentation by Mark Adkison Ph.D., Statewide Fish Health Coordinator for the California Department of Fish and Wildlife. Mark was accompanied by Dr. Bill Cox, program manager for hatcheries and Mark's boss.. The meeting was attended by 16 GBF members.

I requested this presentation in response to concerns by some club members on the numbers of Lake Davis trout with parasitic copepods. There was speculation that the parasite infestation was the result of infected fish being planted by the Department into Lake Davis. I thought that this would be a good time educate the club members on fish health in general and the State's fish health program in particular.

The Department's fish health program primary focus is on controlling disease outbreaks in State and private aquaculture operations. They are also responsible for regulating shipments of live fish and shellfish into California. The CDFW Fish Health Program has three laboratories: the Inland Fish Health Laboratory at Rancho Cordova, the Shellfish Health Laboratory at Bodega Bay, and the Marine Fish Health Laboratory in San Diego. In addition to Mark, the staff includes three veterinarians, a research fish pathologist, and a research scientist.

The program's responsibilities are Statewide including providing health services for California's 21 State Fish Hatcheries, all California registered aquaculturist, 30,000 miles of rivers and streams, 4800 lakes and reservoirs, and 1100 miles of coastline.

Their primary concern is dealing with infectious diseases in hatcheries as they can quickly kill hundreds of thousands of fish, primarily salmon and trout. Parasites in the wild do not pose the threat to fish populations that disease outbreaks in hatcheries do. Although parasitic copepods on fish don't look good, they do not make them unfit neither for consumption nor do they pose a serious mortality threat.

This brings me to the copepod infestation in Lake Davis. We learned that parasitic copepods are ubiquitous in California waters. In fact, the copepod species most

responsible for salmonid infestation in California is *Salmincola californiensis*. Following the illegal introduction of Northern Pike into Lake Davis the CDFW treated the lake to eliminate pike as they posed a serious threat to native salmon populations should they make their way to the Sacramento River. The first treatment was not successful and the lake was successfully retreated, eliminating the trout and pike populations. Following treatment of the lake the Department then started an aggressive replanting program to re-establish the trophy trout fishery. The initial plantings in 2008 totaled over 800,000 fingerlings, sub-catchable, and catchable trout. This unusually high planting of fish was partially in response to local pressure to quickly re-establish a trophy trout fishery. As it turned out, this mega planting of fish fostered the increase in the copepod population. With a large number of compatible hosts – e.g. rainbow trout, and favorable environmental conditions in Lake Davis, copepods thrived. Since 2008 the planting of fish has been significantly reduced and as fish plantings have declined, there are fewer but larger fish, and fewer copepods. I have not heard of any club members seeing parasitized fish this year.

All in all, the re-establishment of a trophy trout fishery in Lake Davis has been a success. Annual average rainbow trout lengths captured during electroshocking surveys have increased from 13.3 inches in 2009 to 17.6 inches in 2015. The average fish lengths are steadily increasing so we can expect larger fish in the future. Those are nice fish in anyone's book.