

Fish Farm Idea Hatched By Fisherman

By Wallace Wood
Sentinel Staff Writer

If you think the idea of a "fish farm" belongs in the "funny farm" category, don't laugh. You may be eating "farmed" fish one day and be glad to get it.

If a bill introduced by Assemblyman George Miliias (R-Gilroy) becomes law this year, Santa Cruz County could have the nation's first commercial fish farm on Waddell Creek.

County supervisors and the fish and game advisory committee have already approved the idea. The reason a new law is needed is that every stream in the state is now protected from commercial fishing exploitation.

But the group of bright young men and experienced scientists from the Santa Clara Valley who form the Pacific Marine Enterprises company won't be doing any exploiting.

The PME firm is asking for special permission to raise their own fish on the creek without destroying the fish already there.

Instead of merely taking steelhead rainbow trout and silver salmon out of the annual spawning run up Waddell Creek, they will add up to 200,000 fish each year to the stream.

Only about 5 per cent of these will return two or three years later to lay their eggs at their birthplace at PME's hatchery and be caught for sale. The rest will be caught by happy fishermen or be eaten by other marine life before then. Some will return to the wrong stream, such as the San Lorenzo River, and have to run the gauntlet of anglers there.

The ones that return, though, will wind up at markets and on dinner tables.

The urge that makes fish such as the steelhead and salmon return to their spawning grounds is subtle and little understood even by the best scientists.

A steelhead may hatch in Waddell Creek, travel down to Monterey Bay, and swim thousands of miles away to mature. When he does, something makes him return to that stream. If he can make it back, he generally will.

This instinct is what PME is banking on. The firm is already raising 35,000 rainbow trout and 45,000 steelhead at George DuFour's fish hatchery near Scotts Valley. The steelhead will be dumped into the creek this summer in the first test of the "fish farm" system. This will be done the next two years as well, before the first spawning steelhead return.



Jim Fowler and Tom Smith of Pacific Marine Enterprises hold a few of the 35,000 "small fry" trout now being raised at the George DuFour Hatchery near Scotts Valley and Felton. The fish are among the

first raised by the firm for release later into Waddell Creek. It is hoped the fish will mature in the ocean and return to the creek for "harvesting" two to three years later.

"We will have an idea of the return we can expect this way before we develop large-scale facilities on the stream," Tom Schmidt of PME explains.

Schmidt and his partners actually have a good estimate already on what they can expect. Waddell Creek was one of the few streams in the state intensively studied from the viewpoint of fish migration. "The Life History of the Steelhead Rainbow Trout and Silver Salmon, with Special Reference to Waddell Creek" is the title of a 10-year state study completed in 1942.

"Today this is our bible," Schmidt says.

The figures that PME can count on fish are startling. Only about 500 steelhead and 500 salmon now spawn on the creek. "At a similar state

hatchery in Oregon, where the size of the stream is about the same, they have 50,000 fish return," Schmidt claims.

Most of PME's factual "hopes" and projections are based on the experiments of the "grand old man" of fish farming, Dr. Lauren R. Donaldson. Donaldson is a professor at the University of Washington, who began a crucial long-range experiment in 1949.

Donaldson selected some of the biggest and best Chinook salmon that returned that autumn to Soos Creek, Washington. The eggs taken from females were fertilized, and then matured in the laboratory of the fisheries center there. When they grew large enough, they were marked by clipping a fin and carried to an inland lake with access to the sea.

Donaldson wanted to prove he could raise fish in an artificial environment, improve them by selective breeding, and get large numbers to return to the place of their birth — a laboratory! His students dug a small ditch from the laboratory to the lake when spawning time came.

The ditch was dubbed "Donaldson's Folly" on campus. That is, until the fish started coming back.

Donaldson continued his work improving trout. He crossed steelheads with rainbow trout to develop a big fish that would spawn repeatedly. It also made an excellent game fish, as anglers in the area soon discovered.

In 1944, steelhead needed two years to reach spawning

age. By that time, they averaged less than two feet long (36 cm.) and females produced 1600 to 2000 eggs.

By 1966, Schmidt says Donaldson's supertrout take two to three years to reach maturity, average a little less than three feet long (67 cm.) and produce 13,000 eggs as an average.

Two members of the PME firm now live at DuFour's hatchery on a permanent basis. They are Jim Fowler and Tom Smith. A fourth member of the present Waddell Creek team is Tom Tisch.

Smith, a large and friendly ex-commercial fisherman, is credited by the firm with developing the basic idea for the operation. He met Schmidt through an employes' sporting club at Hewlett-Packard in Sunnyvale.

"Tom wanted information of computer programming of fish genetics," Schmidt recalls. "We asked him why and we were fascinated by his ideas."

None of the other original members, besides Smith, had any training in marine or piscatory biology. Tisch is an electrical engineer, Fowler is a high-temperature specialist who skindives in his spare time and Schmidt is a business school graduate dealing in market research.

They all began a crash program to learn more about the fish farm idea, however, and used the services of recognized experts in the field.

Shortly after they began their studies of Waddell Creek, they picked up important financial backing and were on their way.

At present, Schmidt and Tisch are handling the political and business ends of the business, preparing the way for legal use of the creek.

Why Waddell Creek? "Well, it's the funniest thing," Schmidt says. "We were looking all over the state for a suitable place with pure water to raise the fish when we heard about Waddell Creek. The fact that a state study had been done on the creek and that the land was available was the clincher."



A wriggling netfull of trout leap back into one of the fish runs on the George DuFour hatchery near Scotts Valley.

The hatchery is the birthplace for steelhead rainbow trout that will become the stock of a "fish farm" on Waddell Creek near the northern Santa Cruz County line. Holding the net is Tom Schmidt of Pacific Marine Enterprises. The firm already has received county approval for the operation and is now waiting for state permission to farm the stream.

TRAVEL CLOTHES

New wrinkle free packables in Ban Lon Double Knits, Jerseys and bonded fabrics.

Also Washable two and three piece Arnels in half sizes.

Wig and hair pieces of finest quality 100% human hair.

DOROTHY'S DESIGN STUDIO

Commerce Lane, Facing Parking Lot Between Church & Walnut

1326 COMMERCE LANE

426-6166

Moss Landing Marine Laboratories Dedicated Friday By Lt. Gov. Finch

ALL PURPOSE

By Wally Trabing

sea research and how little

the nuclear sub Thresher went

Packard-Bell Annual

TAG DAYS

Save! Now at Bibbins