

# Angling for a say in steelhead's future

Fish + Fishing

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*Steelhead streams*

Numerous Santa Cruz County streams are listed as habitat for the steelhead trout. The waterways range from tiny Finney Creek up on the San Mateo County border to the mighty San Lorenzo River that supplies drinking water for thousands of county residents.

Federal marine fisheries officials are expected to decide by Feb. 16 whether the fish is so close to extinction that it should be protected under the National Endangered Species Act.

**Steelhead**  
Grows to 4 feet, 8 inches and over 40 pounds. Considered one of the world's finest game fishes.

**Steelhead count for yearling and older fish**

Stream	1981	1994
San Lorenzo River	33,286	23,128
Soquel Creek	2,153	5,506

Chris Carothers/Sentinel

## A fish that swims in valuable water

By KATHY KREIGER  
Sentinel staff writer

### SANTA CRUZ

**A** NGLERS AREN'T the only ones with their eyes on steelhead trout. A local scientist has been studying the speckled, silvery-blue fish, popularly believed to be on the brink of extinction.

But that's not the case in at least three local streams, says aquatic biologist Don Alley. His study comes on the eve of federal discussions to decide whether the prized game fish is so imperiled in California and three other Western states that it should be protected under the federal Endangered Species Act.

By any measure, the fish under discussion is a remarkable species. Ask any angler.

You'll hear about a determined and unpredictable game fish that spawns high in the most pristine parts of mountain streams. A fish that, astonishingly, miraculously, lives part of its life in salt water and part in fresh. A fish whose drive to go to sea is matched in intensity only by the impulse that propels it — years later, hundreds of miles away — to return unerringly to its ancestral spawning grounds and complete the circle of its life.

Environmentalists say that pollution, development and predators have nearly eliminated this remarkable species.

**Not endangered in these parts?**

Maybe so, says Alley. But not in the San Lorenzo River, not in Soquel Creek and not in Corralitos Creek.

Alley's study compared the number of young steelhead in those three waterways in 1994 to a previous study done in 1981, and concluded the numbers are within the normal range.

If some local water districts are smiling at the study's conclusions, it didn't catch them by surprise.

### Steelhead index

Some facts on steelhead, at a glance:

- **Some fish:** Prized by anglers as a wily and hard-fighting game fish, the steelhead trout is also considered prime eating.
- **One of the most remarkable parts of the steelhead's life is its journey from fresh water to salt water and back.** This migratory behavior is called "anadromous" from the Greek for "running upward." Steelhead spend years at sea, but return eventually to spawn a new generation in the fresh water streams where they came from.
- **How they survive in both fresh and salt water:** "Smoltification" is the word scientists use to describe this startling life transition. Like its relative the coho salmon, a steelhead getting ready to live in salt water changes shape and color, and begins to excrete salts rather than retaining them.
- **What they look like:** Young steelheads are noted for the many specks and spots on their back and their dorsal fin, as well as distinct, regular markings on their sides.

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They paid for it. And with good reason. Water districts here have a lot riding on the outcome of the steelhead debate.

Poised between relatively healthy streams in the north part of the state, and some nearly dead ones in the south, Santa Cruz County

water districts are intensely interested in which area they would be grouped with if the federal government lists the fish as endangered.

Alley's \$12,000 study was funded by a group that includes the county's three largest water agencies: the Santa Cruz Water District, the Watsonville Water District and the Soquel Creek Water District.

Their effort is part of a statewide venture by the state's powerful water lobby. The Association of California Water Agencies is gathering its own statistics for a debate that could affect U.S. coastal streams from Canada to Mexico.

With more than half the state's water supply coming from surface streams, California water agencies have a lot at stake, too.

Environmentalists are far less thrilled with Alley's study. Local steelhead advocates don't question the study's accuracy, but they say it only offers a snapshot of a much larger picture.

**Timber industry has an interest**

But water districts and environmentalists aren't the only fish in this turbulent pool. Anglers have an obvious stake in the outcome, and so do those businesses and areas that rely on their tourist dollars. So does the timber industry, and water-dependent farmers.

Any effort to protect the steelhead will almost certainly mean some restrictions on activities on or near steelhead streams.

Clean, clear streams are critical to steelhead survival. Starting life in freshwater gravel beds, the fish migrate to the ocean during part of their cycle before returning to the streams of their youth to spawn the next generation.

Poor logging and farming practices can clog those spawning beds with dirt and debris, killing eggs and young outright or making survival difficult.

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# Steelhead

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Resolving the many competing interests could prove as challenging as reeling in one of the contentious game fish.

It comes, too, as both federal and state officials debate the future of a closely related fish, the coho salmon. A final decision is expected in February from the state Department of Fish and Game on whether it will add the coho to the state's list of endangered species.

And with a new mood in Congress, some worry that divisive and bitter debates over a few fish could bring down the National Endangered Species Act itself.

"The spotted owl was the tip of the iceberg," said Matt McCaslin of the Monterey Salmon and Trout Project, a group active in the effort to protect and increase the numbers of both species of fish. "If they list salmon steelhead, this issue about the Endangered Species Act is going to become a huge issue."

The fact that water companies are paying for the basic research underlines the importance of the debate.

And if some worry that the water companies who are paying the piper will be allowed to call the tune, others are just glad to get studies funded at a time when the state Department of Fish and Game has cut back budget and staff.

## At stake: half state's water supply

For the state's water districts, the stakes are obvious and immense.

More than half the state's water supply comes from surface water. The petition to list steelhead as endangered includes 82 streams throughout California. Sixteen are in Santa Cruz County, and the water lobby worries that more could be added to the list.

"Basically this petition alarmed a lot of water agencies in California," said Al Haynes, watershed analyst for the San Lorenzo Valley Water District. "(The Association of California Water Agencies) spearheaded this effort to get information together. They're worried that (the National Marine Fisheries Service) is going to make a decision based on faulty or incomplete information."

About half of his district's water supply is from surface water, Haynes said. "We want to make sure

percent in the main part of the river;

- Soquel Creek: numbers have increased by 156 percent in the both the main stream and the branches;
- Corralitos Creek: numbers have increased by 3 percent.

"These (numbers) are within the normal fluctuation of sustaining populations, indicating that steelhead are not in danger of extinction in these drainages," said Alley, a well-respected figure in local trout circles.

It's all the more impressive, he said, because six of the previous rainy seasons have been considered dry years.

"We conclude that substrate conditions for juvenile rearing have improved from 1981 to 1994 in Corralitos Creek," Alley said. "(They) have not become further degraded in the San Lorenzo river and Soquel Creek.

Using several scientific formulas, Alley calculated the number of adult steelheads likely to return to the three streams and their tributaries.

- San Lorenzo River: more than 900;
- Soquel Creek: more than 400;
- Corralitos Creek: more than 100 adults.

Based on trapping data dating back 60 years, Alley said the current estimates appear to be within the normal range of variation you'd expect to find year-to-year. With better rainy seasons, he said, the numbers should increase.

## Critics have their say

Most local steelhead advocates aren't thrilled with Alley's report. But they concede his reputation as a careful scientific researcher.

"(Steelhead) are not in danger of extinction (in those creeks)," said county resource planner Dave Hope, agreeing with Alley's report. "But that's a moot point. The fact that the numbers are so low is a good point."

Hope is county government's resident expert on salmon and trout. His university training was in psychology but he is a lifelong outdoorsman who claims to have walked every mile of the county's streams. As a county resource planner, Hope's specialty is streams and timber harvests and his interest in fish is a natural outgrowth of the two. His outspoken comments have landed Hope's bosses in hot water more than once, and he now has to get permission to talk to the press.

Alley's report may be accurate, Hope said, but at best it's only a series of random snapshots that doesn't capture the overall situation.

"Fishery biologists deal in facts," said Haynes.

The steelhead expert in the state Department of Fish and Game agreed. "From what I've heard, (the water agencies) have been giving free reign to the consultants," said Dennis McEwan.

The Sacramento-based fisheries biologist has been working on a soon-to-be-released steelhead study of his own.

## Also at stake: a few measly fish

The steelhead has no special protection within California.

But in 1988 the state department of Fish and Game was told by the state Legislature to come up with a plan to double the number of steelhead by the year 2000.

McEwan said there are both practical and ethical reasons to protect the steelhead.

Anglers love the fish for its feisty and challenging behavior. "It's a real prize among anglers," he said. "Steelhead tend to put up a real big fight. And they tend to go higher into the drainages, so (anglers) get into more pristine areas."

Steelhead also bring in a significant amount of revenue, McEwan said. Doubling the number of steelhead would add an estimated \$37.5 million to California's economy.

"The ethical argument is, 'Who are we to play God?'" McEwan said.

Officials at the National Marine Fisheries Service may not be interested in playing God, but they must decide by Feb. 16 whether to propose the fish for protection.

Last February, an Oregon environmental group petitioned the federal agency to list the steelhead as endangered or threatened in California, Oregon, Washington and Idaho. If federal agents propose the fish as a candidate for either list, a one-year period of public comment will follow before a final decision in February 1996. And if the fish is indeed listed, the service will draw up plans to try to bring it back from the brink of extinction.

Most involved in the debate expect some type of protection for the fish, in at least part of its range.

The crux of the debate, as locals see it, is where the lines will be drawn.

In the past, Marine Fisheries has taken a regional approach to endangered listings.

Santa Cruz County streams are right between two different regional areas: the southern part of the state, where the fish has been almost eliminated from some

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At sea, steelheads have bluish backs and silvery bellies, with small black spots on their backs and on their dorsal and caudal fins. When they return to fresh water to spawn, they are silvery and "steelheaded." As they work their way upstream, the steelhead becomes dark and spotted, a small red or pink stripe appears on the males and they begin to look like the non-migratory rainbow trout.

Steelhead have been found as long as 45 inches and weighing more than 40 pounds.

- Life cycle: Young steelheads remain in fresh water from one to three years. When they head out to sea, they are between six and 10 inches long. They live in the ocean for one to four years before returning to their streams of origin. Most spawn after two to three years in fresh water and one to two years at sea.

Most spawning occurs from March to early May, in gravel beds. Females produce between 200 and 9,000 eggs, which hatch in about 50 days.

Some steelhead — mostly females — don't die after spawning, and may spawn as many as four times in their life. They may live as long as nine years.

Often found in streams with their relative, the coho salmon, the "steelies" tend to occupy the riffles, while coho stay in the pools.

- Diet: While spawning, steelhead go for salmon eggs, insects and plants. At sea, they eat fishes, squids, krill and other plankton.

- Range: From Japan to the Bering Sea and southward to northern Baja, California. In recent years, the furthest south they have spawned is in Malibu Creek just north of Los Angeles.

At sea, steelhead are most commonly found from Oregon to the Gulf of Alaska, generally in water between 41 degrees and 59 degrees Fahrenheit.

Highly migratory, they move north and west in late winter and spring; then southeast in late fall and early winter. Some tagged steelhead have later been found more than 2,000 miles away.

- Scientific name: *Oncorhynchus mykiss*. The

this effort to get information together. They're worried that (the National Marine Fisheries Service) is going to make a decision based on faulty or incomplete information."

About half of his district's water supply is from surface water, Haynes said. "We want to make sure that whatever (the federal agency) does is scientifically credible," he said, explaining why his district helped pay for the study. "If it's going to be listed, that it's done on the basis of credible scientific data. We'll take our lumps with everybody else if it's listed."

The issue is even more critical for the Santa Cruz Water District, which draws heavily from the same river as Haynes' smaller agency.

"Less than 10 percent of our water comes from wells," said Bill Kocher, head of the Santa Cruz water agency.

The district diverts roughly 2 billion gallons of water a year from the San Lorenzo River near Tait Street, off River Street near the Harvey West area. Another 600 million gallons are removed from the river at a seasonal rubber dam near Henry Cowell Park, and pumped to be stored in Loch Lomond reservoir. In all, the district uses 3.4 billion gallons of water a year. "We're overwhelmingly surface water. As a surface water agency, we're heavily reliant on these stream flows. If people are going to look more critically at stream diversion for steelhead, clearly that is going to make our water supply tenuous."

Another contributor to the study was the Soquel Creek Water District, which draws its water from wells, and is one of the few in the county that didn't need to ration water during the drought.

But the Mid-county agency was interested enough in the steelhead issue to put up \$5,000 of the study's cost.

Water district planners are used to thinking decades into the future, said district General Manager Robert Johnson.

His agency is already moving ahead with plans to divert as much as 1,200 acre-feet of water per year from Soquel Creek and store it in a gully near Fairway Drive. Much further down the road, Johnson said, are the district's plans to build a reservoir high up in the mountains on Enchanted Valley road.

Also helping foot the bill was Lompico Water District, which draws from the San Lorenzo's tributaries; and Watsonville Water District, which draws from the Pajaro River that is downstream from Corralitos Creek.

## The local study

Aquatic biologist Alley was one of the original scientists who counted young steelhead in the three streams for the 1981 study.

Last year, Alley revisited those spots and counted the fish now there.

His findings compare the numbers of one- and two-year-old sized young steelhead found in 1994 with the numbers found in 1981.

- San Lorenzo River: numbers have dropped by 31

have landed Hope's bosses in hot water more than once, and he now has to get permission to talk to the press.

Alley's report may be accurate, Hope said, but at best it's only a series of random snapshots that doesn't capture the overall situation.

A better way to grasp that bigger picture would be to study the numbers of adults migrating downstream, Hope said.

"You trap all of those coming down stream," he said. "That gives a true look at how many fish are in the system."

Then you'd repeat it for five or six years. "If you wanted to really find out what was going on, you'd do a downstream migration study and keep it going," he said.

McCaslin of the Monterey Salmon and Trout Project also had reservations about Alley's report.

The study was too brief, he said. It takes at least three years to get a truer picture of the situation.

And even if the number of juvenile steelhead is stable, that doesn't mean there aren't problems in the fish's later life cycle.

"I'd be a bit concerned with giving the public the impression there's nothing wrong," McCaslin said. "We don't have the adult populations coming back that we should. It's been in decline for 20 years."

Bottom line, Hope says, there are fewer steelhead than in the past.

"We used to have 100,000 steelhead in these streams in the '60s," he said. "We're down now, at best, to 2,000."

Alley and others dispute Hope's figures of the numbers of fish in days gone by.

"I don't know where he gets this 100,000 figure," said Haynes. "... I like Dave personally, but sometimes he tends to fly by the seat of his pants."

Alley said he's looked for the basis for those numbers.

"In the last month and a half we have scoured all the available information," Alley said. "There just isn't any data that substantiates that information."

His report includes the best figures he's been able to find in historical records.

"In some parts of the state, the species is endangered," Alley said. "But not around here. Not in Santa Cruz County."

Alley may be a reputable scientist, but Hope said it makes him a little uncomfortable to have the water districts paying for the studies.

"It doesn't smell wonderful to me," he said. "... If you wanted to really find out what was going on, you'd do a downstream migration and keep it going."

"When you focus science to prove what you want to prove, that's not science. Science inspects everything and comes up with its own conclusions."

Water districts say that the studies aren't invalidated just because they're paying for them.

The crux of the debate, as locals see it, is where the lines will be drawn.

In the past, Marine Fisheries has taken a regional approach to endangered listings.

Santa Cruz County streams are right between two different regional areas: the southern part of the state, where the fish has been almost eliminated from some streams; and the northern part, where things aren't so bad.

"It's conceivable the boundary could be drawn such that streams in Santa Cruz County are included even though they're not in trouble here," Alley said. If they asked him, Alley said he'd draw the line south of Point Bouchon, just south of Morro Bay.

A draft version of the state water agencies' report shows the recommended line between the San Lorenzo River and Soquel Creek, said Haynes.

Alley said he'd put the line farther south. But he and others agreed that the best approach would be to decide stream-by-stream.

## Bigger fish to fry

Trout advocates locally say the steelhead needs some type of protection.

But some worry that the consequences of the debate will go far beyond the fate of one species of fish.

McCaslin looks at the new political climate in the nation's capital, and sees big trouble brewing for the

Endangered Species Act.

With newly empowered conservatives talking about dismantling the 20-year-old act, McCaslin doesn't want the steelhead controversy to give them ammunition.

"Timber people, ag people, anybody who diverts water — riparian rights, domestic rights — all of these people are going to be affected if the fish get listed," he said. "That's going to be detrimental to those areas where streams are OK. It'll get those people fired up, and that will have political ramifications. ... A lot's going to be told whether whether these fish get listed. It's going to add a lot of fuel to the fire."

But McEwan said that the new Congress may be sadly mistaken if it believes people want to get rid of environmental protection.

"The American public seems to be very supportive — despite the rhetoric being thrown around — very much in favor of the Endangered Species Act," he said. McEwan cited a nationwide poll conducted last spring that showed only 16 percent of Americans believe that environmental regulation has gone too far; another 53 percent believe it hasn't gone far enough.

So far, the state water lobby talks about protecting the water rights of both fish and people.

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Highly migratory, they move north and west in late winter and spring; then southeast in late fall and early winter. Some tagged steelhead have later been found more than 2,000 miles away.

• Scientific name: *Oncorhynchus mykiss*. The name comes from two Greek words meaning "hooked nose."

Previously, biologists listed the steelhead as a variety of rainbow trout (*Salmo gairdneri*). In recent years, they re-classified the steelhead after deciding it's more closely related to the coho salmon (*Oncorhynchus kisutch*).

Sources: "Probably More Than You Want to Know About the Fishes of the Pacific Coast," by Robin M. Love; *Fishes of the Pacific Coast*, by Gar Goodson.

"We need to protect species," said Jennifer Persike of the lobbying association, which includes 417 public water agencies among its members. "But we also have to ensure there's a reliable water supply for California. So we hope by accomplishing this we can do both."

Locally, water districts and environmentalists say they believe there's room to work together.

"You hope if you get into this kind of decision, you hope everyone is able to leave their guns at the door," Kocher said. "... But I don't see that the city can just say, 'we won't take any more water.'"

For the most part, steelhead advocates say that Santa Cruz County water districts are more environmentally aware than elsewhere in the state.

"What's real clear is that the fish are not doing well," said trout advocate Hope. "And that certainly water and fish are real closely tied together. So there shouldn't be any doubt that water should be left for fish. How much is not something anyone has looked at very closely."

Still, a lot will depend on what the public thinks. "Everyone loves fish until their lawn isn't green anymore," Hope said.

Protecting steelhead amounts to a lot more than saving a few fishes, said state fisheries biologist McEwan.

"They are an indicator species," he said. "Especially steelhead, because they need clean water. When they go, that's a good indication that things are not real good for humans. And the quality of life is diminished for all of us when these creatures go."

In the long run, it may be impossible to calculate the worth of an individual species, he said.

"You can look at the components of an ecosystem as spokes on a wheel," McEwan said. "Some may be more important than others. ... But if you cut enough of them, the whole wheel begins to wobble. And if you cut enough, it all collapses."