

## **Most state native game fish face extinction**

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Jane Kay, Chronicle Environment Writer

Most of California's native salmon, steelhead and trout species face extinction by the end of the century unless the state acts quickly to provide adequate freshwater and habitat, according to a study released Wednesday by the state's leading salmon expert.

Twenty of 31 species of the prized fishes are in sharp decline, including the Sacramento River winter run of chinook salmon, the Sierra's California golden trout and coastal coho, according to the study by Peter Moyle, a nationally known UC Davis professor of conservation biology.

The fish advocacy group, California Trout, that commissioned the study will use the results to try to help persuade legislators and the governor to direct and help the California Department of Fish and Game to better carry out its mission of conserving the state's wild fish.

Decades of lax controls on farming, logging, grazing, mining and road-building have filled and polluted streams, the study said, while the removal of streamside vegetation on the North Coast, in Sierra creeks and on inland lagoons has warmed the water and harmed fish.

For the past 50 years, ocean salmon that spawn in rivers from the Klamath south to the Sacramento have been blocked by dams and other barriers and deprived of water diverted to farms and cities by state and federal water projects.

In some recent years, salmon returning to the ocean to feed and grow have found a poor food supply of krill, squid and smaller fish caused by higher water temperatures that could be related to global warming.

"Our fish need cold, clean water to survive, but they're getting less and less of it," Moyle said. "Dams block access. Climate change is now looming to exacerbate the threat, and it increases the urgency. All of these things are pushing our fish toward extinction.

"If we allow these fish to go extinct, we've allowed the deterioration of the streams and rivers," Moyle said, adding that the same waterways supply clean drinking water to humans.

One species, the bull trout, already has disappeared. The fish was last seen in the McCloud River in the 1970s, and scientists link its disappearance to the Shasta and McCloud dams.

In the 316-page study, Moyle calculated the survival chances into the next decades of 12 kinds of salmon, 11 kinds of trout, eight kinds of steelhead and one species of white fish.

He based the assessment on size of the habit and population, dependence of the fish on human intervention to save it, tolerance to environmental stressors, vulnerability to genetic disruption and likelihood of doing worse under global warming.

Fish and Game Director Donald Koch, in a statement released Wednesday, said the agency looks forward to reading the report.

"We thank California Trout for their dedication to California's native fish species," he said. "We appreciate their support and look forward to engaging them and other stakeholders in finding solutions to further our efforts to conserve the state's valuable fish and wildlife resources."

Sport and commercial fishing and environmental groups have complained that the agency is mismanaged and underfunded, resulting in a shortage of wardens and other staff members charged with preventing poaching, checking stream quality, running restoration projects and monitoring logging and development plans.

Brian Stranko, CEO of the 7,500-member California Trout, praised recent progress in aiding the state's fish. There were two preliminary agreements last week to remove four dams on the Klamath River and a court settlement involving restoration of the San Joaquin River, which aims in part to bring back the spring run on the river that was wiped out by the construction of Friant Dam in the 1940s.

Restoration measures work, Stranko said. Volunteers working with state and federal agencies, conservation groups and private parties have begun to bring back the California golden trout in the southern Sierra and the Goose Lake redband trout near the Oregon border.

But the most important changes must come from Fish and Game, an agency legally mandated to manage and conserve fish and wildlife, Stranko said.

Assemblyman Jared Huffman, D-San Rafael, the new chairman of the Water, Parks and Wildlife Committee, said the state's fiscal crisis will prevent expansion of Fish and Game's resources, which have been depleted by cuts.

But Huffman, who plans hearings on the salmon problem early next year, said the state can find other sources of revenue and can consider other ways to reconfigure the agency "so it can fulfill its missions." In some states, the wildlife agency is combined with the parks agency, he said.

"The department is understaffed and underfunded. The answer is more than money," Huffman said. "We need a department that is fundamentally more committed to its resource-protection mission. That means it can't be subservient to political interests.

"The fishery watchdog agency hasn't had a good track record," he added, referring to court orders to protect smelt that have stopped water deliveries from the delta of the Sacramento and San Joaquin rivers. In 2007-2008, the Sacramento's fall run of chinook was the second lowest on record in recent times.

"This is no longer a hook-and-bullet agency," Huffman said. "It has a serious resource mandate as well."

State Sen. Patricia Wiggins, D-Santa Rosa, chairwoman of the Joint Committee on Fisheries and Aquaculture, said she would have hearings on Moyle's findings.

"It wasn't too long ago that salmon flourished throughout Northern and Central California. In just one generation, we have lost significant salmon and steelhead runs in the Russian, the Eel and the Klamath rivers as well as rivers in the Central Valley," she said in a statement.

Wiggins' bill, SB562, was signed into law last year, providing \$5.3 million in funding that will be used to gain federal money for salmon monitoring and restoration. She intends to bring a package of bills to the Legislature in January.

Unless immediate changes are made to protect the environment, she said, "wild salmon as we know it will disappear from our dinner plates."

Fish in peril

E-mail Jane Kay at [jkay@sfchronicle.com](mailto:jkay@sfchronicle.com).