WHAT'S HAPPENING'S TRI-CITY VOICE



Lish Ladders continued from page 1

When a devastating 1955 flood left parts of the Tri-City area under six feet of water, the Army Corps of Engineers began the process to tame the river. The 1970s civil engineering flood control project included rubber dams and a concrete grade control erected near the BART tracks in downtown Niles that became a permanent barrier to steelhead trout, central California's native salmonids.

Steelhead spend most of their lives in the ocean but return to freshwater streams, and rives to spawn and rear their young. While both central California steelhead and salmon migrate upstream to their spawning grounds, trout are not willing to stay there and die in the process, preferring instead to return to the ocean. They need unimpeded streams and rivers to get there and back, but new grade structures and dams, installed over the decades, have been formidable obstacles. Thus, in the wake of this massive

Thus, in the wake of this massive engineering effort, rour population plummeted. When the fish was put on the Endangered Species Act list in August 1997 as 'Interaened,'' a consortium of Bay Area groups began working together to address the problem. The ACWD mission is to support fishery restoration while ensuring reliability of critical water supplies. ACWD is in year two of a three-year project to create complex fish ladders and cylindrical fish screens in the creek, part of an \$80 million program underway since 2009 to assist the steelhead trout. A fish ladder is a structure thar allows migrating fish safe passage over or around in-stream barriers such as flood-control structures. Shaver said: "We are using a science-based approach to meet the needs of the fish and to protect our community's drinking water."

Working with multiple partners in the regional effort, ACWD is seeking funding from external sources. "We are aggressively continuing to go after grants for additional funding," said Ed Stevenson, ACWD engineering and technology manager. So far, they've received \$21.3 million in grants, \$16.4 million from partners, \$2 million from other sources, and \$39 million earmarked from the capital improvement fund. "We aren't borrowing any money and are looking out for our ratepayers," Stevenson added. Several studies in the mid to late 2000s

Several studies in the mid to late 2000s researched options for creating a more fish-friendly waterway. Initially, ACWD installed rubber dams. Rubber Dam One, near the BART grade was, at one point, the largest in the world. Rubber Dam Two, near Shinn Pond, was removed a few years ago as part of the current project. Two dams are inflatable and deployed to span the creek following storms. Diversion structures move excess water for storage in quarries, replenishing supplies in the Niles Cone Groundwater Basin.

Projects since 2009 have included altering diversions to be "fish friendly" and to safely move water to charging ponds, and installing fish screens. Biologists and engineering consultants designed fish ladders and cylindrical fish screens on water diversions to keep fish from going into Quarry Lakes. "These are some of the most complex fish ladders in the world," Shaver said. "They are serving both to keep our water sources safe and to meet the needs of steelhead trout." The fish ladder over Rubber Dam Three near Mission Boulevard was completed in 2018 and is in service today. "We have already seen some steelhead trout in the stream, which is encouraging." Shaver said.

The final stage began in 2018. "Most of the work is done in the summertime, prime construction time before winter rains," Stevenson said. In May 2020, construction work resumed at the site. "There's a whole lot of activity with work on the foundation of the current rubber dam and on the railroad support area." He added, "So far, so good – the budget and timeline are on schedule."

Workers will pause again in October in anticipation of winter rains; some work will continue in the area but not in the channel itself. Next spring, crews will begin again, installing the new water diversion structure and refurbishing the rubber dam control building to ensure it is working optimally with the automated, complex fish ladders. All construction is slated for completion by 2022.

"This is environmental enhancement, water supply protection and flood control – the engineering design is to meet all three of these objectives," Stevenson said. "We are proud we took the lead and got ahead of this. It's good for the threatened species and for protecting the local water supply."

