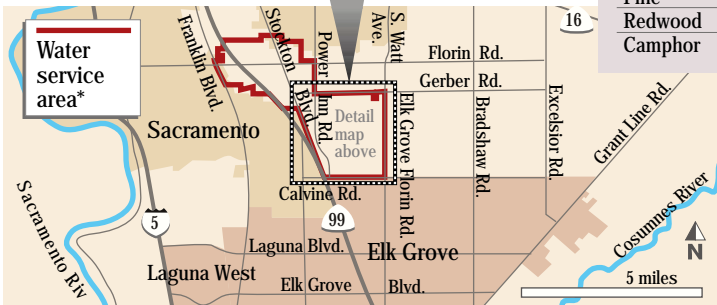
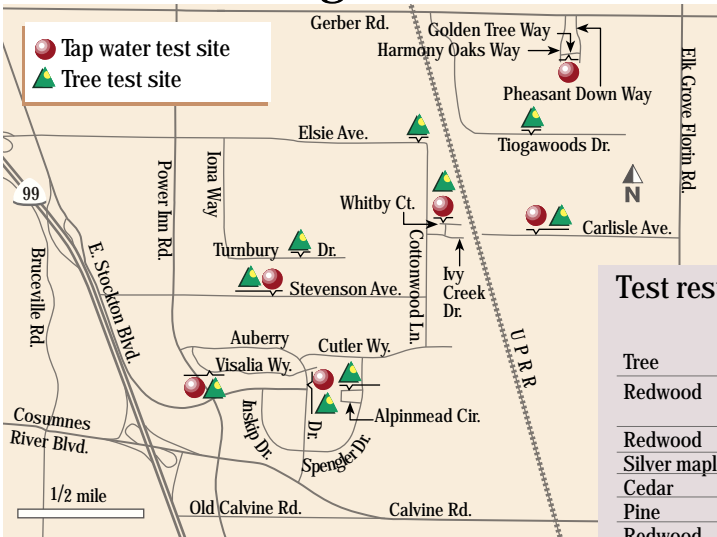


Pollution testing in Calvine-Florin



*California-American Water Co. Parkway Water System

Sources: Eric Creelius, Battelle Marine Sciences Laboratory, Sequim, Wash.; Paul Sheppard, The Laboratory of Tree-Ring Research, University of Arizona, Tucson; Mark Witten, UA College of Medicine, Tucson; Bee research by Chris Bowman

Tungsten in trees

Analysis of tree rings can reveal environmental change. Roots and leaves absorb naturally occurring and industrial pollutants and store them in the wood. The Bee recently tested nine trees in the Calvine-Florin area north of Elk Grove to address residents' fears of a pollution-spawned leukemia cluster. Of the dozen metals tested, only tungsten consistently appeared to have increased in concentration. Federal health investigators recently identified tungsten as a possible perpetrator of a leukemia cluster in Fallon, Nev.

Test results on tungsten in tree rings

Tree	Site	Parts per million		Change -- time
		Amount in older wood	Amount in youngest wood (1997-2002)	
Redwood	Elsie Ave. & Cottonwood Ln.	.0205 (1991-96)	0.112	446% -- 12 yrs
Redwood	Auberry Dr.	.0454 (1992 -96)	0.207	356% -- 11 yrs
Silver maple	Tiogawoods Dr.	.0548 (1988-92)	0.182	232% -- 15 yrs
Cedar	Whitby Ct.	.0961 (1993-96)	0.169	76% -- 10 yrs
Pine	Stevenson Ave.	.0346 (1980-84)	0.0807	133% -- 23 yrs
Redwood	Visalia Way	.0671 (1993-96)	0.101	51% -- 10 yrs
Pine	Carlisle Ave.	.0324 (1980-84)	0.0688	112% -- 23 yrs
Redwood	Alpinmead Cir.	.0287 (1991-96)	0.381	33% -- 12 yrs
Camphor	Turnbury Dr.	.153 (1993-96)	0.0886	-42% -- 10 yrs

About tungsten

- Occurs in 1.5 percent of the Earth's crust as a steel-gray to tin-white metal, mainly in the mineral scheelite.
- Prized for its durability, electrical conductivity and resistance to heat and corrosion.
- Used in strengthening armor, making light-bulb filaments, hardening tools and replacing poisonous lead in bullets.
- Considered inert, though researchers recently have found evidence of cancer-causing potential in laboratory experiments.