

WATER SUPPLY
1990

Board accepts upbeat report on Midcounty water basin.

By BOB SMITH

A \$305,000 study of the Midcounty's groundwater basin — the most extensive exploration of water resources in the county's history — was formally accepted Monday night by the Soquel Creek Water District.

The study shows the Purisima groundwater formation is capable of producing three times the amount of water now being pumped from it and nearly four times the amount the U.S. Geological Service said was available there in 1980.

It also showed that there is no evidence of seawater intrusion into the aquifer at this time — a condition that would be caused by overpumping.

After accepting the report on the Purisima formation, district directors told consultant Joe Scalmanini of Luhdorff and Scalmanini to start work on a similar groundwater monitoring and exploration program for the Aromas Red Sands formation that supplies water for the Seascape-La Selva Beach area.

That study, which involves the drilling of seven monitoring wells, will cost an estimated \$250,000 when it is finished.

Scalmanini will charge the district \$104,603 for his firm's

services, and it will cost another \$140,000 to drill seven monitoring wells into the Aromas Red Sands formation. District general manager Bob Johnson said five wells will be drilled along the coastline from Aptos Creek to Manresa Beach. Another will be drilled near the district's Seascape production well and the last near the Mar Monte freeway overcrossing.

When finished, the district will have a "curtain" of coastal monitoring wells stretching from the Opal Cliffs area of Capitola to Manresa Beach, and several wells further inland.

Water samples taken from the wells on a regular basis and bi-monthly tests of water levels can provide information on conditions in the underground aquifer.

The exploratory work done in the Capitola-Aptos area by Scalmanini showed, for example, that there are seven different stratas of the Purisima formation instead of the three cited in previous reports by the USGS on the ground water basin.

The district has already used the information provided by Scalmanini in drilling new water wells in the Soquel, Rio del Mar and La Selva areas.

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— Water consultant Joe Scalmanini

Scalmanini also mapped the recharge areas — the areas on the ground surface when water is available to flow into the underground aquifer.

Those areas extend from the Corcoran Lagoon-Schwan Lake area of Live Oak for the newly-discovered Purisima Subunit AA formation, to the Aptos Creek area for the uppermost Purisima subunit E formation.

Soquel Creek provides recharge water, according to Scalmanini, for the Purisima A and B units, which now supply most of the drinking water for public and private water users in the Midcounty.

All of those subunits are stacked one on top of another for 2,000 feet below the surface in the Aptos area.

The layers slope downward the further east you go, Scal-

manini said, and water flows through the layers in a southerly direction, entering the aquifer in the north and finally exiting from the aquifer in the Monterey Bay submarine canyon off the coastline.

Altogether, Scalmanini estimated that the Purisima formations store an incredible 1,375,000 acre feet of water.

"That is a big number," Scalmanini told the water district directors Monday night, "but it represents a volume that you can't take much out of. You need to maintain a groundwater basin that is nearly full."

Right now, he said, water levels in the Purisima formation are above sea level. That keeps the seawater out.

But if those levels drop below sea level, Scalmanini said, "then the seawater starts to

move inward and you can get salt water intrusion.

How much can be pumped from the aquifer? Scalmanini told the directors Monday night that his calculations indicated that approximately 9,500 acre feet of fresh water entered the aquifer, flowed through it and out into the Pacific Ocean.

Add that figure to the 3,500 acre-feet that the water district and other users pumped from the aquifer in 1983, Scalmanini said, "and that would suggest that you and others could produce 12,000-13,000 acre feet a year."

He said those levels could vary slightly, depending on the amount of recharge.

The recharge areas should be protected from any developments that would seal large portions off.

"Such as you want to get involved in the politics of land management, those creek bottoms should be protected," Scalmanini said. "Development should be limited in those areas."

Like the other reports on the Midcounty's water supply, the Scalmanini report is already under fire. Laurence Fromm-

the district's water management practices, told the board that he wanted the report submitted to other agencies and scientists for peer review. He specifically said the report should be sent to Jon Brederhof of the U.S. Geological Service for a critique.

Fromm-

hagen said he planned to discuss the report privately with others and report back to the water board in two months. He asked that the Scalmanini report not be accepted until then, but board members rejected that request and approved the Scalmanini report.