

River's new path is likely to stay

Epsom residents eye transformed Suncook

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Engineers gave 100 Epsom residents little hope Wednesday that the Suncook River would return to its former course. They presented four options for how the region could respond to the river's changes.

None of the options would protect the river from potential flooding this spring. Construction proposals require millions of dollars. Federal funds might be available, according to state Department of Environmental Services officials, but only with matching local or state spending. Epsom, meanwhile, is on its fourth default budget.

Before the meeting, many residents said they wanted the river back where it was.

A quarter-mile-long diversion dam to steer the water into its former channel would cost \$5.5 million, said Peter Walker of the engineering firm Vanasse Hangen Brustlin Inc. Even with the money, he said, it would not be an easy project.

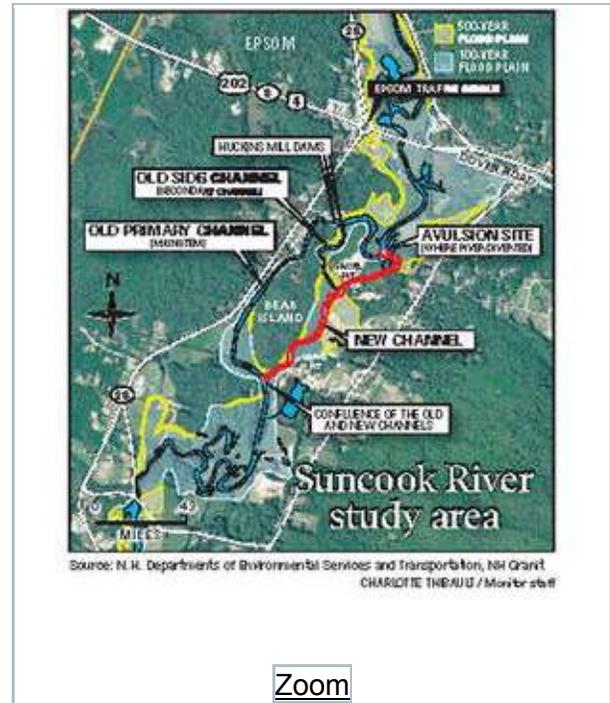
The first option - to do nothing - would likely cause more property damage, he said.

The river shifted during the May 2006 floods, breaching a wall into a gravel lot called Cutter's Pit. It coursed nearly a half mile through a new valley before converging with the original channel near Round Pond, shortening its path by a half mile. In the process, it linked Bear Island to the mainland and left residents who once had riverfront property high and dry.

The river is still evolving, weakening and expanding its banks. Trees are unstable, and residents downstream from the cutoff are either losing land or receiving unwanted piles of silt and debris.

"It is scary," said JoAn Swiggard of Batchelder Road in Pembroke. "Our land has rotted away."

At the site of its breach, the Suncook is already about 12 feet below its former bed. Upstream, it is still settling, vertically eroding an underwater "headcut," said Randy Sewell, a rivers expert



VHB has flown in from Virginia. Leaving the river to find its natural course would likely cause more instability, with the banks and the bed washing away.

"You are in a knee-jerk reaction mode," Sewell told the crowd. "If the headcut moves up to Route 4, you'll need to do something in a hurry."

Another risk lies downstream, near Round Pond. The water is so laden with sediment that it may cut off its old channel again and strike a path through the pond.

The second option would be to stabilize key points in the river by building a series of rock structures that would slow the river's flow in at least two places and dredge sediment out elsewhere. The structures would likely stop the river bed from falling lower, Sewell said.

The river meanders through a series of swooping oxbow turns on the south side of Fire Chief Stewart Yeaton's 175 acres. There, it has collected large amounts of sediment and is at the same level as a floodplain normally passed only once every 500 years, according to the study. Dredging would lower the riverbed in that area by removing 32,000 cubic yards of sediment - and hopefully clear the stream enough to prevent another avulsion near Round Pond.

Dredging and installing the rock structures would cost about \$1.3 million, according to the study.

A third option would do this and more, by helping the river find a more stable path near the start of its new channel. In the past year, it has already shifted the start of its new channel 140 feet, Walker said.

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Unstable in its current form, the river is tending toward a deeper and more narrow form, Sewell said. Humans can help. Engineering a more secure course near the river's avulsion site would cost an additional \$500,000 to \$750,000, according to the report, bringing the total for the third alternative to about \$2 million.

The fourth option would be to build a diversion dam pushing the water path to its old path. Walker and Sewell said that this choice's success was uncertain, as well as expensive.

"Frankly, we see a lot of risk with alternative four," Sewell said. "We don't know where the bedrock is out there."

The pair presented two alternative dam designs: one to steer the river into its old channel near its breach and another to create a new channel that would cut off a former oxbow bend.

Either one would be large: 25 or 30 feet tall and 800 or 1,300 feet long. Both would be tall enough to withstand a 500-year flood. Both would require regular inspections and maintenance. And both would cost between \$4 million and \$5.5 million.

After the firm's presentation, several residents asked about funding.

"Our town is at a very difficult place at this point in time," said Epsom Selectwoman Joanne Randall. "I don't think it is fair for the state or anybody else to say it is up to the town of Epsom to pay."

This year, the town's voters rejected its fourth consecutive annual budget, she said.

The town may have to bond to pay for river restoration, according to state officials.

Several federal programs provide money for projects like the Suncook River restoration, according to Steve Couture, rivers coordinator for the state Department of Environmental Services. Each program requires matching money from state or local government.

Even with local support, projects like the Suncook must compete for money from programs including pre-disaster mitigation from the Federal Emergency Management Agency, Couture said.

"It's a process," he said. "Those dollars are limited."

FEMA has already paid for several separate Suncook-specific studies. Residents were also given an update on these projects at the meeting Wednesday.

The US Geological Survey is conducting a detailed floodway map to account for the river's new path.

"The old flood maps are no longer relevant these days," said Keith Robinson, who presented the study's preliminary findings.

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The survey is also conducted a FEMA-funded project to analyze the sediment in the Suncook. Both studies will be done by next spring, officials said.

A third FEMA-funded study analyzes dam management throughout the southern and south-central region of the state. The study's presenter, Brent McCarthy, explained that there are two main types of dams in the area: flood-control dams, such as at Franklin Falls, and run-of-river dams. Flood control dams can retain tens of thousands of times the amount of water as run-of-mill dams, such as the Pittsfield Mill Dam - one of three that are being studied along the Suncook.

He said that none of the dams on the Suncook could have controlled either the 2006 or 2007 flooding.