



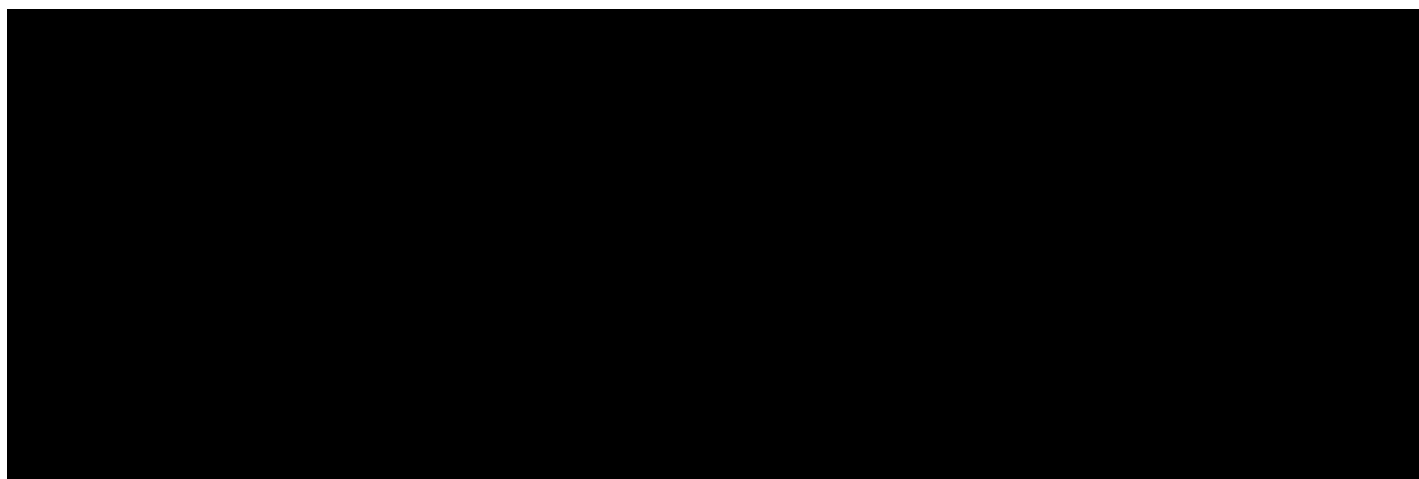
LOCAL

How much risk? What today's rising Boise River tells us about FEMA's new flood maps

By Sven Berg

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APRIL 22, 2017 10:58 PM



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Check out three residential projects in Garden City and Boise that were built above the level of a 100-year flood. BY SVEN BERG

So far, [flooding along the Boise River](#) is going where hydrologists predicted it would given the volume of [water coming out of Lucky Peak Dam](#).

There are some exceptions, [Boise city engineer Jim Pardy](#) said, but mostly they are in places flooding models expected to be underwater but aren't. That's as it should be, Pardy said. The models are supposed to be slightly conservative — meaning they err on the side of predicting more inundation.

This spring's flooding offers a good test of the river's flooding models, Pardy said, but its ability to predict more intense flooding is limited.

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and 8,500 cfs. That's higher than normal — as witnessed by widespread flooding that has closed much of the Boise River Greenbelt — but it's nowhere near the level of what the [Federal Emergency Management Agency](#) considers a 100-year flood.

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A 100-year flood is an event that FEMA predicts has a 1 percent chance of being equaled or exceeded in a single year. For that to occur in Boise, the flow of water out of Lucky Peak would have to reach 16,600 cfs.

“To get to 16,600, you’ve got to pass through an 8,500 scenario,” Pardy said. “So if you check in at that 8,500 scenario and you’re looking good, it’s a good road map to the 16,600.”

But Pardy cautioned that, on its own, the level of flooding we’re seeing now isn’t a very good indicator of what a 100-year flood — 16,600 cfs — would look like in the Treasure Valley.

At 16,600 cfs, a good chunk Garden City and some Eagle-area subdivisions would be inundated. So would parts of Downtown Boise and other Treasure Valley cities. By comparison, today’s flows are covering much of the Boise River Greenbelt. Above 10,000 cfs, the river could start covering parts of roads such as ParkCenter Boulevard and Eagle Road.

MAP FLAP

For the past year, the city of Boise has [disagreed with FEMA maps predicting the contours](#) of a 100-year flood between Lucky Peak and the Snake River.

The goal of these maps is to inform communities all over the country on the risks of building near waterways. The last time FEMA looked at the Boise River Drainage was the early 2000s.

Decisions on where, exactly, the lines of a flood plain lie come about through a delicate

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Last year, [FEMA released draft versions](#) of redrawn 100-year flood boundaries that proposed adding hundreds of acres to the flood plain. Leaders of Treasure Valley cities worry that expanding the flood plain will increase the cost and difficulty of buying, developing or living in properties near the river. That, they fear, will put a damper on economic development and lead to undesirable building designs.

Under federal law, lenders must require flood insurance policies for flood plain properties bought with federally backed mortgages, which is most mortgages. The federal government issues these policies, often through private companies.

The cost of these policies varies based on the age of the structure, whether it has a crawl space or on-grade slab, [location and other factors](#).

[The city of Boise](#) estimates residential flood insurance costs around \$1,500 per year. A local insurance broker told [the Idaho Statesman](#) in November that insuring normal riverside homes, which are more expensive due to location, with four bedrooms and two bathrooms likely would cost between \$3,000 and \$3,500 per year.

THE BOISE TEAM

City Hall was concerned enough last year about the flood plain to spend taxpayer money on outside experts who are conducting additional research.

“Our residents wouldn’t be able to do this on their own unless they went out and hired experts,” city spokesman Mike Journee said. “And so we wanted to make sure that we had the right people putting it together, taking a look at it and giving FEMA feedback that would be useful to them. It just gets really, really technical.”

Karl Gebhardt is one of the city’s experts. He said the Boise River has gotten close to its current level a few times the past decade, but you have to go back 35 years to find higher flows. Back then, he said, the river was totally different, with a separate set of features that affect where water goes when it flows over the banks.

Changes along the river banks are one reason Gebhardt and the rest of Boise’s team are second-guessing FEMA’s maps. Gebhardt said FEMA is relying heavily on topographical measurements that were taken from the air in 2007. He said he and the other local experts are using data from 2015.

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ELEVATION GAME

One way to avoid the flood insurance requirement is to raise new buildings above the predicted water level of a 100-year flood. This is exactly what developer Brighton Corp. did with [Barber Station, a 162-apartment complex](#) it's building just north of the river and west of the ParkCenter Boulevard bridge leading to Harris Ranch. Water is lapping at its foundation.

Brighton's design actually exceeds requirements by raising the floor of the building's lowest habitable level — in this case, the garage — 2 feet above the 100-year flood level, Boise planning director Hal Simmons said. Mechanical equipment is being placed above the flood level; the buildings are on top of concrete slabs instead of crawl spaces; siding materials that are coming in contact with water are resistant to it; and Brighton is likely to add fill material on the side of the building closest to the river after construction is complete, Simmons said.

"It's perfectly OK for flood waters to touch the building," he said. "It just has to be below the lowest habitable floor."

Efforts to contact a Brighton representative for comment on this story were unsuccessful.

[NeighborWorks Boise](#), a nonprofit that builds and sells affordable homes, has built what's called a "stem wall" to raise some of its homes above the anticipated water level of a 100-year flood. The stem wall is a 6-inch-wide concrete structure that sits on top of a 16-inch-wide footing, which roughly traces the perimeter of the home and is mostly buried in the ground.

The 4-foot-deep hole inside the stem wall is filled with a mix of gravel, sand and other structural fill materials. A 4-inch-thick concrete slab sits on top of the fill and makes up the floor. The home, a wood structure, sits on top of this foundation.

The total additional cost of adding a 4-foot stem wall is between \$7,000 and \$8,000 for a small family home, NeighborWorks Boise CEO Bud Compher told the Statesman in November.

The end result is a home that sits above the flood plain, so it doesn't require flood insurance.

FEMA's new maps propose removing a strip of new homes in Garden City from the flood plain. The homes are just a few feet from the riverbank, but they were built a few feet above the original grade.

'MODELS ARE WRONG'

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The process of researching the flood plain continues, Journee said, but the city hasn't changed its stance that FEMA's maps might be wrong.

FEMA's review process is thorough, Gebhardt said, because the mapping process is fallible. In the end, he said, the question is not whether a map is right or wrong. It's whether the flood plain contours are close enough.

"Models are wrong," Gebhardt said. "They're always wrong. And you're just trying to get it as close as you can get to make a reasonable estimate for flood risk."

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How high are spring 2017's floods?

The Federal Emergency Management Agency describes a 100-year flood as an event that has a "1 percent chance of being equaled or exceeded in any single year."

The federal government also predicts the likelihood of other flood levels, ranging from a 10-year flood (10 percent likelihood) to a 500-year flood (0.5 percent).

By these calculations, the flows the Boise River has seen this spring rank between a 10-year and a 50-year flood.

Here are the flows from Lucky Peak Dam associated with various stages of flooding in the Boise River, according to FEMA:

10-year: 7,200 cfs

Current: About 9,500

50-year: 11,000 cfs

100-year: 16,600 cfs

500-year: 34,800 cfs

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BY CLARK CORBIN [IDAHOEDNEWS.ORG](https://www.idahoednews.org)

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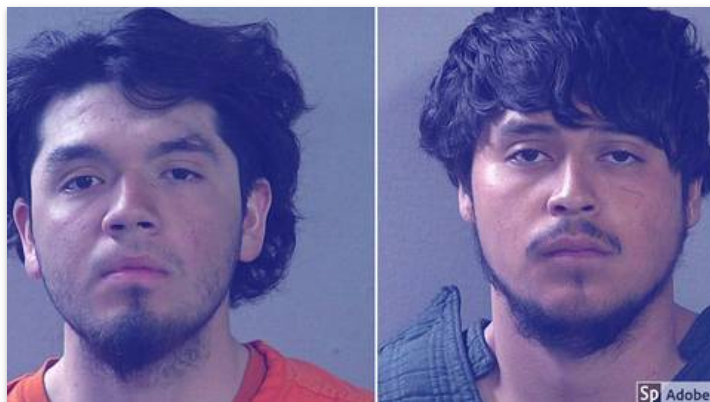
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