

Why are bridges green? The story starts in Oregon

Bridges are painted the same shade

By ERIN ROSS
Oregon Public Broadcasting

Drive across Oregon and it's hard not to notice that many of the state's steel bridges — from the foggy coast to high desert — are the same shade of sage green. It's so ubiquitous that the paint's manufacturer calls it "ODOT Green" after the Oregon Department of Transportation.

But ODOT Green — a color that started a national phenomenon — is a color that almost didn't happen: Oregon's first green-painted bridge, the St. Johns, was initially supposed to be striped black and yellow like a bumblebee.

It wasn't. But green bridges began there, with the St. Johns and the two men who competed to build it: David B. Steinman and Conde McCullough.

Both were bridge engineers who believed firmly in the aesthetic possibilities of bridges, and both were self-made men who rose from poverty to national prominence. But that's where the similarities end.

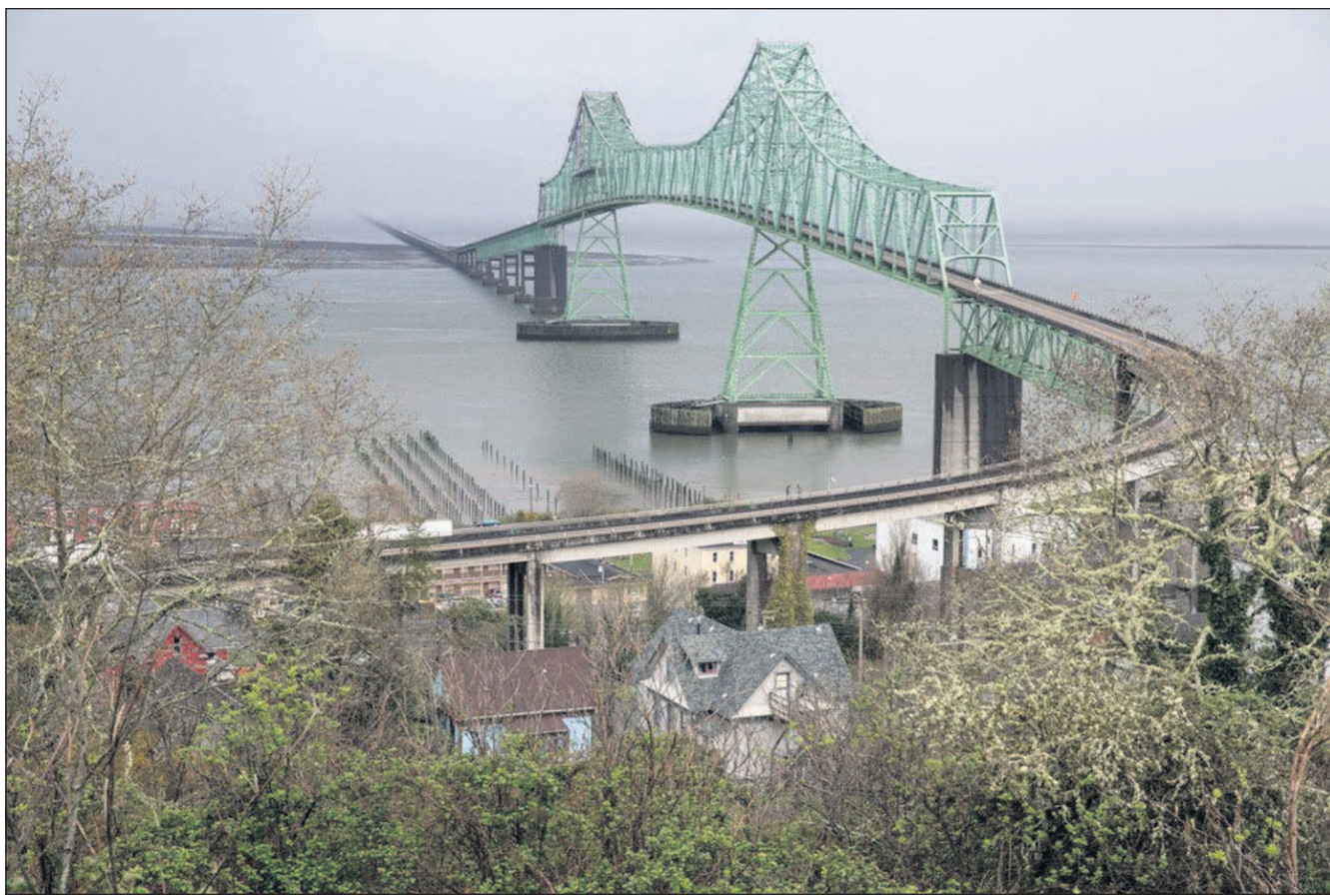
Steinman saw himself as a visionary poet and artist. McCullough was a quiet intellectual whose curiosity led him to pursue a law degree by attending night classes.

Steinman was a prolific author who alienated his colleagues by publishing self-promoting autobiographical articles in engineering journals.

McCullough, on the other hand, wrote practical books on engineering and economics. Much of what we know about him comes from oral history interviews done by ODOT's senior historian, Robert Hadlow. Hadlow describes McCullough as a clever man with a quiet sense of humor, who he'd "enjoy a conversation with."

The two men submitted their contracts in 1928 for the St. Johns Bridge, which would span the Willamette River and connect northeast and northwest Portland. The selection process was controversial: Some wanted the bridge to be designed by a local like McCullough. Others wanted someone with a national reputation.

Ultimately, a committee chose Steinman. He was inspired by the hills and evergreens that surrounded Portland and wanted the bridge to



Alan Sylvestre/Oregon Public Broadcasting

The Astoria Bridge, designed by Conde McCullough, stretches 4.1 miles between Oregon and Washington state.

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Ray Bottenberg,
ODOT's bridge preservation managing engineer

match. The suspension-style that he ultimately chose included soaring Gothic arches topped with copper spires, which were intended to complement the "evergreen spires" on the trees around it. Steinman considered the bridge to be a work of art.

But representatives for the nearby airfield were worried they'd crash into it. They wanted it painted black with yellow stripes.

Steinman wouldn't have it, and neither would the Multnomah County commission. On March 17, 1931 (St. Patrick's Day, appropriately) it was announced that the St. Johns Bridge would be painted the redundantly-named "verde green." The decision to do so was fairly radical: at the time, almost all bridges were painted black or gray. There may have only been one other colorful bridge in the country at the time — the Steinman-designed Mount Hope Bridge in Rhode Island, which was also green.

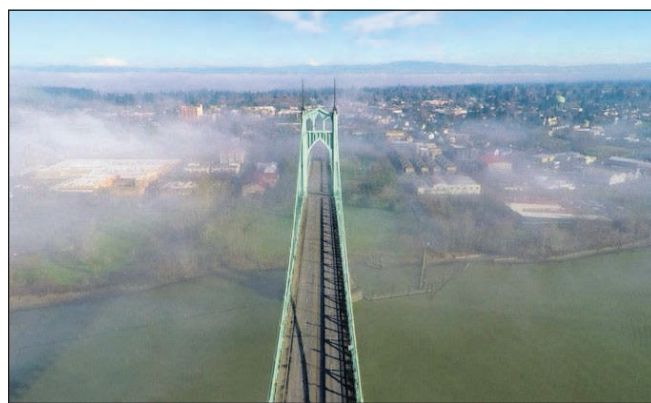
Steinman loved the St. Johns Bridge, and said it was his favorite. "My best poem," he told his biographer William Ratigan, "a prayer in steel."

An award

While the St. Johns Bridge was the state's first green-painted bridge, it's not where ODOT Green started. That specific shade of green, it seems, was McCullough's doing, and first appeared in 1933 on the John McLoughlin Bridge.

The John McLoughlin Bridge carries Highway 99E across the Clackamas River, connecting Oregon City to Gladstone. "From an engineering perspective, it really is an elegant bridge," Hadlow said. And the American Institute for Steel Construction recognized that — there's a plaque on the bridge declaring it "the most beautiful bridge of its class."

When it was announced that McCullough's bridge won, though, there was a



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The St. Johns Bridge was designed by David Steinman and completed in 1931. Today, the bridge is painted ODOT Green, but it was initially supposed to be black with yellow stripes.

small problem: the bridge was painted black. But the image McCullough's illustrator submitted to the contest showed the bridge tinted green. McCullough had to make sure that the bridge matched the illustration before he could receive the award.

Thankfully, McCullough was "the boss of the bridge unit at the time," according to Ray Bottenberg, ODOT's bridge preservation managing engineer, "so he probably just said 'go buy some green paint' and sent a crew out there."

By the time the plaque arrived, the bridge was what we now know as ODOT Green. The John McLoughlin Bridge is still that color today.

McCullough went on to construct dozens more steel bridges across the state. And all

were painted that color.

His most famous bridges line the Oregon Coast. He envisioned U.S. Highway 101 — which follows the shore and is dotted with scenic overlooks and waysides — as a necklace of pearls. He wanted his bridges to serve as the clasps that complemented the state's natural beauty without upstaging it.

Iconic

Today, those ODOT Green bridges are iconic. The Yaquina Bay Bridge is widely considered to be one of McCullough's best and is an Oregon landmark.

"It's well executed, and it fits the location so well," Hadlow said.

McCullough clearly thought that the color complemented the entire state, and not

just the water-logged region west of the Cascades. The Crooked River High Bridge in central Oregon's Jefferson County, among others, wears the color as well.

McCullough spread the ODOT Green across Oregon, while Steinman spread other greens across the country. All of his future bridges would be one or more shades of green. Steinman would even go so far as to claim that he invented the concept of painting bridges with colors.

"The success of my innovation is attested by its widespread adoption by various state highway departments, also by its adoption for parkway spans and public authority bridges in New York City," Steinman later wrote.

It's unclear, though, to what extent Steinman can truly take credit for the popularity of green bridges. He and McCullough were contemporaries and their bridges were studied closely and copied by their colleagues.

And it's McCullough's color that reigns supreme today: Technically, the paint is "federal standard 595 color 24272," but nobody calls it that. From New Hampshire to Washington and even Canada, uncoated steel structures are painted ODOT Green. And as of its most recent paint job, the St. Johns Bridge is, too (pour one out for "verde green").

ODOT still coats old steel structures with this paint. "I'm not sure there's a rational reason for using the color, other than that we've always done it that way," Bottenberg said. "No one's really questioned that they were green. I don't think it's more complicated than that."

ODOT Green is well-suited to the Northwest: its special coating cures best in damp weather. In a place like Arizona, the paint would never dry.

But the color is noticeably absent on Oregon's newer bridges.

"Nowadays we favor concrete bridges, because you don't have to paint them," Bottenberg said. And when new steel bridges are constructed, they're made out of weathering steel, which develops a protective red-rust coating and doesn't need to be painted.

Paint, according to Bottenberg, is as much for maintenance as aesthetics. And if it's not necessary, it's not used.

But Bottenberg, for one, is fond of ODOT Green. "It kind of fits Oregon's mentality."

Mountain goats in Olympic Mountains could soon be relocated or killed

By COURTNEY FLATT
Northwest Public Broadcasting

Mountain goats in the Olympic Mountains could soon be a thing of the past. The non-native goat population has rapidly grown over the past 14 years — to a point where it now could put hikers at risk and damage sensitive vegetation in the subalpine landscape.

Federal and state agencies announced Friday their plan to relocate most of the mountain goats from Washington's Olympic National Park to the North Cascades forests, where they have lived for thousands of years. They would "lethally remove" the remaining goats in the park.

Mountain goats are attracted to salt sources, which naturally occur in the North Cascades. In the Olympic National Park, the only salt sources are humans.

"We see them approaching people because they are attracted to salt in sweat and urine and food," said Penny Wagner, spokeswoman for Olympic National Park. "These can create dangerous interactions if people don't realize that mountain goats are going to be approaching them."

In 2010, a hiker was killed in the park, but officials said that was not yet a cause for concern.

The Methow Valley News

reports that biologists wouldn't relocate any goats that are too used to people.

It's not just the goats' interactions with people that prompted the plan to remove them from the Olympics.

"We also have to preserve the wilderness character and the unique vegetation," Wagner said, referring to the goats' tendency to wallow

near unique vegetation in the Olympic Mountains.

In 2016, biologists found mountain goat numbers in the Olympic Mountains had

increased by 8 percent each year since 2004. Now, there are 625 goats — and those numbers could approach 1,000 by 2023.

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