

# Study documents tree species' decline due to climate warming

A casualty of global warming

By DAN JOLING  
Associated Press



U.S. Forest Service

Yellow-cedar trees growing along Sheep Lake east of the Cascade crest in Washington state.

ANCHORAGE, Alaska — A type of tree that thrives in soggy soil from Alaska to Northern California and is valued for its commercial and cultural uses could become a noticeable casualty of climate warming over the next 50 years, an independent study has concluded.

Yellow cedar, named for its distinctive yellow wood, already is under consideration for federal listing as a threatened or endangered species.

The study published in the journal *Global Change Biology* found death due to root freeze on 7 percent of the tree's range, including areas where it's most prolific. It cited snow-cover loss that led to colder soil.

Additional mortality is likely as the climate warms, researchers said.

"Lack of snow is only going to become more and more prevalent," said lead author Brian Buma, a University of Alaska Southeast assistant professor of forest ecosystem ecology.

By 2070, winter temperatures in about 50 percent of the areas now suitable for yellow cedar are expected to rise and transition from snow to more rain, according to the study.

Yellow cedar began to decline in about 1880, accord-

temperatures never drop sufficiently to freeze their roots, Buma said.

The effect of climate change on yellow cedar has led to research on other shallow-rooted trees that could be vulnerable, such as sugar maple and yellow birch, said Paul Schaberg, a Forest Service research plant physiologist from Burlington, Vermont. No climate change effects on U.S. trees have been as well-documented as research on yellow cedar, he said.

"Projections are that other species could be negatively impacted, but other species, at least in some places, could be positively impacted," he said.

The agency has begun a tree atlas, currently listing 134 species, that documents their current and possible future distribution under climate change projections.

A U.S. Fish and Wildlife Service decision on listing yellow cedar as threatened or endangered is scheduled for September 2019, spokeswoman Andrea Medeiros said.

Owen Graham, executive director of the Alaska Forest Association, a timber industry trade group, remains opposed to a listing. Yellow cedar die-off in the last century has been intermittent and natural, he said. Trees that died were replaced by new trees.

"The whole thing is just a stupid effort to try to tangle up the timber supply some more," he said. "It's ludicrous."

ing to the U.S. Forest Service, and its vulnerability is viewed as one of the best-documented examples of climate change's effect on a forest tree.

The trees are in the cypress family and are not true cedars, which are part of the pine family. They have grown to 200 feet and can live more than 1,200 years.

Tlingit, Haida and Tsimshian people used yellow cedar for canoe paddles, tool handles and totem poles. They can harvest a lengthwise strip of bark from a living tree for weaving baskets and hats, and as backing in blankets. The tree can compartmentalize the injury and continue growing.

The slow-growing trees historically found a niche near bogs. Those wetlands provided openings in the forest canopy but poor soil rejected by other trees.

"Elsewhere, it (yellow cedar) generally gets out-competed by spruce, which grows

faster, or hemlock, which can grow in lower light conditions," Buma said.

The study by Alaska, Washington state, California and British Columbia researchers documented the magnitude and location of yellow cedar mortality in Canada and the United States.

More than 1,544 square miles containing yellow cedar — mostly north of Vancouver Island, British Columbia — have experienced upward of 70 percent mortality. Another 20,207 square miles remain, but many of the trees will be vulnerable if projected warming occurs.

Researchers found little mortality in trees at higher elevations in Washington and Oregon where snow level has not diminished and roots have not been exposed to freezing temperatures. Conversely, in some areas, such as parts of Vancouver Island, there's no snow where yellow cedar grows, but

for salmon in the rivers around Seaside, while the Scouts will earn money for summer camp.

Christmas trees can be dropped off at the Seaside outlet mall, Columbia Bank in Cannon Beach, or call and the Boy Scouts will pick it up from 9 a.m. to 4 p.m. Satur-

day and Sunday. Garlands and wreaths are also being accepted, but all items must be free of flocking, ornaments, tinsel or other metal wire or plastic flagging.

Other local drop-off sites include CARTM (until Jan 15) in Manzanita and Lewis

and Clark National Historical Park (until Jan. 20) in Astoria. There is a suggested donation of \$5 for drop-off, and \$8 for pick up.

For pick up in the Cannon Beach, Seaside, Gearhart and Warrenton areas, call 503-717-9563 and leave a message.

# Scouts help collect old Christmas trees

The Daily Astorian

SEASIDE — Boy Scout Troop 642 has partnered with the Necanicum Watershed Council to collect used Christmas trees. The watershed council will reuse the trees to make critical winter habitat

including adding more meetings and extending the comment period.

Officials estimate that over 2,000 people attended the public meetings in Idaho, Montana, Oregon and Washington state this past fall.

David Kennedy, BPA's lead staffer for the environmental review, said the agencies expect tens of thousands of written comments.

He summarized the themes of comments already received:

- Remove the lower Snake River dams for fish passage.
- Protect the dams for irrigation, flood risk management, navigation and recreation.
- Complete an economic analysis of changes to operations or structural configuration and the benefits/impacts of those changes.
- Remove the dams, so

areas will not starve.

- Do not do another study.
- Use the best available science in the study.

Written comments on the

EIS may be submitted by mail to CRSO EIS, P.O. Box 2870, Portland, Oregon 97208-2870. Emailed comments should be sent to [comment@crso.info](mailto:comment@crso.info).

# Deadline on Columbia River dam review extended

By LAURA BERG  
Northwest Fishletter

Federal agencies have extended the public comment period on an environmental impact statement for Columbia River dam operations.

The Bonneville Power Administration, the U.S. Army Corps of Engineers and the Bureau of Reclamation will take comments until Feb. 7. The comment period had been scheduled to end Jan. 17.

Public meetings on developing the environmental review will conclude with a hearing in Astoria on Monday. The final meeting will be held at 4 p.m. to 7 p.m. in The Loft at the Red Building. Previous meetings set for Astoria were postponed because of severe weather.

The next step for federal agencies is to prepare alternative actions for fish recovery and to establish the metrics that will be used to evaluate the options.

The environmental review is being developed because U.S. District Court Judge Michael Simon ruled in May that the federal agencies violated the National Environmental Policy Act by failing to prepare one as part of the 2014 biological opinion.

In November, 33 environmental and fishing groups asked the agencies to change the public-meeting process,



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# Oh, deer, it's cold outside

Rough winter not easy on deer

By HILARY CORRIGAN  
The Bulletin

BEND — Deer have it rough during the winter in central Oregon.

"Basically, they're starving to death," said Corey Heath, a wildlife biologist with the Oregon Department of Fish and Wildlife. "And that's normal."

One vital survival factor for deer is access to areas where they won't be disturbed.

"It's absolutely critical," Heath said.

The animals do not add weight through the season because they can't take in enough calories due to a lack of food, which is covered by snow. They need to conserve energy until spring arrives.

So they head to lower elevations with less snow. They move less. They seek tree stands and other shelter from the wind, snowfall and cold temperatures. They eat what's available, including bitterbrush, sagebrush, juniper and lichen hanging off trees. They also grow their thicker winter coats.

But disturbances from people can force deer to burn more vital calories, while also displacing them from a safe spot to areas where they face more challenges, including predators, vehicles and fences.

The wildlife department, along with federal agencies and private landowners, created certain winter range areas that are closed to public access so that deer have such spaces that can help them survive the hard season.

"Winters like this are tough on 'em," Heath said, adding that people don't have to make it tougher. "They're gonna have a hard time."

Fish and Wildlife spokeswoman Michelle Dennehy noted that this winter is a normal one, although after six years of drought it may not seem that way. In the long term, the moisture from all the recent snow will help grow the forage that deer can eat later and use to fatten themselves up through the summer. That stored fat serves as insulation and as energy reserves for winter.

The department advises against feeding deer, since the animal's digestion adapts to the winter season and they can suffer from eating the wrong type of food at this time of year. If people want to give them something to eat, shaking the snow off of bushes and shrubs in the yard can help, Dennehy said.

Heath noted commercially available deer food but warned against corn-based feed that can stress their digestion and wind up killing them.

Some deer won't survive the winter, and that's part of the natural process. The department will conduct an annual statewide survey in the spring to gauge the winter's toll.

Dennehy also stressed the need to protect areas within their winter range, so that people in vehicles or on foot don't push them to move any more than they need to at a time when they're vulnerable.

"That's something that people can do to help — is realize they're low on energy and need to conserve energy," she said.

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