

# Yellow-cedar Salvage Logging in Southeast Alaska: Case Studies Reveal Large Variation in Producer Efficiency and Profitability

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As climate change rapidly alters conditions in Southeast Alaska, lower snowpack levels have caused a massive decline of yellow-cedar trees. Without an insulating blanket of snow, the shallow roots of yellow-cedar trees freeze during late spring cold snaps. Left behind is a growing expanse of “ghost forests” of dead yellow-cedars, affecting more than 600,000 acres (nearly the area of Yosemite National Park) (Figure 10). The decay-resistant properties of yellow-cedar allow the trees to remain standing for decades after death. Alaska Coastal Rainforest Center Director Allison Bidlack, and collaborators Brian Buma (University of Colorado, Denver), Sarah Bisbing (University of Nevada, Reno), and Brian Vander Naald (Drake University), set out to determine whether these ghost stands might provide an economic



**Figure 10.** The gray “ghost” trees visible on North Kupreanof Island are dead yellow-cedar in forests affected by yellow-cedar decline.

opportunity for small lumber mills in Tongass National Forest. The potential benefits of yellow-cedar salvage logging are numerous. As an alternate source of lumber, dead yellow-cedar could remove logging pressure on live trees and old-growth forests. It may also have a lesser impact on the surrounding ecosystem when removed, as dead yellow-cedar typically does not provide much wildlife habitat (aside from some use by nesting bats when the bark is loose but has not yet sloughed off). Yellow-cedar’s decay-resistant properties give it natural value for outdoor materials like decks and playgrounds, where other types of wood must be chemically treated for the same use. As the harvest allowance of live trees is restricted and the timber industry in Southeast Alaska continues to decline, an additional wood source could help sustain jobs at small, family-run logging and milling operations (Figure 11).

In reality, it’s more complicated. Because the dead tree stands are often scattered, remote, and more difficult to process, there can



**Figure 11.** Yellow-cedar lumber in a mill warehouse.

be higher logging and transportation costs with salvage logging. Access to quality dead tree stands through micro-sales is determined by the US Forest Service, and the supply can be inconsistent. And while live-harvest yellow-cedar lumber is sold widely in Asian markets, the market for salvaged dead trees is not yet established.

Over several years, Bidlack and her colleagues met with researchers, agency managers, and mill operators to find out how dead yellow-cedar salvage could provide a profitable timber source for Southeast Alaska mills. The researchers tracked operating cost and sales data from several small-scale lumber mills on Kupreanof and Prince of Wales Islands. In some cases, inaccurate cost-tracking made it hard to quantify the true costs and benefits associated with yellow-cedar salvage. The revenue from salvaged yellow-cedar varied widely among mills in the study, as did the reported milling costs and product values.

Despite the lack of quality data on the harvesting and transporting costs and market value of yellow-cedar products, their findings showed that logging dead cedar stands can be profitable. In their recently published report (see link below), the authors found that the most common and profitable use for salvaged yellow-cedar in the study was dimensional lumber, or wood cut into predefined, standard sizes. A few mills primarily used the lumber for firewood, which was the least profitable product created. But there may be a significant opportunity and profit in creating value-added specialty products with the salvaged wood, such as furniture, musical instruments, or specialty building materials.

“Our new climate reality, driving yellow-cedar mortality across much of the Tongass, presents an opportunity for a new approach to forest management and a forest products industry in Southeast Alaska,” said Bidlack in the report.

Over the next 15 to 20 years, the US Forest Service will transition away from old-growth tree harvesting towards young-growth management and harvest in the Tongass. Mills will need to find alternate lumber sources during this transition. To sustain this emerging industry, access to quality dead tree stands through micro-sales, and training opportunities for business owners to track and limit their costs, are needed. ☺

Read the full report: <http://acrc.alaska.edu/docs/Yellow-cedar-salvage-report.pdf>.