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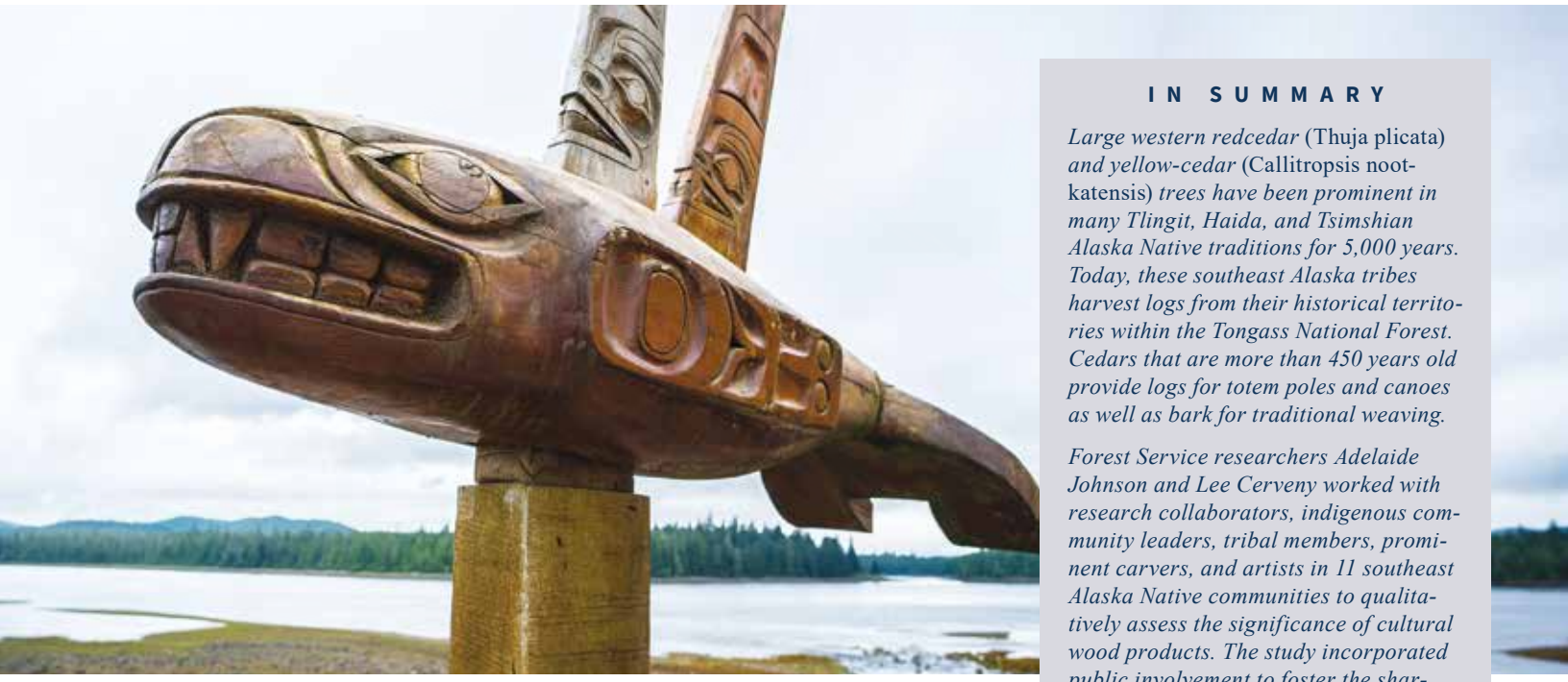
Science FINDINGS

INSIDE

"Science affects the way we think together."
Lewis Thomas

Old-Growth Wood for Cultural Uses: Sustaining Native Lifeways in Southeast Alaska



Yellow-cedar (Callitropsis nootkatensis) *is valued by many Alaska Natives for cultural products such as this totem in Hydaburg Culture Camp, Alaska. Photo by Bethany Goodrich.*

IN SUMMARY

Large western redcedar (Thuja plicata) *and yellow-cedar* (Callitropsis nootkatensis) *trees have been prominent in many Tlingit, Haida, and Tsimshian Alaska Native traditions for 5,000 years. Today, these southeast Alaska tribes harvest logs from their historical territories within the Tongass National Forest. Cedars that are more than 450 years old provide logs for totem poles and canoes as well as bark for traditional weaving.*

Forest Service researchers Adelaide Johnson and Lee Cerveny worked with research collaborators, indigenous community leaders, tribal members, prominent carvers, and artists in 11 southeast Alaska Native communities to qualitatively assess the significance of cultural wood products. The study incorporated public involvement to foster the sharing of community information with land managers. Participants also engaged in the intergenerational transfer of knowledge about stewardship and traditional cultural uses of wood within the Alaska Native communities.

After soliciting and documenting a variety of indigenous perspectives, the researchers distilled the information into a format that can be easily considered in forest management planning. This information supports the Tongass National Forest's land management plan of sustaining wood for cultural activities. Insights from Tlingit, Haida, and Tsimshian partners can inform conservation and reforestation efforts to support future needs for the cultural use of wood.

"We do not inherit this land from our ancestors; we borrow it from our children."

—Haida proverb

In 2018, artist Wayne Price carved the figure of a Tlingit woman in traditional fringed dress into a cedar log at his Haines, Alaska, studio. It took at least 2 years to complete the healing totem pole for a Juneau shelter for survivors of gender-based violence. Figures symbolizing hope and peace—a feather clutched next to the woman's heart, a young girl lovingly hugging her, and hands that represent healing—spiral up the ornate pole in the distinctive "formline art" of southeast Alaska's Tlingit, Haida, and Tsimshian peoples.

Price is a Tlingit master carver. He's one of many southeast Alaska Native artists carrying on a 5,000-year-old tradition of creating cedar products, such as totem poles, dugout canoes, woven baskets, and more.

"Totems are our history books. That's how we keep track of our legends and stories and family," Price told USDA Forest Service researchers in an interview. "That brings an important responsibility to a carver as a culture bearer." But this calling to practice and pass on cultural ways of life to the next generation is not without its challenges.

Tlingit and Haida master weaver Deborah-Aanutein Head pulls bark from a cedar tree for cultural use. Done carefully, trees recover from this bark removal. USDA Forest Service photo by Alexandra Freibott.

Price says it isn't easy to source the wood Alaska Native communities need for carving their traditional totem poles. Carvings, in particular, require western redcedar (*Thuja plicata*) or yellow-cedar (*Callitropsis nootkatensis*) trees that are more than 450 years old. The slow-growing trees produce tight-grained wood that is preferred by carvers for its consistency and strength.

Access to old-growth wood in southeast Alaska is complicated by climate change and forest management priorities. The Tongass National Forest, where Price and other artists would have sourced their wood, is one of the world's largest intact temperate rainforests and home to the largest acreage of intact old-growth forest in the United States. And logging old-growth trees can be controversial.

The Forest Service currently uses an even-aged forest management strategy that favors young and fast-growing trees. As it transitions to harvesting mostly young-growth trees, the agency meets its annual timber sales target of 46 million board feet by cutting both young and old growth. After this transition, the agency plans to offer 5 million board feet of old-growth timber annually to support southeast Alaska sawmills for niche value-added forest products and cultural uses.

Alaska Native communities need a permit to harvest trees for their cultural traditions, which many say is a challenging process to navigate. "There is a sense among tribal members that to have to get a permit from the Forest Service to access a site that is part of their homeland feels more than frustrating," says Lee Cerveny, a research social scientist with the USDA Forest Service, Pacific Northwest (PNW) Research Station.

The Forest Service, in its Tongass National Forest Land Resource and Management Plan, aims to "identify… areas that contain specific forest resources of heritage value used for Native art and craft forms," and "manage for the availability and use of forest products for traditional Native heritage activities." These art forms are the tribes' cultural lifeways: "practices that reinforce their cultural identity," Cerveny says.

To better understand indigenous perspectives about cultural uses of wood, Adelaide Johnson, a hydrologist also with the PNW Research Station, collaborated with Price; several Alaska Native organizations, including Alaskan Youth Stewards, First Alaskan Institute, Sealaska Corporation, and Spruce Root; and the Sitka Conservation Society to qualitatively assess the significance of wood products to communities.

The team recruited and trained young leaders from Alaska Native communities in citizen science, a method by which the general public helps collect and analyze data for research. "Youth are one of the best citizen science partners possible," Johnson says. "Relevant cultural youth engagements foster greater connections to elders in communities."

"This is a first step in bringing this conversation to everyone's attention," Cerveny says. "Certainly, it's on the minds of the Tlingit, Haida, and Tsimshian people. It's an important component of their cultural revitalization and their rights and tenure relations with their ancestral lands, which are also now known as the Tongass National Forest."

A Cycle of Community Engagement

The research team began working in Klawock and Hoonah in 2019 through potluck meetings with carvers, weavers, and other community members. They designed a unique methodology in which the community would help design and implement the study as well as share the results.

The study had four objectives: (1) assess knowledge of specific wood products essential for sustaining cultural lifeways, (2) assess the significance of the wood products, (3) assess management-related issues, and (4) compile youth-related questions.

Youth and interns would play an important role in data collection and processing. They would also learn carving, weaving, and the basics of local Northwest coastal formline art from Native artists, emulating the intergenerational learning indicative of cultural heritage activities.

"Bringing the students in is important for these communities because it's an investment in their future and builds capacity for creating a new cadre of people who live there, who have training, and who have an interest in understanding the culture," Cerveny says.

By early 2020, the team finalized discussion questions by using an iterative process that engaged multiple Alaska tribes, youth program leaders, agencies, and nongovernment organizations.

The discussion questions sought to draw out descriptions of significant cultural wood products and their benefits to communities; what communities knew about the Tongass

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USDA United States Department of Agriculture

Forest Service

Key Findings

- Forest products such as totem poles, dugout canoes, longhouses, woven hats, and woven baskets are associated with cultural and spiritual well-being and health, and provide education, tourism, and livelihood benefits to many Tlingit, Haida, and Tsimshian communities in Alaska.
- Access to wood for cultural use is an important concern. Study participants identified many strategies for improving access and working in partnership with tribes and other indigenous communities.
- Study participants favored management strategies, such as expanding access to trees on public lands, engaging local artisans in forest planning, allowing bark removal prior to forest-timber sales, and simplifying the tree-acquisition permit process.

In progress: a cedar bark hat woven by Deborah-Aanutein Head, Tlingit and Haida master weaver. USDA Forest Service photo by Alexandra Freibott.

Carver Burt Jackson talks to youth research participants about carving in Kake, Alaska. Photo by Brandon Ward.

National Forest's goal to ensure sustainable wood use for Alaska Native cultures; and related issues involving access, roads, and forest management.

From July to September 2020, 18 youth leaders interviewed 58 people in 11 communities; they used open-ended questions to gather the perspectives of weavers, carvers, elders, other culture bearers, Forest Service staff, timber sawmill owners, and community tribal representatives. Members of the Tlingit, Haida, and Tsimshian tribes comprised 73 percent of study participants. More than 75 percent of all participants had engaged in carving or weaving activities at least once.

Audrey Clavijo, a former Alaskan Youth Stewards leader (currently at Colorado State University), trained the youth in leading discussions and conducting interviews. She says that youth participation hopefully helped strengthen connections between these youth and their elders.

"Of course, those connections already exist because sometimes they were related to the people they interviewed. But they had a set of questions that could help them dive a little deeper into cultural topics that they may have never talked about with their elders before," Clavijo says. "It was my hope that they would gradually become more interested in carving and weaving to eventually become the knowledge bearers of this information in their community."

Clavijo says interviews followed COVID-19 public health and safety procedures set by each community. The researchers also returned copies of recorded audio files to local tribal community archives once the discussions were completed—to respect tribal data sovereignty.

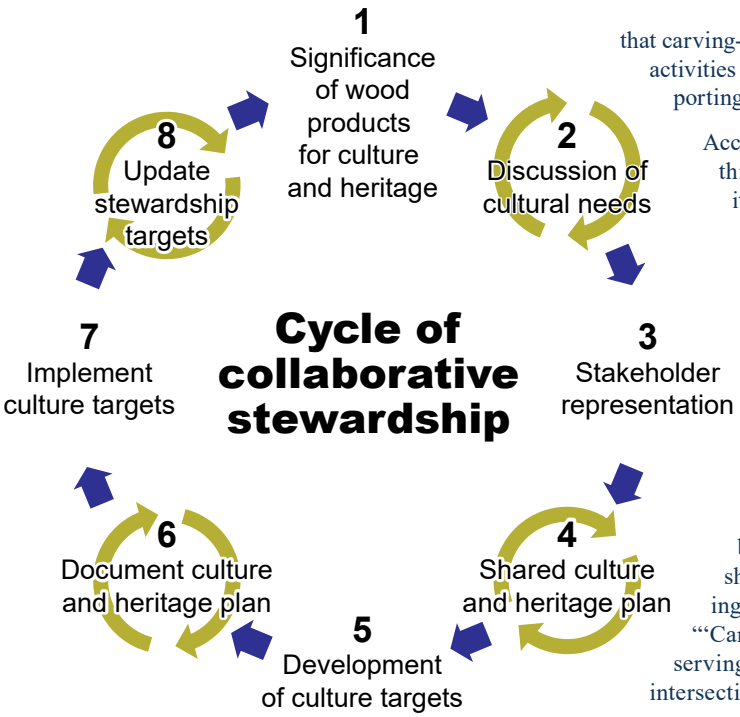
A Vital Link to Alaska Native Traditions

The analysis confirmed that Alaska Native communities attribute spiritual well-being and benefits associated with health, education, tourism, and livelihoods to the cultural use of wood products. Totem and mortuary poles, woven cedar bark or wooden hats, dugout canoes, cedar canoe paddles, and woven baskets were the most commonly mentioned products; and these objects are rich with cultural meaning for the tribes. Additionally, the act of harvesting, preparing, processing, and producing cultural products was found to be important for their cultural identity.

Project participants noted the importance of wood products as a means of learning from elders and revitalizing tribal cultural knowledge and literacy. They reported that making and using the products helped community members recover from illness, particularly from drug- and alcohol-related diseases. It also aided in gaining back a sense of cultural and spiritual well-being.

One participant linked drug and alcohol abuse to historical trauma tribes have experienced because of colonization. "Carving and weaving are an important part of healing from that," the participant said.

Johnson saw firsthand some of the well-being benefits associated with cultural products while taking carving classes from Price: "One of the biggest things I learned was how important continuing traditions was for health. Just participating in a craft is very therapeutic because it's almost like meditation. It's an important aspect to art in general. But imagine if your art is your culture, too."



An eight-step adaptive cycle of collaborative stewardship between Alaska Native communities and land managers. Arrows and circular cycles indicate inclusive, multidirectional flow of communication. Adapted from Johnson et al. (2021).

For some study participants, how and by whom cultural traditions are passed on to future generations was equally important. "A lot of our elders that were raised traditionally have passed on," said one participant. "So, the learning about our culture is taught through schools [instead of] at home. It has created a disconnect between the youth and the older people in our culture. So, I think activities like canoe journeys, raising new poles, all those kinds of things are ways that the younger generation can find connection with our culture."

The study also confirmed that the production and sale of wood products increased tourism-related opportunities for community residents and gave them a sense of sharing something meaningful with visitors. Many participants felt that carving- and weaving-related activities were important in supporting their incomes.

According to Johnson, this study and those like it indicate just how much today's Forest Service mission and these indigenous perspectives have in common: "In our paper, we have a [diagram] that shows overlapping circles of the land resource—the land, the rivers, the biology, the people," she says before invoking the agency's motto. "'Caring for the land and serving people' falls at this intersection."

Access

Tongass National Forest roads are an essential way to access cultural resources such as wood and bark, according to study participants. However, they also acknowledged these roads are "a mix of benefits and downfalls." Indeed, while roads in forests are necessary for transporting logs, especially large old-growth wood, studies have shown that these can fragment a large expanse of habitat into smaller isolated patches and cause a loss of biodiversity and increase deforestation.

Participants also observed that roads and tree harvests do not necessarily mean a supply of wood for their cultural traditions. Carvers and weavers said that it has become more difficult to access cedar trees.

"All the logging has created all the roads to go get it, which is nice," one participant noted. "But it also diminished the quantity of cedar; so it's a double-edged sword. They gave us the roads to get to it, but they also cut and sold most of it."

To find solutions, many Alaska Native leaders want the Forest Service to expand outreach to encourage local artisan engagement in forest planning. They also want to partner with the agency to select trees and have them delivered to access roads as part of ongoing timber sales. Many participants said they wanted to involve Forest Service staff in Alaska Native cultural practices to nurture better collaboration.

"Some people suggested going out and gathering cedar bark with weavers, looking for the specific conditions you need for a totem tree or a canoe tree," a youth researcher said. "I think that would make a huge difference in forest officials' understanding."

Participants also suggested allowing Alaska Native communities to remove bark from cedar trees prior to timber sales, simplifying the tree acquisition permit process, and reserving cultural forest groves to sustain trees seven generations into the future.

"As far as I know, there are no forest groves that are set aside for Native use, and I think some of those discussions are going to start happening," Johnson says. The suggestion to sustain trees seven human generations into the future came out of a discussion with Price about carvers' requirements for the ideal tree.

"A tree takes 450 years to grow to have the characteristics that are needed for a dugout boat, for instance," Johnson says. "It needs to be large. The growth rings need to be really tight, and the wood needs to be clear without branches coming out."

Participants expressed a desire for opportunities to share knowledge about stewardship practices with forest managers and explain indigenous stewardship approaches that emphasize respect, reciprocity, balance, and gratitude. Examples of these were selective tree harvest, never taking more than is needed, and thanking or honoring the tree before or during harvest.

"Native stewardship of the land is all about time and place and honoring the animals and trees—they aren't just commodities," Johnson says.

Seven Generations Into the Future

The research team shared the study results through a workshop on Prince of Wales Island in April 2021. Kevin Hood, the Forest Service tribal relations liaison for Alaska, says that the U.S. Department of Agriculture's new Southeast Alaska Sustainability Strategy would be able to make use of the study results.

Hood says that in line with the new strategy, Agriculture Secretary Tom Vilsack directed

Kasaan canoe carved by Glenn "Stormy" Hamar. Photo by Bethany Goodrich.

LAND MANAGEMENT IMPLICATIONS

- Insights from Tlingit, Haida, and Tsimshian partners can inform conservation and reforestation efforts to support future needs for the cultural use of wood.
- Including Alaska Native communities in planning and decisionmaking about community access to trees that support cultural activities could improve communication and collaboration with forest managers.
- Community engagement and participation involving Alaska Native youth may inspire interest in forest management careers, further fostering indigenous community-forest manager communication and collaboration.

the Forest Service and other agencies last year to consult with tribes and work together with partners and communities in southeast Alaska to identify priorities for investment—including those for "traditional and customary cultural uses."

"The first step is to get a good sense of what is out there," Hood says. "We already have several proposals from tribes to use ArcGIS Survey123 [a data-gathering tool that uses geographic information systems] to go out and map the Tongass National Forest for forest cultural resources." Because the current administration is emphasizing co-stewardship with tribal governments, Hood says it would be good for discussions to lead to concrete changes in the next Tongass National Forest plan.

These developments are going the direction the researchers had hoped. "We have designated wilderness areas, some for research and other kinds of forest designations," Cerveny says. "Perhaps the study can raise questions and suggest conversations around whether cultural designations might be part of the mix."

Cerveny, Johnson, and their colleagues are also hopeful that the young citizen scientists will continue to help their Alaska Native communities meet their cultural needs for wood.

"Part of the study was to educate the youth on this relationship between current forest management strategies, Native stewardship practices, and biocultural conservation. If they want to pursue carving and weaving, how are we going to ensure that they can continue these cultural traditions?" Clavijo says. "Now is the time to make sure that we have regulations and management in place to protect those cultural resources, because the trees might not be there in the future if the forest is managed in the way that is has been in the past."

Clavijo says that the project gave the youth an opportunity to learn from their elders and community members about traditional activities they may not have participated in previously: "I hope that their discussions with local artists, elders, and culture bearers gave them an opportunity to learn more about a specific part of their heritage and become more interested in cedar carving and weaving."

Additionally, the youth were able to practice scientific research methods, including data collection through surveys and interviews. "Their confidence in facilitating and leading the discussions enhanced with each participant," Clavijo says. "It was amazing to see them learn and grow in these skills!"

Meanwhile, youth leaders involved in the study were already looking toward the future by engaging in seedling experiments to better understand sites associated with cedar seedling survival. Walking through the forest already gives the youth a strong sense of connection to their ancestors.

Mature yellow-cedar. Adobe Stock.

Clavijo and her crew were walking through the forest in Kake last year to check on some seedlings when they saw a texture difference on one of the old trees. "These were culturally modified trees," she says. "You could tell that a hand's width had been peeled off the tree a long time ago and the tree had healed itself."

"The youth were really interested and impressed and contemplative. I think it just made them think that the person who took bark off of that tree could have been related to them," Clavijo says. "A long time ago, someone harvested from this tree and made something beautiful from it."

"You can't stay in your corner of the forest waiting for others to come to you. You have to go to them sometimes."

—A. A. Milne

For Further Reading

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