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Making Koa Sustainable

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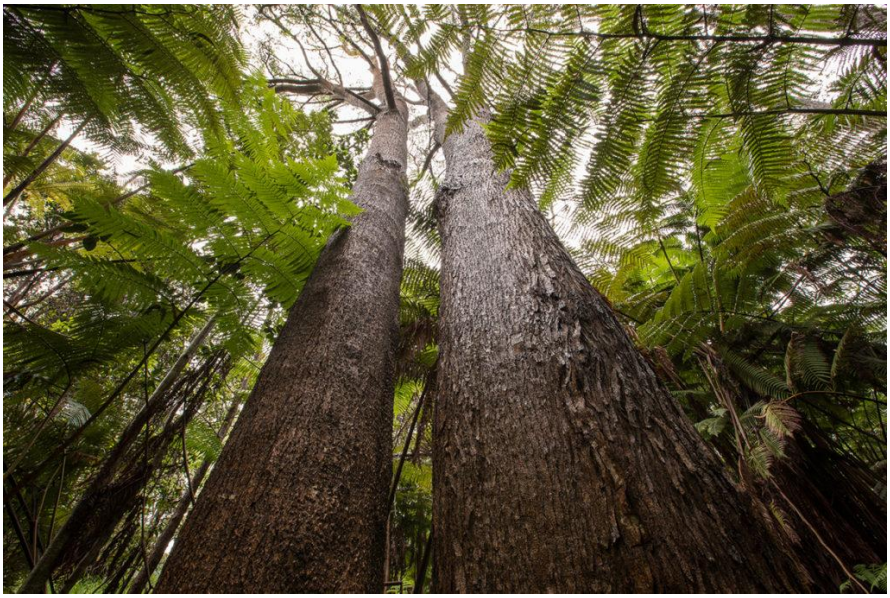
The best of it sells for as much as $150 a board foot – 12 by 12 by 1 inch – and can be difficult to obtain if you're a woodworker with limited resources.

It grows quickly for a tree – 30 years to full growth with some as old as 100 or more – and can be found at all elevations in Hawaiʻi, in both dryland and wetland tropical forests. It grows best at high elevations and likes the sun. The most prized trees grow straight and tall – often as high as 115 feet – or even higher for old growth.

Koa is important for the environmental health of Hawaiʻi: Its beautiful spreading canopy catches rain and mist, protecting watersheds and aquifers and sustaining the health of other native forest plants, endangered native birds and the Hawaiian hoary bat.

The name of the tree is also the word for brave and warrior in the Hawaiian language, which is just one more indicator of its importance in Hawaiian culture.



Looking up a tall, twin trunk koa in the Kapāpala Koa Canoe Forest in the Kaʻū Forest Reserve on Hawaiʻi Island. | Photo: Jeff Hawe

All of that makes the story of koa immensely complex and provides a huge challenge to the state agencies that manage koa. The state Department of Land and Natural Resources, or DLNR, and its Division of Forestry and Wildlife, or DOFAW, face a constant balancing act between making some koa available for use now and in the future, and reforesting state land with koa to strengthen the watershed.

Bob Masuda, deputy director of DLNR , says that without the koa and ʻō hiʻa trees, more water would run off into the ocean, carrying soil with it.

“The most important thing for us is the recovery of our watershed,” says Masuda. “Our aquifer (on Oʻahu) is going negative, not positive. There are too many people on this island. The freshwater level is not where it should be, so we are working desperately to increase two things. One is increasing the forest by replanting, or increasing the health of our forests by planting healthy trees, or replacing invasive trees with healthy trees, and two is removing roaming animals.”

“Koa and ōhiʻa fulfill the same role,” says DOFAW administrator David Smith. “Half of the water is cloud drip blowing through. There’s actual data that shows that as forests expand, so does the ability of land to gather water and retain it.”

1Fallen koa tree in the Kapāpala Forest. This particular log “will serve as an important nursery bed for new trees and plants to grow from,” Irene Sprecher says. It is also exemplary of the type of koa log that woodworkers would source for lumber. | Phot

Koa is far from endangered, but DOFAW controls any cutting on state land, which is limited to careful pruning and thinning of fallen, dead or dying trees, Smith says.

“You need a permit to cut koa, and it needs to be done in a manner prescribed by DOFAW so it protects the forests. It’s a highly supervised practice, sometimes in an area where it needs to be pruned out. It’s not like, ‘Hey, you can go and cut koa anyplace.’ ”

It’s difficult to determine the exact number of acres with koa but there are 215,000 acres of forest statewide – including state, federal and private lands – with koa as a

dominant tree, according to data from Irene Sprecher, DOFAW forestry program manager.

Sprecher estimates there are from 8 million to 16 million koa trees statewide. And state and private landowners are continually replanting koa. For instance, McCandless Ranch in South Kona is replanting with more koa, and has about 1,500 acres in its koa belt. Kealakekua Ranch, also in South Kona, is replanting a couple of thousand acres with koa.

DOFAW forestry planner Jan N. Pali says, “In the last 10 years DOFAW has planted 170,000 koa seedlings, primarily on Maui and Hawaiʻi Island, covering approximately 10,000 acres. The majority of this koa was outplanted for watershed protection and not for timber production.”

Pali says much reforestation has already been done on Oʻahu, primarily with non-native trees during the mid- 20th century, but also by early foresters planting koa and ʻōhiʻa on a smaller scale.

For instance, native trees will be planted in the Helemano area on land recently acquired by the state. A community-based planning process for the area has begun.

State Botanist Matthew J. Keir, who works to regenerate threatened and endangered species, knows the value of koa but doesn’t work with it simply because it’s not in danger.

“It’s a foundational tree in the forests, and it’s super important to all the rest of the ecosystem,” says Keir. “My programs don’t target koa because it’s really common and very sound.”

“It’s not even close to being endangered,” agrees Peter Simmons, a long- time Big Island forestry expert who helped found the Hawaiʻi Forest Industry Association 30 years ago to help manage the state’s forest resources. Simmons also helped found the non- profit Hawaiʻi Forest Institute to fund educational and scientific projects.

Simmons says koa reseeds itself easily, grows fast, and seeds can remain viable in the soil for as long as 50 years. Working the soil can bring them quickly to life.

What isn’t clear is how much koa can be harvested now while maintaining a sustainable supply for future generations. That’s why Simmons and Nick Koch, president of the Hawaiʻi Forest Industry Association, are working together on a plan.

The two longtime forestry professionals are working with the state and private landowners to make more koa available for woodworkers now while keeping it sustainable for the future.

“Peter and I are working on a project to keep a stable supply of koa out there in the market,” says Koch. “That would be about 400-600 trees a year, or about 120,000 board feet a year consistently.”

They are working with the government and two companies, Paniolo Tonewoods and Kamuela Hardwoods, to cut some koa for the local market, he says.

“The state put out a small sale of 10,000 board feet from the Kona area and we hope we can continue to work with them.

“That doesn’t mean cheap wood. It’s not free. They have to pay market prices,” Koch says.

The collaboration is called the Kamaʻā ina Wood Market, and buyers must be members of the Hawaiʻi Forest Industry Association.

Koch and Simmons know many local woodworkers can’t compete with big Mainland companies that buy whole containers of logs, each around 4,000 board feet at a cost of $40,000 to $80,000. But they could purchase a pallet with about 100 board feet, priced around $2,000.

Much of the guidance for Koa’s future is laid out in the state’s Koa Action Plan that was created about five years ago by state and federal forestry agencies, UH experts and private foresters. The plan recognized the tree’s environmental, cultural and economic value.

“Koa is Hawaiʻi’s premier timber species, contributing the majority of the state’s $30 million/year forest products industry,” the plan says. “It also provides one of the most valuable woods in the world. … The goal for sustainable forestry is to provide a win-win-win situation by simultaneously promoting conservation, economic development, and cultural enhancement.”

The economic value of koa alone is likely upward of $30 million now, say state DLNR officials, and that could grow with a steady supply.

A new Koa Action Plan is in the works, but many projects in the existing plan remain. Many include how to convert now fallow sugar and grazing lands into koa forests – basically returning the land to its original state.

While there were funding issues four or five years ago, says Masuda, last year the state Legislature budgeted $4 million to DLNR for forest management, with another $6 million provided in the 2019 session, followed by an additional $6 million next year.

“We’re going to be replanting and fencing, or restoring the fences in our most important watershed areas,” says Masuda. “The more we nurture and protect our forests and our watershed, the more we protect our own lives.”

What is also happening, says Simmons and Koch, is a reevaluation of the responsibilities of the private sector, especially large-scale koa buyers.

“Koa is moving toward this idea of ‘What are you doing for the forest?’” says Koch. “One of the things that Paniolo Tonewoods brought to the table was stewardship contracting, i.e., exchanging services, such as fencing, planting and tending to the trees.”

The Koa Action Plan suggests the possibility of using investment in koa forests as a potential way to develop a carbon exchange plan. Just in the last few months the state has put in motion the first stages of developing a carbon exchange program, launching a project to set sequestration standards. Koa forests do sequester carbon, which makes them a resource to diminish greenhouse gases that are causing climate change.

The goal would be to “develop carbon markets for koa forestry to offset carbon emissions and to provide economic incentives for private investment in koa forestry, and to fund forest management on public lands,” according to the plan.

Both state and private forestry officials say the strength of what’s happening today is how well different organizations are working together to enhance the koa forests.

The state’s Forest Stewardship Program, for instance, shares costs with private landowners who want to do native forest reforestation to make koa available as a future resource.

“If they’re a private landowner and interested in doing forestry, they can come into the program and develop a management plan,” says DOFAW’s Sprecher. “If it’s approved they can apply for cost share support, and technical support. It helps people get over that initial financial threshold.”

Last year alone 170 landowners connected with the program about forest management projects, says Sprecher. To date 30,880 acres are enrolled in the program.

“We all want to see the best for all the forests we have,” adds Simmons. “The question is how do we get there and what’s the best way? I’ve seen people really contributing in a community way. It’s not just people saying, ‘How can I make money on that tree?’; it’s people saying, ‘What’s the right thing to do.’ ”

Source: https://www.hawaiibusiness.com/koa/