



**DEPARTMENT OF  
NATURAL RESOURCES**

**OFFICE OF THE  
COMMISSIONER OF PUBLIC LANDS**  
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June 29, 2023

The Honorable Bernard Dean  
Chief Clerk of the House  
338B Legislative Building  
Olympia, WA 98504

The Honorable Sarah Bannister  
Secretary of the Senate  
312 Legislative Building  
Olympia, WA 98504

Dear Chief Clerk Dean and Secretary Bannister:

Please accept the enclosed legislative report on the research and cooperation with Finland and Finnish Organizations regarding sustainable forestry practices. This report, submitted on behalf of Department of Natural Resources (DNR), was required in Sec. 310 (50) of the 2022 Supplemental Operating Budget (ESSB 5693). The bill provided funding for DNR to engage in this work and report on how the funding was used, what kinds of research and cooperation were accomplished, and recommendations for further collaboration. The report is due to the appropriate committees of the legislature by June 30, 2023.

Should you have any questions, please contact me at 360-486-3469 or [Brian.Considine@dnr.wa.gov](mailto:Brian.Considine@dnr.wa.gov).

Sincerely,

Brian Considine  
Legislative Director  
Office of the Commissioner of Public Lands

Enclosure: Legislative Report – Finland Sustainable Forestry Cooperation

cc: Members of the Senate Ways and Means Committee  
Members of the House Appropriations Committee  
Senator Marko Liias, 21<sup>st</sup> LD

# Sustainable Forestry Practices Research and Cooperation with the Republic of Finland

A Report to the Legislature in Response to ESSB 5693 (Chapter 297, Laws of 2022)

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Office of the Commissioner of Public Lands, Hilary Franz  
June 30, 2023



WASHINGTON STATE DEPARTMENT OF  
**NATURAL RESOURCES**

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# Table of Contents

Table of Contents ..... 2

Executive Summary ..... 3

Partnership Timeline..... 4

Future Collaboration Opportunities ..... 9

Recommendations .....10

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# Executive Summary

This report provides the appropriate committees of the legislature with a summary of how the Washington State Department of Natural Resources (DNR) used legislative funding to advance research and cooperation with governmental agencies of Finland and Finnish organizations to implement sustainable forestry practices, as described in the following 2022 budget proviso.

*Sec. 310 (50): \$167,000 of the general fund—state appropriation for fiscal year 2023 is provided solely for the department to advance research and cooperation with governmental agencies of Finland and Finnish organizations to implement sustainable forestry practices. The department must report to the appropriate committees of the legislature, by June 30, 2023, on how the funding was used, what kinds of research and cooperation were accomplished, and make recommendations for further opportunities for collaboration.*

DNR has made steady progress over the past year to strengthen the relationships between the Republic of Finland and the State of Washington, including the public, private, and academic sectors. Through those relationships, we have identified opportunities for future research and collaboration.

These include:

- Sustainable Forestry
- Wood Building, including the fabrication & use of Cross Laminated Timber (CLT)
- Expanding Washington State’s Bioeconomy

Through this experience the opportunities within the sustainable forestry ecosystem in Washington have also been strengthened, which has been a marvelous co-benefit of the funding provided by the legislature.

## Legislative Leadership

Of course, none of this would be achievable without the leadership and foresight of members of the Legislature, most notably Senator Marko Liias. By providing DNR with direction to seek partnership opportunities with the Government of Finland and Finnish Organizations in early 2022, we have been able to witness how the current war in Ukraine is affecting Sustainable Forestry practices and the bioeconomy in Finland as Finnish businesses look to shift their investments more globally to continue to navigate the impacts felt due to the war. We thank the Legislature for extending funding for the 2023-25 fiscal years, so that we may leverage the last year of coordination to focus on one or more collaborations with the Government of Finland and Finnish Organizations.

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# Partnership Timeline

In April 2022, the Washington State Department of Natural Resources (DNR) began coordinating with the Finnish Embassy, Business Finland, and other partners to collaborate in the areas of sustainable forestry, wood building, and expanding our bioeconomy. This led to a series of events, meetings, and two international delegations participating in exchanges over the past year. Below is an overview of each of those interactions.

## **United States-Finland Forest Sector Event (June 2022)**

The Finnish Embassy in Washington, D.C. hosted a United States - Finland Forest Sector Event. This event brought together political leaders and experts in forest policy and climate action to highlight the role of forests in climate change. COP26 in Glasgow made significant headway in highlighting this through both engagement at top leadership levels and by making concrete policy initiatives and announcements.

The event at the Finnish Embassy was another opportunity to bring together the U.S. forest and bioeconomy actors and make connections with counterparts in Finland, as well as Norway, Denmark, and Sweden. All four countries had ambassadors participate in the event.

DNR participated in the workshop and met with the Embassy officials in preparation for the Finnish delegation's visit to Washington State.

## **Washington Sustainable Forestry Tour (October 2022)**

In October 2022, DNR hosted the Finnish Ambassador to the United States, Mikko Hautala, and a delegation of industry and academic leaders from Finland for a week-long tour focused on sustainable forestry practices in Washington State.

Participants included representatives from Ponsse North America Inc., Kesla Oy, Logset Oy, Nordic Trading House Ltd., the University of Eastern Finland, the Embassy of Finland, and the Consulate General of Finland in Los Angeles.

The group visited the following locations to meet with DNR scientists and land managers as well as industry and academic representatives.

- Bandera Good Neighbor Authority Timber Sale located near North Bend on U.S. Forest Service ground;
- Summit at Snoqualmie Inn to discuss forest inventory, climate change, using science and technology to address complex management challenges, and managing for diverse ecosystem services;
- West Fort Teanaway Campground to discuss local harvesting challenges and using forest health treatments to benefit local economies;

- Longview Fiber Mill in Winton, WA to discuss C6 biochar and forest compost facility;
- A field tour of the Mission Project to see both active and recently completed forest treatments on U.S. Forest Service ground;
- A field tour of the Virginia Ridge DNR Timber Sale to discuss completed forest health treatments and a recent wildfire;
- A tour of the Hampton Lumber Mill and cogeneration facility in Darrington, WA;
- A discussion at the Darrington Community Center which covered the Darrington Wood Innovation Center, Westside forest treatments, sustainable logging, and ecosystem services; and
- An evening panel discussions on mill infrastructure, innovation and research as well as carbon removal, biochar, and forest health.

DNR also held a reception for the Finnish Ambassador at the University of Washington's Center for Urban Horticulture which had three panels focused on Forestry practices in both Washington State and Finland, as well as a research panel featuring local experts from the University of Washington.

At the conclusion of the tour, DNR sought feedback from the Finnish delegation on the following:

- Potential partnership opportunities, focusing mostly on biomass and CLT;
- Education and training opportunities;
- Insights into topics such as the diversity of forests, bringing back forests to pre-settlement condition, and the diversity and need for different cutting methods;
- The delegation's reception in Washington;
- Finland's reputation in Washington; and
- The tour itself (highly regarded was the consensus).

### **International Mass Timber Conference (March 2023)**

In March 2023, the International Mass Timber Conference was held in Portland, Oregon. Petri Heino, who is a representative from the Finnish Ministry of the Environment, Department of the Built Environment, as well as Program Director of the Wood Building Program, attended the conference, along with a number of participants from Washington State including CLT manufacturers, architects known for CLT designs and construction, and DNR.

The DNR meetings and discussions at the Conference focused primarily on opportunities related to the existing CLT supply chain, including mills and fabricators, as well as expansion

opportunities. DNR also toured the Timberlab CLT fabrication facility in Portland and saw the fabrication of a four-story office building that was to be constructed in Seattle.

### **Finland Delegation to Department of Natural Resources (April 2023)**

In April 2023, DNR hosted another sustainable forestry delegation from Finland, which was touring forestry and milling operations from British Columbia to California. During the meeting at DNR, the delegation made presentations on the following:

- Forest ecosystem inventories and forest information systems and risk assessments;
- Circular economy leadership in the food, forest, technical, transportation, and policy areas;
- GreenHub for Joensuu, a smart forest innovation platform;
- The Riveria forest machine training center; and
- The Luke, Natural Resources Institute Finland's approach to finding sustainable futures of the forest bioeconomy as well as the well-being benefits from renewable natural resources.

The delegation included representatives from the North Karelia Region of Finland, Arbonaut, Ltd., Business Joensuu, the Natural Resources Institute Finland (Luke), Riveria, and Kesla harvesting equipment.

DNR also presented on Washington's Olympic Experimental Forest, including our program activities such as research and monitoring, adaptive management, research partnerships, education, and more. The Finnish delegation was most interested in our approach to managing riparian areas. This area was identified as an opportunity for DNR to continue to share our expertise with Finnish government, researchers, and businesses.

### **Washington/Maine/Michigan Sustainable Forestry and Wood Building Delegation to Finland (May 2023)**

The first year of DNR's partnership with the Finnish Embassy and Business Finland concluded with DNR leading a 20-person delegation from Washington State to Finland. There the delegation participated in a week of tours and workshops to better facilitate research, collaboration, and business opportunities intended to lead to additional economic development and trade between Washington State and Finland. The Washington State delegation was joined by similar delegations from the forested states of Maine and Michigan.

The Washington delegation included elected officials and government representatives at both the state and local level, industry leaders in milling and CLT fabrication, foresters and land managers, architects, and academic leaders from the University of Washington and Washington State University.

The tour was divided into two groups, one focused on Sustainable Forestry and one focused on Wood Building.

The **Sustainable Forestry** group participated in the following activities:

- A tour of the Versowood factory and discussions on Eurosaw, log yard, glulam finishing, sculpture, and pellets;
- A tour of the Raute factory to see their operations;
- A discussion about the industrial ecosystem of the Varkaus region of Finland;
- A tour of Ponsse's factory in Vierema, with presentations on the history of the site, opportunities to try training simulators, and a visit to a nearby logging site;
- A tour of the Riveria forest machine training center to discuss workforce development and training opportunities;
- An introduction to the Natural Resources Institute Finland (Luke);
- A visit to the GreenHub in Joensuu to discuss the Forest capital of Europe and potential collaborations with the United States;
- A visit to Kesla's factory;
- Dinner with Business Joensuu to discuss partnership opportunities; and
- A tour of Nemus Futurum, the Metsa Group's forest visitor center, which showcases the Finnish forest through cutting edge technology.

The **Wood Building** group participated in the following activities:

- A tour of the Versowood factory and discussions on Eurosaw, log yard, glulam finishing, sculpture, and pellets;
- A tour of the Raute factory to see their operations;
- A tour of the Homka log home factor to discuss their log building technology and construction of some of their model projects;
- Traveling to Kauhajoki to meet with the Mayor and visit a number of companies working on wood innovation in the "bread basket" of Finland, including a tour of the Pinomatic factory to see the manufacturing of machinery, a CLT plant to watch CLT made from lumber all in one facility and the JVR plant, to see CLT residential modular units being constructed;
- Tour of the Puukuokka Housing Block to see the energy-efficient and ecological trio of multi-family apartment building constructed with CLT;



- A factory tour and discussion with HewSaw which included seeing part of the factory constructed with CLT that was manufactured in Washington State; and
- A dinner with Business Jyvaskyla, including presentations from climate positive textiles fibre, Spinnova Oy, sustainable, acoustics by Aisti Oy, and wood processing technologies by Valmet Oy.

The delegates also participated in a workshop at Aalto University focused on forest innovations in both wood construction and architecture, and on new wood-based products. Participants included researchers from Aalto University, VTT Technical Research Center Finland, Aalto Haitek Oy, Fiberwood Oy, Lignosphere Ltd., Dekotel Coating Oy, Incell Ltd., Sulapac Ltd., Woodly Ltd., Woamy Ltd., and Nortic Bioproducts Group Ltd.

The delegates then participated in a workshop hosted by Business Finland on the final day of the tour. Also joining this event were the US Ambassador to Finland, Douglas Hickey; the Director General & CEO of Business Finland, Nina Kopola; and the Permanent Minister of Forestry and Agriculture for Finland, Hanna Husu-Kallio.

The workshop aimed to set up ongoing collaboration in 10 main areas between the three states (Maine, Michigan and Washington) and Finland.

1. Precision forestry to reduce emissions
2. Improving forest climate-resiliency and growth with biochar and ash soil amendments
3. Innovation ecosystems for climate-smart wood products
4. Wood products market innovation to catalyze a climate-friendly circular bioeconomy
5. Wood residual use in long-lived products to enhance C storage
6. Lignin valorization for carbon storage in long-lived products
7. Mass timber: lifecycle and end-of-life strategies to optimize climate benefits
8. Forest fire mitigation
9. Threats to forest ecology and conservation and solutions for sustainable management
10. Forest Policy

### **Collaboration with Maine and Michigan**

The May 2023 tour of Finland focused on Sustainable Forestry and Wood Building was conducted in partnership with similar delegations from the states of Maine and Michigan. It was the largest tri-state delegation that Business Finland had ever hosted with a total of approximately 70 participants from the US. In addition to furthering partnerships with Finland, the planning and executing of the tri-state delegation also furthered partnerships between the states in the areas of sustainable forestry, wood building, and advancing Bioeconomy opportunities within the United States. These partnerships are likely to continue both, bi-laterally with Finland as well as

bi-laterally with each state. Potential additional opportunities to showcase the advanced work already being done in Washington State to these states, as well as learning from and with them, added another important dimension to the investment that the Washington State legislature has made in advancing sustainable forestry practices.

It will also foster additional opportunities to work with the US Federal Government to support some of the emerging prospects that come from the partnerships with Finland around sustainable forestry, as well as the MOUs each state has with Finland to further critical work addressing climate change, providing jobs and economic development to rural economies, and having wood construction lead in addressing housing shortfalls.

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## Future Collaboration Opportunities

Working groups made up of participants from Washington State, Maine, and Michigan have been formed on the following areas of interest.

1. Precision forestry to reduce emissions
2. Improving forest climate-resiliency and growth with biochar and ash soil amendments
3. Innovation ecosystems for climate-smart wood products
4. Wood products market innovation to catalyze a climate-friendly circular bioeconomy
5. Wood residual use in long-lived products to enhance C storage
6. Lignin valorization for carbon storage in long-lived products
7. Mass timber: lifecycle and end-of-life strategies to optimize climate benefits
8. Forest fire mitigation
9. Threats to forest ecology and conservation and solutions for sustainable management
10. Forest Policy

Additional opportunities identified by Finnish participants in the Washington State tour included:

1. Training for CLT/Mass Timber
2. Support for more CLT/Mass Timber projects
3. Data/Technology around Sustainable Forestry
4. Creation of market opportunities for biomass
5. Wildfire prevention and monitoring
6. University and student exchange opportunities in both research and practice

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# Recommendations

## **1. Workforce Development**

Finland has done an exemplary job of showing young people the career opportunities that exist in forestry, natural resources, the bioeconomy, and in manufacturing and management of the modern machinery that is required in smart and sustainable forestry. There are near-term opportunities to send Washington State students to the Riveria forest machine training center in Finland, or to develop a train the trainer program. There are longer term opportunities to explore recruitment techniques deployed in Finland to attract rural youth with video game skills to run high-end engineering equipment that adds efficiencies and changes the way factory jobs are perceived.

## **2. Circular Bioeconomy Opportunities**

There are a myriad of circular bioeconomy opportunities that need to be further researched and developed, but Washington State is the ideal location to tell this story in partnership with innovators, researchers, investors, and governments who can support these efforts. Finland's approach to promoting their bioeconomy is commendable.

## **3. Expand Biomass Market Opportunities**

DNR and partners in Washington State and Finland continue to explore how to create additional market opportunities for biomass. This could include additional research on the barriers or incentive for earlier adopters. It is clear that markets for biomass exist in Finland that do not yet exist in Washington State.

## **4. Mass Timber and CLT**

Invest in both rural and urban communities in Washington through encouraging additional adoption of Mass Timber and CLT, not just for wood construction of buildings, but the entire supply chain. The circular bioeconomy opportunities for Washington State are to utilize Washington grown trees to become Mass Timber, CLT and other wood products through local mills, factories and fabricators located near the wood supply and where housing is most needed.

## **5. Economic and Research Opportunities with Finland**

Not only can Washington State learn from and with Finland on a number of topics of mutual interest. There is an opportunity for increased trade and economic growth opportunities by working with and growing partnerships with the Finnish Government, Business Finland, companies based in Finland and research institutions in Finland