



Local Independent Administrative Agency
Hokkaido Research Organization

OUTLINE



Forestry Research Institute

Forest Research Department

Hokkaido Research Organization

Our research realizes new dreams for Hokkaido.

Hokkaido Research Organization (HRO) was established after the integration of a wide range of prefectural research institutes involved in agriculture, fisheries, forestry, industrial technology, the environment and geology and architecture, with the aim of improving the lives of Hokkaido citizens and promoting industries in Hokkaido.

Among the above-mentioned institutes, the Forest Research Department, which consists of the Forestry Research Institute (in Bibai City) and the Forest Products Research Institute (in Asahikawa City), the conducts extensive research and technical support for forestry, forest products industry and its relevant fields.

The Forestry Research Institute, which serves as a research department, proceeds with research in cooperation with administrative agencies, forest owners, corporations and relevant businesses. The research achievements accomplished by the Institute, which have been disseminated through presentations and seminars by lecturers of the Institute and in publications, as well as by guidance organizations in forestry extension, have been utilized in various fields.



History

- 1957 Established as Koshunai Sub Station of the Iwamizawa Prefectural Forest Office
- 1961 Hokkaido Koshunai Forest Tree Breeding Station was established.
- 1964 Renamed Hokkaido Forestry Research Institute.
- 1966 Donan Research Test Station was established.(Renamed Donan Station in 1975)
- 1967 Doto Research Test Station was established.(Renamed Doto Station in 1975)
- 1970 Dohoku Research Test Station was established.(Renamed Dohoku Station in 1975)
- 1999 Greenery Research and Information Center was established.
- 2002 Ornamental Tree Exhibition Garden was opened.
- 2010 Hokkaido Research Organization (local independent administrative agency) was established after the integration of 22 prefectural research institutes. The name was changed to Forestry Research Institute, Forest Research Department.



Facilities



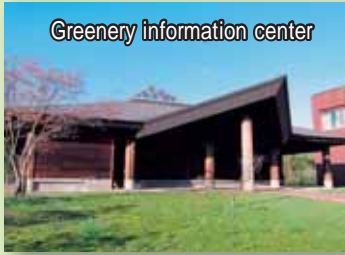
Headquarters



Laboratory and training building



Panoramic view of the Forestry Research Institute



Greenery information center



Dormitory for trainees



Ornamental tree exhibition garden



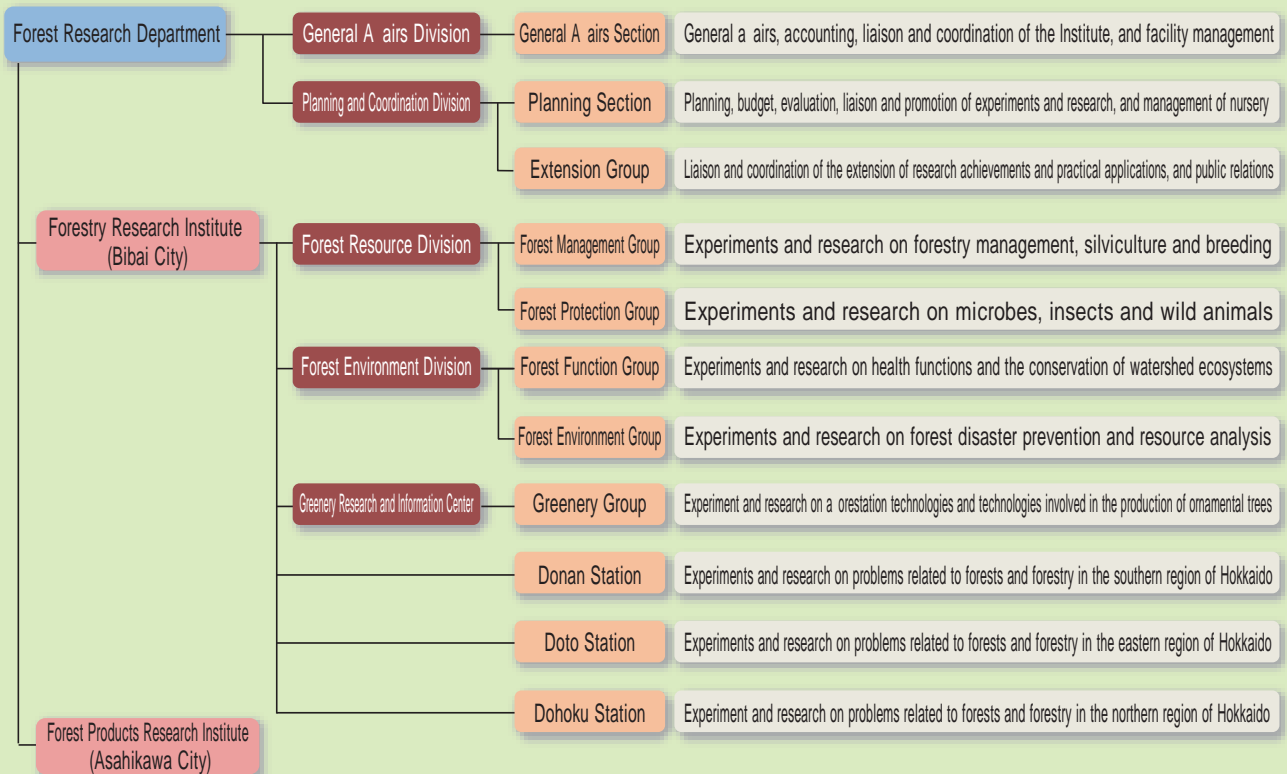
Nursery and exhibition forest



Experimental forest



Organization



Propulsive direction of research

Maximizing the potential of forest functions to enrich the lives of Hokkaido citizens

To improve the lives of Hokkaido citizens through various forest functions, we engage in research and development of ways to make the most of the public functions of forests, forest management taking biodiversity into consideration and forest health.



Creation of coastal disaster prevention forests / Development of technologies for forest management

We carry out research on the development of technologies for the appropriate density control of coastal forests and the creation of coastal forests, as well as on the tsunami mitigation effect of coastal forests.



Clarification of the functions served by inland windbreak forests and the development of technologies for the regeneration of inland windbreak forests

We perform research to clarify the yield-increase effect of inland windbreak forests, and to develop technologies for the regeneration of inland windbreak forests.



Conservation of river water quality

We conduct research on the relationship between the forest watershed protection function and silviculture.

Utilizing greenery resources to improve the living environments of Hokkaido citizens

With the aim of enriching the living environments of Hokkaido citizens by leveraging nearby vegetation, we carry out research to develop technologies for the creation of new ornamental trees and to promote greenery management depending on regional characteristics.



Development of the Chishima cherry (*Prunus nipponica*) tree cultivar

We perform research on proliferation technologies by cultivar registration and tissue culture to create individual cultivars with high ornamental value.



Development of tree deterioration diagnosis equipment

We are engaged in the development of a device that can measure inner tree defects non-invasively, such as the detection of deterioration based on resonant measurement.



Development of technologies for clonal proliferation

We address the development of technologies for clonal proliferation to apply to the breeding of new cultivars, the conservation of rare botanical species and the domestication of wild plants.

Improving forest resources and promoting forestry based on sustainable forest management

To improve and sustainably utilize forest resources, we conduct research and development related to the tree breeding for a forestation, silvicultural technologies, effective forest practice and the stable supply of resources.



Effective utilization of woody biomass

We conduct research on an effective cyclic usage system for woody biomass and an appropriate collection method for the region.

樹種	林分種別	林齢	樹高				直径				材積				備考	
			平均	最大	最小	標準偏差	平均	最大	最小	標準偏差	平均	最大	最小	標準偏差		
杉	人工林	10	12.5	15.0	10.0	10.0	12.0	8.0	1.0	1.5	1.0	0.5	0.2	0.3	0.2	0.1
杉	人工林	20	25.0	30.0	20.0	20.0	25.0	15.0	2.0	3.0	2.0	1.0	0.5	0.8	0.6	0.3
杉	人工林	30	37.5	45.0	30.0	30.0	37.5	22.5	3.0	4.5	3.0	1.5	0.8	1.2	0.9	0.4
杉	人工林	40	50.0	60.0	40.0	40.0	50.0	30.0	4.0	6.0	4.0	2.0	1.2	1.6	1.2	0.5
杉	人工林	50	62.5	75.0	50.0	50.0	62.5	37.5	5.0	7.5	5.0	2.5	1.5	2.0	1.5	0.6
杉	人工林	60	75.0	90.0	60.0	60.0	75.0	45.0	6.0	9.0	6.0	3.0	1.8	2.4	1.8	0.7
杉	人工林	70	87.5	105.0	70.0	70.0	87.5	52.5	7.0	10.5	7.0	3.5	2.1	2.8	2.1	0.8
杉	人工林	80	100.0	120.0	80.0	80.0	100.0	60.0	8.0	12.0	8.0	4.0	2.4	3.2	2.4	0.9
杉	人工林	90	112.5	135.0	90.0	90.0	112.5	67.5	9.0	13.5	9.0	4.5	2.7	3.6	2.7	1.0
杉	人工林	100	125.0	150.0	100.0	100.0	125.0	75.0	10.0	15.0	10.0	5.0	3.0	4.0	3.0	1.1

Technologies for the silviculture of artificial forests

We are engaged in research on technologies involved in the silviculture and yield estimation of planted Japanese larch, Todo (Sakhalin) fir, Sakhalin spruce and Japanese cedar stands.



Development of excellent cultivars

We tackle the development of forestry trees that have excellent genetic traits in terms of growth rate, wood quality and straightness.



Conservation and management of watershed ecosystems

We perform research on the impact of forests on rivers and sea creatures.



Research on forest damage caused by insects

We perform research on the biology and control of forest insects such as larch bark beetle.



Research on forest damage caused by sika deer

We perform research to estimate the extent of damage and to protect trees.



Research on the aromatic components of trees

We perform research on ways to apply useful ingredients of trees such as aromatic components for various purposes.

Propulsive direction of research and development

The Hokkaido Research Organization formulates its midterm plans based on the midterm goals submitted every five years by the Hokkaido governor, the founder of this organization, and is currently proceeding with its operations based on the second midterm plan (FY 2015 to 2019).

Regarding the research conducted by the Forest Research Department, the midterm plan includes the following three targets as research promotion items of the propulsive direction of research and development:

- 1) Afforestation according to regional characteristics and improvement of greenery surroundings
- 2) Sound development of forestry and promotion of cyclic usage of forest resources
- 3) Development of timber-related industries by enhancing technical capabilities

The Forestry Research Institute advances research under the above items 1) and 2).



Development of an effective operating system and forest road networks

We conduct research on the appropriate combination of high-performance forestry machines that are necessary to achieve a low-cost, effective operation system, and on optimal forest road networks.



Development of technologies for natural forest

We perform research on technologies management for the promotion of growth and regeneration in natural forest.



Technologies involved in the production of seedlings in containers

We proceed with research on a production method of seedlings in containers including mechanization and labor-saving trends as well as an afforestation system.

Technical support

Please take advantage of our services.

Joint research

We assist private businesses, universities and corporations to conduct their research work. (Paid service)

Contracted research

We conduct data analyses based on field surveys or existing documents. (Paid service)

[Service representative] Planning Section, Planning and Coordination Division

Requested review

We evaluate the actual weight of seeds and their effectiveness, and carry out other examinations that can be performed at this institute. (Paid service)

Greenery counseling

We will provide answers or advice concerning your questions about forests, forestry and greenery. (Free service)

Dispatch of lecturers

We will provide advice from the perspective of a specialist committee member or advisor, and make presentations or deliver lectures at workshops and seminars. (Actual expenses to be paid)

Requested writing

We will write articles regarding our research achievements and expertise. (On consultation)

Technical guidance

We will dispatch our staff members to provide technical guidance regarding forests, forestry and greenery. (Actual expenses to be paid)

Support corresponding to issues

To enhance the effectiveness of our technical guidance, we perform simple examinations, analysis and evaluation on a short-time basis. (Paid service)

Facilities for training

Conference rooms and accommodations are available for training sessions aimed to acquire knowledge and perform practical operations concerning surveys and research conducted on forests, forestry and greenery. (Paid service)

Intellectual property rights

Intellectual property rights held by the Forestry Research Institute are available. The Hokkaido Research Organization is in charge of the contracts related to these affairs. (Paid service)

Library

Data and documents at our library are available to visitors. (Free service)

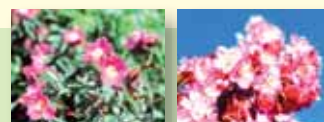
[Service representative] Extension Group, Planning and Coordination Division

Facility use

Large forestry machines owned by the Forestry Research Institute are available for rent. (Paid service)

[Service representative] General Affairs Section, General Affairs Division

Intellectual properties



Device that can measure tree properties using vibration and other property-measuring methods

Device that can measure inner tree conditions non-invasively

(Patent No. 5531251)

“Consared”, “Northtopia”, “Kitaayaka”, “Prettyshine”

Japanese rose cultivars for cross-fertilization

(Cultivar Registration No. 13277 to 13280)

“Kunashiriyoko”

Selected cherry tree cultivar

(Cultivar Registration No. 15615)

Extension of research achievements

Greenery information center

Information on forests, forestry and greenery, as well as research achievements are exhibited in this center.
 Opening hours: 9:00 to 17:00 Days closed: Saturday, Sunday, national holidays and winter
 Admission fee: Free

Lectures on forests and greenery

Lectures that provide new knowledge and technologies obtained from the examinations and research conducted by the Forestry Research Institute are delivered.

Lectures on aorestation trees and open lectures at stations are available.

Periodicals (website version)

Bulletin of the Hokkaido Forestry Research Institute
 Annual Report by the Hokkaido Forestry Research Institute
 Koshunai Quarterly Report
 Green Topics

Yearly
 Yearly
 Quarterly
 Biannually

* Bulletin of the Hokkaido Forestry Research Institute and Green Topics are also published as a booklet.

Collection of research achievements by the Forest Research Department, Hokkaido Research Organization

We have published a booklet with collected research achievements accomplished by the Forest Research Institute and the Forest Products Research Institute over the past five years (2010 to 2014).

*Please visit our website to see this collection.

Published books and pamphlets (Only Japanese)

Please visit our website to see other publications than the following.
 These can be downloaded.



Forest management manual for planted Sakhalin fir stands



Forest management manual for planted Japanese larch stands



Utilize forest biomass in your community



Forest stunt management of *Hiba*, a tree species specific to southern Hokkaido



Ecology of and the damage caused by and measures taken against gypsy moths, which are currently present in immense numbers

CDs for forest management extension (Only Japanese)

Please visit our website to see other publications than the following.
 These can be downloaded.



Report on tissue culturing conducted at the Forestry Research Institute, Hokkaido Research Organization



Manual for the breeding of greenery roadside trees



Instruction manual on the multilateral functions of windbreak forests and on their creation and management



Cooperative aorestation

Events



Presentation of aorestation achievements in Hokkaido (Forest Improvement Section)

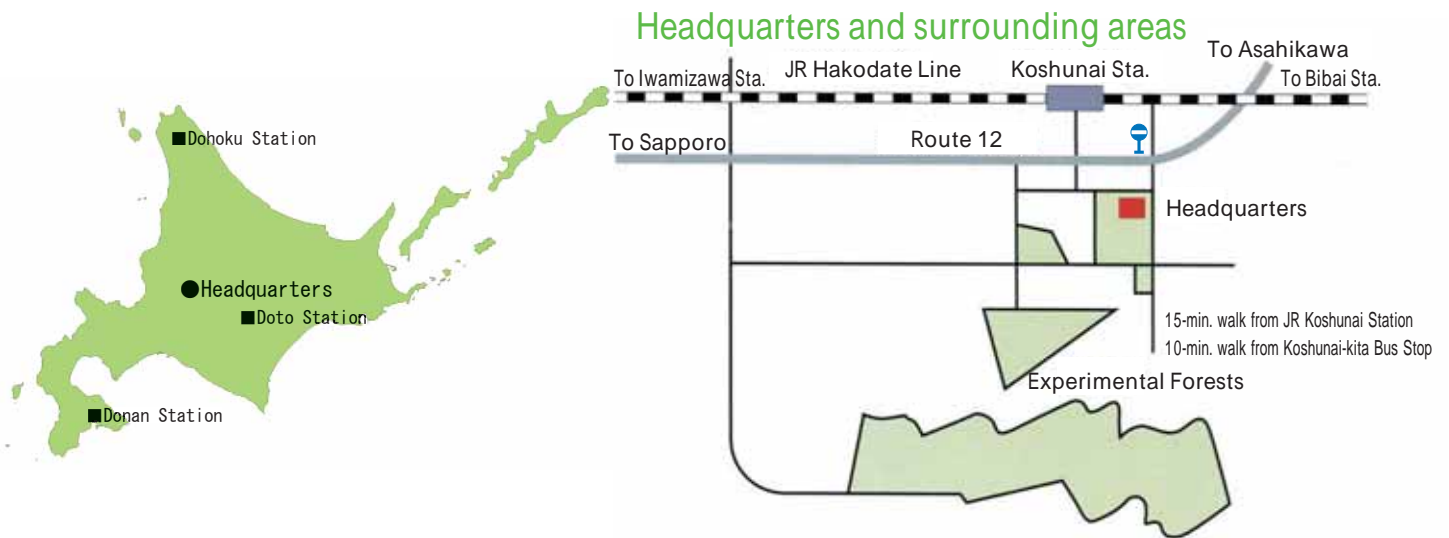


Open lectures at individual stations



Green festival held during the summer vacation

Locations of headquarters and stations



Donan Station

Kikyo-cho 372-2, Hakodate
Hokkaido 041-0801
Tel./Fax: +81-138-47-1024



Doto Station

Shintoku-nishi 2, Shintoku, Kamikawa-gun
Hokkaido 081-0038
Tel./Fax: +81-156-64-5434



Dohoku Station

Homare 300, Nakagawa, Nakagawa-gun
Hokkaido 098-2805
Tel./Fax: +81-1656-7-2164

Website
<http://www.hro.or.jp/fri.html>

Basic information: Information on the outline and history of the Institute, as well as on access and inquiry methods is provided.

Organization: Information on research contents and staff members by group is introduced.

Research and development: Our major research achievements and issues currently being studied are covered.

Technical support: Information on requested examinations, equipment usage methods and greenery consultation services is provided.

Public relations: Information on periodicals, pamphlets, seminars and events is offered.



Forestry Research Institute

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Cover photos



Japanese larch and Dahurian larch
Forests after retention logging
Biomass forwarder
Clonal proliferation of cork trees
Female White-backed Woodpecker
Cultured wood decay fungus
Hazard distribution map of wind-fallen trees
Forestry Research Institute