

**CERTIFICATION OF SOURCE-IDENTIFIED
BRITISH COLUMBIA TREE SEED
UNDER THE O.E.C.D. SCHEME**

by
R.F. Piesch and V.H. Phelps

**FOREST RESEARCH LABORATORY
CANADIAN FORESTRY SERVICE
VICTORIA, BRITISH COLUMBIA**

INFORMATION REPORT BC-X-49

**DEPARTMENT OF FISHERIES AND FORESTRY
SEPTEMBER, 1970**

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INTRODUCTION

The council of the Organization for Economic Cooperation and Development (O.E.C.D.) adopted on May 30, 1967, a memorandum ^{3/} that established a scheme for the control of forest reproductive material moving in international trade.

The object is to encourage production and use of forest tree reproductive materials (seeds, parts of plants, plants) that have been collected, processed, raised and distributed in a manner that ensures their trueness to name.

Three categories of reproductive material are recognized and distinguished under the scheme:-

- (a) Source-identified material, which represents a minimum standard. The two requirements are that (i) the zone of provenance where the material is collected and the nature of its origin (indigenous or non-indigenous) shall be defined and registered by a Designated Authority, and (ii) the material shall be collected, processed and stored,

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^{2/} Formerly Research Officer, Canadian Forestry Service, Forest Research Laboratory, Victoria, British Columbia.

^{3/} Anon, 1967. Decision of the Council Establishing an O.E.C.D. Scheme for the Control of Forest Reproductive Material Moving in International Trade. O.E.C.D. Mimeo, C(67) 45 (Final) dated 10 Nov. 1967. 20 p.

or plants raised, under the control of that Authority.

- (b) Selected reproductive material: as for (a) above, but in addition, the material shall be derived from basic material (selected stands, untested seed orchards or selected clones) that conforms to requirements laid down by the O.E.C.D.
- (c) Certified reproductive material: as for (a) above but, in addition, (i) the genetic superiority of the material shall be proved by provenance or progeny tests meeting the minimum requirements prescribed, and (ii) the number of components of seed orchards and progeny test results shall be registered by the Designated Authority.

Participation by any country is voluntary but subject to strict adherence to the rules.

Although Canada, as a member of O.E.C.D., assisted in formulating the scheme, it has not hitherto participated in its operation. The governments of a number of European countries to which it applies, including a number that import forest tree seed in commercial quantities from British Columbia, have now insisted that, as from 1970, forest reproductive materials may be imported only in compliance with the scheme. This development has had serious implications concerning the export business of several forest tree seed companies in British Columbia. They accordingly requested the Canadian Forestry Service (C.F.S.) to make arrangements for seed certification. The C.F.S. agreed to this request after consultation with the B.C. Provincial Forest Service. It also agreed to initiate action in time to enable certification of collections from the 1970 seed crop.

Several matters basic to the operation of a scheme in British Columbia in 1970/71 were established by the C.F.S. at a meeting with forest tree seed exporters in Victoria on July 3, 1970, and in subsequent correspondence. It was decided that

- (a) only source identification of seed will be provided for in 1970/71; there is no demand at present for certification of other categories of reproductive material
- (b) the arrangements will apply to seed intended for export, and not to that collected for domestic use
- (c) certification must be effected before the seed is exported from Canada
- (d) participation by seed exporting agencies is voluntary but subject to strict adherence to rules laid down by O.E.C.D. and the requirements of the C.F.S.
- (e) the C.F.S. will bear the cost of necessary inspection and certification arrangements in 1970/71; arrangements for subsequent years will be made later.

Application has been made to O.E.C.D. for Canada's participation. The Government of Canada has nominated the C.F.S. as the Designated Authority to implement the scheme. The C.F.S. has delegated responsibility for the operation in respect of seed collected in British Columbia to the Director, B.C. Regional Forest Research Laboratory, Victoria.

The following descriptions of the zones of provenance, origin and rules embracing the minimum requirements of O.E.C.D. have been proposed for operation in 1970/71.

ZONES OF PROVENANCE AND ORIGIN

Zones of Provenance will be described by Forest Region and Section as defined by Rowe^{4/}, supplemented by geographic coordinates and elevation.

Forest Regions and Sections

Rowe's Regions are subdivided into Sections which are geographic areas with distinctive patterns of vegetation and physiography relative to other sections. The regions and sections applicable to British Columbia are: -

Boreal Forest Region

Northern Foothills Section	B.19.b
Upper Liard Section	B.24
Stikine Plateau Section	B.25
Central Yukon Section	B.26.b

Supalpine Forest Region

East Slope Rockies Section	SA.1
Interior Subalpine Section	SA.2
Coastal Subalpine Section	SA.3

Montane Forest Region

Ponderosa Pine and Douglas fir Section	M.1
Central Douglas fir Section	M.2
Northern Aspen Section	M.3
Montane Transition Section	M.4

Coast Forest Region

Strait of Georgia Section	C.1
Southern Pacific Coast Section	C.2
Northern Pacific Coast Section	C.3
Queen Charlotte Islands Section	C.4

Columbia Forest Region

Southern Columbia Section	CL.1
Northern Columbia Section	CL.2

^{4/} Rowe, J.S. 1959. Forest Regions of Canada. Dept. of Northern Affairs and Natural Resources. Forestry Branch Bull. 123. 71p.

The boundaries of the forest sections are shown on the accompanying map. Rowe's bulletin lists climatic data for representative stations; additional information is given in Appendix A.

Geographic Coordinates and Elevation

The Forest Sections are often large and encompass a variety of environmental conditions. Additional information is needed to stratify them and thus relate seed source to possible geographic or climatic adaptation. Therefore, the location of seed source will be further described in terms of latitude, longitude and elevation.

For collection areas less than two miles square, latitude and longitude will be recorded to the nearest minute. For larger collection areas, the extremities of the ranges of latitude and longitude will be recorded also to the nearest minute.

Elevation will be recorded to the nearest 500 feet unless the range exceeds 500 feet, in which case the upper and lower limits of elevation will be given to the nearest 100 feet.

In no case may the range of a seed source exceed one-quarter of a degree square or 1000 feet in elevation.

Origin

The origin of seed will be identified as either

- a) indigenous - collected from a stand of trees which has been continuously regenerated by natural regeneration, or one raised artificially from seed collected in an indigenous stand of the same region of provenance, or
- b) non-indigenous - collected from a stand which grew from seeds or plants that were introduced.

RULES

1. The C.F.S., as the Designated Authority, will issue Certificates of Provenance and labels in the forms shown in Appendices B and C, respectively, provided that it is satisfied as to the purity of the material, accuracy of the source information given and the exporter's compliance with these rules. Assurance of the C.F.S. concerning these matters will be based on information provided by exporters, and random inspections and audits of their operations and records.
2. The locations and mailing and telephone addresses of seed collectors, extraction plants, and seed stores must be registered with the C.F.S. A "Collector" is defined as a person employed by the exporter to collect or supervise the collection of seed, or an agent who purchases cones for sale to the exporter.
3. At least three weeks before collection is to begin the C.F.S. must be given the following information: -
 - (a) Plans for the collection of seed for export, including names of the collectors, details of species, collection areas and dates, and quantities of cones.
 - (b) Arrangements for storage of cones at field depots and transport to processing plants.
 - (c) Location of processing plants to be used and proposed dates of extraction, cleaning, packaging and storage of the seed.
 - (d) Location of the seed stores to be used.
 - (e) Measures that will be used to ensure the maintenance of the identity of the seed at all stages.
 - (f) The system of records to be used.
4. The C.F.S. must be notified immediately of any changes in the aforementioned plans and procedures.

5. A forest tree seed register must be maintained by exporters to show for each seed lot all information required to complete the certificate, name of collector, location of processing plant and seed store used, the quantity of cones collected, and the amounts of seed extracted, stored and exported.
6. Company records concerning seed collection, processing and storage must be made available to the C.F.S. and its inspectors upon request.
7. Before Certificates of Provenance and labels can be issued, the exporter must make written application to the C.F.S. in the form shown in Appendix D. In this application the exporter must declare that the seed is described and that it was collected and processed in compliance with the zones of provenance and rules that apply.
8. A Certificate of Provenance will not be issued once the seed has left Canada. For the purposes of certification "seed" is defined as material of which at least 95% by weight is actual seed of the designated species.
9. Seed intended for export must be marketed in packages sealed by the supplier and bearing the label issued by the C.F.S. and conforming with O.E.C.D. specifications. Each label will show the reference number of the relevant Certificate of Provenance and a duplicate label will be placed inside each package.
10. Once a certified seed lot has been packaged, sealed and labelled, the exporter may break the seal to enable seed to be supplied in smaller packages. However, all such actions must be recorded and the exporter

must notify the C.F.S. accordingly when applying for extra labels.

11. If the C.F.S. becomes aware of any infringement of the rules under which the scheme operates, or if it is of the opinion that the exporter's operation does not ensure trueness to name of the seed to be certified, it may refuse to proceed with inspection or to issue Certificates of Provenance.

12. All correspondence with the C.F.S. concerning the scheme in B.C. will be directed to: -

Regional Director,
Canadian Forestry Service,
B.C. Region,
506 West Burnside Road,
VICTORIA, British Columbia.

APPENDIX A

Selected Climatic Data for Forest Regions in British Columbia ^{5/}

Region and Section	Station	Location			Temperature - °F					Precipitation - Inches			
		Lat.	Long.	Elev. ft. A.S.L.	Mean annual	July mean daily maximum	January mean daily minimum	Maximum annual	Minimum annual	Mean total annual	Mean rain annual	July mean rain	No. of days measurable rain
Boreal Region	B.24 Fort Nelson	59	123	1230	30.0	73.9	-16.2	98	-61	17.13	10.36	2.56	59
	B.25 Dease Lake	58	130	2678	30.3	67.5	-10.7	93	-60	15.25	8.67	2.13	66
	Telegraph Creek	58	131	600	36.2	72.2	- 3.3	92	-43	12.59	8.09	1.18	67
	B.26.b Atlin	60	134	2300	32.8	63.3	2.3	87	-54	10.95	6.61	1.17	-
Subalpine Region	SA.2 Barkerville	53	122	4180	34.7	67.6	6.4	96	-52	45.25	22.64	3.78	97
	Glacier*	51	117	4094	36.2	71.8	8.4	98	-32	57.10	20.08	2.87	95
	Hedley*	49	120	1720	45.8	82.0	16.4	106	-27	11.09	7.86	0.91	71
	Kleena Kleene	52	125	2950	35.4	72.5	- 1.9	93	-58	13.57	7.62	0.90	54
	McCulloch	50	119	4100	36.4	73.4	6.0	98	-43	28.34	13.13	1.87	67
Montane Region	M.1 Bralorne	51	123	3330	40.0	73.8	11.5	100	-33	25.86	15.66	1.17	56
	Golden*	51	117	2583	40.3	81.4	4.7	104	-51	18.45	10.36	1.24	40
	Greenwood	49	119	2490	42.5	84.5	11.5	110	-41	17.11	11.08	0.97	55
	Ashcroft R	51	121	1600	45.7	82.9	13.5	102	-35	9.47	6.27	0.63	55
	Westwold	50	120	2020	42.7	79.5	10.6	103	-50	13.75	10.13	1.11	85

^{5/} taken from: Anon 1967. Temperature and Precipitation tables for British Columbia. Canada
Dept. of Transport, Meteorological Branch

Data generally based on periods of 20 to 30 years

* Stations included in Rowe's listings, but entered here with more recent data

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Region and Section	Station	Location			Temperature - °F					Precipitation - Inches			
		Lat.	Long.	Elev. ft. A.S.L.	Mean annual	July mean daily maximum	January mean daily minimum	Maximum annual	Minimum annual	Mean total annual	Mean rain annual	July mean rain	No. of days measurable rain
Montane Region (cont'd)													
M.2	Big Creek	52	123	3720	36.3	71.5	1.8	102	-53	12.63	7.73	1.25	35
M.3	Quesnel*	53	122	1600	40.7	75.6	6.3	105	-52	19.72	14.00	2.22	80
M.4	Prince George	54	123	2218	38.0	72.0	3.0	94	-58	24.67	16.71	2.53	97
	Smithers A	55	127	1718	38.1	69.7	7.3	93	-47	20.27	12.94	1.86	95
	Vanderhoof	54	124	2210	36.2	72.2	1.5	104	-61	16.89	10.17	1.49	66
	Wistaria	54	126	2865	36.7	68.1	5.5	97	-47	17.82	9.85	1.68	75
Coast Region													
C.1	Comox	50	125	93	48.8	73.6	31.8	94	- 6	46.73	42.80	1.02	152
	Duncan	49	124	28	50.9	78.5	30.2	106	- 5	41.15	38.81	0.98	140
	Nanaimo A	49	124	104	48.2	75.9	29.7	98	0	41.41	38.33	0.96	145
	Powell River	50	125	176	51.2	74.7	33.9	93	6	37.25	35.63	1.40	139
	Victoria*	48	123	228	50.2	68.0	35.8	95	6	27.41	26.26	0.57	138
C.2	Alice Arm	56	129	1031	40.1	68.3	19.2	93	-13	80.05	50.96	2.77	152
	Britannia Beach*	50	123	160	50.1	74.3	31.3	103	- 7	78.58	75.91	2.26	164
	Campbell River	50	125	250	-	-	-	-	-	58.55	54.79	1.30	115
	Cowichan L.For.	49	124	580	48.1	75.3	30.5	97	0	82.72	75.63	1.29	156
	Port Alberni*	49	125	195	48.8	76.6	30.1	106	- 7	74.49	71.01	1.44	135

APPENDIX A

Selected Climatic Data for Forest Regions in British Columbia

Region and Section	Station	Location			Temperature - °F					Precipitation - Inches			
		Lat.	Long.	Elev. ft. A.S.L.	Mean annual	July mean daily maximum	January mean daily minimum	Maximum annual	Minimum annual	Mean total annual	Mean rain annual	July mean rain	No. of days measurable rain
Coast Region (cont'd)													
C.3	Bamfield	49	125	70	-	-	-	-	-	107.10	106.07	2.63	159
	Cape Scott	51	128	235	46.1	60.8	33.7	85	9	116.00	114.70	1.80	-
	Namu	52	128	85	-	-	-	-	-	107.37	105.08	4.14	179
	Tofino	49	126	80	48.5	65.3	35.8	91	17	125.83	124.95	3.69	-
C.4	Masset	54	132	10	46.3	63.6	31.0	84	- 2	56.27	54.09	2.69	210
	Sandspit	53	132	25	46.4	62.2	32.1	80	7	49.56	46.53	1.85	194
Columbia Region													
CL.1	Fernie	49	115	3305	40.0	77.3	9.0	97	-40	41.43	27.11	1.49	95
	Kimberley	50	116	3016	40.5	80.9	8.2	99	-40	15.03	9.06	0.73	64
	Nelson*	49	117	1980	46.9	83.3	21.8	103	-17	28.62	20.03	1.23	88
CL.2	Dome Creek	54	121	2200	39.8	77.6	4.8	108	-56	29.83	19.55	3.16	88
	Horsefly Lake	52	121	2585	39.6	73.8	6.2	92	-48	27.72	19.81	2.62	74
	McBride	53	120	2360	40.0	76.1	8.2	100	-50	21.31	12.88	1.78	89
	Revelstoke *	51	118	1497	44.2	81.0	17.1	105	-30	42.54	26.37	2.00	130

APPENDIX B

CERTIFICATE OF PROVENANCE

issued in accordance with the O.E.C.D. Scheme for Forest Reproductive Material

Country _____ Reference No. _____

It is certified that the forest reproductive material described below has been produced in accordance with the O.E.C.D. Scheme for Forest Reproductive Material.

1. Category of reproductive material: _____ Source-Identified _____

2. Nature of produce: _____ Seed _____

3. Genus, species, sub-species:

(a) Common name _____

(b) Botanical name _____

4. Place or Zone of Provenance: Forest Region and Section * _____

Latitude from _____ to _____

Longitude " _____ to _____

Elevation " _____ ft to _____ ft

5. Origin: Indigenous _____ Unknown _____ Introduced from _____

6. Year of ripening of seed: _____

7. Total quantity of seed: _____ lb.

8. Number and nature of packages _____

9. Remarks: _____

Name and Address of Designated Authority:

(Stamp of Designated Authority)

Signature: _____

Date: _____

* Forest Regions and Sections from:
Rowe, J.S. 1959. Forest Regions of Canada. Dept. of Northern
Affairs and Natural Resources. Forestry Branch
Bull. 123. 71p.

APPENDIX C

LABEL to be used in accordance with the
O.E.C.D. Scheme for Forest Reproductive Material

OBVERSE SIDE

<p>SPECIES (BOTANICAL NAME) _____</p> <p>SUBSPECIES, VARIETY OR CULTIVAR NAME _____</p> <p>CATEGORY _____</p> <p>CERTIFICATE NUMBER _____</p> <p>PLACE OR ZONE OF PROVENANCE _____</p> <p>LATITUDE FROM _____ TO _____</p> <p>LONGITUDE FROM _____ TO _____</p> <p>ELEVATION FROM _____ ft. TO _____ ft.</p>	<p>O.E.C.D. SCHEME FOR FOREST REPRODUCTIVE MATERIAL</p>
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REVERSE SIDE

<p>DESIGNATED AUTHORITY</p> <p>REGIONAL DIRECTOR CANADIAN FORESTRY SERVICE 506 WEST BURNSIDE ROAD VICTORIA, BRITISH COLUMBIA CANADA</p>	<p>SYSTEME O.E.C.D. POUR DES MATERIELS FORESTIERS DE REPRODUCTION</p>
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Colour: Both sides shall be yellow with the
free end overprinted black for a
distance of 3 cm.

APPENDIX D

To: Regional Director,
Canadian Forestry Service
506 West Burnside Road
Victoria, British Columbia

Request for Certification of Source-Identified Forest Tree Seed.

1. Genus, species, sub-species _____

2. Zone of Provenance: Forest Region and Section _____

Latitude from _____ to _____

Longitude " _____ to _____

Elevation " _____ ft to _____ ft

3. Origin:

Indigenous _____ Unknown _____ Introduced from _____

4. Year of ripening of seed _____

5. Number of packages of seed _____

6. Weight of seed per package _____

7. Collector's Name _____

Location of: Seed processing plant _____

Storage plant _____

8. Exporter's stock number _____

9. I _____ certify that this seed

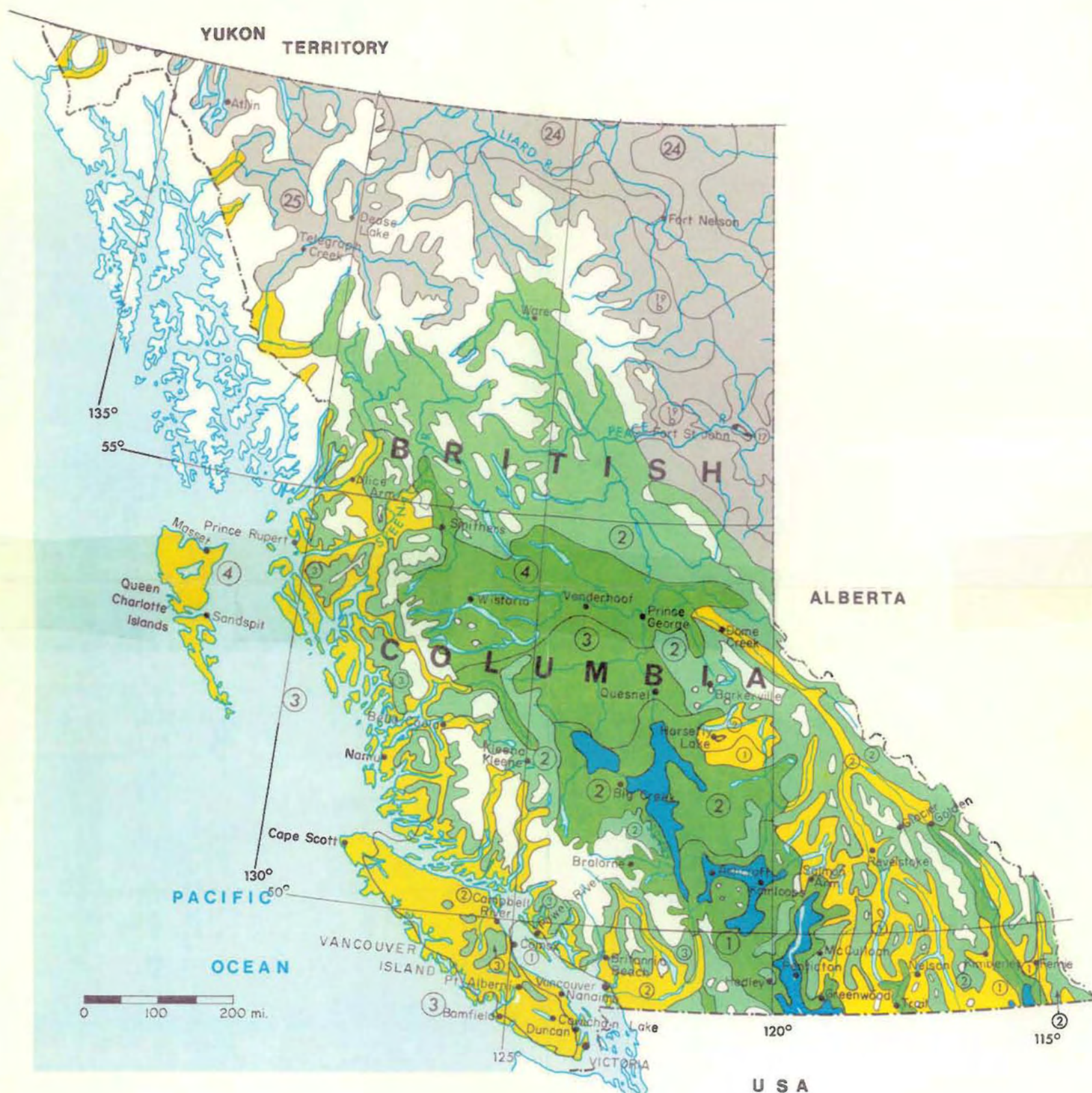
has been collected and processed in compliance with
the rules and the zones of provenance that apply
to the O.E.C.D. Scheme.

Name of Exporting Firm _____




Signature _____




Date _____


Forest Regions and Sections of British Columbia



Forest Regions

BOREAL 
 SUBALPINE 
 MONTANE 

COAST 
 COLUMBIA 
 TUNDRA 

GRASSLAND 

Forest sections indicated by numbers ③