

DRAFT 1

British Columbia Knowledge Gaps Database

User Guide
Version 1

Southern Interior
Forest Extension and Research Partnership
August 2000



Southern Interior
Forest Extension and
Research Partnership



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Preface and Project Background

In May of 2000 Forest Renewal BC (FRBC) commissioned the Southern Interior Forest Extension and Research Partnership (SIFERP) to assist them in identifying knowledge gaps. These gaps could be filled through investments in research and extension. These investments will support sustainability of British Columbia's natural resources and communities.

During the summer of 2000 SIFERP embarked on a series of initiatives to collect knowledge gaps: design and delivery of 7 community workshops, development of an online survey and contracted Dr. John Innes and Associates to compile a database of key questions from 83 strategic documents. The combined sources are the sources of knowledge gaps and were compiled in the BC Knowledge Gaps Database. Version 1 of this database is created in the software package ACCESS.

This document describes the database and how to use it. It also contains a listing of the source documents, keywords, general topic areas, Forest Renewal BC strategic areas and geographic areas used in searching the database.

Acknowledgements

Forest Renewal BC provided funding for this project. SIFERP would like to acknowledge all the citizens of British Columbia who contributed time and intellect during the workshops and surveys. We also thank the project Advisory Committee members for guidance. Special thanks to Dr. R.A. Lautenschlager for providing the vision for Identifying the Specifics and Chris Ortnier for making it work.

The following people are also acknowledged for their contribution to the identification, collection and collation of this data:

Database Design and Input

Dr. John Innes and Associates
Mike Ratch and Karyn Sutherland

Workshop Facilitators

Glen Upton and Chris Roddan
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Keith Jones and Anne Scott

Victor Cumming and Shawn Morford

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SIFERP. 2000. British Columbia Knowledge Gaps Database. User Guide Version 1. Southern Interior Forest Extension and Research Partnership. File Report. 28 pp.

About the Database

The BC Knowledge Gaps Database (KGD) is an ACCESS database containing 3627 questions. These questions were derived from 83 sources including provincial, national and international documents, research strategies, needs analysis, provincial council strategies and results from the 7 regional workshops and an online survey delivered in June and July 2000.

The database is created in ACCESS. You must have this software to run this database. This allows the user to search the database and produce reports on that search. The database identifiers and search options include: source reference number, key questions, keywords used to define those questions, general subject area, FRBC strategic objective, regional and sub-regional references where applicable, and workshop priority identification where applicable. The Reference Document, Keyword, Subject Area, Geographic References and Workshop Location identifiers are described in the sections that follow. See the Appendices for the complete listing of these identifiers.

How to Use the Database¹

New Search

When you open the database you will see the Database Query Form. You may search the database by selecting a title from the pull down menu. You can also select a keyword, a general subject area, specific workshop, and/or FRBC priority area. You may also search for key areas that were identified as a workshop priority.

You may search for key questions identified by geographic area if the source document was specific to a geographic location. These search areas are federal, provincial, FRBC region, sub-region and forest district.

Searching by Title

It is possible to search the database by source document (Appendix 1). A pull-down menu enables a specific document to be selected. All knowledge gaps identified in the document will then be listed.

Searching by Keywords

One or more keywords (Appendix 2) have been assigned to each of the research questions/needs. Some keywords may not be readily apparent. For example, the term wildlife has been used to refer to all wildlife and not just “identified” wildlife, as used in British Columbia. The term ‘sensitive species’ has been used for all species at risk, including both red- and blue-listed species. In looking for a particular keyword, care should be taken in using the correct spelling. For example, American marten (*Martes americana*) was spelt ‘martin’ in some of the documents, and the descriptor ‘American’ was rarely used. Generally, the full name has been used (e.g. Lodgepole pine, not PI), and Latin binomials have been used for species names in addition to the common names (except for insects and diseases). However, abbreviations have been used for ecosystem types (e.g. IDF for Interior Douglas-fir).

¹ From J. Innes and Associates. 2000. Synthesis of key research strategies, needs analysis and strategic documents relating to British Columbia’s forest resource sector to support development of Forest Renewal BC’s Research Investment Strategy. Southern Interior Forest Extension and Research Partnership. File Report. 16 pp.

Keywords highlight one of the problems associated with education, extension and communication, namely that different people use different vocabularies. An example is provided by the terminology surrounding mixedwoods and complex stands. A variety of terms are used in association with these, some of which may be synonymous to some people but not to others, including multi-aged stands, uneven-aged stands, mixed-age stands, mixed-species stands and multi-species stands. Even the use of apparently simple designations, such as deciduous stands, can differ regionally, depending on the presence of species such as western larch or Pacific madrone in the area being referred to.

General subject and FRBC priority assignment

Two different classifications have been developed to aid searching, in addition to the key. The first, 'General subject', (Appendix 5) divides needs into environmental, economic, social, technological; legislative and inter-disciplinary. The technological category is intended primarily for research in the wood-processing sector.

The second group refers to the FRBC strategic priorities (Appendix 4), and include 'Sustainable harvest', 'Enhancing environmental values', 'Strengthening sustainable forest management', 'Criteria and indicators for sustainability', 'Value-added', 'Communities' and 'Workforce'. Whenever possible the first four key areas have been used. In cases with clear overlaps, research questions/needs have been assigned to more than one area or priority.

The assignment of knowledge gaps to particular categories was sometimes rather arbitrary and the use of key words is recommended to find particular issues. Every attempt has been made to consolidate the key word list, but the time available for the completion of this work was too short to check thoroughly that all possible combinations have been correctly applied.

It is important to note that overlaps exist between many of the categories. In obvious cases, a knowledge gap was allocated to more than category. This means that the same need may appear under different categories. The FRBC categories were particularly difficult as all categories potentially fall under the title 'Strengthening sustainable forest management'. Consequently, this category was used a "catchall" when assignment was not obvious.

Regional classification

The database identifies various spatial levels of information needs. The category covering the largest area contains the federal needs. These needs were identified from federal documents, and not all needs may be directly applicable to British Columbia. Needs in these documents that were clearly not relevant to British Columbia were excluded. The next spatial level used was the Province. This category contains the largest number of entries. Needs were assigned to this level when identified in documents covering the whole Province, or when a more focussed area (Region or District) was unclear. Thus, there are needs in the category that may be applicable to all Districts, but an individual need may not be applicable to either a particular Region or a particular District.

The breakdown of the Province into regions and districts is complicated by the different classifications that are in use in British Columbia. In searching the database by region, the names adopted by FRBC should be used. In searching by District, Ministry of Forests names should be used (Appendix 3).

One document (45) was organized by biogeoclimatic zones. While it might have been possible to identify the relevant forest regions for each of these, the potential for error was such that the needs identified in

document 45 have not been broken down below the provincial level, unless the distribution is clear (e.g. CDF in the Vancouver Forest Region). Instead, the relevant zone is listed in the key words.

Searching by workshop

The results of a particular workshop can be searched for using the field “Workshop”. The pull-down menu indicates the locations of the workshops (Appendix 4). To search for a particular breakout group within a workshop, use the field “Title”, with the appropriate group, and the field “Workshop” for the relevant location. Note that some of the needs identified in particular breakout groups were classified under another FRBC priority, so the combination of “workshop” and “FRBC priority” will not necessarily identify all needs identified by a particular breakout group.

Identified workshop priorities

All research questions/needs identified by the workshops as a priority have been identified separately (labeled as ‘Workshop priority’ on the database query form). Generally, there are 20 priority questions from each of the regional workshops. These comprise five each for the four main FRBC strategic priorities.

AAC requirements

In the needs analysis arising from the AAC reviews, research issues have been identified in the basis of the issues classed as “information need”, “research” and “issue statement”. Two other categories are present: “urgent issue” and “high priority issue”. These were not included in the table, as it is assumed that work was already ongoing to fulfill these needs. It should be noted that the same needs were placed in different categories in different Timber Supply Areas (TSAs) and Tree Farm Licenses (TFLs), depending on the urgency of the requirement.

When searching for Timber Supply Review material, the term ‘Timber supply’ should be searched for in the keywords. Information on a particular TSA or TFL should be searched for via the appropriate Forest District.

Refining Your Search

Once you have completed an initial query it is possible to refine your search by clicking the “refine search” button on your screen. This will search only those records selected in your initial search.

Example

GENERAL AREA: Technical AND KEYWORD(S): Second-growth forests) OR (WORKSHOP: Castlegar)

Search Results: 1 documents.

Can we develop technologies that accommodate, accept or utilize the changing properties of fibre in second-growth forests?

Printing Reports

When you are satisfied with the results of your search you may press the Print icon on your screen. This will convert your search results to a text document. You may choose to print this document or save to a file. Should you choose to print the file will be converted to a MicroSoft Word file. The Search String Sequence will be printed on the top of the page to document the search pathway you used to produce the results.

Example

<i>Needs List</i>			
SEARCH	(GENERAL AREA: Technical AND KEYWORD(S): Second-growth forests) OR (WORKSHOP: Castlegar)		REGION / DISTRICT
REFEREN	NEED		
10	Can we develop technologies that accommodate, accept or utilize the changing properties of fibre in second-growth forests?		Kootenay-Boundary
RECORDS FOUND:		1	

Limitations of the Database

You cannot do multiple searches in one step. You also cannot go back to your original general query once you have refined a search but must start a new search.

Care must be taken in selecting keywords since the keyword list has not been refined.

You cannot do multiple keyword searches in one step. You must refine your search and select additional keywords using the “and” or “or button. You can, however, select from each of the search categories on one query.

Not all references have been geographically referenced.

Similar, duplicate or overlapping records have not been removed from the database.

Gaps are not distinguished by research or extension gaps.

Endnote to Users

This is the first version of a very comprehensive database. While care was taken to include as many sources as possible, certain relevant documents may have been missed. If you have information you would like included in future versions please submit them to us. Also, please keep track of the problems you encounter while using the database and send us your comments so that we can improve on future versions.

Submit inquiries to:

Executive Director, Southern Interior Forest Extension and Research Partnership
society@siferp.org

Appendix 1: List of References

<i>ReferenceID</i>	<i>Title</i>	<i>Author</i>
1	Research Needs for Forest Carbon Balance Modelling	Spittlehouse, D
2	Boundary Timber Supply Area.	Ministry of Forests
3	National Forest Science and Technology Course of Action.	Forest Science and Technology Working Group, CCFM
4	Forest climate research strategy for B.C.	Spittlehouse, D.L.
5	Aboriginal forest research.	National Aboriginal Forestry Association
6	Landscape ecology	Daigle, P.
7	Business Plan 2000 – 2001	Doyle, J. and Doney, L.
8	Developing strategies for cooperative extension and research in the Southern Interior	Southern Interior Forest Extension and Research Partnership
9	Northern Forest Research and Extension Partnership	Lousier, J.D.
10	National Forest Strategy 1998-2003	Anonymous
11	No title	Nicol, D.
12	ILMA Research needs/concerns	Swift, K.
13	Geotechnical Engineering Research	Nicol, D.
14	Forest Renewal BC Strategic Plan 1999-2003	Anonymous
15	Forest Productivity Council of British Columbia Business Plan 2000-2001	Anonymous

<i>ReferenceID</i>	<i>Title</i>	<i>Author</i>
16	Needs assessment and interim strategic plan	Anonymous
17	Regional research advisory committee (RRAC)	Perry, J. and Soneff, K.
18	Biodiversity Research Council Priority rating for research strategy and action plan	Biodiversity Research Council
19	Providing for the future	Anonymous
20	Research strategic plan	Soneff, K.
21	First Nations community needs analysis	Southern Interior Forest Extension and Research Partnership
22	Coastal forestry research and extension partnership	Hedekar, T.
23	A growth and yield modelling strategy for British Columbia	FORUM Consulting Group and D.R. Systems Inc.
24	A growth and yield modelling strategy for British Columbia	FORUM Consulting Group and D.R. Systems Inc.
25	Prince Rupert Forest Region	Anonymous
26	Prince George Forest Region	Anonymous
27	Cariboo Forest Region	Anonymous
28	Kamloops Forest Region	Anonymous
29	Nelson Forest Region	Anonymous
30	Vancouver Forest Region	Anonymous

<i>ReferenceID</i>	<i>Title</i>	<i>Author</i>
31	Community forest pilots in British Columbia	Anonymous
32	Forest Renewal Research Program	Anonymous
33	Nelson Forest Region Forest Sciences Strategic Plan	Curran, M. and Pollack, J.
34	Shaping Our Future	Wouters, G.
35	Boreal mixedwood research and extension strategy	Kabzems, R.
36	Analysis of livestock use of riparian areas	Powell, G.W., Cameron, K.J. and Newman, R.F.
37	The influence of range practices on waterborne diseases in British Columbia	Newman, R.F., Hooper, T.D., Powell, G.W., Njenga, F.M. and Hemphill,
38	Research priorities, Faculty of Forestry, University of British Columbia	Anonymous
39	Forest soils research strategy	Anonymous
40	Major issues in wildlife research	Hamilton, E.
41	Site index (productivity) estimation program	Site Productivity Working Group
42	Stand level working group project plan 2000-01	Stand Level Working Group
43	Discussion paper: A proposed strategy for acquiring stand-level, Forest Health growth-and-yield data, and modelling impacts	Muir, J.
44	Forest Productivity Council priorities	Wiert, R.J.
45	Silviculture research in B.C.	Comeau, P. and Vyse, A.

<i>ReferenceID</i>	<i>Title</i>	<i>Author</i>
46	Riparian restoration in British Columbia	Poulin, V.A., Harris, C. and Simmons, B.
47	L'État de santé des forêts au Canada	Forest Health Network
48	Background information for forest genetics and tree improvement	Woods, J.
48	Background information for forest genetics and tree improvement	Woods, J.
49	Excerpt from the strategic plan of the Biodiversity Working Group of the Forest Productivity Council of BC	Biodiversity Working Group
50	Research priorities for hydrology and fish/forestry	Hogan, D.
51	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Castlegar Jones, R.K. and Scott, A.
52	Identifying community information needs to support sustainability in BC's natural resource sector. Sustainable harvest	Castlegar Anonymous
53	Identifying community information needs to support sustainability in BC's natural resource sector: Enhance environmental values	Castlegar Levesque, B. and Lundy, T.
54	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Castlegar Gale, S. and Klyne, W.
55	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Kamloops
56	Identifying community information needs to support sustainability in BC's natural resource sector: Enhance environmental values	Kamloops Levesque, B. and Lundy, T.
57	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Kamloops Cumming, V. and Morford, S.
58	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Kamloops Jones, R.K. and Scott, A.

<i>ReferenceID</i>	<i>Title</i>		<i>Author</i>
59	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Williams Lake	Upton, G. and Rasmussen, R.
60	Identifying community information needs to support sustainability in BC's natural resource sector: Enhancing environmental values	Williams Lake	
61	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest	Williams Lake	Gale, S. and Klyne, W.
62	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Williams Lake	Jones, R.K. and Scott, A.
63	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Victoria	Upton, G. and Rasmussen, R.
64	Identifying community information needs to support sustainability in BC's natural resource sector: Enhancing environmental values	Victoria	Lundy, T. and Levesque, B.
65	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Victoria	Gale, S. and Klyne, W.
66	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Victoria	Jones, R.K. and Scott, A.
67	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Vancouver	Roddan, C. and Upton, G.
68	Identifying community information needs to support sustainability in BC's natural resource sector: Enhancing environmental values	Vancouver	Levesque, B.
69	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Vancouver	Gale, S. and Klyne, W.
70	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Vancouver	Jones, R.K. and Scott, A.
71	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Prince George	Roddan, C. and Upton, G.
72	Identifying community information needs to support sustainability in BC's natural resource sector: Enhancing environmental values	Prince George	Lundy, T. and Levesque, B.
73	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Prince George	Gale, S. and Klyne, W.

<i>ReferenceID</i>	<i>Title</i>		<i>Author</i>
74	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Prince George	Jones, R.K. and Scott, A.
75	Identifying community information needs to support sustainability in BC's natural resource sector: Sustainable harvest	Smithers	Roddan, C. and Upton, G.
76	Identifying community information needs to support sustainability in BC's natural resource sector: Enhancing environmental values	Smithers	Levesque, B.
77	Identifying community information needs to support sustainability in BC's natural resource sector: Strengthening sustainable forest management	Smithers	Gale, S. and Klyne, W.
78	Identifying community information needs to support sustainability in BC's natural resource sector: Criteria and indicators	Smithers	Jones, R.K. and Scott, A.
79	Aboriginal women's issues concerning the conservation of biodiversity	Kamloops	Higgins, C.J.
80	Toward a mixedwood research strategy for Central Interior and Northeastern BC: 2001-2006		Hawkins, C.
81	Watershed research strategy		Anonymous
82	Research needs for sensitive forest and rangeland terrestrial vertebrates in British Columbia 1997/98		Lofroth, E.C., Darling, L.M. and Fraser, D.F.
83	Community Information Needs Survey		Southern Interior Forest Extension & Research Partnership

Appendix 2: List of Keywords

A

AAC	Alder	Appurtenance
Abies amabilis	Alienation	Aquatic fauna
Abies grandis	Allowable annual cut	Aquatic invertebrates
Abies lasiocarpa	Alluvial fans	Aquatic organisms
Aboriginal rights	Alnus rubra	Arbutus
Access	Alternative harvesting	Arbutus menziesii
Access to information	Alternative silvicultural	Archaeological impact
Accipiter gentiles	Alternatives to wood	assessment
Accountability	Amabilis fir	Archaeology
Accreditation	Ambystoma tigr	Arctic grayling
Acer macrophyllum	Amelioration	Ardea herodias
Acipenser transmontanus	American marten	Armillaria
Adaptive management	Ammodramus savannarum	Armillaria root rot
Adjacency	Amphibians	Ascaphus truei
Adjustment factors	Anadromous fish	Aspen
Advance regeneration	Anadromous fish	AT
Aegolius acadicus	Anchor ice	Atmospheric pollution
Afforestation	Aplodontia rufa	Avalanche terrain
Agro-forestry	Applied research	Avalanche tracks
Air pollution	Appraisal	Avalanches
Air quality	Appraisal systems	
Alces alces	Approval processes	

B

Bacillus thuringiensis	Belief systems	Biogeoclimatic Ecosystem
Backcasting	Betula papyrifera	Classification
Bacteria	Bigleaf maple	Biogeography
Badger	Bio-control	Biological control
Balsam	Biodiversity	Biological legacies
Balsam bark beetle	Biodiversity	Biological legacy
Balsam poplar	Biodiversity Guidelines	Biomass removal
Bank erosion	Biodiversity Research	Biosolids
Bark beetles	Council	Birch
Barrow's goldeneye	Biodiversity, Free-growing	Birds
Baselines	standard	Bison bison
Bat-breasted warbler	Biodiversity;Economic	Bitter cherry
Bats	Benefits	Black-throated green
Bears	Bioenergy	warbler
Beavers	Bioengineering	Blading
Bedload		Bobolink

Bole removal
Botanical forest products
Brachyramphus mar
Brachyramphus marmoratus
Breakage
Brewer's sparrow
Bridges
Broadcast burning
Broadleaf stands
Broadleaf stands
Broadleaved stands

Brown-headed cowbird
Brush control
Brushing
Bucephalia isla
Bucephalia islandica
Bucephalia islandica
Budworm
Buffer strips
Buffers
Building codes
Bull trout

Bull trout
Bunchgrass
Business capacity
Business models
Business opportunities
Business performance
Business plans
Butterflies
BWBS

C

C&E
Calamagrostis canadensis
Call grading
Canada warbler
Canis lupus
Canopy cover
Canopy removal impacts
Capacity building
Carbon
Carbon balance
Carbon budgets
Carbon dioxide
Carbon sequestration
Carbon sources
Caribou
Caribou, Habitat requirements
Carrying capacity
Casara
Case studies
Castor canadensis
Cathartes aura
Cattle
Cavity nesters
CCLUP
CDF
CED
Certification
Cervus elaphus
Chaetura vauxi
Chamaecypris nootkatensis

Change adjustment
Channel Assessment Procedure
Channel development
Channel disturbance
Channel morphometry
Channel stability
Charina bottae
Chelation
Chemical ecology
Chipping residues
CHLA
Chronosequences
Chrysemys picta
Clearcutting
Clethrionomys gapperi
Client satisfaction
Climate
Climate change
Climate forecasts
Climate hazards
Climate stations
Climatology
Coarse wood debris
Coarse woody debris, Shade
Coarse-filter approach
Codes of conduct
Codes of practice
Coeur d'Alene salamander
Co-existence
Cohesion

Cold
Colluvial areas
Colluvial fans
Co-management
Commercial thinning
Commission on Resources and Environment
Communication
Communication within government
Communities in transition
Community Diversification Fund
Community Forests
Community health
Community impacts
Community stability
Community values
Community watersheds
Community well-being
Competition
Competitive advantages
Competitiveness
Complex stand models
Complex stands
Compliance
Conflict resolution
Conifer encroachment
Connecticut warbler
Connectivity
Conservation
Constraints

Consultants
Consultation
Contia tenuis
Continuing education
Contraction factors
Controlled fire
Convention on Biological
Diversity
Coordination
Coppicing
CORE

Corridors
Cottonwood
Cottonwood
Cougar
Countries in transition
Credibility
Criteria and indicators
Critical wildlife habitat
Cryptosporidiosis
Cultural values
Culturally modified trees

Culverts
Customer research
Cutblock configuration
Cutblock distribution
Cutblock distribution
Cutblock size
CWH
CWP
Cyanocitta stelleri
Cytisus scoparius

D

Dace
Data access
Data analysis
Data capture
Data collection
Data exchange
Data management
Data quality
Data retrieval
Data sharing
Data synthesis
Data validation
Database management
Databases
Deactivation
Dead wood
Debris budgets
Debris flows
Decay
Decay assessment
Decay models
Decay models
Deciduous stands

Deciduous trees
Decision support systems
Decision support tools
Decomposition
Deduction factors
Deer
Deferral areas
Definitions
Defoliators
Delgamuukw
Demographics
Demonstration forests
Dend
Dendroctonus ponderosae
Dendroica castanea
Dendroica townsendi
Depth to bedrock
Desertification
Developing countries
Dicamptodon tenebrosus
Digital terrain models
Discharge
Discing

Disease
Disease centres
Disease resistance
Diseases
Disjunct populations
Dispersal
Diversification
Diversification
Diversification
DNA fingerprinting
Dolichonyx oryzivorus
Domestic water supply
Douglas fir tussock moth
Douglas-fir
Drainage
Drainage structures
Drought
Dryocopus pileatus
Duff
Dwarf mistletoe
Dynamic systems

E

Earth flows
Earthfill tiebacks
Earthworms
Eastern spruce budworm
ECA

ECAs
Ecoforestry
Ecolabelling
Ecological functioning
Ecological risk

Ecology
E-commerce
Econometric models
Economic benefits
Economic benefits

Economic development
Economic health
Economic potential
Economic trends
Economic values
Economic viability
Economic welfare
Economics
Ecophysiology
Ecophysiology
Ecosystem attributes
Ecosystem dynamics
Ecosystem function
Ecosystem functions
Ecosystem health
Ecosystem impacts
Ecosystem integrity
Ecosystem management
Ecosystem mapping
Ecosystem process
Ecosystem processes
Ecosystem processes
Ecosystem productivity
Ecosystem quality
Ecosystem recovery
Ecosystem renewal
Ecosystem resilience
Ecosystem restoration
Ecosystem structure
Ecosystem values
Ecosystem wellness
Ecosystem-based forestry

Ecosystem-based
management
Ecosystems
Eco-tourism
Ecotypes
Edge effects
Edge habitat
Edges
Education
Education, Skills
Educations
Effectiveness assessment
Effectiveness assessment?
CCLUP
Effectiveness monitoring
Effectiveness research
Effluent
Electronic guidebook
Elk
Empidonax flaviventris
Empidonax wrightii
Employment
Empowerment
Endangered species
Engelmann spruce
ENGOS
Enhanced Forest
Management Pilot Projects
Enhanced forestry
Enhanced forestry: Tree
improvement

Enhanced Resource
Management Areas
Enhanced silviculture
Environmental groups
Environmental impact
assessment
Environmental Non-
Governmental
Organizations
Environmental standards
Environmentally sensitive
areas
Eremophila alpestris
Erethizon dorsatum
Erosion
ESAs
ESSF
Ethics
Ethnography
Euderma maculatum
Evapotranspiration
Evolution
Excavation
Exotic species
Expansion factors
Expansion factors for
carbon
Expert systems
EXPLORE
Extension

F

FAC
Facing systems
Factor of Safety
Falco mexicanus
Falco peregrinus
Falldown
Farming impacts
Federal Income Tax Act
Fertilization
Fiber resources

Fibre
Fill materials
Financial administration
Fine filter approach
Fine-filter management
Fines
Fire
Fire guards
Fire hazard
Fire management

Fire suppression
Fires
Fires
First Nations
Fish
Fish habitat
Fish reproduction
Fish streams
Fisher
Flammulated owl

Flammulated owl
Flat over steep slopes
Flood plains
Floodplain erosion
Floodplain formation
Floods
Flux measurements
Fluxes
Food chains
Food flux
Food webs
Food-source plants
Forage production
Forage supply
Foreign aid
Forest Appeals Commission
Forest composition
Forest condition
Forest convention
Forest decline
Forest development plans
Forest dynamics
Forest economics

Forest Ecosystem Networks
Forest ecosystems
Forest edges
Forest estate models
Forest fire
Forest gaps
Forest health
Forest management
Forest management
Forest pests
Forest policy
Forest practice innovation
Forest practices
Forest Practices Act
Forest Practices Board
Forest Practices Code
Forest productivity
Forest Productivity Council
of BC
Forest products
Forest products processing
Forest structure
Forest values

Forest-dependent
communities
Forest-dependent species
Forest-level models
Forestry effects
Forestry equipment
Forestry impact
Forestry suppliers
Forestry-impacts
FPB
Fragmentation
FRBC
FRBC;Employment
Free-growing standard
Free-to-grow
Fringed myotis
Frost
Fuel moisture
Fullbenches
Functional groups
Funding
Fungi
Furbearers

G

Gaming tools: Extension
Garry oak
Gas exchange
Gaultheria shallon
Gene conservation
Gene flow
Genecology
Genetic engineering
Genetically improved stock
Genetics
Geomorphology
Geotextiles
Giardiasis
GIS
Glacial streams
Glaucidium gnoma
Global cycles
Global warming

Government
Government cooperation
Grand fir
Grass
Grasshopper sparrow
Grassland ecosystems
Grassland health
Grassland invasion
Grasslands
Gray flycatcher
Grazing
Grazing impacts
Great blue heron
Green tree retention
Greenhouse gases
Greenup
Green-up standards
Greenways

Grey wolf
Grizzly bear
Groundwater
Groundwater temperature
Group selection
Group selection systems
Growth and yield
Growth and yield models
Growth declines
Growth limitations
Growth models
Growth reductions
Guidelines
Guidelines development
Gullies
Gully Assessment
Procedure
Gulo gulo

H

H60 line
Habitat
Habitat change
Habitat condition
Habitat dilution
Habitat inventory
Habitat management
Habitat models
Habitat requirements
Habitat supply
Habitat supply analysis
Habitat wellness
Hairy woodpecker
Hard pine rusts
Hard pine stem rust
Hardwood management
Hardwoods
Harvest level profiles
Harvest scheduling
Harvesting

Harvesting impacts
Harvesting methods
Harvesting standards
Harvesting systems
Harvesting techniques
Harvesting technology
Hay cutting
Hazard assessment
Hazard tree assessment
Healing
Height repression
Height-age relationships
Helicopter logging
Hemlock dwarf mistletoe
Hemlock looper
Herbicides
Hiding cover
Hiding cover
High elevation sites
High-end manufacturing

Higher Level Plans
Hipping residues
Historical practices
History
HLP
Holistic management
Hormones
Horned lark
Horse logging
Huckleberry
Human health
Humus
Hunting
Hydrological classification
Hydrological recovery
Hydrology
Hypsiglena torquata
Hysteresis
Hysteresis

I

ICH
ICSI
Icteria virens
Idaho white pine
Identified wildlife
IDF
IFPAs
Impact assessment
Impact assessment models
Improved forest
management
Indian reserve lands
Indian Reserve lands
Indicator combinations
Indicator development
Industrial forestry
Industrial structure
Industry
Industry costs
Information access
Information exchange

Information management
Information needs
Information sharing
Information sharing
Information technology
Infrastructure
Innonotus tomentosus
Innovation
Innovative Forest Practices
Agreements
Innovative forestry
practices
Inoperable areas
Insect population dynamics
Insects
Institutional change
Integrated forest
management
Integrated land use
Integrated management
Integrated pest management

Integrated research
Integrated resource
management
Integrated watershed
management
Intellectual property rights
Intellectual rights
Intensive forestry
Intensive management
Interception
Intergovernmental Forum
on Forests
Interim Measures
Interior
Interior Balsam Bark
Interior habitat
Intermediate entries
International affairs
International agreements
International commitments
International links

International treaties
Internet
Introduced species
Inventory

Invertebrates
Investment
ISIS
Island populations

IWA
IWMS

J

Job Protection Commission
Jobs

Jobs and Timber Accord
Joint management

Joint partnerships
Joint ventures

K

Karst
KBLUP
Keen's long-eared myotis

Keen's myotis
Keyword
Kiln technology

Kyoto Protocol

L

Laboratory testing
Labour mobility
Lacustrine deposits
Lagopus leucurus
Lakes
Land cover
Land title
Land use change
Land Use Charter
Land use plans
Land use zoning
Land zonation
Landbase
Landing rehabilitation
Landings
Landscape attributes
Landscape change
Landscape connectivity
Landscape corridors
Landscape diversity
Landscape dynamics
Landscape ecology
Landscape fragmentation
Landscape modeling
Landscape mosaics

Landscape processes
Landscape structure
Landscape types
Landscape units
Landscape visualization
Landslides
Land-use plans
Larix leptolepis
Larix occidentalis
Larix occidentalis
Law enforcement
Leader weevil
least chipmunk
Legal requirements
Legislation
Lentic ecosystems
Lepus americanus
Lewis' woodpecker
Life cycle analysis
Light
Lightning
Litter
Litter quality
Litterfall
Livestock

Local control
Local knowledge
Lodgepole pine
Lodgepole pine dwarf
mistletoe
Lodgepole pine stem rust
Log grades
Log markets
Logging
Logging debris
Long-billed curlew
Long-term climate records
Long-term productivity
Long-term research
Loss factors
Low flows
Low impact logging
Low sites
Low-productivity sites
Loxia curvirostra
LRMP
LRUPs
LUPs
Lynx canadensis

M

Management skills	Metadata	Molothrus ater
Manufacturing capacity	Metapopulations	Monitoring
Mapping	Meteorology	Montane spruce
Marbled murrelet	Methane	Moose
Marginal agricultural land	MH	Mortality
Marginal areas	Microbial communities	Mounding
Marginal stands	Microclimate	Mountain beaver
Marine clays	Microsite	Mountain biking
Market access	Microsite selection	Mountain goat
Market competition	Migration routes	Mountain hemlock
Market expectations	Migratory species	Mountain lion
Market incentives	Mill technology	Mountain pine beetle
Market requirements	Minimum age	Mountain sheep
Market research	Mistletoe	MS
Market trends	Mistletoe	Mulching
Marketing	Mistletoe	Mule deer
Marmota vancouverensis	Mixed species management	Multi-age stands
Marten	Mixed woods	Multiple use
Martes americana	Mixed-age stands	Multi-species stands
Martes pennanti	Mixed-species stands	Multi-year agreements
Mass wasting	Mixedwood ecosystems	Mushrooms
Mating systems	Mixedwood ecosystems	Mustelids
Mechanization	Mixedwoods	Mycorrhizae
Media relations	Model forests	Myotis keenii
Medicinal plants	Modeling	Myotis thysanodes
Melanerpes lewis	Molecular markers	
Mensuration	Moles	

N

National commitments	Net ecosystem productivity	Non-governmental organizations
National Forest Week	Net factoring	Non-productive stands
Natural	Net primary production	non-recoverable losses
Natural disturbance	Netdowns	Non-timber forest products
Natural disturbance regime	New entrants	Non-timber forest resources
Natural forests	New Forest Opportunities	Non-timber forest values
Natural regeneration	Ltd.	Non-tree vegetation
Natural variability	NGOs	Northern bog lemming
NDT 1	Night snake	Northern goshawk
NDT 2	Nitrogen	Northern leopard frog
NDT 3	Nitrogen fixation	Northern pygmy-owl
NDT 4	NIVMA	Northern saw-whet owl
Neotropical migrants;		

Northern wet-belt sites
NSR
NSR areas
Numenius americanus

Nurse crops
Nutrient availability
Nutrient cycles
Nutrient cycling

Nutrient leaching
Nutrients
Nutrition

O

OAF
OASIS
Odocoileus hemionus
Off-channel habitat
OGMAs
Old-growth
Oncorhynchus mykiss
Operability

Operational adjustment factors
Oporornis agilis
Oreamnos americanus
Oreoscoptes montanus
Organic matter
OSF2
Otus flammeolus

Otus kennicotti
Overcapacity
Ovis canadensis
Ovis dalli
Owls
Ozone

P

P.A. 5
Pacific giant salamander
Pacific madrone
Pacific silver fir
Pacific water shrew
Painted turtle
Paired watersheds
Paper birch
Parasitism
Parks
Partial cutting
Partial harvesting
Patch dynamics
Patch size distribution
Patches
Pathogens
Peak flows
Pedology
PEM
Penalties
Peregrine falcon
Permanent sample plots
Pest eradication techniques
Pesticides
Pests
Pests, Pest eradication techniques

Phellinus root disease
Phellinus root rot
Phenology
Pheromones
Philadelphia vireo
Physiology
Phytoplankton
Picea engelmannii
Picea glauca
Picea sitchensis
Picoides albolarvatus
Picoides villosus
Pileated woodpecker
Pine mistletoe
Pine mushrooms
Pine needle cast fungi
Pines
Pinus albicaulis
Pinus contorta
Pinus monticola
Pinus ponderosa
Pissodes
Planning
Planning: Non-timber forest resources
Plant physiology
Plantation forests

Plantation management
Plantations
Planting
Planting methods
Planting quality
Planting techniques
Plecotus townsendii
Plethodon idahoensis
Poaching
Pocket gopher
Policy
Pollution
Polymorphic species
Ponderosa pine
Poplar
Population characterization
Population dynamics
Population ecology
Population estimates
Population viability
Populus balsamifera
Populus tremuloides
Populus trichocarpa
Pop-up spacing
Porcupine
Porcupines
PP

PPBG
Prairie falcon
Precipitation
Precipitation intensity
Predation
Predator-prey interactions
Predator-prey relationships
Prescribed burning
Prescribed fire
Prescriptions
Priority setting
Private enterprise
Private land
Privatization
PROBE
Problem forest types

Problem forests
Process-based models
Product acceptance
Product certification
Product development
Production costs
Productivity
Professional ethics
Professional foresters
Progme subis
Protected areas
Protected areas strategies
Protozoans
Provenance
Provenance selection
Pruning

Prunus emarginata
Pseudotsuga menziesii
PSP matrix
Public administration
Public expectations
Public interest
Public involvement
Public involvement:
Indicator development
Public participation
Public perceptions
Public relations
Pulp
Puma concolor
Pure research
Purple martin

Q

Quality assurance

Quality control

Quercus garryana

R

Rabbits
Rain interception
Rainfall interception
Rana pipiens
Rana pretiosa
Ranching
Ranching impacts
Range
Range Management
Range productivity
Range site classification
Range values
Rangeland
Rangifer tarandus
Raptors
Reclamation
Recombinant DNA
Recreation
Recreation impacts
Recruitment
Recycling
Red alder

Red crossbill
Red-backed vole
Redcedar
Red-tailed chipmunk
Reduction factors
Reforestation
Regeneration
Regeneration cutting
Regeneration delay
Regulation
Rehabilitation
Reintroductions
Remote sensing
Renewable energy
Renewal
Reporting systems
Representation
Representative ecosystems
Reproduction
Reptiles
Research analysis
Research applicability

Research collaboration
Research continuity
Research cooperation
Research coordination
Research evaluation
Research evaluation
Research funding
Research gaps
Research investment
Research needs
Research priorities
Research priority setting
Research recognition
Research relevance
Research responsibilities
Research site selection
Research synthesis
Resistant seedlots
Resource allocation
Resource plans
Resource plans
Resource utilization

Responsibilities
Restoration
Retaining walls
Retention
Revegetation
Revenue
Rhamnus purshiana
Rhizosphere
Rhizosphere
Riparian areas
Riparian management
Riparian zones

Risk analyses
Risk assessment
Risk assessment, GIS
Risk management
Risk-based mapping
RMPs
Road building
Road deactivation
Road rehabilitation
Roads
Rockfalls
Rockfill slopes

Rockslope failures
Rodents
Root competition
Root form
Root rot
Rooting volumes
Rotation lengths
Rotational landslides
Rubber boa
Runoff
Rust resistance

S

Sacred sites
Sage thrasher
Salal
Salix
Salmon
Salvage logging
Salvelinus malma
Sample plots
Saprophytes
Satellite analysis
SBP
SBPS
SBS
Scale
Scaling
Schooling
Scotch broom
Sculpin
Secondary forests
Secondary manufacturing
Second-growth forests
Sediment
Sediment budgets
Sediment delivery
Seed collection
Seed deployment
Seed dispersal
Seed movement
Seed orchards
Seed production
Seed source

Seed viability
Seismic activity
Selection cutting
Selection systems
Selective harvesting
Self-regulation
Sensitive species
Sensitive species, Grizzly bear
Seral stage distribution
Shade
Shade
Shade tolerance
Sharp-tailed grouse
Sharp-tailed snake
Shelterwood systems
SHIM
Shortwood
Shrews
SIBEC
SIFERP
Silvicultural systems
Silviculture
Single-tree selection
Site assessment
Site classification
Site index
Site occupancy
Site preparation
Site productivity
Site quality

Site series
Site-preparation
Sitka spruce
Ski resorts
Skid trails
Skidding
Skills
Skills, Capacity building
Skills, Education
Slope instability
Slope stability
Slope stability, Culverts
Slope stabilization
Slopes
Small-diameter pines
Small-scale forestry
SMART indicators
Smog
Snags
Snakes
Snow accumulation
Snow breakage
Snow creep
Snow depth
Snow lines
Snow melt
Snow press
Snowmelt
Snowpack
Snowshoe hare
Social acceptance

Social benefits
Social forestry
Social licence
Social values
Social welfare
Soil compaction
Soil condition
Soil displacement
Soil disturbance
Soil erosion
Soil moisture
Soil organisms
Soil productivity
Soil quality
Soil quantity
Soil stability
Soil structure
Soil temperature
Soil water
Soil-borne diseases
Soils
Soils Ecosystem processes
Solar radiation
Somatically produced
seedlings
Sorex bendirii
Sorex palustris
Sorex trowbridgii
Southern red-backed vole
Spacing
Spatial arrangements of
stands
Spawning
Spawning habitat
SPBS
Special Management Areas
Species assemblages
Species composition
Species conversion

Species densities
Species mixes
Species profiles
Species replacement
Species selection
Species selection
Species survival
Sphyrapticus thyroideus
Spiritual values
Spizella breweri
Sport fishing
Spotted bat
Spotted frog
Spotted owl
Spruce
Spruce (interior)
Spruce budworm
Spruce weevil
Stand composition
Stand conversion
Stand degradation
Stand density
Stand development
Stand dynamics
Stand establishment
Stand microclimate
Stand mosaics
Stand quality
Stand structure
Stand tending
Stand volume
Standards
Stand-level changes
State of the forests
Steelhead
Steller's jay
Stem analysis
Stem rusts
Stewardship

Stocking
Stocking levels
Stone sheep
Stream algae
Stream bank stability
Stream buffers
Stream cleaning
Stream flow regime
Stream food webs
Stream re-direction
Stream rehabilitation
Stream temperature
Streambank stability
Streambed anchor ice
Streambed sediment
Streams
Streptomyces
Stress tolerance
Strix occidentalis
Stump removal
Stumpage
Stumping
Subalpine fir
Subspecies
Succession
Successional dynamics
Supply chain management
Suspended sediment
Sustainability
Sustainable development
Sustainable forest
management
Sustainable harvest
Synaptomys borealis
Synthesis
Systematics
systems
Systems management

T

Tailed frog

Tamias minimus

Tamias ruficaudus

Taxation
Taxidea taxus
Taxonomy
Taxus brevifolia
Technology access
Technology transfer
TEM
Temperature
Tenure
Tenures
Tenures Stewardship
TERPs
Terrain attributes
Terrain mapping
Terrain stability
Thinning
Thinning shock
Thomomys talpoides
Thuja plicata
Thymallus arcticus
Tiger salamander
Tillage
Timber
Timber access

Timber harvest
Timber products
Timber royalties
Timber supply
Timber values
Timber volumes
Tipsy
Tomentosus root rot
Tourism
Townsend's big-eared bat
Townsend's warbler
Trade
Trade unions
Traditional activities
Traditional ecological
knowledge
Traditional knowledge
Traditional practices
Traditional rights
Traditional use
Trail construction
Training
Transition forests
Transportation corridors

Treatment impacts
Treaty negotiations
Treaty process
Treaty rights
Tree breeding
Tree dynamics
Tree encroachment
Tree improvement
Tree improvement Program
Tree physiology
Tree quality
Tree resistance
Tree roots
Tree volumes
Tree-ring analysis
TRENDS
Trout
Trowbridge's shrew
Tsuga heterophylla
Tsuga mertensiana
Turkey vulture
Tussock moth
Tympanauchen phasianellus

U

Ultraviolet-B radiation
UNCED
Underplanting
Understory
Uneven-aged stands

Ungulates
Urban interface
Urban sprawl
Urbanization
Ursus arctos

Utilization
Utilization of waste wood
Utilization techniques
UVA
UVB

V

Validation
Validation monitoring
Valuation
Value added
Value added processing
Value systems
Value-added
Value-added products
Vancouver Island marmot
variability

Variable density yield
models
Variable density yield
tables
Variable retention
Variable retention systems
Vaux's swift
Vegetation control
Vegetation management
Vegetation mapping

Venturia macularis
Vireo philadelphicus
Viruses
Visual quality
Visualization tools
Value-added
Voles
Volume equations
Volumetric models
Voucher specimens

W

Wages	Weathering	Wildlife habi
Warblers	Weed control	Wildlife habitat
Waste	Weeding	Wildlife management
Water balance	Weeds	Wildlife population
Water licences	Weevils	analyses
Water pollution	Western balsam bark beetle	Wildlife stubs
Water quality	Western gall rust	Wildlife tree patches
Water quantity	Western hemlock	Wildlife Tree Patches
Water resources	Western larch	Wildlife trees
Water s	Western redcedar	Wildlife, Bats
Water shrew	Western screech owl	Williamson's sapsucker
Water supply	Western spruce budworm	Willow
Water tables	Western white pine	Wilsonia canadensis
Water tables	Western yew	Wind
Water temperature	Wetland Ecosystem	Wind climatology
Water transport potential	Classification	Wind flow
Water vapour	Wetland forests	Windthrow
Water-borne disease	Wetlands	Winter habitat
Water-borne pathogens	White birch	Winter range
Watershed Assessment	White pine blister rust	Wintipsi model
Procedure	White pine weevil	Wolverine
Watershed health	White spruce	Women's roles
Watershed rehabilitation	White sturgeon	Wood products
Watershed restoration	Whitebark pine	Wood quality
Watershed Restoration	White-headed woodpecker	Woodlots
Program	White-tailed ptarmigan	Worker education
Watershed studies	Whitewood products	Workers Compensation
Watersheds	Whole-tree harvesting	Board
Watersheds of concern	Wildcrafting	
Weather forecasts	Wildlife	

Y

Yellow-bellied flycatcher	Yellow-cedar	Young stands
Yellow-breasted chat	Yield curves	

Z

Zonation
Zoning

Appendix 3: Geographic Reference and Workshop Locations

FRBC Regions	Workshop Locations
Chariboo-Chilcotin	Casltegar
Thompson-Okanagan	Kamloops
Kootenay-Boundary	Williams Lake
Omineca-Peace	Victoria
Skeena-Bulkley	Vancouver
Pacific	Smithers
	Prince George

Appendix 4: Forest Renewal BC Strategic Objectives

Sustainable harvest
Enhance environmental values
Strengthen sustainable forest management
Criteria and Indicators for sustainability
Value added
Communities
Workforce

Appendix 5: General Subject Areas

Economic
Environmental
Interdisciplinary
Legislative
Social
Technical