

APPENDIX 2 – COMMON PATHOGENS OF TREES IN BRITISH COLUMBIA

COMMON PATHOGENS OF TREES IN BRITISH COLUMBIA

	Common/Scientific name	Hosts	Notes
REGION: North Coast —Bella Coola is the approximate southern limit			
Diseases			
Stem diseases	Brown Stringy Trunk Rot <i>Echinodontium tinctorium</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; white and Sitka spruce Douglas-fir and western redcedar	High elevations only on coast, Not found on Queen Charlottes
	Red Ring Rot <i>Phellinus pini</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; black, white, Engelmann and Sitka spruce; jack, lodgepole, ponderosa and western white pine; Douglas-fir, yellow-cedar, larch and western redcedar	Throughout the host range
	Brown Crumbly Rot <i>Fomitopsis pinicola</i>	Occurs on a wide range of hosts, including most conifers. It has not been reported on yellow-cedar, black spruce or maple in B.C. Red alder, paper birch, aspen and cottonwood	Is one of the most frequently occurring decay fungi in B.C. Is very common on dead trees but can cause considerable damage to live trees
	Hemlock Dwarf Mistletoe <i>Arceuthobium tsugense</i>	Hemlock	Throughout the host range
Root diseases	Annosus Root Rot <i>Heterobasidion annosum</i>	Occurs on a wide variety of coniferous and broad-leaved species: western hemlock, amabilis and grand fir, white and Sitka spruce, lodgepole pine, Douglas-fir, western redcedar, bigleaf maple, and alder	Affects trees west of the Coast Mountains
	Tomentosus Root Rot <i>Inonotus tomentosus</i>	Sitka and white spruce	Mainly in ICH (Interior Cedar Hemlock) zone
Insects			
Bark beetles	Western Balsam Bark Beetle <i>Dryocoetes confusus</i>	Subalpine fir	Throughout the host range.
Defoliators	Tent Caterpillar <i>Malacosoma disstria</i>	Trembling aspen	Throughout the host range
	Western Blackheaded Budworm <i>Acleris gloverana</i>	Western hemlock, amabilis fir, Sitka spruce	Throughout the host range
	Green Striped Forest Looper <i>Melanolophia imithea</i>	Western hemlock	Throughout host range

Common/Scientific name		Hosts	Notes
REGION: South Coast —Bella Coola is the approximate northern limit			
Diseases			
Stem diseases	Brown Stringy Trunk Rot <i>Echinodontium tinctorium</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; white and Sitka spruce Douglas-fir and western redcedar	High elevations only on coast
	Red Ring Rot <i>Phellinus pini</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; black, white, Engelmann and Sitka spruce; jack, lodgepole, ponderosa and western white pine; Douglas-fir, yellow-cedar, larch and western redcedar	Throughout the host range
	Aspen Trunk Rot <i>Phellinus tremulae</i>	Only on trembling aspen	Found where trembling aspen occurs on the south coast
	Brown Crumbly Rot <i>Fomitopsis pinicola</i>	Occurs on a wide range of hosts, including most conifers; has not been reported on yellow-cedar, black spruce or maple in B.C. Red alder, paper birch, aspen and cottonwood	Is one of the most frequently occurring decay fungi in B.C. Is very common on dead trees but can cause considerable damage to live trees
Root diseases	Hemlock dwarf mistletoe <i>Arceuthobium tsugense</i>	Hemlock	Throughout the host range
	Armillaria Root Rot <i>Armillaria ostoyae</i>	All native conifer species are susceptible except mountain hemlock	Throughout the host range south of 57° latitude
	Annosus Root Rot <i>Heterobasidion annosum</i>	Occurs on a wide variety of coniferous and broad-leaved species: western hemlock, amabilis and grand fir, white and Sitka spruce, lodgepole pine, Douglas-fir, western redcedar, bigleaf maple, and alder	Affects trees west of the Coast Mountains
	Laminated Root Rot <i>Phellinus weirii</i>	Douglas-fir; grand, Pacific silver and white firs; mountain hemlock	Throughout the host range, but most damaging to Douglas-fir in coastal stands
	Blackstain root disease <i>Leptographium wageneri</i>	Douglas-fir	Throughout the host range
Insects			
Bark beetles	Douglas-fir Beetle <i>Dendroctonus pseudotsugae</i>	Douglas-fir	Mainly eastern Vancouver Island and lower mainland north to host range
Defoliators	Western Hemlock Looper <i>Lambdina fiscellaria lugubrosa</i>	Western hemlock	Occurs primarily south of latitude 56° along the coast
	Western Blackheaded Budworm <i>Acleris gloverana</i>	Western hemlock; amabilis fir; Sitka spruce	Throughout the host range along the south coast
	Western Spruce Budworm <i>Choristoneura occidentalis</i>	Douglas-fir; true firs; spruce	Throughout the host range along the south coast

Common/Scientific name		Hosts	Notes
REGION: North and Central Interior —from approximately Williams Lake and north			
Diseases			
Stem diseases	Brown Stringy Trunk Rot <i>Echinodontium tinctorium</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; white and Sitka spruce; Douglas-fir and western redcedar	Main cause of heart rot in mature hemlock and true firs
	Red Ring Rot <i>Phellinus pini</i>	Mountain and western hemlock; amabilis, grand and subalpine fir; black, white, Engelmann and Sitka spruce; jack, lodgepole, ponderosa and western white pine; Douglas-fir, yellow-cedar, larch and western redcedar	Throughout the host range
	Aspen Trunk Rot <i>Phellinus tremulae</i>	Only on trembling aspen	Found where trembling aspen occurs
	White Spongy Trunk Rot <i>Fomes fomentarius</i>	White birch	Throughout host range
	Lodgepole Pine Dwarf Mistletoe <i>Arceuthobium americanum</i>	Lodgepole pine	Throughout host range
Root diseases	Tomentosus Root Rot <i>Inonotus tomentosus</i>	Amabilis and subalpine fir; Engelmann, black and white spruce; lodgepole, ponderosa and white bark pine; Douglas-fir; western hemlock; larch	Found in spruce-pine forests, particularly spruce stands in northern interior
Insects			
Bark beetles	Mountain Pine Beetle <i>Dendroctonus ponderosae</i>	All pines, especially lodgepole	Throughout the host range
	Spruce Beetle <i>Dendroctonus rufipennis</i>	Engelmann, white and Sitka spruce	Throughout the host range
	Western Balsam Bark Beetle <i>Dryocoetes confusus</i>	Subalpine fir	Throughout the host range, on the east of the Coast Mountains
Defoliators	Forest Tent Caterpillar <i>Malacosoma disstria</i>	Trembling aspen	Throughout the host range
	Large Aspen Tortrix <i>Choristoneura conflictana</i>	Trembling aspen	Throughout host range
	2-year Cycle Budworm <i>Choristoneura biennis</i>	White spruce; subalpine fir	Sub-Boreal Spruce zone McBride, Hazelton and north
	Western Blackheaded Budworm <i>Acleris gloverana</i>	Subalpine fir; white spruce	Throughout the host range
	Eastern Spruce Budworm <i>Choristoneura fumiferana</i>	Subalpine fir; white spruce	Fort Nelson area

	Common/Scientific name	Hosts	Notes
REGION: South Interior —from approximately Williams Lake and south			
Diseases			
Stem diseases	Brown Stringy Trunk Rot <i>Echinodontium tinctorium</i>	Mountain and western hemlock; grand and subalpine fir; white spruce; Douglas-fir; western redcedar	Interior wet belt. Main cause of heart rot in mature hemlock and true firs
	Red Ring Rot <i>Phellinus pini</i>	Mountain and western hemlock; grand and subalpine fir; black, white, Engelmann and Sitka spruce; jack, lodgepole, ponderosa and western white pine; Douglas-fir; larch; western redcedar	Throughout the host range
	Lodgepole Pine Dwarf Mistletoe <i>Arceuthobium americanum</i>	Lodgepole pine	Throughout host range
	Aspen Trunk Rot <i>Phellinus tremulae</i>	Only on trembling aspen occurs	Found where trembling aspen
	Brown Crumbly Rot <i>Fomitopsis pinicola</i>	Occurs on a wide range of hosts, including most conifers; has not been reported on yellow-cedar, black spruce or maple in B.C. Red alder; paper birch; aspen; cottonwood	One of the most frequently occurring decay fungi in B.C. Very common on dead trees but can cause considerable damage to live trees occurs
Root diseases	White Spongy Trunk Rot <i>Fomes fomentarius</i>	White birch	Throughout host range
	Armillaria Root Rot <i>Armillaria ostoyae</i>	All native conifer species are susceptible except mountain hemlock	Most prevalent in south interior
	Tomentosus Root Rot <i>Inonotus tomentosus</i>	Amabilis and subalpine fir; Engelmann, black and white spruce; lodgepole, ponderosa and white bark pine; Douglas-fir, western hemlock; larch	Less common than in north interior. Usually in moist spruce stands at high elevations
	Laminated Root Rot <i>Phellinus weirii</i>	Douglas-fir; grand fir; western hemlock	Rare, east of Purcell Mountains
	Blackstain root disease <i>Leptographium wageneri</i>	Douglas-fir	Primarily West Kootenays
Insects			
Bark beetles	Mountain Pine Beetle <i>Dendroctonus ponderosae</i>	All pines, especially lodgepole	Throughout the host range.
	Spruce Beetle <i>Dendroctonus rufipennis</i>	Engelmann and white spruce	Throughout the host range
	Western Balsam Bark Beetle <i>Dryocoetes confusus</i>	Subalpine fir	Throughout the host range
Defoliators	2-year Cycle Budworm <i>Choristoneura biennis</i>	Engelmann spruce; subalpine fir	High elevation in southeastern B.C.
	Forest Tent Caterpillar <i>Malacosoma disstria</i>	Trembling aspen	Throughout the host range.
	Western Hemlock Looper <i>Lambdina fiscellaria lugubrosa</i>	Western hemlock	Primarily in the interior wet belt
	Western Spruce Budworm <i>Choristoneura occidentalis</i>	Douglas-fir; true firs; spruce	Okanagan and West Kootenays
	Douglas-fir Tussock Moth <i>Orgyia pseudotsugata</i>	Douglas-fir	Throughout Okanagan and drier areas of West Kootenays