	Northwest Boreal LCC: Prioritized Information Needs by Category	Information Needs Categories ("Bins")
B1	High resolution land cover imaging to strategically focus geospatial data	B - Baseline. These are information needs that
	collection within the LCC with the following properties: Ability to	support or enhance the LCC's understanding of
	distinguish among plant species (e.g., black spruce from white spruce,	current system states. They may use existing
	willows from alder)	data or involve new ways of using existing data.
B2	Map the location of existing <u>anthropogenic disturbances</u> (e.g.,	They may require collection of new data, or
	transportation infrastructure, trails, land use conversion, recreational	require synthesis of multiple existing datasets.
	development, timber extraction, gravel extraction, mining activity, and	They may be spatial or non-spatial in nature.
	reclamation efforts.)	Fundamentally, this bin includes information
В3	Consistent hydrological dataset for all of the LCC, across international	needs that define "Where we are, today."
	border. Uses include the following: Salmon management, Pollutant transport studies and Investigating the spread of invasive species	
B4	Assemble and develop Ecological Land Classification and mapping at	
D4	multiple geographic scales (e.g. wetlands, soils)	
B5	In the face of changing land uses, obtain <u>baseline data on life histories</u> ,	
23	species habitat associations and suitability models for plant and animal	
	species of concern (e.g., identify critical anadromous and freshwater	
	habitat, migratory routes, spawning areas, and overwintering habitats).	
M1	Monitor changes in plant and animal species distribution,	M - Monitoring. These are information needs
	abundance/density, productivity and survivorship, including invasives,	that support or enhance the LCC's
	as a result of growing-season length changes (e.g., tree line migration;	understanding of changes in system states over
	shrubification of alpine tundra habitats; greening/browning of	time. They may involve coordination or
	vegetation; and impacts to subsistence species and resources).	standardization of protocols or minimum data
M2	Collect standardized stream information (including glacial melt and	standards. They may reflect improvements to
	glacial stream discharge) on a sufficient number of watersheds to	existing measurement systems or development
	determine the impacts of temperature and precipitation change on flow	of new measurement systems. Fundamentally,
	and water quality at the landscape scale	these are information needs that allow the LCC
M3	Improve mapping, modeling, and monitoring of <u>permafrost</u> location,	to track real world change in order to evaluate
	depth, and freeze/thaw rates	the accuracy of projections of future states and
M4	Increase weather station (and SnoTel, etc.) coverage to improve	modify adaptation planning and best management practices. These information needs
	biome/climate association	tell us "How systems are performing" and
		provide an essential feedback loop for landscape
		conservation.
R1	Assess the vulnerability of forest species and communities to climate	R- Understanding Relationships. These are
	<u>change</u> , including vulnerability of species throughout food webs	information needs that support or enhance the
R2(a	Impact of climate change on vegetation composition and on	LCC's understanding of relationships within
)	<u>subsistence resources</u> (e.g., harvested vegetation, ungulates, freshwater	current systems. These may involve
	fish, etc.)	experimentally-derived conclusions or analysis
R2(b	Investigate the effects of fire on ecosystems processes (e.g., severity,	of existing empirical data. This information is
)	frequency, and timing), including the following: permafrost dynamics,	necessary to project future states (based on
		systems function.
D1		D. Drojecting Eutring System States These size
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P2		•
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P3(a		non-spatial in nature. Fundamentally, this bin
1		includes information needs that predict "Where
)		
,	mining, timber extraction), and effects of cumulative disturbances in a	we are headed" given various future scenarios.
,	mining, timber extraction), and effects of cumulative disturbances in a changing climate on ecosystems, cultural resources, and focal species	we are headed" given various future scenarios.
P1 P2 P3(a	Water temperature and quality (turbidity, sedimentation, etc.), fish and wildlife habitats and populations, stand dynamics and vegetation change, Changes in carbon storage and plant biomass, and subsistence and other consumptive uses of fish and wildlife Predict and map the impacts of changing permafrost dynamics on the following: Hydrology-surface and subsurface, Wetlands, Lakes, rivers, streams (including connectivity), Biochemistry, Land use management, Species habitat and populations, Water quality and quantity, Terrestrial plants (forests), and Human use; public safety/health Project changes in plant species, community composition/biomes, and ecosystem processes as a result of climate change Project future vulnerability to land-use change, including projected changes to human access and resource exploitation (e.g., recreation,	includes information needs that predict "Where

P3(b	Investigate how changes in temperature and precipitation regimes may	
)	affect vegetative productivity via temperature-induced drought stress,	
	longer growing seasons, less water availability (higher	
	evapotranspiration)	
A1	Best management practices for protecting/informing landscape scale	A - Adaptation Planning and Best Management
	conservation, ecosystem function (e.g., wildlife corridors, road	<u>Practices</u> . These are information needs that
	placement, buffers)	support or enhance the LCC's understanding of
A2	Develop management protocols for potential future invasive species	the actions needed to move toward a desired
A3	Develop inclusive decision-making processes for managing new or	future system state or condition, given current
	expanding land uses	knowledge of "Where we are, today," "How and
		why systems work" and "Where we are
		headed." The information needs in this bin
		pertain to the conception or implementation of
		local to regional adaptation strategies. This
		includes the creation of Best Management
		Practices or alternative management scenarios,
		and decision support to identify "Where do we
		want to go, and how do we get there."