



Ministry of
Transportation

WARS 2000

Wildlife Accident Reporting System

2000 Annual Report

(1991 to 2000 Synopsis)

Ministry of Transportation

Engineering Branch

Environmental Management Section

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WARS Wildlife Accident Reporting System

2000 Annual Report

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APPENDIX A

Wildlife Accident Reporting System (WARS) form H-107 (2001/06)

APPENDIX B

Ministry Maintenance Contract Areas

APPENDIX C

Wildlife Warning Reflector Installations (April 2001)

WILDLIFE ACCIDENT LOCATIONS

Wildlife Accident Location Reporting

Accurate reporting of wildlife accident locations is critical for effectively identifying and evaluating accident patterns. Historically, not all WARS report forms have been completed with diligence. In particular, the accuracy of accident locations has varied considerably. In 1995, 28% of the WARS report forms lacked valid segment numbers and 44% lacked valid km references. The situation is improving. In 2000, 20% of the report forms received lacked valid LKI segment numbers and 31% lacked valid LKI kilometre references.

Some confusion exists between the use of the Road Features Inventory (RFI) and the LKI systems for identifying wildlife accident locations. Ministry Maintenance Contractors use the RFI system for locating highway features and structures such as bridges, signs, etc. The WARS system uses the LKI system for locating wildlife accidents. Wildlife accidents reported with RFI references are often converted to LKI references by Ministry Maintenance Contractors staff or Ministry staff. Errors can occur during data conversion.

The impact of the lack of accurate location information on accident analysis has been compounded by earlier problematic data entry procedures at MoT Headquarters. Previously, if a kilometre reference was not reported for an accident, the value "0" was often entered into the WARS database for the kilometre reference. This reduced the quality of the WARS database location information by confusing accidents that occurred at the beginning of an LKI segment with those accidents with incomplete location information.

At this time, while it is very unlikely wildlife accidents occur uniformly along any segment of highway in British Columbia, the most accurate way to display accidents recorded in the WARS database provincially is by the LKI segment. Within each LKI segment, it is most probable certain locations experience higher than average wildlife-related accident rates. Such locations can only be identified when wildlife accidents are consistently reported with accurate and complete kilometre references. Ideally, Geographic Positioning System (GPS) devices could be used to establish much more accurate locations.

Wildlife Accident Location Rankings by Species

Wildlife-related motor vehicle accidents vary dramatically by location in British Columbia. Depending on where highways are located within specific wildlife habitats, accident rates vary for the different wild animal species. Table 8 shows the ten LKI segments of numbered Provincial highways with the highest accident rates per km per year, for deer, moose, elk, bear, sheep, coyote, and porcupines, for the period between 1991 and 2000.

Wildlife Accident Locations by Species Maps

The general locations of wildlife accidents for deer, moose, bear, elk, coyote, sheep and porcupine, reported by LKI segment numbers on numbered Provincial highways, are shown on Maps 5 through 18. Maps 5, 7, 9, 11, 13, 15, and 17 show the gross numbers of wildlife accidents reported on each segment from 1991 to 2000. Maps 6, 8, 10, 12, 14, 16, and 18 show wildlife accidents as distributed per kilometre per year between 1991 to 2000.

Table 8. Top Ten Wildlife Accident Location Rankings by Species (Accidents/km/year) (1991 to 2000)

DEER	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	3	1325	OSOYOOS - CASCADE	147.21	1.683	2477
	2	97	1115	KALEDEN (JCT 3A) - DROUGHT HILL I/C (JCT RTE 97C)	57.61	1.486	856
	3	49	1197	DAWSON CREEK - ALBERTA	15.81	1.392	220
	4	33	1327	ROCK CREEK - RUTLAND	128.88	1.370	1766
	5	3/93	1385	CRANBROOK - ELKO	52.94	1.215	643
	6	3/95	1380	YAHK - CRANBROOK	71.94	1.154	830
	7	5A	1710	RTE 97C/5A ASPEN GROVE TO COLDWATER I/C	23.65	0.888	210
	8	3A	1363	NELSON - BALFOUR	33.90	0.876	297
	9	95A	2115	CRANBROOK - WASA	55.40	0.850	471
	10	3	1375	CRESTON - YAHK	40.00	0.828	331
MOOSE	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	97	1175	DAWSON CREEK - FORT ST JOHN	72.73	0.252	183
	2	16	1570	PRINCE GEORGE: RTE 97 ON BYPASS - BOEING RD	8.60	0.221	19
	3	16	1580	DOME CREEK - TETE JAUNE	146.27	0.158	231
	4	16	1590	TETE JEUNE - ALBERTA	76.99	0.155	119
	5	16	1540	HOUSTON - BURNS LAKE	81.28	0.116	94
	6	5	1780	AVOLA - TETE JAUNE	147.95	0.105	156
	7	16	1575	PRINCE GEORGE - DOME CREEK	120.19	0.104	125
	8	97	1170	CHETWYND - DAWSON CREEK	100.02	0.103	103
	9	16	1520	HAZELTON - HOUSTON	131.69	0.980	1291
	10	97	1160	PARSNIP RIVER - CHETWYND	149.26	0.878	1311
ELK	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	3/93	1385	CRANBROOK - ELKO	52.94	0.196	104
	2	3	1395	ELKO - ALBERTA	80.45	0.185	149
	3	93/95	2140	WASA - RADIUM	102.51	0.141	145
	4	3/95	1380	YAHK - CRANBROOK	71.94	0.115	83
	5	93/95	2135	FORT STEELE - WASA	31.66	0.114	36
	6	43	1397	SPARWOOD - ELKFORD	34.56	0.081	28
	7	3	1375	CRESTON - YAHK	40.00	0.080	32
	8	93	2150	RADIUM - KOOTENAY PARK	1.27	0.079	1
	9	41	1326	USA BORDER - GRAND FORKS	1.29	0.078	1
	10	95A	2115	CRANBROOK - WASA	55.40	0.069	38
BEAR	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	1	0570	MT LEHMAN - PEARDONVILLE U/P	2.22	0.901	20
	2	3/6	1360	SALMO - BURNT FLAT	14.31	0.419	60
	3	3A	1356	OOTISCHENIA (CASTLEGAR) - S SLOCAN	19.66	0.407	80

4	1	0950	SALMON ARM - SICAMOUS	27.19	0.331	90
5	19	2395	BEAVER COVE - BEAR COVE	48.56	0.329	160
6	3	1395	ELKO - ALBERTA	80.45	0.323	260
7	1	0905	JCT OLD RTE 3 (HOPE) - RTE 12 (LYTTON)	108.54	0.313	340
8	22	1340	TRAIL - CASTLEGAR	26.48	0.302	80
9	5A	1710	RTE 97C/5A ASPEN GROVE TO COLDWATER I/C	23.65	0.296	70
10	16	1580	DOME CREEK - TETE JAUNE	146.27	0.273	399

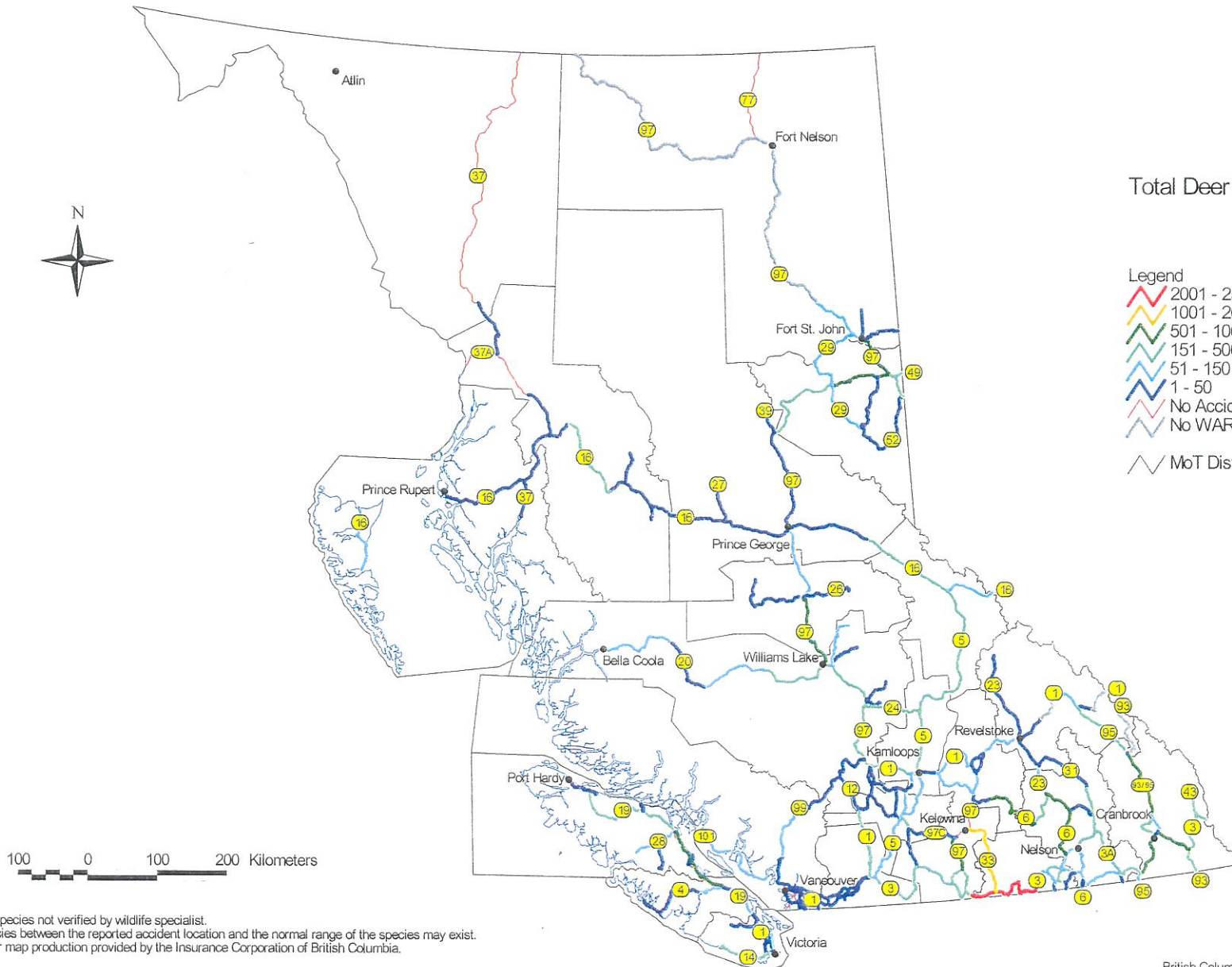
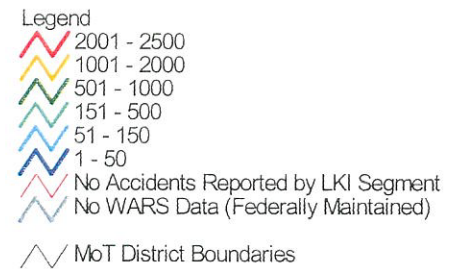
SHEEP	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	1	0915	SPENCES BRIDGE - JCTN RTE 97C (N ASHCROFT ACCESS LOOP)	44.34	0.090	40
	2	97	1110	OSOYOOS - KALEDEN JCT	47.09	0.019	9
	3	3	1395	ELKO - ALBERTA	80.45	0.016	13
	4	3	1365	BURNT FLAT - CRESTON	66.70	0.015	10
	5	97	1115	KALEDEN (JCT 3A) - DROUGHT HILL I/C (JCT RTE 97C)	57.61	0.007	4
	6	1	0985	GLACIER PARK - GOLDEN	56.06	0.005	3
	7	3	1320	KEREMEOS - OSOYOOS	46.16	0.004	2
	8	31	1367	BALFOUR - LARDEAU	75.59	0.004	3
	9	93/95	2140	WASA - RADIUM	102.51	0.004	4
	10	3	1310	PRINCETON - KEREMEOS	67.31	0.003	2

COYOTE	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	1	0570	MT LEHMAN - PEARDONVILLE U/P	2.22	1.892	42
	2	10	3120	GLOVER RD - SPRINGBROOK RD	3.61	0.111	4
	3	1	0920	CACHE CREEK - JCT RTE 5 (AFTON) KAMLOOPS	71.99	0.082	59
	4	5A	1710	RTE 97C/5A ASPEN GROVE TO COLDWATER I/C	23.65	0.063	15
	5	1	0575	BRIDAL FALLS - RTE 11	43.51	0.053	23
	6	11	2744	S JCTN BYPASS (RTE 1A)/RTE 11 - RTE 7 (MISSION)	9.99	0.050	5
	7	97	1115	KALEDEN (JCT 3A) - DROUGHT HILL I/C (JCT RTE 97C)	57.61	0.043	25
	8	1	0550	RTE 1: 264TH ST - MT LEHMAN	55.21	0.042	23
	9	7	2710	BURNABY - PORT COQUITLAM	21.13	0.033	7
	10	11	2742	HUNTINGDON CUSTOMS : RTE 1 (ABBOTSFORD)	3.37	0.030	1

PORCUPINE	Rank	Highway	LKI Segment	Description	Length (km)	Accidents/km/year	Total
	1	16	1505	PRINCE RUPERT - TERRACE	150.64	0.088	133
	2	1	0570	MT LEHMAN - PEARDONVILLE U/P	2.22	0.045	1
	3	37	3730	MEZIADIN LAKE JCT - NORTH BELL IRVING	93.53	0.045	42
	4	16	1520	HAZELTON - HOUSTON	131.69	0.043	56
	5	37	1514	KITIMAT - TERRACE	58.87	0.037	22
	6	37	3710	KITWANGA - CRANBERRY JCT	75.96	0.028	21
	7	16	1570	PRINCE GEORGE: RTE 97 ON BYPASS - BOEING RD	8.60	0.023	2
	8	16	1510	TERRACE - KITWANGA	90.73	0.021	19
	9	97	1160	PARSNIP RIVER - CHETWYND	149.26	0.019	29
	10	97	1155	PRINCE GEORGE - PARSNIP RIVER	155.93	0.019	29

Map 5

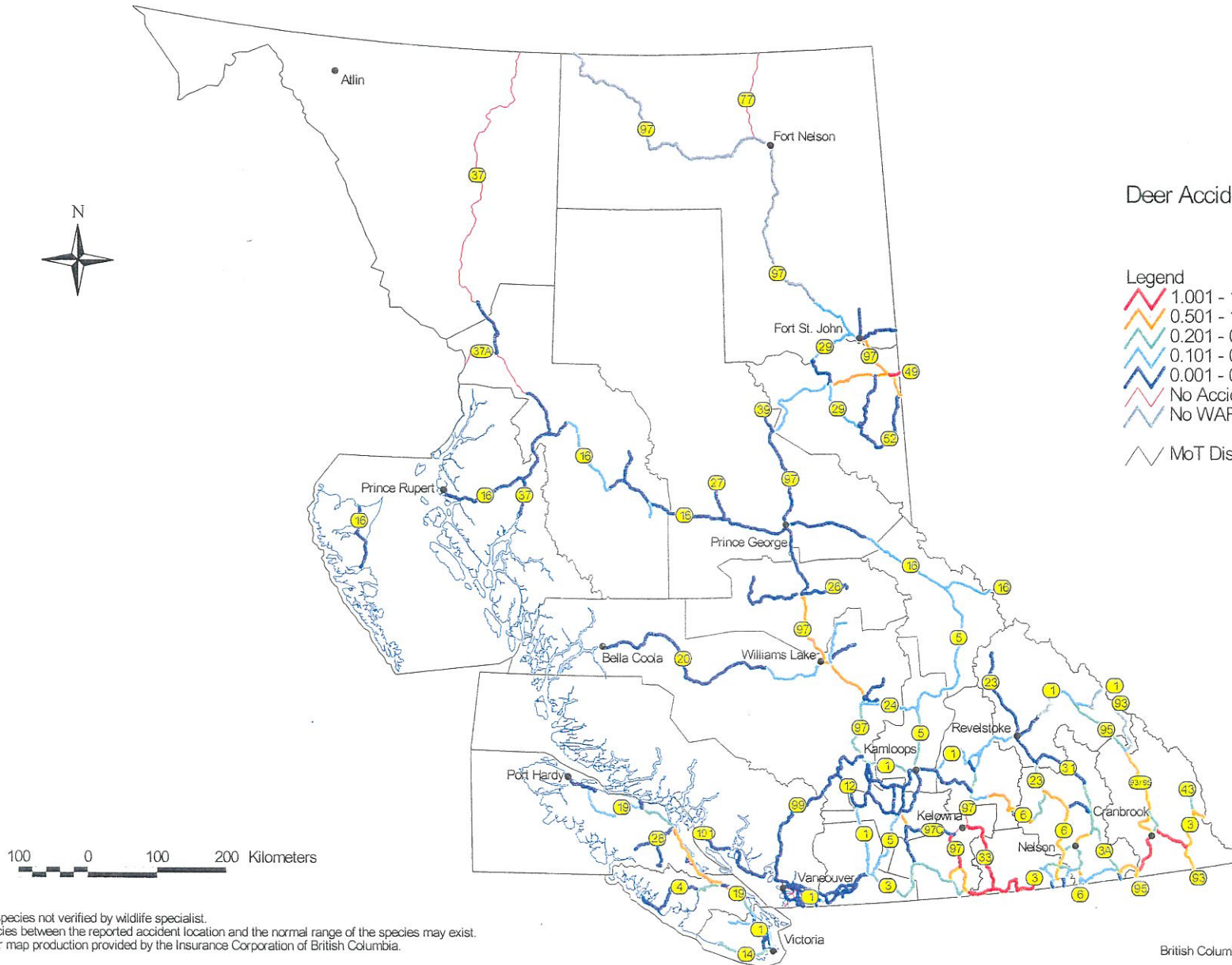
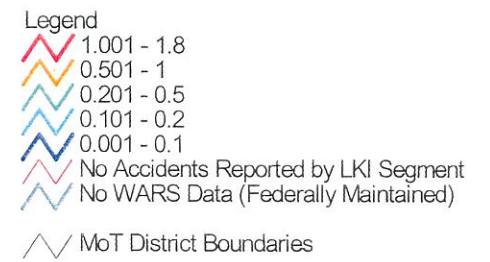
Total Deer Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 6

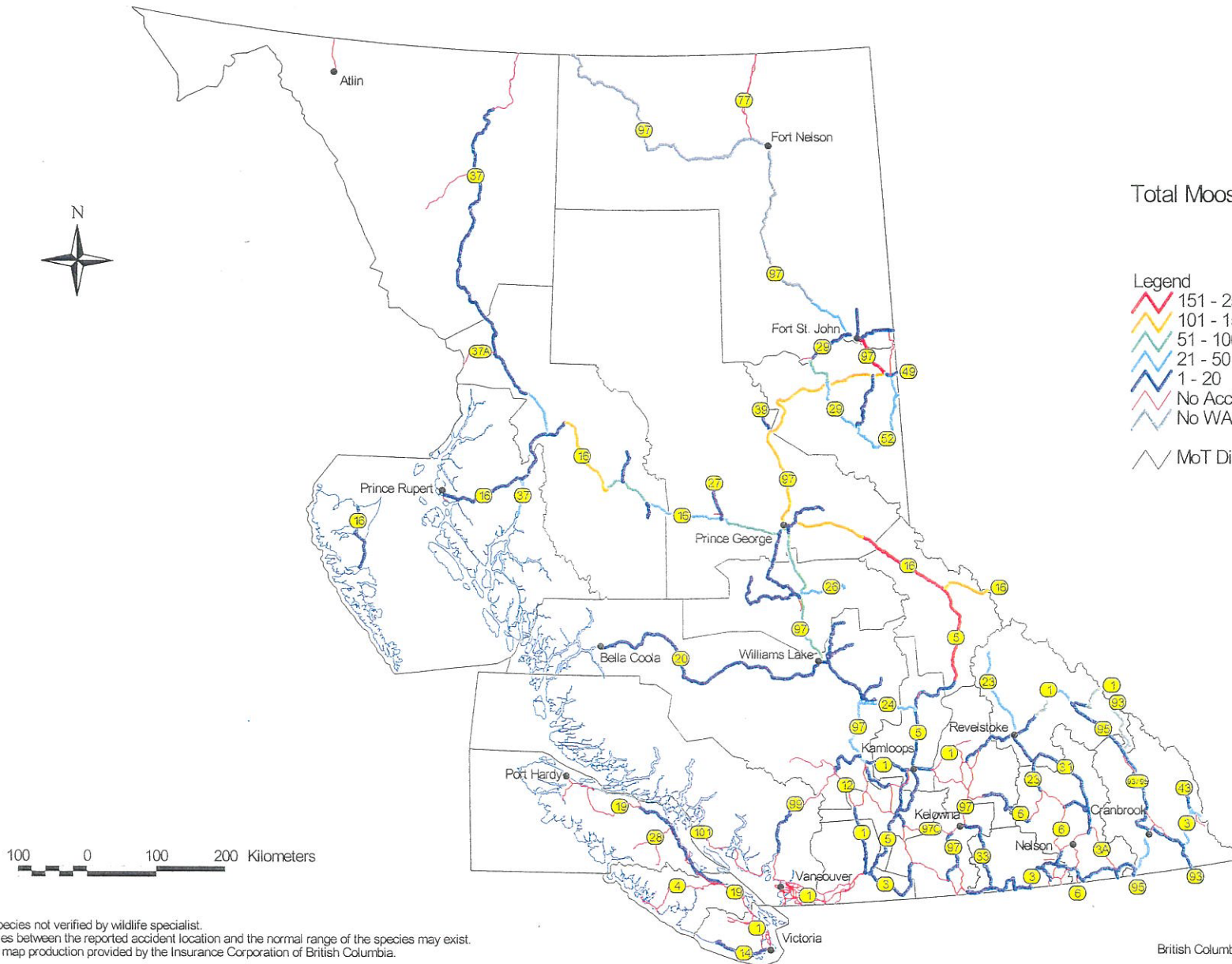
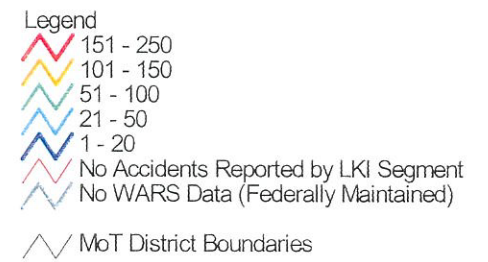
Deer Accidents/km/year (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 7

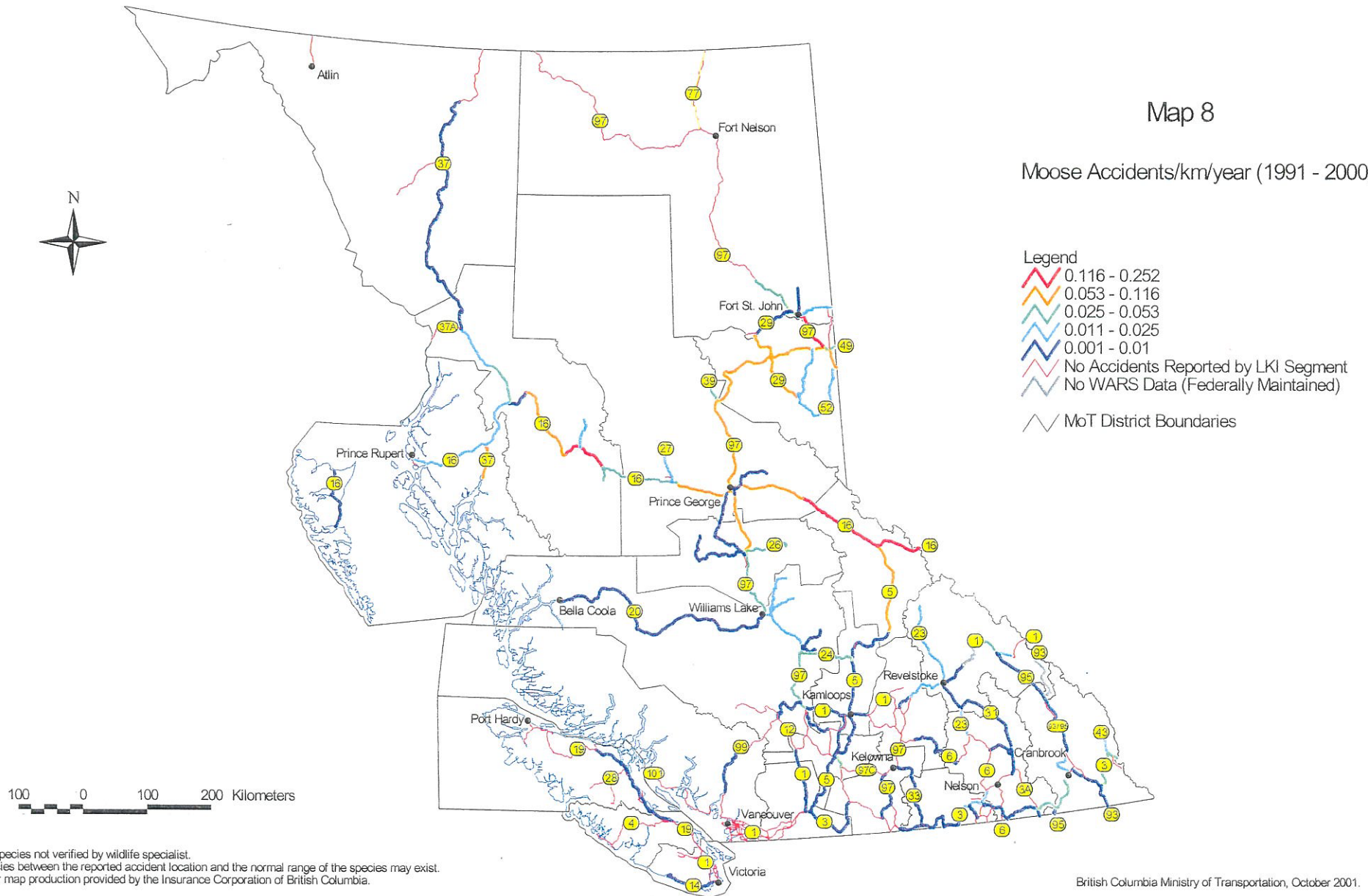
Total Moose Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

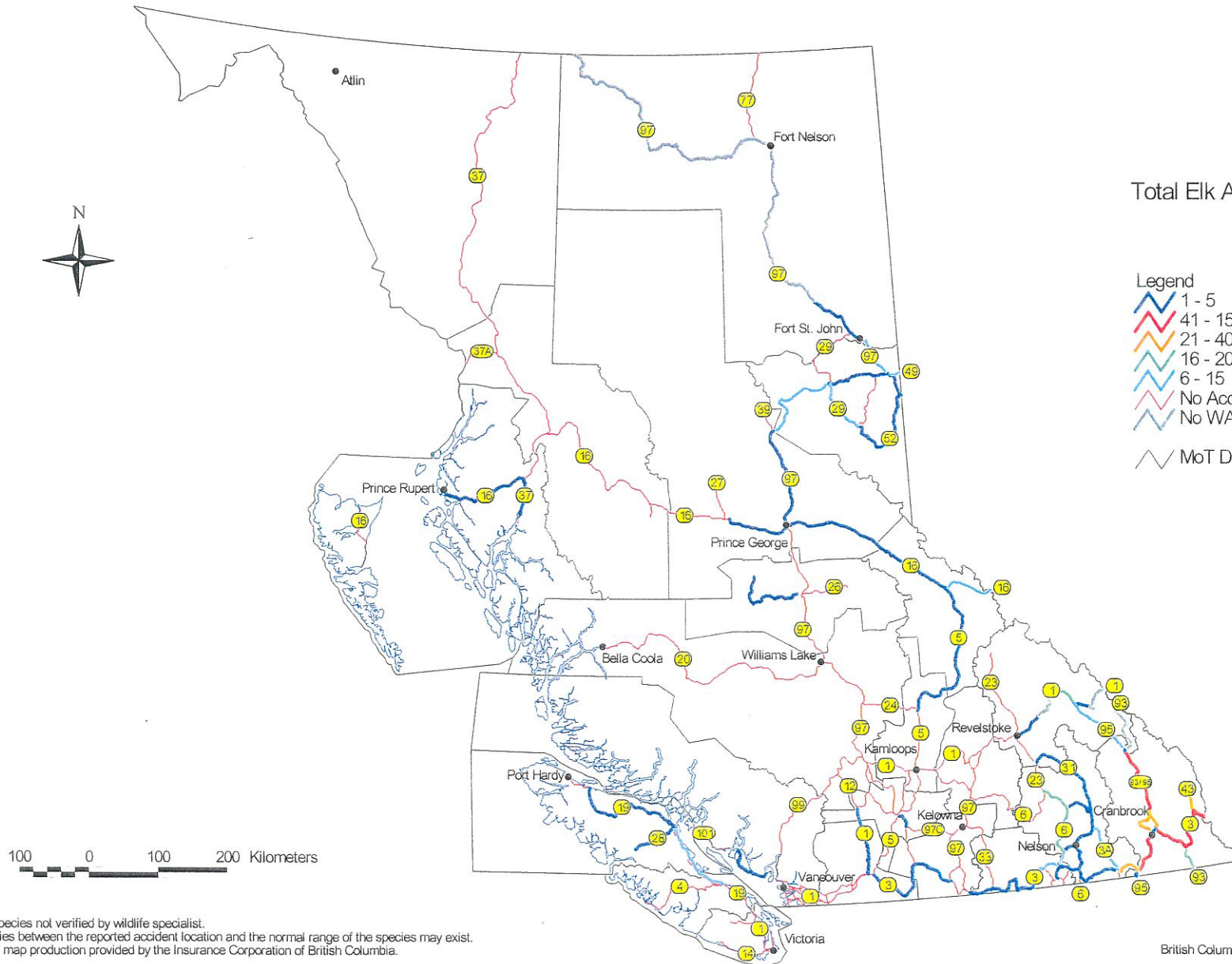
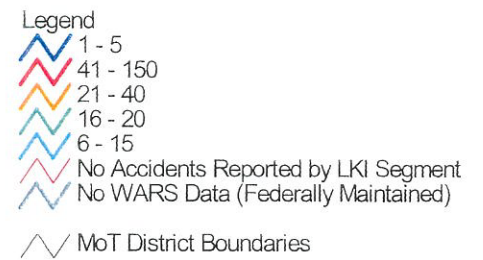
Map 8

Moose Accidents/km/year (1991 - 2000)



Map 9

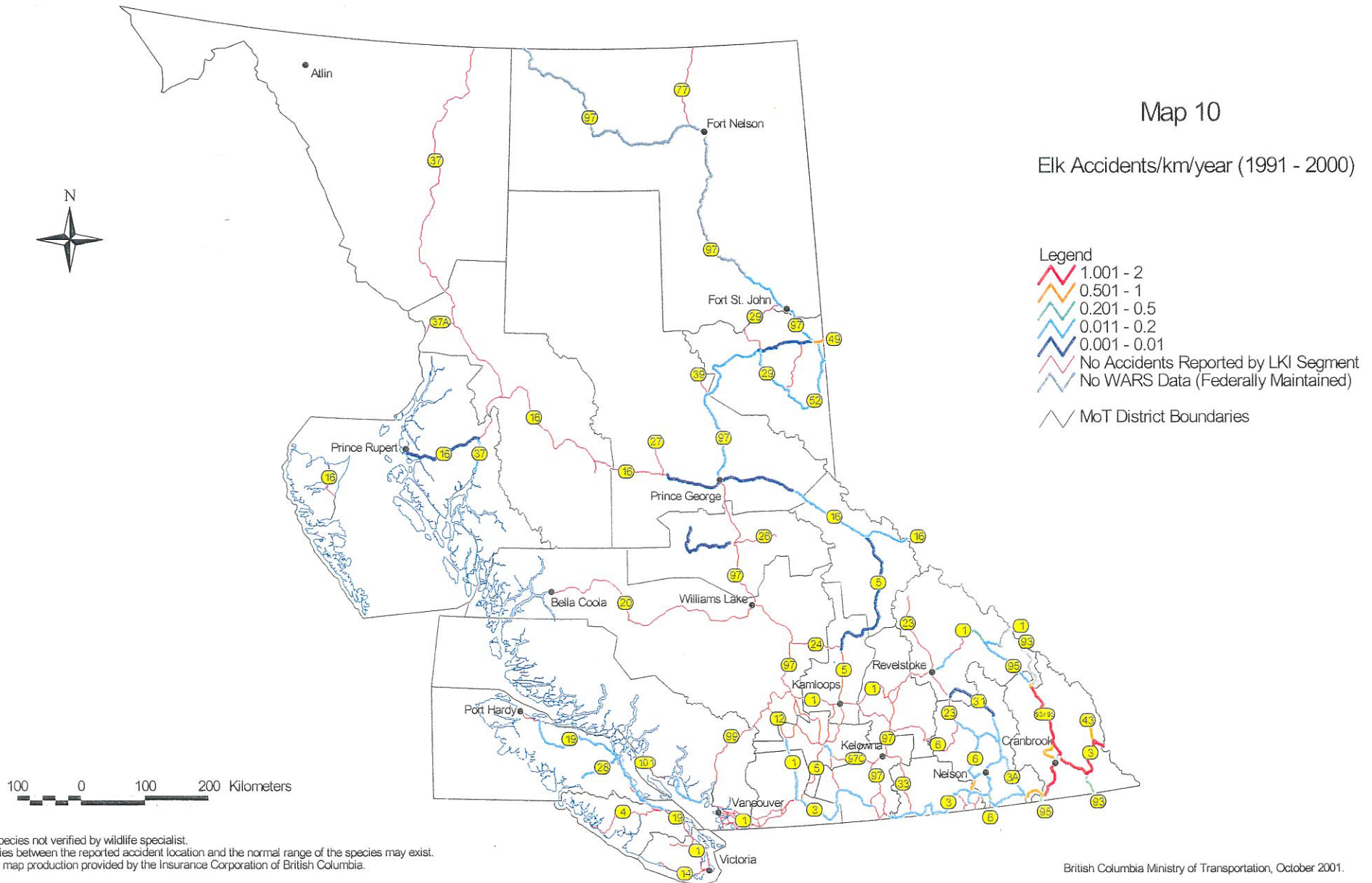
Total Elk Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 10

Elk Accidents/km/year (1991 - 2000)

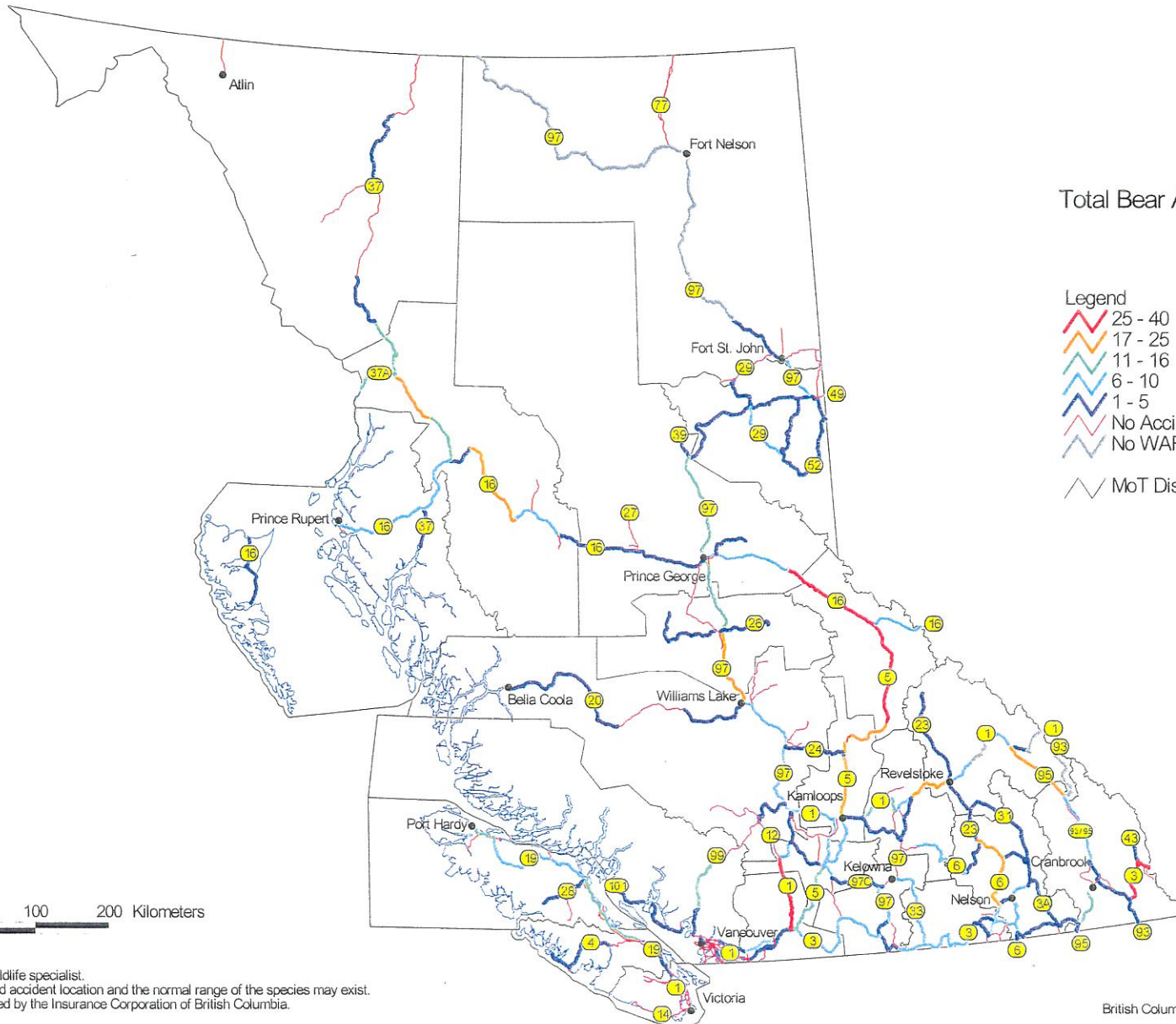
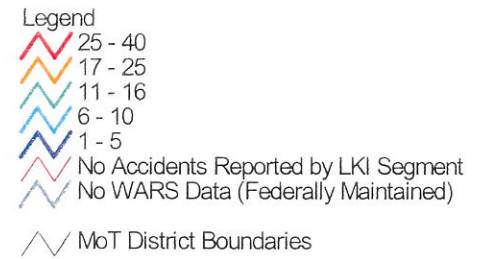


Notes:

- (1) Reported species not verified by wildlife specialist.
- (2) Discrepancies between the reported accident location and the normal range of the species may exist.
- (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 11

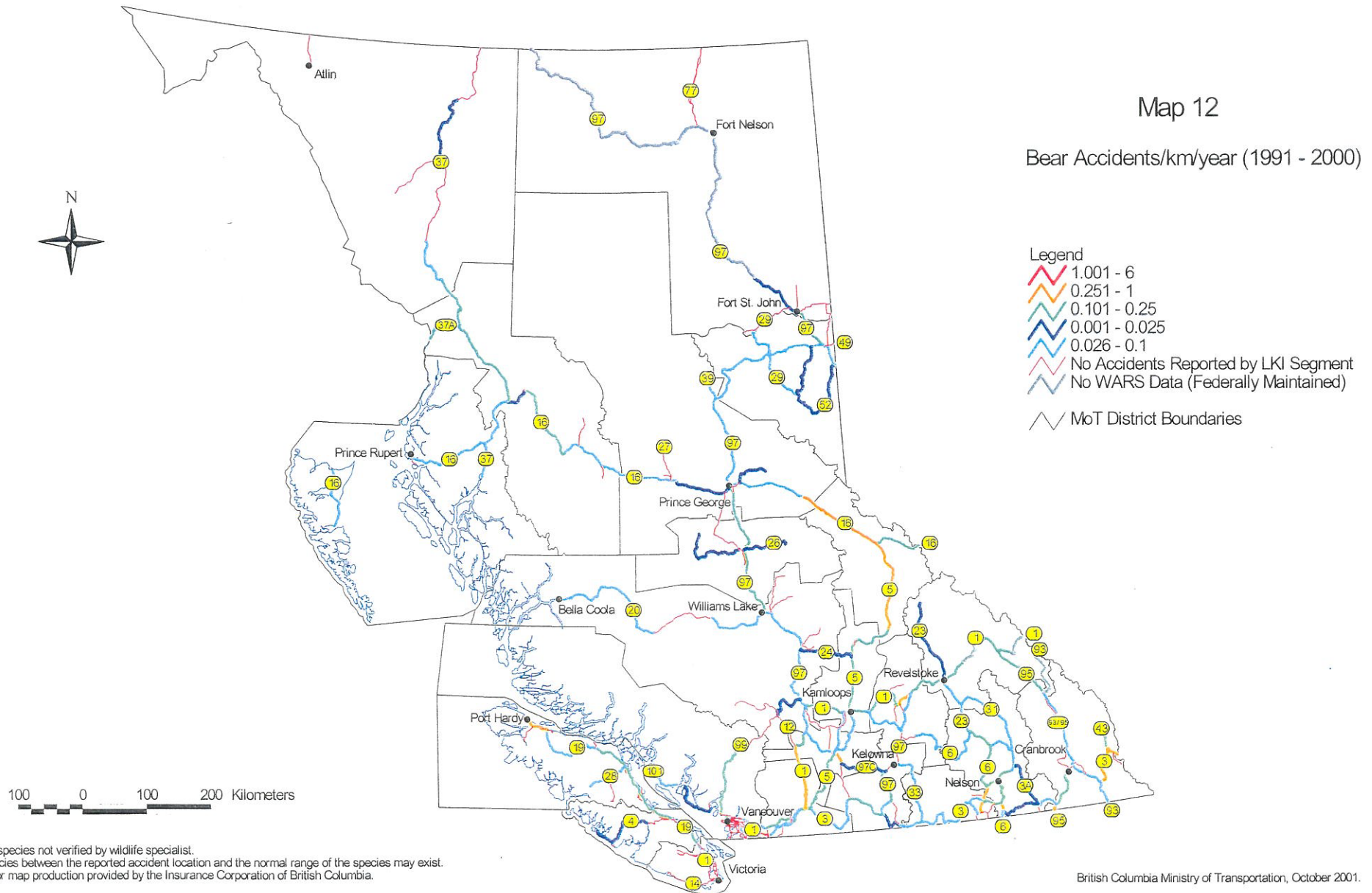
Total Bear Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 12

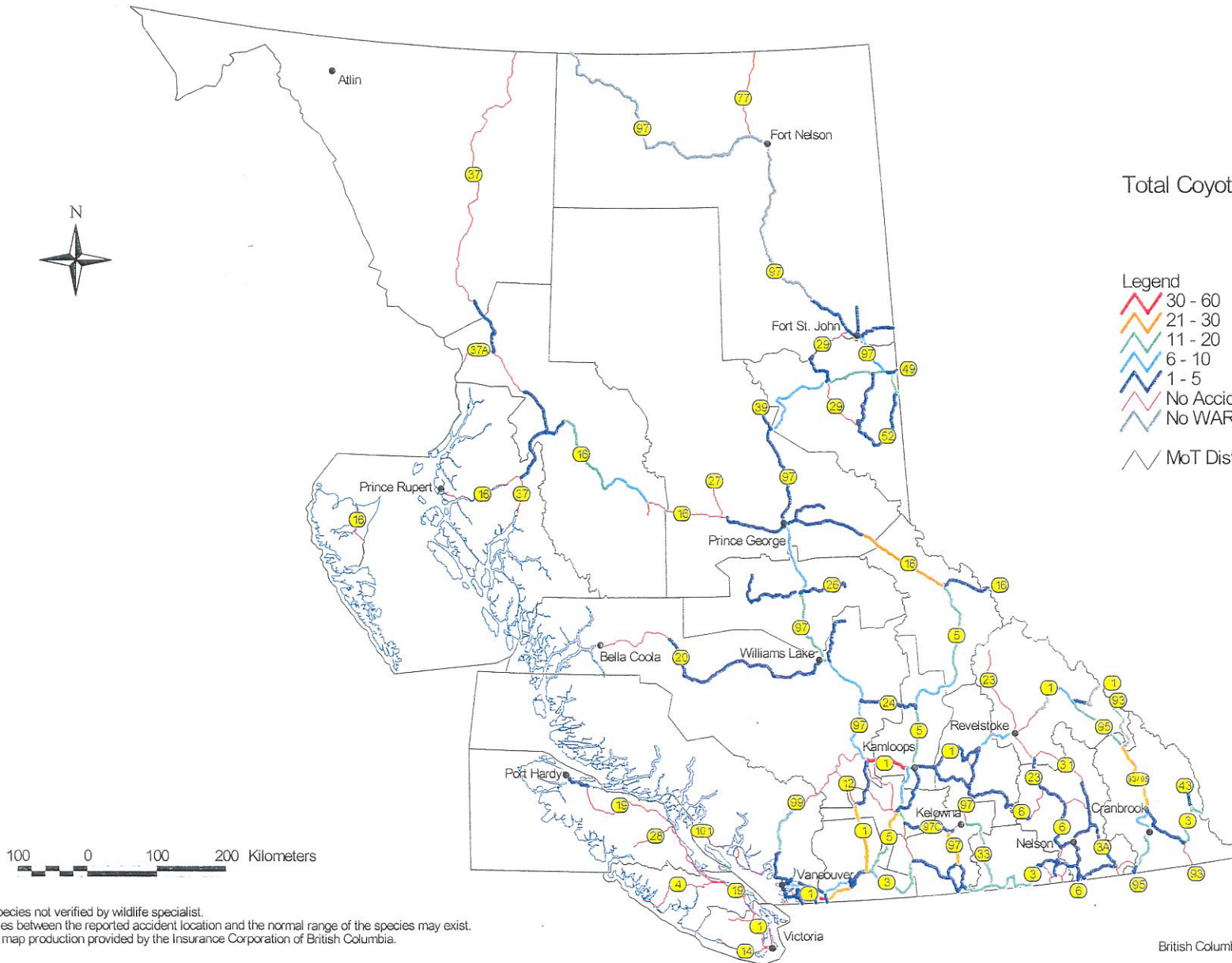
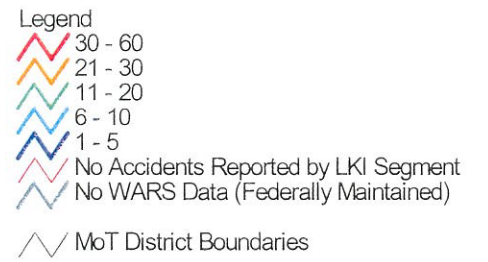
Bear Accidents/km/year (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 13

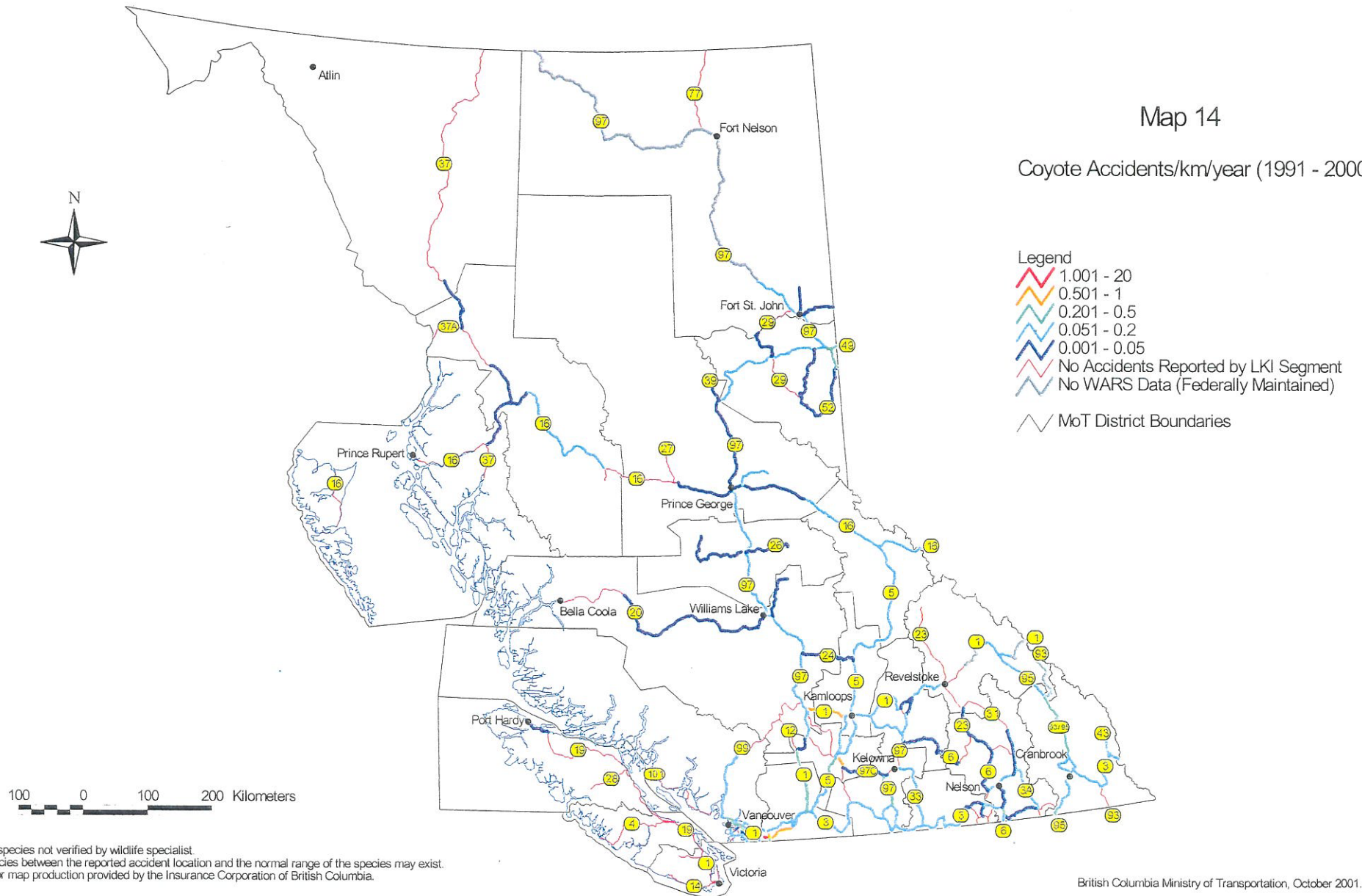
Total Coyote Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

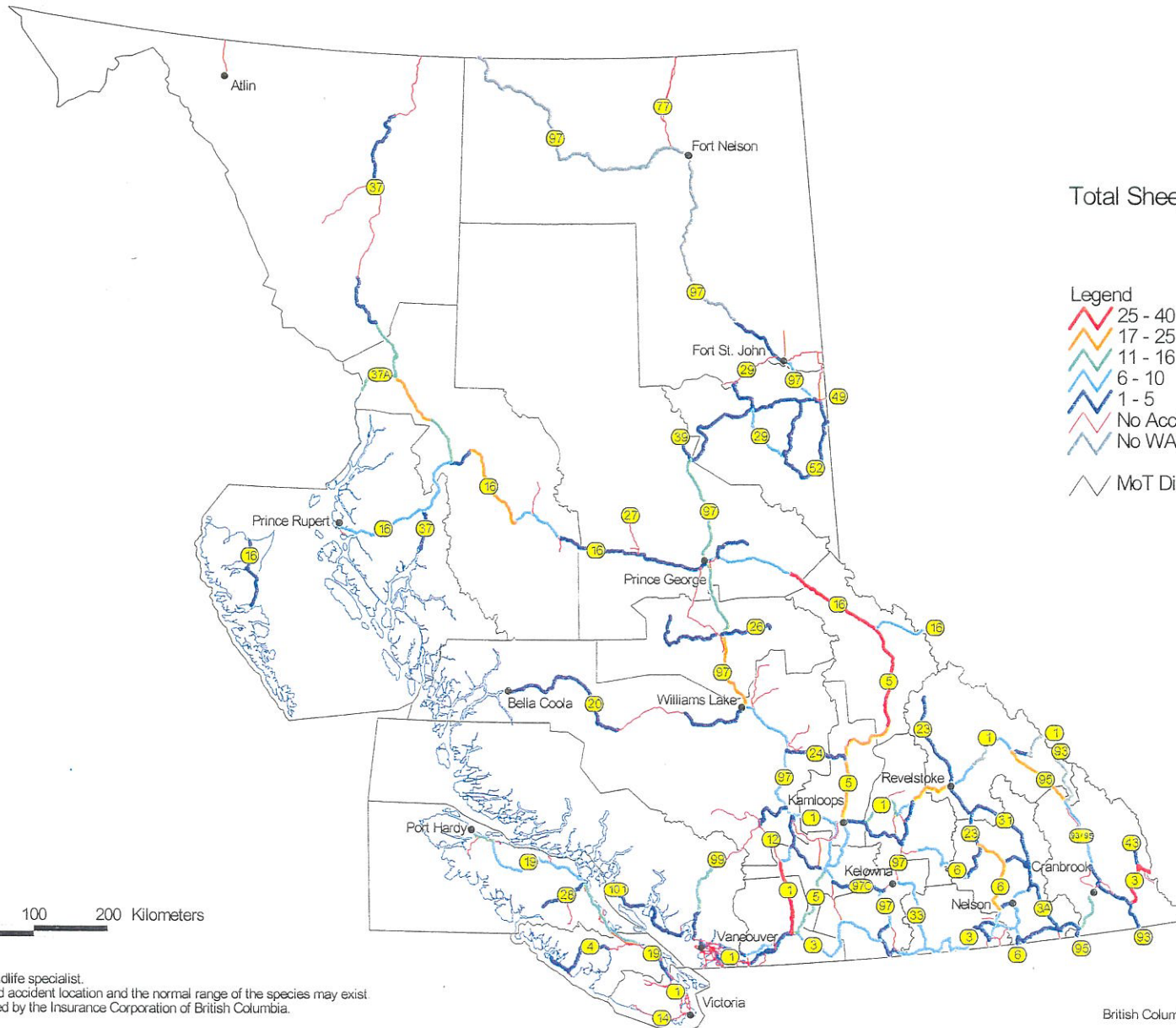
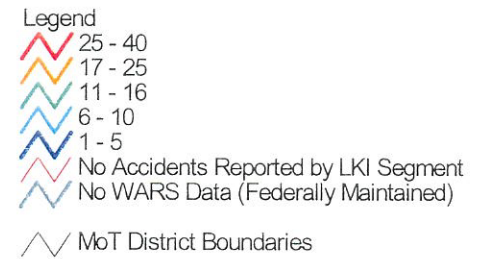
Map 14

Coyote Accidents/km/year (1991 - 2000)



Map 15

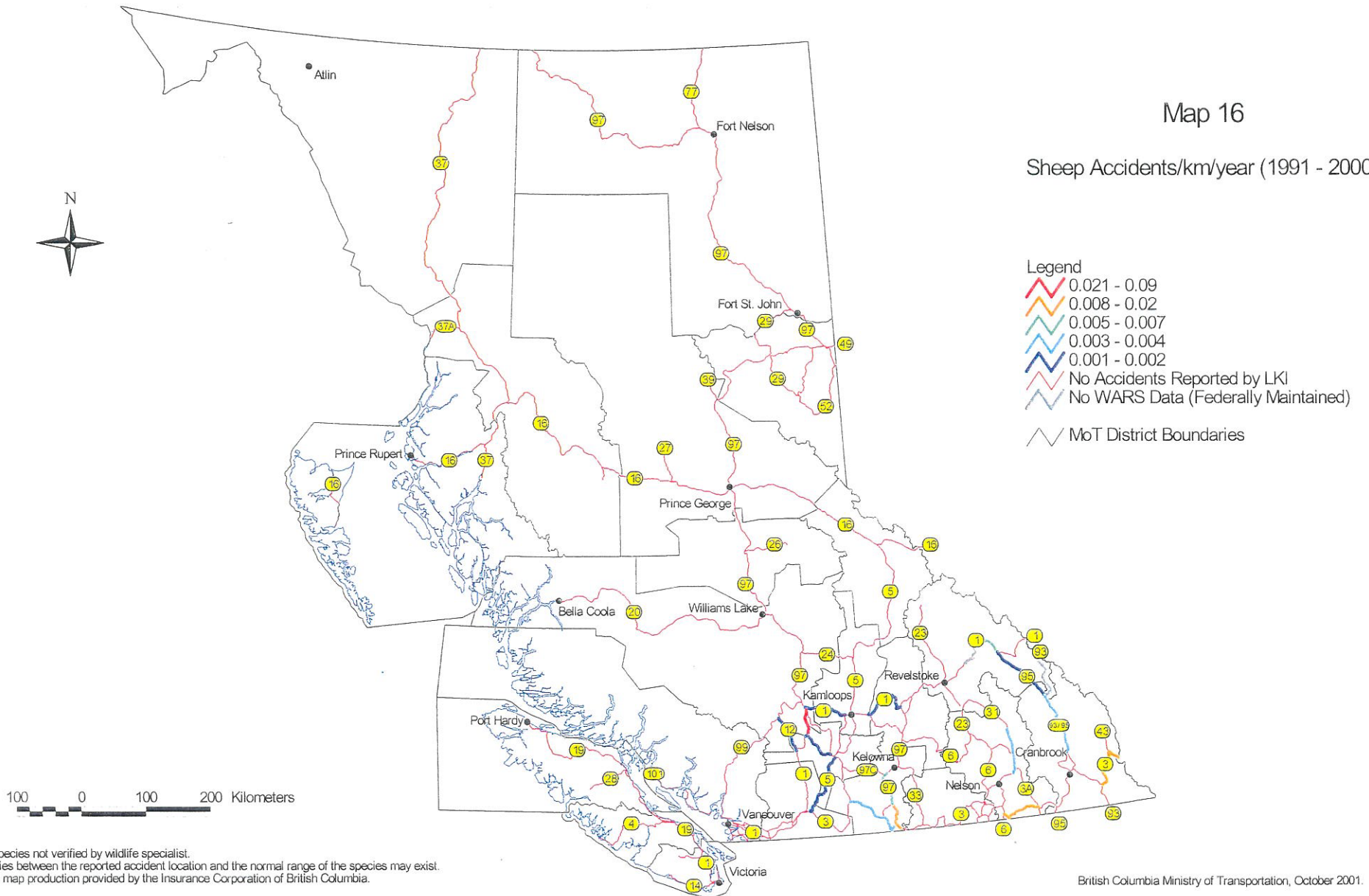
Total Sheep Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 16

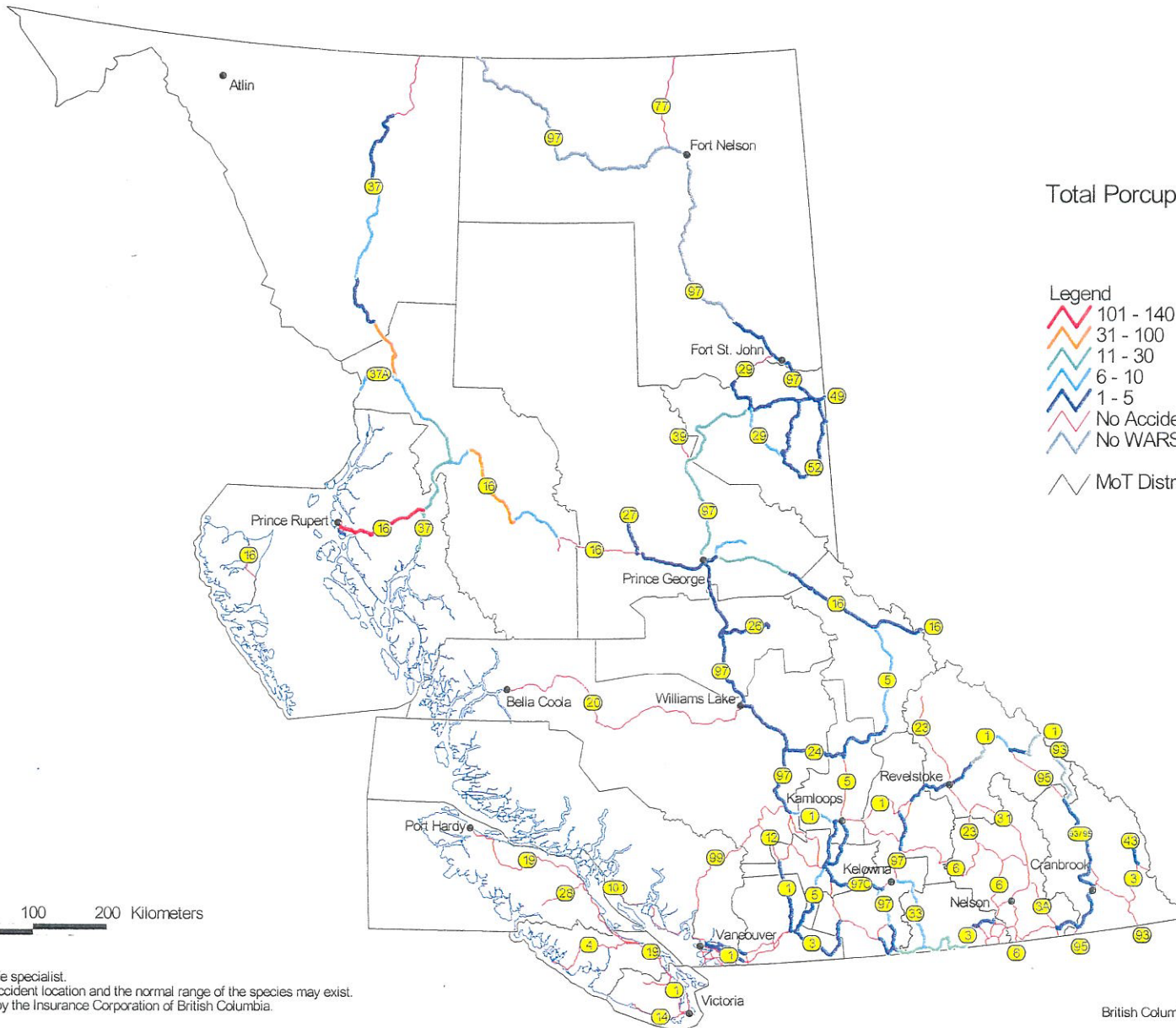
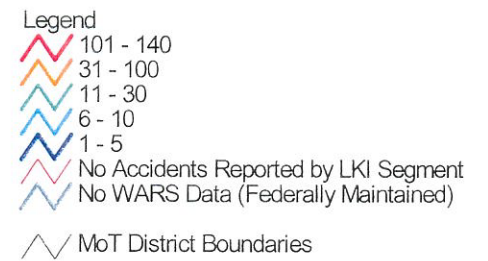
Sheep Accidents/km/year (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 17

Total Porcupine Accidents (1991 - 2000)



Notes:
 (1) Reported species not verified by wildlife specialist.
 (2) Discrepancies between the reported accident location and the normal range of the species may exist.
 (3) Funding for map production provided by the Insurance Corporation of British Columbia.

Map 18

Porcupine Accidents/km/year (1991 - 2000)

