BC hydro

FOR GENERATIONS

Report Title: *Peace River Fisheries Investigation - Peace River and Pine River Radio Telemetry Study 2007*
Project: Peace River Site C Hydro Project
Prepared By: Amec Earth & Environmental and LGL Limited
Prepared for: BC Hydro

NOTE TO READER:

This is a report on a study commissioned toward the development of engineering, environmental and technical work conducted to further define the potential Site C project.

For environmental studies, the focus is on the development of an environmental and socio-economic baseline around the area of the potential Site C Project. Baseline studies are generally a survey of existing conditions within a project study area.

This report and other information may be used for future planning work or an environmental assessment or regulatory applications related to the potential Site C Project.

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May Tracks (Maps 4 & 5)

First Track, 10-11 May (Map 4)

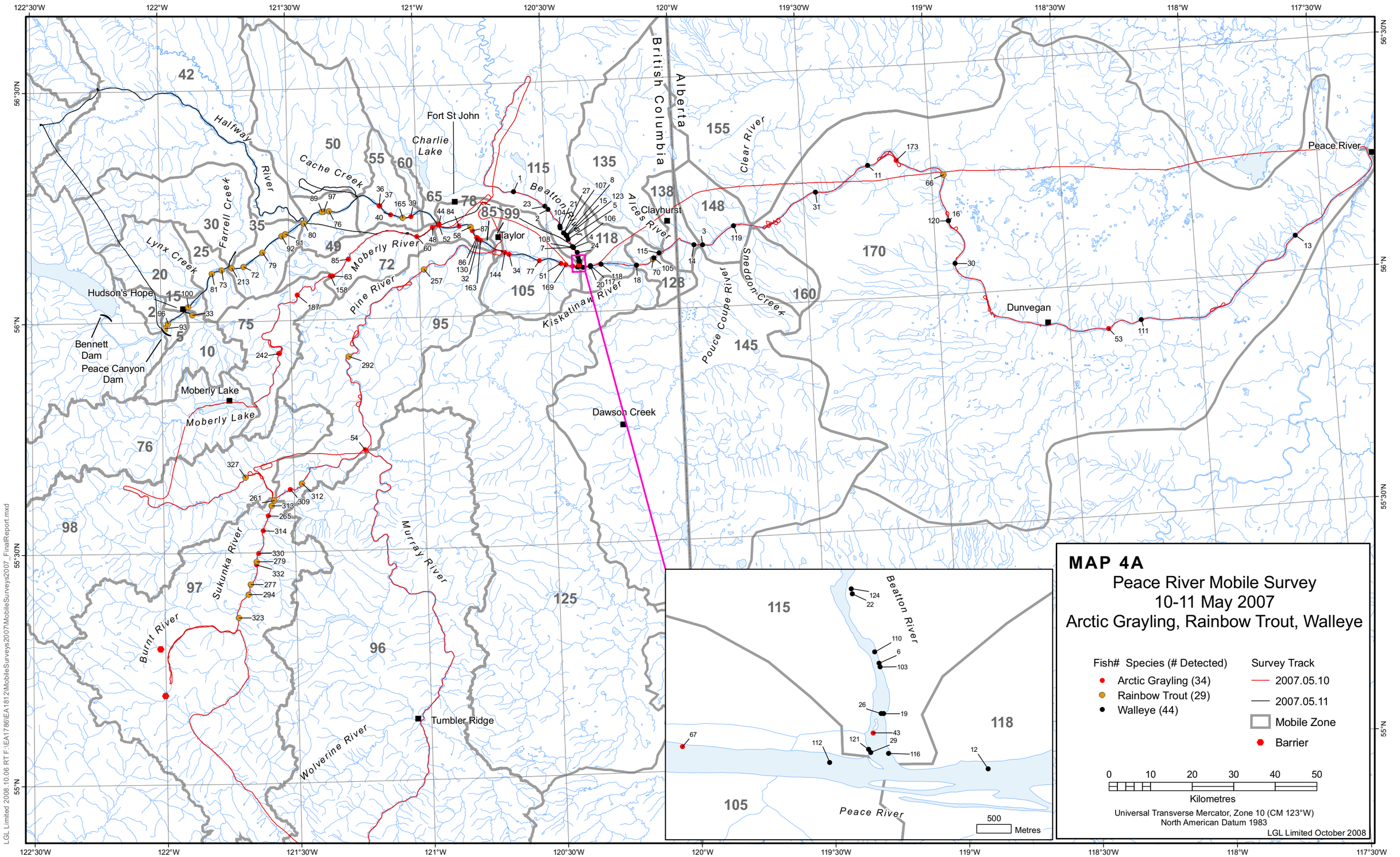
The distribution of the 43 bull trout detected in early May was generally similar to that recorded in the previous survey, with 60% detected in the Pine River mainstem (headwaters to mouth), 31% in the Sukunka River, and 9% in the Burnt River. One bull trout (Tag # 273) was detected at the Pine River mouth, approximately 10 km downstream from where it was detected previously.

The number of Arctic grayling and their penetration upstream in the Moberly River increased significantly from that of the previous survey. Of the 34 detected, 21% were in the Moberly River, with the most upstream fish being approximately 20 km from the mouth. Also, there was a slight increase in Arctic grayling numbers within the vicinity of the Beatton River mouth compared with that of the previous survey. Other than some minor movements, Arctic grayling in the Pine River system showed no significant change in distribution from that of the previous survey.

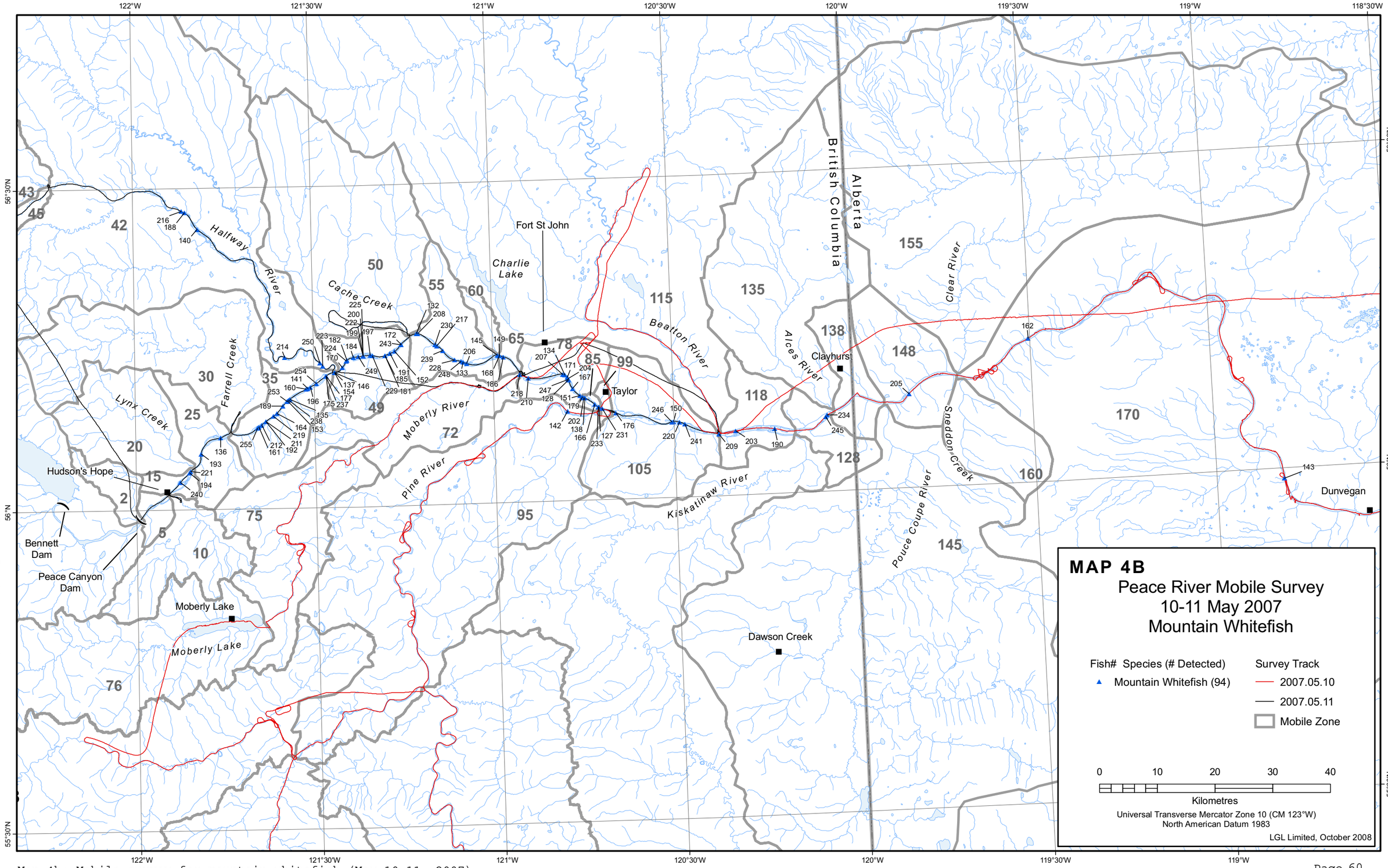
Walleye show marked evidence of the migration up the Beatton River in early May. Of the 44 detected, 59% were in the Beatton River with some as far as 30 km from the mouth. Others were detected in the Peace River mainstem downstream of the Beatton River mouth, with several fish still well into Alberta. No walleye were detected in the Peace River mainstem upstream of the Beatton River mouth.

The only evidence of rainbow trout moving from the Peace River mainstem into the tributaries is that of a single fish detected in Maurice Creek. Evidence of movement into the tributaries in the Pine River system is more pronounced, with several fish having moved from the Pine River mainstem into the Sukunka River.

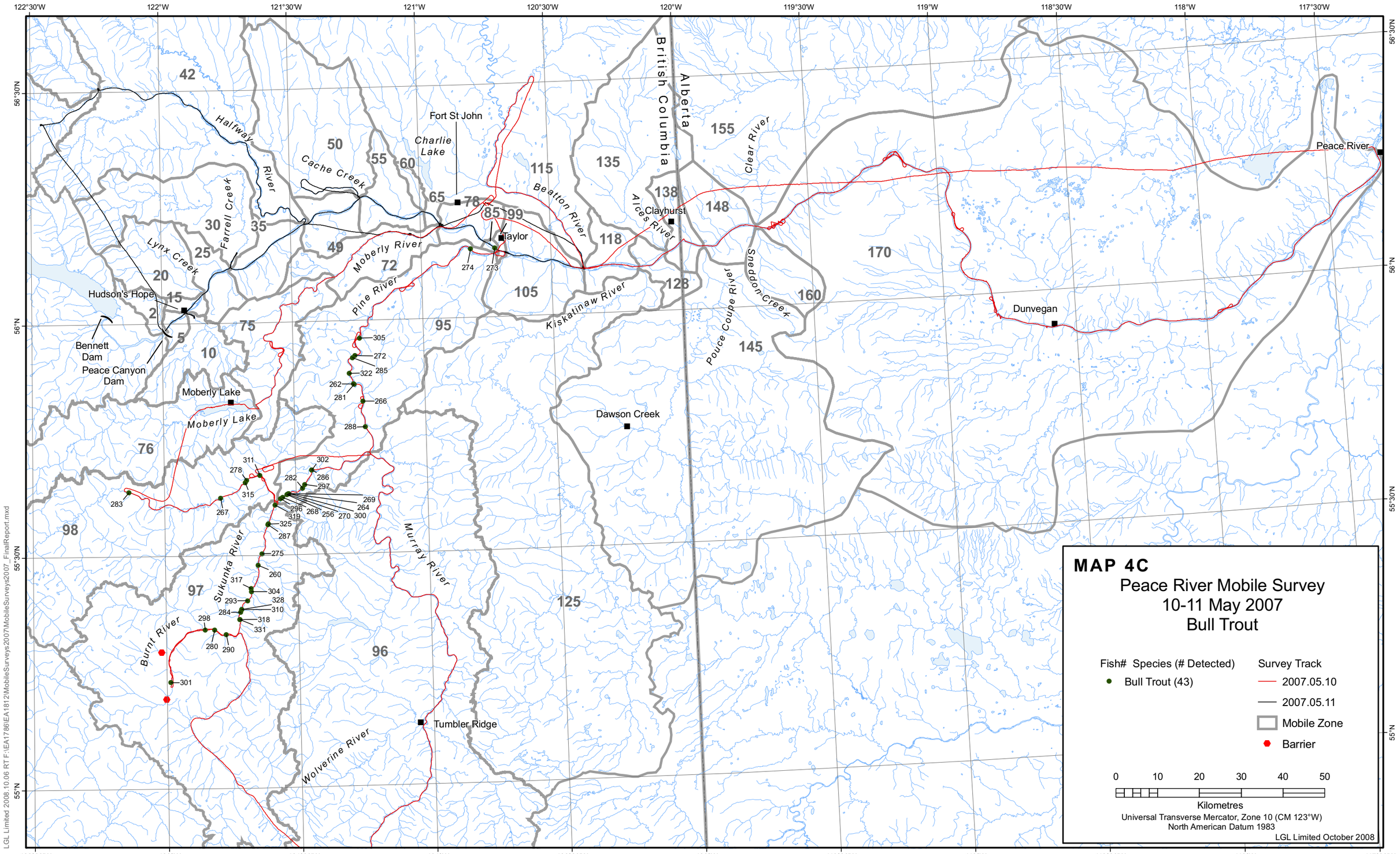
The distribution of mountain whitefish remains essentially unchanged from that of the previous survey, with all but 7% of the 94 number detected being in the Peace River mainstem, the majority between Lynx Creek and the Beatton River Those not in the Peace River mainstem were detected in the Halfway River and Pine River drainages.



Map 4a: Mobile survey for Arctic grayling, rainbow trout and walleye (May 10-11, 2007).



Map 4b: Mobile survey for mountain whitefish (May 10-11, 2007).



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Map 4c: Mobile survey for bull trout (May 10-11, 2007).

Second Track, 24-26 May (Map 5)

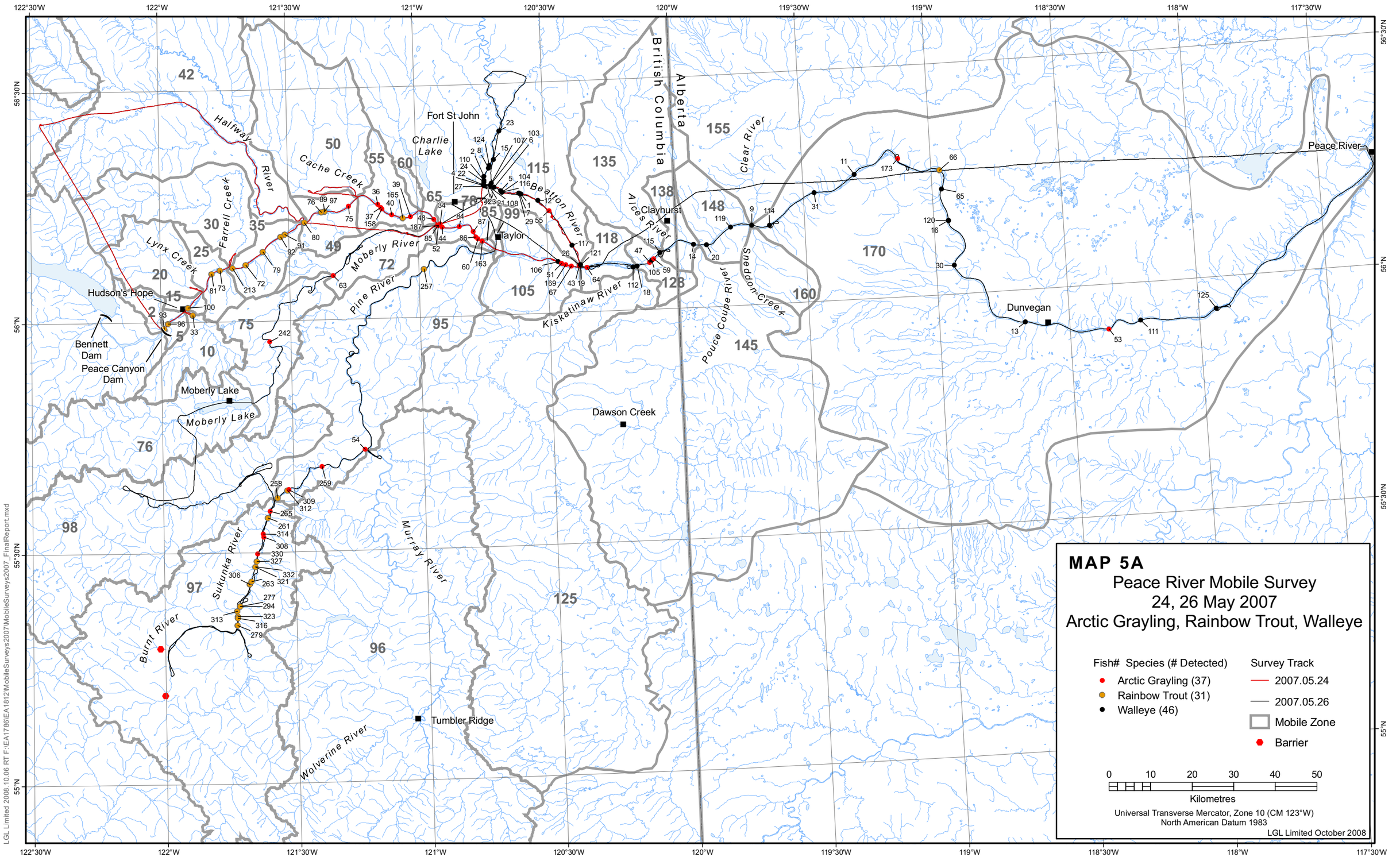
Of the 47 bull trout detected in late May, one was in the Peace River mainstem near Cache Creek (previously this fish was at the Pine River mouth), and all others were in the Pine River watershed. Of the fish found in the Pine River watershed, 51% in the Pine River mainstem, 38% in the Sukunka River, and 9% in the Burnt River. There are indications of some minor upstream movement within the Pine River, with a few fish having moved from the mainstem into the Sukunka River.

Very few Arctic grayling were detected in the Moberly River in late May. Of the total 37 fish detected, only two (5%) were in the Moberly River, both of which were approximately in the same location as previously. Most of those that were previously detected in the Moberly River had retreated to the Peace River mainstem. One Arctic grayling was detected in the Beatton River approximately 20 km from the mouth.

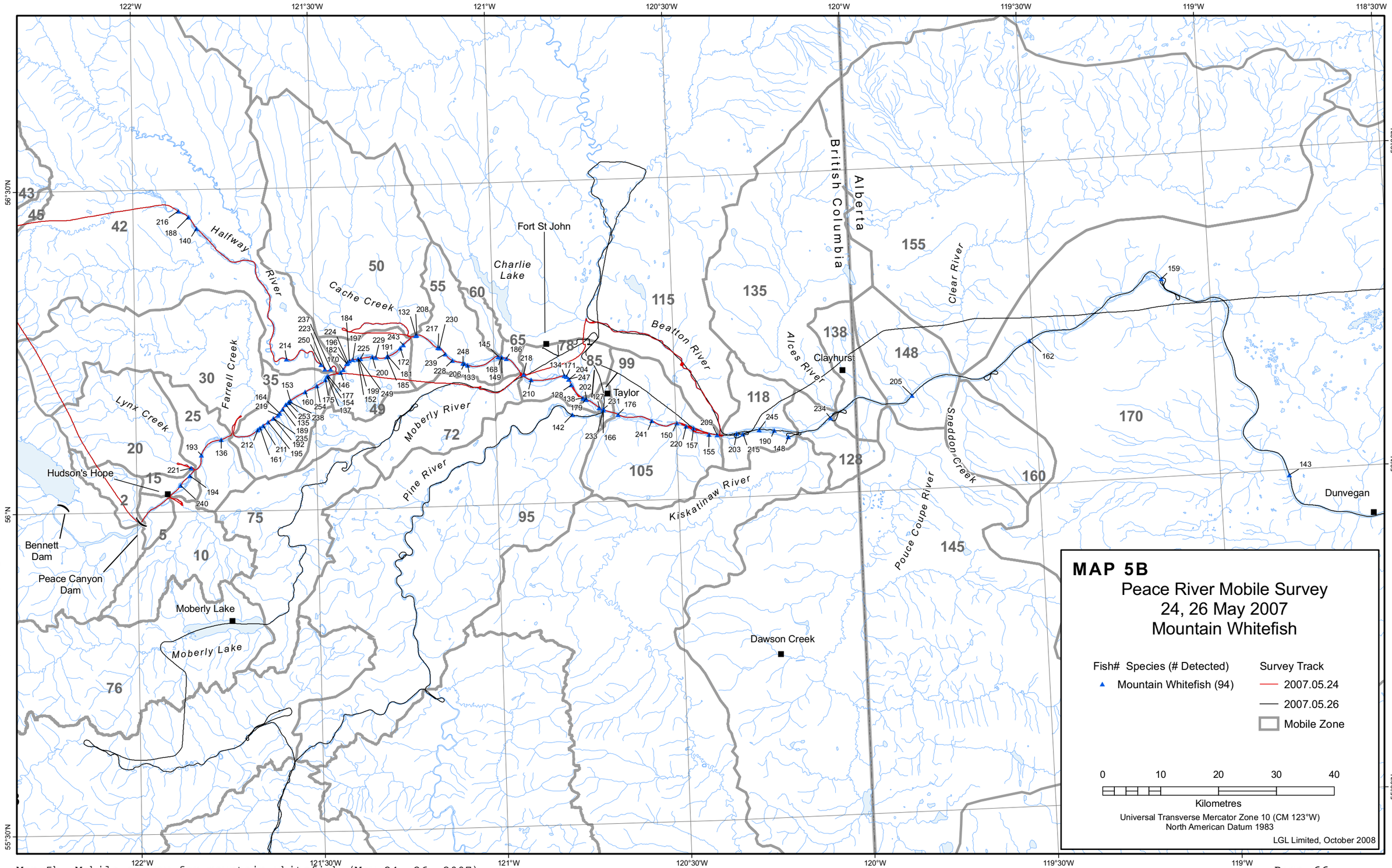
By late May, the migration of walleye up the Beatton River was well pronounced, with some being approximately 50 km from the mouth. Of the 46 walleye detected, 49% were in the Beatton River, the remainder was in the Peace River mainstem with all but one downstream of the Beatton River, many of them well into Alberta.

Rainbow trout in the Peace River mainstem showed no change in overall distribution in late May from that of the previous survey. However, in the Pine River watershed, rainbow trout were now mainly (10 fish; 80% of the Pine tagged fish) in the Sukunka River.

Mountain whitefish showed no major change in distribution from the previous survey, with 91% of the 94 detected being in the Peace River mainstem (mainly between Lynx Creek and near the Alberta border) and 9% in the Halfway and Pine rivers.



Map 5a: Mobile survey for Arctic grayling, rainbow trout and walleye (May 24, 26, 2007).



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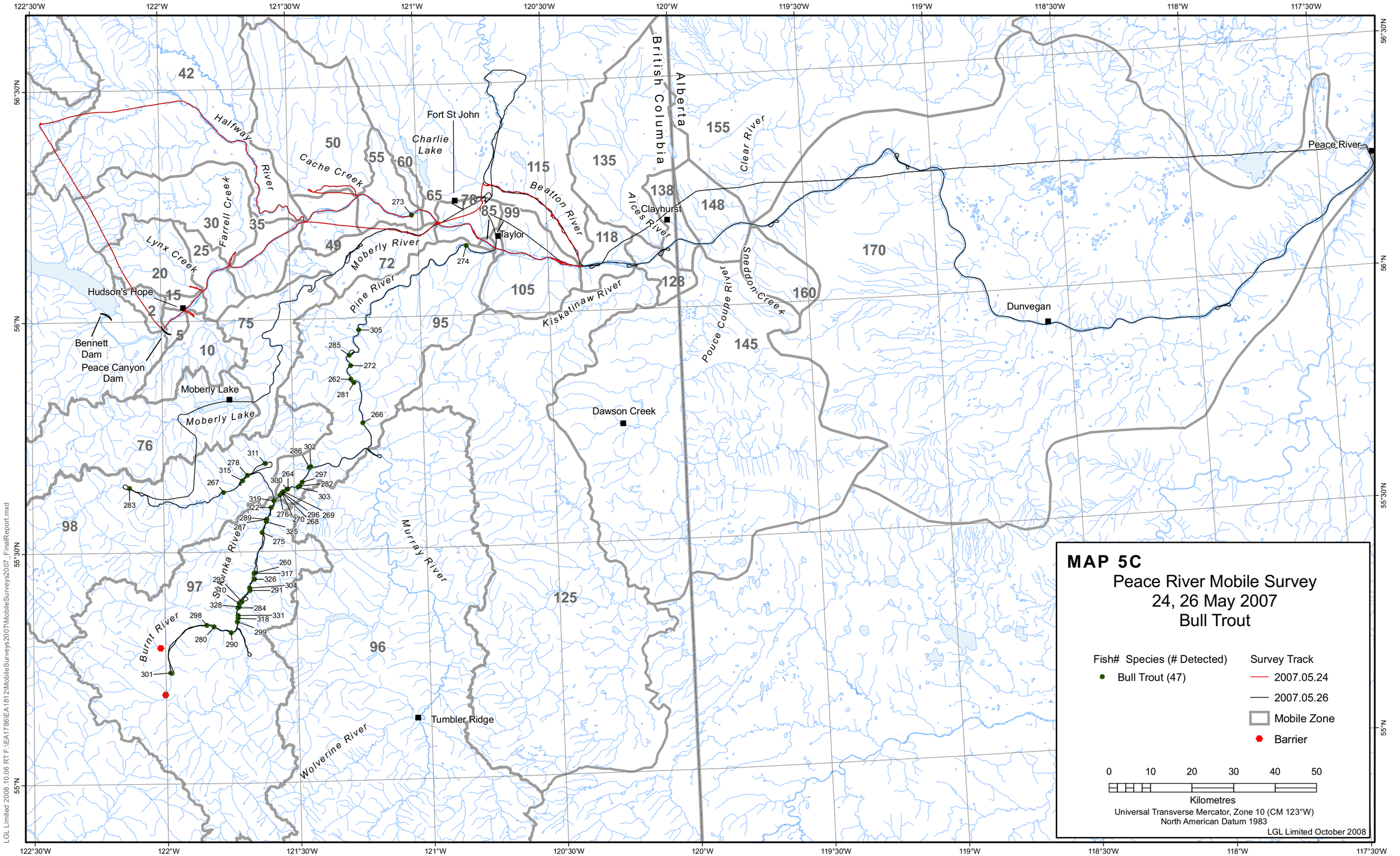
Map 5b: Mobile survey for mountain whitefish (May 24, 26, 2007).



MAP 5C

Peace River Mobile Survey
24, 26 May 2007
Bull Trout

Fish# Species (# Detected)
- Bull Trout (47)

Survey Track
- 2007.05.24
- 2007.05.26
- Mobile Zone
- Barrier

0 10 20 30 40 50
Kilometres

Universal Transverse Mercator, Zone 10 (CM 123°W)
North American Datum 1983

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Map 5c: Mobile survey for bull trout (May 24, 26, 2007).

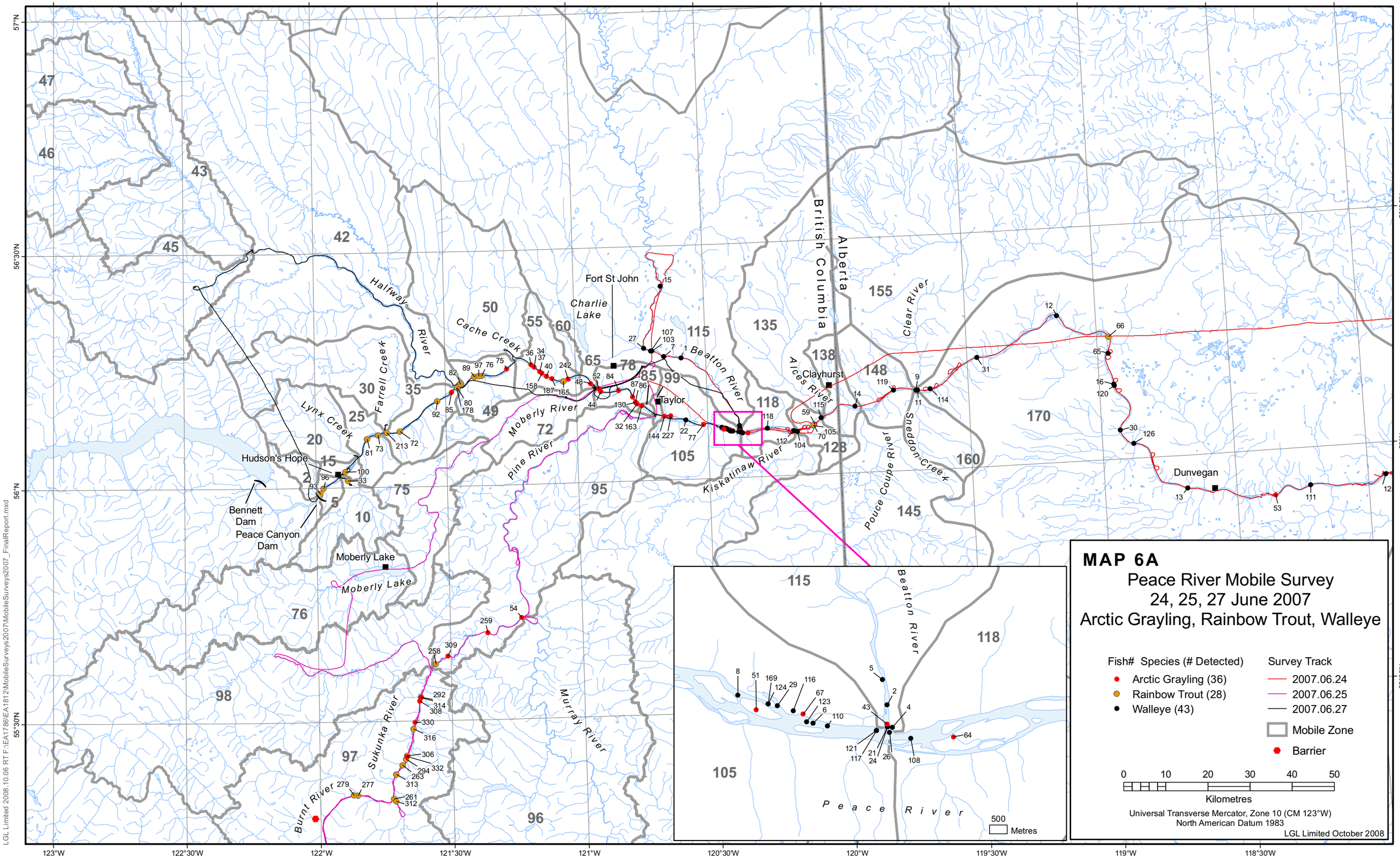
June Track, 24, 25, 27 June (Map 6)

The distribution of bull trout detected in late June (46 in total) was similar to that recorded in late May. One bull trout was detected in the Peace River mainstem, slightly upstream from where it was previously, and the rest were in the Pine River system; 52%, 30% and 15% in the Pine River mainstem, Sukunka and Burnt rivers, respectively. The number of bull trout detected in the Burnt River increased slightly from that of the previous survey.

In late June, no Arctic grayling were detected in the Moberly River. Of 36 detected in the Peace River mainstem, most were between Cache Creek and the Beatton River. Arctic grayling in the Pine River watershed showed no appreciable change in distribution from that of the previous survey.

By late June, a large proportion of the walleye that was previously detected in the Beatton River had moved. Of the total 43 fish detected, 19% were in the Beatton River, with the farthest one upstream approximately 60 km from the mouth. The rest were in the Peace River mainstem, both upstream and downstream of the Beatton River confluence, with those downstream extending well into Alberta.

With the exception of some minor movement, the overall distributions of rainbow trout and mountain whitefish are similar to those of the previous survey. In the Pine River system, a few more rainbow trout had moved from the upper Sukunka River to the Burnt River.



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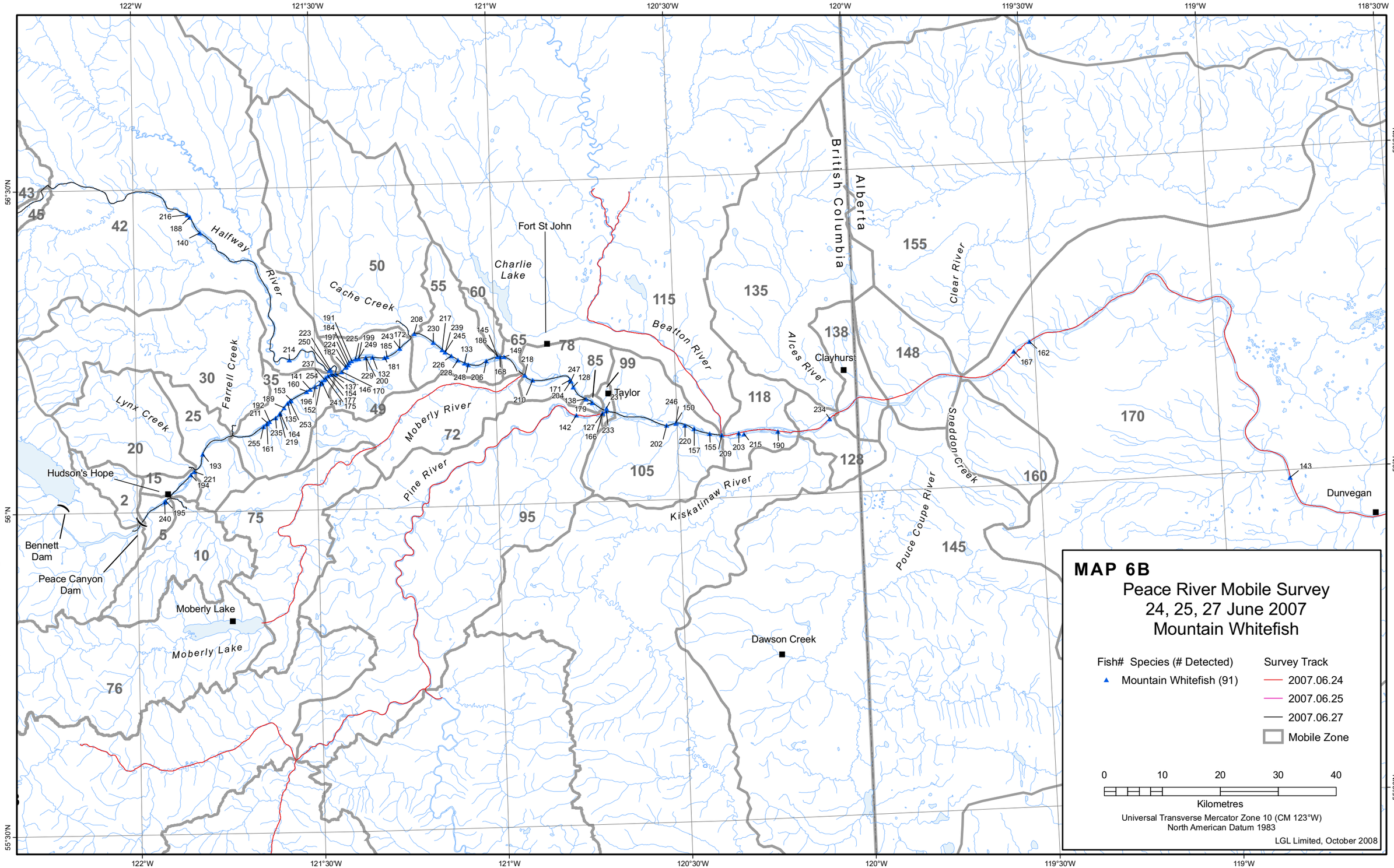
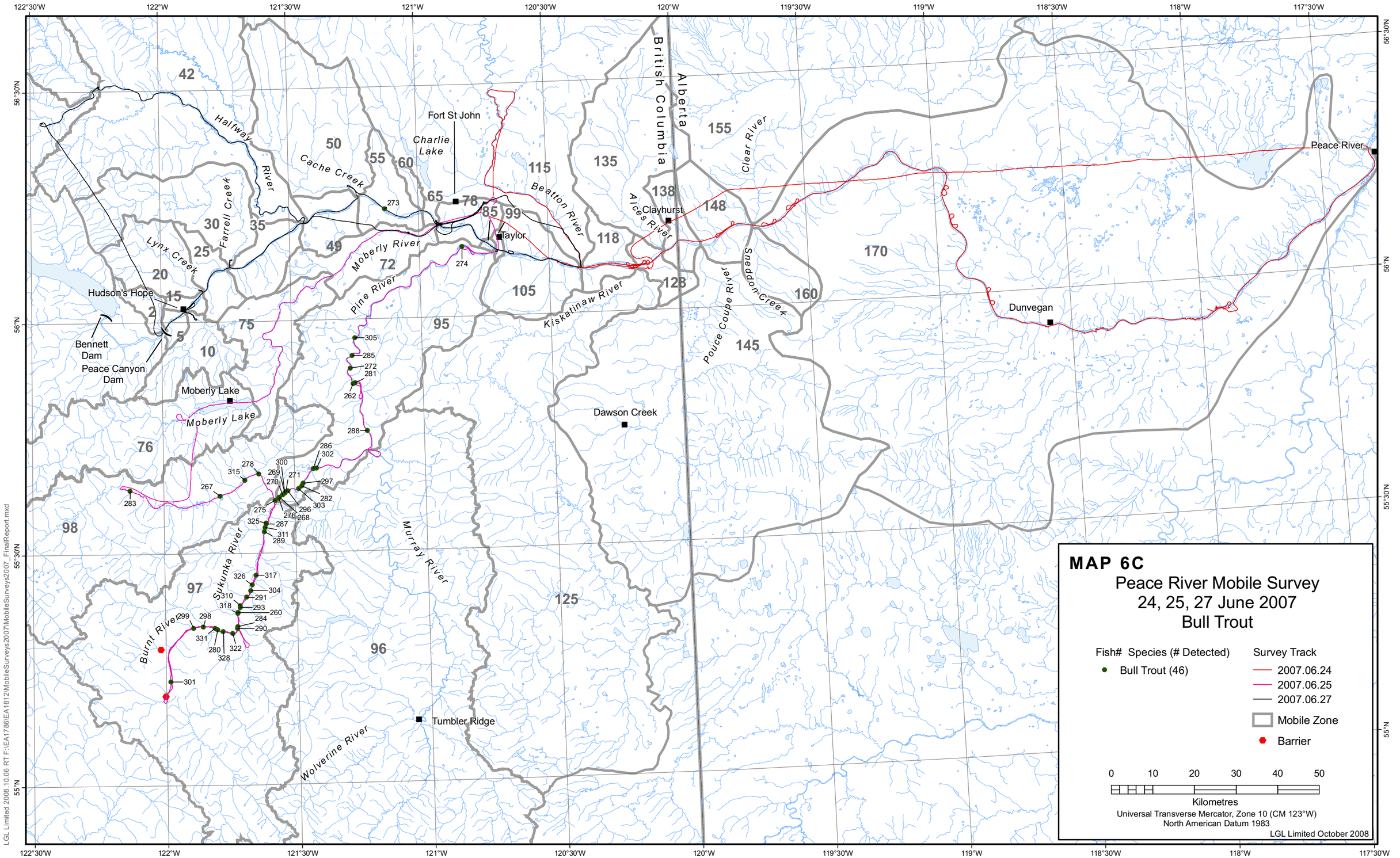
Map 6a: Mobile survey for Arctic grayling, rainbow trout and walleye (June 24, 25, 27, 2007).



Map 6b: Mobile survey for mountain whitefish (June 24, 25, 27, 2007).



MAP 6C

Peace River Mobile Survey
24, 25, 27 June 2007
Bull Trout

Fish# Species (# Detected)

- Bull Trout (46)

Survey Track

- 2007.06.24
- 2007.06.25
- 2007.06.27
- Mobile Zone
- Barrier

0 10 20 30 40 50

Kilometres

Universal Transverse Mercator, Zone 10 (CM 123°W)
North American Datum 1983

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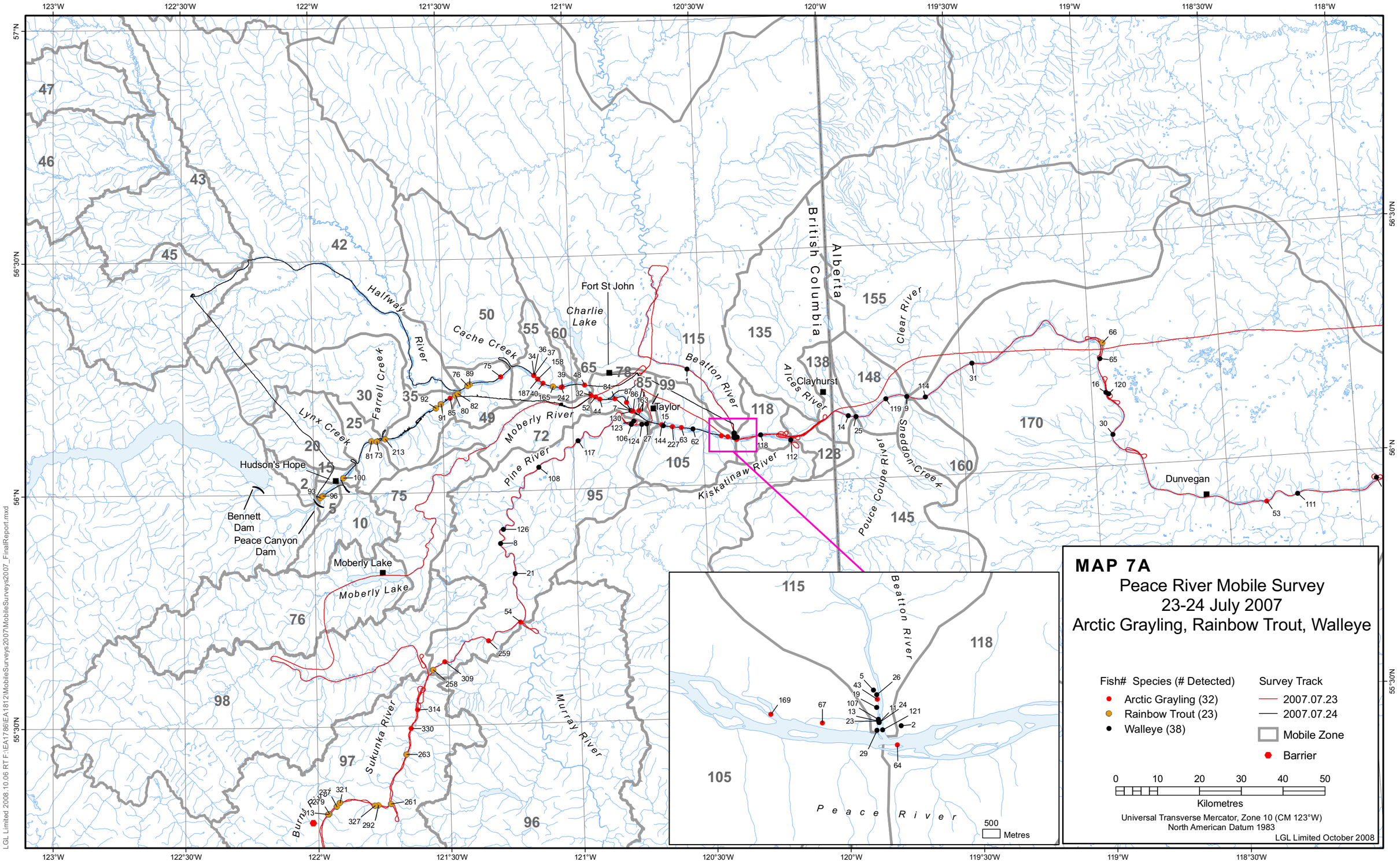
Map 6c: Mobile survey for bull trout (June 24, 25, 27, 2007).

July Track, 23-24 July (Map 7)

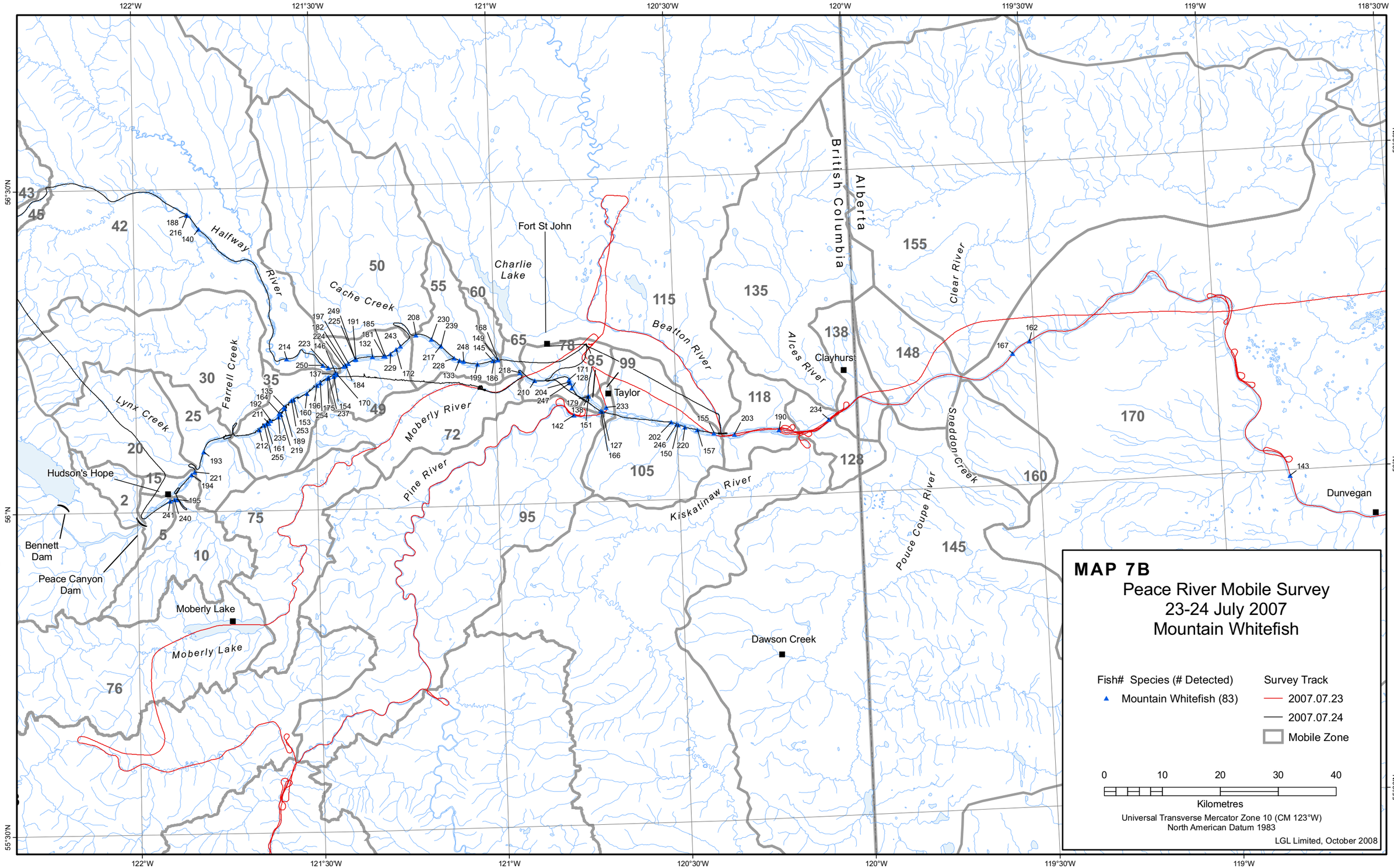
In July, the number of bull trout detected (30) was down considerably from that of the previous survey, which may be largely attributable to minor technical problems experienced with the receiver equipment during that particular flight. Of those detected, one was in the Peace River mainstem downstream of Cache Creek and all others were in the Pine River system. Within the Pine River system, 33% were in the Pine River mainstem, the rest were in the Sukunka River (33%) and Burnt River (30%), with proportionally more fish detected in the Burnt River than previously.

The distribution of walleye in July is markedly different from that observed in June. A large proportion of the fish previously in the Beatton River had moved and gone upstream in the Peace River mainstem, with several of them having moved into the Pine River. Of the total (38) walleye detected, 8% were in the Peace River mainstem between the Beatton and Moberly rivers, 24% were in the Pine River (from mouth to ~70 km upstream), 29% were in the Beatton River near the mouth, and the remaining 39% was widely scattered in the Peace River mainstem downstream of the Beatton River, with several well into Alberta.

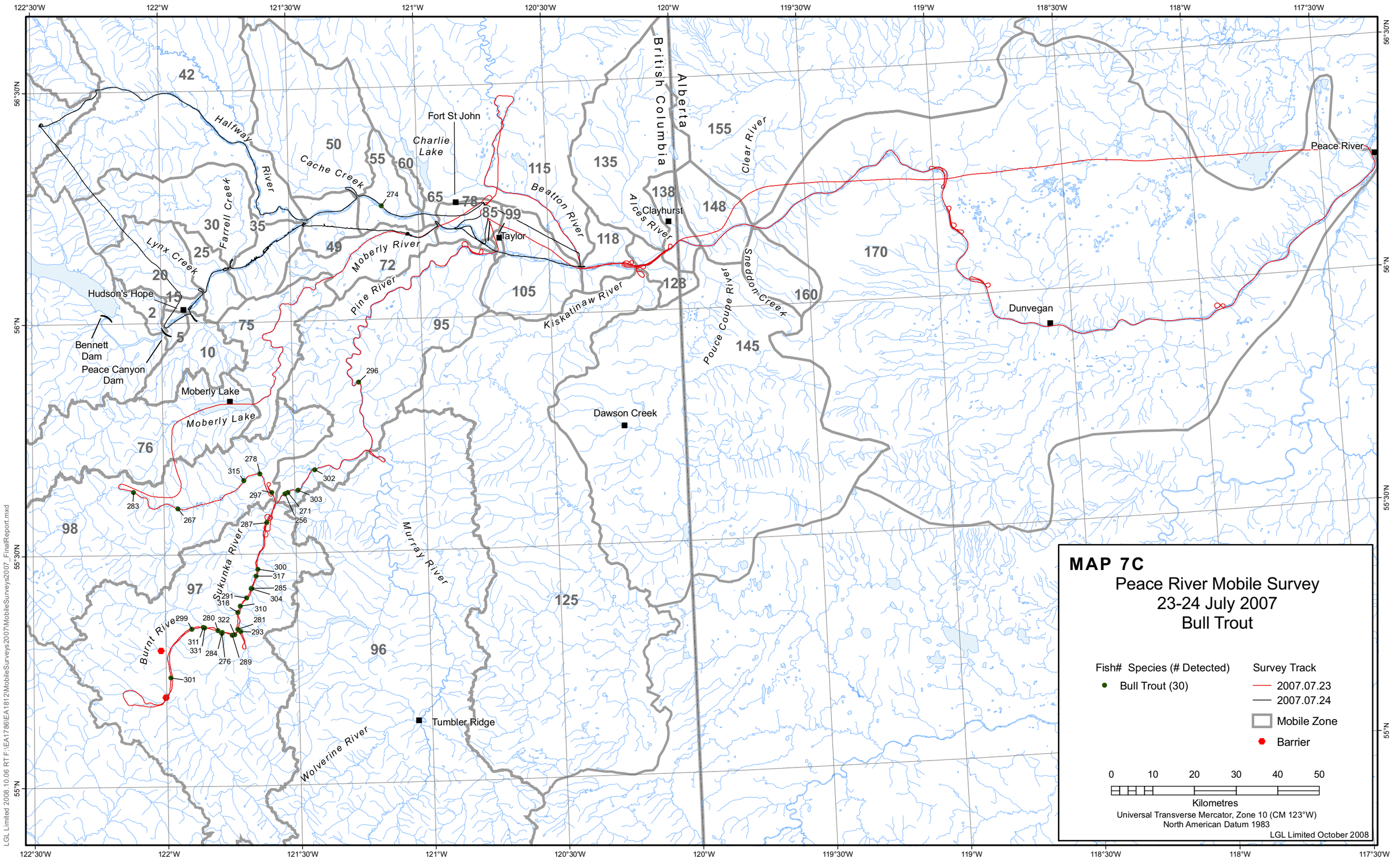
Overall, detections of Arctic grayling, rainbow trout and mountain whitefish showed no appreciable change in distribution between the June and July tracks, other than that a few more rainbow trout had moved from the Sukunka River into the Burnt River.



Map 7a: Mobile survey for Arctic grayling, rainbow trout and walleye (July 23-24, 2007).



Map 7b: Mobile survey for mountain whitefish (July 23-24, 2007).



MAP 7C

Peace River Mobile Survey
23-24 July 2007
Bull Trout

Fish# Species (# Detected)
- Bull Trout (30)

Survey Track
- 2007.07.23
- 2007.07.24
- Mobile Zone
- Barrier

0 10 20 30 40 50
Kilometres

Universal Transverse Mercator, Zone 10 (CM 123°W)
North American Datum 1983

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Map 7c: Mobile survey for bull trout (July 23-24, 2007).