Broken Skull River & South Nahanni River Canoe Route

Map version 5 - @2023 Roland Paris

Broken Skull River - @2023 Katie Paris

Start: Divide Lake, NWT (63.024, -128.174)
End: Blackstone Territorial Park (61.102, -122.871)
Distance: 525 km

Dene names:
- Broken Skull River: Pʃíp'enéh łéetǫ́ǫ́ Deé
- South Nahanni River: Nahʔą Dehé

105P
525 km
START
Divide Lake
1
105I
095M
2
500 km
3
Broken Skull R.
4
5
095L
6
Confluence - Broken Skull & Nahanni
7
Cirque of the Unclimbables
400 km
8
Northwest Territories
9
Rabbitkettle Lake
10
South Nahanni R.
11
12
095F
300 km
095E
13
14
Virginia Falls
15
Fourth Canyon
Flat River
16
Third Canyon
200 km
17
18
Second Canyon
Deadmen Valley
19
20
First Canyon
095G
21
100 km
22
The Splits
23
24
25
Nahanni Butte
095B
END
Blackstone TP

	Sunrise	Sunset
June 21	4:40 am	12:30 am
July 21	5:30 am	11:45 pm
August 21	6:50 am	10:15 pm

Water gauges
https://wateroffice.ec.gc.ca/search/real_time_e.html
* South Nahanni River Above Virginial Falls [NT] 10EB001
* Flat River Near the Mouth [NT] 10EA003

0 10 20 30 40 50 km

N

OVERVIEW MAP (this page)

- 2 — Reference number for detailed maps
- 400 km — Distance to Blackstone Territorial Park
- 095E — NTS topographical map (1:250,000)

DETAILED MAPS

- Direction of travel
- 325 — Distance to Blackstone Territorial Park
- Intermittent water
- RR — River right ("RL"=River left)

Check orientation and scale of each map. They vary.

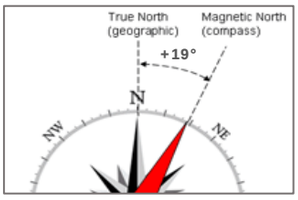
These maps are designed to be printed on legal-size paper in colour.

WARNING

These maps likely contain errors - use at your own risk. Consult Parks Canada documents for official info.

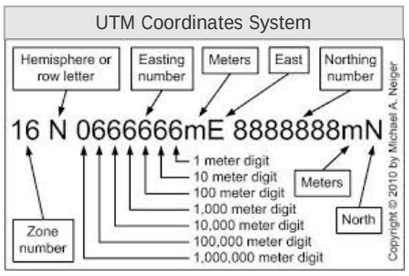
Broken Skull-Nahanni – Navigation Notes

Compass headings:



- All north arrows on these maps point to true north, not magnetic north.
- GPS devices typically display true north. Check settings to be sure.
- A manual compass must be set to 19° magnetic declination (2013).

Scale and orientation:



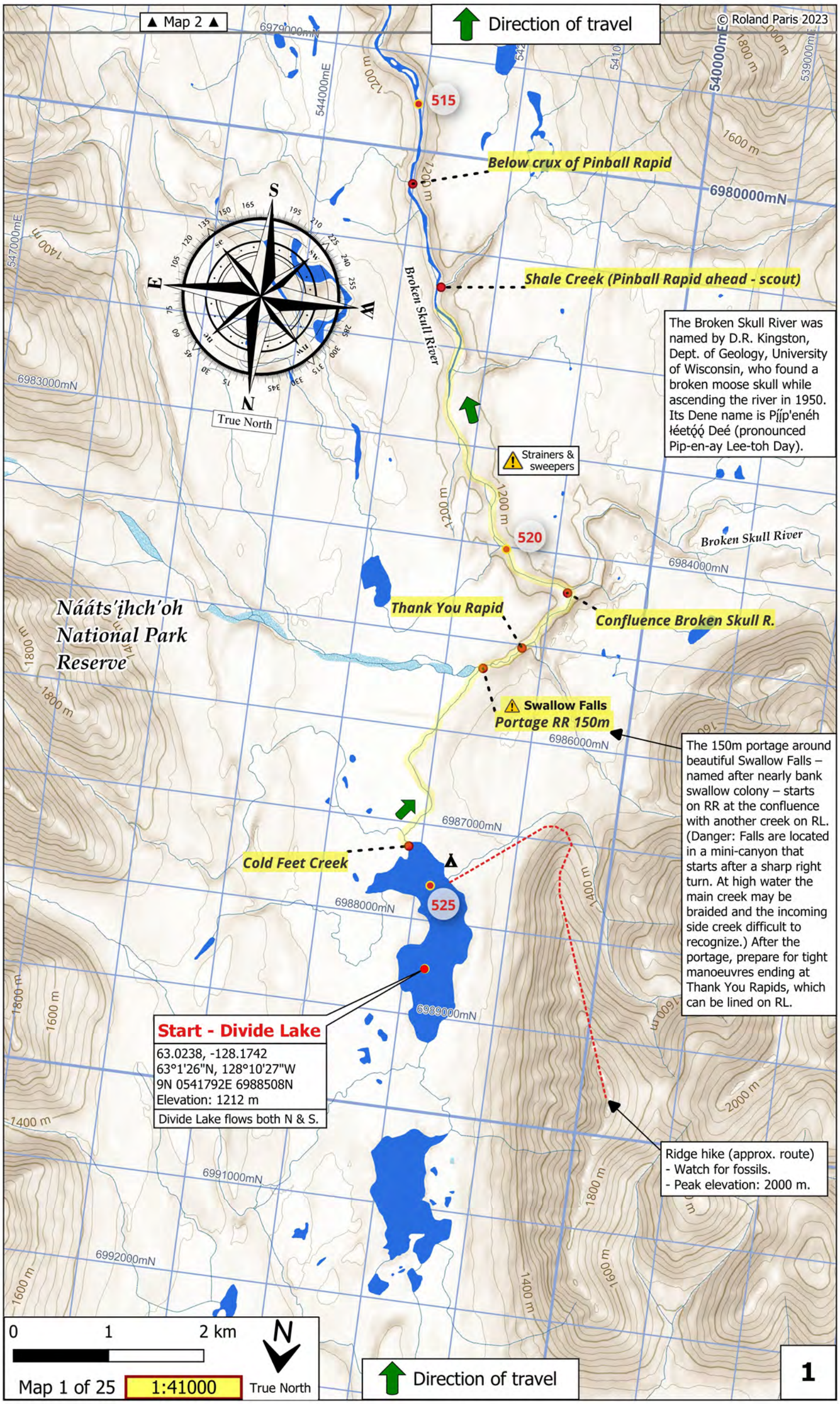
- Map scale ranges from 1:40,000 to 1:50,000. Most are 1:50,000.
- Grid squares are always 1 km^2. They are marked with UTM coordinates (see at right).
- Direction of travel is usually towards the top of the map. Check north arrow for orientation of each map.

GPS coordinates of locations marked on map:

Name	Latitude	Longitude
Below crux of Pinball Rapid	62.950	-128.152
Big Bend campsite	61.378	-124.753
Black Wolf Creek	62.308	-127.651
Blackstone R.	61.088	-122.925
Blackstone TP	61.102	-122.882
Bluefish Creek	61.036	-123.433
Britnell Creek	62.052	-127.355
Cave	62.685	-128.075
Clausen Creek	61.255	-124.057
Clearwater Creek	61.579	-125.557
Cliff Camp	62.505	-127.911
Cold Feet Creek	63.012	-128.168
Confluence Broken Skull R.	62.987	-128.194
Creek entrance 1	61.974	-127.233
Creek entrance 2	61.973	-127.227
Deadman Valley Cabin	61.244	-124.444
Dry Canyon Creek	61.250	-124.406
End - Landslide Alley	62.787	-128.038
False Canyon RI-II	61.593	-125.606
Figure 8 Rapid	61.573	-125.491
Fishtrap Creek	61.237	-123.698
Flat River Cabin	61.533	-125.362
Flat River confluence	61.535	-125.333
Flood Cr.	61.862	-126.391
George's Riffle	61.244	-124.356
Glacier Lake	62.071	-127.509
Grainger River	61.124	-123.066
Great Spur	61.311	-124.640
Grizzly Bear Cr.	62.631	-128.031
Grizzly Hot Springs	62.671	-127.900
Headless Creek	61.295	-124.577
Hell Roaring Cr.	61.873	-126.630
Hike on RR	62.816	-128.023
Hot Springs	62.755	-128.136
Hot Springs Gravel Bar	62.755	-128.093
Jackfish Creek	61.149	-123.672
Kraus Hotsprings	61.256	-124.058
Lafferty Creek campsite	61.274	-124.085
Lafferty's Rival (wave trains)	62.469	-127.849

Name	Latitude	Longitude
Lafferty's Riffle	61.272	-124.089
Last Chance campsite	61.068	-123.562
Last Chance Island	61.769	-126.070
Liard River	61.053	-123.317
Little Butte	61.243	-124.385
Marango Creek	61.593	-125.638
Mary River	61.458	-125.135
Mattson Cr.	61.069	-123.581
Meilleur River	61.271	-124.560
Mini Gate	62.705	-128.097
Morton's Knob	61.319	-124.596
Nahanni Butte (1396m)	61.083	-123.389
Nahanni Butte Village	61.037	-123.386
Nahanni Park Boundary	62.498	-127.897
North Elbow	61.269	-123.807
Painted Rocks Canyon	61.348	-124.751
Patterson Creek	61.302	-124.196
Patterson's cabin site	61.252	-124.472
Portage RR 150m (Map 1)	62.995	-128.179
Prairie Creek	61.251	-124.463
Pulpit Rock	61.412	-124.941
Rabitkettle Hot Springs	61.943	-127.180
Ram Creek	61.246	-124.398
Scow Creek	61.324	-124.699
Shale Creek	62.960	-128.161
Splits campsite	61.163	-123.675
Start of 2nd Canyon	61.355	-124.726
Start of 3rd Canyon	61.459	-125.116
Sunblood staff cabin	61.664	-125.851
Swan Point	61.074	-123.166
Thank You Rapid (line L)	62.993	-128.186
The Gate	61.411	-124.932
Top of Scow Cr. hike	61.287	-124.668
Twisted Mountain	61.213	-123.626
Vera Creek	61.529	-125.277
Whitewater Creek	62.817	-128.020
Windy Creek	61.248	-123.994
Wrigley Creek	61.566	-125.469
Wrigley Whirlpool	61.556	-125.442

Warning: Information on these maps may be inaccurate. Use at your own risk.


▲ Map 2 ▲
Direction of travel
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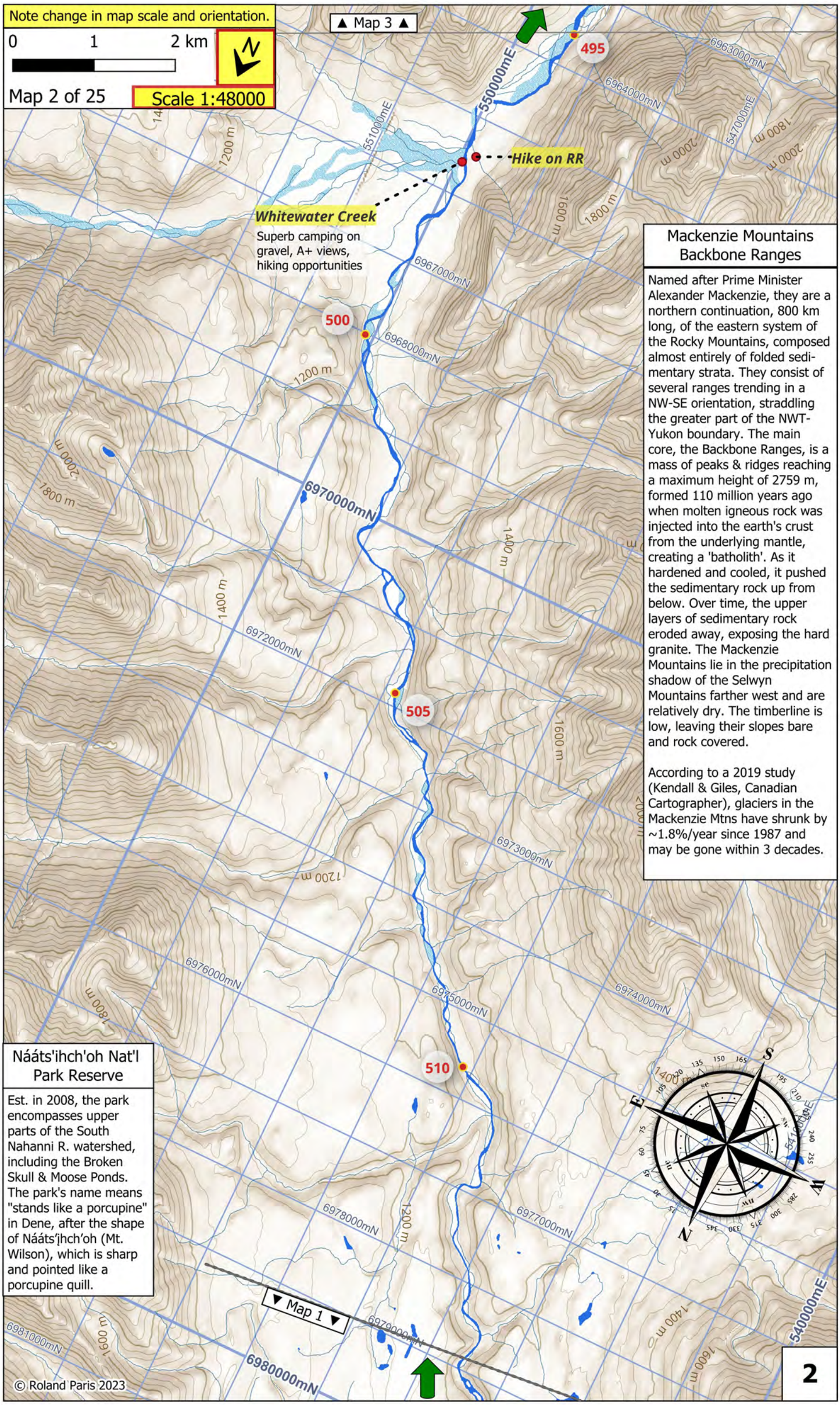
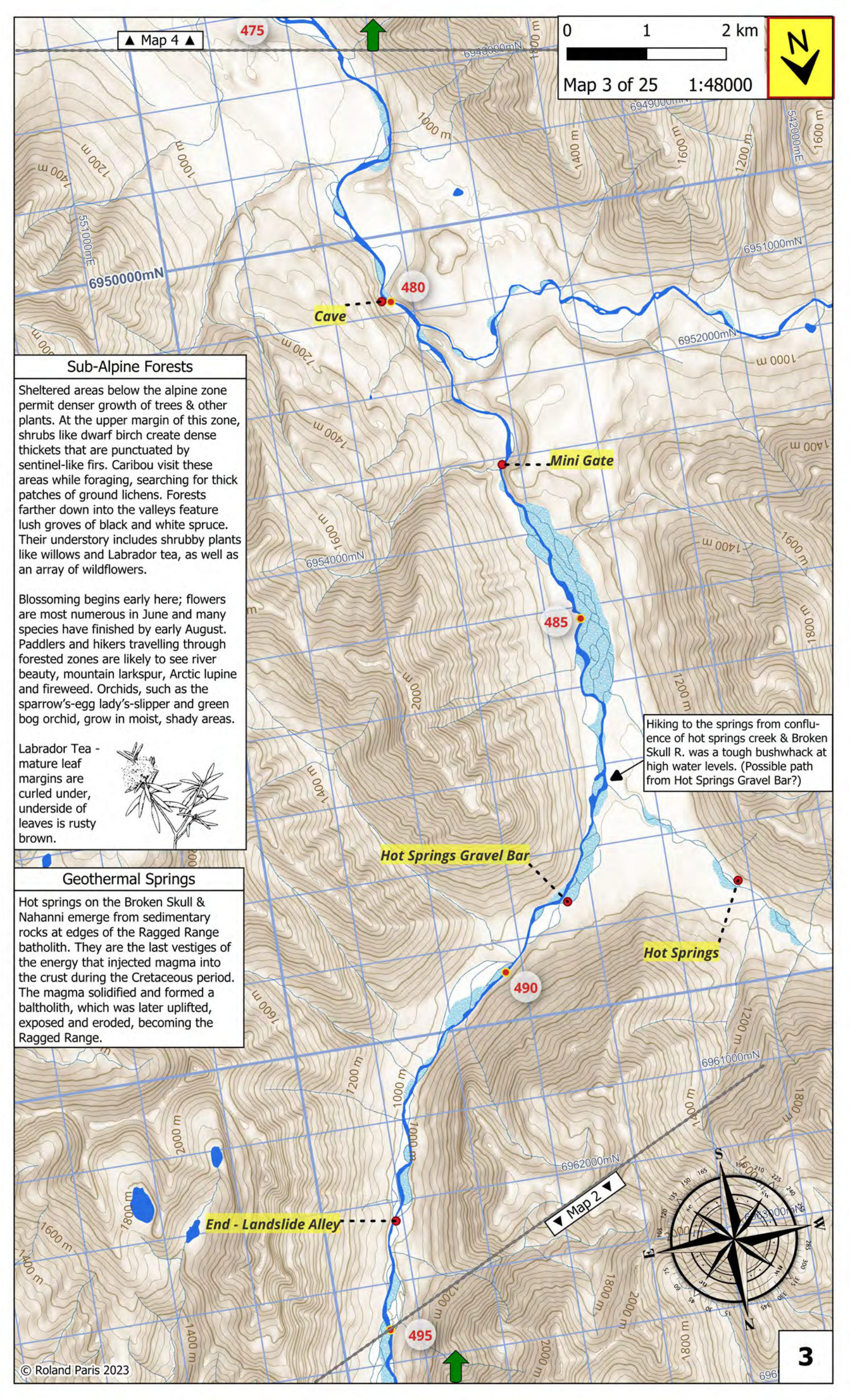
515
Below crux of Pinball Rapid
Shale Creek (Pinball Rapid ahead - scout)
Broken Skull River
The Broken Skull River was named by D.R. Kingston, Dept. of Geology, University of Wisconsin, who found a broken moose skull while ascending the river in 1950. Its Dene name is Pʔíʔp'enéh łéetǫǫ́ Deé (pronounced Pip-en-ay Lee-toh Day).
Strainers & sweepers
520
Thank You Rapid
Confluence Broken Skull R.
Náátsʼįhchʼoh National Park Reserve
Swallow Falls
Portage RR 150m
The 150m portage around beautiful Swallow Falls – named after nearly bank swallow colony – starts on RR at the confluence with another creek on RL. (Danger: Falls are located in a mini-canyon that starts after a sharp right turn. At high water the main creek may be braided and the incoming side creek difficult to recognize.) After the portage, prepare for tight manoeuvres ending at Thank You Rapids, which can be lined on RL.
Cold Feet Creek
525
Start - Divide Lake
63.0238, -128.1742
63°1'26"N, 128°10'27"W
9N 0541792E 6988508N
Elevation: 1212 m
Divide Lake flows both N & S.
Ridge hike (approx. route)
- Watch for fossils.
- Peak elevation: 2000 m.
True North
0 1 2 km
Map 1 of 25
1:41000
Direction of travel
1


Note change in map scale and orientation.
0
1
2 km
Map 2 of 25
Scale 1:48000
▲ Map 3 ▲
495
500
505
510
550000mE
551000mE
547000mE
Hike on RR
Whitewater Creek
Superb camping on gravel, A+ views, hiking opportunities
6963000mN
6964000mN
6967000mN
6968000mN
6970000mN
6972000mN
6973000mN
6974000mN
6975000mN
6976000mN
6977000mN
6978000mN
6979000mN
6980000mN
6981000mN
1200 m
1400 m
1600 m
1800 m
2000 m
Mackenzie Mountains Backbone Ranges
Named after Prime Minister Alexander Mackenzie, they are a northern continuation, 800 km long, of the eastern system of the Rocky Mountains, composed almost entirely of folded sedimentary strata. They consist of several ranges trending in a NW-SE orientation, straddling the greater part of the NWT-Yukon boundary. The main core, the Backbone Ranges, is a mass of peaks & ridges reaching a maximum height of 2759 m, formed 110 million years ago when molten igneous rock was injected into the earth's crust from the underlying mantle, creating a 'batholith'. As it hardened and cooled, it pushed the sedimentary rock up from below. Over time, the upper layers of sedimentary rock eroded away, exposing the hard granite. The Mackenzie Mountains lie in the precipitation shadow of the Selwyn Mountains farther west and are relatively dry. The timberline is low, leaving their slopes bare and rock covered.
According to a 2019 study (Kendall & Giles, Canadian Cartographer), glaciers in the Mackenzie Mtns have shrunk by ~1.8%/year since 1987 and may be gone within 3 decades.
Náátsʼihchʼoh Nat'l Park Reserve
Est. in 2008, the park encompasses upper parts of the South Nahanni R. watershed, including the Broken Skull & Moose Ponds. The park's name means "stands like a porcupine" in Dene, after the shape of Náátsʼįhchʼoh (Mt. Wilson), which is sharp and pointed like a porcupine quill.
▼ Map 1 ▼
S
E
W
N
© Roland Paris 2023
2



Dall's Sheep

Dall's Sheep spend the summer grazing in alpine meadows atop the peaks. In the fall they move to their winter range a few kms away where the wind keeps the snow shallow and the sun warms south-facing slopes. They use the same migration routes for generations and return to the same protective cliffs to give birth to their lambs each year. Males have thick horns that grow larger & spiral with age. Female horns remain small & slender. Dall's Sheep have all white fur with tan-coloured horns. (Stone sheep have grayish fur.)

They have long been prized for their delicious meat. First Nations would traditionally hunt sheep with bow & arrows or set snares along frequented routes. Sheep fleece was used to make blankets, jackets & winter pants. Horns used for ladles & dishes. During the Gold Rush, sheep populations were nearly wiped out from the demand for meat to feed the new settlements. Later, road crews building the highways also greatly decreased sheep numbers. Today sheep numbers have recovered through protection & management, although not to their original numbers.

G.B. Hot Springs hike - 10 km from creek camp
62.67133, -127.90 | 9N 556345 6949446

460

465

470

475

6934000mN
6938000mN
6940000mN
6942000mN
6944000mN
6945000mN
6946000mN

553000mE
552000mE
551000mE
556000mE
558000mE

1000 m
1200 m
1400 m
1600 m
1800 m
2000 m

Grizzly Bear Cr. ▲

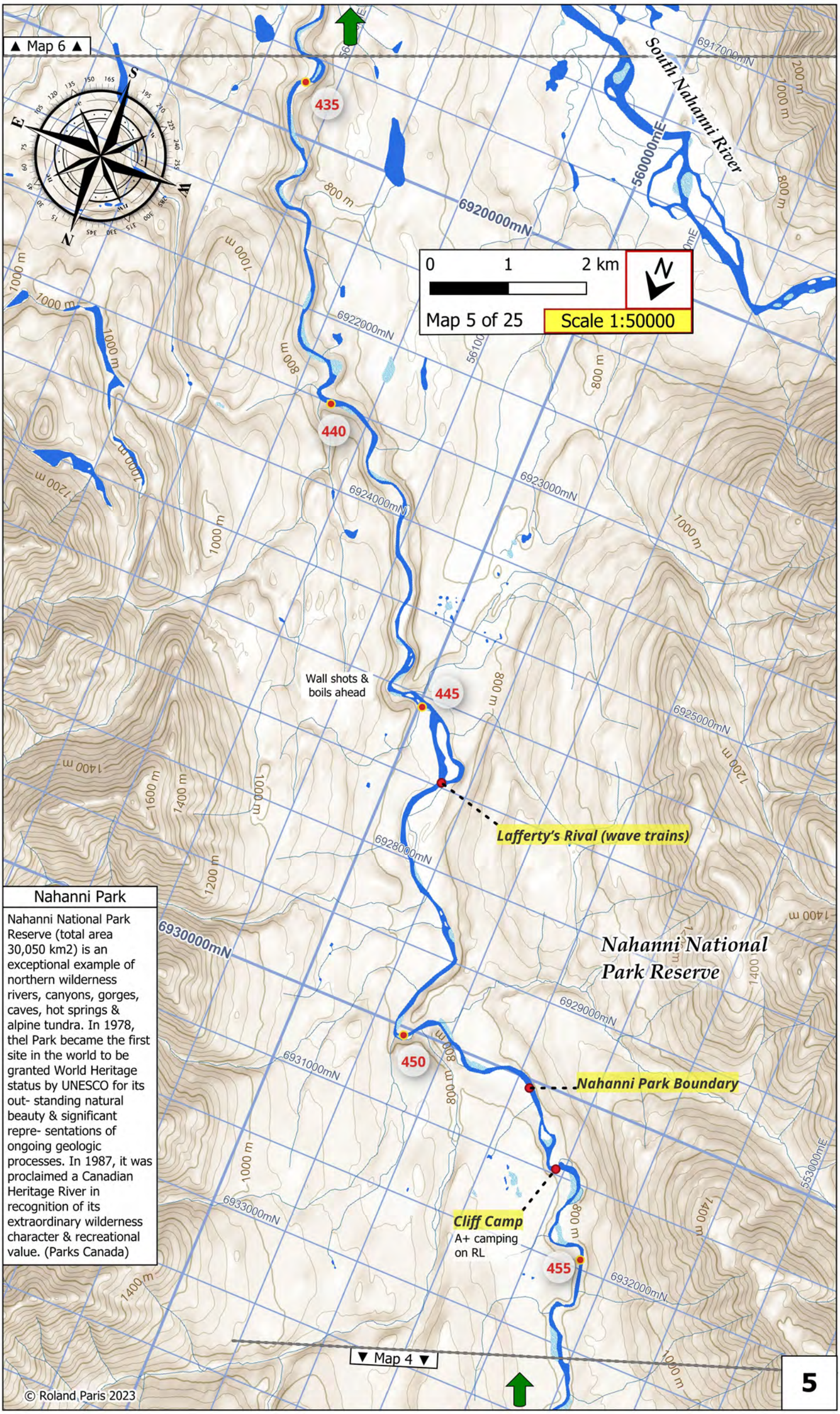
There are few camping spots between Grizzly Bear Creek and Nahanni park boundary (KM 452)

▼ Map 3 ▼

0 1 2 km

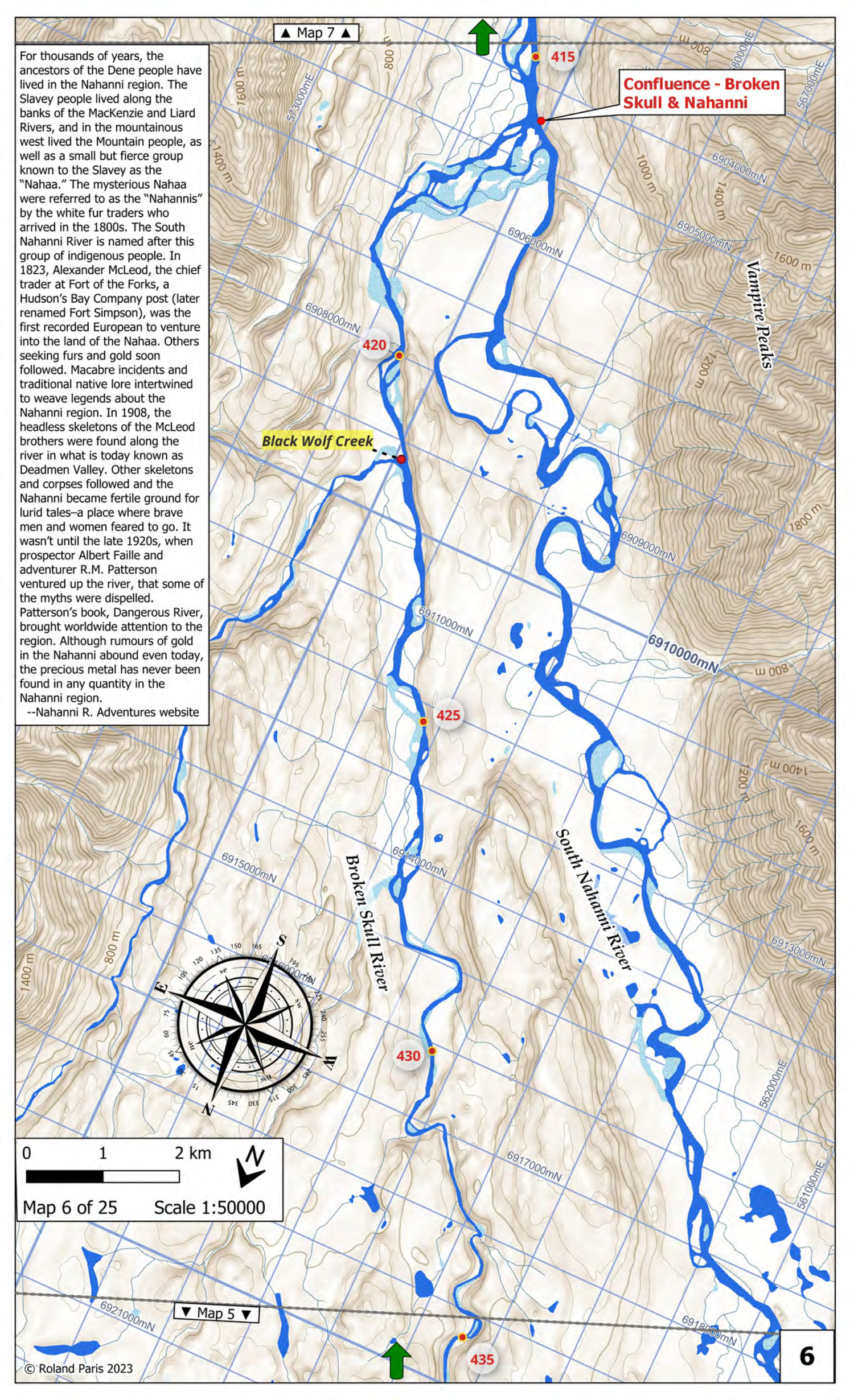
Map 4 of 25 Scale 1:48000

4



Nahanni Park

Nahanni National Park Reserve (total area 30,050 km2) is an exceptional example of northern wilderness rivers, canyons, gorges, caves, hot springs & alpine tundra. In 1978, thel Park became the first site in the world to be granted World Heritage status by UNESCO for its out- standing natural beauty & significant repre- sentations of ongoing geologic processes. In 1987, it was proclaimed a Canadian Heritage River in recognition of its extraordinary wilderness character & recreational value. (Parks Canada)


▲ Map 7 ▲
For thousands of years, the ancestors of the Dene people have lived in the Nahanni region. The Slavey people lived along the banks of the MacKenzie and Liard Rivers, and in the mountainous west lived the Mountain people, as well as a small but fierce group known to the Slavey as the "Nahaa." The mysterious Nahaa were referred to as the "Nahannis" by the white fur traders who arrived in the 1800s. The South Nahanni River is named after this group of indigenous people. In 1823, Alexander McLeod, the chief trader at Fort of the Forks, a Hudson's Bay Company post (later renamed Fort Simpson), was the first recorded European to venture into the land of the Nahaa. Others seeking furs and gold soon followed. Macabre incidents and traditional native lore intertwined to weave legends about the Nahanni region. In 1908, the headless skeletons of the McLeod brothers were found along the river in what is today known as Deadmen Valley. Other skeletons and corpses followed and the Nahanni became fertile ground for lurid tales–a place where brave men and women feared to go. It wasn't until the late 1920s, when prospector Albert Faille and adventurer R.M. Patterson ventured up the river, that some of the myths were dispelled. Patterson's book, Dangerous River, brought worldwide attention to the region. Although rumours of gold in the Nahanni abound even today, the precious metal has never been found in any quantity in the Nahanni region.
--Nahanni R. Adventures website
415
Confluence - Broken Skull & Nahanni
420
Black Wolf Creek
425
430
435
Vampire Peaks
Broken Skull River
South Nahanni River
573000mE
567000mE
562000mE
561000mE
6904000mN
6905000mN
6906000mN
6908000mN
6909000mN
6910000mN
6911000mN
6913000mN
6914000mN
6915000mN
6917000mN
6918000mN
6921000mN
1600 m
1400 m
1200 m
1000 m
800 m
1800 m
0 1 2 km
Map 6 of 25 Scale 1:50000
▼ Map 5 ▼
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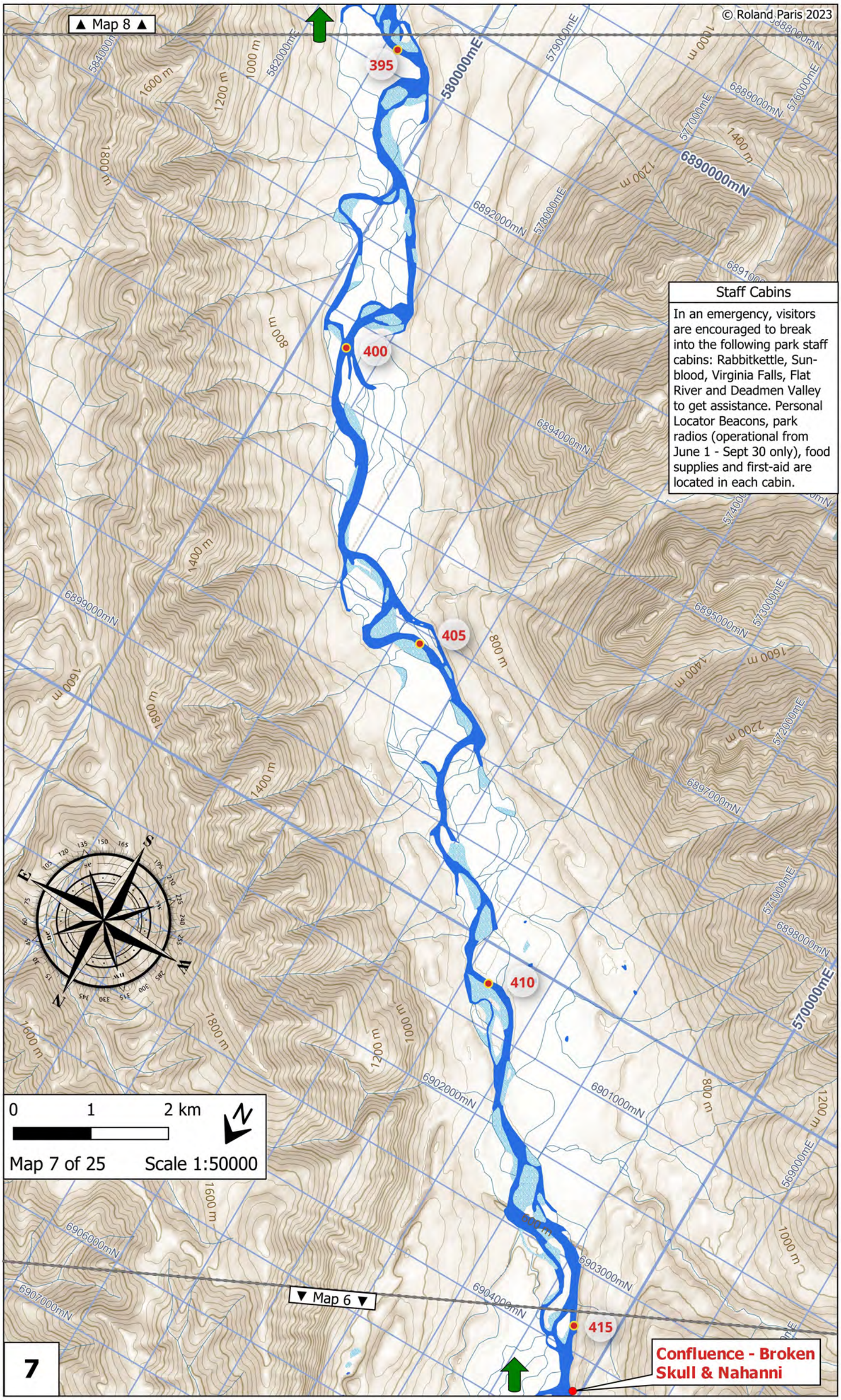
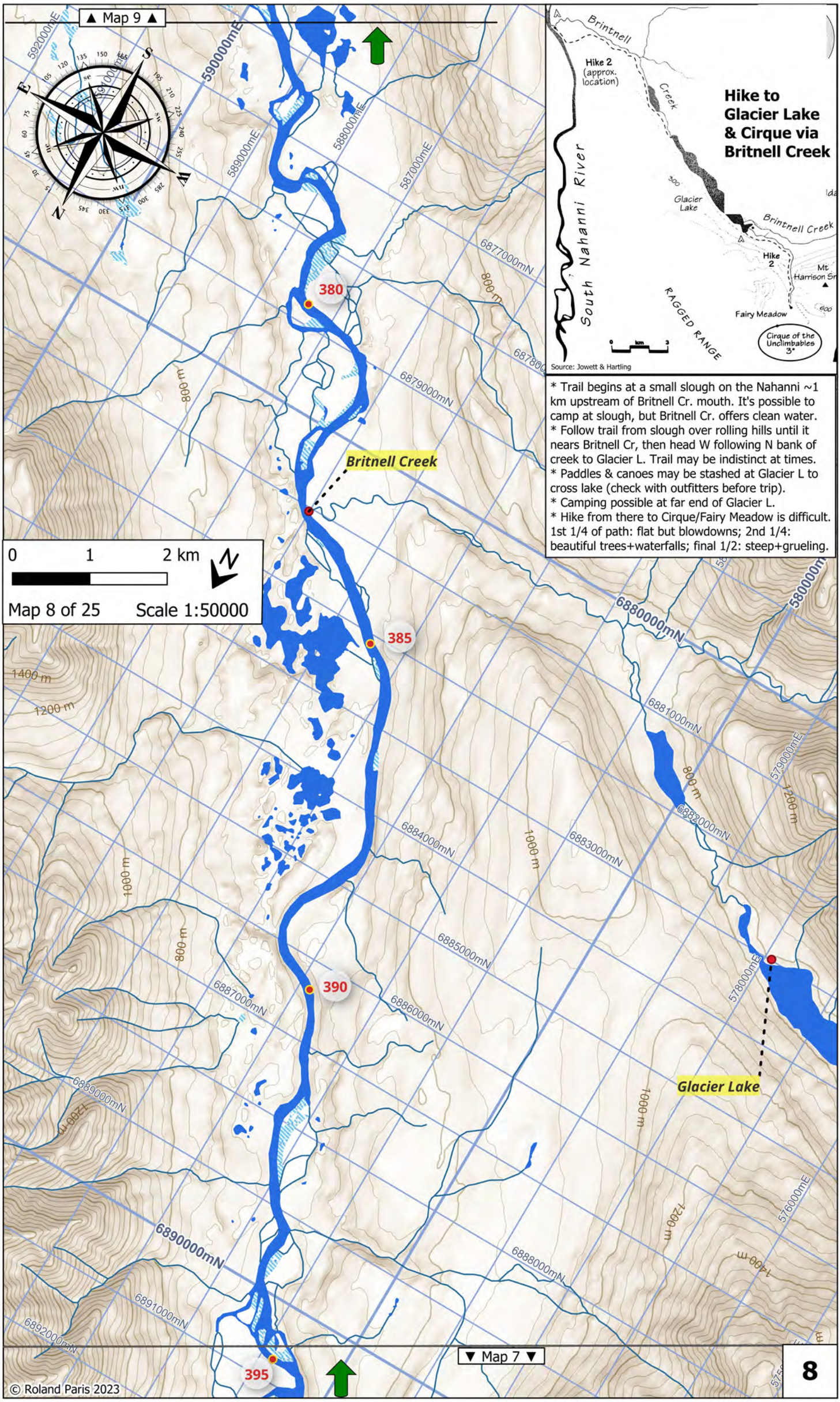
6


▲ Map 8 ▲
© Roland Paris 2023
395
400
405
410
415
580000mE
570000mE
6890000mN
6892000mN
6894000mN
6895000mN
6897000mN
6898000mN
6899000mN
6901000mN
6902000mN
6903000mN
6904000mN
6906000mN
6907000mN
6889000mN
1600 m
1200 m
1800 m
1000 m
1400 m
800 m
2200 m
0 1 2 km
Map 7 of 25
Scale 1:50000
▼ Map 6 ▼
Staff Cabins
In an emergency, visitors are encouraged to break into the following park staff cabins: Rabbitkettle, Sunblood, Virginia Falls, Flat River and Deadmen Valley to get assistance. Personal Locator Beacons, park radios (operational from June 1 - Sept 30 only), food supplies and first-aid are located in each cabin.
Confluence - Broken Skull & Nahanni
7


▲ Map 9 ▲
Hike to Glacier Lake & Cirque via Britnell Creek
Brintnell
Hike 2 (approx. location)
Creek
South Nahanni River
Glacier Lake
Brintnell Creek
Hike 2
Mt Harrison
Fairy Meadow
RAGGED RANGE
Cirque of the Unclimbables
Source: Jowett & Hartling
* Trail begins at a small slough on the Nahanni ~1 km upstream of Britnell Cr. mouth. It's possible to camp at slough, but Britnell Cr. offers clean water.
* Follow trail from slough over rolling hills until it nears Britnell Cr, then head W following N bank of creek to Glacier L. Trail may be indistinct at times.
* Paddles & canoes may be stashed at Glacier L to cross lake (check with outfitters before trip).
* Camping possible at far end of Glacier L.
* Hike from there to Cirque/Fairy Meadow is difficult. 1st 1/4 of path: flat but blowdowns; 2nd 1/4: beautiful trees+waterfalls; final 1/2: steep+grueling.
0 1 2 km
Map 8 of 25 Scale 1:50000
380
385
390
395
Britnell Creek
Glacier Lake
590000mE
589000mE
588000mE
587000mE
592000mE
579000mE
578000mE
576000mE
6877000mN
6879000mN
6880000mN
6881000mN
6882000mN
6883000mN
6884000mN
6885000mN
6886000mN
6887000mN
6888000mN
6889000mN
6890000mN
6891000mN
6892000mN
800 m
1000 m
1200 m
1400 m
▼ Map 7 ▼
© Roland Paris 2023
8

▲ Map 10 ▲

Hole in the Wall Creek

Secret Lakes hike

365

Rabbitkettle Hot Springs

Rabbitkettle River

Portage landing (info sign)

portage

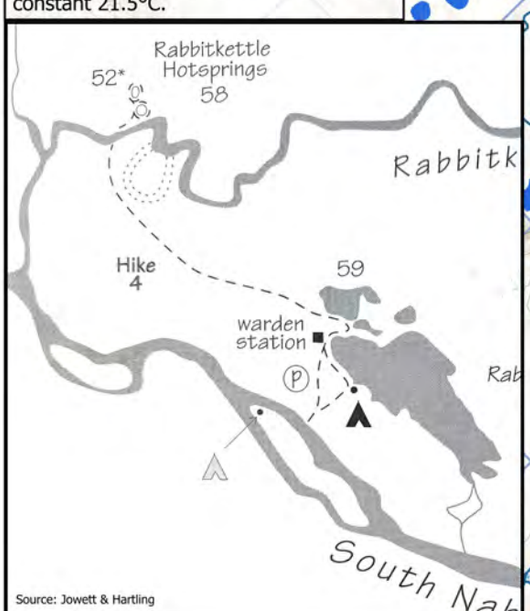
Rabbitkettle Lake

370

Creek entrance?

Some guided groups travel up this creek to RK lake with their canoes. Easier option: stash extra gear at portage landing (info sign) where there are bearproof containers, then portage camping gear to lake. Also possible to camp on island site across from portage and take day hike to lake. Note: hike to tufa mounds requires ranger guide; check with Park office before trip.

The Rabbitkettle tufa mounds, the largest in Canada, are created by precipitation of dissolved minerals, primarily calcium carbonate, forming intricate terraces & basins known as rimstone dams and gours. North Mound, believed to be 10,000 years old, is 30 m high and 60 m wide. Water flows out of two vents at a constant 21.5°C.



Source: Jowett & Hartling

The name Rabbitkettle comes from the Dene word gahnhthah, meaning "kettle". The translation was adopted by English-speaking locals as "Rabbitkettle" from the peculiar shapes of the basins in the area. The springs were considered a sacred place to the Dene, who left offerings such as tobacco to ensure good fortune.

▼ Map 8 ▼

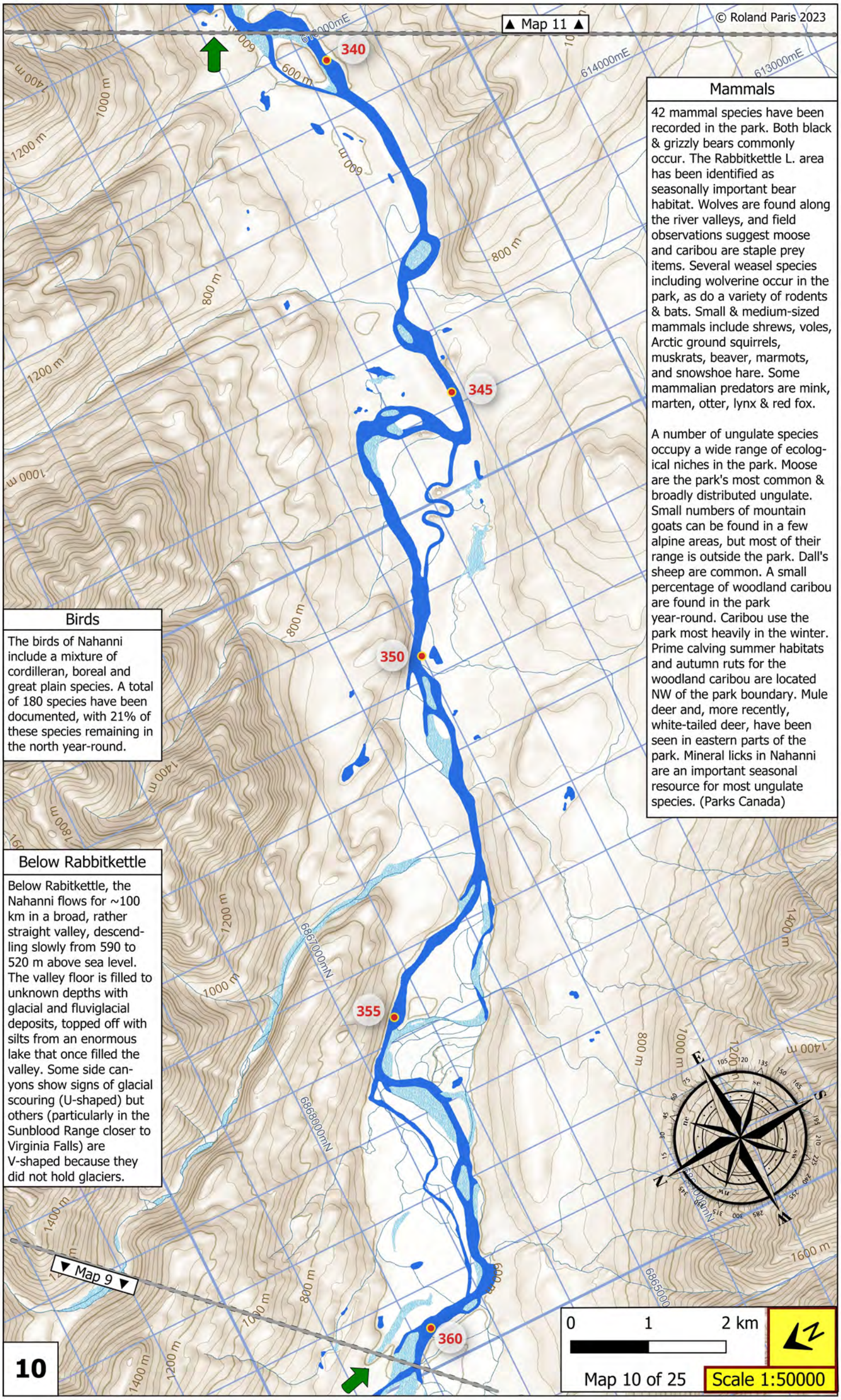
375

0 1 2 km

Map 9 of 25

Scale 1:40000

▲ Map 11 ▲



Mammals

42 mammal species have been recorded in the park. Both black & grizzly bears commonly occur. The Rabbitkettle L. area has been identified as seasonally important bear habitat. Wolves are found along the river valleys, and field observations suggest moose and caribou are staple prey items. Several weasel species including wolverine occur in the park, as do a variety of rodents & bats. Small & medium-sized mammals include shrews, voles, Arctic ground squirrels, muskrats, beaver, marmots, and snowshoe hare. Some mammalian predators are mink, marten, otter, lynx & red fox.

A number of ungulate species occupy a wide range of ecological niches in the park. Moose are the park's most common & broadly distributed ungulate. Small numbers of mountain goats can be found in a few alpine areas, but most of their range is outside the park. Dall's sheep are common. A small percentage of woodland caribou are found in the park year-round. Caribou use the park most heavily in the winter. Prime calving summer habitats and autumn ruts for the woodland caribou are located NW of the park boundary. Mule deer and, more recently, white-tailed deer, have been seen in eastern parts of the park. Mineral licks in Nahanni are an important seasonal resource for most ungulate species. (Parks Canada)

Birds

The birds of Nahanni include a mixture of cordilleran, boreal and great plain species. A total of 180 species have been documented, with 21% of these species remaining in the north year-round.

Below Rabbitkettle

Below Rabitkettle, the Nahanni flows for ~100 km in a broad, rather straight valley, descending slowly from 590 to 520 m above sea level. The valley floor is filled to unknown depths with glacial and fluviglacial deposits, topped off with silts from an enormous lake that once filled the valley. Some side canyons show signs of glacial scouring (U-shaped) but others (particularly in the Sunblood Range closer to Virginia Falls) are V-shaped because they did not hold glaciers.

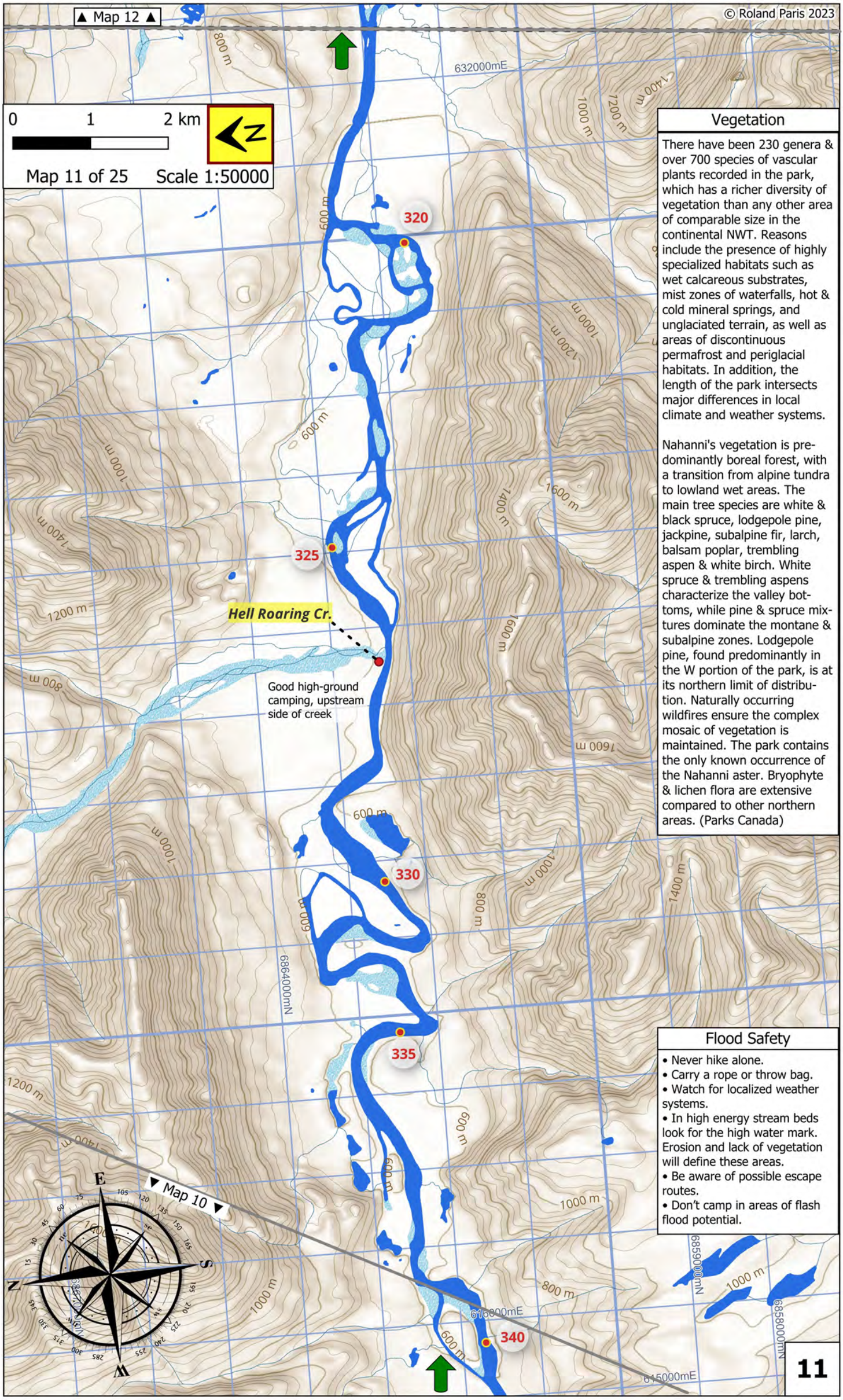
▼ Map 9 ▼

0 1 2 km

Map 10 of 25

Scale 1:50000

10



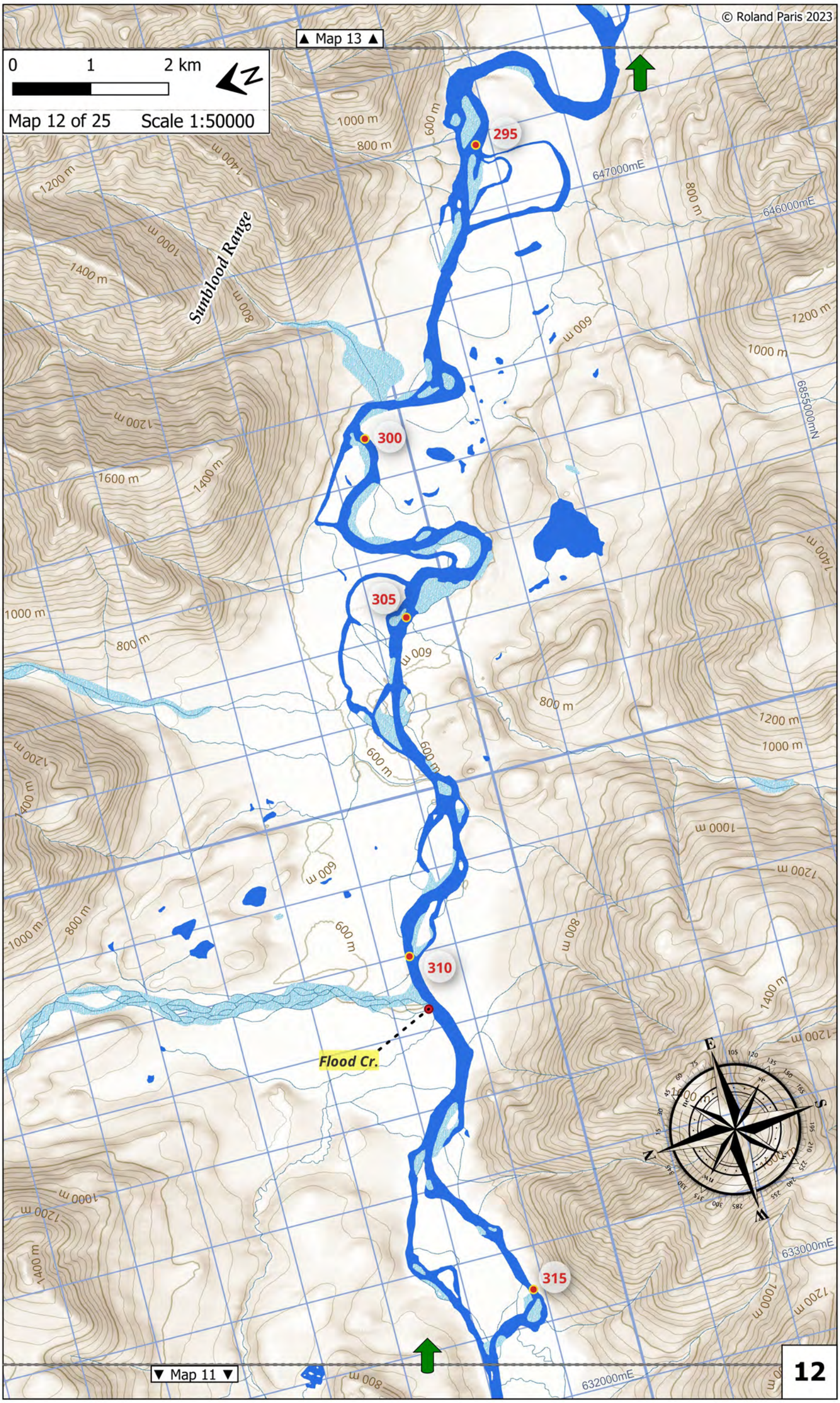
Vegetation

There have been 230 genera & over 700 species of vascular plants recorded in the park, which has a richer diversity of vegetation than any other area of comparable size in the continental NWT. Reasons include the presence of highly specialized habitats such as wet calcareous substrates, mist zones of waterfalls, hot & cold mineral springs, and unglaciated terrain, as well as areas of discontinuous permafrost and periglacial habitats. In addition, the length of the park intersects major differences in local climate and weather systems.

Nahanni's vegetation is predominantly boreal forest, with a transition from alpine tundra to lowland wet areas. The main tree species are white & black spruce, lodgepole pine, jackpine, subalpine fir, larch, balsam poplar, trembling aspen & white birch. White spruce & trembling aspens characterize the valley bottoms, while pine & spruce mixtures dominate the montane & subalpine zones. Lodgepole pine, found predominantly in the W portion of the park, is at its northern limit of distribution. Naturally occurring wildfires ensure the complex mosaic of vegetation is maintained. The park contains the only known occurrence of the Nahanni aster. Bryophyte & lichen flora are extensive compared to other northern areas. (Parks Canada)

Flood Safety

- Never hike alone.
- Carry a rope or throw bag.
- Watch for localized weather systems.
- In high energy stream beds look for the high water mark. Erosion and lack of vegetation will define these areas.
- Be aware of possible escape routes.
- Don't camp in areas of flash flood potential.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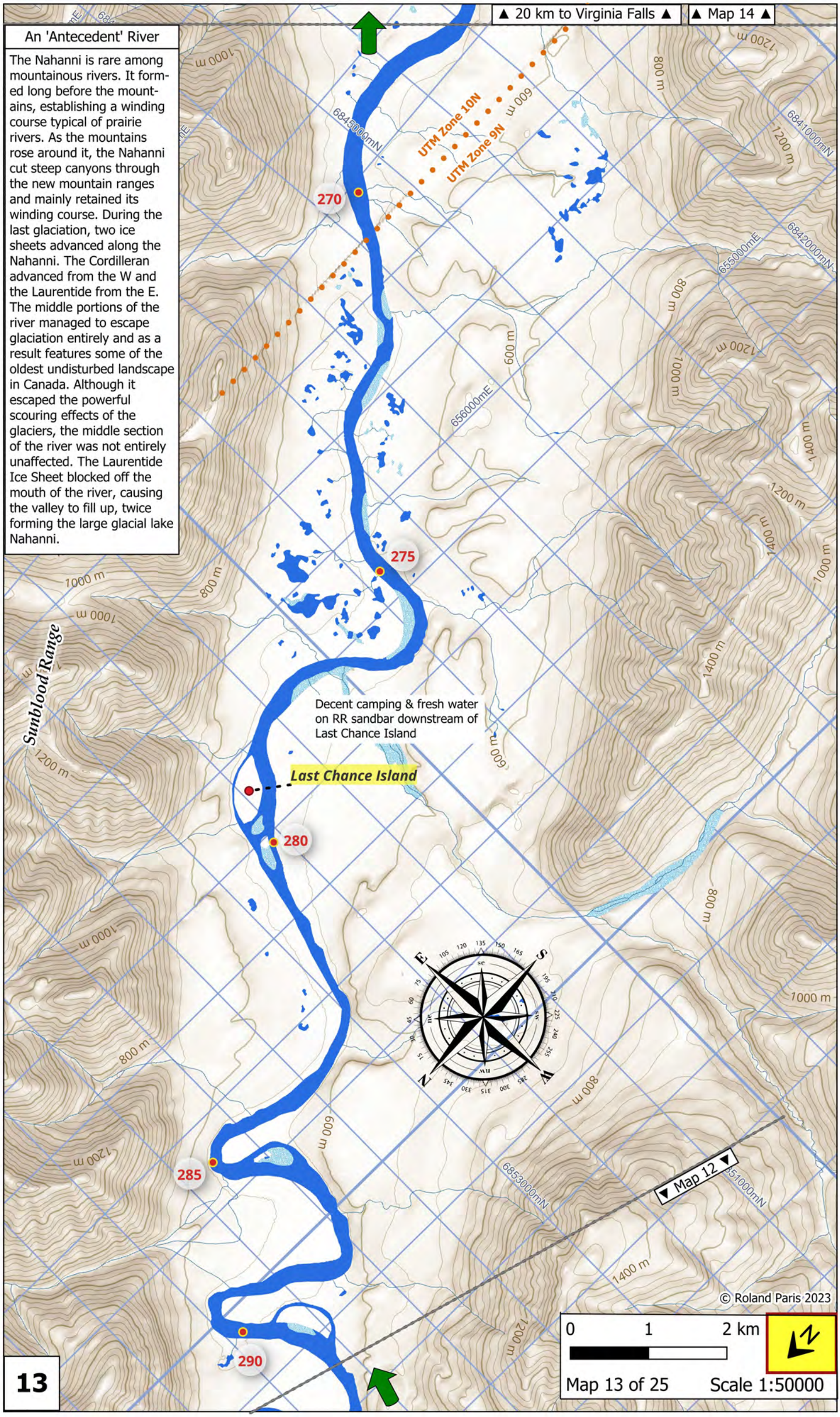
▲ Map 13 ▲
0 1 2 km
Map 12 of 25 Scale 1:50000
Sunblood Range
295
300
305
310
315
Flood Cr.
647000mE
646000mE
6855000mN
633000mE
632000mE
1000 m
800 m
600 m
1200 m
1400 m
1600 m
▼ Map 11 ▼
12


▲ 20 km to Virginia Falls ▲
▲ Map 14 ▲
An 'Antecedent' River
The Nahanni is rare among mountainous rivers. It formed long before the mountains, establishing a winding course typical of prairie rivers. As the mountains rose around it, the Nahanni cut steep canyons through the new mountain ranges and mainly retained its winding course. During the last glaciation, two ice sheets advanced along the Nahanni. The Cordilleran advanced from the W and the Laurentide from the E. The middle portions of the river managed to escape glaciation entirely and as a result features some of the oldest undisturbed landscape in Canada. Although it escaped the powerful scouring effects of the glaciers, the middle section of the river was not entirely unaffected. The Laurentide Ice Sheet blocked off the mouth of the river, causing the valley to fill up, twice forming the large glacial lake Nahanni.
UTM Zone 10N
UTM Zone 9N
6845000mN
6841000mN
6842000mN
655000mE
656000mE
270
275
280
285
290
Sunblood Range
Decent camping & fresh water on RR sandbar downstream of Last Chance Island
Last Chance Island
1000 m
800 m
600 m
1200 m
1400 m
6853000mN
6851000mN
▼ Map 12 ▼
© Roland Paris 2023
0
1
2 km
Map 13 of 25
Scale 1:50000
13

Virginia Falls

Portage RR

Stay on RR, where park kiosk & campground are located. Portage (1250 m; last section can be slippery) begins 300 m downstream from buildings, before the L turn in the river.

▲ Map 15 ▲

V. Falls campsite landing

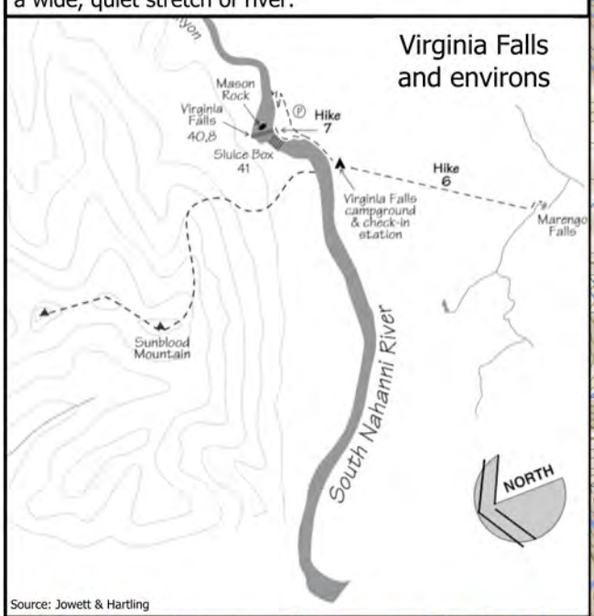
Sunblood Mountain

250

Hike to Marengo Falls

Compass or GPS required. 4-km (one way) hike. Leave Virginia Falls campground following compass bearing to Marengo Falls. Depart in a SW direction through terrain of hummocks, mossy spruce & muskeg interspersed with higher ridges of pine. A drier alternate route departs 1.5 km upstream of campground. If your bearing is reasonably accurate you will arrive at Marengo Falls, where Marengo Cr. cascades 30 m over limestone ledges. More likely you will reach the creek either up or downstream. Orient yourself by observing creek. Above the falls it meanders through a low grassy plain; below it flows somewhat faster through wide gravel bed. Marengo Falls coordinates: 61.5942, -125.8022; 61°35′39.12″N, 125°48′7.92″W; 10V 351312 6832174

Virginia Falls - one of the most spectacular waterfalls in Canada - drops 90 m, twice height of Niagara Falls. There are actually two falls, 91.5 and 55 m high, split in mid-channel by a massive rock. Upriver approach to the falls is a wide, quiet stretch of river.



255

Get firewood before arriving at falls.

Sunblood staff cabin

260

Horseshoe-shaped lake can be accessed via this creek. (Camping possible on lake.)

Hike up Sunblood Mt.

Trailhead is located directly across river from Virginia Falls campground. Travel upstream before ferrying to the other side of river for safe crossing. Hike NE through mature spruce forest until you reach open scree ridge & continue to the peak of Sunblood Mt. using sheep trails & open slopes. Careful on scree. Take plenty of water. 8 km one way.

Named by D.R. Kingston in 1950 because the rocks of the mountain contain primary pyrite which weathers to a red ferric oxide. When yellow rays of the setting sun fall upon the mountain, it looks like it has been dipped in blood.

265

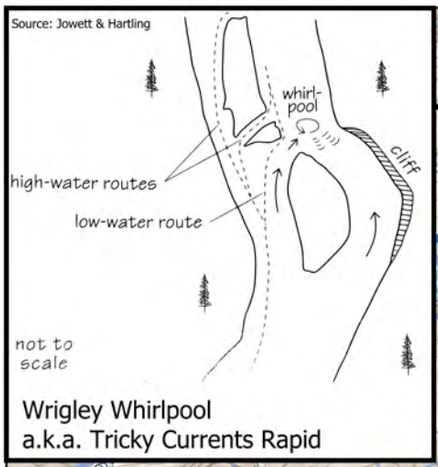
0 1 2 km

Map 14 of 25

1:46000

▼ Map 13 ▼

▲ Map 16 ▲



Wrigley Whirlpool
a.k.a. Tricky Currents Rapid

Direction Mountain

Flat River

Wrigley Whirlpool

Watch currents at Wrigley Cr. confluence.

Wrigley Creek

230

Figure 8 Rapid

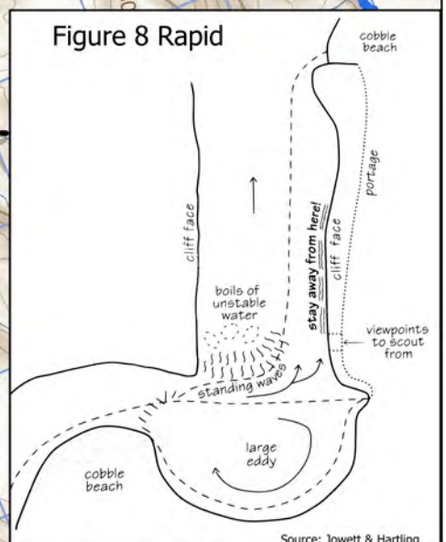


Figure 8 (Hell's Gate) Rapid used to be the most difficult rapid on the Nahanni. Changes in the river bottom have made it easier to navigate. However, conditions could change again, so exercise caution.

235

Clearwater Creek

False Canyon RI-II

240

Marango Creek

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0 1 2 km

Map 15 of 25

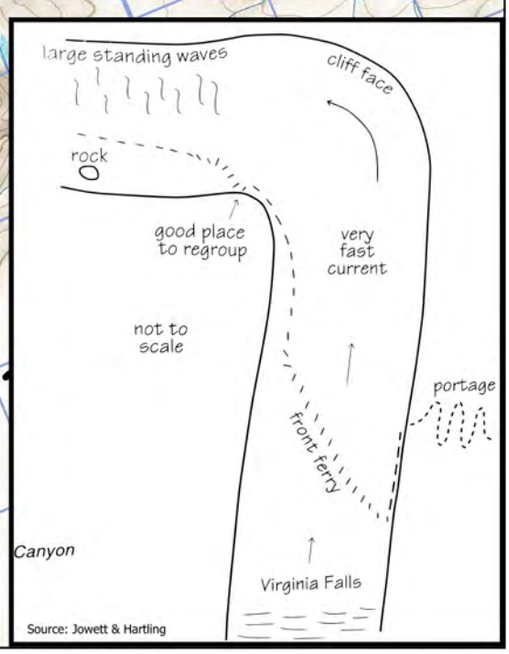
Scale 1:50000

Fourth Canyon

Just below Virginia Falls is the entrance to 4th Canyon, a several-mile-long gorge lined attractively with yellow and orange coloured vertical rock cliffs. The current here is very swift and turbulent with large standing waves. Rapids are almost continuous through the canyon (CI-III). These increase in difficulty at higher water levels. Fortunately, the gorge also contains several small beaches, where rest stops can safely be made. 4th Canyon ends at Marengo Creek, but the river remains rough until Clearwater Creek.

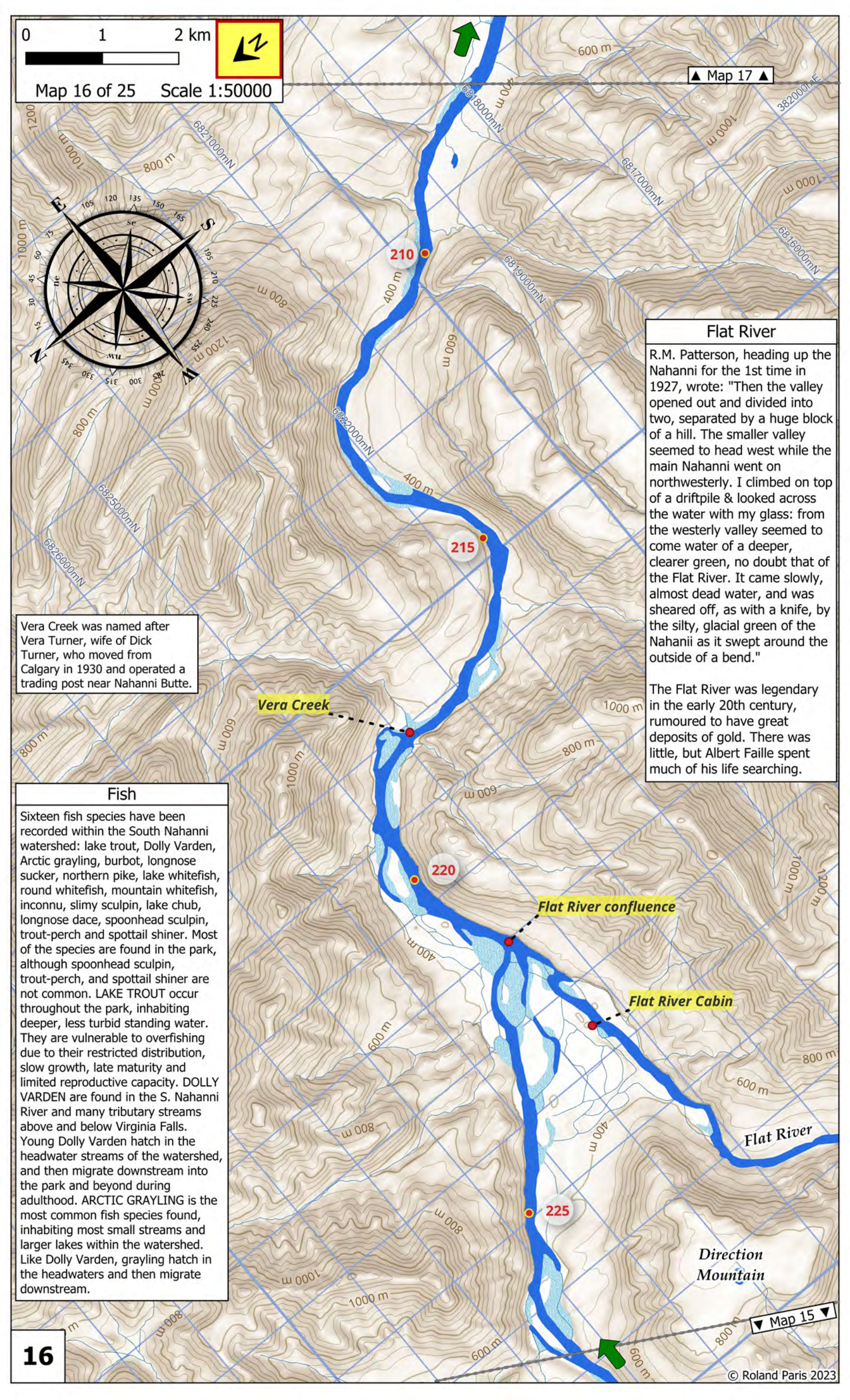
245

Fourth Canyon



▼ Map 14 ▼

Virginia Falls



Flat River

R.M. Patterson, heading up the Nahanni for the 1st time in 1927, wrote: "Then the valley opened out and divided into two, separated by a huge block of a hill. The smaller valley seemed to head west while the main Nahanni went on northwesterly. I climbed on top of a driftpile & looked across the water with my glass: from the westerly valley seemed to come water of a deeper, clearer green, no doubt that of the Flat River. It came slowly, almost dead water, and was sheared off, as with a knife, by the silty, glacial green of the Nahanii as it swept around the outside of a bend."

The Flat River was legendary in the early 20th century, rumoured to have great deposits of gold. There was little, but Albert Faille spent much of his life searching.

Vera Creek was named after Vera Turner, wife of Dick Turner, who moved from Calgary in 1930 and operated a trading post near Nahanni Butte.

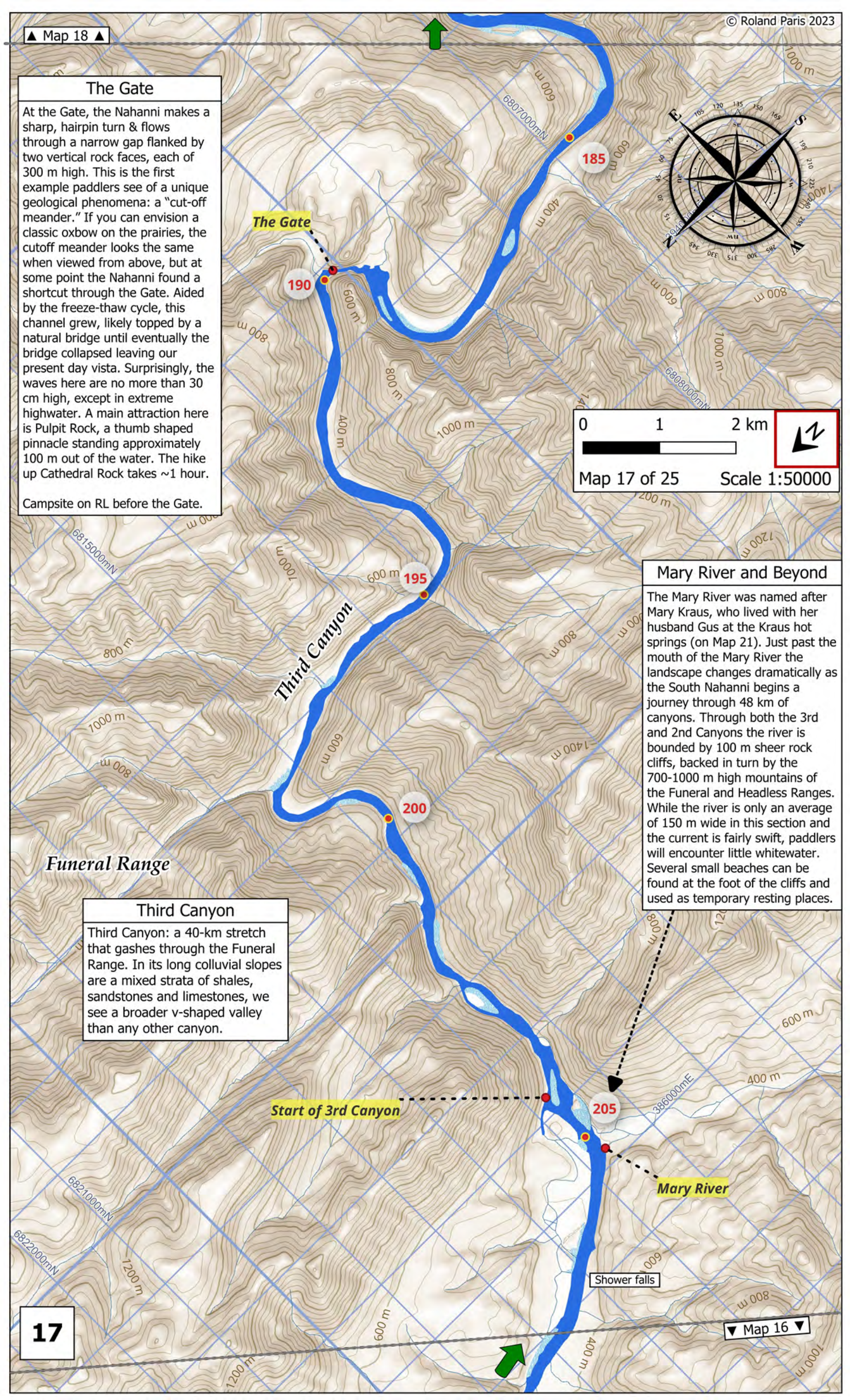
Fish

Sixteen fish species have been recorded within the South Nahanni watershed: lake trout, Dolly Varden, Arctic grayling, burbot, longnose sucker, northern pike, lake whitefish, round whitefish, mountain whitefish, inconnu, slimy sculpin, lake chub, longnose dace, spoonhead sculpin, trout-perch and spottail shiner. Most of the species are found in the park, although spoonhead sculpin, trout-perch, and spottail shiner are not common. LAKE TROUT occur throughout the park, inhabiting deeper, less turbid standing water. They are vulnerable to overfishing due to their restricted distribution, slow growth, late maturity and limited reproductive capacity. DOLLY VARDEN are found in the S. Nahanni River and many tributary streams above and below Virginia Falls. Young Dolly Varden hatch in the headwater streams of the watershed, and then migrate downstream into the park and beyond during adulthood. ARCTIC GRAYLING is the most common fish species found, inhabiting most small streams and larger lakes within the watershed. Like Dolly Varden, grayling hatch in the headwaters and then migrate downstream.

The Gate

At the Gate, the Nahanni makes a sharp, hairpin turn & flows through a narrow gap flanked by two vertical rock faces, each of 300 m high. This is the first example paddlers see of a unique geological phenomena: a "cut-off meander." If you can envision a classic oxbow on the prairies, the cutoff meander looks the same when viewed from above, but at some point the Nahanni found a shortcut through the Gate. Aided by the freeze-thaw cycle, this channel grew, likely topped by a natural bridge until eventually the bridge collapsed leaving our present day vista. Surprisingly, the waves here are no more than 30 cm high, except in extreme highwater. A main attraction here is Pulpit Rock, a thumb shaped pinnacle standing approximately 100 m out of the water. The hike up Cathedral Rock takes ~1 hour.

Campsite on RL before the Gate.



Mary River and Beyond

The Mary River was named after Mary Kraus, who lived with her husband Gus at the Kraus hot springs (on Map 21). Just past the mouth of the Mary River the landscape changes dramatically as the South Nahanni begins a journey through 48 km of canyons. Through both the 3rd and 2nd Canyons the river is bounded by 100 m sheer rock cliffs, backed in turn by the 700-1000 m high mountains of the Funeral and Headless Ranges. While the river is only an average of 150 m wide in this section and the current is fairly swift, paddlers will encounter little whitewater. Several small beaches can be found at the foot of the cliffs and used as temporary resting places.

Third Canyon

Third Canyon: a 40-km stretch that gashes through the Funeral Range. In its long colluvial slopes are a mixed strata of shales, sandstones and limestones, we see a broader v-shaped valley than any other canyon.

▼ Map 16 ▼

Great Spur

Top of Scow Cr. Hike

Headless Range

160

Scow Creek

Second Canyon

Start of 2nd Canyon

165

Big Bend campsite

Painted Rocks Canyon

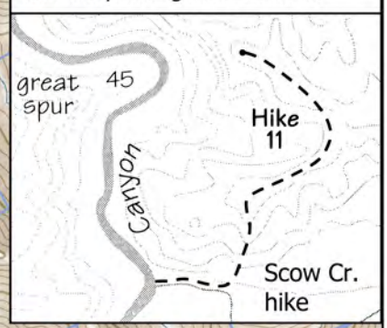
170

175

180

Scow Creek hike

6 km, 8hr round trip. Spectacular views of Deadman Vallley & 2nd Canyon from 1390 m summit. Farily strenuous; good footwear. Follow creek bed, staying R at 1st fork after 2 km. After a further 1.5 km, a smaller creek bed on L can be used, along with open ridges, to climb the range. (More gradual route: continue along the original channel that climbs a low saddle leading onto the range.) Once on top & above treeline, sheep trails lead NE along ridges through small plateaus of rock & stunted vegetation. Several small ledges & waterfalls in the creek beds must be climbed detoured around. Water availability varies depending on conditions.



Parks Canada has banned camping at Big Bend in the past due to bear activity. Check before trip.

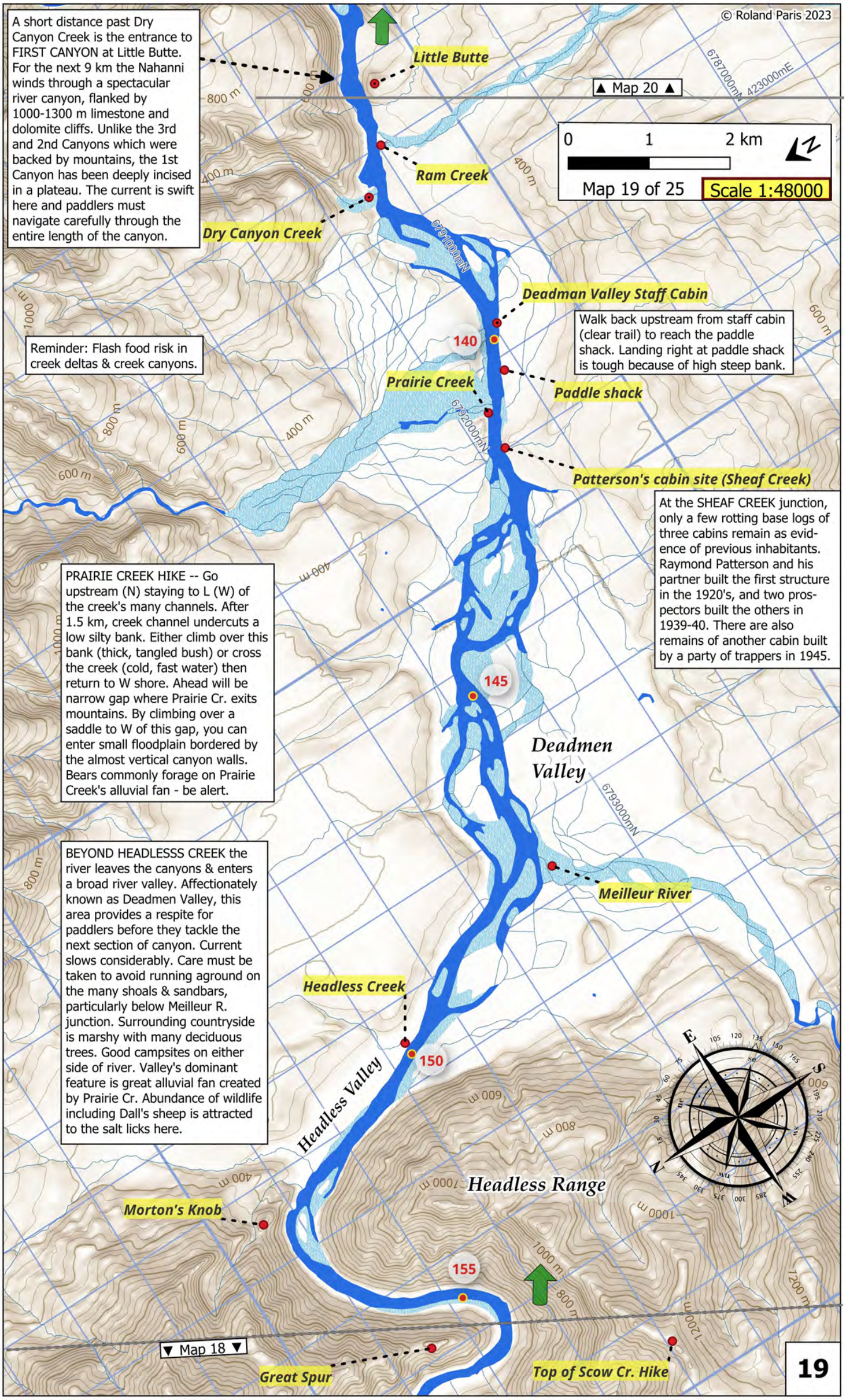
Painted Rocks Canyon

A short easy hike (5 km return) up canyon named for "pink" rocks lining the creekbed. Start from gravel bar a little downstream. On reaching the creek walk up either side of the canyon mouth (the S bank, though treed, cuts out two creek crossings). The canyon itself is generally stoney with remnant trails & innumerable creek crossings (wet feet). After about 2 km the canyon suddenly ends, revealing a wide valley & views of Funeral Range. Flood risk in canyon.

0 1 2 km

Map 18 of 25 Scale 1:50000

▼ Map 17 ▼


A short distance past Dry Canyon Creek is the entrance to FIRST CANYON at Little Butte. For the next 9 km the Nahanni winds through a spectacular river canyon, flanked by 1000-1300 m limestone and dolomite cliffs. Unlike the 3rd and 2nd Canyons which were backed by mountains, the 1st Canyon has been deeply incised in a plateau. The current is swift here and paddlers must navigate carefully through the entire length of the canyon.
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Little Butte
▲ Map 20 ▲
6787000mN
423000mE
0 1 2 km
Map 19 of 25
Scale 1:48000
Ram Creek
Dry Canyon Creek
6791000mN
Deadman Valley Staff Cabin
Walk back upstream from staff cabin (clear trail) to reach the paddle shack. Landing right at paddle shack is tough because of high steep bank.
Reminder: Flash food risk in creek deltas & creek canyons.
140
Prairie Creek
Paddle shack
6792000mN
Patterson's cabin site (Sheaf Creek)
At the SHEAF CREEK junction, only a few rotting base logs of three cabins remain as evidence of previous inhabitants. Raymond Patterson and his partner built the first structure in the 1920's, and two prospectors built the others in 1939-40. There are also remains of another cabin built by a party of trappers in 1945.
PRAIRIE CREEK HIKE -- Go upstream (N) staying to L (W) of the creek's many channels. After 1.5 km, creek channel undercuts a low silty bank. Either climb over this bank (thick, tangled bush) or cross the creek (cold, fast water) then return to W shore. Ahead will be narrow gap where Prairie Cr. exits mountains. By climbing over a saddle to W of this gap, you can enter small floodplain bordered by the almost vertical canyon walls. Bears commonly forage on Prairie Creek's alluvial fan - be alert.
145
Deadmen Valley
6793000mN
Meilleur River
BEYOND HEADLESSS CREEK the river leaves the canyons & enters a broad river valley. Affectionately known as Deadmen Valley, this area provides a respite for paddlers before they tackle the next section of canyon. Current slows considerably. Care must be taken to avoid running aground on the many shoals & sandbars, particularly below Meilleur R. junction. Surrounding countryside is marshy with many deciduous trees. Good campsites on either side of river. Valley's dominant feature is great alluvial fan created by Prairie Cr. Abundance of wildlife including Dall's sheep is attracted to the salt licks here.
Headless Creek
150
Headless Valley
Headless Range
Morton's Knob
155
▼ Map 18 ▼
Great Spur
Top of Scow Cr. Hike
19

▲ Map 21 ▲

Kraus Hotsprings

Lafferty Creek delta may be dry. Flood risk.

Lafferty Cr. campsite

LAFFERTY CR. HIKE -- Trail starts on L side of valley looking up from river. Note erratics & many caves. Gorgeous pools in slot canyon ~2km up creek. Some deep sections may require swimming. Flash flood risk.

Lafferty's Riffle

LAFFERTY'S RIFFLE consists of high standing waves on the right side of the channel, created by outwatch material from the creek. At all water levels, the waves can be skirted by running along the north/left shore.

Whitespray Spring

Crystal clear water. Fill containers.

115

Entrances to GROTTE VALERIE, now 450 m above river. (Park rules prohibit entering.)

Nahanni Plateau

R.M. Patterson called this Last Man Camp. He camped here often on his way up the canyon.

120

Cut-off old oxbow

0 1 2 km

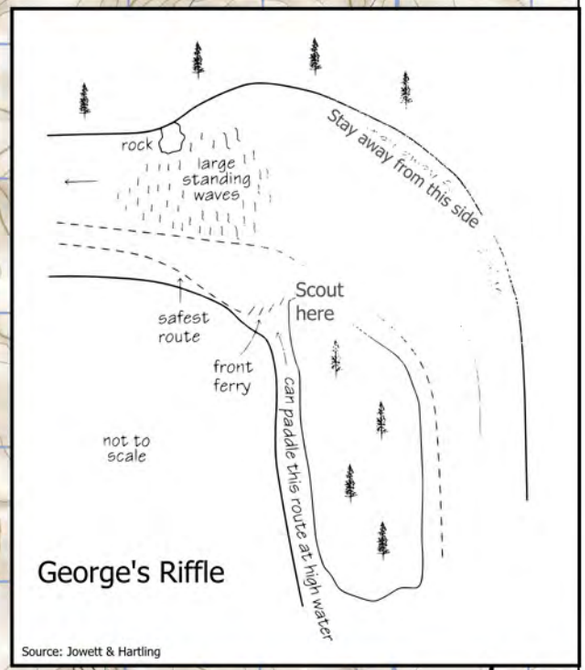
Map 20 of 25 Scale 1:50000

Patterson Creek

125

Cut-off old oxbow

First Canyon



130

430000mE

428000mE

First Canyon

George's Riffle

135

426000mE

▼ Map 19 ▼

Little Butte

20

Nahanni's FIRST CANYON, known for its limestone karst topography, was untouched by the scouring effects of the last continental ice sheets. The canyon walls now rise nearly 1 km above the river. Watch for entrances to caverns high up cliff walls, the best known being Grotte Valerie with its 2 km of galleries and home to the skeletal remains of more than 80 Dall's sheep. The caverns were part of a groundwater system below the level of the Nahanni at the time they were formed.

Knobs & Kettles

Knob & kettle formations below Yohin Ridge are from the melting of the Laurentide ice sheet. Knobs form when till accumulates on top of the ice and fills in depressions left by melted parts, eventually resulting in an elevated mound. Kettles are formed when ice becomes trapped under the till and then erodes downward. (Glaciers commonly drop chunks of ice known as dead ice while receding due to variable rates of glacial melt.) Dry kettles are known as kettle holes. Kettles that intercept the water table fill with water and are called kettle lakes.

▲ Map 22 ▲

Yohin Lake

Knob & kettle formations

6793000mN

6791000mN

6789000mN

6788000mN

6790000mN

400 m

600 m

800 m

1000 m

200 m

North Elbow

95

Yohin Ridge

100

105

110

449000mE

444000mE

Windy Creek

Clausen Creek

Kraus Hotsprings

0 1 2 km

Map 21 of 25 Scale 1:50000

Mooseskin Boats

In the late 1800s, the Mountain Dene of the Nahanni region who hadn't settled into permanent communities would travel down the Nahanni River each spring in mooseskin boats to trade the winter take of furs. These remarkable boats could be up to 20 m long. Constructed from 6-10 untanned moose hides sewn together and stretched over a spruce pole frame, these boats would transport entire families, their dogs and cargo of furs down the river during high water. Upon arrival the boat was dismantled and the hides traded along with the furs. Following a visit to the forts, these people would return to the high country with only what they could carry on their pack dogs. (See the 2019 NFB movie, "Nahanni: River of Forgiveness".)

Exiting First Canyon

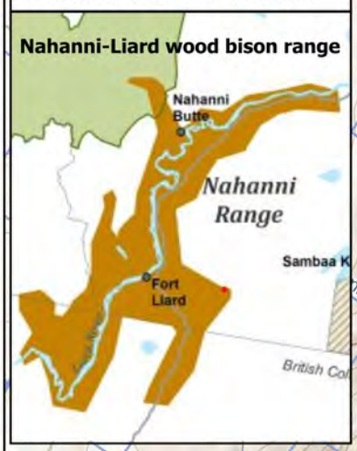
After 1st canyon, the river slows in its descent towards the Yohin Ridge.

Kraus Hot Springs

Although the spring water contains all the mineral components of tufa, the high level of hydrogen sulphide prevents tufa from forming. As the water surfaces, emitting odor of rotten eggs, the sulphur dissolves any tufa before it can be deposited. The hotsprings were named after Mary and Gus Kraus who resided there 1940-71. The only structure remaining is a small cabin which functioned as an outbuilding. Garden parsnip & a few other exotic plants grow in the area, a legacy from the Kraus' garden.

Wood Bison

Free-roaming populations of wood bison in the NWT occur in three areas: south of Great Slave Lake in Wood Buffalo Nat'l Park, north of the MacKenzie R., and in the Nahanni-Laird watershed. The Nahanni-Laird population was reintroduced to the area with the release of about 100 bison transferred from Elk Island Nat'l Park in 1980-89, and was estimated to be 960 in 2017.



▲ Map 23 ▲

70
75
80
85
90

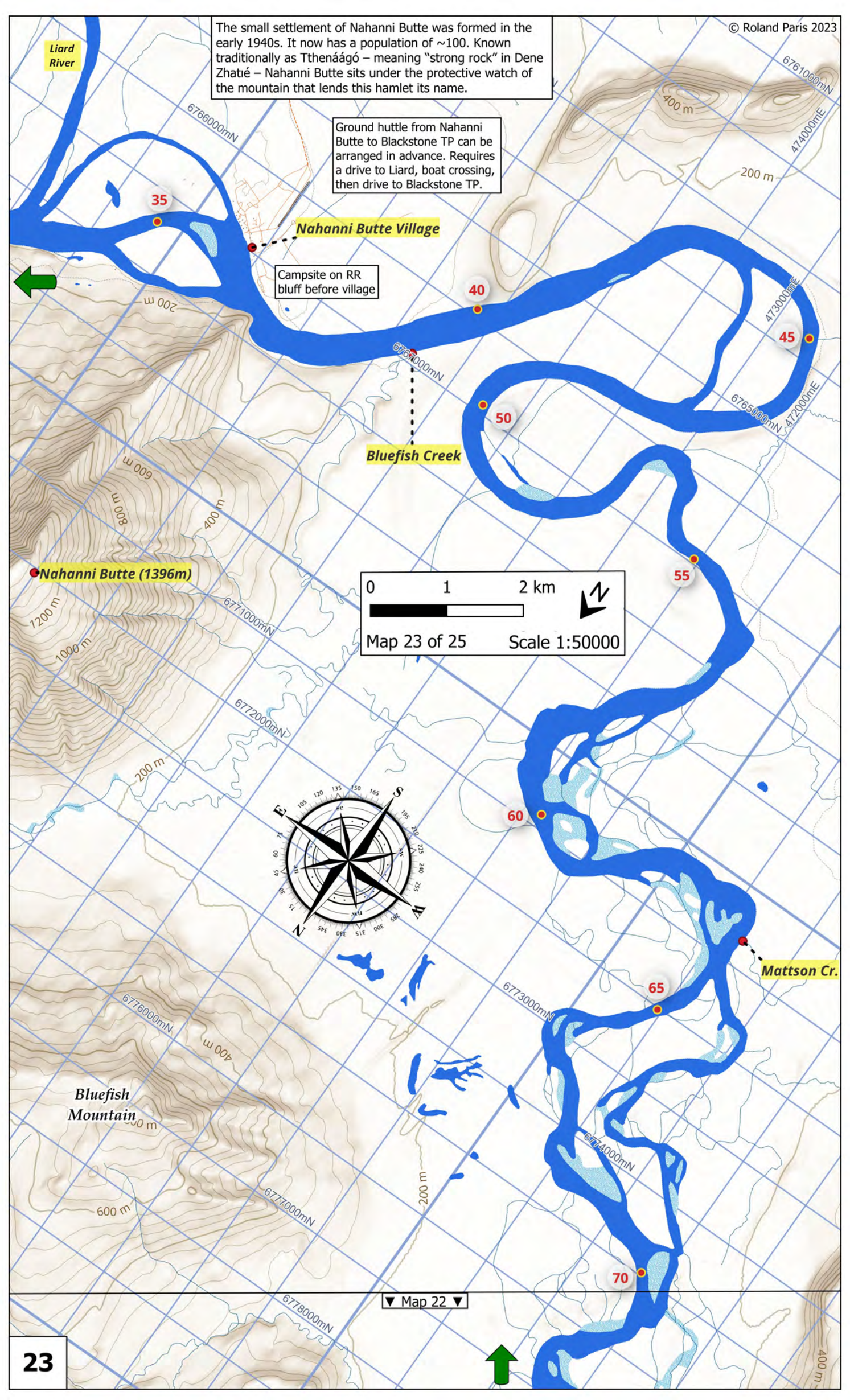
Overflow Creek
Terminal moraines of Laurentide Ice Sheet
Jackfish Creek
Splits campsite?
Mattson Mt.
Nahanni Park boundary sign
Twisted Mountain
The Splits
Fishtrap Creek
Yohin Lake
Yohin Ridge

470000mE 468000mE 467000mE 465000mE 464000mE 463000mE
6774000mN 6776000mN 6777000mN 6779000mN 6783000mN 6784000mN 6786000mN 6787000mN 6788000mN 6789000mN 6791000mN 6792000mN 6793000mN
200 m 400 m 600 m 800 m 1000 m 1200 m

0 1 2 km

Map 22 of 25 Scale 1:50000

▼ Map 21 ▼


The small settlement of Nahanni Butte was formed in the early 1940s. It now has a population of ~100. Known traditionally as Tthenáágó – meaning "strong rock" in Dene Zhatıé – Nahanni Butte sits under the protective watch of the mountain that lends this hamlet its name.
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Liard River
Ground huttle from Nahanni Butte to Blackstone TP can be arranged in advance. Requires a drive to Liard, boat crossing, then drive to Blackstone TP.
Nahanni Butte Village
Campsite on RR bluff before village
Bluefish Creek
Nahanni Butte (1396m)
Mattson Cr.
Bluefish Mountain
35
40
45
50
55
60
65
70
6766000mN
6767000mN
6771000mN
6772000mN
6773000mN
6774000mN
6776000mN
6777000mN
6778000mN
6761000mN
6765000mN
474000mE
473000mE
472000mE
400 m
200 m
600 m
800 m
1200 m
1000 m
0 1 2 km
Map 23 of 25
Scale 1:50000
▼ Map 22 ▼
23

Liard River

The Upper Liard is the traditional territory of the Kaska people, while the Lower Liard is the traditional territory of the South Slavey. The Kaska & Slavey led nomadic lifestyles, hunting, trapping, fishing and travelling in small family groups. Their movements were dependent on the availability of food sources & trade between neighbouring Aboriginal peoples.

Alexander Mackenzie journeyed to the confluence of the Mackenzie & Liard rivers in 1789. A fur trade post was established there—now Fort Simpson—in 1804, prompting European exploration of the Liard. Trading posts were soon set up along the lower Laird at Fort Liard & Nahanni Butte. The Lower Liard was explored for potential fur trade expansion between 1824 & 1829, but it wasn't until John McLeod's 1831 expedition that the Upper Liard was explored by Europeans. McLeod led his expedition along the treacherous rapids & canyons of the Upper Liard to the headwaters of the Frances River. He repeated this expedition in 1834 to the headwaters of the Dease R. The Upper Liard was further explored by Robert Campbell in 1837–39 in a push to find an overland route to the Stikine River.

The Liard River was used a route to the Yukon interior during the Klondike Gold Rush from 1897–99. In 1942 the Alaska Highway was built alongside the Liard River from the Trout R. to Watson L. This construction spurred the development of Liard Hot Springs, which remains a popular stop for travelers along the Alaska Highway. (Canadian Encyclopedia)

24

20

25

30

35

Swan Point

Liard River

Nahanni Butte (1396m)

Nahanni Butte Village

Bluefish Creek

▲ Map 25 ▲

▼ Map 23 ▼

▼ Map 23 ▼

6771000mN

6772000mN

6773000mN

6769000mN

6766000mN

6765000mN

488000mE

487000mE

485000mE

484000mE

483000mE

482000mE

481000mE

0 1 2 km

Map 24 of 25 Scale 1:50400

1000 m

800 m

400 m

600 m

200 m

1200 m

Nahanni Butte mountain forms part of the "Nahanni Range," the first prominent mountain ridge west of the Mackenzie and Liard Rivers. It is dominated by a long (125 km) and narrow (5-10 km) limestone and dolomite ridge with a N-S orientation that tilts steeply up to the east, reaching maximum elevations of ~1550 mASL.

Remember to de-register your trip by stopping at the Parks Canada office during office hours or by calling the Reception Desk at 867-695- 7750. If you fail to de-register within 48 hours of your intended end date, Parks Canada may begin a search & rescue response.


0 1 2 km
Map 25 of 25 Scale 1:50000
Fort Simpson 165 km
Fort Liard 103 km
End - Blackstone TP
Lindburg's Landing
Blackstone R.
Grainger River
Swan Point
7
5
10
15
20
200 m
6778000mN
6776000mN
6775000mN
6773000mN
6772000mN
6771000mN
6769000mN
6768000mN
502000mE
500000mE
499000mE
498000mE
496000mE
495000mE
494000mE
493000mE
Taiga Plains
The Taiga Plains are an area of low-lying plains centred on Canada's largest river, the Mackenzie, and its many tributaries. Here we are in the South Mackenzie Plain Mid-Boreal subregion of the Plains, a level to gently undulating lacustrine plain, most of which was flooded by glacial Lake McConnell. About half of this Ecoregion is wet and poorly-drained. The dominant vegetation type is black spruce with an understory of common Labrador tea and feather-mosses on very moist to wet, poorly-drained sites. Upland sites having relatively good drainage support mixed trembling aspen–white spruce–jack pine stands with green alder, prickly rose, Canada buffaloberry and low-bush cranberry understories. Jack pine stands with an understory of green alder, prickly rose and lichen develop on coarse-textured eolian and glacio-fluvial deposits. Northern ribbed fens and horizontal fens has developed in wet depressions, and coniferous or mixed-wood stands on slightly higher uplands. Black spruce–lichen–cloudberry stands associated with peat plateaus are present throughout the Ecoregion but cover a relatively small proportion of its area. (Source: Gov't of NWT, Ecological Regions of the NWT, 2009.)
25
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Credits

Map data and layers

- Maps created with QGIS (3.28.0-Firenze) open-source software, https://qgis.org
- Map layers: CanVec Series, Natural Resources Canada, https://open.canada.ca/data/en/dataset/8ba2aa2a-7bb9-4448-b4d7-f164409fe056
- Projection: EPSG:3978-NAD83 Canada Atlas Lambert
- Plugins:
    - QChainage, https://plugins.qgis.org/plugins/qchainage/
    - ProjectUTM, https://plugins.qgis.org/plugins/qgis-project-as-utm/
    - MGRS Tools, https://plugins.qgis.org/plugins/mgrs/

Documents

- Peter Jowett and Neil Harting, *Nahanni River Guide*, 2003
- R.M. Patterson, *The Dangerous River: Adventure on the Nahanni*, 1954
- Parks Canada publications and websites, including:
    - Broken Skull River Planner
    - South Nahanni River Touring Guide
    - Hiking in Nahanni National Park Reserve
    - Nááts'įhch'oh National Park Reserve Bird Species Checklist, 2016
    - Nááts'įhch'oh National Park Reserve Management Plan, 2017
- Articles by D.C. Ford (Department of Geology, McMaster University), including:
    - "Evidences of multiple glaciation in South Nahanni National Park, Mackenzie Mountains, Northwest Territories," *Canadian Journal of Earth Sciences*, 1976
    - "The Many Landscapes of South Nahanni National Park," in Olav Slaymaker, *Landscapes and Landforms of Western Canada*, 2017
    - "Development of the Canyons of the South Nahanni River, N.W.T.", *Canadian Journal of Earth Sciences*, 2011
- R.A. Kendall and P.T. Giles, "Satellite image analysis of changes in glacier cover in Canada's northern Mackenzie Mountain Range (1987–2017)," *The Canadian Geographer*, 2019
- Northwest Territories websites
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- Outfitter websites: Blackfeather, Nahanni River Adventures
- Other sources noted on maps

First-hand observation and trip reports

- David Robinson
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- Katie Paris
- Suzanne Gates
- Erwin Ellen
- Robert James
- Cathy Rogers
- Rod Rogers
- Sara Gartlan
- Terry Brayman
- Matt Walker
- Gary Ataman

Warning

- Information on these maps may be inaccurate. Use at your own risk.

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