

JOURNEY DOWN THE TATSHENSHINI

*Rafting through one of the wildest,
remotest corners of British Columbia*

By Bruce Obee with photos by Mike Beedell

D*warfed by the sheer walls of the Tatshenshini River canyon, a group of rafters floats through the "Tat" — a 9,300-square-kilometre wilderness in the northwest corner of British Columbia.*

A coalition of environmental groups wants the area designated as a wilderness preserve to protect it from mining and other development.







LEFT: after looping around the Squaw Range on the Yukon border, the Tatshenshini River cuts through British Columbia and then joins the Alsek River on its way through the Alaska Panhandle to the Pacific. The spectacular scenery and abundant wildlife in this pristine watershed lure rafters (BELOW) and hikers (RIGHT) in search of a true wilderness adventure.

MY ACHING legs and beaded brow seem such paltry complaints now as we stand on the alpine tundra in the midst of the St. Elias Mountains. Far below, where our four-hour climb began, we can see the broad alluvial fan at the mouth of Sediments Creek where it meets the granite-grey waters of the Tatshenshini River. From up here, at 1,700 metres, we trace our course down the river as it flows from the Yukon into the extreme northwest corner of British Columbia.



We look across to the summits of the Squaw and Datlasaka ranges, west of the Coast Mountains' rainy foothills. Behind us, the rocky spires of the Alsek Ranges poke through the glacial ice. Downstream, the Tatshenshini vanishes into the heart of the St. Elias Mountains — Canada's highest mountain range — to join the larger Alsek River and cross into coastal Alaska.

The wildflowers of the tundra — white mountain heather, delicate blue forget-me-nots, marsh marigolds and many more — cringe from frigid winds on stunted stems. They defy the inhospitable climate in which they thrive, bursting into bloom to continue their perennial cycle in the short northern summer.

This is a land untainted by the industrial ambitions of humankind, an unequivocal definition of wilderness. We have been on the river for four days, 25 travellers in four rafts. While we scan the scree and meadows for mountain goats and grizzlies, we sense that wilderness is not only a place, but a state of mind. Like my companions, I have travelled on other continents, yet here in this remote corner of my home province I have never felt so far from home. Gazing across this staggering panorama, we wonder how long this land will escape industrialization. Before the middle of this decade, this vista could include dust rising from a riverside road and airplanes shuttling workers in and out of

the province's largest copper mine.

The sun that reddened our faces throughout the day is now obscured by bands of cloud scudding up the Tatshenshini Valley. An agreeable red fox pup that posed for us all afternoon retreats to its den, and we begin the trek down a game trail toward camp.

Intending to have a bath, I confront the chilling river with timidity and foolishly thrust in a thermometer: it is 10° C. By the time my knees are wet, both my feet are numbed. I can go no farther. Wincing, I dunk my head in and quickly sponge off while two braver bathers strut to the riverbank, strip and dive in.

I dip a toothbrush in the river and scratch my teeth with water coarsened by rock flour, a fine sediment that feels like sandpaper and tastes like dirt. This grit, produced by the grinding action of glaciers, is pervasive: it is in the drinking and washing water, in the tea and coffee. It grinds down tent zippers and creeps inside sleeping bags and cameras. It turns the major streams in the watershed a muddy grey and discolours the ocean 15 kilometres out to sea, off the Alsek River's estuary.

Before breaking camp at Sediments Creek we run over the day's itinerary with Sebastian Wade, our expedition leader. We became accustomed to his stream-side talks early in the trip when he detailed the horrors of falling overboard in the raging rapids of Tatshenshini canyon. Remember to float on your back with your feet pointing downstream to bounce off boulders, he said. If you hit a logjam, throw your upper body over the top to avoid getting sucked under. If the boatman yells, "High side!" jump to the upper side of the raft to prevent it from capsizing. If you go overboard and don't drown, grope your way out of the water before hypothermia kills you. "And don't forget to have a good time," he added with a grin.

As it turned out, we had the good time



Art Wolfe

BELOW: naturalist Alison Watt quenches her thirst from a stream flowing through an alpine meadow in the St. Elias Mountains. During the short summers, a profusion of wildflowers — such as pink broad-leaved willow herb and Indian paintbrush (RIGHT) — bursts into bloom.





without the horrors — an exhilarating 45-minute rush through a winding, sheer-sided gorge. Rated at grades 3 and 4 on an international white-water scale up to 6, the river boils through at more than 375 cubic metres a second, creating whirlpools, standing waves and currents known to dash rafts and kayaks against rock walls. Drenched, we emerged from the canyon with thumping hearts, humbled by the power of the river and the forces that shape this rugged landscape.

“Look at that,” whispers Dave Laird, one of our four guides, as he points to a big silvery cow moose and two calves clomping along the river bank. Startled by our activity, they quietly slip into the bush. We record them on our wildlife list along with five mountain goats, one grizzly, a red fox, arctic ground squirrels and a variety of birds including ospreys and common mergansers. Especially noticeable are bald eagles: flocks of half a dozen or more come to fish for sockeye, the most plentiful of the five Pacific salmon species that spawn in this river system. Many will move about 80 kilometres southeast of here in autumn when more than 3,000 bald eagles — the largest concentration in the world — congregate along Alaska’s Chilkat River.

It is a leisurely four-hour drift to the O’Connor River, where we plan to meet a research team studying the Tatshenshini–Alsek watershed. Funded largely by the Canadian Wildlife Federation, the Sierra Club of Canada is co-ordinating the work, examining how large-scale mining would affect the area’s ecosystem.

Geddes Resources Ltd. of Vancouver plans to blast away the 1,828-metre summit of Windy Craggy Mountain to get at more than three million tonnes of copper locked inside. The company says the copper, along with 400,000 ounces of gold and 6.5 million ounces of silver, is worth \$7.8 billion. It expects 500 workers would extract 30,000 tonnes of copper concentrate each day for 20 years from the underground and open-pit mines.

Tom Schroeter, senior regional geologist for B.C.’s Geological Survey Branch, describes the Tatshenshini ore

deposits as “world-class in size and dollar value.” He compares the potential with the Sullivan Mine in southeastern British Columbia, where Cominco Ltd. has been continuously extracting lead, zinc and silver since 1909, employing 2,500 workers at times. Cominco, which owns 20 percent of Geddes stock, will close the Sullivan Mine in the year 2000.

Last summer Schroeter’s branch conducted a major mapping program in the Tatshenshini. “There’s no question from what we’ve seen on paper and in the field that there is potential for very long-term developments there,” he says. “It could be the pillar not only of the B.C. mining industry, but also of the economy of British Columbia.”

Many miners agree that Windy Craggy Mountain could be the industry’s long-awaited godsend. Nearly 2,400 people have been laid off with the closure of five mines in British Columbia since 1990. The B.C. Mining Association predicts unemployment for another 4,000 with the shutdown of at least eight more mines before the end of the decade.

The proposed mine site lies in a 190-square-kilometre property near Tats Lake, the headwaters of Tats Creek, which joins the Tatshenshini about 18 kilometres upstream from the Alsek River. Copper concentrate and fuel would be transported through buried pipelines between the mine and the port of Haines, Alaska. Sup-



LEFT: amid North America’s highest peaks, Sierra Club researchers set up camp overlooking a glacier in the St. Elias Mountains. The club is co-ordinating a survey of flora and fauna in the Tatshenshini region. Ecologist Darwin Monita (ABOVE) takes stock of the water quality and aquatic life in tributaries that could be affected by acidic drainage and heavy metals from a proposed copper mine.



Tom Schroeter

plies would be trucked from the Haines Highway on a 100-kilometre road running through the mountains, along the lower O'Connor and Tatshenshini rivers, then up Tats Creek, crossing 11 bridges.

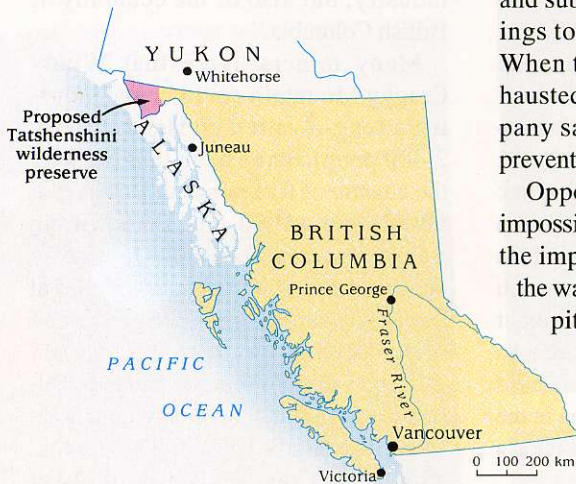
But environmentalists are concerned that acid-rock drainage from the mine, caused by the exposure of sulphur-bearing rock to oxygen in the air, will harm the rivers in the Tatshenshini watershed. Once acid-rock drainage begins, metals such as zinc, lead, copper and cadmium could leach into water courses for centuries, poisoning fish, invertebrates and other river life. To solve the problem, Geddes plans to build an impoundment and submerge the sulphur-bearing tailings to prevent them from oxidizing. When the deposits are eventually exhausted and the mine closed, the company says it will flood the open pit to prevent acid-rock drainage.

Opponents argue it will be virtually impossible to maintain the water level in the impoundment high enough to keep the waste rock and exposed walls of the pit permanently submerged. They also question the stability of the proposed dams since the area lies in Canada's most earthquake-prone region. Sev-

eral quakes here have measured more than eight on the Richter scale, causing nearby glaciers to advance several metres and generating tsunamis that have travelled as far as Antarctica.

Also among the sceptics are at least 100 Alaskan fishermen who fish the Alsek River estuary near Dry Bay. Gordie Woods of Alaska's Department of Fish and Game says some fishermen think acid-rock drainage could wipe out the Alsek and Tatshenshini fish runs forever. Others believe the fish that survive would be contaminated by heavy metals. The mine could also affect subsistence fishing by Indians in the Yukon who set weirs in the Klukshu River, a tributary of the Tatshenshini. Members of the Champagne-Aishihik band who fish the Klukshu have filed a land claim for the area.

In 1990, Geddes Resources began an approvals procedure under the British Columbia Mine Development Assessment Act to determine the potential environmental, economic and social impacts of the mine. The assessment came to a standstill in the midst of a provincial election campaign in the fall of 1991. Then last July, the newly elected NDP government put the issue in the hands of a commission on resources and the envi-



Steven Fick/Canadian Geographic



Kevin Schafer

ronment. Commissioner Stephen Owen, B.C.'s former ombudsman, is expected to deliver a report to the B.C. cabinet in the fall of 1993, recommending the appropriate use for the lands in the Tatshenshini-Alsek and other environmentally contentious areas of the province.

Uncertainty over approval of the mine has been hard on Geddes, a small company in need of \$550 million to get the project off the ground. The value of Geddes stock has dropped 45 percent in the past four years and now Northgate, a gold-mining company that owns 40 percent of Geddes stock, wants to sell its share of the company.

Geddes president Keith Somerville remains optimistic, though. There is strong support from many northern B.C. residents, he says, as well as from such notable northerners as Alaska Governor Walter Hickel. Somerville admits, however, that the company did not expect such a "formidable" environmental lobby against the mine.

Geddes had barely begun its pitch to the British Columbia government when Tatshenshini Wild, an alliance of three million North American conservationists, launched a vigorous campaign to keep the miners out. American Rivers, a conservation society in Washington, D.C., declared the Tatshenshini the wildest river on the continent and the second most endangered, after the Colorado. The National Audubon Society offered its support, describing the area as "one of the grandest and most unique places of North America."

Much of the Tatshenshini-Alsek watershed, colloquially dubbed the "Tat," lies within a 9,300-square-kilometre outback known as the Haines Triangle. On a map it appears as an inverted triangle jutting into the Alaska panhandle. It is bounded by the Haines Highway to the east and the Yukon border to the north. In the south it encompasses Fairweather Mountain and the head of Tarr Inlet, in the upper reaches of

Geddes Resources of Vancouver has applied for approval to operate open-pit and underground mines on Windy Craggy Mountain (ABOVE) to extract deposits of copper, gold and silver it estimates are worth \$7.8 billion. The proposed mine, which would employ 500 miners for 20 years, is one of 200 active mineral titles in the Tatshenshini wilderness.



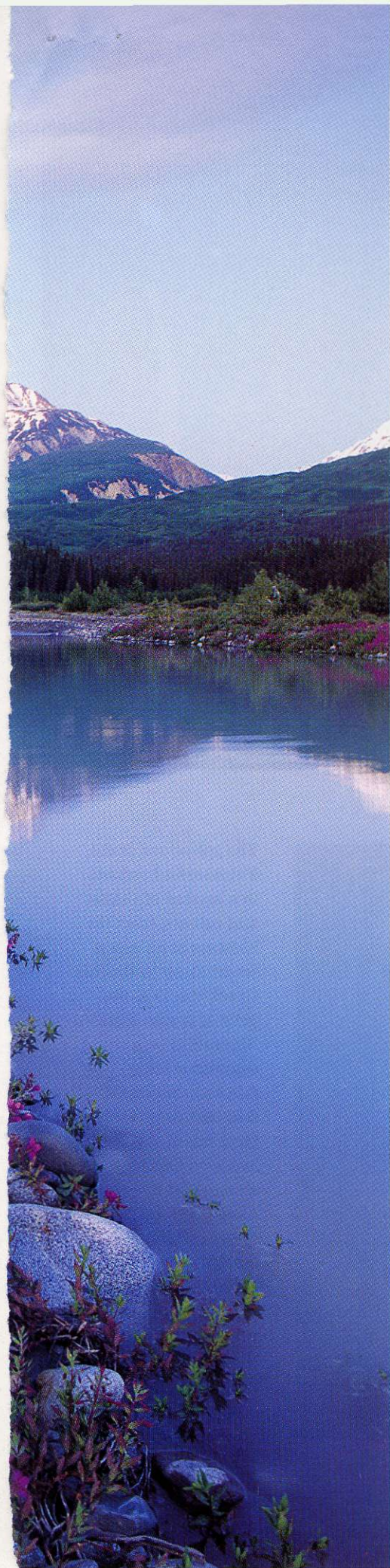
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Bob Heger/Image Finders

Grizzly tracks (ABOVE) and sightings have confirmed that the Tatshenshini–Alsek watershed supports a healthy bear population. The area is also home to glacier bears (TOP), a rare colour phase of the black bear, which have been seen along the Tatshenshini River and its tributaries (RIGHT).





Alaska's Glacier Bay.

This triangle is a political incongruity, a slice of unprotected wilderness virtually surrounded by parks and reserves. They include the Yukon's Klugane National Park to the north — a UNESCO World Heritage Site encompassing 22,015 square kilometres — and Alaska's Wrangell-St. Elias and Glacier Bay national parks to the northwest and south, totalling nearly 58,000 square kilometres.

Conservationists say all of the Haines Triangle should be joined to surrounding parklands to create a contiguous undisturbed wilderness of 90,000 square kilometres — the largest in the world. Approving the mine would destroy one of the world's last opportunities for wilderness preservation on such a grand scale.

"Until we have it set aside as a protected area with very stringent guidelines for management and for any development, we can't stop; we can't let our guard down," says Heather Hamilton of the Sierra Club. She emphasizes that the Geddes project could be the first of several. The company holds only 70 of more than 200 active mineral titles in the area. Other claim holders, such as Archer Cathro Ltd. and Noranda Inc., are watching the Windy Craggy issue with vested interest.

"Mining would be the beginning of the end of the Tat as we know it," says wildlife biologist Dr. Bristol Foster. "A road is a major access. Once it's there, there is no turning back," he adds, saying a road would pave the way for more big-game hunters, poachers and industry. As British Columbia's first co-ordinator of ecological reserves, Foster was instrumental in the preservation of more than 100 natural areas during the 1970s and '80s. He spent part of last summer studying the biodiversity of small mammals and birds in the Tatshenshini.

"Considering that we were almost 60 degrees north, it's an amazingly rich spot," says Foster. Among the Tat's 180 bird species are arctic terns, parasitic jaegers, sandhill cranes, ptarmigan, pere-



Art Wolfe

grine falcons, king eiders and trumpeter swans. At least 50 species of mammals inhabit the region, including Dall sheep, wolverines, beavers, coyotes, porcupines, marmots, bats, shrews and lemmings.

Foster shared his campsites here with another prominent researcher, Dr. Stephen Herrero, a profes-

sor of environmental science and biology at the University of Calgary. A specialist in mammalian carnivores, Herrero says suitable denning sites, abundant prey, berries and vegetation make the Tatshenshini-Alsek watershed prime grizzly habitat, possibly supporting a healthy density of one bear for every 20 square kilometres.

The Tat is also believed to be home to Canada's only glacier bears, a rare smokey-blue colour phase of the black-bear species. Though they are seen regularly in Alaska, there have been fewer than a dozen verified sightings in this corner of B.C. and the Yukon. These bears, as well as black bears and grizzlies, appear to disperse along the Alsek and Tatshenshini rivers, both important



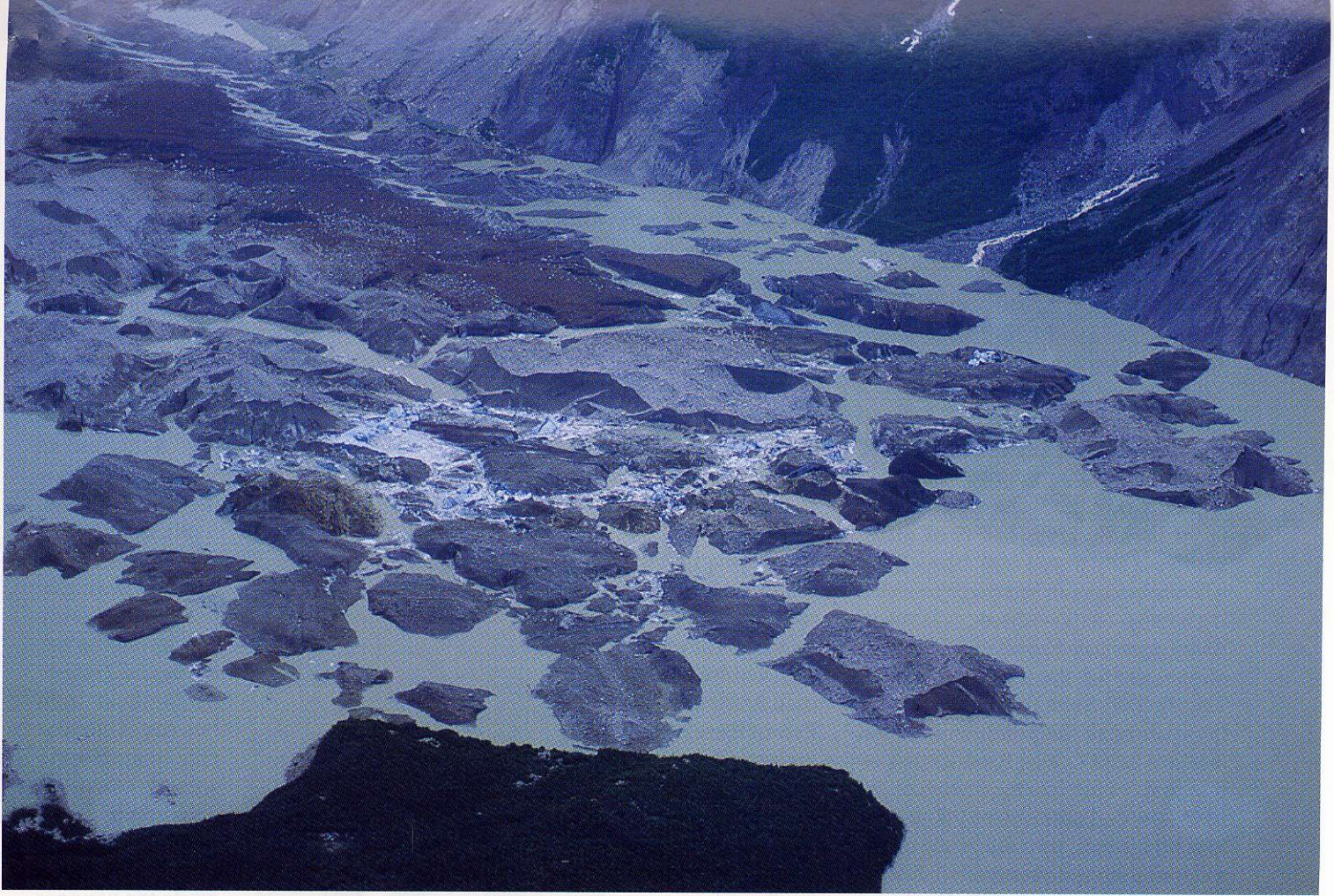
ABOVE: a research team headed by biologist Stephen Herrero (second from right) scans the southern slopes of the Noisy Range for bears. Abundant prey, vegetation and denning sites make the "Tat" ideal habitat for grizzlies. The area is also a haven for 180 bird species, including the majestic bald eagle (TOP).



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The splendour of the Tatshenshini unfolds in a myriad of shapes and colours, from the lushness of an aspen forest along Sediments Creek (LEFT) to the glow of the St. Elias Mountains on a summer evening (ABOVE). Sediment from the submerged terminus of the Melbern Glacier lends a turquoise hue to Melt Creek (ABOVE RIGHT), while a tenacious roseroot thrives in a crevice between rocks covered with gold lichens (RIGHT).



wildlife travel corridors linking the coast with the interior. It is likely that bears from the coast are genetically related to those from Kluane and other parts of the interior, says Herrero.

From its headwaters in the Kluane Ranges, the Alsek runs 370 kilometres down to Dry Bay, Alaska. The Tatshenshini flows a total of 193 kilometres from the western foothills of the Coast Mountains to its confluence with the Alsek. For wild animals these rivers and myriad tributaries provide access to a drainage area of more than 32,000 square kilometres.

Herrero says roads and bridges would upset the migratory habits of many species. They would also dampen the wilderness sensation enjoyed by a growing number of river rafters, says Ethan Askey, a graduate student studying recreational use of the Tatshenshini for Tourism B.C. Sitting outside his tent on the river bank, he points toward the mouth of the O'Connor River. Rafters — four or five days into the rhythm of the river — would drift under a 200-metre-long bridge here, then follow the trucks and traffic along a streamside industrial road for 25 kilometres to Tats Creek.

"You're just shedding your psychological baggage, your work, the Dow Jones industrial ... then boom! ... you're right in the middle of this road, this pipeline, this industrial development." Askey disagrees with suggestions that wilderness tourists have already diminished the pristine characteristics of the watershed. "Look around you," he says, gesturing over a field of flaming pink fireweed. "The rafters aren't leaving any impacts that we can see."

Journey's end for Tatshenshini travellers is Dry Bay in Glacier Bay National Park, where Alaskans control the number of rafters by restricting landings to a maximum of 72 a year. With group sizes limited to 25, the idea is to keep launchings down to one a day, allowing no more than 1,800 people a year to float the Tatshenshini. Last year, 795 passengers on 47 commercial trips and 252 on 24 private journeys rafted the Tat.

Johnny Mikes, owner-operator of Canadian River Expeditions, has been running trips on the Tat since 1977. A

seasoned international river rafter, he describes the Tatshenshini as "certainly the best we have in Canada, arguably the best in the world." If the area was industrialized, however, he would pull out. "I really couldn't sell it as a top-notch wilderness experience. I would walk away from doing Tatshenshini trips."

Downstream from O'Connor River, where we cross the Alsek Ranges, there is an overwhelming sense of grandeur as we are enveloped by the St. Elias Mountains. These are the highest in North America with 20 summits cresting above 4,200 metres, including Mount Logan, Canada's tallest at 5,959 metres. Another 20 peaks stand above 3,600 metres, and hundreds exceed 3,000 metres. Few of these peaks are named: it is, as Yukon poet Robert Service wrote, "a land where the mountains are nameless."

This is a region of extremes and superlatives. Fairweather Mountain, B.C.'s highest, is 65 kilometres to the south. Less than 30 kilometres inland, it rises to 4,663 metres.

There is a hint of coastal lushness as we move toward the seaward side of the St. Elias Mountains. The climatic differences between east and west here are profound: precipitation on the western slopes is at least 12 times as high as in the interior. Seasonal changes are equally extreme: the summer sun that warms the land to 30° C and illuminates our camp at 3 a.m. stays below the horizon in the dead of winter when temperatures fall to -40° C.

By the time we near the Alsek, it seems that the scenery could not possibly get more dramatic but, unbelievably, it does: above the Tatshenshini-Alsek confluence we count no fewer than 14 glaciers pointing like twisted fingers into the valleys. They are among 350 glaciers that

feed the Tatshenshini basin, part of the largest non-polar ice cap on the planet.

The glaciers, some more than 600 metres thick, are remnants of the great ice sheets that covered much of coastal Alaska and the continental shelf 10,000 to 15,000 years ago, when they began to melt. There have since been periodic advancements and retreats. When Capt. George Vancouver charted this coast in 1794 he found the mouth of Glacier Bay blocked by "an immense body of compact perpendicular ice." By the end of the 19th century it had receded 65 kilometres up the bay.

We camp at the confluence of the Alsek for two nights and spend a rainy day drying our wet socks and T-shirts by the heat from our fire. One woman sketches the scenery; others update their journals. The old-timers swap war stories while the younger generation sings old Beatles songs, accompanied by a twangy guitar, recorder and harmonica.

Swollen by the Tat, its major trib-



Rafters on Alsek Lake row alongside an iceberg calved from centuries-old glacial ice (ABOVE RIGHT). Some 350 glaciers, comprising the largest non-polar ice cap in the world, feed the Tatshenshini basin. Walker Glacier's steep, serrated terminus (RIGHT) — caused by the ice suddenly surging forward — looms above its broad outwash plain. Crevasses up to 30 metres deep (ABOVE) form where the ice is forced to flow over a large obstacle.



...the most beautiful and most dramatic scenery in the world. The mountains are high and rugged, and the glaciers are vast and majestic. The water is clear and blue, and the air is fresh and clean. This is a truly unforgettable experience.

utary, the lower reaches of the Alsek River become broader and deeper. Just before we drift into an expansive maze of gravel bars and channels, Sebastian Wade points up to a diagonal line of vegetation, slightly paler than the surrounding greenery. The Alaska border, he says, to which we respond with a rousing chorus of *The Star-Spangled Banner*.

Around a bend beyond the border, a wall of turquoise-blue ice lines the shore against a backdrop of 1,500-metre ridges. The serrated surface of Walker Glacier stands like giant frost pillars. Its wide outwash plain is a morainal mix of sand, stones and boulders deposited at the toe of the glacier. Though not steep, its surface is hard and slippery, broken here and there by gaping crevasses. We collect some of the ice to make a batch of hand-churned strawberry ice cream.

Farther downstream, where the river widens into a huge backwater known as Alsek Lake, we are greeted by a herd of gleaming icebergs. Though inanimate, they seem alive: dinosaurs, dragons, whales and monstrous fish, swimming in slow motion. They move like floats in a parade, pushed by the wind and currents. One turns turtle as we drift only a raft-length away.

From our camp at Gateway Knob we hear the thunderous crashes of these massive ice chunks calving from the glaciers into the lake. Each splash sends a series of waves five kilometres across the lake to rock our beached rafts.

In the last century, a glacial bridge spanned the river near Alsek Lake. At least twice — in 1850 and about 1890 — the glacial arch broke, sending a surge of water 20 kilometres downstream to Dry Bay, drowning many natives.

We follow the historic path of those coastal natives toward our final campsite. During this 11-day drift we have become somewhat possessive about the Tatshenshini, as if these magnificent mountains,

streams, glaciers, wildflowers, grizzlies and eagles all belong to us. In truth, they do: they belong to everyone.

At the airstrip near Dry Bay, Cessnas and DC-3s vie for space on the runway. Women and men buzz by on motorized all-terrain vehicles, waving open cans of beer as they pass. Friendly fishermen offer us swigs from their whisky bottles as we haul our gear up from the river. We are not ready for this.

Rescue comes in the form of Vern Littlefield, a genial, ruddy-faced fisherman who offers us a ride out to the beach in his truck. "A 1953 Dodge Power Wagon," he says proudly. He stomps a pedal down to the floor and chuckles, "No brakes."

I inhale the familiar fragrance of low tide as we pull up to a sandy beach stretching along the open Pacific as far as we can see. Terns squeal over the waves beyond the surf and a harbour seal skulks along the shore. I no longer feel far from home. This is sea level — my level.

We began at 600 metres, 260 kilometres ago at Dalton Post in the Yukon, and travelled through one of the remotest corners of Canada — a pristine land experienced by only a fortunate few. Strangers, brought together by circumstance, have shared thoughts and campfires: we have



both: Bob Heger/Image Finders

become good friends. And we have come to understand that wilderness is more than mountains and scenery: it is part of the human soul, something to treat with wisdom and respect. ♦

Bruce Obee, a frequent contributor to Canadian Geographic, lives in Sidney, B.C.





A hardy rafter braves an invigorating dunk in the glacier-fed waters of the Tatshenshini River (LEFT). Last year, more than 1,000 rafters made the 260-kilometre journey down the Tatshenshini–Alsek, passing through Alsek Lake (ABOVE) in Alaska's Glacier Bay National Park.