

## The South Cascade Glacier Express

In the summer of 1968, Kenmore Air Harbor began transporting people and supplies to South Cascade Glacier for the US Geological Survey Glaciology Project. Bob Munro, the founder of Kenmore Air Harbor, often piloted these flights. He used a float-equipped Beaver De-Havilland, flying the 75 miles from Kenmore's base at the north end of Lake Washington (near Seattle) to the glacier in 45 minutes. During the late summer months, after the ice cover melted, the plane could land on South Cascade Lake. In winter and spring, landings were on the snow-covered glacier.



*A Kenmore Air Harbor Beaver taking off from South Cascade Lake. The terminus of South Cascade Glacier is in the background. The lake area is 50 acres and at an altitude of 5280 feet. Photograph by Tom Williams.*



*Bob Munro, founder of Kenmore Air Harbor. Photograph supplied by Kenmore Air Harbor.*

Bob Munro pioneered these glacier landings using the floats as skis. This mode of transportation to the glacier was highly successful for us, although at times was a little terrifying for the passengers. In calm, clear weather in early summer when the glacier was covered by a heavy snowpack, both landing and taking off were usually uneventful. Landings were made in an up-glacier direction, on the most level and crevasse-free part of the glacier. The touchdown was usually so light that one barely realized the landing had occurred. The pilot would then try to make a wide turn in the soft snow so that the plane would be poised for taking off down glacier. But often the snow was too soft

to complete the turn and it would be necessary to tie a rope to a point near the tail and then, as the pilot revved up the engine to nearly full throttle, we would slowly pull the tail around (the pilot always first handed out cotton earplugs to protect us from the engine's ear-splitting roar).

Unless the snow was unusually soft, taking off down-glacier was quick and easy. The glacier rapidly became steeper below the landing area, which greatly aided in attaining flying speed. However, the steeper glacier also meant large, yawning crevasses, so getting airborne quickly was essential. As the plane gained speed and the glacier surface fell away below us, we were soon in the air and could breathe easily again.



*A Kenmore Air Harbor Beaver after landing on South Cascade Glacier and poised to take off down glacier. The altitude at this point on the glacier is about 6200 feet.*

Landing on the glacier when the weather was unsuitable for flying was another matter. We turned back to Kenmore many times when turbulence or low visibility made landings too hazardous to attempt (we never argued with the pilot about his decision to do this). Low-lying clouds around glaciers seem to be the rule rather than the exception. Flying up narrow canyons among shrouded mountain peaks we thought about the oft-repeated adage of mountain pilots: "those clouds probably have rocks in them."

The first flight each spring was the most difficult because the glacier surface was unbroken by tracks or ablation stakes protruding from the snow and difficult to see. Sometimes we would make a pass over the landing area and drop a weighted flag or two to provide some contrast on the brilliant white snow. A high overcast of clouds, even if the glacier was not obscured, created visibility problems because of potential whiteout conditions (when the sky and surface blend together and all contrast is lost). I used to marvel at the pilot's skill in making a smooth landing when all I could see ahead of us was a white wall. If we expected a supply flight when we were already at the glacier, we always laid out a runway using a red-rodamine dye and marked it with rows of flags. Only one minor mishap occurred in all those years of

glacier landings, when a strut was bent from hitting the late summer's frozen snow surface a little too hard.

The 50-acre lake was just barely adequate for landings and especially difficult for taking off at this altitude (5280 feet). A take-off required first taxiing the plane to the farthest corner of the lake, where the glacier terminated, then taking off to the west, regardless of wind conditions, toward the outlet of the lake and the only direction not bounded by high, rocky cliffs or the glacier (also see 1960 and 1992 photos of [South Cascade Glacier](#)).

In October of 1969, I went with three others by helicopter to the glacier to make the final yearly measurements and close the facilities for the winter. One of these three, Arne, a hydrologist with the Surface Water Branch, came along as an unofficial assistant. The weather was clear and pleasant that Saturday afternoon, and it appeared our three-day trip would be uneventful as far as weather was concerned.

Shortly after dinner, Arne began complaining of not feeling well (was it the dinner I had prepared?), and by 10 pm he was violently ill and vomiting frequently. He remained desperately ill throughout the night, and we were not able to sleep more than a few minutes at a time. At the first sign of daylight, I began calling the Forest Service on the only outside connection we had, a Forest Service lookout radio. It was Sunday morning and the fire-season was nearly over, so I did not reach the Forest Service until almost 8 am.

The weather had made a significant change during the night. It was still clear, but an unusually strong southeast wind had risen, with gusts that I estimated at over 50 mph.

I informed the Forest Service at the Bellingham Headquarters office that we had a medical emergency and needed an airlift immediately. They contacted the Coast Guard first, but were told the wind conditions were too hazardous for a helicopter landing in the mountains. I then asked them to contact Kenmore Air Harbor and explain the situation. The Forest Service radioed back in a few minutes to say that someone at Kenmore would try to be up as soon as possible.

We did not think it wise to leave the hut until we were sure a rescue plane would get through, or if it did, be able to land. But in less than an hour we heard a tremendous roar below us as a Beaver landed on the lake. We were so convinced that no one could get through that we were not watching and did not see the actual landing. But when we looked down below at the white-capped lake, the plane was sitting on the water and already in position to take off, facing into the wind with its prop turning rapidly to maintain stability.

Arne and I left the hut immediately for the 800-foot descent and 3/4 mile hike down to the lake. He was still able to walk without too much help except for a couple of places where the trail was especially steep. When we arrived at the water's edge, Arne, without a moment's hesitation, waded the 50 feet out to the Beaver, climbed on to the float and into the cabin. I then saw that Bob Munro was sitting in the pilot's seat.

The immediate take-off was fast and spectacular, and from my standpoint, heart-stopping but awe-inspiring. The southerly wind made it necessary to take off toward the ridge that bordered the east side of the glacier. Under any other circumstances, this direction would have

been unthinkable, but there was no choice on this day. While the usual maximum length of open water for taking off was a short 2500 feet, in that direction it was one-third of that, or about 750 feet. The plane left the water in a few hundred feet, bouncing precariously in the turbulent air, then turning sharply to the right to avoid the on-coming cliffs and disappearing down a narrow canyon. I did not see it again until it appeared a mile to the west, circling and gaining altitude to clear the pass near Slim Lake.

After landing back at Kenmore, Arne was taken directly to the hospital and was operated on that afternoon for an obstructed intestine. Doctors said he probably would not have lived another 24 hours. Arne's life was saved that day by the bravery and piloting skill of Bob Munro.

The alternatives to using Kenmore Air Harbor for transportation to South Cascade Glacier were chartering a helicopter, which was expensive and sometimes difficult to find available, or by hiking the 9 miles to the nearest road. Hiking out meant a 6-7 hour scramble through an old growth forest along the South Fork Cascade River, then another 4-5 hour drive to Tacoma. The hiking time out in the winter or spring was closer to 9 or 10 hours because of deep snow on the trail, usually for over half its distance. There were also serious avalanche hazards during this time of the year. When these conditions prevailed, I preferred traveling with Kenmore Air Harbor.

Wendell Tangborn  
November, 1998

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## **Remembering Bob Munro**

Sometime during mid-winter in the early 1970s, Bob and I made a one-day trip to South Cascade Glacier so I could check the operation of the streamflow and meteorological instruments. The weather was bright and clear but quite cold. We landed on the mid-glacier at about 6200 feet a

little past noon in unusually soft snow, but by maintaining momentum and making a wide turn Bob managed to have the Beaver pointed down-glacier before we stopped. I left him there and skied first to the hut and then to the gaging station below the glacier. The going was slow in the soft snow

and I probably did not arrive at the gaging site until 2 pm.

Several not-unusual problems with the instruments were found (clocks stopped so needed replacement, dead batteries, ink pens dried up) and also entrances to some shelters buried in the snow and needed shoveling out. With my head in an instrument shelter and engrossed in some daunting problem, time went by rapidly. Before I realized it the sun was disappearing behind western peaks and shadows were lengthening. I closed up the station as quickly as possible and headed across the lake toward the glacier terminus.

Progress was slow breaking a trail as I switch-backed up the glacier (I never was much of a mountain skier) and climbing the 1000 feet

back to where Bob waited took longer than I expected it would. Darkness was coming on fast and the seriousness of the situation now apparent to me. Taking off in the dark was impossible but waiting until the next day would be asking for trouble. At this time of the year it was highly unlikely that there would be two consecutive days of good flying weather in the Cascades, so there was a good probability we would be snowbound by tomorrow. If a prolonged storm moved in we could stay in the glacier hut indefinitely but it would likely mean the loss of an expensive airplane. I half-way expected to see the Beaver taking off without me, which under the circumstances would have been understandable.

The instant the Beaver came into sight, its engine started so I knew Bob could see I was coming. In ten minutes I reached the plane and quickly climbed in. Bob's only comment then was, " I was really getting worried about you" - typically, he made no mention that he was concerned about the

Beaver or anything else, then or anytime afterward. He turned on the landing lights briefly after we started moving and we were back in air in seconds, heading out into a darkening sky toward Seattle.

Bob Munro passed away on October 27, 2000 at the end of a long, productive life in which he gave much more to the world than he took from it. Although we had not seen each other too frequently since the glacier-landing days, I have always thought of him as a valued friend.

His

bravery and skill as a glacier pilot will never be surpassed, and his humane and benevolent spirit will live on in everyone whose life he touched. Just knowing him renewed my faith in the human race.

Wendell Tangborn  
November 19, 2000

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