



1. Ice Challenger Expedition

Mission

'Exploration is the first step to wisdom, it is only by exploring one's expected limits that one begins to discover one's true ability.'

Steve Brooks, Expedition Leader

Mankind has climbed the highest mountains and visited the deepest oceans, yet the last great journey has still to be achieved. Planet earth is made up of the new world and the old world. The only way to drive across the planet is to cross the ice bridge where the two worlds meet. This last great journey is our mission.





The Challenge

The Ice Challenger expedition will be the first to make an overland journey from the USA to Russia. The Bering Straits are all that separate Siberia and Alaska, a mere 56 miles at the narrowest point. During the winter months, this sea freezes over, forming an ice bridge that links the two continents. Many others have tried and failed to make this journey, teams from Ford, Landrover and the legendary Ranulph Fiennes amongst them. Conditions of terrain and climate are so treacherous that only a vehicle developed specifically for this journey has any chance of success. Snowbird 6 has been developed with this goal in mind.

Simply reaching Wales, on the Alaskan shore of the Bering Sea, is a feat in itself. The expedition proper begins in Nome, one of the last US 'gold rush' towns. The team will spend three days travelling the 160 miles that separate Nome from Wales, a journey only previously possible by dog sleigh or skidoo. After driving over a 10 mile stretch of the frozen Port Clarence sea, they will use GPS in order to navigate a 4000ft mountain pass, drive up Lost River, a frozen river bed, to No Hope Pass and over Heart Break Ridge. They will then pass through Tin City, a former early warning station in America's Cold War nuclear defence system, before arriving in Wales. An important part of ensuring the safety of the expedition team is helicopter support. This will be provided by Quentin Smith, the world champion freestyle helicopter pilot, who has himself flown twice around the world.

The Bering Sea ice pack is constantly moving, flowing North at the rate of 3mph. If progress across the bridge is too slow the expedition could be swept past the Uelen Peninsula and into the Arctic Ocean. As the floes jostle their way through the narrow straits they crash together throwing up pressure ridges of sheer ice several meters high, which then break apart leaving sudden drop holes that could sink the entire expedition. Add to this the threat of passing polar bears and weather conditions that can freeze human flesh in seconds and it is easy to understand why developing the right vehicle is paramount.

The challenge for Steve Brooks (Expedition Leader), Graham Stratford (Expedition Project Manager and Co-pilot) and a team of British engineers was to develop the world's ultimate all-terrain vehicle; capable of crossing mountain passes, deep snow gulleys, frozen ice bergs, open water and toughest of all, having the ability to climb out of the water up the side of an iceberg. The solution lies in 2 Archimedes screws, originally used by Star City to help rescue cosmonauts from the frozen Tundra in the sixties. The Ice Challenger team has put this technology to use by combining it with a tracked vehicle from a ski resort, to create the world's ultimate all-terrain machine. A six cylinder diesel engine powers 3 hydraulic pumps. 2 pumps drive the tracks whilst the third pump is driven via a valve block to two motors at the rear of the screws, enabling the operators of Snowbird to lift the vehicle off the ground and screw it forward across water, ice, sludge or any other medium it is crossing. The technology employed by Snowbird 6 is truly revolutionary.

The crossing of the Bering Straits is very much the first step in Steve Brooks' ultimate goal: to be the first person to complete the longest overland journey in history by driving from New York to London. Once this journey has been completed Steve hopes to realise his dream of creating a regular 'Race Across the Planet' – the overland equivalent of the Whitbread round-the-world yacht race.



Timeline

<i>October 2001</i>	Snowbird undergoes modifications in expedition workshop, Hereford
<i>November 2001</i>	Modifications complete, Snowbird begins lake trials
<i>December 2001</i>	VIP Sponsor visit to expedition workshop, via helicopter from Denham airfield, for lake test drive of Snowbird
<i>January 2002</i>	Ice Challenger press launch on River Thames. Snowbird to be driven past Houses of Parliament, with press following by boat and moor at Cadogan Pier. Opportunity for Sponsor to host reception etc.
<i>16 January 2002</i>	Snowbird shipped to Alaska
<i>3 March 2002</i>	Snowbird arrives in Nome, Alaska on the shore of the Bering Sea
<i>6 March 2002</i>	Snowbird completes the journey to Wales
<i>11 March 2002</i>	Expedition leaves USA
<i>14 March 2002</i>	Expedition arrives on Russian mainland at Lavrentiya
<i>18 March 2002</i>	Snowbird completes the overland journey to the town of Providenya
<i>20 March 2002</i>	Expedition team fly back to US
<i>22 March 2002</i>	Expedition team fly back to UK





Snowbird 6 Questions and Answers

1. *Why are you doing this?*

The Old World of Asia and the New World of the Americas is separated by only 56 miles of floating ice. To cross it would be to bridge the gap between the two halves of planet earth - a feat that has never been achieved.

2. *Why do we feel that the Expedition this year will be a success?*

Last years concept vehicle proved very successful although it was a bit limited in its ability to float. We have addressed this by creating much larger screw threads and much larger motors which will enable us to climb steeper angles. All of the technology from satellite phones upwards have been tried and tested and modified where necessary. We feel that this years attempt will be very rewarding.

3. *Who has tried and failed in the past?*

Many people have tried to cross the Bering Straits before from small privateers to the likes of Ford, Landrover and Fiat. But no one has yet found a formula which works in this extreme environment.

4. *Why is it important that this should be done?*

There has been much talk of tunnels and bridges across the Bering Strait. If we can drive across we can prove the concept that the two ends of planet earth do indeed meet at this one spot and show people that we really are one single planet revolving around the same axis.

5. *If you succeed, what would you do next?*

Once we have crossed the Bering Straits we would be interested in being the first to drive from New York to London crossing the entire planet (the longest journey ever done.)

6. *Who is the team on the Expedition?*

The Ice Challenger Expedition Team is made up of some twenty or thirty support crew headed by Expedition Leader Steven Brooks and his Co-pilot and Project Manager Graham Stratford. Others on the main Expedition include Expedition Photographer Joanna Vesty and Documentary Team Sean Davidson and Robert Franklin.

7. *Is there a heightened relevance to this Expedition in the current situation?*

For some forty years the Cold War ensured that the Bering Straits was a no go zone - even locals were not free to travel. In these troubled times this is an opportunity to show the relationship between Russia and America and how people of different nations can come together.

8. *What are the dangers involved in the Expedition?*

There are many dangers when out on the ice, not least falling into the freezing waters or being jammed between two ice flows when they crush together. The freezing conditions at -40 degrees can create



problems of their own and on top of all that too much carelessness would make one prey to Polar Bear attacks.

9. Which safeguards have been employed?

The expedition will have Helicopter backup at all times with an emergency evacuation strategy on standby. The team whilst on the ice will always be wearing safety suits.

10. What is the terrain like that you will be encountering?

The terrain on the Bering Sea is the most hostile in the world. At the North Pole there is dynamic jagged ice, crushing together and ripping apart with tremendous force as ice sheets, sometimes up to a few miles long, crash together.

11. What is the greatest potential problem?

The greatest potential problem is having Snowbird in the water between two ice floes as they crash together. Theoretically, the machine would be crushed within seconds making it very hard for the crew to escape.

12. What temperatures will you be encountering?

The Bering Straits will plummet to anything from -10 to -70 degrees depending on the weather. However, we can expect to be working in a temperature of -30 on a regular basis. This makes even the most simple tasks arduous.

13. Where has the machine been built?

The machine has been built at the Expedition Headquarters and lake testing facility at Hereford. It is here that the trials have been taken place.

14. Where did we get Snowbird 6 from ?

Snowbird 6 is actually the 6th concept vehicle and what we believe will be the final and successful version.

15. What are the adaptations to Snowbird 6?

Snowbird 6 enjoys far greater buoyancy than its predecessor, which enables us to float the vehicle high out of the water ensuring that the diesel engine will be operating in a much more comfortable environment. The motors on the back of the screws have been greatly improved to get much more climbing power and low end grunt.

16. Where is the Bering Strait ?

The Bering Strait is situated between the most western tip of the United States of America (Wales/Alaska) and the most eastern tip of Russia (Chucotka). This 56 mile east west stretch is dissected down the middle by the international date line and Little Diomed Island on the American side whilst two miles to the west sits Big Diomed (Russia).



17. Who lives on the Bering Strait ?

250 Innuits live on Little Diomed, the final out post of the United States of America. They exist on subsistence, farming and fishing for walrus, whale, crab etc. In winter the ice between the islands provides a runway but in summer the only way to get to the island is by helicopter or boat.

18. Why is the challenge so complex?

The fact that the ice bridge is flowing North at an incredible 3 miles an hour means that the landscape is constantly moving below the vehicle. Hence, time is of the essence and any mistake will be punished by the Expedition being pushed off its course.

19. Where do you sleep?

While tracking across Alaska to Wales the team will be able to sleep either in tents or in hunter huts along the way. However, once on the Bering Sea the Team will not be able to sleep because if we stopped for ten hours, the vehicle would be 30 miles off track. We will therefore have to stay awake for the whole two days or so until we arrive at the Russian Coast line.

20. How do you go to the toilet in -40 degrees?

Quickly.

21. What survival gear is required in these conditions?

Extremely good survival equipment is required in these conditions starting with excellent underwear, phenomenal thermal clothing, gloves and hats and survival suits.

22. What scientific or educational endeavours will be undertaken on the Expedition?

Ice Challenger is working with the Scott Polar Institution in Cambridge and hopes to bring back information about the actual ice floes through the Bering Strait, the approximate thickness of ice and how the floes are made up and jostling as they make their way by the Diomed Islands. We will also be recording what currents are evident in the winter season and therefore what happens to our course. We will also be producing a report for the Explorers Club in New York on what the Expedition encountered



Steve Brooks- A Profile

Born in England Steve Brooks spent his young life on a farm in Staffordshire. From an early age he developed an uncanny ability to understand the mechanical world. The farm proved to be an excellent playground, with endless opportunities to play with machinery from the tractors and Land Rovers to the combines and balers.

After passing an engineering diploma at Nottingham Polytechnic, Steve headed out on his main round the world expedition, which lasted for just under two years. Alone, he set out across the States, Mexico and then on down through the South Pacific, Tahiti, Rarotonga and Fiji, before crossing New Zealand and arriving in Australia. After learning to dive on the Great Barrier Reef, Steve headed for Sydney, where he worked for six months to raise enough cash to continue his trip.

Steve hit Asia, travelling through the wild reaches of the Western Desert of India by camel, then made his way across Rajistan and up into Kashmir and Ladac. Here he did several treks over the mountain ranges, living on local food from the various villages he passed through. After a small fishing accident in the Himalayas, where Steve lost his shoes, he was forced to walk for three days barefoot out of the Himalayas and back to Kathmandu.

Burma and Thailand proved to be excellent recreational grounds, after which he took a boat from Hong Kong, going up the Chinese coast to Shanghai before crossing the width of China - just opened to the Western World at the time. From the Great Wall, Steve dropped south over the mountains and up onto the Tibetan Plateau to Lhasa, the capital of Tibet. From Tingri, Steve continued solo onto Everest Base Camp, some nineteen thousand, six hundred feet above sea level. From Tibet, Steve headed back up to Peking and across Mongolia, into Russia to the Great Lake Baikal. The journey proceeded by Trans-Siberian Express across the Urals and back up to Moscow, before heading back down to Europe and home.

After a break in the UK Steve flew to Llamu, a small island off the coast of Kenya. There he met an American who had spent three years learning local carpentry, and had built his own Dow (an African sail boat) made totally of local timbers and materials. Armed with a couple of bags of rice, some fishing nets and a compass, they headed up the coast for Somalia. "It was a wonderful expedition," Steve said, "Somalia was closed because of the War and no one sailed the waters of the coast because of a big reef that was dangerous to boats. Once through that reef, we were free to do as we chose. We would sail during the day and sleep at night, waking at low tide to go out on to the reef to catch Octopus or net fish to live on. "It is not until you live totally off the land that you realise how amazing the locals are and over time how they have adapted the simplest methods to survive."

From Kenya, Steve headed for Uganda to climb the famous Ruwenzori Mountains. From Uganda, Steve continued south, visiting the Silver Back Gorillas and the live volcanoes in Zaire before trekking through Rwanda to Lake Tanganyika. The next destination was Zimbabwe, where Steve learnt to fly in a small beaten up Super Cub airplane that had survived the war. He then flew from Harare to Victoria Falls to become a white water Kayak guide on the mighty Zambeze River.

"Whilst my expedition experiences to date have been very exciting, I now wanted to do something which had a far greater purpose. It took several months of searching to come up with an adventure that had never been done, as so much of the planet has been explored and discovered. Yet, despite that adventurous spirit and the advent of technology, one challenge still remains; to drive overland from New York to London," said Steve.

ice challenger

For the next three years Steve concentrated his efforts on researching this monumental challenge. It became clear that no one had invented a vehicle to date that was capable of driving across thin moving ice safely. Consequently, Steve turned his attention to building the right vehicle for the job and two years later has created the world's first hovering car, and a Snow Cat propelled by Archimedes screw principle. "Ahead lies the most exciting challenge to date and there is little doubt that the near future will hold some amazing trials and tribulations."





Graham Stratford – A Profile

Graham Stratford is the expedition co-leader and has been responsible for overseeing the engineering of Snowbird 5 and 6 in the Hereford workshops. 39 years old, Graham was born in Hampshire and spent the first fourteen years of his life in South Africa which gave him an appreciation of outdoor life. After leaving school Graham did a brief stint in the Royal Navy and later embarked on an adventure driving from Hereford to Capetown.

Today Graham runs a successful project management company which he started after selling his swimming pool business.

Graham heard about *Ice Challenger* from Steve Brooks' brother and wrote repeatedly to Steve offering to help. When they finally met an instant friendship was formed.

A member of the local mountain rescue team in Herefordshire, Graham is highly trained in survival and medical support in remote regions. He's a mountaineer and a qualified sailing and canoeing instructor.





HISTORY OF EXPEDITIONS IN THE BERING STRAIT

1989 -The Bering Bridge Expedition

This, the first attempt to cross the Bering Strait in winter, was co-led by the Russian, Dr. Dmitry I. Shparo and American, Paul Schurke. The team consisted of 5 natives from Siberia and 5 natives from Alaska. The idea was to commemorate the land bridge crossing of the last ice age that is believed to have culminated in our North American natives (Eskimos & Indians). Accordingly, only native forms of transport were used, i.e. dog sleds and umiaks (walrus-skin boats). The National Geographic Society made a documentary film of this first attempt. The expedition started in Anadyr, Chukotka (Siberia) and ended in Kotzebue, Alaska. It was not considered successful since an airlift to the Alaskan mainland was required.

1992 - Dr. Gordon Thomas successfully travelled solo from Nome to Wales, Alaska, on shore ice in a rented Ford Bronco.

Strictly speaking, this was not the Bering Strait, however, in this area ice conditions are similar to those found on the Strait.

1993 – February, April - Dr. Gordon Thomas and Dmitry I. Shparo

co-led a team of 8 people (5 Russians, 1 Lithuanian, and 2 Canadians). They employed 4 Russian Buran snowmobiles each pulling a sled and rider. The starting point was Provideniya, Chukotka. They traveled to Uelen and then attempted the crossing. The terminus was Fairbanks, Alaska, negotiated via frozen rivers. Once again, they had to employ an airlift to reach the Alaskan mainland because of the large polynyas encountered. The snowmobiles had difficulty negotiating the rubblefields of moving ice.

1993 - December -CTV's Richard Creasy led a group from London in Ford Mavericks and Mondeos with the intent of crossing the Bering Strait and arriving in New York by mid-March, 1994

in time for an auto show there. A number of weekly TV shows (entitled "The Big Race") were produced. The team consisted of people drawn from England, Scotland, France, Israel, Palestine and South Africa, none of whom had ever experienced an Arctic winter. The Fords soon bogged down in Eastern Siberia and were subsequently towed by Russian Ural trucks to a point where they could be flown to a Ford dealer in Fairbanks. The team members that weren't sent home were then driven in heated Ural trucks to Lavrentiya where they were to board the Arktos for the journey across the Strait. The latter was a tracked articulated vehicle built in Canada for use in the Baffin Bay area. It could accommodate only 3 or 4 of the 8 to 12 team members, so the unchosen were flown to Nome. Shortly, they were joined by the others who also flew across because the Arktos had a major, irreparable breakdown before ever entering the Strait. It still lies abandoned outside Lavrentiya.

1995 - November – Fiat Overland Expedition

Four Iveco (a division of Fiat) 6 x 6 trucks - one truck was a fuel tanker weighing 13 tonnes when fully loaded. The others, equipped with living quarters, a workshop, shower & toilet and communication gear each weighed 10 tonnes. They started from Milan on 10 November, 1995 with 10 team members led by Beppe Tenti. The intent was to reach New York on 10 April, 1996. Trekking International (an Italian organiser of corporate events) was the organiser and contracted the services of Circumpolar Expeditions to coordinate and manage the Russian and Alaskan portions of the expedition. Circumpolar Expeditions' previous experience in this area was an East-West flight from 11 to 18 May, 1994 that landed in eight Arctic nations (US, Russia, Finland, Sweden, Norway, Iceland, Greenland and Canada) as part of a Northern Forum publicity stunt. Apparently, the idea for the Overland Expedition (a name curiously close to that employed by Creasy) came from Dr. Petter Johannesen, a great nephew to Roald Amundsen. However, he did not participate. The team reached Novosibirsk in December, 1995 and then went home for Christmas. They were to return on 16 January to resume the journey. Whether they did or not is uncertain since the last press release was 28 December, 1995. The vehicles were subsequently flown to Deadhorse, Alaska where they could connect to the highway system to the south via the Dalton Highway. Moreover, like the Creasy attempt, no prior reconnaissance by any of the team members was undertaken.



1996 – March - Bering Strait Ski Expedition - Ranulph Fiennes, Dr. Gordon Thomas and Dmitry I. Shparo and sons. Dmitry, Nikita and Matvey constituted the northern team, Ranulph Fiennes and Dr. Gordon Thomas the southern team. The northern team, starting from Uelen was to follow a route north of the Diomedede Islands that would bring them into the area between Shishmaref and Wales. The southern team, man-hauling sleds, started from the Alaskan side, and was to head directly to Little Diomedede and hence to Uelen. The northern team drifted northwest in the direction of Wrangle Island with no possibility of making landfall. Eventually they were pulled off a very unstable ice floe (populated by a large number of polar bears) by a US Coast Guard rescue helicopter. The southern team confronted the same winds, and fared no better, encountering large stretches of open water.

1997 - The Bering Bridge Ski Expedition II - Dmitry Shpara and sons.

This too culminated in a helicopter rescue after Nikita fell through the ice for a second time. Again, ice drift also proved unfavourable. During this time Ranulph Fiennes and Dr. Gordon Thomas were leading a team of 6, which spent over two months (February to mid-May, 1997) testing vehicles and a vehicle-propelled catamaran on the Bering Strait.

1998, March – Bering Bridge Ski Expedition III - Dmitry Shparo and son Matvey successfully crossed from Siberia to Alaska on foot (actually, they crossed the Chukchi Sea rather than the Bering Strait starting from Uelen and making landfall in Alaska at Chariot. The route was again determined by wind-driven ice drift. Dr. Gordon Thomas acted as coordinator and base camp operator on the Alaskan side.

2001, March – Ice Challenger – Steve Brooks and Graham Stratford with Snowbird 5

2002, March – Ice Challenger – Steve Brooks and Graham Stratford with Snowbird 6