

## Arctic Kingdom

# Out in the Cold – Arctic Kingdom Brings Logistics Efficiency to the True North

Moving freight from coast to coast or across borders is a day-to-day challenge for any logistics operator, large or small. But when you add an ever-changing Arctic terrain, thousands of kilometres of unfriendly environmental conditions and seasonal transitions that make it impossible for conventional modes of transportation to function, those challenges rise exponentially.

BY DENISE J. DEVEAU

Since 1999, Toronto-based Arctic Kingdom has devoted itself to managing logistics in the Arctic. The company started out running diving expeditions for adventurers and film crews. In doing so, founder Graham Dickson quickly discovered that managing the transport of equipment, shelters and people was a logistics challenge of significant proportions. Depending on the season and the needs of the expedition group, the team would have to transport thousands of pounds of goods over snow, ice, water or tundra for groups ranging in size from individuals to 100 people or more.

“By definition, managing tourism needs requires some level of logistics,” says Dickson. “As demand grew and projects got bigger, that meant larger pieces of equipment, more

involved integrated logistics and greater need to work with other suppliers and local residents.”

Over time, Dickson and his group of engineers and tour specialists have developed a complex but highly efficient network of distribution channels, transportation systems and specialized equipment devoted to streamlining logistics processes throughout the northern regions of Canada, from James Bay to the North Pole. Today it manages logistics for a steady stream of academic, government, resources, food service, media and engineering company clients, as well as providing large-scale logistics providers with cost-effective services to fill in costly transportation gaps.

Dickson reports that demand for logistics in the Arctic has grown considerably in recent

years. Government and resource industries especially have been stepping up their research and exploration efforts. “People are also seeing opportunities growing for coordinated operations across international boundaries from Greenland to Alaska.”

### KNOWING THE LAY OF THE LAND

Arctic logistics is a highly specialized discipline that requires extensive knowledge and lots of hands-on experience. As a person who spends a good portion of the year north of the Arctic Circle, Dickson has developed the regional knowledge and expertise needed to create a unique and fully integrated logistics service offering that continues to evolve with each customer request.

“There are only a couple of established





logistics channels in the Arctic," he explains. "In addition, some options have small windows of opportunity – such as sea freight which can only run in the summer."

He adds that air freight and private charters can be expensive and in many cases inefficient, since planes often fly half full of cargo or return from their destinations empty. Freight rates can also vary dramatically on any given day, even if cargo is bound for the same latitude. For example, on any given day one location may have a freight rate of \$20 a kilo while another only a few hundred kilometres away may have a rate of \$12 a kilo.

Arctic Kingdom's fully integrated logistics system leverages the best of available large channels and incorporates a number of smaller, unique ways to move freight. These include sharing cargo space with private charters making deliveries to northern communities, leveraging the services and equipment of local residents, and developing customized equipment that has been ruggedized for harsh environmental conditions.

That equipment ranges from snowmobiles and large Zodiacs which can carry over 10,000 pounds of payload (the equivalent of five Twin Otter loads) to two specially designed airboats with cargo trailers that can haul up to 2,000 pounds of equipment in a single trip and function during times when land or ice conditions are unstable during transitional periods.

The company also houses and ships a huge inventory of camping equipment (e.g., kitchen facilities, generators, etc.) and mobile shelters through a network of depots located in Resolute, Pond Inlet, Arctic Bay and Igloolik – as well as one in Arctic Norway. Additional equipment is kept in Toronto for transport to gateway cities when needed.

Arctic Kingdom has also forged relationships with major logistics operations including CEVA and works with all major Arctic airlines and coordinates services, such as char-

tering 747s or Hercules planes and coordinating pickups and transfers at remote runway locations using Twin Otters, Sky Vans, air boats, tracked vehicles or barges.

Given the dramatic seasonal changes, Dickson has also made sure that the company has the flexibility to ensure it can offer the right equipment in the right place at the right time. "The Arctic season is always changing," says Dickson. "Planes, for example, need to run on skis during the winter season and tundra tires in summer. There are sometimes periods between winter and summer when the ground is too soft for planes to land at all. So we always need to have local people on the ground to verify conditions and report in on alternate landing spots."

#### ALTERNATIVE THINKING

There is also a lot of creative thinking thrown into the mix. Dickson notes that given the distances involved, team members have to deploy creative fuel-conserving solutions, such as gas caching, to make things work as efficiently as possible. "Even if all your logistical needs are managed by air or water, you still need supporting logistics on the ground so fuel caching in winter may extend range and available load."

The engineering team has even ironed out the logistics of transporting compressed gas equipment to generate oxygen on site for diving, medical and welding applications. This move not only improves safety for travelling groups, but also saves significant transportation costs.

Dickson admits that while Arctic Kingdom is not the only logistics provider to serve northern Canada, larger providers generally don't have the capacity to handle the ground level issues. "They can send in a big plane or ship but it's a single service. Once it's delivered [to the port or landing strip], it's up to you to get it to the location you need. To do that you need alternative ways to move equipment."

#### A COORDINATED EFFORT

The biggest challenge – and the biggest opportunity – for his group, says Dickson, is in the area of coordinated logistics. "It's a matter of knowing who is doing what and who has capacity to help. If you're moving a truck from Ottawa to Toronto, you don't want it going back empty. It's the same for the Arctic. Most of what goes up there comes back empty, including tourist flights. Everyone is happy to share capacity. We can help because we are aware of charters and can make use of the empty space for backhaul flights and/or to combine loads. Or if you need to ship one item that requires all or part of a Hercules, we can arrange to send the rest by other means to save costs. Sometimes even getting the planes can be a hard job for people to do on their own. In busy seasons you need to know the right people and the most cost-effective mode of transport for that day."

When it comes to Arctic logistics, size is not the main issue. "It's not just about the size of the group. Even a small film crew using helicopters or advanced tools has very complicated logistical needs."

Whatever the size of the operation or its demands, coordination is key to keeping costs down, and the lines of transportation clear. "The true opportunity lies in integrating and optimizing all your resources – from people and equipment to airports and shipping," Dickson says. "When you start looking at things broader and over the longer term there is a lot you can do. If you can hire local people and move equipment at the right time you can save a fair bit of money while contributing to the local economy. But doing that right takes advanced planning and knowing who you can work with. The more you can link different types of clients and suppliers, the greater service you can provide for everyone." ■