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# InfoNorth

## The Dogrib Birchbark Canoe Project

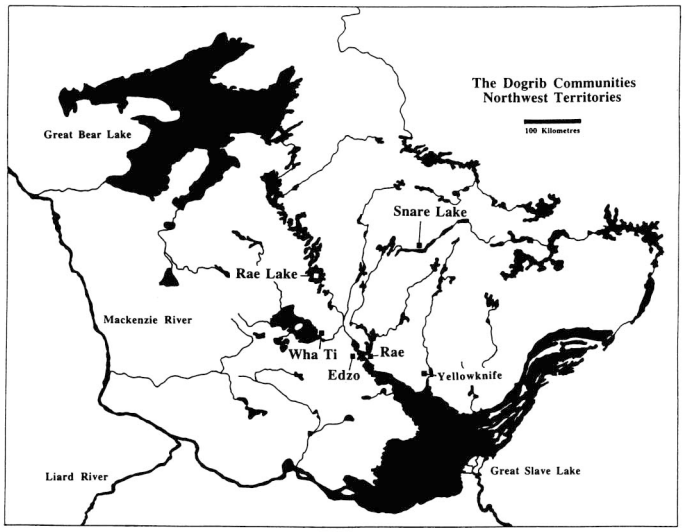
*by Thomas D. Andrews and John B. Zoe*

### BEAUTY AND ELEGANCE AFLOAT

THE Dogrib are one of the Athapaskan, or Dene groups occupying the Mackenzie Valley area in the Northwest Territories (see map). Their hunting canoes, though engineered for traversing a rugged landscape, had elegant and flowing lines. Typically weighing less than 14 kg—an important feature, given that many of the river routes they were used on had numerous portages—they were also built with rocky Canadian Shield shores in mind, designed to take minor abuse. If a canoe was damaged, however, material for repairs was almost always at hand, as two tree species—birch and spruce—provided everything required to make one. Yet, in spite of this parsimony of materials, they present an elegance and beauty rarely paralleled in other aspects of northern Athapaskan material culture.

Used extensively until the 1940s, when commercially manufactured boats and canoes began to replace them, the Dogrib canoes were similar in form to other Dene hunting canoes. Dogrib canoe building included two styles or sizes of canoes: an open cargo or family canoe, generally 5 to 7 m in length, called k'ıts'ı, and a smaller hunting canoe, called k'ıelà or "birch canoe." Dogrib oral tradition indicates that spruce bark canoes were also built, though rarely.

Although there is a reasonably good collection of archival photographs of Dogrib canoes, mostly due to the efforts of the anthropologist J. Alden Mason (see Helm, 1981), the historical record has preserved little knowledge pertinent to canoe construction and use, and only a small number of canoes have survived in museum collections. During our recent archaeological research on two important Dogrib canoe routes, however, we recorded the remains of nearly 30 hunting canoes (Andrews and Zoe, 1997). Today, in the Dogrib communities of Snare Lake, Rae Lakes, Wha Ti and Rae-Edzo, the oral tradition is full of canoeing and canoe-related stories and remembrances, although very few surviving elders actually built one in their youth. This fact, and the large number of canoes recorded in our research, gave us a new appreciation of the importance and role they had played in travel, and led to an exciting cultural revival project: to build and document a Dogrib birchbark canoe. Below, we briefly describe the canoe project and also share some of what we learned and were taught by the elders about Dogrib hunting canoes.




*Map of the Dogrib communities in the Northwest Territories, Canada.*

### THE DOGRIB BIRCHBARK CANOE PROJECT

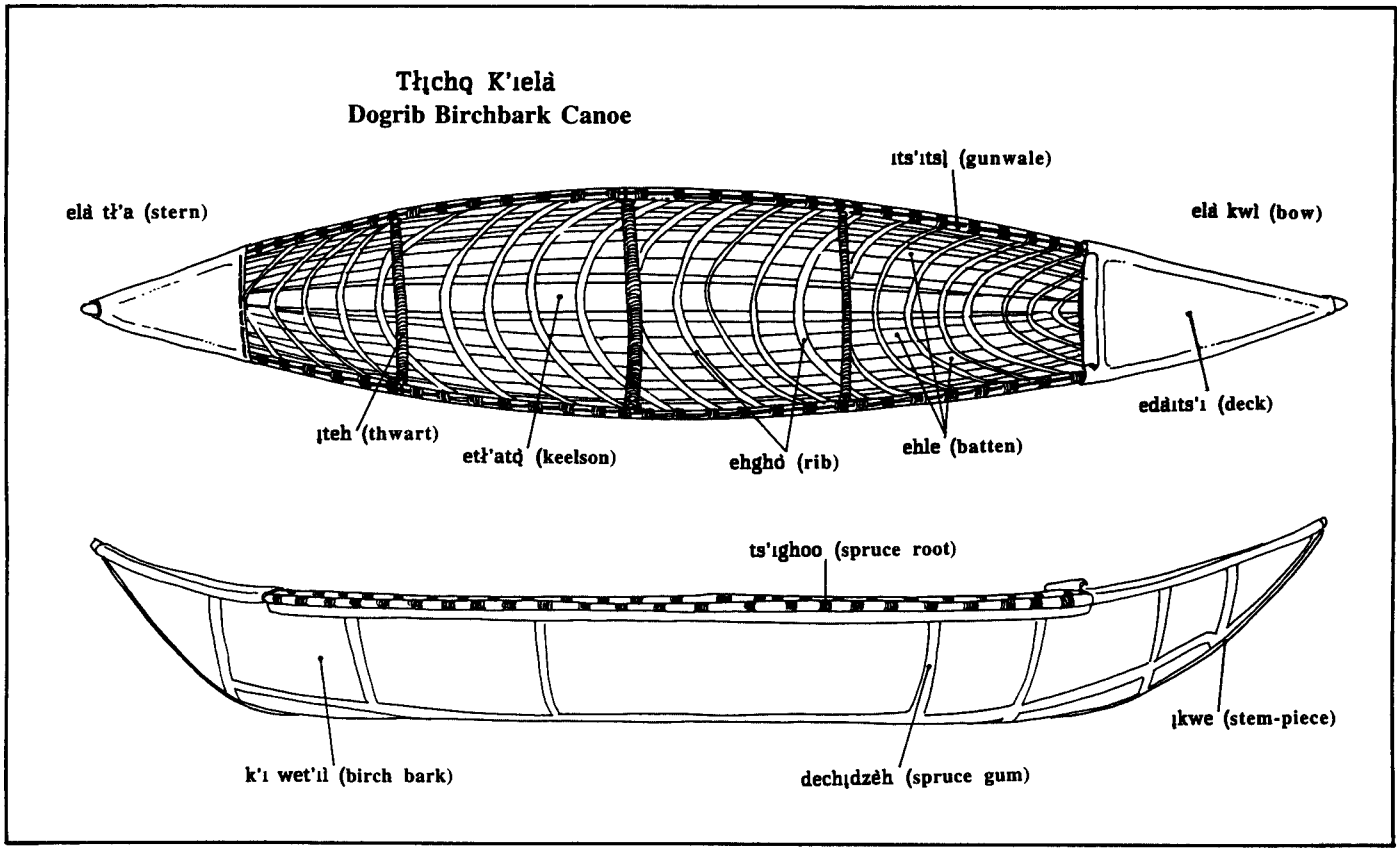
In order to manage the project, an informal partnership was formed between the Dogrib Divisional Board of Education in Rae-Edzo, the Dogrib Treaty 11 Council in Rae, and the Prince of Wales Northern Heritage Centre (PWNHC) in Yellowknife. Joining us in the planning and design of the project was Jim Martin, then Director of the Dogrib Divisional Board of Education, and now principal of Chief Jimmy Bruneau Regional High School (CJBS), located in Edzo. We decided that the project should be documented on film, and made arrangements with Terry Woolf, a Yellowknife film producer to manage this. John Poirier, the PWNHC photographer, and exhibit designer Terry Pamplin documented the project with still photography, and drawings, respectively. George Mackenzie, vice principal and cultural program instructor with CJBS, and Rosa Mantla, Dogrib language and curriculum specialist with the Divisional Board, helped organize the elders and students and acted as project interpreters (most of the elders spoke only Dogrib). Barb Cameron of Education and Extension Services, PWNHC worked with George Mackenzie to organize class field trips to the site from Rae, Edzo, Dettah, and Yellowknife.

In consultation with CJBS staff, we decided that six elders, three couples, would be hired to build the canoe.

*Dogrib canoes near Fort Rae, Northwest Territories. (J. Alden Mason, 1913/Canadian Museum of Civilization)*

Joe and Julie Mackenzie, Paul and Elizabeth Rabesca, and Nick and Annie Black agreed to be the canoe builders. All were in their seventh decade or older, and though none had previously built a canoe on their own, all had assisted their parents on many occasions. The project would run during the school year to facilitate class field trips from the local communities, and the school assigned six young people to work as apprentices to the project. Three of these students were to assist the elders in the building of the canoe, and the others were to assist and receive training from the film crew, illustrator, and photographer. We agreed that the completed canoe would go on permanent display in the school in Edzo, and staff and students from the school's industrial arts shop worked in collaboration with exhibit designers from the PWNHC to design and build the display case.

To assist the elders with the physically demanding aspects of the construction, we contracted Don Gardner, a professional canoe builder from Calgary, Alberta. The principal of Oldways, a firm which specializes in the replication of aboriginal artifacts, he has constructed several bark canoes and skin kayaks over his 25-year career. His particular strength is in working with elders and youth in a training situation, and this training became a major focus of the project.




*Drawing of the Dogrib birchbark canoe.*

To begin the project, the PWNHC hosted a meeting for all participants to examine one of the last Dogrib birchbark canoes ever made. This canoe, on display at the Heritage Centre, was constructed in the early 1970s by the late Chief Jimmy Bruneau, and is important both for preserving construction details and for its association with an important Dogrib historical figure. The elders spent a day examining the canoe and telling stories about canoes and travel, and the meeting provided an opportunity for participants to meet and discuss the project. At this meeting, we obtained the elders' permission to film and document the construction, and also sought their guidance in choosing a building site, determining the level of public access, and in selecting young apprentices. From the elders' perspective, the educational aspect of the project was most important. Consequently, they agreed that producing a video and allowing students to visit the site were critical.

The elders had previously established a spring hunting camp near Rae. As this site had road access that would permit buses carrying students to visit, the location was considered perfect for the canoe project. Over a period of two weeks in June 1996, the elders, students, and others gathered the raw materials and constructed the canoe. Most of the project participants camped at the site, while an estimated 1200 students and adults visited during the two-week period. The event became a popular topic for local radio and television, and various artists (including a watercolour artist from Japan) visited the site to do sketches. Over the course of these two weeks, the elders answered many questions and endured innumerable camera flashes. A government department even used the site to host a workshop dealing with traditional knowledge. This workshop spawned an impromptu feast, during which guests were serenaded by the young traditional drummers from the CJBS. The event helped bring a sense of celebration to the project, and provided a nice break for all involved.

The following winter, we began the process of editing nearly 30 hours of tape to produce a 30-minute video of the project. In the end, we produced two videos: a 28-minute version for television broadcast and a 40-minute version for use in classrooms (Dogrib Divisional Board of Education, 1997). The project was funded by the Dogrib Divisional Board of Education, the Prince of Wales Northern Heritage Centre and the Dogrib Treaty 11 Council. A generous grant from the Canada-Northwest Territories Co-operation Agreement for Aboriginal and Official Languages Program, administered by Parks Canada, funded the editing and production of the video.

## DOGRIB CANOES: CONSTRUCTION AND USE

Typically described as "kayak-form" (Adney and Chapelle, 1964:158), the Dogrib hunting canoe was generally 3.5 to 5 m in length, with an average beam of 41 cm, and a depth of 23 to 28 cm (see drawing). Decks covered

*Collecting birchbark. (T. Andrews/GNWT)*

both stem and stern, and a small birchbark roll, sewn to the base of the foredeck, channeled spray away from the canoe's interior. The stem and stern stem-pieces were constructed of curved planks of spruce. Their exposed leading edge allowed the canoe to be grounded on rocky shores without immediate damage to the bark. The rake and profile of the stem and stern were sometimes identical, though most often the rake of the stern was greater, giving it a slightly higher profile. The stem-pieces were connected by a keelson. Gunwales, consisting of an inwale and outwale, compressed the bark skin of the canoe, and were lashed in groups with lengths of split spruce root. Spruce ribs, up to 35 in number, located approximately 30 cm apart, were bevelled on the ends and forced between the inwale and the bark, providing tension to the bark skin. The sprung ribs also held eight loose battens or stringers, as well as the keelson, in place against the bark. Five thwarts were tenoned and pegged to the inwales. The fore and aft thwarts supported the deck coverings.

The building of a canoe begins with the collection of birchbark, which when returned to camp is flattened and weighted with large rocks. Birch trees in the Dogrib area are small, and consequently 20 to 25 pieces of bark are

*Building the canoe. (D. Gardner)*

needed to make the canoe. A building bed is made by filling a shallow depression, slightly larger than the finished canoe, with sphagnum moss. Spruce poles, cut for the gunwales and battens, are split and planed to shape. Stem-pieces are made from the base of a large spruce tree, where a large root and trunk together form the appropriate curvature. Spruce roots are dug from the ground, debarked and split, and kept in water for later use. Once the gunwales and battens are ready (this may take several days of working with axes, planes and crooked knives), several pieces of bark are sewn together to form the bottom or bilge of the canoe, and a temporary building frame is made from roughly shaped spruce poles. The bottom is laid on the moss; then the building frame is placed on top of it and weighted with rocks. Stakes are pounded into the ground around the edge to support the side pieces of bark while they are being stitched to the bottom. Once most of the side pieces are sewn in place, the stem-pieces and keelson are added, and the final pieces of bark are sewn. The bark is temporarily pegged to the stem-piece for easier sewing. The thwarts are inserted next, followed by the battens and ribs, and finally the decks. As the canoe nears completion, time is taken to collect spruce gum to seal the stitching and seams. Gum is prepared either by chewing or by melting it over a fire. In either case, it is laid on the seam and worked into the stitching, sometimes with the assistance of a burning brand to keep the gum pliable and viscous.

It takes time to build a good canoe. Elders told us that a skilled worker in urgent need of a canoe could construct a serviceable one in five days. More typically it took more than twice that amount of time to build one. Only three tools are needed to make a canoe: an axe, an awl, and a crooked knife. During our project, the elders also used chainsaws, wood planes, clamps and other tools to speed up the process, though the older tools were still used. Many elders make their own crooked knives and awls, as sources of these important implements are no longer readily available. Canoes were often made by several families, all working together to make a number of canoes at the same time. Both men and women worked together, though at

times each gender performed individual tasks. For example, men manufactured all the structural supports for the canoe, and women did most of the spruce-root sewing. The women collected and prepared most of the spruce roots and gum, though this was sometimes a shared labour. Even children were pressed into helping by gathering moss and roots, and were often asked to collect and chew gum for the final sealing of the seams.

Canoes were typically made in the spring, from late April until early June, when the trees were running with sap and it was easy to take bark. Bark is cut from trees which are large (25–38 cm in diameter) and have clear, straight stretches without knotholes or other imperfections. Only the outer layer is taken, so as not to kill the tree. Locations of birch stands are often named, and some are recorded in Dogrib mythology, associated with important culture heros and sacred sites (Andrews et al., in press). Spruce trees provide all the other materials needed to construct the canoe.

## THE ANTHROPOLOGY OF TRAVEL

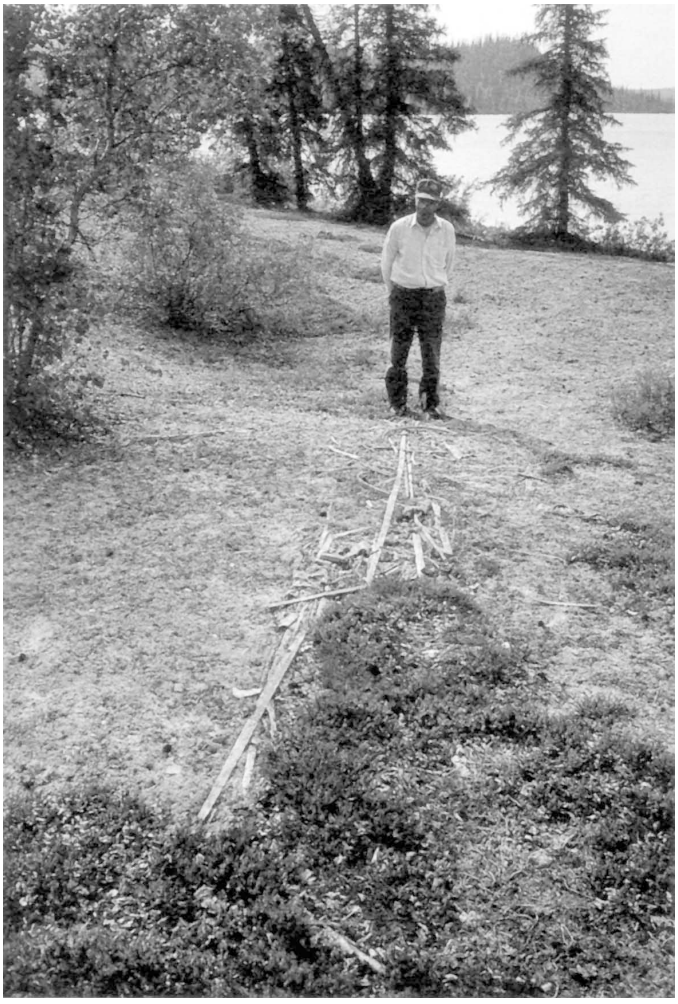
The Dogrib are great travellers. Trails, used in all seasons, traverse a traditional land use area covering more than 260 000 km$^2$. Like beads on a string, the trails link named places. Each place has a story, sometimes many of them, associated with it. These narratives provide information pertinent to Dogrib identity, history, and survival, and in this way geographic features become mnemonic devices for remembering a vast oral tradition. As young people travel the trails with their elders, they are told the stories at each named place. Later they are able to do the same with their children, and the feature itself serves to aid the remembering of the story. In our own archaeological research, we attempted to map place-names and to record the stories with elders during winter visits to the communities. The elders were happy to help us record the names, but some refused to tell us the stories, preferring to wait until we were at the place the following summer. That way, we would remember the stories too. One elder, Harry Simpson, a principal partner in the research, often said that "the land is like a book," which neatly summarizes the relationship between memory, land, and oral tradition.

Elders that have travelled the farthest are consequently the most knowledgeable and command the greatest respect. The canoe plays a prominent role in these travels and thus becomes almost a metaphor for travel itself. Canoe stories reflect this important connection between travel, knowledge, and respect, and relate how the land was used.

Although they are rarely made by canoe these days, long canoe trips in the fall to the barrenlands for caribou used to be an important part of the seasonal cycle. The hunting excursions were typically made only by the men, although sometimes entire families went. Such excursions are fondly remembered in the oral tradition. Some would cover up to 800 km round trip, taking weeks to complete. Fall caribou hunting provided an important source of meat to bridge the season of freeze-up when mobility was restricted, and also provided a source of prime hides for clothing and lodges. Stories of arduous portages, heavy loads, bad weather, and mishap are overshadowed by humorous anecdotes, stories of singing and playing of hand games at camps, and the beauty of the land.

## THE ARCHAEOLOGY OF TRAVEL

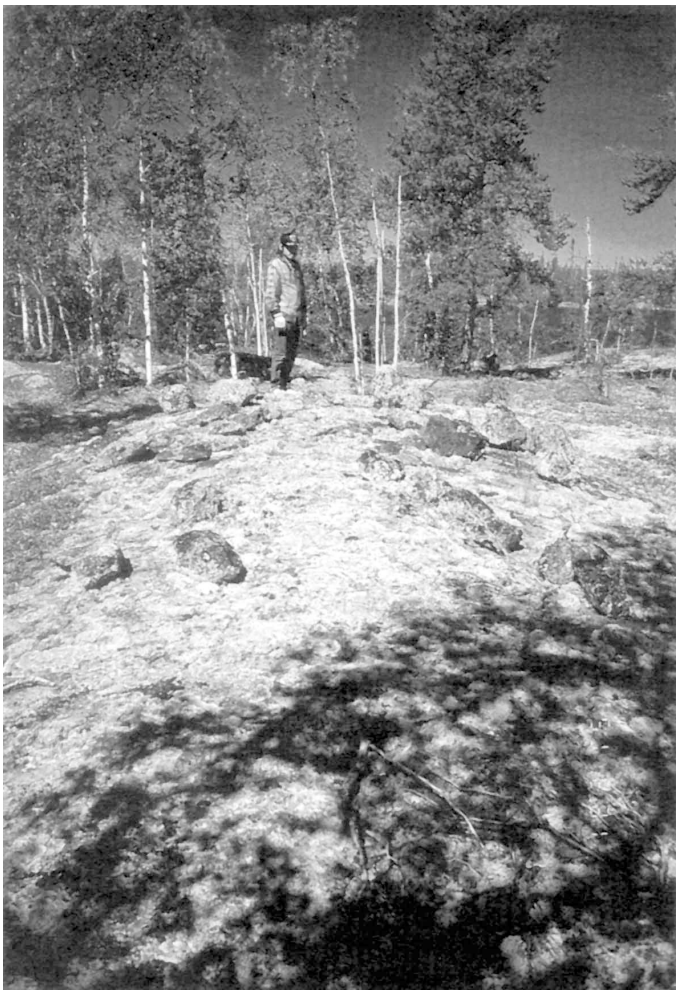
The historicity of Athapaskan oral narratives has been well documented (see, for example Cruikshank, 1981; Helm and Gillespie, 1981; Moodie and Catchpole, 1992), and for archaeology, Dogrib oral tradition, place-names and trails, and land use all hold tremendous potential for interpreting the past. It has been suggested that some Athapaskan oral narratives might reflect events which occurred in the late Pleistocene and early Holocene (Hanks, 1997). Although our work has concentrated on the recent past, the elders' knowledge has led us to many exciting areas of interpretation. This is particularly true with the association of canoes and travel.



*Remains of a canoe at an archaeological site. (T. Andrews/GNWT)*

The remains of canoes are most commonly found near portages, where they were stored for use the following year, but eventually abandoned. Though they most often occur singly, we have recorded up to six canoes at a single site. On the basis of preservation rates in the boreal forest and Dogrib oral tradition, we conclude that most of the canoes we have recorded were built sometime after 1900. In some cases, elders were able to tell us the year a particular canoe was abandoned, as well as the name of the builder and owner (Andrews and Zoe, 1997:168–170).

Other sites associated with canoes include building locations, birchbark collecting areas, and portages. Building sites are often identified by two parallel lines of large rocks, which were used to weight the building frame. When we first began to encounter these features in the field, there was little evidence to assist in their interpretation. However, to the Dogrib elders, the function of the rocks was immediately obvious. Our experience from the canoe-building project, and from historical accounts, supports their interpretation, and underscores the importance of the oral tradition in archaeological explanation. Another important indicator of past land use activity, sometimes associated with archaeological sites, was scarring on birch trees where bark had been removed for canoe or utensil manufacture. Sometimes large stands of birch exhibit scars on every tree, indicating much past activity.



*Canoe-building rocks at an archaeological site. (T. Andrews/GNWT)*

Portages are a prominent component of canoe travel in Dogrib country and are prime locations for storytelling. All portages have a name of some sort, and as the rivers in Dogrib country are typical puddle-and-drop Canadian Shield rivers, some trails have as many as fifty or sixty portages. Typically the names reflect the carrying conditions—"over rocks portage" or "over muskeg portage"—and thus are used over and over again. Occasionally a portage is so unusual—often because of its great length or arduous carrying conditions—that it has a special name: "see a long way portage" or more bluntly "big portage." Long or difficult portages are nearly always associated with camps at either end. Camping provides an opportunity to tell stories, and consequently portage camps are always looked forward to by travellers—for more than the obvious reason. For archaeologists, the importance of portages is obvious, as large archaeological sites are often found there.

From the canoe-building project, we learned that the relationship between the canoe-building site and the location of construction materials was more complex than we had originally imagined. For example, though spruce roots and poles for most of the structural members of the canoe were collected within a kilometre of camp, the elders travelled many kilometres for the stem-pieces, the gum, and the bark. We intend to explore the archaeological implications of these and other observations in the future.

## BEAUTY AND ELEGANCE REVISITED

In the fall of 1996, Chief Jimmy Bruneau Regional High School hosted a ceremony to unveil the new canoe exhibit, and to honour the elders for their craftsmanship. Attended by students, teachers, and visitors and dignitaries from the local communities and Yellowknife, the event served to close the project on a celebratory note. With the canoe on permanent display in the school, students have a constant reminder of their connection to the land and their history. The video helps cement this understanding and is used regularly in classrooms. Awarded the People's Choice Award at the 1997 Far North Film Festival in Yellowknife, the video is being aired on the international northern television network (TVNC), so others will be able to share in the cultural revival begun in Rae.

Perhaps more importantly, however, the project has stimulated the elders. Although it had been more than a generation since the last birchbark canoe was built, in 1997 two more were built by elders, and another elder began making canoe models. With each new canoe, another young person learns something of Dogrib history, and we hope that many more will be built.

*Project team and the finished canoe. (J. Poirier/GNWT)*

## ACKNOWLEDGEMENTS

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*Tom Andrews is Subarctic Archaeologist with the Prince of Wales Northern Heritage Centre, P.O. Box 1320, Yellowknife, Northwest Territories X1A 2L9.*

*John Zoe is presently Chief Negotiator for the Dogrib Treaty 11 Council, Box 24, Rae-Edzo, Northwest Territories X0E 0Y0.*