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Doing Quality Research

The history of Indian policy and the often adversarial nature of negotiations with government, industry, and sometimes with neighbouring aboriginal groups, suggests that the quality of mapped land use and occupancy data will remain a key factor in successful negotiations and litigation. Data quality may become even more important as populations grow, and as increasing numbers of corporations, agencies, and indigenous peoples lay claim to diminishing resources. This section of the guide addresses the issue of doing good research.

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Most existing policies, guidelines and handbooks instructing indigenous organizations how to map their cultural resources are flawed, and often contain the seeds of failure. Sometimes the authors of such material work within institutions whose goals are not entirely compatible with those of indigenous communities. Or sometimes the people who write the material are not skilled at doing the very thing they are instructing others to do. In some provincial and territorial jurisdictions for instance, archaeologists and foresters are given the responsibility of producing the how-to material. They cannot be expected to put together guidelines for doing successful social science research in First Nation communities.

There are different standards of quality that your research can meet. Project designers often give insufficient thought to the issue of quality, and their final maps end up being of limited use. In some instances, data quality is so poor that maps end up not being used at all for fear that if others

First Nations are always interested in mapping their current habitation sites, like this trapper's cabin made of logs, near Rapid Lake, Quebec, or the sod house shown below, in Mittimatalik (Pond Inlet) on Baffin Island, Nunavut.

There is an urgency to document oral history and traditional knowledge for the benefit of future generations.

got hold of them the information would be used against aboriginal interests. Sometimes having no data is better than having poor data, because poor data can be used against you. The standard depends on the intended use. For instance, the level of quality needed to use data internally for curriculum development is different than that needed to succeed in a court action. If you aim your sights high, then your maps are likely to withstand any level of critical examination.

There are four good reasons to set your sights high.

- Mapped cultural inventories can be useful in many different contexts, even unforeseeable ones. It makes sense to collect the data in a manner that allows your community to use the maps in any situation.
- Land use and occupancy information warrants respect, even a level of reverence. It deserves to be documented in a manner that minimizes the probability that it will be dismissed or disregarded.
- Many aboriginal communities are losing the elders who possess knowledge that the majority of their children and grandchildren do not. There is an urgency to document oral history and traditional knowledge for the benefit of future generations.
- Doing good quality land use and occupancy research is no more expensive than doing poor work, especially when you consider the long-term consequences.

Some communities that did cultural mapping a decade ago, when there was no immediate threat to their resource bases, are doing the research over again. They realize that the original work was not done carefully enough to counter the unwanted industrial development that is now taking place on their territories. When you think of the long-term benefits that can result from negotiations about who gets access to your territories, and the potential role of data in those negotiations, it makes sense to adopt a single, consistent approach to research. Simply, if you are going to do it, do it well.

Doing research well is not the same as making the results look professional. Quality has to do with the manner in which data are collected while appearances have to do with the manner in which data are presented. The GIS technicians, using their computers, can make almost any data set look impressive, but they cannot improve the quality of the data.

Some aboriginal administrations have made the mistake of letting technology lead or define their research agendas. A large number of communities now possess GIS hardware and software but not the capacity to operate it well. They have fine-looking maps that are great to hang in the local

band office or school. Unfortunately, many of these same maps would not get taken seriously in negotiations with provincial, territorial, federal, or other indigenous governments.

Looks do not win points at the negotiating table, substance does. Remember, "garbage in, garbage out." If the input is poor quality data, the output will be poor quality maps (Figure 3).

FIGURE 3 **Garbage in, garbage out**

The importance of having quality map data can hardly be overstated. If you take shortcuts and are sloppy with the design and implementation of your land use and occupancy data collection, do not count on getting to your desired destination.

Appreciating the Challenges of Oral History as Social Science

If you make the decision that you want to map the contents of oral tradition, and that you want to do it well, what is involved? Some things are obvious and others are not. A common problem is that an administration will assume its role is over once funding is obtained. This is a recipe for failure because the leaders are making the same mistake that the funding agencies often make. They underestimate what a potentially tough job the community's own data collectors have in front of them.

It is natural to underestimate the difficulties of land use and occupancy mapping. "We have been passing knowledge from generation to generation for thousands of years," your thinking might go. "What can be difficult about mapping aspects of that oral tradition?" The answer emerges when you consider the kinds of political processes in which your data can be used, and the basic assumptions on which those processes are built. Negotiation, mediation, and litigation are all based on an examination of the merits of concrete documentary evidence, part of the tradition of Western science.

Land use and occupancy mapping employs the rules of social science, which studies society and social relationships. The practice of it is social

Some of the structures that people stay in while at habitation sites are less permanent than log cabins or sod houses. Canvas tents are used at this bush camp near Pinehouse, Saskatchewan. Regardless of the permanency of the structure, all sites where people stay out on the land while hunting, fishing, trapping, gathering and travelling are significant, and usually appear on First Nations' maps.

Looks do not win points at the negotiating table, substance does.

in nature because one person is asking another for information, and it is science because the questions are being asked in a systematic manner, according to Western scientific rules of gathering and verifying knowledge.

People are complex animals and all kinds of psychological and social considerations are involved when you ask someone else for information. This is especially true when the kinds of questions you ask are personal, as in the case of use and occupancy mapping. The challenge is magnified because the research crosses cultures, with the indigenous community adopting rules of research developed by the larger society. One culture has been fundamentally oral in nature for a very long time, while the other has depended on the written record for the transmission of information.

Oral traditions must now be respected and taken much more seriously than before, thanks to Gitxsan and Wet'suwet'en elders, and the Supreme Court of Canada's 1997 *Delgamuukw* ruling. *Delgamuukw* says that evidence based on oral traditions must receive the same weight as other common law forms of evidence, such as archival documents and expert opinion. The court's finding is a victory for all aboriginal governments, but it does not mean that such testimony will receive immediate respect. As new rules of admissibility and weighting emerge in the courts, they are likely to be consistent with the principles of the existing scientific model.

The role of social science will not be diminished, either in courts or outside of them, for years to come. However, once your leadership commits itself to doing good research, and is aware of the limitations of any mapping project, it has made a significant step towards levelling the playing field. Western science, and all its strengths, can be a powerful tool in the hands of First Nation governments.

Land use and occupancy mapping studies sometimes document places where wild foods are prepared for consumption and storage. These places are usually but not always located at habitation sites. Elder Helen Natomagan of Pinehouse hangs strips of moose meat on a rack, beneath which a fire will be made to provide smoke for curing the meat.

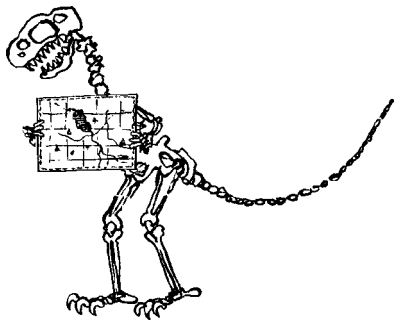
Avoiding the Museum Approach to Mapping

The first thing that has to be in place is your leadership's commitment to producing a set of good quality maps. This commitment usually goes hand in hand with a plan that is larger than the particular mapping project. There needs to be a more general strategy. For what political processes or framework agreements do you anticipate using the maps? How do you design the work to be effective in those contexts, while keeping your next move in mind? How do you minimize the ability of others to use your own research against your interests?

It is risky to view a use and occupancy project in isolation from a larger research strategy. No matter how thorough data collection is, the typical budget cannot produce maps that represent all your community's cultural geography. Even if you had funds to do four major mapping projects –

harvesting sites, travel routes and habitation, spiritual sites, and place names – and you documented all the mappable information that all your elders and harvesters had, the final product would not represent the totality of your culture and oral tradition. The final set of maps would still have gaps, with many cultural features isolated from the others in a sea of blank space. That blank space, however, can be critical to the survival of the culture. For instance, the final maps might display the places a community harvests salmon while the spawning streams on the community's territory remain unmapped, or blank.

The danger of showing cultural features as disconnected islands, or fragments, on a map is that corporations and agencies carry on with business as usual on the portions for which no data are mapped. Governments may take the position that aboriginal title and rights are site specific, and do not apply on the rest of the territory. They tend to regard the mapped bits as museum pieces which are isolated remnants of heritage, instead of parts of living cultural systems. The sad fact is that you can save all the island remnants and, in the end, save little. The development that occurs in all that blank space, much of which is productive habitat for the animals and plants necessary to sustain your culture, can lead to a situation where your mapped features eventually do become museum curiosities that do little more than commemorate dead tradition. Perhaps the salmon harvest sites get some protection in planning processes, but the watersheds that feed the streams continue to get clear-cut, resulting in the destruction of the spawning beds. Saving some of the pieces, some of the sites, is not the same as keeping the system healthy.



Saving some of the pieces, some of the sites, is not the same as keeping the system healthy.

There is risk involved in mapping specific sites, but it is necessary if you are to end up with credible maps that serve your community well. The issue is not so much whether to map detailed and specific sites when appropriate, but rather how to control the release of data, how much data to release, to whom, when, and at what level of detail – both in terms of geographical space and historical significance. Collecting data that are best represented as small areas or points and mapping them as large polygons defeats many of the purposes for which First Nation groups do the mapping in the first place.

Regardless of whether specific sites are mapped as points or large polygons, in many parts of Canada it would be impossible to show that entire traditional territories are saturated with use. That is why it is important to link each piece of use and occupancy mapping research to your previous efforts, and to have your next project build on the strengths of what you are doing currently. Ideally you will end up with something called

Habitation sites are particularly important to map, not only because they are concrete evidence of occupancy, but also because once you document them, it is much easier to then map your community's travel routes. This is because when people are travelling, they are usually going from one cabin or camp to another, or making day trips out from the sites to harvest resources. The habitation sites are like the dots on a child's connect-the-numbers line drawing.

comprehensive research. To date this has been a rare thing, mostly because indigenous leaders have not seen a need for it. Or if they have, they have not been presented with any examples of how to accomplish it.

Comprehensive research requires an overall plan that links a number of key components together. Taken as a whole, it proves that the museum approach is not valid. Many nations have used something called a harvest survey to obtain quantitative measures of the amount of food their territories provide. Many have researched and mapped the ways that industry, government, and third party interests have restricted their use of their territories. Comprehensive research also describes the complex system of use that is the foundation of all the mapped use and occupancy data. That system of use cannot be portrayed in map form, but it can be put into words. Traditional ecological knowledge, social customs, organizational structures, and social institutions are part of the system, and when the maps are considered in light of these, there are no blank spaces. Everything can be shown to be interconnected. What appear as blank spaces on the map can be shown to have meaning and significance to the culture.

A number of communities are successfully pursuing comprehensive research. They and others are rightly concerned about the damage that can be done to their resources and territories in the time it takes to do research. However, numerous groups have discovered that even incomplete (but good quality) research has been effective in stopping or lessening the impacts of unwanted development. Indigenous governments are including the negotiation of interim measures in their long-term strategies. These are temporary mechanisms that give all cultural resources, whether mapped or not, some level of protection until such time as a satisfactory management plan is in place. Such a plan is one that gives due consideration to the nation's entire system of cultural resources, including the unmapped "empty" areas.

Whether or not interim measures are in place, all maps should display prominent qualifiers that state their limitations, and put potential users on notice that the data are not to be abused. Such qualifiers might indicate that the map is a work in progress and incomplete, and that the data displayed in no way lessen anybody's obligation to consult with the community. Restrictions concerning ownership, viewing, replication, and distribution of the map should also appear.

Indigenous peoples do not have the luxury of doing land use and occupancy research for the fun of it. Communities want their work to meet concrete practical needs.

Indigenous peoples do not have the luxury of doing land use and occupancy research for the fun of it. This is applied research, not academic inquiry. Communities want their work to meet concrete practical needs. Because those needs often involve long-term change, it is necessary to

have a research plan that is in step with a long-term political agenda. Your mapping has to be designed with your big picture in mind. If it is not, somebody has already designed it for you, as part of their agenda, which almost always involves the museum approach.

Laying the Groundwork for Good Research

The most important factor that makes or breaks community research is whether members are willing to participate. An administration can have a big picture well thought out, and truly want a project to succeed, but still fail because it does not secure community support. It is the administration's responsibility to do whatever is necessary to inform people about the project, address concerns about things like confidentiality, and develop a consensus that the project is in the best interests of all families. Ideally, this is done before the first map session takes place.

Here are two real-life examples that represent the range of community preparedness for mapping. The two communities, one in Quebec and one in Ontario, are very close in population size and have territories that are similar in extent. Data collection involved the same number of interviewers, asked for the same kinds of information, used similar interview guides, required the same amount of participants' time, and recorded data at the same scale of base map. In both cases, close to 90 participants did map biographies. Data collection took three weeks in Community A. It took three years in Community B. The band administration and elders of Community A spent many months publicly discussing the research, and a strong consensus about the need for it was solidly in place before the first interview. The chief and council of Community B endorsed the research from the outset, but the elders were split on the issue and many adults had no understanding about it when data collection started. Obtaining a set of map biographies required a dozen trips to the village at considerable expense, and the research agenda itself became a divisive issue.

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If community consensus is not in place when interviewing commences, workers will struggle for the entire data collection phase. They will find themselves spending far too much time explaining the project to people, and listening to individuals' concerns about the research itself, the funding agency, or even gripes about their own politicians. It is not the interviewer's job to do damage control when sensitive issues are raised during data collection. Every local government has its critics who will use a request to participate as an invitation to criticize. For many data collectors, getting individuals to sit down with them has been quite frustrating in itself, and the experience of having prearranged map sessions turn into no-shows

is all too familiar. It is neither fair to the interviewers nor productive for the research to start without widespread popular support.

In addition to building consensus for the endeavour, the aboriginal government must provide hands-on political and material support to its data collectors for the entire period of interviewing. Administration personnel are usually stretched thin because of limited resources. Often, everybody ends up being asked to take on more than they can handle. Unfortunately, the success of the research can be jeopardized if the interviewers get asked to take on too many responsibilities. Ideally, the community's leaders will be able to designate a staff member who has the skills and time to help take care of the problems that workers will face from time to time. More technical problems are best handled by the research director.

Contemporary travel routes are often mapped, regardless of time of year used and method of travel. A Pinehouse resident on a snowmobile cautiously inspects an ice fissure on Sandfly Lake in northern Saskatchewan (above). Two members of the Algonquins of Barriere Lake paddle along the Ottawa River, near its headwaters in mid-northern Quebec (below).

Research Personnel and Training

Leaders sometimes make the mistake of always hiring local research directors regardless of the candidates' previous experience or training. If you are counting on high-quality data to use in contexts where the allocation of natural resources is at stake, then this can be a recipe for disappointment. Indigenous politicians must be clear about whether their primary goal is to reap the short-term rewards of hiring local research directors (things like local political support and income for the community) or to seize the opportunity to produce maps that can help win long-term benefits.

This is not always an either-or situation. There are some very skilled aboriginal researchers, but many communities cannot yet count these among their members. It will be some time before the majority of indigenous groups have their own capacity to design successful cultural research of this kind. Indigenous governments can create a temporary solution during the transition period by negotiating funding for pre-project training of potential community research directors, or at least, on-the-job training experience.

Most communities will, for the time being, remain dependent on the services of skilled outsiders to help them design and direct land use and occupancy research. Unlike the 1970s, when isolated groups first started doing this kind of mapping, almost all communities have now had experience with outside consultants and researchers. Most are aware of the importance of keeping consultants accountable, and of maintaining control of cultural data. Still, administrations sometimes make poor judgments about the abilities of consultants to help them do good mapping.

Often it is assumed that if a candidate for research director is a university graduate, she or he will meet your needs. University experience is a

valuable asset, but it does not in itself point to successful research. The candidate's academic background is likely to be in a field such as forestry or archaeology which accepts the world view of society at large. If his or her assumptions about the connection between your people's culture and well-being are at odds with your own people's way of looking at the world, then there is a problem. The risk is that the research will be undertaken largely in keeping with outside values despite the person's best intentions. The research would then likely end up serving outside interests. The ideal qualification for research director is a demonstrated track record of having worked with First Nation people on cultural research projects, of having earned their trust, and having produced useful product.

Sometimes the mapping of travel and trade routes focuses on documenting the most ancient of a First Nation's heritage routes. Genevieve, Bazile, Lucie and Antoine Decoursay pause for a rest, while paddling on Barriere Lake. The lake is known to have been used by the Decoursay ancestors for many hundreds of years.

In addition to the research director, the selection of community people to do data collection is critical. These individuals have to be motivated by the belief that the project will make a difference to their people. They need to be self-starters and firmly committed to staying on for the duration of the data collection phase. This is especially important, because in most communities the team of interviewers is made up of only two or three persons, and the loss of even one makes a difference in the amount of map sessions that get completed. Most projects do not have the budget or flexibility to allow for the training of a replacement.

The level of commitment and motivation is as important as any other qualification. The tone in this regard will often be set by the community's leadership. If the project is perceived to be a make-work program, the likelihood increases that workers will be hired who regard the position as just a job. There are numerous other considerations in selecting workers. They should have the following qualities.

- Good interpersonal skills.
- The respect of community members, especially elders.
- A heartfelt interest in their culture.
- A familiarity with their traditional culture, systems of harvesting, and traditional territory.
- A lifestyle that allows them to show up on the job consistently free of any influence of drugs or alcohol.
- The ability to read and understand maps.
- The ability to speak and write in their indigenous language.
- The ability to use a flexible interview guide by being able to think on their feet and probe with follow-up questions.
- A willingness to pay close attention to detail.
- The ability to read and write well, and to keep good research records.

The good news is that this is not rocket science.

You will not often find people who meet every one of these criteria. It is important to select your team so that individual strengths complement each other. For instance, successful interview teams sometimes have only one member who speaks the indigenous language and has an intimate knowledge of the territory, and another member who writes well enough to keep good records and take responsiblity for the detail required by social science.

Most government-funded research projects encourage workers to start data collection without sufficient training. Agencies either set low standards, or do not provide the means by which higher ones can be achieved. It is up to the community to insist on high standards, to define those for itself, and to collect data in a manner that meets them. You can do good use and occupancy mapping only if you know the rules of good data collection, and for this reason training is a prerequisite for success in most communities. The good news is that this is not rocket science. The principles, methodologies, and confidence needed can be acquired by people with nonprofessional backgrounds in a matter of days.

Carrie Paquette, Fred Askoty, Chief Stewart Cameron, Sam Acko, Stan Napolean, and Lana Garbitt practise techniques thay have been acquiring during a land use and occupancy research skills training in Fort St. John, British Columbia. The workshop brought together community researchers from the Doig River, Saulteau, and Prophet River First Nations.

Taking Control of Research Design and Data

In addition to building up community-wide support for the research, and the careful hiring and training of staff, your administration must take control of its design. The design is a combined blueprint and work plan. It lays out how the data are to be collected and then worked into a final set of maps.

Research design does not happen by itself. If you have not created it, then you need to ask yourself who has. If you are not in the driver's seat, then somebody else is, and that somebody is usually the funding agency or industry. Often what you want your map data to accomplish is at odds with what the funding body wants to accomplish. For instance, your community might want cultural sites mapped so that it can protect them, while the funding agency might want the sites mapped so it can honour some administrative or legal obligation, and then proceed with business as usual on your territory, with no regard for protection.

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No single research design can meet the needs of conflicting or contradictory agendas. You can, however, put together a blueprint that serves aboriginal interests well, while meeting funding requirements. You can also minimize the risk of government misusing the information you might be obliged to deliver. This is an especially sensitive issue because there have been numerous instances where cultural information has been collected by consultants or academics, then used for personal gain, and sometimes never returned even after repeated requests by the community.

Maintaining control of your map data is essential. It can be done, even in the face of funding requirements to provide some of the data to outsiders. A number of projects have been successful in meeting obligations to supply information, by providing data that are presented in a way that safeguards sensitive sites from violation. For instance, there might be a category of sites that is especially vulnerable to vandalism, such as ancestral burial grounds. The map could show each site as an area covering ten square kilometres, making them impossible to find on the ground without the community's assistance.

Information-sharing agreements can be negotiated to include a variety of mechanisms that allow the indigenous group to retain sole possession of the kinds of data most likely to be abused. Under some arrangements, the community releases data on a case-by-case basis as the need arises, and only after careful evaluation by a committee of elders and other leaders. Under other arrangements, the government receives only maps showing cultural sites, while the aboriginal group retains control of the database, which contains the detailed information about the history and significance of each site.

Taking control of your mapping project involves more than the obvious things such as negotiating a strong information-sharing agreement and keeping consultants accountable. It also means giving careful thought to the technical design of the research. Funding arrangements often include prepackaged research designs, in the form of policy guidelines or "how-to" manuals, and these usually have big problems. Fortunately, funding guidelines always leave a lot of room to manoeuvre. But if you do not take advantage of this flexibility and design the research yourself, somebody else is already in the driver's seat by default.

Prepackaged research designs, in the form of policy guidelines or "how-to" manuals usually have big problems.

Avoiding Response Burden

Taking control of your research involves avoiding the unintended invitations to fail that are hidden in the instructional material provided by government and industry. The most common invitation is simply that the community is asked to take on an overly-ambitious project, one for which the expectations set by the research design are too high. This appears innocent enough, which makes it difficult to recognize as a potential problem. Attempting to accomplish too much is probably the number one reason for research shortcomings, and why map projects fail to produce the results that are wanted by aboriginal administrations.

When you design research you have to be realistic about what can be done within a set budget and time frame. Your expectations have to take into account the skill levels of project personnel and the level of cooperation you can expect from potential participants.

Suppose you want to design a project to map the content of oral tradition. You could collect some of the following kinds of information: harvesting sites; ecology and critical animal habitat; site-specific features of special cultural significance; travel and trade routes; and place names. All of these kinds of information, or themes, are mappable. However, it is impossible to collect the data needed to map them all in a single project, which is exactly what some guidelines encourage communities to do. A really good job can be done only when the focus is on one or two of the themes. It is necessary to be selective in what you are going to ask people because if you are not, you end up with an interview guide that is complex and long, which means you run the risk of major response burden.

Response burden occurs when the participant experiences the interview as too much of an effort. People have a range of experiences at map sessions. Some will find them enjoyable and even fun; others will find them positive, but somewhat inconvenient. Still others will experience their interview as frustrating. The interview must be structured in such a way that the majority of participants will be satisfied afterwards, especially the elders. Those are the people who likely know the most about many kinds of cultural features. They also tend to experience the most fatigue and frustration when response burden is high. Elders also tend to be listened to by community members at large, and their opinions about the interview have considerable impact on final participation rates. What you want is for the mapping to generate project support by having participants go back into the community and tell others what a worthwhile endeavour it is. You do not want people leaving the session annoyed.

Two things happen when response burden is high.

- The interview gets a reputation for being tough. When this happens the data collectors spend much more of their time trying to get people to participate, and the final number of completed sessions is low.
- People who do agree to do a map are more likely not to provide good quality data for each of the questions.

Both of these outcomes translate into a weak set of community composites.

One way to look at response burden is as an issue of respect. You want your workers to respect the basic limitations we all have as human beings. The participant does not have an unlimited amount of energy, time, or willingness to concentrate on the task at hand. On average, it seems that most people are comfortable staying focused up to about one and a half hours at a sitting, although this varies from one culture to another, and it certainly varies from one individual to another.

Respecting the Limitations of Community Workers

Encouraging First Nation people to design research that results in excessive response burden is only one way in which instructional material invites failure. Another is to set up wildly unrealistic expectations of your workers. Consider this scenario. The community gets the funding to do a mapping project. The administrator has a budget to hire four workers and a research director for 15 months. The government supplies guidelines which lay out the project's phases and how each is to be conducted, as well as what the community is expected to provide at the end of each phase. It sounds good so far, but the problem is the job description of the workers.

A typical mapping project involves a number of big tasks, as shown in Figure 2 (page 10). Some research guidelines also require the project, as part of the same 15-month package, to do other tasks like archival work, ground-truthing of sites, and the manual completion of a data form for each mapped feature. What ends up happening on some projects is that community people are asked to do a whole range of tasks, any one of which by itself is a substantial undertaking. Most individuals selected as workers for these kinds of projects do not have professional experience or a lot of training in related fields. You put your research at serious risk if you ask your interviewers to wear too many hats. All of us have limits on how much knowledge or how many skills we can learn and apply in a given amount of time. It is unreasonable to ask an inexperienced person to become skilled enough to do, for instance, archival research, social science data collection, transcription, administration (filling out data forms), and digitization of data all in the same period.

You put your research at serious risk if you ask your interviewers to wear too many hats.

This would be fine if both the community and funding agency had set out with the intention of providing workers with a smorgasbord opportunity to taste a whole series of research skills over a period of a few months, but that is never the case. Funds are provided to produce concrete product, which is the primary objective. Capacity-building is secondary. The administration typically does this kind of research because it needs data for specific purposes, often urgently. Workers who are asked to learn, master, and apply a variety of skills in a short time frame, and produce something of quality, might come to feel they are in a pressure-cooker. Under these circumstances, anybody would have difficulty delivering.

One of the saddest consequences of research guidelines that invite people to take on too much too quickly, is that the project ends up leaving the workers overwhelmed, even demoralized. For instance, in one community, in less than a year, the project staff, all of whom were from the community, were asked to undertake intensive training in archival research, map data collection, and transcription, as well as workshops in GIS. The project ended in disarray, without funds and without quality product. The band hired

Logs are an important construction material for many First Nation communities. Land use and occupancy mapping projects often document the locations where trees are harvested for this purpose, as well as the actual building (habitation) sites.

one of the luckless workers to stay on to manually create the composites that were originally intended to be produced using GIS software.

What are the probable results of a situation like this? Aboriginal leaders, negotiators, educators, lawyers, and resource managers do not end up with the quality data needed to serve their people. The community acquires a reputation for failure and finds itself out of luck the next time it applies for funding to do cultural research. Community members become cynical about research because their efforts did not translate into concrete benefits. The workers are left doubting their ability to acquire and apply research skills, and perhaps thinking the project's outcome was their fault.

Every research project is an opportunity to build the skills and confidence that are one of the cornerstones of self-government.

These are serious consequences, especially if your people's vision is to govern itself and develop the capacity to do its own research, planning, and resource management. Every research project is an opportunity to build the skills and confidence that are one of the cornerstones of self-government. This can only happen if the expectations put on your researchers are realistic. Make sure their job descriptions are reasonable and focussed enough to ensure success.

Aboriginal people embarking on land use and occupancy projects need to get themselves in the driver's seat of research design. Being cautious with the how-to instructional material that often comes with funding dollars, and creative in modifying it to suit your needs, is part of the process. There is always room to manoeuvre. You can mold the research design so that it respects both the limitations of your participants and those of your workers, minimizing response burden and creating a process in which your workers succeed.