



National Indigenous
Fire Safety Council Project

Projet du conseil national
autochtone de la sécurité-incendie

BUILDING RESEARCH
CAPACITY AND
OVERSIGHT AT THE
NATIONAL INDIGENOUS
FIRE SAFETY COUNCIL

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Executive Summary

The purpose of this report is to provide a framework for growing the NIFSC's research capacity as it moves forward. The NIFSC has already established the groundwork for a research arm by collecting fire-incident data through its National Incident Reporting System (NIRS), Fire Department Assessments, and the Home Safety Assessments. The organization has also pursued several independent projects supported both internally and with the assistance of external contractors.

The report addresses several issues that will help to establish a strong foundation for ongoing and future success in the NIFSC's research focus. These include a discussion of the organization's priorities and an examination of possibly separating long-term from short-term objectives. An integral part of this exercise is the NIFSC's existing commitment to community-based research and using community outreach to help identify its ongoing research focus.

Significant opportunities are also identified to develop ongoing external partnerships with academic fire researchers. Not only can these types of partnerships assist the NIFSC in pursuing its research objectives by drawing on expertise not available within the organization, they can also open the door to significant outside funding. The NIFSC is encouraged to develop these opportunities to collaborate in larger and more extensive research projects. How to develop research networks and the problems that might arise in growing those networks is also subject to significant discussion.

The matter of best practice in research support is also addressed. This identifies a series of issues that need to be addressed in research projects in order to maintain the integrity of the project and the credibility of the organization.

1. NIFSC Research Infrastructure

The National Indigenous Fire Safety Council (NIFSC),¹ as a project of the Aboriginal Firefighters Association, is one of the few non-profit organizations (NPOs) in Canada that has a commitment to providing both services and research. Most non-profit organizations focus on service delivery alone. The NIFSC's research component adds both strength to its operational mandate and to its credibility.

This report is designed to provide a framework through which the NIFSC can strengthen its research capacity as it moves forward. By building a strong research arm, the NIFSC should not only be able to move its own agenda forward more effectively, it should also be able to provide a strong example to other Indigenous and many non-Indigenous service organizations.

Commitment to Research

For many non-profit organizations, research is either a low priority or non-existent. It is easy to understand this perspective since the primary objective of most NPOs is to deliver and administer programs. Delivering on the organization's mandate and having an impact rarely means having to conduct research in the traditional sense. While this approach works for many organizations, it can limit the overall impact of an agency. Effectively delivering programs is an admirable objective: that is what the agency should aspire to. *However*, an agency has a greater impact if it can tell the story of how well the programs are being delivered. Do they have the desired impact or results? Do they meet their target audience? Are they reasonably efficient and cost-effective? In the case of an Aboriginal organization, do they provide their services in a culturally appropriate manner?

By addressing these and other research-based questions, the agency can establish a higher level of credibility. Credibility is a major currency when it comes to advocacy, obtaining funding, and having an impact on policy development. Concrete, objective, and external indicators of success support an agency's claim to being efficient and effective. When choosing to provide resources, governments and other funding sources rely heavily on the established prior accomplishments of an operational organization. Furthermore, an organization's credibility is advanced when it is making a pitch for changes in legislation, oversight, or operational policy.

Besides showing what works, research can also show what does not work. While people often think that showing ineffectiveness undermines an agency's value, the exact opposite is true. Identifying what does *not* work means that resources can be redirected to programs that *do* work. Ritualistically supporting ineffective practices, even when they are perceived as being politically favourable, helps no one in the long run. Being transparent about the effectiveness of the programs and services an agency delivers enhances credibility. It proves the agency can be trusted with the resources—monetary and otherwise—that are provided by funding sources.

¹ Formerly, the Indigenous Fire Marshal Office (IFMO).



Furthermore, a strong commitment to conducting research provides an example to the broader First Nations community (particularly young people) that research, whether relating to fire services or elsewhere, is a viable career opportunity. As a relatively new organization, however, the NIFSC is still in the process of developing its research capacity. In this respect, it is no different from many other entities. While there is not an extensive literature on the topic, the development of an NGO's research capacity has been addressed, particularly on the international stage.

Developing Research Capacity

Writing about non-governmental organizations, Twigg defines capacity building as the “process by which individuals, organisations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems, and set and achieve objectives.”² Developing research capacity is not unidimensional but requires attention to several areas. Those include in-house considerations of personnel, capital resources and managerial capacity along with the cultivation of outside resources.

Many non-profit organizations engage in research and development (R&D) activities. This research runs the gamut from generating baseline or descriptive data, to the measurement of program effectiveness, to “pure” or academic-style research. There are various models for managing and executing research within each of those areas. Sometimes, the research task is outsourced to external organisations; some in the sector have dedicated teams that are actively involved in carrying out analyses; and, others use a hybrid model. While many NPOs are heavily focussed on research and have achieved significant renown for their activities, many others stumble along engaging in research in name only.³

The primary difference between organizations that are successful in their R&D activities and those that are not, is the capacity of the organization to *manage* the research endeavour. For organizations whose primary objectives are elsewhere, such as in providing services, developing that capacity is often an afterthought. This, however, should not be the case. Even organizations whose primary focus is delivering services should know whether they are servicing their target population and whether those services are achieving the goals set for them.

The US-based National Council of Nonprofits defines *capacity building* as “whatever is needed to bring a non-profit to the next level of operational, programmatic, financial, or organizational maturity, so it may more effectively and efficiently advance its mission into the future. Capacity

² Twigg, J. (2001) *Capacity Building and Its Challenges: A Review of the Baring Foundation's International Grants Programme 1997—99*. London: Baring Foundation: London. P. 5.

³ A good example of success in this area is the Canadian-based Fraser Institute, which is primarily a research and education-based organization. [<https://www.fraserinstitute.org/>]. For a more typical description of research capacity and practices in NPOs see R. Stoecker (2007) "The Research Practices and Needs of Non-Profit Organizations in an Urban Center," *The Journal of Sociology & Social Welfare*, 34:4 pp. 97-119. Available at: <https://scholarworks.wmich.edu/jssw/vol34/iss4/6>



building is not a one-time effort to improve short-term effectiveness, but a *continuous improvement strategy* toward the creation of a sustainable and effective organization.”⁴ Whether supporting R&D or other aspects of the organization, capacity building a crucial element for most NPOs.⁵

The NIFSC is already ahead of many NPOs in that it has identified research as a significant component of the organization’s activities. The NIFSC has also set up a research infrastructure and is producing research output on several dimensions.

Current NIFSC Base Capacity

Currently, the NIFSC’s research infrastructure consists of a Director of Research and that person’s management support along with others to collect data and provide standard reports. Beyond pursuing special topics, the NIFSC has a commitment to collecting fire-incident data through its own created National Incident Reporting System (NIRS), Fire Department Assessments, and the Home Safety Assessments. As research activities expand within the NIFSC, it is likely that additional personnel will be required. This is particularly the case if significant outside partnerships are developed. Beyond data collection, analysis and report writing, it is likely that resources will need to be directed to overseeing or managing those partnerships.

While increasing the number of internal research staff to conduct a range of projects is one option, this does not preclude developing external partnerships. Developing partner relationships is one way to complement the NIFSC’s internal capacity without the need for extensive resources. For example, in-house staff may tend to have backgrounds focused primarily in the social sciences, but NIFSC may find it needs access to expertise in engineering, health, or the natural science. This expertise may not be required full time which would make it costly to keep such experts on staff. Partnerships, however, allow the organization to draw on those skills as needed. Later in this document, we will outline some of the possible partnership options open to the NIFSC.

In time it is expected that NIFSC’s research office will be centrally located with a fixed presence or office setting. In the meantime, the NIFSC’s research mandate will likely be best sustained as a virtual service, much like today.

As internal research capacity expands, the NIFSC might also consider introducing an internship program. This could range from hiring Aboriginal summer students (including high school students) to having college or university level interns engaged in projects. Not only would this add some

⁴ US National Council of Nonprofits <https://www.councilofnonprofits.org/tools-resources/what-capacity-building>.

⁵ See J. Temple and J. McAlpine (n.d.) *Capacity Building: Investing in Not-for-Profit Effectiveness*. PricewaterhouseCoopers Canada Foundation. [<https://capacitycanada.ca/wp-content/uploads/2014/09/Capacity-Building-Investing-in-not-for-profit-effectiveness.pdf>] for a Canadian Perspective. Access to a free management library on capacity building is available at: <https://managementhelp.org/organizationalperformance/nonprofits/capacity-building.htm>

internal capacity, it would also contribute to the broader First Nations community by setting an example.

Before addressing what can be done to expand the NIFSC's research capacity, we need to address two specific issues. The first consists of the organization's research priorities. The second relates to NIFSC's commitments to data collection.

2. Research Priorities

At present, the NIFSC has seven broad research priorities. Specifying those priorities helps to ensure medium to long-term predictability and stability for researchers and policy makers both within the organization and externally. The current (2020-2021) organizational priorities are listed as follows.

- **Fire Department Diversity and Inclusion, Creating Opportunities for Indigenous Recruitment** – Creating opportunities for Indigenous persons to serve as career firefighters.
- **Community-Based Fire Research** – Creating a capacity for community-based fire research – demonstration project
- **Apparatus Capital Equipment Recycling** – Creating a sound vehicle and equipment maintenance replacement program.
- **Fire Safety Messaging Research** – Using a data-driven, research-based approach to reduce residential fires.
- **Fire Safety Ambassador** – Maintaining sustainable behavior changes toward Fire Safe Communities.
- **Building Research Capacity and Oversight at the NIFSC** – Identify, review, and recommend program options for determining and building ongoing research supervision and capacity at the NIFSC. This will rely heavily upon the next element.
- **Community-Based Fire Research** — The objective here is to create a capacity for community-based fire research. Community-based fire research can offer useful insights into the challenges and positive impacts of various programs and interventions in the communities where the research takes place. The success of this research depends on two important variables: the capacity to generate good information, and the extent to which it is understood and accepted by the community. To be accepted by a community, CBR needs to be a two-way relationship that includes a set of responsibilities for both researchers and communities. A strong NIFSC-community relationship can provide expert advice on the crucial relationship between communities and researchers.



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To facilitate CBR, it is proposed that the Director of Research conduct a survey within First Nations communities to create a listing of community-based issues. It is expected that this approach of “research by First Nations for First Nations” will result in better outcomes and decisions. It is also expected that the NIFSC will draw on decades of community-based research experience outside the organization, including vignettes from researchers around the world who can share their experiences.

While these issues have been identified as current key issues for the NIFSC, it is obvious that they will change over time as conditions in communities change and the state of the knowledge in the field changes.

The NIFSC is fortunate to have two broad oversight bodies—the National Advisory Committee and the Technical Advisory Committee (see Appendix A) —that help to set the overall research agenda. Currently, the research priorities are revisited annually. This could be changed to five to ten-year intervals, depending upon how quickly both the research and policy landscape evolves. For example, technological changes might make some priorities largely irrelevant or at least reduce their importance for Aboriginal communities. At the same time, many issues facing First Nations communities may converge with those of the broader Canadian population while others will be unique.

To maximize the return on resources, however, it is also suggested that the NIFSC might engage in a shorter-term exercise to identify a series of “lower-level” issues or projects that fall under each of the broader priorities. Often, putting together the resources for individual projects can take longer than the annual, fiscal-year planning cycle. Identifying those specific projects one or two years in advance can assist in both budgeting and putting together the necessary logistics to carry out the projects.

Obviously, identifying relevant projects is a circular activity where items can be generated both within the NIFSC Project and at the community level, and then vetted by the TAC. One suggestion for generating ideas for specific research projects would be to put together a group of key informants to the Director of Research. This group could meet either in person or virtually from time to time and could change personnel regularly to provide a broader range of perspectives. These round table participants could range from community residents and leaders to fire fighting professionals and others with outside expertise.

Ongoing Research Initiatives

The NIFSC has a commitment to ongoing or core research. Currently, the main part of that consists of collecting data that can be used for various purposes including impact assessment. Essentially, NIFSC’s mandate suggests that data be collected for three purposes: to gather baseline or



descriptive data; to gather data for evaluation research or program impact assessment; and, to collect data for special projects or “one-off” research projects. It is expected that many of these unique research projects will result from the community-based research agenda outlined above.

Gathering Baseline (Descriptive) Data

Baseline or descriptive data are important for several reasons. First, they indicate what the current state of a situation might be. For example, we might wish to know how many firefighters of Aboriginal background are in the labour force. Similarly, we might also wish to know what the pool of potential applicants might be in a particular geographical area. Descriptive data are just that: they describe what a situation is. Often, this type of data can be used to inform policy. Knowing the proportion of households on First Nations communities with smoke alarms, for example, might indicate whether it is worthwhile introducing a targeted program to distribute and install alarms.

Baseline data are also used to indicate longer term trends. Relating to fire incidents, we might wish to know whether the fire-related death or injury rate has changed over time, or whether death and injury rates vary by community or social group.

At this point, the NIFSC actively supports two data collection initiatives. The first is a National Incident Reporting System that attempts to track fire incidents in First Nations Communities. This is an ongoing project that constitutes the NIFSC’s primary database. The second database consists of a Home Safety Assessment which attempts to identify potential fire and linked to safety issues in individual residences.

Other socio-demographic data are also available through Statistics Canada. These data typically provide information on the demographic characteristics of local communities such as population size, the age and gender profile of the community, and community’s overall economic wellbeing.⁶ Data relating to housing stocks, such as the number of residential units, the number of rooms per unit, the number of residents and the overall condition of the dwelling unit are also available. While it takes some effort, it is possible to separate First Nations (reserve) communities and non-reserve communities that have a substantial First Nations population. These data are generated from the Census of Canada so there is less than a 100 percent coverage of First Nations since some communities have decided to “opt out” of the Census. Regardless, this is an invaluable source of

⁶ NIFSC has already started to integrate these data into its research framework. See L. Garis and P. Maxim (2020) *Assessing Fire Incidents on First Nations Communities: Identifying Baseline Data*. Coquitlam: H & H Consulting, and Mohan B. Kumar (2021) *Mortality and Morbidity Related to Fire, Burns and Carbon Monoxide Poisoning among First Nations People, Métis and Inuit: Findings from the 2011 Canadian Census Health and Environment Cohort*. Ottawa: Statistics Canada, Centre for Indigenous Statistics and Partnerships (CISP).



information that the NIFSC should maintain.⁷ It also provides an excellent context for understanding information from the National Incident Reporting System and Home Safety Assessment data sets.

Evaluation Research

Part of NIFSC's mandate is to enable its parent organization, the Aboriginal Firefighters Association of Canada (AFAC), "support capacity building for safe and healthy Indigenous communities." The AFAC has recognized the need to implement and oversee a range of programs on First Nations communities. Evaluation research can show us how effective those programs are. The NIFSC's research capacity is still in the early stages of its development and there has been a limited focus on evaluating programs supported by the project to date. It is expected, however, that the ongoing evaluation of operational or service programs will be a central element of the Research Office. Besides being something that the NIFSC should initiate itself, we would expect that future program funding will be tied increasingly to the evaluation of the programs' effectiveness.

Special Projects

Along with the evaluation of the NIFSC's basic programs, it is expected that there will be the opportunity (and need) to engage in a series of special projects. Significant research needs to be conducted in areas such as wildfire modelling and the possible retrofitting of community housing stock to enhance resilience. Those types of projects are likely to be of a scope that is greater than the NIFSC's internal financial resources could support.

Most funding for major research in Canada is provided by the government supported Tri-Councils: the Social Sciences and Humanities Research Council (SSHRC); the Natural Sciences and Engineering Research Council (NSERC); and, the Canadian Institutes of Health Research (CIHR). Grants from provincial and other government agencies along with various non-profit and non-governmental philanthropic organizations are also available. Those later grants, however, tend to be more narrowly focused and constitute a smaller aggregate amount of research support although the value of some grants can be substantial.

A more detailed discussion of the availability of external funding and the various funding programs that might be open to the NIFSC, either alone or in partnership with other agencies, is presented in Appendix B.

⁷ Much StatsCan data can be downloaded from the agency's website. A good starting place is <https://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/download-telecharger/comprehensive/comp-ivt-xml-dwnld-tlchrgr.cfm?Lang=E> . Further community-based data are available from Aboriginal Affairs and Northern Development. See, for example: <https://geo.aadnc-aandc.gc.ca/cipn-fnpim/index-eng.html>

Data Use and the Needs of NPOs

The NIFSC is not alone in its need to collect essential data, and the policy issues surrounding what ought to be collected and why are not unique to the NIFSC. There are two studies on NPO data collection—one by Randy Stoecker and the other by Paul Malby—that are particularly insightful.

In the early 2000s, Randy Stoecker conducted a survey of non-profit organizations in Toledo, Ohio concerning data needs and research practices.⁸ What he discovered about those organizations was profound. As he summarized:

The survey found that non-profits collect data on a wide variety of topics, but do not use much of the data that they collect, and do not collect much data that could be useful for other groups, particularly neighborhood organizations. The average non-profit in the survey has five employees and four volunteers who, together, spend 56 hours per week collecting, managing, and reporting on data. Nearly half of the organizations have no staff or volunteers with formal research training. The others have only one or two people with formal research training. More than half indicated a need for training on how to conduct evaluations, how to use data management software, how to conduct research, and how to find funding. (Stoecker, 2007: 97)

Stoecker's findings were not unique to the City of Toledo. Except for non-profit organizations set up specifically as research organizations or "thinktanks," most agencies do not collect the information they need, but spend substantial time collecting information they do not need. Furthermore, even when they collect appropriate information, they typically do not have the human resources to make the most of it.

From his analysis, Stoecker identified four primary considerations:

1. Better training in data collection and research methods is often required for non-profit staff and associated personnel.
2. A need exists to better inform funders as to why supporting non-profit research and data management capacity is important.
3. There is a need for better access to stock databases for non-profits so they can be more easily used.
4. There is a need to engage college and university students and faculty in non-profit research data collection and management.

Stoecker identified the research capacity weaknesses that exist in many NPOs. Complementing Stoecker's analysis is the work of Paul Malby who points out that, "research gathers evidence to

⁸ Stoecker, R (2007) "The research practices and needs of non-profit organizations in an urban center." *Journal of Sociology and Social Welfare*, 34: 97-119.

support an action strategy.”⁹ To do this effectively, Malby suggests that those in charge of research in non-profit organizations must recognize certain factors. Malby was concerned about the impact of research on World Trade Organization (WTO) negotiations but his insights should apply to any non-profit. Among his insights are the following:

- Research must meet the needs of policymakers for facts, figures and technical analysis, in relation to the hot topics of the day. It has to present fresh ideas that can help break the policy logjams [policy makers] are facing.
- Research findings must be brought directly to the attention of policymakers, by writing them letters, and convening meetings with them to present the findings in ways they understand.
- Research must be: 1) timely in its analysis, 2) neutral, objective, 3) inclusive of all points of view, but especially [minority] perspectives, 4) constructive, nonthreatening, non-partisan in tone, 5) solidly based and accurate, and 6) very focussed on the subjects of [issues] currently in play.
- The NGO must cultivate contacts and develop long-term relationships both with groups that are experts on the ground ..., and with policy makers and decision makers [elsewhere].
- The NGO must have knowledge of issue trends and developments, which means it must: 1) monitor, 2) anticipate, 3) recognize, 4) alert, and 5) respond. The response may be defensive to a negative trend, or pro-active to put something positive in place.¹⁰

3. Research Management/Funding Options

Based on the sources of funding and the conditions associated with those funds, there are several managerial/oversight models open to the NIFSC’s research office. Those options are outlined in figure 1 below.

The initial consideration is whether the funding source is internal or external. Internal funds generally come from that portion of the NIFSC’s operating budget that is allocated to research. These funds may support research that is mandated, for example, the collection of baseline data or the evaluation of programs delivered by the NIFSC and its community partners. They may also support discretionary research which consists of projects that are identified as research priorities by the NIFSC but may or may not be carried out depending upon the resources available in any given year and the agency’s annual priorities.

⁹ Mably, P. (2006) “Evidence based advocacy: NGO research capacities and policy influence in the field of international trade.” *Working Paper 4, IDRC Globalization, Growth and Poverty Working Paper Series*. Ottawa: International Development Research Centre, p. 16.

¹⁰ Malby, p. 25



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External funds consist of monies (or in-kind equivalents) that are provided by external agencies. These funds may come from a national granting council as part of an academic partnership. They may also be provided by private sector partners such as equipment suppliers. In this instance, the project may require matching funds (again, either monetary or in-kind) from the NIFSC. Both academic and private sector partnerships will typically require joint oversight by the NIFSC and the external partner. At the very least, they will require joint accountability for budgeting and disbursements. The third option under external funding is where the NIFSC obtains funding as the sole research entity. This might consist of a grant provided by a philanthropic organization such as the Motorola Solutions Foundation.

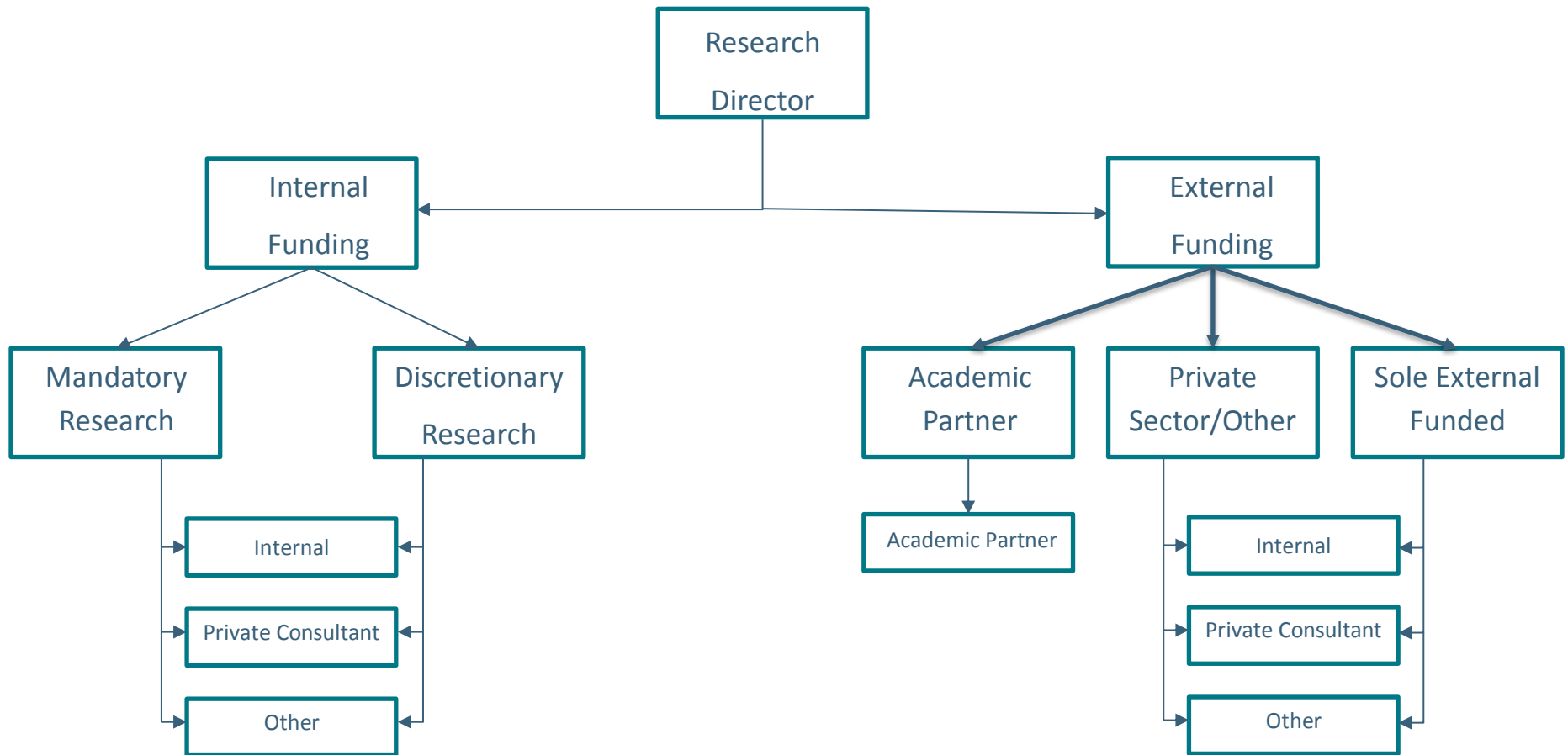
In addition to the funding sources and the conditions associated with managing those funds, there is the issue of who is responsible for carrying out the research. Where external funding is obtained with an academic partner, the project will most likely be managed by both the NIFSC and the Research Office of the institution with which the academic researcher is associated. Depending upon the specifics of the project, the actual research may be carried out by the academic partner, either alone or in conjunction with NIFSC personnel or its community partners. Many of the issues --- both advantages and disadvantages --- associated with academic partnerships have been discussed previously.

In all the other funding source models, there are essentially three options as to who will be responsible for carrying out the research. The first option is for the NIFSC to carry out the research internally. This will most likely be the case when the NIFSC uses internal funds to carry out mandatory research relating to baseline data collection or the evaluation of specific programs that are implemented by the NIFSC. Internally conducted research may also take place when sufficient funds are set aside or obtained (typically from an outside agency) that allow for the hiring of research staff. Most likely, those would be term positions since the long-term funding of full-time personnel can be onerous.

Another option for carrying out the research is to hire a private consultant or contractor. This typically entails hiring either an individual or firm that has unique expertise or capacities in a particular area. Examples here are individuals with specialized training in risk assessment, engineering, or statistical modelling. Ideally, these consultants should have connections with Aboriginal/First Nations communities or at least have extensive experience working with those communities.

There are other options for carrying out research. One example may be that a particular First Nations community that has the capacity to conduct a program assessment but requires NIFSC to provide or obtain the necessary funding.

Figure 1: NIFSC Research Management Options



4. Enhancing NIFSC Capacity

External Partnerships

Partnering with external organizations, whether other NPOs or private sector consultants, is an obvious way to leverage NIFSC's internal research capacity without necessarily requiring additional resources or making long-term personnel commitments. In fact, most of NFISC's research work to date has been executed by outside consultants under the supervision of NFISC's Director of Research. Broadly, there are two primary types of partnerships the NFISC might wish to pursue.

The first partnership is simply contractual, where the NFISC hires a private contractor to execute a specified piece of research. Under this model, the NFISC pays the external party as a consultant using NFISC's internal resources. This type of research is usually finite in scope, focused on a project or issue that requires unique expertise, and is limited in cost. Typical projects here might involve management consulting to build NFISC's managerial or strategic capacity or small research projects requiring unique substantive expertise such as research into fire-related legal liability.

The second partnership model is broader and typically involves a more general and longer-term association. An example here would include memoranda of understanding with university research groups to investigate matters of mutual interest. Longer-term research projects that focus on how First Nations communities might develop more effective responses to wildfires would be an example of this type of research.

The advantage of longer-term partnerships is that it is possible for both agencies to build up a depth and breadth of expertise that might be difficult for one of the partners working alone. Where the outside partner is a university or other NPO, there is also the possibility to leverage external funding. With a university partner, the NFISC can access significant government provided funding, such as what is available under the Tri-Council grant structure.¹¹ This type of funding is often designed to support broad ranging research programs (as opposed to narrowly defined projects) that have a significant time horizon of up to five to ten years.

Federal Tri-Council funding is also available to help researchers develop partnerships with agencies such as the NIFSC. These are identified as the Social Sciences and Humanities Research Council (SSHRC) and Natural Sciences and Engineering Research Council (NSERC) partnership grants. In some instances, the NFISC might have to provide matching funds or some type of in-kind contribution but, typically, those contributions are a small proportion of the overall cost of the research activity. This type of partnership can also diminish the need for the NFISC to seek out and pay for private ethics approval or research liability insurance since the partner organization often has access to those resources.

¹¹ The Tri-Councils consist of the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC) and the Canadian Institutes for Health Research (CIHR). See: https://www.science.gc.ca/eic/site/063.nsf/eng/h_A0A2F2CB.html

Networks

To have an effective research arm, most NPOs should also build research networks that include partners from other NPOs, community organizations, the higher education sector, private corporations, and government agencies. Besides providing additional research expertise and resources, those partner networks help to expand and enhance the influence an agency has. A strong partnership network enhances the credibility of the organization and the influence it can have both in its field and within the broader community.

The NIFSC already has a strong network within the fire services community through various MOUs. However, the NIFSC might consider extending those relationships even more broadly to the research community.

There is a substantial literature on the structure and benefits of organizations being embedded within various networks. Those networks range from connections with similar organizations to linkages with supportive professionals and even with “competitors.”

Benefits of networks

Strong professional networks provide several benefits to an organization. These include the following:

- Increased Access – network membership provides increased access to such things as information, expertise, and financial resources.
- A Multiplier Effect – multiplier effects occur when organizations provide complementary skills or resources to achieve more than each organization could accomplish alone or by working independently. Multiplier effects result in the whole being greater than the sum of the parts.
- Solidarity and Support – often, individual organizations can have little impact by themselves, either in communicating the need or value of what they do, negotiating with sponsors, or in delivering services. Through network collaboration, NPOs can provide an “industry wide” message.
- Increased Visibility – collectively, NPOs have a greater likelihood of increasing visibility of the issues they address, highlighting what constitutes good work and best practices, and enhancing the contributions of underrepresented groups

Engaging in professional networks comes at a cost. It requires time and effort along with other resources. Connections need to be maintained and nurtured, and the benefits provided by a network need to be revisited regularly. As Liebler and Ferri point out, “If members do not benefit from participation, they will cease to participate, and if the feeling is widespread, the network will cease to function. Recognizing the concrete benefits that members receive from network membership is therefore a crucial tool for



members and leadership to use to evaluate how well the network is functioning (i.e., meeting its members' needs)."¹² This is true for research networks as for any other kind.

5. Building Capacity

There are numerous ways in which the NIFSC can expand its research capacity. What follows is a discussion of the more viable, short-term approaches that would require a minimal amount of internal funding and a relatively high return on investment.

Partnering with Academic Researchers

Maintaining extensive, hands-on, in-house research capacity can be both expensive and inefficient. Not only does an organization have to provide base salaries and benefits to one or more employees, it is also likely that those employees have a limited range of expertise, both substantively and technically. A more cost-effective alternative is to form outside partnerships with a variety of independent researchers. Ideally, those researchers would be individuals of Indigenous background or people who have strong links to First Nations communities. Being realistic about the pool of available research talent in Canada and the narrow focus of fire-related research, however, it is likely that most contacts will be within the broader Canadian research talent pool.

While some specific NIFSC research needs would best be served by contracting private consultants or consulting firms, most of the needs would likely be best served by forming alliances with academic researchers. There are several advantages to pursuing this strategy. First, most academic researchers would not require salary support from the NIFSC since that is provided by their academic employer. Thus, any support the NIFSC might provide would generally go into supporting the research itself.

Second, academic researchers have greater access to granting funds. While some governmental and private research funding is available to NPOs such as the NIFSC, the largest proportion is directed toward academic institutions and their partners. The advantage here is that the NIFSC can leverage whatever resources it might have available. Many grants are stand-alone, in that they are provided to post-secondary institutions to support the research projects of their faculty. This is a 100% value-added opportunity for the NIFSC. In other instances, outside agencies require some partnership or matching funds (either cash or in-kind) to be contributed to the project. Thus, from NIFSC's perspective, the NIFSC can leverage its available research funds by providing a small contribution – often as little as 10 or 20

¹² Liebler, C. and M. Ferri (2004) NGO Networks: Building Capacity in a Changing World. *Study Supported by Bureau for Democracy, Conflict and Humanitarian Assistance Office of Private and Voluntary Cooperation*. Washington: United States Agency for International Development. P. 28



percent of the total cost of the project. Furthermore, those matching contributions can be “in-kind” such as contributions of personnel, logistics, or equipment.

In conjunction with increasing the pool of research funds and opportunities, partnerships with post-secondary institutions can also alleviate the burden of the NIFSC of having to provide some financial management and oversight. These obligations will be overseen by the Research Office of the partner’s institution. Post-secondary institutional partners can also provide ancillary services such as ethics reviews and project liability insurance.

A third advantage of partnering with academic researchers is that it is easier to build human capacity. As part of the conditions of partnership, the NIFSC can request that outside researchers provide mentoring and training opportunities to Aboriginal students. This can range from providing summer job opportunities or internships to high school students, to supporting graduate and post-graduate fellowships.

The NPO-Academia Interface

NPO-academia partnerships offer substantial benefits for both parties. NPOs get access to expertise, specialized resources and external credibility; insight into the latest advancements in research; and, exposure to different ways of approaching problems. Academics, on the other hand, may get access to populations or groups where they might not otherwise have contact; they are exposed to practical, on-the-ground issues with which they might not be aware; and, they have a non-academic partner that might help them to access research funding and other supports.

Unfortunately, NPO-academia partnerships *can* be fraught with difficulties. One immediate issue is that the two often reside in different domains, and while those may be complementary, there is often too little overlap in interest and approaches. This can often result in the two parties talking past each other instead of to each other.

Furthermore, while there may be common interests in a particular problem, what each party needs to get out of addressing the problem may be different. NPOs generally need to generate an on-the-ground or practical solution. While academics typically share that goal, their rewards for addressing the problem are often provided by generating reviewed articles in academic publications. Many NPOs see research as a necessary evil – something that is done to satisfy the needs and wants of a sponsor to generate funding. For academics, research is typically an end in itself. Their goal is not just to see whether something works, but to understand *why* something works. Successful NPO-academic partnerships tend to respect those different needs while less successful ones often gloss over the differences. Ultimately, both partners are focussed on having an impact. The difference is generally how that impact is conceived and measured.

Another source of friction can be that of timelines. NPOs are typically focussed on solving an immediate problem or issue. Time is often of the essence since both the NPO and those they serve have a sense of urgency. Academics may work on different timelines. Part of this is due to the nature of the research



enterprise (define the problem, collect the data, perform an analysis, then replicate to make sure the results are valid), and part of this is that academics are also expected to teach and perform other duties. This means that academics may not be able to commit themselves to the project full time.

The NFISC faces a more significant challenge when working with outside research partners. Beyond the regular professional NPO-academia divide, there is the cultural divide given that the NFISC's primary audience is First Nations communities. Overall, there are very few Aboriginal researchers in Canada's colleges and universities. Among Aboriginal researchers, there are even fewer who are interested in or who have the expertise in fire services. Consequently, most available academic partnerships will be with individuals who are not immersed in an Aboriginal culture. This is not an insurmountable hurdle, but it can be a challenge. Most non-Aboriginal researchers are willing to learn and, with patience, can come to appreciate differences in values and social practice. Certainly, researchers who collaborate internationally, appreciate this. By the same token, it is probably the case that fire-related challenges faced by First Nations are not unique to their Aboriginal identity. Many issues First Nations communities face are common with other communities that are small, remote and with limited resources: the fact that they are Aboriginal communities is coincidental.

In his discussion of the issues facing international NPOs and academics, Duncan Green suggests that, "Finding cost-effective ways of cooperating through long-term but loose networks maintained over time, which can be activated when necessary (e.g. in response to events or new priorities). This is less time intensive than establishing dense and time-consuming networks that often peter out for lack of resources."¹³

The College/University Research Office

Collaborative research with colleges and universities will often require that grant monies (especially from the Federal Tri-Councils) flow through the institution's research office. Generally, this should not be a problem if the NFISC has discussed the allocation of funds prior to submitting the funding proposal. In fact, having a collaboration with a research office can be advantageous. Besides providing accounting services and taking on the burdensome responsibility of submitting progress and final reports to the granting agency, universities and colleges have access to ethics committees and will absorb the cost of liability insurance.

¹³ Green, D. (2017) "The NGO-academia interface: realising the shared potential." In J. Georgalakis, et al., *The Social Realities of Knowledge for Development: Sharing Lessons of Improving Development Processes with Evidence*. Brighton, UK: Institute of Development Studies. PDF available online at [\[https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/12852\]](https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/12852).



6. Best Practices in Research

Best practices in research essentially involve adhering to professional standards appropriate to the disciplinary background of the persons conducting the research. This includes following professional research protocols, methods, and techniques and, where necessary, adhering to prescribed ethics protocols. In Canada, where human subjects are involved, most social science and medical researchers follow the guidelines outlined in the ***Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans***, which is commonly referred to as *TCPS 2 (2018)*.¹⁴ When engaged with academic research partnerships, it is likely that the Research Office of the institution with which the researcher is affiliated will want to refer the research proposal to the institutions Research Ethics Board. In most instances, these reviews are conducted both professionally and expeditiously. If the project does not include an academic researcher but, in the judgement of NIFSC's Research Director an ethics review may be appropriate, it is possible to use a outside agency such as the Community Research Ethics Board.¹⁵

Essentially, best practices involve the researcher and the research organization adhering to professional standards, being honest and transparent about the research protocol, maintaining professional integrity in the conduct of the research, treating one's co-workers and partners in a collegial manner, and following any contractual or legal obligations associated with the project.

It is almost impossible to account for all eventualities when conducting research. However, it is possible to identify a series of issues with which research supervisors ought to be aware. Among these, are the need to:

- Follow relevant ethics protocols, including vetting any projects by an outside ethics committee when required.
- Maintain an awareness of, and sensitivity to, the cultural context within which the research is being conducted.
- Create and maintain written contracts with any outside agencies and partners with a particular focus on individual and corporate responsibilities, including accountabilities for budgets, research protocols, intellectual property rights, progress reports and expected outcomes.
- Adhere to the current standards set by the researchers' professions including disclosing any conflicts of interest.
- Maintain anonymity and subject confidentiality in both the storage and public release of any data unless explicit written agreement is obtained to do otherwise.
- Maintain transparency in data collection, coding, and data analysis in conjunction with adhering to proper data storage protocols.
- Ensure that all resources (monetary, in-kind contributions and otherwise) are documented and accounted for, and that budgets and budget reports conform to appropriate accounting standards.

¹⁴ A downloadable copy is available at https://ethics.gc.ca/eng/policy-politique_tcps2-epctc2_2018.html.

¹⁵ See: <https://www.communitybasedresearch.ca/creo>



- Giving appropriate credit for publications and research reports to those who conducted the research even when the material is released under corporate authorship.
- Adhere to current professional standards in the analysis and presentation of results.
- Where appropriate, obtain peer reviews and follow professional vetting procedures when publishing or releasing research results.

Of course, not all the items listed will apply to all situations due to the broad range of situations and subject areas in which research is conducted. Typically, where external audits of research projects are conducted, the single biggest issue tends to be a failure to maintain the appropriate documentation, particularly in relationship to budgetary issues.

7. Other Capacity Issues

So far, immediate research capacity issues have been within the NIFSC have been addressed and appear adequate. The NIFSC, however, has the potential to contribute to longer-term growth in capacity for both the NIFSC and other Aboriginal organizations. One way to do this is for the NIFSC to provide a limited number of internships for Aboriginal students. Summer internships could be provided at the NIFSC for both high school and college/university level students. While high school students may not have the background and capacity to make immediate contributions to the NIFSC's agenda, such internships serve to encourage young Aboriginal students to graduate from high school and pursue a college/university career. Currently, Aboriginal students have a significantly lower completion rate than the national average. Among those who do complete high school, disproportionately fewer attend college/university or pursue professional careers such as firefighting.

Post-secondary students could not only benefit from exposure to what the NIFSC is doing but they could also assist with ongoing projects. To broaden the impact, the NIFSC might also wish to encourage college and university affiliated partners and contractors to include Aboriginal students when possible. Again, this is a focus on building long-term capacity within the broader Aboriginal community.

8. Summary of Recommendations

The NIFSC's research capacity will likely evolve based on the availability of resources and as the fire service challenges facing First Nations and Aboriginal communities evolve. There are, however, some fundamental steps that the research arm of the NIFSC can make to prepare itself to face those challenges. Most of those have been discussed in the body of this report. At this stage in the organization's development, the key items can be summarized as follows:

1. Separate long-term from short-term research objectives



Seven key elements have been identified as research goals for the NIFSC. It is recommended that those research goals be reformulated to identify longer-term research commitments and shorter-term projects.

The longer-term commitments should consist of issues to which the Research Office wishes to pursue over a 5- to 10-year horizon. In many respects, those issues should align with the overall organizational goals that define the fundamental orientation of the NIFSC. Shorter-term research goals should be linked to specific projects and should be specified on an annual or similar, shorter-term basis. That is, those research projects should be linked to budgetary cycles.

Both longer and shorter-term goals can be identified by considering input from the NIFSC's research staff, external collaborators, oversight bodies, and feedback solicited from local communities. It is encouraging to see that the Research Office is already in the process of conducting a community survey.

2. Identify future staffing requirements

Currently, the Research Office consists of a Director and several support staff. As internal data collection and processing requirements grow, it is likely that additional support staff will be needed. Similarly, if the NIFSC is successful in attracting external collaborators, there may be the need to hire project managers who can co-ordinate more complicated projects.

It is advised, however, that staffing be linked to actual needs and not simply to build capacity that may or may not be fully used. Internal resources are limited, and staffing can represent an expensive and long-term personnel commitment. Engaging in the previous exercise of identifying specific projects and longer-term research goals should help in identifying what and when future personnel may be required.

3. Build external research partnerships, especially with academic researchers

Having external partnerships can broaden the range of cutting-edge expertise available to the NIFSC. It is also an easy way to build the organization's research capacity without having to commit substantial amounts of resources. Academic researchers are supported by their university or college so that financial resources directed to a project are used fully to support the execution of the project. Academic partnerships also have the potential to identify a broader range of research needs than might be seen as being needed locally.

Academic research partnerships also provide broader access to college and university resources such as the institution's Research Office (with its institutional ethics board), its library and laboratory facilities.



Academic researchers also have access to government grants and other sources of funding that are not directly accessible to independent NPOs. This leads to recommendation four.

4. Pursue opportunities for external funding for long-term or more extensive projects

It is recognized that the NIFSC's base budget will always be limited with competing demands from other segments of the organization. NIFSC can approach Indigenous Services Canada and other organizations with requests to support specific projects. However, larger and more expensive projects are more likely to be supported by the Tri-Councils (NSERC, SSHRC and CIHR). There are also other governmental and private philanthropic organizations that will provide substantial support to academic researchers who work in collaboration with community-based organizations and NPOs such as the NIFSC. Typically, those grants can provide funds in the hundreds of thousands of dollars and occasionally over a million.

This does not mean that the NIFSC cannot pursue external funding on its own. Large philanthropic organizations such as the Motorola Solutions Foundation and the Max Bell foundation will consider proposals. Unfortunately, non-governmental, philanthropic support for non-academic fire services research is limited.

5. Pursue a research internship for Indigenous students

Should the Research Office at NIFSC obtain reasonably permanent space, it might wish to consider providing summer and other internships for Aboriginal students. This is an excellent way to foster goodwill in local communities and potentially build future human capacity in the area. Hiring high school students can encourage them to pursue college and university degrees, while hiring college and university students can provide them with exposure to practical research.

The opportunity to take on interns is expanded through partnerships with academic researchers since many funding agencies have specific programs and allotments for college and university students.

6. Focus on enhancing community-based research initiatives

As the NIFSC's research capacity grows, it may wish to explore becoming associated with Community-Based Research Canada [<https://www.communityresearchcanada.ca/who-we-are>]. This is an organization of community-based research centres across Canada. The organization provides opportunities to attend conferences on community-based research as well as a gateway to local, non-academic ethics boards.



APPENDIX A: Oversight

The National Indigenous Fire Safety Council is an evolution from the Aboriginal Firefighters Association of Canada (AFAC). As this transition is taking place, the NIFSC has direction, oversight, and support from the current AFAC Board of Directors along with a supporting National Advisory Committee (NAC), and a Technical Advisory Committee (TAC).

The TAC generally provides more tactical support and advice to the NIFSC while the NAC typically provides more strategic or policy-related support. These functions are not exclusive of one another but are generally matters of focus or degree rather than absolute divisions of labour.

Technical Advisory Committee

The primary role of the Technical Advisory Committee is to provide the NIFSC research team with technical advice on the development and delivery of fire safety programs. It is made up of professionals working in the fire safety industry. The role of the advisory committee is to support the establishment of national indigenous fire service standards, support the direction and parameters of research, identify emerging public safety issues and provide a national forum for Indigenous fire service to collaborate and share information. The TAC is the first forum that allows all Indigenous fire service organizations to collaborate.

National Advisory Committee

The role of the National Advisory Committee (NAC) is to advise the AFAC on the NIFSC's governance structure, mandate, scope of authority and scope of programs and services.

Overall, the oversight structure of the NIFSC goes beyond that of most traditional non-profit organizations. Looking at the membership of the various NIFSC oversight committees it is clear that there is a broad range of representation from First Nations community members to professional firefighter to those with both substantive and research experience in a broad range of fire-related areas. Activities undertaken by the NIFSC also indicate that there is also a range of informal contacts both within and beyond the professional First Nations' fire services community upon whose expertise the NIFSC can draw. Going forward, the challenge to the NIFSC will be to continue to maintain this breadth of expertise upon which the organization can draw.

Current Membership in NIFSC Oversight Committees

Voting membership of the TAC is comprised of the following invited organizations:

First Nations Emergency Services Society, primary contact is **Dean Colthorp**

First Nations Technical Services Advisory Group Inc. (Alberta), primary contact is **Vaughn Paul**

Saskatchewan First Nations Emergency Management & Protective Services, primary contact is **Michelle Vandevord**

Ontario First Nations Technical Services Corporation, primary contact is **Bryan Staats**

First Nations National Building Officers Association, primary contact is **Keith Maracle**

Nunavut Fire Marshal, primary contact is **Ted Clouter**



Assembly of First Nations, primary contact is **Irving Leblanc**

Aboriginal Firefighters Association of Canada, primary contact and facilitator is **Jeremy Parkin**

Indigenous Services Canada, primary contact is **Todd Keesey**

The National Advisory Committee members, their roles and affiliations are:

Mike Mitchell, Elder

Roberta Oshkabewisens, Elder

Erin Myers with the Métis National Council

Irving LeBlanc with the Assembly of First Nations Housing and Infrastructure

Angel Beardy, Independent Youth

Sean Vanderklis, Independent Millennial

Dan George, Independent Former Firefighter

Debbie Pierre with the Office of the Wet'suwet'en

George Cox with the Cree Nation Government

Harvey McCue with the First Nations Housing Professionals Association

Michelle Vandevord with Saskatchewan First Nations Emergency Management



APPENDIX B: Accessibility to External Funding

In Canada, the Federal Government is the primary source of research support. Most of this support is provided through what are known as the Tri-councils agencies: The Social Sciences and Humanities Research Council (SSHRC); the Natural Sciences and Engineering Research Council (NSERC); and the Canadian Institutes of Health Research (CIHR). In general, Tri-council funding is provided to academic researchers and is funneled through a post-secondary institution such as a university or college. Many Tri-council grants recognize the engagement and active participation of partner organizations such as the NIFSC, and several programs provide seed money to establish partnership across researchers in both the public, private and NPO sectors.

While many of the Tri-council programs are relatively stable and provide for annual application, the terms and conditions can vary from year to year. Furthermore, occasional or one-off funding opportunities are often provided for projects that are focused on specific issues such as climate change or equity and diversity. Because opportunities can change with time, it is necessary to visit the corresponding agency's website,¹⁶ contact one of their program officers or discuss possible opportunities with collaborating researchers.

Several federal departments and ministries also provide funds for research that may coincide with NIFSCs mandate. Included here are ministries responsible for agriculture and agri-food, natural resources, public safety, indigenous services and northern affairs. Various other departments and agencies at the provincial level also have funding sources. Most of the grants available from both federal and provincial agencies tend to be project-focused, short-term and of a modest amount.

Some private agency and philanthropic grants are also available to support research and development. A prime example here is the Motorola Solutions Foundation.¹⁷

While most grant programs provide support for executing individual research projects, many also have a talent development program attached to them. In these instances, funding is provided to support students at varying levels of academic preparedness. These can range from high school students to graduate and post-doctoral students. Many agencies are especially interested in engaging indigenous and minority students in research and will actively encourage researchers to do so. Often, indigenous students feel intimidated by the research enterprise and do not see themselves as being potential researchers. Working directly with professional researchers on an actual project can often break down those perceived barriers. Active engagement is often the best way to have individuals to see what opportunities are available and to building human capacity.

¹⁶ For SSHRC see: <https://www.sshrc-crsh.gc.ca/home-accueil-eng.aspx>; for NSERC see: https://www.nserc-crsng.gc.ca/index_eng.asp; and for CIHR see: <https://cihr-irsc.gc.ca/e/193.html>

¹⁷ See: https://www.motorolasolutions.com/en_us/about/company-overview/corporate-responsibility/motorola-solutions-foundation.html#



Tri-Council Funding

SSHRC Programs

SSHRC has a broad array of research funding opportunities and fellowships available for both individual researchers and for groups. It should be noted that navigating these programs can be somewhat difficult even for experienced SSHRC researchers. The structure, focus and level of support within these funding opportunities can change considerably over time. Consequently, it is advisable to seek advice from either a SSHRC program officer or from a research office at a partner academic institution before pursuing one of these opportunities. Regardless, SSHRC and most academic research offices are eager to engage with Aboriginal researchers, organizations, and partners to pursue those opportunities. Often, the greatest challenge is finding academic researchers (both Indigenous and non-Indigenous) who are interested in leading a research program in a particular area.

Currently SSHRC has three main programs that might support NIFSC's research initiatives within the social and behavioural sciences.¹⁸

Insight Program

The Insight Program is what most social researchers consider to be the “bread and butter” grants that fund individual research projects.

Talent Building Program

The talent program supports students and postdoctoral researchers to support and develop the next generation of researchers. It funds individuals within academia and within the public, private and not-for-profit sectors. Given the shortage of students of Aboriginal origins in academia, the research community and fire services this would be an excellent program to pursue with an academic partner.

Connection Program

SSHRC's connection program is essentially a knowledge mobilization endeavour to create networks and clusters of research. A primary objective of the Connection Program is to make the knowledge and expertise in academic clusters available to non-academic sources. There are three types of grants available under the Connection program that might be of interest to the NIFSC and its partners. These include the Partnership Engage Grants (currently valued at \$7,000 to \$25,000) that provide short-term funds to contribute to decision-making at a single partner organization from the public, private or not-for-profit sector.

SSHRC also provides funds under its Partnership Development Grants (currently valued at \$75,000 to \$200,000 over three years) to create teams or partnerships to develop research and engage in knowledge

¹⁸ For details, see: <https://www.sshrc-crsh.gc.ca/funding-financement/index-eng.aspx>



mobilization. Again, the Partnership Development Grants are intended to develop partnerships between post-secondary academic institutions and an array of community organizations.

Partnership Grants are aimed at the Insight and Talent programs to engage in partnered research training initiatives. These grants are designed for large partnership initiatives and provide support for four to seven years to advance research, research training and/or knowledge mobilization. These grants are available through a two-stage process where an initial proposal is constructed (with support of up to \$20,000). If that proposal is accepted, full funding of up to \$2.5 million is available.

Indigenous Research

SSHRC has several programs specifically intended to support applicants working in Indigenous research. Most of those programs follow the previously mentioned Insight, Talent and Connection Programs with an emphasis on supporting research by and with Indigenous peoples. Primary emphasis is placed on applications that are either led by Aboriginal scholars or extensively involve Aboriginal partner organizations.¹⁹ For projects with a significant Indigenous focus, SSHRC has a specialized review committee consisting of Elders and other representatives from the Aboriginal community.

NSERC Programs

NSERC programs are focused on supporting research in the natural sciences and engineering. The primary grant program consists of the Discovery Grants. Discovery grants are designed for on-going research programs with longer term goals rather than one or more stand-alone projects. Generally, Discovery Grants are awarded for a period of up to five years and the typical award is between \$10,000 to \$40,000 per year.

NSERC also has partnership grants that are based on a collaboration with another organization willing to provide financial or in-kind contributions. Alliance grants fall into this category and for small partner organizations such as the NIFSC, NSERC is willing to provide a 2:1 match for amounts ranging from \$30,000 to \$100,000. Again, these grants have a duration of up to five years.

There are also supplemental NSERC programs that might be of interest to the NIFSC and its research partners. Those include the Northern Research Supplements (NRS) Program for Discovery grants and Northern Research Chairs Program (NRCP). Both supplements are designed to augment and promote Canadian university-based northern research and training by recognizing the added difficulties and logistical costs of conducting research in the Canadian North. The NRCP focus is to enhance northern research capacity.

¹⁹ See: https://www.sshrc-crsh.gc.ca/society-societe/community-communite/indigenous_research-recherche_autochtone/index-eng.aspx for details.



There are several fire safety engineering groups at Canadian universities that are funded by NSERC. Partnering with one of those groups might prove to be beneficial.

CIHR Programs

The Canadian Institutes of Health Research funds medical and public health related projects. Most of the agency's institutes tend to focus on clinical research although more generic issues are sometimes supported. Because of the range and complexity of the programs available through CIHR, it is advisable to raise any possibilities with partner researchers willing to work with the Fire Safety Council.



APPENDIX C: Generating Ideas for a Research Agenda/Priorities

Generating Ideas

Often, generating ideas for research priorities is relatively straightforward. Most of us are aware of most of the key issues that confront our organizations. However, that awareness can be limited: we may not have the foresight to identify emerging issues, and there may be key issues beyond our scope. In many instances we are so focused on what we do or what we identify as our pet projects that we develop “tunnel vision.” This is a limitation that we all face. There are, however, some techniques that have been developed to help us broaden our perspective. Some of those are formal techniques that can be learned, such as Delphi techniques, how to conduct environmental scans and SWOT analyses. These are relatively formal procedures that systematically review what others have done or might do in similar circumstances. Unfortunately, they are hard to explain in a few sentences and are best learned by reading a text on the issue or taking a seminar at a local college.

Before resorting to those approaches, however, several more modest ways exist to generate alternatives. You might want to consider the following options:

Talk to people outside your normal circles

Too often we limit our social and professional circles to those we already know or with whom we work. This can generate a group-think mentality where we reinforce our belief in a small number of options. Furthermore, colleagues and subordinates may be more concerned about echoing what you have said or telling you what they think you want to hear rather than offering new suggestions. Outsiders, however, may face similar challenges as you, but approach the issue in a different way. It is often worthwhile listening those voices and asking whether those approaches make sense.

Engage in a group brainstorming session

Possible group-think tendencies aside, sometimes the people around you *are* the best source of ideas. They know the organization and understand the problems. Furthermore, they are less expensive than consultants since they are already on payroll. Ask for individual suggestions. Sometime a group session where we ask people to come up with “crazy” alternatives is effective. The semblance of a little competition can sometimes unleash new ideas. Remember, today’s innovations were yesterday’s impossibilities. Brainstorming can be either informal or structured. The intent is to generate as many ideas as possible and look for solutions to our most challenging and persistent problems.



Read more books and journals; surf the web

The more you read, especially outside your area of expertise, the more ideas you are likely to come across. Books and articles on a specific topic are an obvious choice, but sometimes great ideas come from works of fiction. Most of us like to stretch ourselves. Professional journals and newsletters (even those outside your area of expertise) are a good way of keeping up with new trends. As always, the internet is anarchy and generally fits the adage that you get what you pay for. Still, gems can be found, and modern search engines are amazingly good at ferreting them out.

Focus on the people you serve – both internally and externally

Look at the world from the perspective of the people you serve both internally and externally. How they see your organization does and needs to do, is probably very different from how you and your immediate colleagues see it. Besides the people you serve, other great sources of ideas are from your partners such as community organizations, educational institutions, professional associations and even government. Often these connections have something of value to offer. Understanding the outsider's view can pay huge dividends in generating new ideas and perspectives.

Hire a reputable consultant

Often, you are the local expert at your core activity. That is why you are in your position. On the other hand, not all your decisions relate to your core organizational function. Most businesses engage outside design firms, marketing agencies, web designers or management consultants. The key is to identify the area of expertise that you require. Once done, ask your associates if they can recommend a consulting firm or individual. Usually, smaller firms are more creative and less costly, but creativity is a business.

Of course, you need to be willing to be open to new perspectives. Don't let your prejudices get in the way. Just because you have a low opinion of someone does not mean they have bad ideas. Also, do not feel intimidated because someone can generate better ideas than you. Especially if that person is a subordinate. Remember, you automatically get credit for being smart enough to have such a creative employee on your team.

Finally, be willing to accept that sometimes, the best options are the obvious ones. A consultant who gives you a report that tells you what you already know, may not simply be lazy or uncreative. It could be that what is obvious to you is indeed the best set of options. Consider it that your suspicions have been confirmed.



APPENDIX D: Completed Research Projects (up to July, 2021)

1. M. Mapili and G. Laychak (2021) *Siting of NIFSC Regional Centres Through GIS Analysis*. Abbotsford, BC: University of the Fraser Valley, Community Health and Social Innovation Hub.
2. Mohan B. Kumar (2021) *Mortality and Morbidity Related to Fire, Burns and Carbon Monoxide Poisoning among First Nations People, Métis and Inuit: Findings from the 2011 Canadian Census Health and Environment Cohort*. Ottawa: Statistics Canada, Centre for Indigenous Statistics and Partnerships (CISP).
3. S. Huesken, R. Xiao, C. Jennings, M. Dow (2020) *Moving from Risk Assessment to Risk Reduction: An Analysis of Fire-related Risk Factors in First Nation/Indian Band or Tribal Council Areas across Canada*. Abbotsford, BC: University of the Fraser Valley, Community Health and Social Innovation Hub.
4. NIFSC (2021) *Codes and Standard—What We Heard*. Vancouver: National Indigenous Fire Safety Council.
5. P. Maxim (2021) *Fire Insurance and First Nations Communities*. Vancouver: National Indigenous Fire Safety Council.
6. J. Clare and P. Robinson (2021) *Cost-Benefit Decision Tool To prevent fire risk for First Nations Communities*. Vancouver: National Indigenous Fire Safety Council.
7. L. Garis and P. Maxim (2020) *Assessing Fire Incidents on First Nations Communities: Identifying Baseline Data*. Coquitlam: H & H Consulting.
8. J.E. Bond (2020) *Curriculum Development and Evaluation: A Method for the Aboriginal Firefighters Association of Canada*. Vancouver: National Indigenous Fire Safety Council.
9. Community Health and Social Innovation Hub (2021) *Community Scan: Directory of Post-Secondary Institutions and Friendship Centres Across Canada*. Abbotsford, BC: University of the Fraser Valley.



APPENDIX E: Canadian Academic Fire Safety Research Units (July, 2021)

Unit	Contact	Contact info.	Website
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Canada Wildfire, University of Alberta	Prof. Ellen McDonald	(780) 492-3070 wildfire@ualberta.ca	https://www.canadawildfire.org/
Fire Behaviour Program, University of Toronto	Prof. David Martell	(416) 978-6960 david.martell@utoronto.ca	
Fire Research Group, University of Toronto	Professor Beth Weckman	(519) 888-4567 ext. 43345 ejweckman@uwaterloo.ca	https://uwaterloo.ca/fire-research-and-safety/
Fire Research Team, York University	Prof. J. Gales	jgales@yorku.ca	https://yorkufire.com/
Fire Testing and Research Laboratory, Lakehead University	Prof. Sam Salem	(807) 343-8011 sam.salem@lakeheadu.ca	https://www.lakeheadu.ca/research-and-innovation/facilities-centres/lucas/lu-fire-testing-and-research-laboratory-luftrl-
Forest Fire Prediction, Western University	Prof. Douglas Woolford	519-661-2111 x88326 dwoolfor@uwo.ca	https://www.uwo.ca/sci/research/infinity/forest_fire_prediction.html