

Acknowledgements

The Northern Alberta Development Council would like to thank its partners for making the bursary program a success, particularly Alberta Scholarship Programs, Alberta Enterprise and Advanced Education

And

The many people who have sat on the Bursary Selection Committee over the years.

NADC'S VISION

A stronger Alberta through a stronger north.

NADC'S MISSION

The NADC's mission is to identify and implement sustainable measures that will advance northern development and advise government on opportunities and issues for the benefit of Albertans.

www.nadc.ca www.benorth.ca www.opportunitynorth.ca

Northern Alberta Development Council 206 Provincial Building 9621 – 96 Avenue Bag 900-14 Peace River AB T8S 1T4 T 780.624.6274 TF first dial 310.0000 F 780.624.6184 E nadc.council@gov.ab.ca E nadc.bursary@gov.ab.ca



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Executive Summary

Over the last ten years, the NADC Bursary has been successful in adding a variety of professionals to different sector of the northern labour market. A survey of bursary recipients from 2001 to 2011 assessed the effectiveness of the bursary program as a retention tool. Based on the survey findings, the bursary has been successful in retaining professionals, particularly in the education sector. The bursary has also played a role in long-term retention; with over half of the survey respondents who received the bursary in 2001 still living in northern Alberta.

Survey respondents primarily live in medium to large population centers, particularly Grande Prairie. Past recipients report a strong connection to their family, good employment opportunities and high wages as the primary reasons for staying. Those who have left most frequently indicate that their spouse or partner found work outside of the region, they were offered opportunities for training or employment outside of northern Alberta, and that the communities they lived in were isolated.

The survey results showed that recipients who were not originally from northern Alberta were slightly more likely to leave, but less likely to cite community isolation as a reason for leaving. Seventy-one percent of non-northerners have remained in northern Alberta. For those who were originally from the north, 74% have chosen to stay.

Longitudinal Study Findings

Evaluation	Findings	Conclusion	Recommendation
Question			
Does the NADC Bursary encourage new graduates of selected post- secondary programs to stay in northern Alberta after their return service is completed?	A review of available literature found that 39% of people who leave from a rural community will move to a rural area, and 20 to 25% will return to their original community. An estimated 10% of the people who leave Alberta's rural areas return. It is estimated that 59% of people who leave the NADC region return due to the economic opportunities and the presence of two urban service centers (Grande Prairie, Cold Lake, and Fort McMurray). The survey determined that 73% of bursary recipients still live in northern Alberta.	Based on the literature and the survey findings, the NADC Bursary's effectiveness as a retention tool varies depending on whether the community is urban or rural. Based on survey responses, the bursary has a longerterm effect past the bursary requirement in encouraging recipients to stay in the region.	Continue funding the NADC Bursary program Conduct a supplementary study to determine the pattern of out migration for all northern residents who leave and return, and where in the NADC region they choose to settle.

Introduction

The Northern Alberta Development Council Bursary (NADC Bursary) is intended to encourage new graduates of selected post-secondary programs to live and work in northern Alberta. A secondary objective is to provide financial assistance to northerners who wish to attend post-secondary institutions.

Since 1974, more than 4,900 NADC Bursaries have been awarded to over 3,700 students. Currently, about 65 \$6,000 return service bursaries are awarded each year. Since 1993, an additional 1,300 students have received over 1,800 bursaries of \$500 to \$3,000 through the Bursary Partnerships Program. These are generally selected by Bursary Partnership sponsors. More recently, targeted bursaries of higher value have been established for medical and pharmacy students. The bursaries awarded are generally directed to individuals enrolled in fields of study which are in high demand and in short supply in northern Alberta. Bursary recipients are obligated by formal contract to return to work in their field of training in a northern Alberta community upon graduation.

Residents of Alberta enrolled in a post-secondary program are eligible for the NADC Bursary, with some limitations. Consideration is given to applicants who are enrolled in programs that are at least 12 weeks in length at an accredited institution. The NADC Bursary is not given to students enrolled in academic upgrading, apprenticeships, pre-employment programs, or general or open studies.

Recipients of the NADC Bursary are selected by a committee which reviews applications and supporting documents in June of each year. The committee is made up of three Councilors from the Northern Alberta Development Council, one representative from either the Métis Nation of Alberta or the Métis Settlements General Council, a representative from Alberta Human Services and a representative from Alberta Scholarship Programs, Alberta Enterprise and Advance Education.

The Alberta Scholarship Programs office of Alberta Enterprise and Advanced Education is responsible for the administration of the bursary awards and the return service contracts. The Northern Alberta Development Council follows up with each student who is awarded a bursary to monitor fulfillment of return service. Regular updates are provided to the Alberta Scholarship Programs office staff.

The purpose of the longitudinal study is to assess how effective the bursary has been in the last 10 years (2001-2011) in attracting non-northern Albertan graduates from college and university programs to the north. For students from northern Alberta communities, the longitudinal study will assess how effective the bursary has been at bringing talent back to northern Alberta, and keeping it in NADC communities. Effectively it asks: Does the NADC Bursary encourage new graduates of selected post-secondary programs to stay in northern Alberta after their return service is completed?

Literature Review

Over the last decade, access to post-secondary education has increased. Programs such as provincial/federal student aid, institutional bursaries and scholarships, and return-service based bursaries like the ones offered by the NADC have allowed more students to attend college and university. Although these programs have been effective in encouraging more students to pursue post-secondary education, there are still gaps in access and a number of underrepresented groups. Additionally, little research has been completed on the effectiveness of return service bursaries as a retention tool. This literature review will examine the literature on post-secondary education (PSE) access by students from rural and northern communities, the factors affecting migration to and from rural communities, and expected patterns in the data collected through the survey and in the bursary recipient database.

The Context of Post-Secondary Education in Northern Alberta

Northern Alberta is home to 9.5% of the province's population, and covers 60% of the province's landmass. Many of the communities in northern Alberta are rural. Although northern Alberta has a relatively small population spread across a large area, several community colleges and one university are based out of the region. A map of the NADC region is attached in Appendix A.

A large body of literature is available on factors influencing rural students and their PSE choices. Some of the most commonly cited barriers to PSE access for students from small or remote communities include financial barriers (real and perceived), attitudes towards PSE, geography and labour force opportunities. Many of these factors influence the expected findings from the survey, and merit further explanation.

Income levels

One indicator of the likelihood that a student will attend and complete post-secondary studies is familial income (Finnie and Mueller, 2007). Students from low-income families are less likely to pursue university education than their peers from middle and high-income households. Income, however, is not the primary factor influencing a student's decision to pursue PSE; entrance and completion are more strongly correlated with parental education levels and strong academic performance prior to entry to PSE (Finnie and Mueller, 2007).

Income levels are a factor in the perceived cost of PSE. Students from low income families may overestimate the cost of attending PSE, and underestimate the benefits (Higher Education Quality Council of Ontario, 2011). Students from low income households are 24% less likely to correctly estimate the cost of pursuing PSE, and low income parents are 42% less likely to correctly estimate the cost compared to parents from high income families (Higher Education

¹ Rural has several definitions. According to Alberta Municipal Affairs, a community is generally considered rural where there is a population of less than 10 000, and fewer than 50% of residents commute to the closest Census Agglomeration or Census Metropolitan Agglomeration (Alberta Agriculture, 2012).

Quality Council of Ontario, 2011). Canadians in general underestimate the value of a degree or diploma (Higher Education Quality Council of Ontario, 2011). Students who overestimate the cost of education and underestimate the benefits may delay entry or choose not to pursue PSE at all.

Collecting information on the familial income of past bursary recipients falls outside the scope of this study. The perceived cost of PSE is an important factor in the initial decision to pursue PSE, and the NADC bursary addresses this concern.

Attitudes towards PSE

If a student is surrounded by people who believe in the value of PSE, there is a stronger chance they will pursue PSE (Andres and Looker, 2001). Students aspire to what they know, and if their communities are filled with people who have pursued PSE, there is a strong chance that a knowledge transfer about the value of PSE takes place (Andres and Looker, 2001). Parental attitudes towards education are the strongest indicator of whether or not a student will pursue PSE. Parents with high levels of educational attainment generally have children that go on to pursue PSE at the university or college level (Finnie and Mueller, 2007).

The power of the community in forming attitudes towards PSE should not be underestimated. Students who grow up in communities where most people around them hold a degree are more likely to attend university, even if their parents did not attend and they come from a low income household (Foley, 2009). In rural areas, it is less likely that the majority of the labour force attended PSE (Andres and Looker, 2001). This affects the expected findings: based on 2006 Census data on educational attainment in northern Alberta communities, it is expected that the majority of past bursary recipients will be from medium to large population centers, and it is anticipated that many of them will have chosen to settle in urban centers while completing return service. A table of the educational attainment levels in northern Alberta municipal districts and counties is attached in Appendix B.

Geography

Although programs such as eCampusAlberta have lessened the effect of geographical isolation, students from rural and remote communities are still underrepresented in PSE. This effect is particularly strong on university attendance. In the most recent Alberta Graduate Outcomes Survey, Class of 2007-2008 (released in 2010), 25% of graduates were from rural Alberta, compared to 42% from urban Alberta. Of those who graduated in 2008, 2% were from Grande Prairie or Fort McMurray (Harris Decima, 2010).

The likelihood that a student will attend PSE is affected by their proximity to colleges and universities. Students that live within 40 kilometers of a PSE institution are 45% more likely to attend than their peers that live 40-80 kilometers away, and 73% more likely than those that live more than 80 kilometers away from the nearest PSE institution (Frenette, 2009). For students that live closer to a college than a university, there tends to be a substitution bias.

Rural students are more likely to apply to college programs near their home than university programs offered in institutions at a considerable distance (Frenette, 2005). This is reflected in a report prepared by Alberta Advanced Education in 2005; 17.5% of urban students completed university degrees, while 8.1% of students from rural communities pursued PSE at the university level (Alberta Advanced Education, 2005). Students from rural communities are more likely to complete college programs (Alberta Advanced Education, 2005).

Although students from rural areas access college programs at a higher rate than university programs, many of the past NADC Bursary recipients hold university degrees. There are two possible reasons for this: combined programs that allow students to complete a university degree through a local college, and the efforts made by the NADC Bursary selection committee to increase the number of professionals in fields that require a degree, such as nursing and education.

Retention - rural in and out migration

In addition to acting as an incentive for students to pursue PSE, the NADC bursary is a northern retention tool. A review of the factors influencing where past bursary recipients may choose to live in the north and what factors would encourage them to leave or stay informed the questions that were asked in the survey. This section of the literature review will provide a brief overview of the available literature on rural in and out migration.

In migration

Rural communities are experiencing growth. From 2006-2011, Alberta's rural population grew by 4.1% (Alberta Agriculture, 2012). From 2001-2011, the population of northern Alberta's two largest urban centers, Fort McMurray and Grande Prairie, grew considerably (Statistics Canada, 2012). Increasingly, new graduates and professionals in their 20s are choosing to relocate to rural communities or small towns. Since the definition of quality of life is highly subjective, there is little available research on what influences the decisions of new graduates to return to and stay in rural or isolated communities.

In a study on the quality of life in northern BC, residents stated that there were many things they found desirable about their communities. Factors that influenced the decision of residents of BC's northern communities included: affordability of land and housing in several communities, the natural environment surrounding their towns, tourism opportunities, jobs and wealth generated by the natural resource sector, a young population, the commitment to the community from lifelong residents, and a sense of belonging (Markey at al, 2007).

There is evidence to suggest that those who relocate to a rural community and do not have family or friends in the community are less likely to stay (Miles et al, 2004). If newcomers to a rural area are able to establish a social support network, and feel that they live in an inclusive community, they are more likely to stay. Those who are from the area and return within 10 years are more likely to choose to stay in the community (Dupuy et al, 2000).

Out migration

There is little research available on the factors that drive migration patterns in northern Alberta, and this could be an area for future research. Although there is little information available for Alberta, there is a body of research on factors influencing the quality of life in resource-driven towns. Much of this research is based on northern British Columbia and the remote mining regions of Australia. Both of these work as good foils for northern Alberta in terms of labour market needs, social and economic development issues, and training and education.

Research has been conducted on the quality of life in northern British Columbia and gaps in services identified by residents. Factors driving out migration cited in the available research include: less economic diversity than other regions, higher levels of unemployment, lower levels of education, fewer services and less access to them (Markey et al, 2007).

Similar to several communities in northern Alberta that are largely driven by the natural resource sector, there are communities in Australia that have experienced problems with rapid growth. Researchers in Australia have focused on the social ills that often accompany rapid growth. Residents of Australia's mining communities cited volatility in commodity prices leading to bouts of unemployment, high housing prices, and a large gap between low and high incomes as downsides of living in a remote region (Lawrie et al, 2011).

Another group of Australian researchers examined the push and pull factors influencing the relocation decisions of professionals from a variety of sectors. Problems with recruitment and retention commonly cited by employers included: limited infrastructure and services, less diverse culture, activities or lifestyle, limited professional development, distance from major centers, career opportunities for family members, and access to services such as healthcare and education (Miles et al, 2006).

Effect of post-secondary education on rural migration patterns

A report published in 2000 titled "Rural Youth: Stayers, Leavers and Return Migrants," is the most substantial research to date on rural youth and their decisions to stay in a rural community or relocate to an urban centre. The researchers used census data from 1991 and 1996, administrative data from T1 tax forms, and the Survey of Labour and Income Dynamics from 1993-1997 to determine where students from rural areas chose to live at various points, starting from 15-19 years of age (Dupuy et al, 2000). The report determined where students lived at the beginning of a ten-year period (1987), and where they lived ten years later (1997).

Several key trends for youth migration were established by the report. Firstly, and most importantly, returners are a very small portion of all youth that lived in rural communities at the beginning of the study. At most, 20-25% of youth that leave a rural community will return and live in their original community permanently. This trend is particularly pronounced for youth that leave between the ages of 19-24. The longer they stay without leaving to pursue

post-secondary education or opportunities in an urban centre, the likelihood that they will be permanent stayers increases (Dupuy et al, 2000). According to calculations based on census data, the report determined that 10% of rural leavers in Alberta return (Dupuy et al, 2000).

The report also determined that Canada-wide, a percentage of rural leavers will choose to live in another rural community in their province of origin. It therefore stands to reason that students from northern Alberta who choose to pursue post-secondary education outside of the region may move back, but live in a different community. The researchers determined that at most, 39% of rural leavers settle in a rural community they did not originally live in (Dupuy et al, 2000).

Since there are economic opportunities for youth in northern Alberta, and there are two large urban centres, it is reasonable to expect a sizable proportion of students that initially left will choose to return to the area. Based on the estimated number of returners in the literature – 39% from a rural community will move to a rural area, and 20 to 25% will return to their original community – it is estimated that 59% of bursary recipients will be living in the NADC region. Although an estimated 10% of Alberta's rural leavers return, the number is likely higher in the NADC region due to the economic opportunities and the presence of two urban service centers (Grande Prairie and Fort McMurray).

Methodology and Challenges

This survey was designed to collect information from past NADC Bursary recipients only – recipients of other bursaries, such as the Bursary Partnerships Program, Northern Student Teacher Bursary and NADC Bursary for Medical Students are not reflected in these totals. The information on bursary outcomes was derived from a survey designed through Survey Monkey. The link for the anonymous survey was emailed to every student who received a NADC Bursary in the last ten years (2001-2011). The survey was not randomized, but was sent to the entire study population. Not every email address on file was still active. In order to capture a diverse sample, phone calls were made to the last known number for students whose email addresses were no longer valid. The majority of bursary recipients were contacted through one of these two methods. Of the 1,113 recipients over the 10 year study period 948 were contacted. The 948 contacts resulted in a sample size of 158, with a confidence level of 95 percent and a confidence interval of +/-7.12 percent.

An effort was made to connect with past bursary recipients through social media. To encourage more responses to the survey, tweets from the NADC account were addressed to the institutions past bursary recipients attended. Institutions that at least 5-10 bursary recipients attended were specifically targeted. This likely increased the number of responses received from students who attended NAIT, Northern Lakes College, Portage College, Lethbridge College,

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² The NSTB was created in 2009. Prior to the creation of a bursary for teachers only, education students were funded through the NADC Bursary program. Education programs are still eligible for the NADC Bursary, but there are fewer recipients than there were prior to the implementation of the NSTB.

Keyano College, and Grande Prairie Regional College, as tweets addressed to bursary recipients who attended these schools were re-tweeted by the institutions.

Although the survey was anonymous and efforts were made to solicit input from all recipients since 2001, there are some limitations to the data. In order to ensure anonymity, respondents were not asked to identify their community of origin. Past recipients who have a connection to the north may have been more likely to respond; a self-selection bias is an ingrained feature in a survey of this nature.

NADC Bursary Recipients: Trends and Characteristics, 2001-2011

Since 2001, 1,113 NADC Bursaries have been issued. These bursaries have been given to Alberta residents studying a wide range of subjects.

Institution

The 10 most commonly attended institutions bursary recipients attended over the last ten years, in order, were: the University of Alberta, Northern Alberta Institute of Technology (NAIT), Grande Prairie Regional College (GPRC), Northern Lakes College, Keyano College, Portage College, University of Calgary, Grant MacEwan University, Southern Alberta Institute of Technology (SAIT) and the University of Lethbridge. The full list of institutions is attached in Appendix C, table 1.

Name of Institution	Location (Main campus)	Number of Bursary Recipients Attended from 2001-2011
University of Alberta	Edmonton	367 (33%)
NAIT	Edmonton	179 (16%)
GPRC	Grande Prairie	92 (8%)
Northern Lakes College	Slave Lake	66 (6%)
Keyano College	Fort McMurray	61 (5%)
Portage College	Lac La Biche	54 (4%)
University of Calgary	Calgary	44 (4%)
Grant MacEwan University	Edmonton	34 (3%)
SAIT	Calgary	26 (2%)
University of Lethbridge	Lethbridge	26 (2%)

Community of Origin

A full list of the communities of origin for bursary recipients during the study period is attached in Appendix C, table 2. The vast majority of students awarded bursaries are originally from communities in the NADC region or near the boundaries (e.g., Edson).

Program Choice

Over the last ten years, the NADC has funded a variety of programs of study. Some of the most frequently funded programs address labour market concerns in northern Alberta; bursaries have gone to a large number of students studying education, power/stationary engineering, nursing, and social work. A full list of the programs students have received bursaries for is attached in Appendix C, table 3.

Level of Accreditation

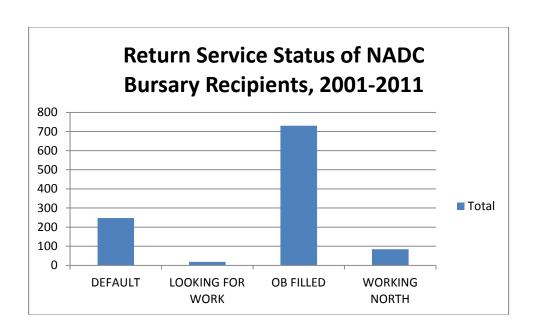
The majority of students who received the NADC Bursary between 2001 and 2011 were pursuing a bachelor's degree. The table below shows the total number of students awarded the bursary for each level of accreditation.

Table 2: Level of Accreditation for NADC Bursary Recipients, 2001-2011				
Certificate	123 (11%)			
Diploma	384 (35%)			
Degree (Bachelor's)	552 (50%)			
Degree (Master's)	43 (3%)			
MD/PhD	11 (>1%)			
Total	1113			

Return Service Completion

Bursary recipients commit to a return service period where they agree to live and work in northern Alberta for a period of time, typically 12-24 months. Recipients who do not complete their return service are generally considered to be in "default." Those who complete the agreed length of service are considered as "obligation filled." Those who are still completing their return service are classified as "working north." Special circumstances exist that allow recipients to be categorized outside of these three main categories – for example, they may still be in school, or looking for work. A total of 1079 past recipients amongst the survey population fit into the categories of obligation filled (return service complete), default, looking for work, or working in the north. 22% of recipients during this period defaulted, and 67% completed their return service. 18 recipients are currently looking for work, and 84 are working in the north to fulfill their return service obligation.

It is important to note that the return service rate shown here is the total over a ten-year period. The NADC uses a different formula to calculate the return service rate on an annual basis. It is attached in Appendix D.



Analysis of Survey Results

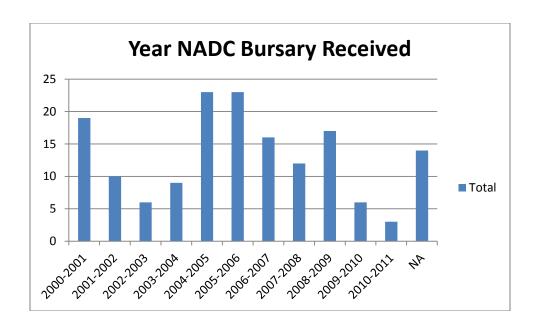
On June 11, 2012, the survey for past bursary recipients was launched. It remained online until September 1, 2012. During that time, 158 valid responses were collected. The full survey is attached is Appendix E. This section will provide an overview and analysis of each question, and highlight some trends from the data.

Q1. Were you the recipient of a NADC Bursary between 2001-2011?

This was a screening question. Those who responded "yes" were brought to question 2. Those who responded "no" were brought to the end of the survey.

Q2. In what year did you receive the bursary?

Respondents were asked to select the academic year in which they received their initial bursary. This question was an indicator for expected trends; if the majority of respondents received the bursary in the last 2-4 years, they may still be pursuing post-secondary studies. Since the majority of respondents received a bursary between 2004-2006, most respondents have graduated. NA was the given option for respondents who could not remember when they received the NADC bursary.



Q3. Please enter the name of the post-secondary institution you were attending when you received the bursary.

This question was left open to ensure the maximum range of responses was available to respondents. The responses closely matched the broader trend over the last 10 years – the most commonly attended institution was the University of Alberta, followed by NAIT. The sample collected from the survey for institutions attended was generally representative of recipients from 2001-2011 as a whole; for example, 33% of all recipients attended the University of Alberta, as did 32% of respondents.

Table 3: Institution Attended by Respondents				
Institution	Total			
University of Alberta	52			
NAIT	20			
GPRC	14			
Northern Lakes College	8			
University of Lethbridge	8			
Grant MacEwan University	7			
University of Calgary	6			
Portage College	6			
Keyano College	5			
SAIT	4			
Red Deer College	4			
University of Alberta-Saint Jean	3			
King's University College	2			
University of Alberta-Augustana	2			
University of Alberta-GPRC (combined program)	2			
St. Francis Xavier	1			
NAIT (Fairview College)	1			

eCampus Alberta	1
Blue Quills College	1
University of Calgary-Portage (combined program)	1
Concordia University College	1
Athabasca University	1
University of Alberta-Blue Quills (combined program)	1
Athabasca University-Portage (combined program)	1
University of Alberta-Keyano (combined program)	1
University of Calgary-Blue Quills (combined program)	1
University of Guelph	1
Royal Roads University	1
Norquest College	1
Pacific University	1
Total	158

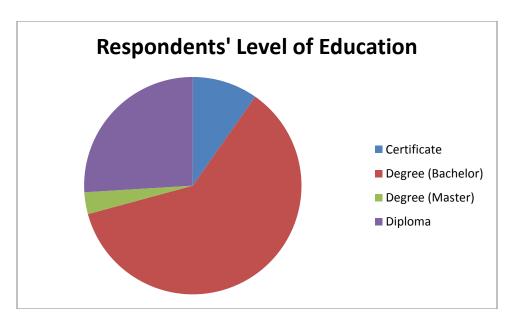
Q4. Please enter the name of the program of study you were enrolled in when you received the bursary.

As there is a diversity of programs the NADC Bursary helps fund, this question was left open. Responses were not edited and categorized as with other responses, such as industry of employment; there are nuances to different program names and requirements, and the survey effectively captured the wide variety of programs the bursary has supported. The total includes all respondents, including those who are currently completing post-secondary studies. The five most common programs among respondents are in the table below. The full program of study list is in Appendix F, table 1.

Table 4: Most Common Programs of Study			
Program of Study	Number of Respondents		
Education	46		
Social Work	14		
Power Engineering/Technology	13		
Nursing/LPN	13		
Pharmacy	6		

Q5. What was the level of accreditation for the program you were enrolled in when you received the bursary?

There was a range of responses possible for this question. The options available to respondents were certificate, diploma, degree (bachelor's), degree (master's) and degree (PhD). Other was left as an open option for respondents whose level of accreditation was a combination of these options. The majority of respondents were in degree programs.



Q6. Have you completed your post-secondary studies?

At this point in the survey, respondents were diverted down two different paths to the end of the survey. Those who had completed their studies were asked more questions about current industry, occupation, residency and reasons for staying in northern Alberta or choosing to live elsewhere. Respondents who were in the process of completing their studies were directed to the last few questions of the survey, where they were asked if they were originally from the north and how much money they received from the NADC bursary. The majority of respondents had completed their studies, as anticipated from the responses to Q2: 152 had completed their studies, while 6 were still pursuing post-secondary education.

Q7. Have you completed your return service?

The majority of respondents who answered this question had completed return service. 129 respondents had fulfilled the obligations of their return service contract, while 23 were still completing return service or had defaulted.

This question was designed to gauge how many respondents stayed in the north once their return service was complete. Of those who had completed return service, 104 were still living in northern Alberta (68%). 15 respondents had defaulted, representing 9% of respondents. Interestingly, original northern residence was not significant for this question. Out of the 31 respondents who were not originally from the NADC region, 22 were still were still here, representing 70% of the group who were not originally from the north and had completed return service. 69% of respondents who were originally from northern Alberta and had completed return service were still living in the NADC region.

Q8. What was the length of your return service in months?

The most common length of time for return service reported was 12 months, followed by 24 months. Many respondents did not know the answer to this question. While the information is valuable, it likely does not need to be included in future surveys of this nature.

Q9. In which industry are you currently employed?

To capture the widest range of responses possible, this question was left open. These responses were then grouped for consistency. The table below shows the total count for all reported industries.

Table 5: Most Common Industries of Employment Reported	by Survey Respondents
Education	43
Health Care	35
Oil and Gas	20
Social Services	7
Pharmacy	6
Unemployed	4
Education (Post secondary)	3
Environment	3
Forestry	3
Accounting	3
Unpaid Work	2
Trades	2
Utilities	2
Public Administration	2
Land Surveying (Geomatics)	1
Financial Services	1
Recreation	1
Engineering	1
Consulting Engineering	1
Entertainment	1
Real Estate & Forestry	1
Automotive	1
Residential	1
Power Generation	1
Health services	1
Graphic Design	1
Labour Relations	1
Pulp/Paper	1
Veterinary	1
Real Estate	1
Law	1
Total	152

These totals reflect the effort that has been made by the NADC to attract professionals for industries that are hard to recruit for in the north, particularly education and health care. The totals for industry were correlated with current northern residence (Q11) to determine if there are industries that are more or less likely to retain bursary recipients. The table showing northern residence by industry is in Appendix F, table 2. Interestingly, of the 20 respondents who selected oil and gas as their primary industry, 10 were no longer living in the NADC region. A table showing the reported occupations in the oil and gas industry and northern residence has been attached in the Appendix F, table 3. The occupation that was the most likely to retain professionals was education – of the 43 respondents who indicated their primary industry was education, only 2 no longer lived in the NADC region.

Q10. What is your current job title?

Responses to this question were not edited or categorized to show the full breadth of occupations past NADC bursary recipients have gone on to pursue. The full list is attached in Appendix F, table 4.

Q11. Do you still live in northern Alberta?

Respondents were diverted to two different sets of questions depending on their answer to this question. If respondents replied with yes, they were asked a series of questions about where they currently live, if they commute, and why they chose to stay in northern Alberta. If they selected no, they were asked why they chose to leave northern Alberta. Most of the respondents still live in northern Alberta. Of the 152 respondents who answered this question, 112 are still living in northern Alberta. Therefore, 73% of the survey respondents who were not currently completing their post-secondary studies still live in northern Alberta. This is higher than the 59% predicted based on the literature review.

Table	6:	Current	Northern	Total
Reside	nce			
No				40
Yes				112
Total				152

To determine if there was a stronger likelihood that bursary recipients who are not originally from the NADC region will leave, current northern residence status was correlated with northern

Table 7: Current Northern Residence by Northern Origin					
		From NADC region?			
Current	Northern	No	Yes	Total	
residence					
No		9	31	40	
Yes		22	90	112	
Total		31	121	152	

Of the 31 recipients who were not originally from the region, 29% no longer live in northern Alberta. For those who were originally from the north, 26% are no longer in northern Alberta.

The year respondents received the bursary was correlated with current northern residence to see if the NADC Bursary was assisting in long term retention. Responses from a total of 139 respondents were included – those who selected "NA" for the year in which they received the bursary were excluded.

Table 8: Year of Bursary Receipt and Current Northern Residence			
	Northern residence		
Year	No	Yes	Grand Total
2000-2001	8	10	18
2001-2002	4	5	9
2002-2003	3	3	6
2003-2004	1	8	9
2004-2005	4	18	22
2005-2006	6	16	22
2006-2007	2	14	16
2007-2008	1	11	12
2008-2009	3	14	17
2009-2010	2	4	6
2010-2011	1	1	2
Total	35	104	139

Q12. Please enter the name of the community in which you currently reside.

Respondents who selected that they still live in the north were asked to name the community they currently live in. This question was meant to determine if past recipients are more likely to live in medium to large urban centers, as predicted. The full list of communities in which past recipients reside is in the table below.

Table 9: Current Municipality/Town/City	Total
Grande Prairie	25
Peace River	8
Bonnyville	6
Lac La Biche	6
Slave Lake	5
Fort McMurray	5
Athabasca	4
St. Paul	4
Manning	3
Cold Lake	3
Grimshaw	3

High Prairie	3
St. Paul County	2
La Crete	2
St Isidore	2
High Level	2
Fairview	2
Regional Municipality of Wood Buffalo	2
Beaverlodge	2
Joussard	1
Driftpile	1
Wembley	1
Grande Cache	1
Glendon	1
Lesser Slave River	1
Valleyview	1
Worsley	1
Woodlands County	1
Berwyn	1
Spirit River	1
Medicine Hat*	1
Hinton	1
Nampa	1
Teepee Creek	1
Blue Ridge	1
Wabasca	1
Fort Chipewyan	1
Whitecourt	1
Rycroft	1
Goodfare	1
Sexsmith	1
Mallaig	1
Total	112

The largest number of past recipients currently resides in Grande Prairie. Since it is a large urban center in northwestern Alberta, this finding was expected. Unexpectedly, fewer respondents lived in Fort McMurray. The one outlier for this question was the respondent who stated that they live in Medicine Hat. Through a voluntary explanation in the next question on commuting, they stated that they live in Medicine Hat, but commute to a northern community.

Q13. Do you currently commute to another community for work?

Please see question 14.

Q14. Please select the area to which you currently commute. If the area you commute to is not listed, please enter the name of the area in the space provided.

Respondents who replied yes to Q13 were brought to Q14, where they were asked which community they commute to. Those who responded no were brought to Q17. The majority of

respondents stated that they do not commute to another community for work. To protect the anonymity of respondents, information on which towns and cities commuters live and work in is not shared in this report. However, the general trend is that commuters live a short distance away from the town or city they commute to (20-30 minutes), or have a job that requires them to visit multiple communities.

Q15. If you no longer live in northern Alberta, what was your primary reason for leaving? Please select the primary drawback from the list. In the next question, you will be given the chance to select other reasons that informed your decision to leave northern Alberta.

In this question, respondents were given the option to select their primary reason for no longer living in northern Alberta. The responses were developed based on the literature review of the causes of rural out-migration. The initial response options were: family does not live in northern Alberta; spouse/partner found work elsewhere; not enough job opportunities; could not find work in chosen field; community too isolated; lack of services/amenities in region; transportation too difficult; housing too difficult to find/too expensive; access to medical care limited; commuting takes too long; the climate; other (please specify). After reviewing the responses, an opportunity outside of the NADC region was the primary reason given under the 'other' category. The table below shows that the most common reason respondents left was family-based; of 40 responses, 10 selected their spouse or partner finding work elsewhere as their primary reason for leaving, and 4 selected their family living elsewhere as the primary reason.

Table 10: Primary Reason for Leaving Northern Alberta		
Spouse/partner found work elsewhere	10	
Could not find work in chosen field	5	
Family does not live in northern Alberta	4	
Not enough job opportunities	3	
The climate	3	
Preferred employment in a larger centre	3	
Housing difficult to find/too expensive	2	
Community too isolated	2	
Opportunity for training in large centre	1	
Position in Edmonton	1	
Pursued opportunities out of province	1	
Business based in Edmonton	1	
Offered position outside of region	1	
Changed careers, cost of living too high while pursuing education	1	
Job opportunity outside the region	1	
Lack of services/amenities in the region	1	
Total	40	

A lack of access to transportation and health care and commuting time were not selected as primary reasons for leaving. The respondents who selected "could not find work in chosen field" worked in a variety of fields, including education, health care, pharmacy, and social services.

Q16. Please select other reasons for your choice to no longer live in northern Alberta.

The options provided in Q15 are the same in this question, except respondents were allowed to select any other number of reasons that influenced their decision to no longer live in northern Alberta. These responses were not ranked – the table below shows the frequency of each response.

Table 11: Secondary Reasons for Leaving Northern Alberta	
Community too isolated	12
Housing difficult to find/too expensive	11
Lack of services/amenities in the region	8
Commuting takes too long	6
Could not find work in chosen field	6
The climate	6
Transportation too difficult	6
Family does not live in northern Alberta	5
Not enough job opportunities	5
Spouse/Partner found work elsewhere	3
Access to medical care limited	3

Other reasons were offered in the comments, including, "It's difficult to find work in northern Alberta with just a bachelor's degree," and "Too far from friends." There was one comment about the culture of northern Alberta, and others stating that they only left because of the primary reason. Several respondents did note that outside of their primary reason for leaving, they liked living in northern Alberta.

Northern origin was correlated with reasons provided for leaving northern Alberta. Bursary recipients who were not originally from the NADC region were less likely than those originally from northern Alberta to select "community too isolated" as a reason for leaving. This may indicate that students who are not from the north but receive the NADC bursary understand that northern communities can be isolated, but still choose to pursue a career in the region.

Q17. If you live in northern Alberta, what is your primary reason for staying? Please select your primary reason from the list below. You will have the opportunity to rank the other reasons in the next question.

Similar to Q15, respondents who reported that they still live in northern Alberta were asked to select the primary reason they choose to stay in the region. The options provided were based on the literature review on drivers of in-migration and rural retention: high wages; found good job; spouse/partner/family live in the region; the community I live in is welcoming; close to nature and good recreational opportunities; there is room for career advancement here; the quality of services is good; overall good quality of life; I have to complete return service, and; other, please specify.

Table 12: Primary Reason for Staying in Northern Alberta	Total
Spouse/partner/family live in the region	69
Found good job	18
High wages	
Overall good quality of life	
There is room for career advancement here	
Close to nature and good recreational opportunities	
The community I live in is welcoming	
Total	112

Approximately 61% of respondents who are still living in northern Alberta selected family as their primary reason for staying in the NADC region. Having to complete return service and a good quality of services were not selected as primary reasons for staying in northern Alberta.

Q18. Please select other reasons for living in northern Alberta from the list below.

The options provided in Q18 are the same in this question, except respondents were allowed to select any other number of reasons that influenced their decision to continue living in northern Alberta. These responses were not ranked – the table below shows the frequency of each response.

Table 13: Secondary Reasons for Staying in Northern Alberta	Total
Overall good quality of life	70
Found good job	56
Close to nature and good recreational opportunities	37
High wages	34
There is room for career advancement here	31
Spouse/partner/family live in the region	30
The community I live in is welcoming	29
The quality of services is good	10

Other reasons provided by respondents included the importance of culture and religion in the region. Several respondents reiterated the importance of being close to their family and living in their hometown.

Q19. Are you originally from northern Alberta?

This was a yes or no question, and all respondents were required to answer, including those who were still completing post-secondary studies. It was used in data analysis to determine if bursary recipients who were not originally from the NADC region were more or less likely to remain in the region once their return service obligation was complete. A total of 126 respondents were originally from the NADC region; 32 were from outside of the region. Approximately 80% of respondents, therefore, are from the region, and 20% are from non-

NADC region communities. The proportion of recipients who are not originally from northern Alberta that responded to the survey is higher than expected.

Q20. What was the amount of the bursary you received from the NADC?

The final question for respondents asked how much they had received for the NADC bursary. In future versions of this study, there should be greater clarity in this question. Many recipients did not know how much they received from the NADC, as a significant amount of time had passed between the completion of the survey and the receipt of a bursary. Other respondents combined the totals if they received the bursary more than once, and commented on how they calculated the total amount in the comments section. The table below shows the reported bursary amounts.

Table Respor	14: idents	Bursary	Amount	Received	by
2000				40	
3000				40 24	
6000					
NA 3500				23 14	
				12	
5000					
2500				9	
2000				7	
4000				7	
1500				5	
8000				3	
1000				3	
7000				2	
9500				2	
16000				1	
6500				1	
3600				1	
2700				1	
2250				1	
1250				1	
500				1	
Total				158	

Conclusion and Recommendations

Over the last ten years, the NADC bursary program has been successful in adding a variety of professionals from different sector to the northern labour market. The bursary also seems to have been successful in retaining these professionals, particularly in the education sector – of the 43 past recipients who had completed their studies in education, only 2 had left the north. The bursary may have also played a role in long-term retention; over half of the survey respondents who received the bursary in 2001 still live in the north.

Many of the recipients of the bursary continue to live in northern Alberta, primarily in medium to large population centers, particularly Grande Prairie. Past recipients who are still living in northern Alberta reported a strong connection to their family, good employment opportunities and high wages as reasons for staying. Those who have left indicated that their spouse or partner found work outside of the region, they were offered opportunities for training or employment outside of northern Alberta, and that the communities they lived in were isolated. The survey results showed that those who were not originally from northern Alberta were slightly more likely to leave, but less likely to cite community isolation as a reason for leaving.

There are several unanswered questions from the survey that could be future areas of research. One surprising trend revealed by the survey data is the loss of oil and gas employees from the region. A future version of this study could focus on recipients who were enrolled in programs related to the oil and gas industry to determine why they leave northern Alberta. To gather suggestions for how the bursary program could be improved for certain key industries, including social work, education and nursing, surveys could also be conducted for recipients who completed their studies in these fields as well. Changing the study period from ten years to five might also allow the NADC to collect more responses, as contact information that is five years old is more likely to be current than information from ten years ago. The two approaches suggested here could be combined – every five years, a complete survey could be created, and every two years, a certain program of study or industry could be examined.

To gain a better understanding of youth migration trends in northern Alberta, research could be conducted on northern leavers, stayers and return migrants.

The statistical approach taken in this longitudinal study does not adequately capture the role the bursary played in the decision of recipients to move to the north and stay in their community of choice. A qualitative study could be undertaken in the future to supplement this study and find out what role the bursary played in bringing professionals to the north. A qualitative approach could also be used to follow up with recipients who have defaulted or left the north to discover what factors would have kept them in the NADC region.

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Appendix A: Map of the NADC Region



NORTHERN ALBERTA DEVELOPMENT COUNCIL AREA



Appendix B: Highest Level of Educational Attainment in Census Subdivisions, 2006

County/Municipal District/City	Population with highest completed level of education (%)		
	UNIVERSITY	COLLEGE	TRADES TRAINING
Athabasca County	9.5	15.6	16.1
MD of Big Lakes	7.1	12.8	11.1
MD of Bonnyville	9.3	15.9	16.1
MD of Clear Hills	4.2	8.9	8.7
MD of Fairview	8.3	24.3	17
City of Grande Prairie	13.8	18.6	13
County of Grande Prairie	8.3	18.6	16.2
MD of Greenview	5.2	14.3	14.2
Lakeland County	9.7	16.3	16.1
MD of Lesser Slave River	6.1	15	18.2
Mackenzie County	5.3	6.7	7.5
Northern Sunrise County	7.8	12.5	12.8
MD of Northern Lights	6.8	13.4	14.2
MD of Opportunity	4.6	9.5	7.5
MD of Peace	10.3	23.2	11.5
Regional Municipality of Wood Buffalo	16.9	20.5	18.2
Saddle Hills County	6	12.8	15.8
St. Paul County	9.7	14.1	16
MD of Smoky River	Data Suppressed		
MD of Spirit River	12.4	11.4	17.1
Woodlands County	7.5	14.1	13.3

Source: Natural Resources Canada, "Atlas of Canada: Highest Level of Educational Attainment, 2006." http://atlas.nrcan.gc.ca/site/english/maps/peopleandsociety/edc/edc2006

Appendix C: Bursary Database Information

Table 1: Institutions Attended by NADC Bursary Recipients, 2001-2011	
University of Alberta	367
NAIT	179
Grande Prairie Regional College	92
Northern Lakes College	66
Keyano College	61
Portage College	54
University of Calgary	44
Grant MacEwan College	31
SAIT	26
University of Lethbridge	26
Red Deer College	18
Lakeland College	17
Athabasca University	15
Fairview College	10
Olds College	7
Concordia College	6
Lethbridge College	6
Concordia University College	6
King's University College	6
Norquest College	5
Blue Quills College	4
Medicine Hat College	4
Simon Fraser University	3
University of Victoria	3
University of Saskatchewan	3
Augustana University College	3
Grant MacEwan University	3
University Canada West	2
European Institute of Esthetics	2
KDM Dental Edmonton College	2
Marvel College	2
Thompson Rivers University	2
Royal Roads University	2
Vancouver Island University	1
University of Manitoba	1
University of British Columbia	1
Alberta Health & Safety Training Institute	1
Mount Royal College	1
Dalhousie University	1
Wilfred Laurier University	1

Edmonton School of Sonography	1
University of Guelph	1
Pacific University	1
College of New Caledonia	1
Est-Elle Academy of Hair Design	1
University of Wollongong	1
Prairie Bible Institute	1
Walden University	1
Professional Medical Associates St. Albert	1
Canadian Memorial Chiropractic College	1
Charles Stuart University	1
Gonzaga University	1
Regent College	1
Grand Canyon University	1
Rochester Institute of Technology	1
University of Moncton/Université de Moncton	1
Canadian University College	1
University of Sydney	1
Ryerson University	1
University of Waterloo	1
Eveline Charles Academy	1
unknown	1
Manhattanville College	1
Walden University	1
St. Francis Xavier University	1
Western College of EMS	1
City University	1
College of the Rockies	1
Maskwachees College	1
Total	1113

Table 2: NADC Bursary Recipients Community of Origin, 2001-2011	
PEACE RIVER	95
FORT MCMURRAY	89
GRANDE PRAIRIE	88
LAC LA BICHE	63
BONNYVILLE	50
ST. PAUL	42
FAIRVIEW	40
LA CRETE	37
GRANDE PRAIRIE-SMOKY	33
SLAVE LAKE	30

ATHABASCA 29	
HIGH LEVEL 28	
COLD LAKE 27	
HIGH PRAIRIE 25	
WHITECOURT 19	
GRANDE PRAIRIE-WAPITI 18	
BEAVERLODGE 16	
EDMONTON 14	
FORT VERMILION 14	
MCLENNAN 14	
GRIMSHAW 14	
VALLEYVIEW 13	
other 13	
SEXSMITH 12	
SPIRIT RIVER 10)
ELK POINT 9	
FALHER 9	
MANNING 9	
KINUSO 7	
ST. ISIDORE 7	
BOYLE 7	
SILVER VALLEY 7	
FAUST 6	
PLAMONDON 6	
HYTHE 6	
NAMPA 6	
WEMBLEY 6	
DONNELLY 6	
BERWYN 6	
GLENDON 6	
TANGENT 5	
WABASCA 5	
ROCKY LANE 5	
FORT CHIPEWYAN 5	
SADDLE LAKE I.R. 5	
STURGEON LAKE I.R. 5	
DEBOLT 5	
EAGLESHAM 4	
WANHAM 4	
GRANDE CACHE 4	
FROG LAKE I.R. 4	
GIROUXVILLE 4	
VALHALLA CENTRE 4	

ASHMONT	4
GRASSLAND	4
ST. VINCENT	3
WORSLEY	3
FOX CREEK	3
CADOTTE LAKE	3
GIFT LAKE METIS SETTLEMENT	3
CALLING LAKE	3
BEZANSON	3
RED DEER	3
CLAIRMONT	3
MARIE REINE	3
KIKINO METIS SETTLEMENT	2
BLUESKY	2
ELMWORTH	2
ONOWAY	2
FORT ASSINIBOINE	2
BAY TREE	2
SWAN HILLS	2
JEAN COTE	2
BARRHEAD	2
ST. LINA	2
MALLAIG	2
JOUSSARD	2
RYCROFT	2
CROOKED CREEK	2
ARDMORE	2
DEADWOOD	2
GROVEDALE	2
CONKLIN	1
HINES CREEK	1
BONANZA	1
MAYERTHORPE	1
IRON RIVER	1
DRIFTPILE I.R.	1
TEEPEE CREEK	1
CARCAJOU	1
DESMARAIS	1
NEERLANDIA	1
ST. ALBERT	1
NORTH STAR	1
FISHING LAKE	1
EAST PRAIRIE METIS SETTLEMENT	1

BUFFALO HEAD PRAIRIE	1
CHERRY POINT	1
BLUMENORT	1
PADDLE PRAIRIE METIS SETTLEMENT	1
WATINO	1
EDSON	1
DIXONVILLE	1
PEAVINE METIS SETTLEMENT	1
SPRUCE GROVE	1
CHIPEWYAN LAKE	1
COLD LAKE I.R.	1
BLACKFOOT	1
ISLAND LAKE	1
RICH LAKE	1
STONY PLAIN	1
ROCHESTER	1
SUCKER CREEK I.R.	1
ENILDA	1
FORT MACLEOD	1
GROUARD	1
unknown	1
ANZAC	1
LA GLACE	1
GUY	1
LETHBRIDGE	1
SHERWOOD PARK	1
LINDBERGH	1
CLEARDALE	1
WOKING	1
BEAR CANYON	1
CANYON CREEK	1
SMITH	1
Total	1113

Table 3: Number of NADC Bursary Recipients by Program, 2001-2011	
BSc Nursing	109
Power/Stationary Engineering Technology	69
Education (General)	63
Elementary Education (General)	51
Social Work/Welfare (General)	46
Business Administration	36
Practical Nurse	30

Education	29
Office Administration	18
Power Engineering	18
Education (Elementary)	18
Forestry	18
Licenced Practical Nurse	17
Instrumentation Technology	17
Social Work/Welfare (Aboriginal Spec)	15
Psychology	14
Occupational Therapy	14
Secondary Education (General)	14
Emergency Medical Tech: Paramedic	13
Petroleum Engineering Technologies	12
Medical Lab Technology	12
BSc General	11
Early Childhood Services	10
Animal Health Technology	10
Physical Therapy	9
Education (Science)	9
Education (After Degree)	8
Mine Operations Technician	8
Computer Science Technology	8
Diagnostic Medical Sonography	8
Process Operator (Oil Field)	8
Environmental and Conservation Science	8
Law	7
Commerce (Accounting) CA	7
Combined X-Ray & Lab Technology	7
Forest Technician	7
Geomatics Engineering	6
Nurse (RN)	6
Medical Radiologic Technology	6
Dental Hygiene	5
Pharmacy	5
BSc Agriculture	5
Dental Assistant	5
BA Management	5
Education (English)	5
Chemical Engineering Technology	5
Mechanical Engineering	4
Education (Native Studies)	4
Agricultural Science	4
Engineering	4

Massage Therapy	4
BSc Environmental Science	4
Laboratory Technology	4
Education (Physical)	4
Chemical Engineering	4
BSc Nutrition and Food Science	4
Paramedic	4
BSc Engineering	4
Education (Secondary)	4
Educational Assistant	4
Speech Language Pathology	4
Emergency Medical Tech: Ambulance	4
Veterinary Medicine	4
Aboriginal Teacher Education Program (ATEP)	3
Business (BComm)	3
Business & Commerce	3
Electrical Technology	3
Counselling Services	3
Therapist Assistant	3
Physical Education	3
Civil Engineering	3
Business (Accounting)	3
BA Sociology	3
Legal Assistant	3
Environmental Technology	3
BSc Biology	3
General Practice Medicine	3
Pharmacy Technology	3
Commerce (Management & Organization)	3
Accounting / Computer Applications	3
Hair Design	3
Rehabilitation Practitioner	3
Human Resources Management	3
Social Services	3
Industrial Heavy Equipment Technology	3
Speech Pathology	3
Instrumentation Engineering	3
Construction Engineering	3
BA Psychology	2
Police Studies	2
Communications	2
Kinesiology	2
Accounting	2

Community Rehabilitation 2 Forest Management 2 Computer Engineering Technology 2 Education (Early Childhood) 2 Biomedical Engineering Technology 2 Heavy Equipment Operator 2 Computer Science 2 Recreation & Leisure Services 2 Agricultural Technology 2 Esthetics 2 Agri-Business 2 Special Education 2 Commerce (Finance) 2 Journalism, News Reporting 2 French Immersion (Elementary) 2 Physical Therapy Assistant 2 Medical X-ray Technology 2 Automotive Technician 2 BSc Chemistry (General) 2 Heavy Equipment Technician 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technology 2 Instrument Technology 3 Instrument Technology
Computer Engineering Technology Education (Early Childhood) Biomedical Engineering Technology 2 Heavy Equipment Operator 2 Computer Science 2 Recreation & Leisure Services 2 Agricultural Technology 2 Esthetics 2 Agri-Business 2 Special Education 2 Commerce (Finance) 2 Journalism, News Reporting French Immersion (Elementary) 2 Physical Therapy Assistant 2 Medical X-ray Technology 2 Automotive Technician 2 BSc Chemistry (General) 4 Besc Vequipment Technician 2 Agricultural Technology 2 Education (Math) Disability & Community Support 8 Recreation Administration 4 Applied Environmental Management 2 Respiratory Technician
Education (Early Childhood) Biomedical Engineering Technology Heavy Equipment Operator Computer Science Recreation & Leisure Services Agricultural Technology Esthetics Agri-Business Special Education Commerce (Finance) Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Redical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician Agricultural Production Education Commence Education Commerce
Biomedical Engineering Technology Heavy Equipment Operator Computer Science Recreation & Leisure Services Agricultural Technology Esthetics Agri-Business Special Education Commerce (Finance) Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Redical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician Agricultural Production Education Education Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technology Arts Arts
Heavy Equipment Operator Computer Science Recreation & Leisure Services Agricultural Technology Esthetics Agri-Business Special Education Commerce (Finance) Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Medical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician Agricultural Production Education (Math) Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technology Arts Arts 2 2 2 2 2 2 2 2 2 2 3 4 4 4 5 6 7 7 7 7 7 7 7 7 7 7 7 7
Computer Science Recreation & Leisure Services Agricultural Technology Esthetics Agri-Business Special Education Commerce (Finance) Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Medical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician 2 Agricultural Production Education (Math) Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technology Arts Agriculturent Technician 2 Coptometry Instrument Technology 2 Catalogue Agricultural Production 3 Catalogue Agricultural Production 4 Catalogue Agricultural Production 5 Catalogue Agricultural Production 6 Catalogue Agricultural Production 7 Catalogue Agricultural Production 8 Catalogue Agricultural Production 9 Catalogue Agricultural Production
Recreation & Leisure Services Agricultural Technology Esthetics 2 Agri-Business 2 Special Education 2 Commerce (Finance) 2 Journalism, News Reporting 2 French Immersion (Elementary) 2 Physical Therapy Assistant 2 Medical X-ray Technology 4 Automotive Technician 2 BSc Chemistry (General) 4 Heavy Equipment Technician 2 Agricultural Production 2 Education (Math) Disability & Community Support 2 Recreation Administration 4 Applied Environmental Management 8 Respiratory Technician 2 Optometry Instrument Technology 2 Arts 2
Agricultural Technology 2 Esthetics 2 Agri-Business 2 Special Education 2 Commerce (Finance) 2 Journalism, News Reporting 2 French Immersion (Elementary) 2 Physical Therapy Assistant 2 Medical X-ray Technology 2 Automotive Technician 2 BSc Chemistry (General) 2 Heavy Equipment Technician 2 Agricultural Production 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Esthetics 2 Agri-Business 2 Special Education 2 Commerce (Finance) 2 Journalism, News Reporting 2 French Immersion (Elementary) 2 Physical Therapy Assistant 2 Medical X-ray Technology 2 Automotive Technician 2 BSc Chemistry (General) 2 Heavy Equipment Technician 2 Agricultural Production 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
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Special Education2Commerce (Finance)2Journalism, News Reporting2French Immersion (Elementary)2Physical Therapy Assistant2Medical X-ray Technology2Automotive Technician2BSc Chemistry (General)2Heavy Equipment Technician2Agricultural Production2Education (Math)2Disability & Community Support2Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Commerce (Finance) Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Medical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician 2 Agricultural Production Education (Math) Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technician Optometry Instrument Technology Arts 2 2 2 2 2 2 2 2 2 2 2 2 2
Journalism, News Reporting French Immersion (Elementary) Physical Therapy Assistant Medical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician 2 Agricultural Production Education (Math) Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technician Optometry Instrument Technology Arts 2 2 2 2 2 2 2 2 2 2 2 2 2
French Immersion (Elementary) Physical Therapy Assistant Medical X-ray Technology Automotive Technician BSc Chemistry (General) Heavy Equipment Technician 2 Agricultural Production Education (Math) Disability & Community Support Recreation Administration Applied Environmental Management Respiratory Technician 2 Instrument Technology Arts 2 2 2 2 2 2 2 2 2 2 2 2 2
Physical Therapy Assistant2Medical X-ray Technology2Automotive Technician2BSc Chemistry (General)2Heavy Equipment Technician2Agricultural Production2Education (Math)2Disability & Community Support2Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Medical X-ray Technology2Automotive Technician2BSc Chemistry (General)2Heavy Equipment Technician2Agricultural Production2Education (Math)2Disability & Community Support2Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Automotive Technician 2 BSc Chemistry (General) 2 Heavy Equipment Technician 2 Agricultural Production 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
BSc Chemistry (General) 2 Heavy Equipment Technician 2 Agricultural Production 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Heavy Equipment Technician2Agricultural Production2Education (Math)2Disability & Community Support2Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Agricultural Production 2 Education (Math) 2 Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Education (Math)2Disability & Community Support2Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Disability & Community Support 2 Recreation Administration 2 Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Recreation Administration2Applied Environmental Management2Respiratory Technician2Optometry2Instrument Technology2Arts2
Applied Environmental Management 2 Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Respiratory Technician 2 Optometry 2 Instrument Technology 2 Arts 2
Optometry 2 Instrument Technology 2 Arts 2
Instrument Technology 2 Arts 2
Arts 2
BA General 2
Electronics Engineering Technology 2
Business Management 2
Education (Dramatic Arts) 2
Telecommunications Engineering Technology 2
Civil Engineering Technology 2
X-ray Technology 2
Elementary Education (Specialized) 2
Administration Technology 2
Education (Biology) 1
Exploration Geophysics 1
Dental Surgery 1
Human Resources & Labour Relations 1
Economics 1

BSc Forest Management	1
Wood Products Processing	1
Human Services	1
Environmental Studies	1
BA Native Studies	1
Food, Nutrition & Dietetics	1
Information Technology	1
General Studies	1
Instrument Engineering Technology	1
Turfgrass Management Technology	1
Architect Technology	1
Business Management - Agriculture	1
Education (French)	1
Dentistry	1
Anthropology	1
Equine Sciences	1
Integrated Studies	1
Firefighting	1
Assessing	1
BA English	1
Justice Studies	1
Social Studies	1
Biomedical Sciences	1
Adult Education	1
Business (Administration)	1
Education (Business Technology)	1
Broadcast Arts	1
Water and Wastewater Treatment	1
Computer Systems Analyst	1
Criminal Justice	1
Library & Information Technology	1
Career & Technology Studies	1
Education (Social Studies)	1
Engineering Technology	1
Management Studies	1
Environmental Engineering	1
Education (Special)	1
Denturist	1
Materials Engineering Technology	1
BA Communications in Professional Writing	1
Education Administration	1
Financial Management (General)	1
Mechanical Engineering Technology	1
Weenanieur Engineering Teennology	*

Ranch and Feedlot Rider	1
Applied Banking and Business	1
Diesel Mechanic	1
Educational Psychology	1
Chiropractic	1
Correctional Services	1
General Mechanic	1
Electrical/Electronic Engineering	1
BSc Conservation, Biology & Management	1
Mining Engineering	1
Geological & Geophysical Tech	1
Native Clothing Design	1
Golf Management	1
Native Studies	1
Theology	1
Natural Resources Technology Program	1
Tourism and Hospitality	1
Cosmetology	1
Applied Forest Resource Management	1
Nurse Practitioner	1
Welding	1
Aboriginal Child & Family Services	1
Heavy Oil Operations Technician	1
BSc Animal Biology	1
Emergency Medical Responder	1
Total	1113

Appendix F: Survey Information

Table 1: Programs of Survey Respondents

Dograd	Total
Degree	46
Education	
Social Work	14
Power Engineering Technology	13
LPN	7
Nursing	6
Pharmacy	6
Occupational therapy	4
Instrumentation Engineering Technology	4
Medical Laboratory Technology	3
Business Administration	3
Kinesiology	3
Medical Office Assistant	2
Pharmacy Tech	2
Agriculture	2
Combined Lab/Xray Tech	2
Physiotherapy	2
Geomatics Engineering Technology	2
Paramedic	2
Science	2
Chemistry	1
Combined Laboratory and X-ray Technology	1
Civil/environmental engineering	1
Engineering	1
Conservation enforcement	1
Engineering - Electrical Bio-Medical	1
Massage Therapy	1
Environmental Science	1
Applied Forest Resource Management	1
Environmental Studies	1
Commerce	1
Process Operations/Power Engineering	1
Diagnostic Medical Sonography	_ 1
Business	1
Management	1
Forest Technology	1
Civil (environmental) engineering	1
Forestry	1
NA	1
General Studies	1
Nutrition and Food Science	
	1
Animal Health Technology	1
Optometry	1
Geophysics	1

Computer Systems Technology	1
Chemical Engineering Tech	1
Counseling	1
Justice Studies	1
Building Development	1
Chemical Engineering Technology	1
Forest Business Management	1
Academic Upgrading	1
Forest Management	1
Total	158

	Northern residence			
Industry	No	Yes	Total	
Education	2	41	43	
Health Care	9	26	35	
Oil and Gas	10	10	20	
Social Services	3	4	7	
Pharmacy	2	4	6	
Unemployed	3	1	4	
Education (Post secondary)	1	2	3	
Environment	1	2	3	
Forestry	1	2	3	
Accounting	1	2	3	
Unpaid Work		2	2	
Trades		2	2	
Utilities	1	1	2	
Public Administration		2	2	
Land Surveying (Geomatics)		1	1	
Financial Services		1	1	
Recreation	1		1	
Engineering	1		1	
Consulting Engineering	1		1	
Entertainment	1		1	
Real Estate & Forestry		1	1	
Automotive		1	1	
Residential		1	1	
Power Generation	1		1	
Health services		1	1	
Graphic Design	1		1	
Labour Relations		1	1	
Pulp/Paper		1	1	
Veterinary		1	1	
Real Estate		1	1	
Law		1	1	
Total	40	112	152	

Table 3: Job Titles of Respondents in the Oil a	nd Gas Inc	dustry and Current Norther	n Residence	
		Northern residence		
	1101 (1101)	. residence		
Job Title	No	Yes	Total	
3rd Class Power Engineer		1	1	
3rd Class Power Engineer/ Process Operator		1	1	
Desktop Support Analyst		1	1	
Electrical Engineer-in-Training	1		1	
Extractions Operator		1	1	
Fluids Specialist	1		1	
Instrument Tech	1		1	
Lead Plant Operator		1	1	
Operations Foreman	1		1	
Operator		2	2	
Panel Operator		1	1	
Plant Operator	2	1	3	
Power Engineer		1	1	
Process Operator	2		2	
Production Technologist	1		1	
Project Engineer	1		1	
Total	10	10	20	

Table 4:Current Job Titles of Respondents

Job title	Total
Teacher	39
Licensed Practical Nurse	7
Occupational Therapist	4
Registered Nurse	4
Unknown	4
Combined Lab X-Ray Technician I/II	3
Medical Laboratory Technologist	3
Pharmacist	3
Plant Operator	3
Branch Manager	2
Electrical Engineer-in-Training	2
Homemaker	2
Operator	2
Physiotherapist	2
Process Operator	2
Registered Nurse	2
Staff Pharmacist	2
3rd Class Power Engineer	1
3rd Class Power Engineer/ Process Operator	1
Accounting Technician	1
Addictions Counselor	1
Administrative Assistant	1
Adult Clinic Key Worker	1
Animal Health Technologist	1
Assistant Shift Engineer	1
Building Manager	1
Case Manager	1
Caseworker	1
Chartered Accountant	1
Chief Administrative Officer	1
Clinical Coordinator (Registered Nurse)	1
Controls Tech	1
Court Liaison	1
Desktop Publisher	1
Desktop Support Analyst	1
Diagnostic Medical Sonographer	1
Dietitian	1
Educational Psychologist/Mental Health Therapist	1
Environmental Inspector	1
Environmental Scientist	1
Exercise Therapist	1
Extractions Operator	1
Family School Liaison Worker	1
Family Supports for Children with Disabilities Caseworker	1
Fish and Wildlife Officer	1

Fluids Specialist	1
HIV Educator	1
Housing Administrator	1
Institutional Research and Planning Officer	1
Instructor	1
Instrument Tech	1
Labour Relations Officer	1
Landfill Operations Manager	1
Lead Plant Operator	1
Maintenance Tech	1
Manager	1
Massage Therapist	1
Millwright	1
Operations Foreman	1
Operations Planner	1
Optometrist	1
Owner	1
Panel Operator	1
Party Chief	1
Pharmacy assistant	1
Pharmacy Manager	1
Pharmacy Technician	1
Planning Forester	1
Power Engineer	1
Principal	1
Production technologist	1
Program Lead	1
Project engineer	1
Project Manager	1
Receptionist	1
Service Manager	1
Silviculture Forester / Area Supervisor	1
Social Worker	1
Staff Accountant	1
Student Advocacy Counselor	1
Student Enrolment Officer	1
Supervisor - Land Access, Forestry	1
Swimming Instructor and Tutor	1
Total	152



Northern Alberta Development Council (NADC) works to advance the development of the northern economy. One way is by providing bursaries that are designed to increase the number of trained professionals in northern Alberta and to encourage northern students to go to college or university.

Northern Alberta Development Council 206 Provincial Building 9621 – 96 Avenue Bag 900-14 Peace River AB T8S 1T4 T 780.624.6274 TF first dial 310.0000 F 780.624.6184 E nadc.council@gov.ab.ca



