

**Hydraulic Fracturing in  
Western Newfoundland**

**Final Report  
August 2015**

## **Hydraulic Fracturing in Western Newfoundland**

### **Methodology**

This report outlines the findings from the Hydraulic Fracturing in Western Newfoundland Survey conducted on behalf of Memorial University. The survey was conducted as a random telephone survey with residents throughout Newfoundland and Labrador who were over the age of 18. A total of 840 respondents completed the survey. A total of 200 surveys were completed in Western Newfoundland to allow enough sample to examine that area separately. The margin of error on the total sample is  $\pm 3.5\%$  at the 95% confidence in cases of maximum variability ( $p=.5$ ).

Data collection was conducted between June 16<sup>th</sup> and July 4<sup>th</sup>, 2015. A copy of the questionnaire used in this study is included as Appendix A and a complete set of tables by region is included as Appendix B.

## Profile of Respondents

The demographic profile of respondents is shown in the following table. The sample was almost equally divided between males and females. Twenty-three percent were 34 years of age or under, 38% were from 35 – 54 and 40% were over 55 years of age. The majority report their annual household income to be more than \$50,000. The majority have graduated from college or university and are currently employed by a company/organization.

Demographics	Percentage
<b>Gender</b>	
Male	48%
Female	52%
<b>Age</b>	
18 – 24	7%
25 – 34	16%
35 – 44	14%
45 – 54	24%
55 – 64	19%
65 years of age or older	21%
<b>Annual Household Income</b>	
Less than \$25,000	7%
\$25,000 to \$49,999	18%
\$50,000 to \$74,999	18%
\$75,000 to \$99,999	14%
\$100,000 or more	32%
Don't know / Refused	10%
<b>Highest Level of Education</b>	
Less than high school	7%
Graduated high school	14%
Some trade/technical college	7%
Graduated trade/technical college	29%
Some university	11%
Graduated university	32%
<b>Current Employment Status</b>	
Employed by company/organization	51%
Self-employed	6%
Not employed outside the house & looking for work	5%
Not employed outside the house & not looking for work	5%
Retired	29%
A student	4%

## Knowledge of Oil and Natural Gas Exploration

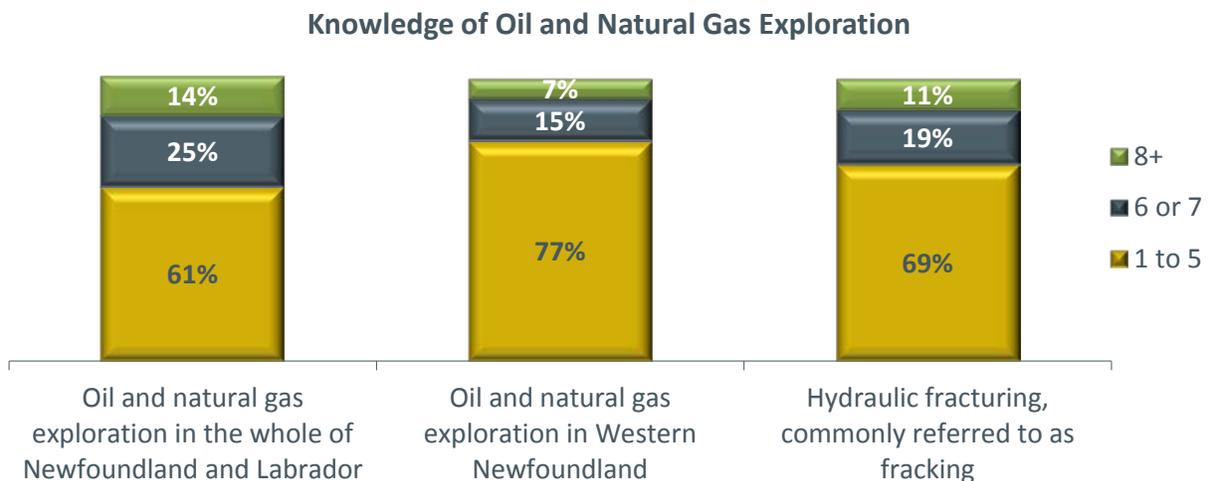
Respondents were asked to assess their own level of knowledge of:

- Oil and natural gas exploration in the whole of Newfoundland and Labrador.
- Oil and natural gas exploration in Western Newfoundland.
- Hydraulic fracturing, commonly referred to as fracking.

They were asked to assess their knowledge using a 10-point scale where 10 meant very knowledgeable and 1 meant not knowledgeable at all. By their own assessment, knowledge of oil and natural gas exploration and hydraulic fracturing is quite low among residents. Very few indicate a high level of knowledge of oil and natural gas exploration (that is, provided a rating of 8 or higher on a 10-point scale). On all three statements, approximately one in ten respondents indicated having a high level of knowledge (ranging from a low of 7% for the statement about Western Newfoundland to a high of 14% for the statement about the whole of Newfoundland and Labrador).

Even when looking at those who provided a rating of 6 or higher, the level of knowledge for these three statements is still low: *oil and natural gas exploration in the whole of Newfoundland and Labrador* (39%), *hydraulic fracturing, commonly referred to as fracking* (30%), and *oil and natural gas exploration in Western Newfoundland* (22%).

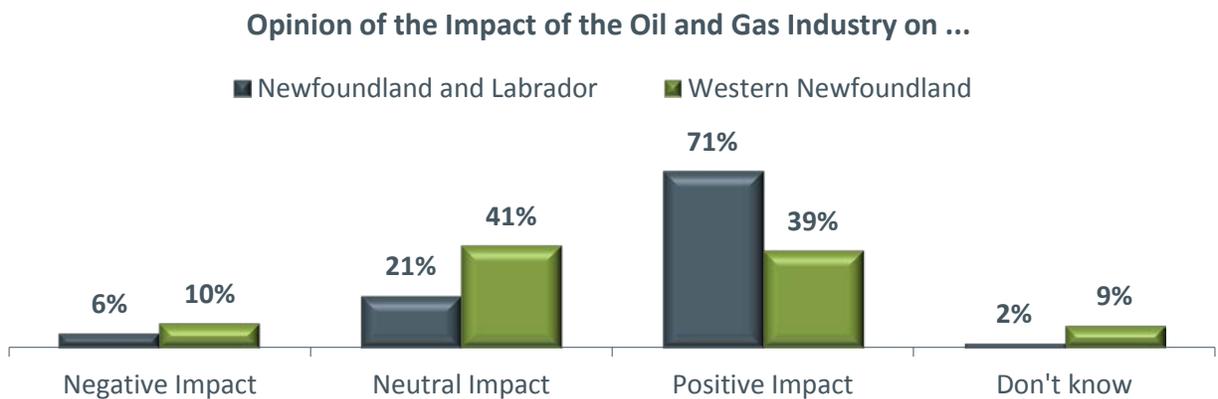
Overall, when asked to rate their knowledge of these three statements, the majority provided a rating of 5 or less, meaning they have limited knowledge about oil and natural gas exploration: *oil and natural gas exploration in Western Newfoundland* (77%), *hydraulic fracturing, commonly referred to as fracking* (69%), and *oil and natural gas exploration in the whole of Newfoundland and Labrador* (61%).



## Opinions of the Impact of the Oil and Gas Industry

Respondents were next asked their opinion of the impact of the oil and gas industry on Newfoundland and Labrador and secondly on Western Newfoundland. A strong majority (71%) believe the oil and gas industry will have a *positive impact* on Newfoundland and Labrador, while very few (6%) believe this industry will have a *negative impact*. Respondents in the Western region were slightly more likely than respondents in other regions to think the impact of this industry will be negative for Newfoundland and Labrador; however, the percentage who feel this way is still relatively low in this region (14%). Across demographic sub-groups, differences did emerge among those who believe this industry will have a positive impact. Younger adults (18-34), those currently not employed and those who earn less than \$50K were significantly less likely to think the impact would be positive.

Opinions regarding the impact of the oil and gas industry on Western Newfoundland were quite different compared to the impacts for Newfoundland and Labrador as a whole. A significantly lower number of respondents believe this industry will have a *positive impact* on Western Newfoundland (39% vs. 71% for the whole province), with more respondents leaning towards a *neutral impact* for Western Newfoundland (41% compared to 21% for the whole province). Interestingly, respondents were more likely to indicate that they did not know what the impact would be for Western Newfoundland (9% vs. 2% for the whole province), perhaps reflecting the lower level of knowledge noted earlier. Respondents in the Western region (20%) were significantly more likely than respondents in St. John's CMA (9%) and other parts of Newfoundland (9%) to think there will be a negative impact from the oil and gas industry in Western Newfoundland.



Those who believe the impact will be positive for Newfoundland and Labrador mention various economic reasons for this impact, which included: employment / job creation (65%), various aspects of economic growth (43%), revenues to government (25%) and higher wages / people having more money (21%). Those who believe there will be a negative impact generally mentioned three main reasons: environmental harm (45%), the perception that with oil prices currently low, there is no benefit at this time (23%), and the feeling that prices for consumers will be higher (22%).

Among those who believe there will be a positive impact for Western Newfoundland, most cite employment (66%) and economic growth (27%) as reasons to support their position. Those who believe there will be a negative impact mention two reasons to support their position: environmental harm (42%) and concerns about fracking (25%). Interestingly, when speaking in relation to the whole province, only 5% indicated concerns about fracking, whereas 25% noted fracking as a concern in the context of Western Newfoundland.

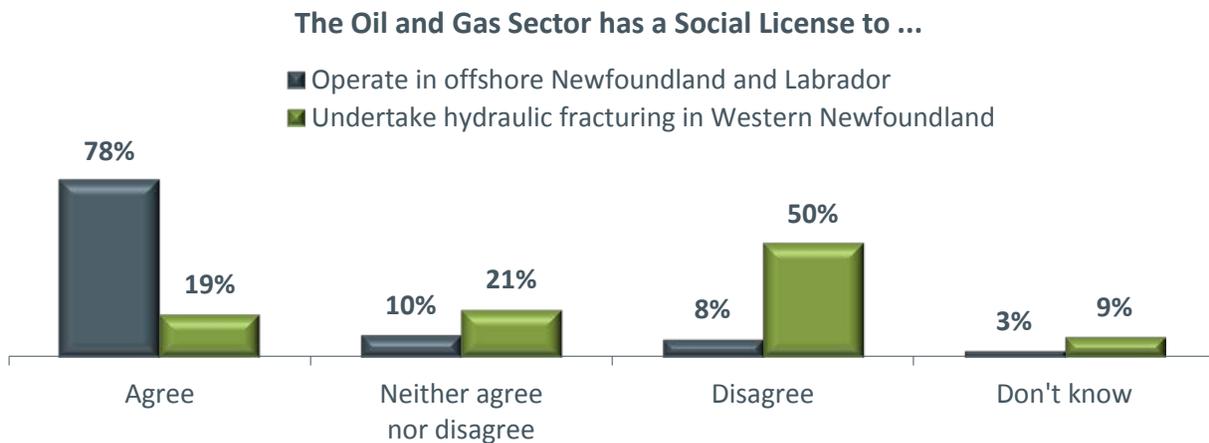
In summary, there tends to be less conviction that the industry will have a positive impact in Western Newfoundland compared to the province as a whole. Furthermore, concerns around hydraulic fracturing begin to surface.

Reasons for Impact - Top Mentions -		
	Newfoundland & Labrador	Western Newfoundland
<b>Positive Impact</b>	<i>(n=591)</i>	<i>(n=332)</i>
Employment / Job creation	65%	66%
Economic Growth / Business development	43%	27%
Government revenue / Less taxes	25%	12%
Wage / Salary increase / Things are more affordable	21%	13%
<b>Negative Impact</b>	<i>(n=58)</i>	<i>(n=89)</i>
Environmental harm	45%	42%
Oil prices are poor / There is no benefit at this time / It should be kept within the province	23%	20%
Cost to consumers / Things are more expensive	22%	3%
Concerns about fracking	5%	25%
There is public outcry against the oil and gas industry operating here/ It could have a negative impact	8%	15%

## Social License

A social license was described as the strong majority of the population being in favour. The vast majority (78%) are in agreement that the oil and gas sector has a social license to operate in offshore Newfoundland and Labrador, with only 8% disagreeing. However, disagreement was significantly higher among those in the Western region (18%) compared to those in St. John's CMA (6%) and other parts of Newfoundland (6%). Across demographic sub-groups, differences did emerge among those who agree that the sector has a social license to operate in Newfoundland and Labrador. Females and those who earn less than \$50K were significantly less likely to agree with this statement.

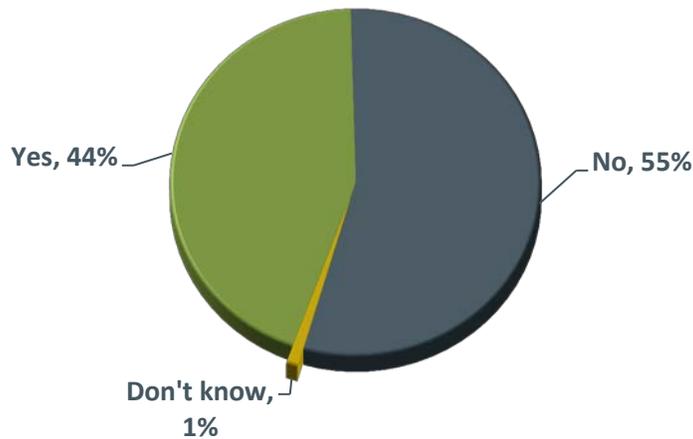
In contrast, only 19% agree that the oil and gas sector has a social license to undertake hydraulic fracturing in Western Newfoundland, while half disagree. The level of disagreement was also significantly higher among respondents in the Western region (56%) compared to those in St. John's CMA (46%). Across other demographic sub-groups, differences did emerge among those who disagree that the sector has a social license to operate in Western Newfoundland, with males and those currently employed and retired significantly more likely to disagree with this statement.



## Awareness of the Panel and the Review of Hydraulic Fracturing

Respondents were told that an independent review was taking place concerning hydraulic fracturing in Western Newfoundland and then asked if they were aware of this before the interview call. Awareness of the panel and review of hydraulic fracturing is almost evenly split, with 44% reporting they are aware and 55% indicating they are not aware of the review. Only 1% said they did not know. Respondents in the Western part of the province are similar with half saying they were aware and the other half indicating they were not.

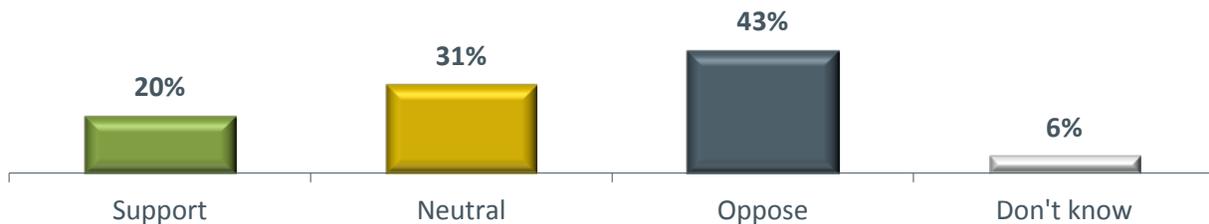
**Awareness of the Review of Hydraulic Fracturing**



## Support and Opposition for Fracturing in Western Newfoundland

Opposition to fracturing in Western Newfoundland is twice as high as support for it, with 43% opposing it and only 20% in support. A minority (31%) also report being neutral in their opinion for fracturing in Western Newfoundland. Opposition from respondents in the Western region (52%) was significantly higher than respondents in St. John's CMA (39%) and other parts of Newfoundland (43%); with those opposed reducing the neutral category in the Western region. The level of support across the province is consistent. Similarly, opposition from the older demographic (55+) was significantly higher than the younger demographic (50% vs. 34% respectively). Again those opposed are reducing the neutral category, as the level of support across age groups is consistent.

Feelings about Hydraulic Fracturing for Oil and Gas in Western Newfoundland



Reasons for supporting hydraulic fracturing in Western Newfoundland are consistent with responses given earlier for the impact of the industry, which include: creates jobs / employment (42%), boosts the economy (35%), the belief that it is safe (20%) and a sense that it is better to have more resources (13%).

The top two reasons for opposing hydraulic fracturing in Western Newfoundland were: general environmental concerns (55%) and comments about water quality (53%). Other, less common reasons included: unknown risks (18%), lack of a social license (15%), social contamination and possible earthquakes (12%), and health effects (10%). Very few believe the panel is biased (2%) or that the process is predetermined (2%).

Reasons given for why they are neutral include: a lack of knowledge on the topic (48%) and their need for additional information on the risks (34%) and the benefits (22%).

**Reasons why they Support, Neutral or Oppose Hydraulic Fracturing in Western Newfoundland  
- Top Mentions -**

<b>Support</b>		<b>(n=156)</b>
Creates jobs / Employment		42%
Boost economy / Help business		35%
I believe it is safe / It's fine in other areas		20%
It is better to have more resources		13%
It will be well regulated		8%
<b>Oppose</b>		<b>(n=378)</b>
Greenhouse gases / More macro pollution and environment comments		55%
Local water quality / contamination / more local and personal environment comments		53%
Unknown risks		18%
No social license / Others are against it / Negative media / Negative effects in other areas		15%
Soil contamination / Destabilize the ground / Earthquakes		12%
Health effects		10%
Lack of information in general		9%
Negative impact on wildlife / ecosystem		7%
Process is predetermined / Can't trust government to regulate industry		2%
Panel is biased		2%
<b>Neutral</b>		<b>(n=252)</b>
Lack of knowledge on the topic in general		48%
Need more information on risks		34%
Need more information on benefits		22%
It's hard to tell if the pros outweigh the cons		7%
Don't care / Not concerned		7%
Doesn't directly impact me		6%

## Statements - Level of Agreement

A series of statements were read to each respondent and they were asked to provide their level of agreement with each. The statements dealt with the oil and gas industry, fracking and Western Newfoundland. Overall, agreement is strong for many of these statements.

Specifically, the vast majority agree that *Western Newfoundland needs the jobs and revenues from the industry* (73%) and that *the industry will create long-term benefits for Western Newfoundland* (70%). Agreement for the latter statement was significantly higher among those between the ages of 35 to 54 and among those who have an income of more than \$100K. Very few disagreed with these two statements (14% and 16% respectively).

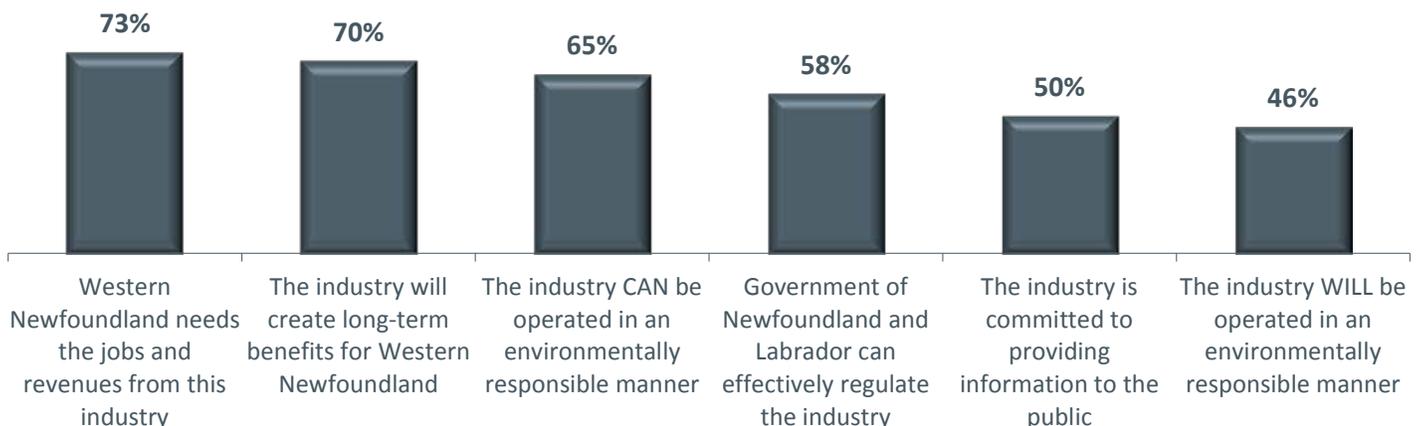
There is also strong agreement in believing *the industry can be operated in an environmentally responsible manner* (65% agreed, while only 18% disagreed with this statement); however, agreement decreases when trusting that *the industry will be operated in an environmentally responsible manner* (46%). Almost three in ten respondents (28%) disagreed with this latter statement. Agreement with these two statements varied across demographic sub-groups. Younger adults were significantly more likely to agree that the industry can be operated in an environmentally responsible manner. Males and those who have an income less than \$50K were significantly more likely to agree that the industry will be operated in an environmentally responsible manner.

Nearly six in ten believe the *government of Newfoundland and Labrador can effectively regulate the industry* and half of the respondents believe *the industry is committed to providing information to the public*. Disagreement was among the highest for these two statements, with 25% and 30% respectively indicating they disagreed with these statements.

In summary, although there is some disagreement with these six statements, there is a strong indication that the majority believe that hydraulic fracturing can be done well.

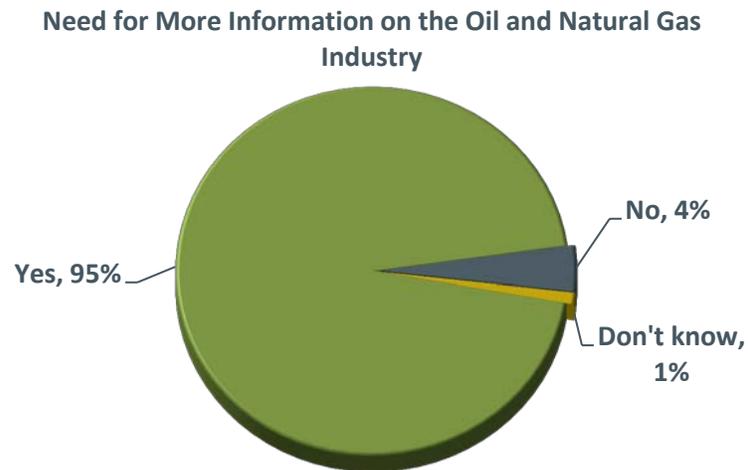
### Level of Agreement for Statements about Hydraulic Fracturing for Oil and Natural Gas in Western Newfoundland

- % who Strongly agree / Agree -



## Need for More Information

As illustrated earlier, those who are neutral (neither support nor oppose fracturing in Western Newfoundland) indicated a need for more information. However, it appears the need for more information is much more widespread than just those who are neutral. Almost all respondents (95%) believe there is a need to provide more information about the oil and natural gas industry to the people in Newfoundland and Labrador.



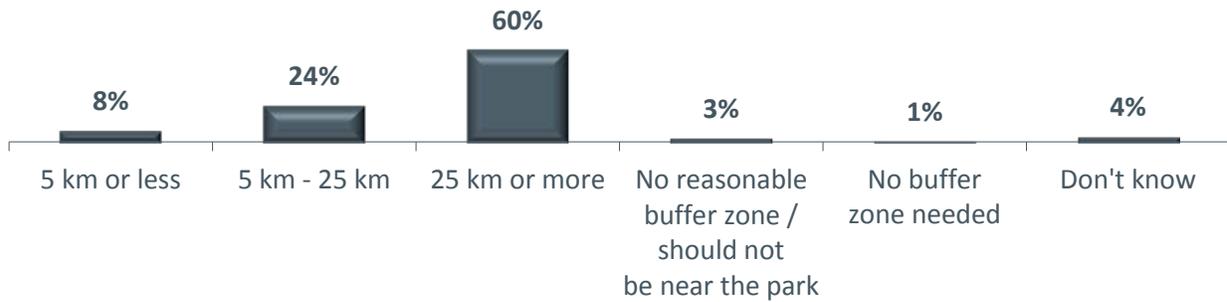
Information on environmental impact is the most common type of additional information that is needed, with 46% mentioning it. This finding is also consistent with the responses given earlier. Additional information that respondents believe would also be useful included: having general information about what is being done (18%), the process involved (17%), economic benefits (16%) and the risks (11%).

<b>Type of Additional Information Needed - Top Mentions -</b>	
	<i>(n=793)</i>
Information on environmental impact	46%
General information about what is being done / will be done/ where	18%
How the oil and gas is extracted (process involved)	17%
Economic benefits	16%
Risks	11%
Benefits	9%
Safety procedures	9%
An independent study should be conducted	8%
All available information (companies should be more honest / open)	7%
More media exposure / more accessible information	6%
Information on the companies involved	6%
Experiences in other areas	5%
Information on the impact in general	5%
Don't know	10%

## Gros Morne National Park

Given that some of the potential oil and natural gas resources may be close to Gros Morne National Park, respondents were asked to indicate what they believe would be a reasonable size for a buffer zone around the park. A strong message is being sent about exploring resources near the Gros Morne National Park, with most feeling the need to keep further away from the park. In fact, the majority (60%) indicated that 25 km or more is a reasonable buffer zone.

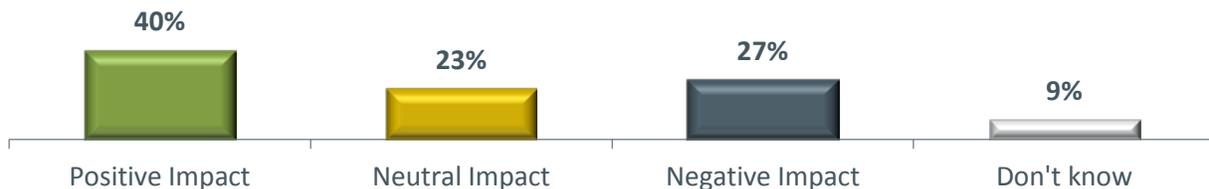
Reasonable Size for a Buffer Zone around the Gros Morne National Park



## Overall Impact of Hydraulic Fracturing for Oil and Natural Gas on Western Newfoundland

Reactions toward the overall impact of hydraulic fracturing for oil and natural gas on Western Newfoundland tend to be mixed. Four in ten believe there will be a *positive impact*, while 27% said the impact will be *negative* and another 23% said *neutral*. Negative reactions were significantly higher in the Western region (38%) compared to those in St. John’s CMA (27%) and other parts of Newfoundland (24%); however, these negative reactions come directly from the neutral category, as the level of positive reaction across the province is consistent.

**Overall Impact of Hydraulic Fracturing for Oil and Natural Gas on Western Newfoundland**



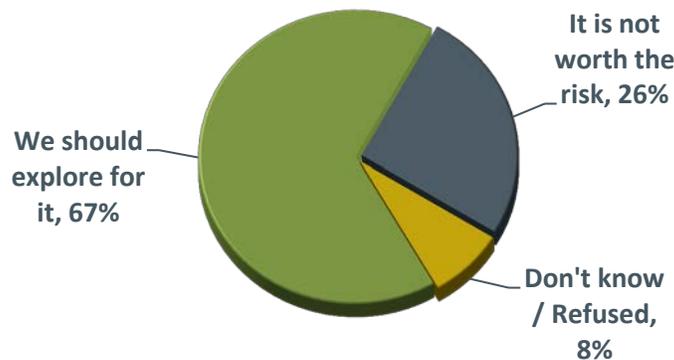
Those who believe the overall impact will be positive on Western Newfoundland mention various economic reasons for this impact. The top two reasons included: creates jobs / employment (74%) and boost economy (56%). Those who believe the overall impact will be a negative mention two reasons to support their position: general environmental concerns (62%) and comments about water quality (57%). These findings are consistent with responses given earlier.

Main Impacts Anticipated for Hydraulic Fracturing in Western Newfoundland - Top Mentions -	
<b>Positive Impact</b>	(n=324)
Creates jobs / Employment	74%
Boost economy / Help business	56%
Attract or Retain more people in the region	7%
Diversify the economy	6%
<b>Negative Impact</b>	(n=241)
Greenhouse gases / Macro pollution and environment comments	62%
Local water quality / contamination / more local and personal environment comments	57%
Unknown risks	15%
Concern over soil contamination / Destabilization / Earthquakes	11%
It will ruin rural lifestyle / tourism / landscape / national park	10%
Concerns for wildlife habitats / fishing	10%
Health / safety concerns	7%

## Feelings about Exploring For Oil and Natural Gas and about Hydraulic Fracturing in Western Newfoundland

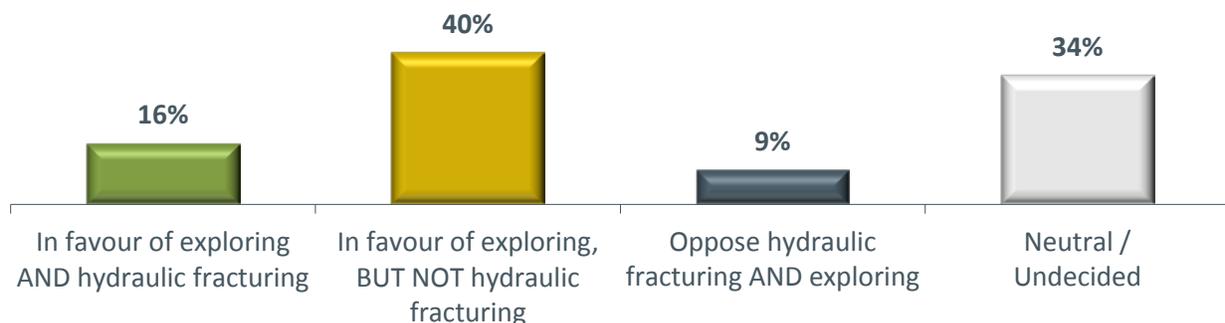
Based on evidence which indicates that Western Newfoundland may possess significant quantities of oil and gas, the majority (67%) strongly feel that *we should explore for it*, which suggests that hydraulic fracturing may be the issue. Close to three in ten believe *it is not worth the risk*, while another 8% said they don't know or refused to provide an answer. It is important to note that these responses were consistent in all regions of the province. Across demographic sub-groups, males were significantly more likely than females to feel that we should explore for it (71% vs. 64%). In contrast, those who earn less than \$50K were significantly less likely to feel that we should explore for it (57% vs. 73% for those who earn \$50-99K and 72% for those earning more than \$100K).

Statement Closest to Their Opinion



Feelings about exploring for and extracting oil and natural gas as well as for hydraulic fracturing in Western Newfoundland tend to be mixed. Only 16% are in *favour of both exploring and hydraulic fracturing*, while just 9% *oppose both*. Four in ten report being *in favour of exploring for and extracting oil and natural gas but are not in favour of hydraulic fracturing* in Western Newfoundland. Over three in ten consider themselves to be *neutral or undecided*. Again, there was very little difference in these responses across regions in the province.

Feelings about Exploring for and Extracting Oil and Natural Gas AND Feelings about Hydraulic Fracturing in Western Newfoundland



## Views of Supporters, Neutrals and Non-supporters

This section provides a detailed look at the views of those who support, neutral or oppose hydraulic fracturing for oil and gas in Western Newfoundland.

### *Profile of Supporters (20%)*

- Supporters tend to be male.
- They tend to be over the age of 55.
- Almost half are employed by a company/organization, while three in ten are retired.
- Supporters tend to have varied education levels - a college/university education (31%), some college/university (24%) and a high school education (26%).
- Household incomes for supporters varied, with 32% earning more than \$100K, 30% earning between \$50K and \$99K and another 29% earning less than \$50K.
- The majority of supporters indicated they have very limited knowledge (a rating of 5 or less) about oil and natural gas exploration.
- A majority believe the oil and gas industry will have a positive impact on Newfoundland and Labrador, as well as on Western Newfoundland.
- Supporters are in agreement that the oil and gas sector has a social license to operate in offshore Newfoundland and Labrador, as well as having a social license to undertake hydraulic fracturing in Western Newfoundland.
- Awareness of the panel and review of hydraulic fracturing among supporters is evenly split.
- The vast majority of supporters agree with the six statements about the oil and gas industry, fracking and Western Newfoundland.
- Supporters tend to believe there is a need to provide more information about the oil and natural gas industry to people in Newfoundland and Labrador, with information on environmental impact and general information about what is being done the most common types of information requested.
- Supporters are split on a reasonable buffer zone around the Gros Morne National Park, with some indicating 5 to 25 km and others saying more than 25 km.
- The vast majority of supporters believe the overall impact of hydraulic fracturing for oil and natural gas on Western Newfoundland will be positive.
- Opinions about exploring for oil and gas in Western Newfoundland are very clear among supporters, with almost all supporters feeling we should explore for it.
- Supporters tend to be in favour of both exploring and hydraulic fracturing.

### **Profile of Neutrals (31%)**

- Neutrals tend to be female.
- They tend to be between the ages of 35 and 54.
- Over half are employed by a company/organization, while two in ten are retired.
- Most have a college/university education.
- Household incomes tend to be evenly distributed for neutrals, with a slight skew towards \$50K to \$99K.
- The majority of neutrals indicated they have very limited knowledge (a rating of 5 or less) about oil and natural gas exploration.
- A majority believe the oil and gas industry will have a positive impact on Newfoundland and Labrador, but in terms of Western Newfoundland, they tend to be evenly split between a neutral or positive impact.
- Neutrals agree that the oil and gas sector has a social license to operate in offshore Newfoundland and Labrador, but tend to be undecided (neither agree nor disagree) on whether they have a social license to undertake hydraulic fracturing in Western Newfoundland.
- The majority of neutrals are not aware of the panel and review of hydraulic fracturing.
- The majority of neutrals agree with the six statements about the oil and gas industry, fracking and Western Newfoundland.
- Neutrals tend to believe there is a need to provide more information about the oil and natural gas industry to people in Newfoundland and Labrador, with information on environmental impact the most common type of information requested.
- The majority feel that 25 km or more is a reasonable buffer zone around the Gros Morne National Park.
- Almost half of the neutrals believe the overall impact of hydraulic fracturing for oil and natural gas on Western Newfoundland will be positive.
- Opinions about exploring for oil and gas in Western Newfoundland are very clear among neutrals, with the majority feeling we should explore for it.
- Neutrals consider themselves to be neutral or undecided on the topic of exploring for and extracting oil and natural gas and on hydraulic fracturing in Western Newfoundland.

### **Profile of Non-supporters (43%)**

- Non-supporters tend to be equally distributed between males and females.
- They tend to be over the age of 55.
- Almost half are employed by a company/organization, while slightly more than three in ten are retired.
- The vast majority have a college/university education.
- Over three in ten have a household income of more than \$100K.
- The majority of non-supporters indicated they have very limited knowledge (a rating of 5 or less) about oil and natural gas exploration.
- A majority believe the oil and gas industry will have a positive impact on Newfoundland and Labrador, but believe the oil and gas industry will have a neutral impact on Western Newfoundland.
- Non-supporters are in agreement that the oil and gas sector has a social license to operate in offshore Newfoundland and Labrador, whereas the vast majority disagree that they have a social license to undertake hydraulic fracturing in Western Newfoundland.
- Awareness of the panel and review of hydraulic fracturing among non-supporters is evenly split.
- Most non-supporters agree with the statements about the oil and gas industry, fracking and Western Newfoundland with the exception of two statements, where the majority disagree: the oil and natural gas industry will be operated in an environmentally responsible manner and the oil and natural gas industry is committed to providing information to the public.
- Non-supporters tend to believe there is a need to provide more information about the oil and natural gas industry to people in Newfoundland and Labrador, with information on environmental impact the most common type of information requested.
- The majority feel that 25 km or more is a reasonable buffer zone around the Gros Morne National Park.
- The majority of non-supporters believe the overall impact of hydraulic fracturing for oil and natural gas on Western Newfoundland will be negative.
- Opinions about exploring for oil and gas in Western Newfoundland tend to be mixed, with 44% of non-supporters saying we should explore for it and 48% saying it is not worth the risk.
- Non-supporters tend to be in favour of exploring for and extracting oil and natural gas but are not in favour of hydraulic fracturing in Western Newfoundland.

## Conclusions

- Most respondents rate their knowledge of oil and natural gas exploration and hydraulic fracturing quite low on a 10-point scale:
  - Oil and natural gas exploration in the whole of Newfoundland and Labrador (14% gave a rating of 8 or higher);
  - Oil and natural gas exploration in Western Newfoundland (7% gave a rating of 8+); and
  - Hydraulic fracturing, commonly referred to as fracking (11% gave a rating of 8+).
- Respondents show less conviction that the industry will have a positive impact in Western Newfoundland compared to the province as a whole.
  - Economic reasons such as employment and economic growth are the top reasons expressed for how the sector has positively impacted both the whole province and Western Newfoundland.
  - Negative reasons for how the sector has negatively impacted the whole province and Western Newfoundland varied:
    - For the whole province, the top three reasons for this negative impact were: environmental harm; the perception that with oil prices currently low, there is no benefit at this time; and the feeling that prices for consumers will be higher.
    - For Western Newfoundland, the top two reasons for this negative impact were: environmental harm and concerns about fracking. Interestingly, when they are asked specifically about Western Newfoundland, we begin to witness some concerns about hydraulic fracturing, which was not reflected in the findings for the province as a whole.
- There is much more agreement that the oil and gas sector has a social license to operate in offshore Newfoundland and Labrador compared to having a social license to undertake hydraulic fracturing in Western Newfoundland.
- Awareness of the panel and review of hydraulic fracturing is split almost 50/50.
- Opposition towards fracturing in Western Newfoundland is twice as high as support for fracturing. Those with a neutral viewpoint towards fracturing is 31%.
  - Top reasons given for their viewpoint include:
    - Support – creates jobs and employment; which are consistent with the reasons given earlier;
    - Oppose – environmental concerns and local water quality; and
    - Neutral – lack of knowledge on the topic.
- Agreement is strong for many of the statements about hydraulic fracturing for oil and natural gas in Western Newfoundland. Although there is some disagreement with these six statements, there is a strong indication that the majority believe that hydraulic fracturing can be done well.

- There is a strong need to provide more information about the oil and natural gas industry to people in Newfoundland and Labrador, with information on environmental impact the most common type of information requested.
- There is a strong message that being further away from the Gros Morne National Park is more acceptable, with most indicating a buffer zone of 25 km or more being reasonable.
- The overall impact of hydraulic fracturing for oil and natural gas in Western Newfoundland produced mixed reactions, with some believing it will be positive (40%), while others think the impact will be negative (27%) and some neutral (23%).
  - Reasons given for why the impact will be positive or negative were consistent with reasons given earlier:
    - Positive – creates jobs/employment and boost economy; and
    - Negative – environmental concerns and water quality.
- Opinions about exploring for oil and gas in Western Newfoundland are very positive, with most feeling we should explore for it, which suggests that hydraulic fracturing may be the issue.
- Feelings about exploring for and extracting oil and natural gas as well as for hydraulic fracturing in Western Newfoundland garnered mixed reactions:
  - 40% - in favour of exploring for and extracting oil and natural gas but are not in favour of hydraulic fracturing;
  - 34% - neutral or undecided on the topic;
  - 16% - in favour of both exploring and hydraulic fracturing; and
  - 9% - oppose both exploring and hydraulic fracturing.

## Appendix A: Questionnaire

### Hydraulic Fracturing in Western Newfoundland Final Survey

#### SAMPLING PLAN

**Survey Population and Sample Source:** General Population 18 years of age or older throughout Newfoundland and Labrador.

**Quotas and Sample Size:**

Region	Total Sample	
	%	n
St. John's CMA	34%	264
Other Eastern	23%	184
Central	19%	152
Western	20%	200
Labrador	5%	40
<b>Total</b>	<b>100%</b>	<b>840</b>

**Note: split evenly male and female**

#### INTRODUCTION

Hello, my name is \*\*\* from MQO Research a professional research firm in Newfoundland and Labrador. Today we are conducting **an important** survey about the energy sector in Newfoundland and Labrador. Because 18 to 34 years olds are a little more difficult to reach, we first ask if there is someone in your household between 18 and 34 years of age?

**IF YES:** May I speak with them?

**IF UNAVAILABLE: ARRANGE CALLBACK -** WHEN IS THE BEST TIME TO CALLBACK AND WHO SHOULD WE ASK FOR, FIRST NAME IS FINE.

**IF NO ONE IN HOUSEHOLD BETWEEN 18-34 CONTINUE.** In that case, I'd like to speak with someone in your household 35 years of age or older, would that be you?

**IF YES:** We would very much appreciate your help with this research.

**[REPEAT INTRODUCTION IF NECESSARY]**

Do you have a few minutes to complete the survey?

**IF NECESSARY** - It will take about 10 to 12 minutes to complete.

**IF NO: ARRANGE A CALLBACK,** using WHEN IS THE BEST TIME TO CALLBACK AND WHO SHOULD WE ASK FOR, FIRST NAME IS FINE.

**IF NECESSARY:** Please be assured that we are not selling or promoting any products or services but are simply interested in your opinions.

**IF RESPONDENT AGREES TO CONTINUE ADD:**

This call may be monitored for quality purposes.

**If a respondent questions the validity of the survey, the call or our organization please state:** MQO Research has been conducting research studies in Canada and abroad for 30 years. We are a Member of the Canadian Marketing Research Intelligence Association (MRIA) which is responsible for regulating marketing research practices in Canada. MQO adheres very strictly to all guidelines of professionalism and privacy as outlined by the MRIA. This study is registered with the Association. If you would like to contact the MRIA to verify the legitimacy of this research study or our company please call 1-800-554-9996 toll free and reference survey Number: **20150612-49OU**.

**If a respondent questions the confidentiality of the information that they are providing please state the following:** As a member of the Marketing Research Intelligence Association (MRIA) we adhere to strict standards of privacy and confidentiality. Our data is presented in aggregate form. Information will never be released to our client or any other third party in a manner that could be used in an attempt to disclose your identity.

1. Let's begin with three questions about oil and natural gas exploration. Using a scale of 1 to 10 where 10 is very knowledgeable and 1 is not knowledgeable at all, how would you rate your knowledge of: **DO NOT ROTATE ORDER**

a. Oil and natural gas exploration in the whole of Newfoundland and Labrador?

\_\_\_\_\_ 1 – 10  
Don't Know/Not Sure.....99

b. Oil and natural gas exploration in the western Newfoundland?

\_\_\_\_\_ 1 – 10  
Don't Know/Not Sure.....99

c. Hydraulic fracturing, commonly referred to as fracking?

\_\_\_\_\_ 1 – 10  
Don't Know/Not Sure.....99

2a. Which of the following best matches your opinion of the impact of the oil and gas industry on Newfoundland and Labrador?

Very positive impact ..... 1  
Positive impact..... 2  
Neutral impact ..... 3  
Negative impact ..... 4  
Very negative impact ..... 5

2b. Which of the following best matches your opinion of the impact of the oil and gas industry on **western** Newfoundland?

- Very positive impact ..... 1
- Positive impact..... 2
- Neutral impact ..... 3
- Negative impact ..... 4
- Very negative impact ..... 5

**For any questions 2a or 2b where respondent has said very positive/positive or negative/very negative ask. Do not ask if respondent has given a neutral response**

2d. You said that the oil and gas sector has (recall response – positively or negatively) impacted Newfoundland and Labrador. How has it (positively or negatively) impacted? PROBE.

Record verbatim: \_\_\_\_\_

2e. You said that the oil and gas sector has (recall response – positively or negatively) impacted **western** Newfoundland. How has it (positively or negatively) impacted? PROBE.

Record verbatim: \_\_\_\_\_

Next I have two statements. These statements ask about social license and by social license we mean that the strong majority of the population is in favour of it. **ROTATE ORDER**

3a. I would like you to tell me how strongly you agree or disagree with this statement. The oil and gas sector has a social license to undertake hydraulic fracturing in **western** Newfoundland?

Interviewer Note If Necessary - by social license we mean that the strong majority of the population is in favour of it.

- Strongly agree ..... 1
- Agree ..... 2
- Neither agree nor disagree ..... 3
- Disagree ..... 4
- Strongly Disagree ..... 5

3c. I would like you to tell me how strongly you agree or disagree with this statement. The oil and gas sector has a social license to operate **in offshore** Newfoundland and Labrador?

Interviewer Note If Necessary – by social license we meant that the strong majority of the population is in favour of it.

- Strongly agree ..... 1
- Agree..... 2
- Neither agree nor disagree ..... 3
- Disagree ..... 4
- Strongly Disagree ..... 5

4. The Government of Newfoundland and Labrador is having an independent panel undertake a review of hydraulic fracking in western Newfoundland. Before today, were you aware that this review was taking place?

- Yes..... 1
- No..... 2
- Don't Know/Not Sure..... 9

5. In general, which of the following best represents how you feel about hydraulic fracturing, commonly called fracking, for oil and gas in western Newfoundland? Do you: READ CHOICES.

- Strongly support ..... 1
- Support ..... 2
- Neither support nor oppose ..... 3 **ASK 6a and 6b and 6c.**
- Oppose ..... 4
- Strongly oppose ..... 5

6a. Why do you feel that way? DO NOT READ CHOICES AND RECORD ANSWERS UNDER THE APPROPRIATE CATEGORY – SUPPORT, OPPOSE OR NEUTRAL

**SUPPORT**

- Creates Jobs/Employment ..... 01
- Boost Economy/Help Business ..... 02
- Attract new kinds of business services ..... 03
- Introduce new technology Newfoundland and Labrador.... 04
- Diversifies the economy..... 05
- Represents sustainable development in western NL ..... 06
- Other (specify)\_\_\_\_\_

**OPPOSE**

Greenhouse gases/more macro pollution and environment comments .....	07
Local water quality/contamination/more local and personal environment comments .....	08
Unknown risks.....	09
Should be looking at alternate energy.....	10
Companies from outside province.....	11
Rural Newfoundland and Labrador becoming more industrialized .....	12
Health Effects.....	13
Panel is biased.....	14
Process is predetermined .....	15
Can't trust government to regulate the industry .....	16
No social license.....	17
Other (specify) _____	

**NEUTRAL**

Need more information on benefits.....	18
Need more information on risks	
Doesn't directly impact me.....	19
Don't care/Not concerned.....	20
Other (specify) _____	

9. I am going to read you several statements about hydraulic fracturing for oil and natural gas in **western Newfoundland** and would like you to tell me how strongly you agree or disagree with each. **Please think about western Newfoundland and hydraulic fracturing as you are answering.** Do you READ CHOICES. ROTATE ORDER

- a. The government of Newfoundland and Labrador can effectively regulate the oil and natural gas industry.
- b. The oil and natural gas industry will be operated in an environmentally responsible manner.
- c. Western Newfoundland needs the jobs and revenues from the oil and natural gas industry.
- d. The oil and natural gas industry is committed to providing information to the public.
- e. If the oil and natural gas industry is successful, it will create long-term benefits for **western Newfoundland**.
- f. The oil and natural gas industry can be operated in an environmentally responsible manner.

Strongly agree .....	1
Agree.....	2
Neither agree nor disagree .....	3
Disagree .....	4
Strongly Disagree .....	5

10. Do you think there is a need to provide more information on the oil and natural gas industry to the people in Newfoundland and Labrador?

- Yes..... 1
- No..... 2 GO TO 13
- Not Sure/Don't Know..... 9 GO TO 13

11. What type of additional information is needed? DO NOT READ AND CHOOSE AS MANY AS MENTIONED

- Information on environmental impact ..... 1
- Safety Procedures ..... 2
- Economic Benefits..... 3
- Information on the Companies involved ..... 4
- Experiences in other areas..... 5
- Other (specify) \_\_\_\_\_

13. Some of the potential oil and natural gas resources may be close to Gros Morne National Park. There will be no exploring or drilling in the park and if there is oil and natural gas in that area, there is consideration being given to having a buffer zone around the park where no exploration or drilling could take place. In your opinion, which of the following is a reasonable size for a buffer zone around the park? READ CHOICES

- 5 km or less ..... 1
- 5 - 25 km ..... 2
- 25 km or more..... 3
- Other (specify) \_\_\_\_\_

14. Which of the following statements best represents what you think the overall impact of hydraulic fracturing for oil and natural gas will be for western Newfoundland? READ CHOICES

- Very Positive Impact ..... 1 ASK 15 THEN 17
- Positive Impact..... 2 ASK 15 THEN 17
- Neutral Impact ..... 3
- Negative Impact..... 4 GO TO 16
- Very Negative Impact..... 5 GO TO 16

15. What are the main benefits anticipated for hydraulic fracturing for oil and natural gas in western Newfoundland? DO NOT READ

Creates Jobs/Employment .....	01
Boost Economy/Help Business .....	02
Attract new kinds of business services .....	03
Introduce new technology to NB .....	04
Diversify the economy .....	05
Sustainable development .....	06
I don't believe there are benefits .....	07
Other (specify) _____	

16. What are the main negative impacts anticipated for hydraulic fracturing for oil and natural gas in **western** Newfoundland? DO NOT READ CHOICES

Greenhouse gases/more macro pollution and Environment comments .....	08
Local water quality/contamination/more local and personal environment comments .....	09
Unknown risks.....	10
Should be looking at alternate energy.....	11
Companies from outside province.....	12
Other (specify) _____	

17. Evidence indicates **that western** Newfoundland may possess significant quantities of oil and gas. Which statement would you say is closest to your opinion...?"

We should explore for it .....	1
It is not worth the risk.....	2
Don't know/Not sure .....	9

18. We are trying to understand how people feel about exploring for and extracting oil and natural gas in western Newfoundland AND how they feel about hydraulic fracturing in western Newfoundland. Which of the following statements is closest to your opinion? READ CHOICES

- I in favour of exploring and extracting oil and natural gas in western Newfoundland AND hydraulic fracturing.
- I am in favour of exploring and extracting oil and natural gas in western Newfoundland, BUT NOT hydraulic fracturing.
- I oppose hydraulic fracturing in western Newfoundland BUT NOT exploring and extracting oil and natural gas.
- I oppose hydraulic fracturing AND exploring and extracting oil and natural gas in western Newfoundland.
- I consider myself to be neutral on the topic.
- I have not decided or I am unsure.

**Demographics**

*I just have a few more questions about you and your household that will help us analyze the survey results. As with all the answers you have provided, your responses will be kept strictly confidential.*

D1. Which of the following best describes your current employment status? Are you...

- Employed by company/ organization .....1
- Self-employed .....2
- Not employed outside the house & looking for work .....3
- Not employed outside the house & not looking for work.....4
- Retired.....5
- A student.....6
- Refused (VOL.) .....8

D2. If employed by a company or organization in D1. Are you employed by any of the following?  
READ LIST

- A university or community college ..... 1
- A provincial government department ..... 2
- A federal government department..... 4
- The oil and gas industry ..... 5

D3. Which of the following best describes the highest level of education you have had an opportunity to complete? **[READ]**

- Less than high school ..... 1
- Graduated high school..... 2
- Some trade/ technical college ..... 3
- Graduated trade/ technical college ..... 4
- Some university..... 5
- Graduated university ..... 6
- Refused (VOL.) ..... 8

D4. Into which of the following broad age categories do you fall? Are you...?

- Between 18 and 24 years of age..... 1
- Between 25 and 34 years of age..... 2
- Between 35 and 44 years of age..... 3
- Between 45 and 54 years of age..... 4
- Between 55 and 64 years of age..... 5
- 65 years of age or older ..... 6
- Refused (VOL.) ..... 8

D5a. Is your total household income \$50,000 per year or more?

- Yes..... 1
- No..... 2 GO TO D5d
- Refused (VOL) ..... 8 GO TO D6
- Don't Know/ Not Sure (VOL)..... 9 GO TO D6

D5b. Is your total household income \$75,000 per year or more?

- Yes..... 1
- No..... 2 GO TO D6
- Refused (VOL) ..... 8 GO TO D6
- Don't Know/ Not Sure (VOL)..... 9 GO TO D6

D5c. Is your total household income \$100,000 per year or more?

- Yes..... 1 GO TO D6
- No..... 2 GO TO D6
- Refused (VOL) ..... 8 GO TO D6
- Don't Know/ Not Sure (VOL)..... 9 GO TO D6

D5d. Is your total household income \$25,000 per year or more?

- Yes..... 1
- No..... 2
- Refused (VOL) ..... 8
- Don't Know/ Not Sure (VOL)..... 9

D6. Please observe gender

- Male .....1
- Female .....2

***Thank you very much for your time.  
You have been very helpful and all your answers will be kept strictly confidential.***

## Appendix B: Tables by Region

**Q1(a-b): Let's begin with three questions about oil and natural gas exploration. Using a scale of 1 to 10 where 10 is 'very knowledgeable' and 1 is 'not knowledgeable at all', how would you rate your knowledge of:**

		Total	Region		
			St. John's CMA	Western	Other NL
Total Unweighted (n)		840	264	200	376
Oil and natural gas exploration in the whole of Newfoundland and Labrador?	1 - Not knowledgeable at all	11%	10%	11%	12%
	2	7%	5%	7%	9%
	3	11%	8%	16%	10%
	4	10%	9%	13%	10%
	5	22%	22%	24%	21%
	6	12%	15%	7%	12%
	7	13%	14%	11%	13%
	8	9%	12%	6%	8%
	9	2%	3%	2%	1%
	10 - Very knowledgeable	3%	3%	2%	3%
	Don't know (VOL)	1%	0%	0%	1%
Oil and natural gas exploration in western Newfoundland?	1 - Not knowledgeable at all	21%	19%	16%	24%
	2	13%	12%	11%	13%
	3	14%	15%	10%	15%
	4	13%	16%	14%	11%
	5	16%	15%	18%	17%
	6	8%	9%	7%	7%
	7	7%	6%	10%	6%
	8	5%	4%	10%	5%
	9	1%	1%	2%	1%
	10 - Very knowledgeable	1%	1%	1%	1%
	Don't know (VOL)	1%	1%	1%	1%

**Q1(c): Let's begin with three questions about oil and natural gas exploration. Using a scale of 1 to 10 where 10 is 'very knowledgeable' and 1 is 'not knowledgeable at all', how would you rate your knowledge of:**

		Total	Region		
			St. John's CMA	Western	Other NL
Hydraulic fracturing, commonly referred to as fracking?	1 - Not knowledgeable at all	23%	20%	20%	26%
	2	10%	10%	8%	11%
	3	10%	10%	12%	10%
	4	10%	14%	10%	8%
	5	16%	15%	12%	19%
	6	9%	11%	11%	6%
	7	10%	10%	11%	10%
	8	7%	6%	9%	7%
	9	2%	1%	6%	1%
	10 - Very knowledgeable	2%	2%	1%	2%
	Don't know (VOL)	1%	1%	1%	1%

**Q1(a-c): Let's begin with three questions about oil and natural gas exploration. Using a scale of 1 to 10 where 10 is 'very knowledgeable' and 1 is 'not knowledgeable at all', how would you rate your knowledge of:**  
**- % indicating 8 or higher -**

	Total	Region		
		St. John's CMA	Western	Other NL
Oil and natural gas exploration in the whole of Newfoundland and Labrador?	14%	18%	10%	12%
Oil and natural gas exploration in western Newfoundland?	7%	6%	13%	7%
Hydraulic fracturing, commonly referred to as fracking?	11%	10%	16%	10%

*Don't knows and refusals have been excluded*

**Q1(a-c): Let's begin with three questions about oil and natural gas exploration. Using a scale of 1 to 10 where 10 is 'very knowledgeable' and 1 is 'not knowledgeable at all', how would you rate your knowledge of:**  
**- Mean Values -**

		Total	Region		
			St. John's CMA	Western	Other NL
Oil and natural gas exploration in the whole of Newfoundland and Labrador?	N	834	264	199	371
	Mean	4.9	5.3	4.5	4.8
	Median	5.0	5.0	5.0	5.0
Oil and natural gas exploration in western Newfoundland?	N	829	260	198	371
	Mean	3.8	3.8	4.4	3.6
	Median	4.0	4.0	4.0	3.0
Hydraulic fracturing, commonly referred to as fracking?	N	834	263	198	373
	Mean	4.2	4.2	4.5	4.0
	Median	4.0	4.0	4.6	4.0

*Don't knows and refusals have been excluded*

**Q2a: Which of the following best matches your opinion of the impact of the oil and gas industry on Newfoundland and Labrador?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Very negative impact	2%	2%	5%	1%
Negative impact	4%	5%	9%	2%
Neutral impact	21%	16%	27%	22%
Positive impact	52%	51%	42%	56%
Very positive impact	19%	26%	11%	17%
Refused (VOL)	0%	0%	1%	0%
Don't know (VOL)	2%	0%	4%	2%

**Q2a: Which of the following best matches your opinion of the impact of the oil and gas industry on Newfoundland and Labrador?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Negative Impact	6%	7%	14%	3%
Neutral impact	21%	16%	27%	22%
Positive Impact	71%	77%	54%	73%
Don't know (VOL)	2%	0%	4%	2%

**Q2d: You said that the oil and gas sector has a <Q2a> on Newfoundland and Labrador. How has it <Q2a> impacted?**

**SUBSET: Respondents that said very positive/positive in Q2a**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	591	204	110	277
Employment / Job Creation	65%	63%	52%	70%
Economic Growth / business development / financial improvement (general)	43%	51%	42%	38%
Government Revenue / less taxes	25%	27%	31%	22%
Wage / Salary Increase / More money / things are more affordable	21%	21%	15%	22%
Improvements in society (better education, social programs, healthcare and infrastructure available)	9%	11%	4%	9%
Population increase / People moving to NL / Young people stay in the province	7%	8%	4%	7%
Construction / New home construction / value of homes in the area	4%	7%	2%	3%
Oil prices are poor / there is no benefit at this time / it should be kept within the province	4%	2%	8%	5%
Quality of life / Lifestyle	3%	6%	3%	1%
Presence on the world stage / national or global recognition	3%	5%	1%	2%
Don't know	3%	1%	4%	3%
Environmental Harm	2%	2%	3%	1%
I've seen/read/heard/believe there is a positive effect / there is a positive effect in other areas of NL	2%	1%	6%	1%
Cost to consumers-province (negative) / things are more expensive	1%	2%	1%	0%
Social problems such as drugs and crime are worse	0%	0%	0%	1%
Miscellaneous Mentions	0%	0%	1%	0%

Percentages may exceed 100% due to multiple response

**Q2d: You said that the oil and gas sector has a <Q2a> on Newfoundland and Labrador. How has it <Q2a> impacted?**

**SUBSET: Respondents that said very negative/very negative in Q2a**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n) *	58	19	25	14
Environmental Harm	45%	43%	58%	28%
Oil prices are poor / there is no benefit at this time / it should be kept within the province	23%	39%	7%	26%
Cost to consumers-province (negative) / things are more expensive	22%	19%	13%	41%
Don't know	14%	9%	15%	19%
Wage / Salary Increase / More money / things are more affordable	10%	8%	14%	6%
Social problems such as drugs and crime are worse	10%	26%	0%	0%
There is public outcry against the oil and gas industry operating here / it could have a negative impact	8%	9%	9%	6%
Construction / New home construction / value of homes in the area	5%	4%	0%	14%
Concerns about fracking	5%	0%	8%	5%
I've seen/read/heard/believe there is a positive effect / there is a positive effect in other areas of NL	4%	0%	8%	6%
Economic Growth / business development / financial improvement (general)	3%	4%	0%	6%
Miscellaneous Mentions	2%	5%	0%	0%
Refused	1%	0%	3%	0%

Percentages may exceed 100% due to multiple response

\*Results should be interpreted with caution due to the small sample size.

**Q2b: Which of the following best matches your opinion of the impact of the oil and gas industry on western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Very negative impact	2%	2%	5%	2%
Negative impact	8%	6%	15%	7%
Neutral impact	41%	47%	41%	38%
Positive impact	33%	30%	30%	37%
Very positive impact	6%	6%	6%	5%
Refused (VOL)	0%	0%	1%	0%
Don't know (VOL)	9%	9%	3%	11%

**Q2b: Which of the following best matches your opinion of the impact of the oil and gas industry on western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Negative Impact	10%	9%	20%	9%
Neutral impact	41%	47%	41%	38%
Positive Impact	39%	36%	35%	42%
Refused (VOL)	0%	0%	1%	0%
Don't know (VOL)	9%	9%	3%	11%

**Q2e: You said that the oil and gas sector has a <Q2b> on western Newfoundland. How has it <Q2b> impacted?**

**SUBSET: Respondents that said very positive/positive in Q2b**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	332	101	74*	157
Employment / Job Creation	66%	62%	64%	69%
Economic Growth / business development / financial improvement (general)	27%	28%	24%	28%
Wage / Salary Increase / More money / things are more affordable	13%	13%	12%	13%
Government Revenue / less taxes	12%	17%	9%	10%
Improvements in society (better education, social programs, healthcare and infrastructure available)	8%	12%	7%	5%
Don't know	7%	7%	11%	5%
Population increase / People moving to NL / Young people stay in the province	6%	5%	4%	8%
I've seen/read/heard/believe there is a positive effect	4%	4%	5%	4%
Oil prices are poor / there is no benefit at this time / only Eastern Newfoundland is seeing benefits	3%	3%	6%	2%
Miscellaneous Mentions	3%	1%	3%	4%
Environmental Harm	2%	3%	3%	2%
Construction / New home construction / value of homes in the area	1%	1%	1%	2%
Quality of life / Lifestyle	1%	1%	0%	1%
Presence on the world stage / national or global recognition	1%	2%	0%	0%
There is public outcry against the oil and gas industry operating here / it could have a negative impact	0%	0%	2%	0%
Refused	0%	0%	0%	0%

Percentages may exceed 100% due to multiple response

\*Results should be interpreted with caution due to the small sample size.

**Q2e: You said that the oil and gas sector has a <Q2b> on western Newfoundland. How has it <Q2b> impacted?**

**SUBSET: Respondents that said very negative/very negative in Q2b**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n) *	89	21	37	31
Environmental Harm	42%	37%	54%	35%
Concerns about fracking	25%	22%	17%	33%
Oil prices are poor / there is no benefit at this time / only Eastern Newfoundland is seeing benefits	20%	28%	14%	20%
There is public outcry against the oil and gas industry operating here / it could have a negative impact	15%	16%	15%	14%
Don't know	10%	7%	7%	14%
Miscellaneous Mentions	6%	8%	10%	3%
Cost to consumers-province (negative) / things are more expensive	3%	4%	3%	3%
Wage / Salary Increase / More money / things are more affordable	3%	12%	0%	0%
Quality of life / Lifestyle	3%	12%	0%	0%
Employment / Job Creation	2%	0%	5%	0%
Economic Growth / business development / financial improvement (general)	2%	3%	2%	0%
Population increase / People moving to NL / Young people stay in the province	1%	3%	0%	0%
Social problems such as drugs and crime are worse	1%	3%	0%	0%
Refused	1%	0%	2%	0%

Percentages may exceed 100% due to multiple response

\*Results should be interpreted with caution due to the small sample size.

**Q3(a & c): Next I have two statements. These statements ask about social license and by social license we mean that the strong majority of the population is in favour of it.**

		Total	Region		
			St. John's CMA	Western	Other NL
Total Unweighted (n)		840	264	200	376
The oil and gas sector has a social license to undertake hydraulic fracturing in western Newfoundland.	Strongly Disagree	18%	16%	28%	16%
	Disagree	32%	30%	28%	34%
	Neither agree nor disagree	21%	26%	16%	20%
	Agree	16%	16%	18%	16%
	Strongly agree	3%	3%	3%	3%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	9%	8%	7%	10%
The oil and gas sector has a social license to operate in offshore Newfoundland and Labrador	Strongly Disagree	2%	2%	4%	1%
	Disagree	6%	4%	13%	4%
	Neither agree nor disagree	10%	8%	13%	11%
	Agree	60%	58%	53%	64%
	Strongly agree	19%	26%	11%	17%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	3%	3%	6%	2%

**Q3(a & c): Next I have two statements. These statements ask about social license and by social license we mean that the strong majority of the population is in favour of it.**

		Total	Region		
			St. John's CMA	Western	Other NL
Total Unweighted (n)		840	264	200	376
The oil and gas sector has a social license to undertake hydraulic fracturing in western Newfoundland.	Disagree	50%	46%	56%	51%
	Neither agree nor disagree	21%	26%	16%	20%
	Agree	19%	19%	21%	19%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	9%	8%	7%	10%
The oil and gas sector has a social license to operate in offshore Newfoundland and Labrador	Disagree	8%	6%	18%	6%
	Neither agree nor disagree	10%	8%	13%	11%
	Agree	78%	84%	64%	80%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	3%	3%	6%	2%

**Q4: The Government of Newfoundland and Labrador is having an independent panel undertake a review of hydraulic fracturing in western Newfoundland. Before today, were you aware that this review was taking place?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Yes	44%	46%	50%	41%
No	55%	54%	50%	57%
Don't know (VOL)	1%	0%	0%	1%

**Q5: In general, which of the following best represents how you feel about hydraulic fracturing, commonly called fracking, for oil and gas in western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Strongly oppose	24%	19%	33%	24%
Oppose	19%	20%	19%	19%
Neither support nor oppose	31%	35%	24%	31%
Support	17%	17%	16%	18%
Strongly support	2%	2%	3%	2%
Don't know (VOL)	6%	8%	5%	5%

**Q5: In general, which of the following best represents how you feel about hydraulic fracturing, commonly called fracking, for oil and gas in western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Oppose	43%	39%	52%	43%
Neither support nor oppose	31%	35%	24%	31%
Support	20%	18%	19%	21%
Don't know (VOL)	6%	8%	5%	5%

**Q6a1: Why do you feel that way?**  
**SUBSET: Respondents that said strongly support/support in Q5**

	Total	Region*		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	156	47	37	72
Creates Jobs/Employment	42%	38%	41%	44%
Boost Economy/Help Business	35%	37%	39%	32%
I believe it is safe / it is fine in other areas	20%	22%	26%	16%
It is better to have more resources	13%	15%	10%	14%
It will be well regulated	8%	10%	12%	5%
Miscellaneous Mentions	6%	7%	2%	6%
Don't know	6%	3%	6%	7%
Diversifies the economy	5%	5%	0%	7%
Represents sustainable development in western NL	5%	7%	0%	5%
Introduce new technology Newfoundland and Labrador	4%	3%	0%	5%
Better paying jobs / higher wages / more money / things are more affordable	3%	3%	5%	2%
Keep people local / attract more people to NL	2%	2%	3%	2%
Attract new kinds of business services	2%	0%	3%	3%

*Percentages may exceed 100% due to multiple response*

*\*Results should be interpreted with caution due to the small sample size.*

**Q6a2: Why do you feel that way?**  
**SUBSET: Respondents that said strongly oppose/oppose in Q5**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	378	108	102	168
Greenhouse gases/more macro pollution and Environment comments	55%	64%	44%	53%
Local water quality/contamination/More local and personal environment comments	53%	50%	53%	55%
Unknown risks	18%	24%	15%	16%
No social license / Others are against it / negative media / negative effects in other areas	15%	10%	18%	16%
Soil contamination / destabilize the ground / earthquakes	12%	10%	12%	14%
Health Effects	10%	10%	14%	9%
Lack of information in general	9%	9%	10%	7%
Negative impact on wildlife / ecosystem	7%	8%	7%	6%
Miscellaneous Mentions	3%	3%	4%	3%
Rural Newfoundland and Labrador becoming more industrialized / negative impact on tourism	3%	2%	4%	3%
Don't know	3%	1%	5%	3%
Should be looking at alternate energy	3%	4%	3%	2%
Process is predetermined /Can't trust government to regulate the industry	2%	3%	3%	2%
Panel is biased	2%	4%	1%	0%
We do not need the oil and gas	1%	1%	1%	2%
Companies from outside province	1%	1%	3%	0%
Refused	0%	0%	1%	0%

Percentages may exceed 100% due to multiple response

**Q6a3: Why do you feel that way?**  
**SUBSET: Respondents that said strongly neither support nor oppose in Q5**

	Total	Region*		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	252	87	50	115
Lack of knowledge on the topic in general	48%	48%	60%	45%
Need more information on risks	34%	35%	32%	33%
Need more information on benefits	22%	24%	28%	18%
It's hard to tell if the pros outweigh the cons	7%	4%	13%	8%
Don't know	7%	8%	0%	9%
Don't care/Not concerned	7%	5%	6%	9%
Doesn't directly impact me	6%	6%	4%	6%
Other people are against it	4%	4%	4%	3%
Miscellaneous Mentions	1%	1%	0%	1%

Percentages may exceed 100% due to multiple response

\*Results should be interpreted with caution due to the small sample size.

**Q9(a-b): I am going to read you several statements about hydraulic fracturing for oil and natural gas in western Newfoundland and would like you to tell me how strongly you agree or disagree with each.**

	Total	Region			
		St. John's CMA	Western	Other NL	
Total Unweighted (n)	840	264	200	376	
The government of Newfoundland and Labrador can effectively regulate the oil and natural gas industry	Strongly Disagree	7%	6%	8%	7%
	Disagree	18%	22%	20%	15%
	Neither agree nor disagree	14%	18%	15%	11%
	Agree	48%	42%	41%	54%
	Strongly agree	10%	10%	10%	9%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	4%	2%	7%	4%
The oil and natural gas industry will be operated in an environmentally responsible manner	Strongly Disagree	7%	8%	10%	6%
	Disagree	21%	18%	26%	21%
	Neither agree nor disagree	18%	21%	13%	18%
	Agree	39%	36%	37%	41%
	Strongly agree	7%	10%	4%	6%
	Refused (VOL)	0%	0%	0%	1%
	Don't know (VOL)	8%	8%	9%	8%

**Q9(c-f): I am going to read you several statements about hydraulic fracturing for oil and natural gas in western Newfoundland and would like you to tell me how strongly you agree or disagree with each.**

		Total	Region		
			St. John's CMA	Western	Other NL
Western Newfoundland needs the jobs and revenues from the oil and natural gas industry	Strongly Disagree	3%	3%	3%	3%
	Disagree	11%	11%	10%	11%
	Neither agree nor disagree	10%	13%	10%	7%
	Agree	54%	48%	49%	59%
	Strongly agree	19%	21%	25%	16%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	3%	3%	2%	4%
The oil and natural gas industry is committed to providing information to the public	Strongly Disagree	7%	5%	9%	6%
	Disagree	24%	23%	27%	23%
	Neither agree nor disagree	14%	16%	12%	14%
	Agree	41%	39%	38%	43%
	Strongly agree	9%	12%	8%	7%
	Don't know (VOL)	5%	4%	6%	6%
If the oil and natural gas industry is successful, it will create long-term benefits for western Newfoundland	Strongly Disagree	5%	6%	8%	3%
	Disagree	11%	12%	12%	9%
	Neither agree nor disagree	10%	10%	10%	9%
	Agree	56%	52%	49%	60%
	Strongly agree	14%	17%	14%	13%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	5%	3%	7%	5%
The oil and natural gas industry can be operated in an environmentally responsible manner	Strongly Disagree	5%	4%	8%	5%
	Disagree	13%	16%	13%	11%
	Neither agree nor disagree	12%	13%	9%	12%
	Agree	54%	52%	57%	54%
	Strongly agree	11%	12%	7%	11%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	5%	3%	4%	7%

**Q9(a-f): I am going to read you several statements about hydraulic fracturing for oil and natural gas in western Newfoundland and would like you to tell me how strongly you agree or disagree with each.**

		Total	Region		
			St. John's CMA	Western	Other NL
Total Unweighted (n)		840	264	200	376
The government of Newfoundland and Labrador can effectively regulate the oil and natural gas industry	Disagree	25%	27%	28%	21%
	Neither agree nor disagree	14%	18%	15%	11%
	Agree	58%	52%	51%	64%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	4%	2%	7%	4%
The oil and natural gas industry will be operated in an environmentally responsible manner	Disagree	28%	26%	36%	26%
	Neither agree nor disagree	18%	21%	13%	18%
	Agree	46%	45%	41%	48%
	Refused (VOL)	0%	0%	0%	1%
	Don't know (VOL)	8%	8%	9%	8%
Western Newfoundland needs the jobs and revenues from the oil and natural gas industry	Disagree	14%	14%	13%	14%
	Neither agree nor disagree	10%	13%	10%	7%
	Agree	73%	70%	74%	75%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	3%	3%	2%	4%
The oil and natural gas industry is committed to providing information to the public	Disagree	30%	28%	36%	30%
	Neither agree nor disagree	14%	16%	12%	14%
	Agree	50%	52%	46%	50%
	Don't know (VOL)	5%	4%	6%	6%
If the oil and natural gas industry is successful, it will create long-term benefits for western Newfoundland	Disagree	16%	18%	20%	13%
	Neither agree nor disagree	10%	10%	10%	9%
	Agree	70%	69%	63%	73%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	5%	3%	7%	5%
The oil and natural gas industry can be operated in an environmentally responsible manner	Disagree	18%	20%	22%	16%
	Neither agree nor disagree	12%	13%	9%	12%
	Agree	65%	64%	65%	65%
	Refused (VOL)	0%	0%	0%	0%
	Don't know (VOL)	5%	3%	4%	7%

**Q10: Do you think there is a need to provide more information on the oil and natural gas industry to the people in Newfoundland and Labrador?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Yes	95%	95%	96%	95%
No	4%	5%	2%	4%
Don't know (VOL)	1%	0%	2%	2%

**Q11: What type of additional information is needed?  
SUBSET: Respondents that said yes in Q10**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	793	247	191	355
Information on environmental impact	46%	44%	41%	49%
General information about what is being done / will be done / where	18%	18%	16%	20%
How the oil and gas is extracted (process involved)	17%	13%	19%	19%
Economic Benefits	16%	18%	15%	15%
Risks (general)	11%	12%	13%	10%
Don't know	10%	9%	10%	11%
Benefits (general)	9%	11%	13%	6%
Safety Procedures	9%	10%	8%	8%
An independent study should be conducted (Scientific / factual information)	8%	9%	9%	7%
All available information (Companies should be more honest / open)	7%	7%	7%	7%
More media exposure (general) / more accessible information	6%	4%	6%	7%
Information on the Companies involved	6%	9%	4%	4%
Information on the impact in general (non-specific, good or bad)	5%	5%	5%	5%
Experiences in other areas	5%	6%	5%	4%

**Q11 (cont'd): What type of additional information is needed?**  
**SUBSET: Respondents that said yes in Q10**

	Total	Region		
		St. John's CMA	Western	Other NL
Employment opportunities / Career planning information	4%	4%	5%	5%
More simple information / easier to understand	3%	4%	4%	3%
Regulations / controls put in place by the government	2%	3%	4%	2%
Effects on people's health	1%	2%	1%	1%
Miscellaneous Mentions	1%	0%	1%	1%
Refused	0%	0%	1%	0%

*Percentages may exceed 100% due to multiple response*

**Q13: Some of the potential oil and natural gas resources may be close to Gros Morne National Park. In your opinion, which of the following is a reasonable size for a buffer zone around the park?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
5 km or less	7%	6%	11%	7%
5 - 25 km	24%	21%	25%	26%
25 km or more	58%	62%	51%	57%
Other (specify)	6%	8%	7%	5%
Refused (VOL)	0%	0%	0%	0%
Don't know (VOL)	4%	3%	5%	5%

**Q14: Which of the following statements best represents what you think the overall impact of hydraulic fracturing for oil and natural gas will be for western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Very negative impact	10%	10%	16%	9%
Negative impact	17%	17%	21%	15%
Neutral impact	23%	24%	17%	25%
Positive impact	35%	35%	31%	37%
Very positive impact	5%	5%	5%	5%
Refused (VOL)	0%	0%	0%	0%
Don't know (VOL)	9%	10%	9%	8%

**Q14: Which of the following statements best represents what you think the overall impact of hydraulic fracturing for oil and natural gas will be for western Newfoundland?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Negative Impact	27%	27%	38%	24%
Neutral impact	23%	24%	17%	25%
Positive Impact	40%	39%	37%	42%
Don't know (VOL)	9%	10%	9%	8%

**Q15: What are the main benefits anticipated for hydraulic fracturing for oil and natural gas in western Newfoundland?**

**SUBSET: Respondents that said very positive/positive impact in Q14**

	Total	Region*		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	324	98	72	154
Creates Jobs/Employment	74%	70%	76%	76%
Boost Economy/Help Business	56%	65%	58%	50%
Don't know	12%	8%	13%	14%
Attract more people to the region / back to the region / to stay in the area	7%	4%	7%	10%
Diversify the economy	6%	5%	4%	7%
More oil and gas available / more resources	4%	5%	7%	2%
Improved infrastructure and services / housing improvements	3%	3%	6%	3%
Attract new kinds of business services	3%	2%	3%	4%
Sustainable development	3%	5%	2%	2%
Lower energy costs / heating options / lower costs for products and services	3%	3%	1%	3%
Introduce new technology to NL	2%	2%	1%	2%
Miscellaneous Mentions	2%	3%	2%	1%
Better understanding/protection of the environments	1%	3%	0%	0%
Improved quality of life	1%	2%	0%	1%

Percentages may exceed 100% due to multiple response

\*Results should be interpreted with caution due to the small sample size.

**Q16: What are the main negative impacts anticipated for hydraulic fracturing for oil and natural gas in western Newfoundland?**

**SUBSET: Respondents that said very negative/negative impact in Q14**

	Total	Region*		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	241	75	73	93
Greenhouse gases/more macro pollution and Environment comments	62%	67%	57%	62%
Local water quality/contamination /More local and personal environment comments	57%	55%	64%	56%
Unknown risks	15%	18%	13%	14%
Concern over soil contamination / destabilization of the ground / earthquakes	11%	11%	7%	13%
It will ruin rural lifestyle / tourism / landscape / national park	10%	9%	11%	11%
Concerns for wildlife habitats / fishing	10%	5%	11%	12%
Health / safety concerns	7%	7%	13%	4%
Don't know	6%	4%	7%	7%
Costs are too high / burden is on taxpayers / not enough economic benefit	3%	6%	3%	1%
Miscellaneous Mentions	3%	1%	6%	1%
Should be looking at alternate energy	2%	1%	0%	5%
Negative effects on farming	2%	3%	0%	3%
Companies from outside province	1%	0%	2%	1%
Refused	0%	0%	1%	0%

*Percentages may exceed 100% due to multiple response*

*\*Results should be interpreted with caution due to the small sample size.*

**Q17: Evidence indicates that western Newfoundland may possess significant quantities of oil and gas. Which statement would you say is closest to your opinion?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
We should explore for it	67%	67%	66%	67%
It is not worth the risk	26%	27%	26%	25%
Refused (VOL)	1%	1%	0%	1%
Don't know (VOL)	7%	5%	7%	7%

**Q18: We are trying to understand how people feel about exploring for and extracting oil and natural gas in western Newfoundland and how they feel about hydraulic fracturing in western Newfoundland.**

**Which of the following statements is closest to your opinion?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
I am in favour of exploring and extracting oil and natural gas in western Newfoundland AND hydraulic fracturing	16%	15%	17%	17%
I am in favour of exploring and extracting oil and natural gas in western Newfoundland, BUT NOT hydraulic fracturing	25%	27%	25%	24%
I oppose hydraulic fracturing in western Newfoundland BUT NOT exploring and extracting oil and natural gas	15%	12%	17%	16%
I oppose hydraulic fracturing AND exploring and extracting oil and natural gas in western Newfoundland	9%	12%	8%	7%
I consider myself to be neutral on the topic	11%	13%	10%	9%
I have not decided or I am unsure	23%	19%	24%	26%
Refused (VOL)	1%	1%	0%	0%

**D1: Which of the following best describes your current employment status?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Employed by company/ organization	51%	55%	43%	50%
Self employed	6%	7%	4%	6%
Not employed outside the house & looking for work	5%	3%	9%	6%
Not employed outside the house & not looking for work	5%	5%	6%	5%
Retired	29%	24%	31%	32%
A student	4%	6%	6%	2%
Refused (VOL)	0%	0%	1%	0%

**D2: Are you employed by any of the following?**

**SUBSET: Respondents that said employed by company/organization in D1**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	405	140	85*	180
A university or community college	5%	10%	3%	3%
A provincial government department	27%	21%	37%	29%
A federal government department	7%	6%	6%	8%
The oil and gas industry	7%	8%	3%	7%
NONE of the above (VOL)	53%	55%	50%	53%
Refused (VOL)	0%	0%	0%	1%

*\*Results should be interpreted with caution due to the small sample size.*

**D3: Which of the following best describes the highest level of education you have had an opportunity to complete?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Less than high school	7%	2%	9%	9%
Graduated high school	14%	9%	15%	18%
Some trade/ technical college	7%	6%	13%	6%
Graduated trade/ technical college	29%	22%	26%	34%
Some university	11%	14%	9%	10%
Graduated university	32%	47%	27%	23%
Refused (VOL)	0%	0%	0%	0%

**D4: Into which of the following broad age categories do you fall?**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Between 18 and 24 years of age	7%	9%	5%	6%
Between 25 and 34 years of age	16%	22%	14%	14%
Between 35 and 44 years of age	14%	14%	13%	13%
Between 45 and 54 years of age	24%	23%	24%	24%
Between 55 and 64 years of age	19%	13%	22%	21%
65 years of age or older	21%	19%	21%	22%
Refused (VOL)	0%	0%	0%	0%

**D5: Household Income Category**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Less than \$25,000	7%	4%	13%	7%
\$25,000 to \$49,999	18%	13%	19%	22%
\$50,000 to \$74,999	18%	21%	16%	18%
\$75,000 to \$99,999	14%	11%	20%	14%
\$100,000 or more	32%	38%	25%	30%
Refused (VOL)	7%	9%	6%	6%
Don't Know (VOL)	3%	4%	1%	4%

**D6: Gender**

	Total	Region		
		St. John's CMA	Western	Other NL
Total Unweighted (n)	840	264	200	376
Male	48%	47%	48%	49%
Female	52%	53%	52%	51%