

SEYMOUR ARM COMMUNITY SURVEY - TOPLINE RESULTS -

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Power Smart Evaluation

May 20, 2011



FOR GENERATIONS

Background

- As part of the development of a Community Electricity Plan for Seymour Arm, BC Hydro's Remote Community Electrification group commissioned Power Smart Evaluation to conduct research to gather baseline information on the community's values related to electricity, as well as current electricity consumption.



Methodology – Sampling Approach

- A self-complete survey was sent via Canada Post (with option to complete online)
- A contact list of all property owners was obtained from the Land Title Office
- Notices were also posted on Seymour Arm community websites and in the community advising of the survey
- Survey booklets were mailed to an initial sample of 501 property owners, representing a total of 425 properties:
 - For properties that are owned by more than one individual, separate surveys were sent to each individual if they had different mailing addresses
 - For individuals who own more than one property, survey packages were sent which contained one copy of the survey for each property owned, along with instructions to complete one survey for each property with a separate dwelling
- After accounting for 112 undeliverable surveys and 34 additional requests, a total of 423 surveys were delivered
- Data collection occurred in March - April 2011

Methodology – Returned Sample

- 172 out of 423 delivered surveys were returned for a response rate of 41%
 - 3 surveys were removed from the residential results because they represented commercial properties, resulting in a final sample of 169
- The margin of error for the final sample of 169 and based on the population of 425 properties is +/- 5.9%, 19 times out of 20
- The data was statistically weighted by year-round versus seasonal residents, developed versus undeveloped properties and areas within Seymour Arm

Population & Sample

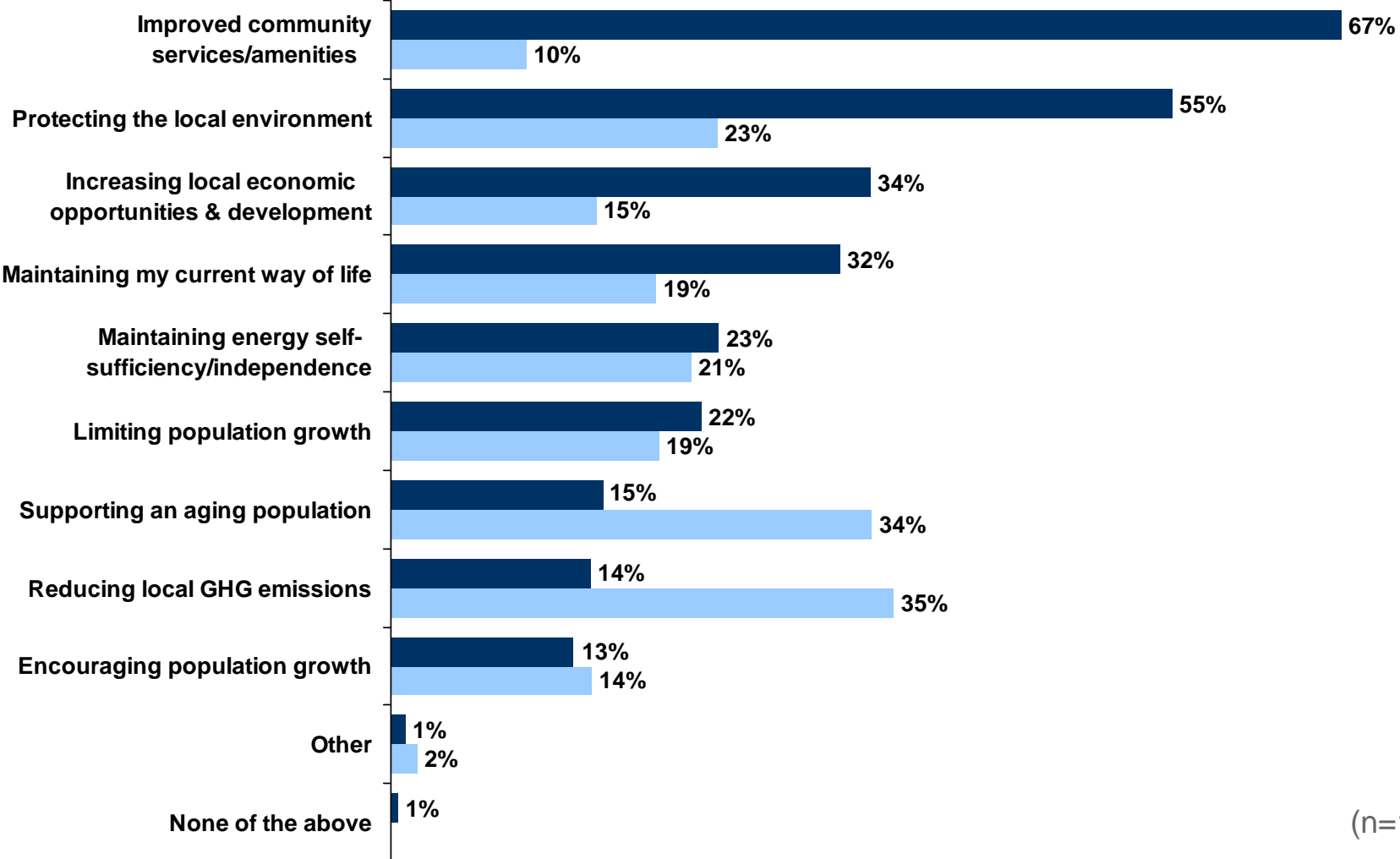
	<u>Estimated Number of Properties*</u> (n= 425)	<u>Returned Sample</u> (n=169)	<u>Weighted Sample</u> (n=425)
Type of Resident			
Year-round	10%	15%	10%
Seasonal	90%	85%	90%
Area			
Fowler Point (Shemar)	8%	6%	8%
Dasniers Bay	15%	17%	17%
Seymour Arm Proper	68%	72%	68%
South Shore	9%	5%	7%
Developed/Undeveloped**			
Developed	70%	76%	70%
Undeveloped	30%	24%	30%

*Source: Year-round population from Seymour Arm Community Association; total number of properties from Land Title Office.

**For the purposes of weighting, “developed” was defined as houses, cabins or secondary cabins. “Undeveloped” was defined as having only a shed, workshop or trailer on the property, or no structure at all.

Community Values

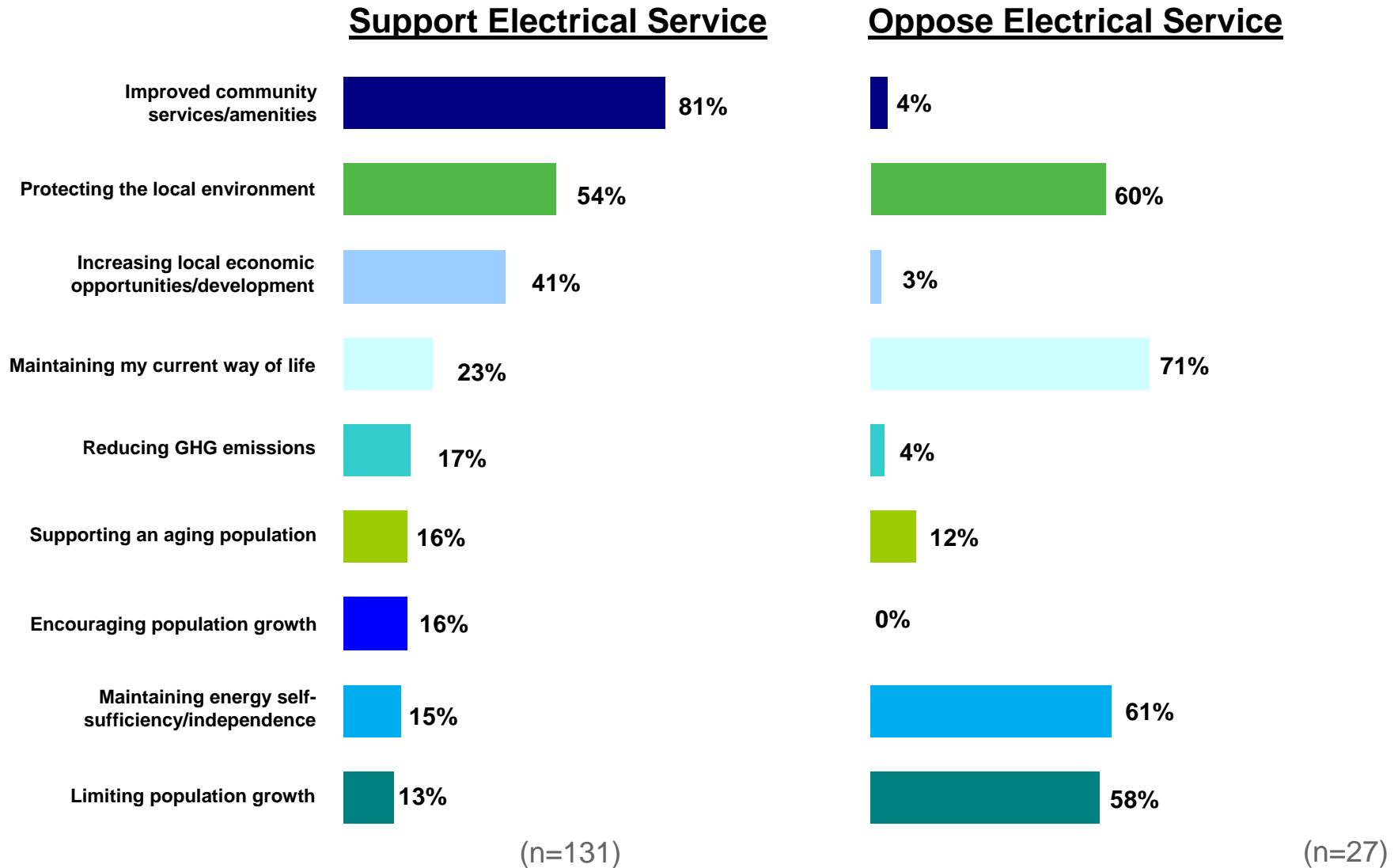
Which of the following values do you feel are most important for Seymour Arm? (multiple response)



(n=167)

TOP 5 MOST IMPORTANT VALUES

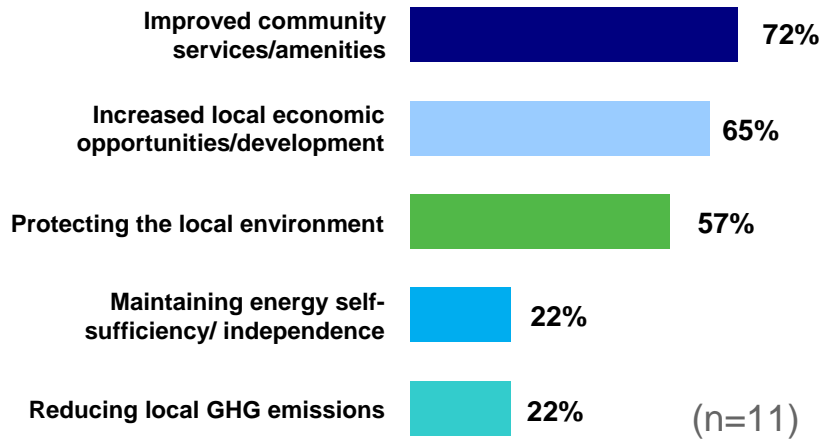
(Up to 3 mentions) By Support/Oppose Electrical Service



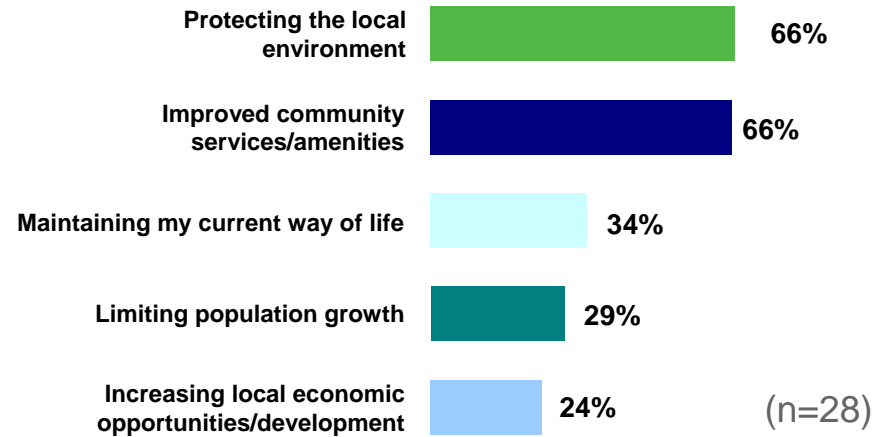
TOP 5 MOST IMPORTANT VALUES

(Up to 3 mentions) By Area

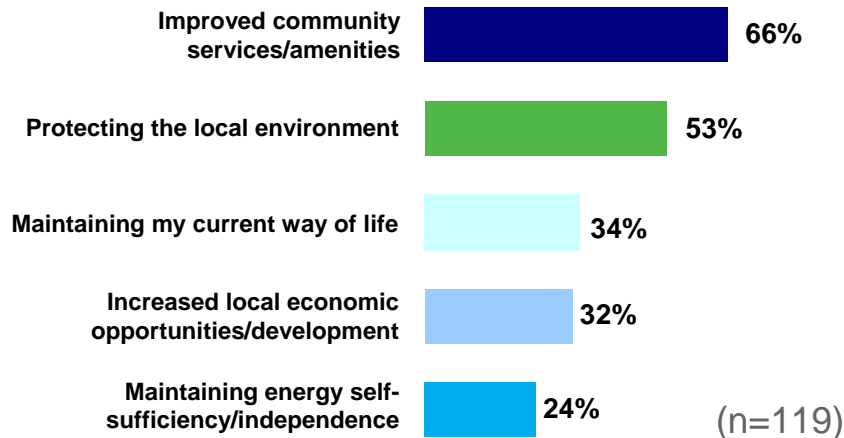
Fowler Point



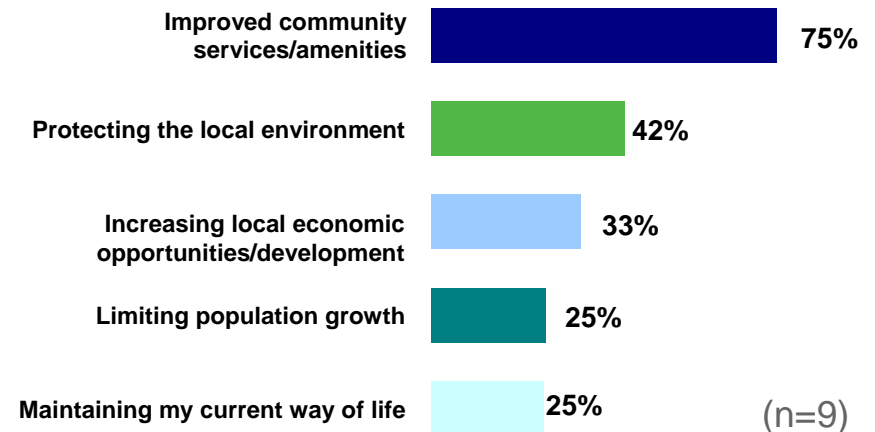
Dasniers Bay



Seymour Arm Proper



South Shore



Vision for Seymour Arm

“My vision of Seymour Arm is that it is a **valued attraction for tourists balanced with local charm.**”

“I would really like Seymour Arm to **stay relatively undeveloped** to maintain the current natural state of that end of the lake.”

“We would like Seymour Arm to remain **a quiet summertime retreat.**”



“Our goal is to **keep Seymour Arm as it is now.**”

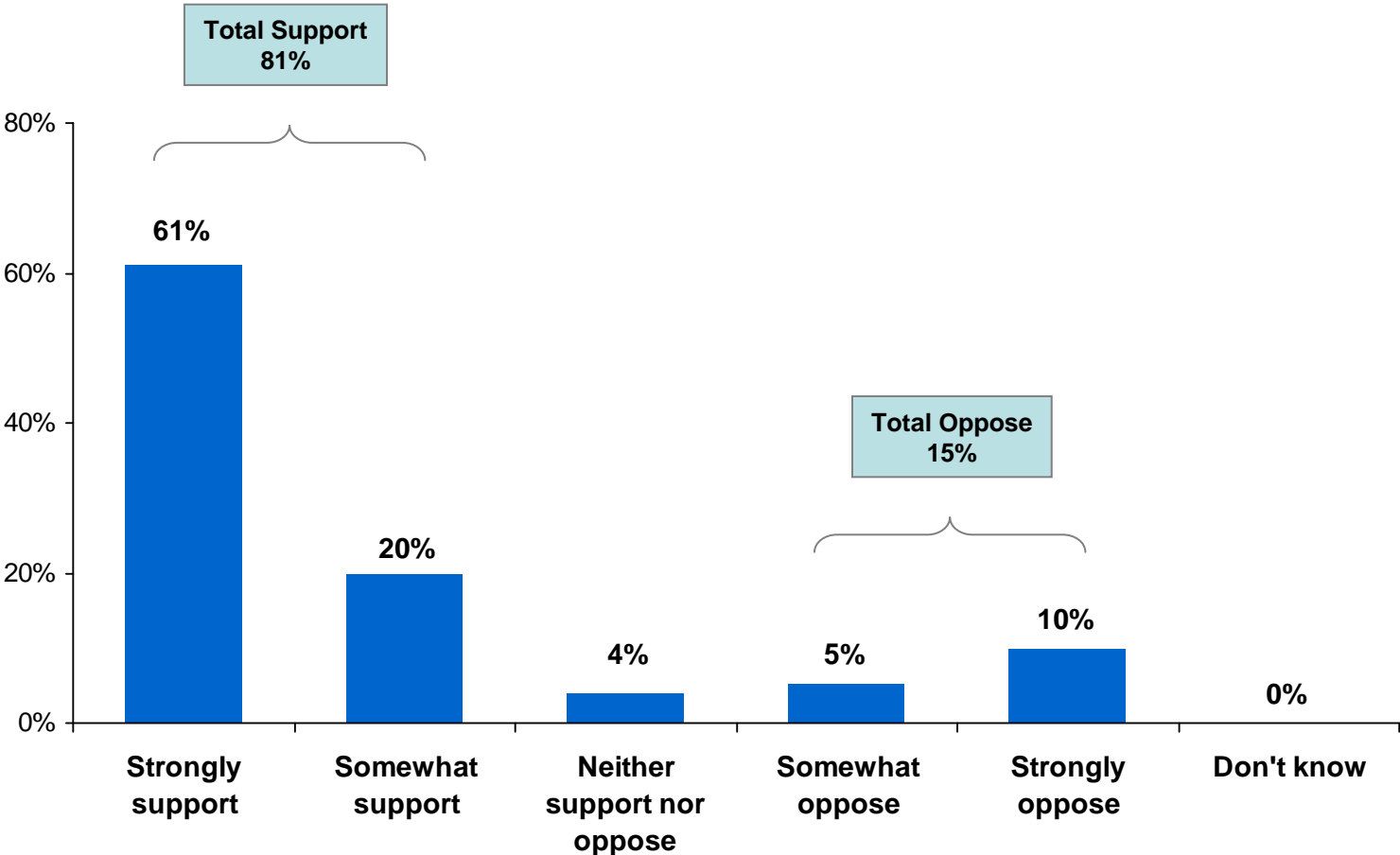
“To maintain the **natural beauty** and **peaceful way of life.**”

“Plans for retail expansion have to be controlled to **ensure that the beauty of the area is maintained.**”

“**Developing the area better** to make it like a real community. Making it possible to live full-time with necessities like hydro, telephone, cable and paved roads.”

Support/Oppose Electrical Service

Do you generally support or oppose BC Hydro electrical service coming to Seymour Arm?



(n=165)

Support/Oppose Electrical Service

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	Type of Resident		Area			
	Year-round Resident	Seasonal Resident	Fowler Point (Shemar)	Dasniers Bay	Seymour Arm Proper	South Shore
Unweighted base	(n=25)	(n=140)	(n=11)	(n=27)	(n=118)	(n=9)
Total Support (Top-2 Box)	74%	81%	100%	74%	80%	83%
Strongly support	66%	60%	65%	44%	65%	58%
Somewhat support	8%	21%	35%	30%	15%	25%
Neither support not oppose	11%	3%	0%	3%	3%	17%
Somewhat oppose	4%	5%	0%	6%	6%	0%
Strongly oppose	11%	10%	0%	16%	11%	0%
Total Oppose (Bottom-2 Box)	15%	15%	0%	22%	17%	0%

Reasons for Supporting Electrical Service

“Bringing electrical service into Seymour Arm would be a **clean energy alternative** rather than the fossil fuel emissions from diesel, gas and propane generators.”

“Hydro **makes life easier as one ages.**”

“Hydro would allow for **less generator noise** at all hours of the day and night.”

“**Electricity opens many economic doors** – reduced electrical costs, affordable heat, reduced transportation costs and new opportunities for business development.”

“The **cost of generating your own power is extremely high** compared to BC Hydro.”

“**In order for our community to grow**, it must have power.”

“With power, we would be able to **use our cabin more, especially in the winter**, with greater ease.”



Reasons for Opposing Electrical Service

“**What drew me to the area will be gone** – the peace and tranquility.”

“Adding electricity would only **bring the things that I am trying to escape from** on my holidays.”

“With the world trying to get off the grid, **why are we trying to bring a self-sustaining community onto the grid?**”



“It will **increase taxes** which are already too high.”

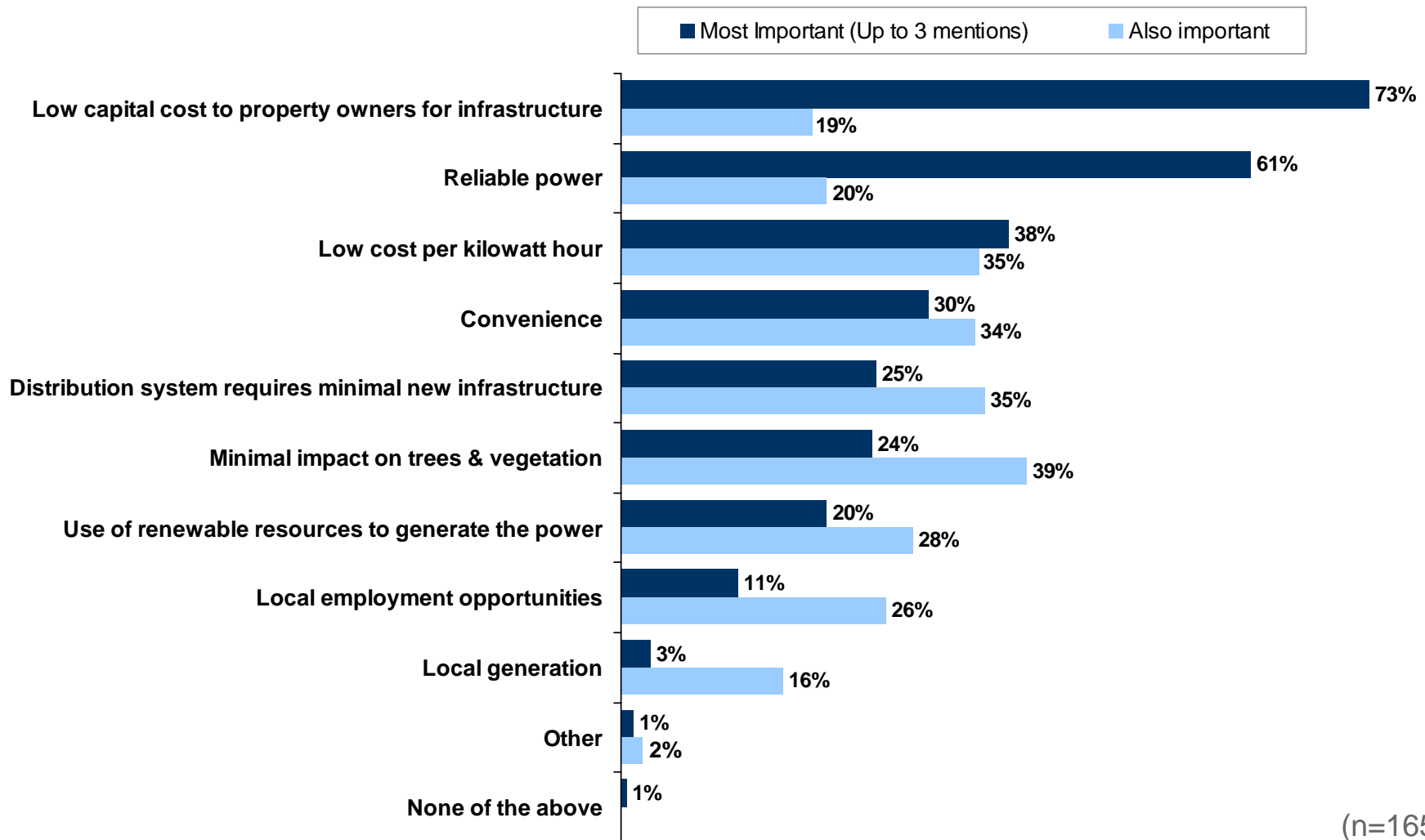
“Seymour is secluded and as of yet not overcrowded. **If power comes in it will be another downtown** any big town.”

“[...] overhead lines would require trees to be cut back even further from the roadway. This would dramatically **impact the natural habitat and detract from the beauty and seclusion** of the forest that we currently enjoy.”

“We oppose electrification for the following reasons:
1. cost, 2. increase in population, 3. unsightly electrical lines, 4. more government involvement
in the community will follow.”

Characteristics of Electrical Service

In the event that the community wishes to have electrical service brought to Seymour Arm, which three of the following characteristics would be “most important” to you about the electrical service? (multiple response)



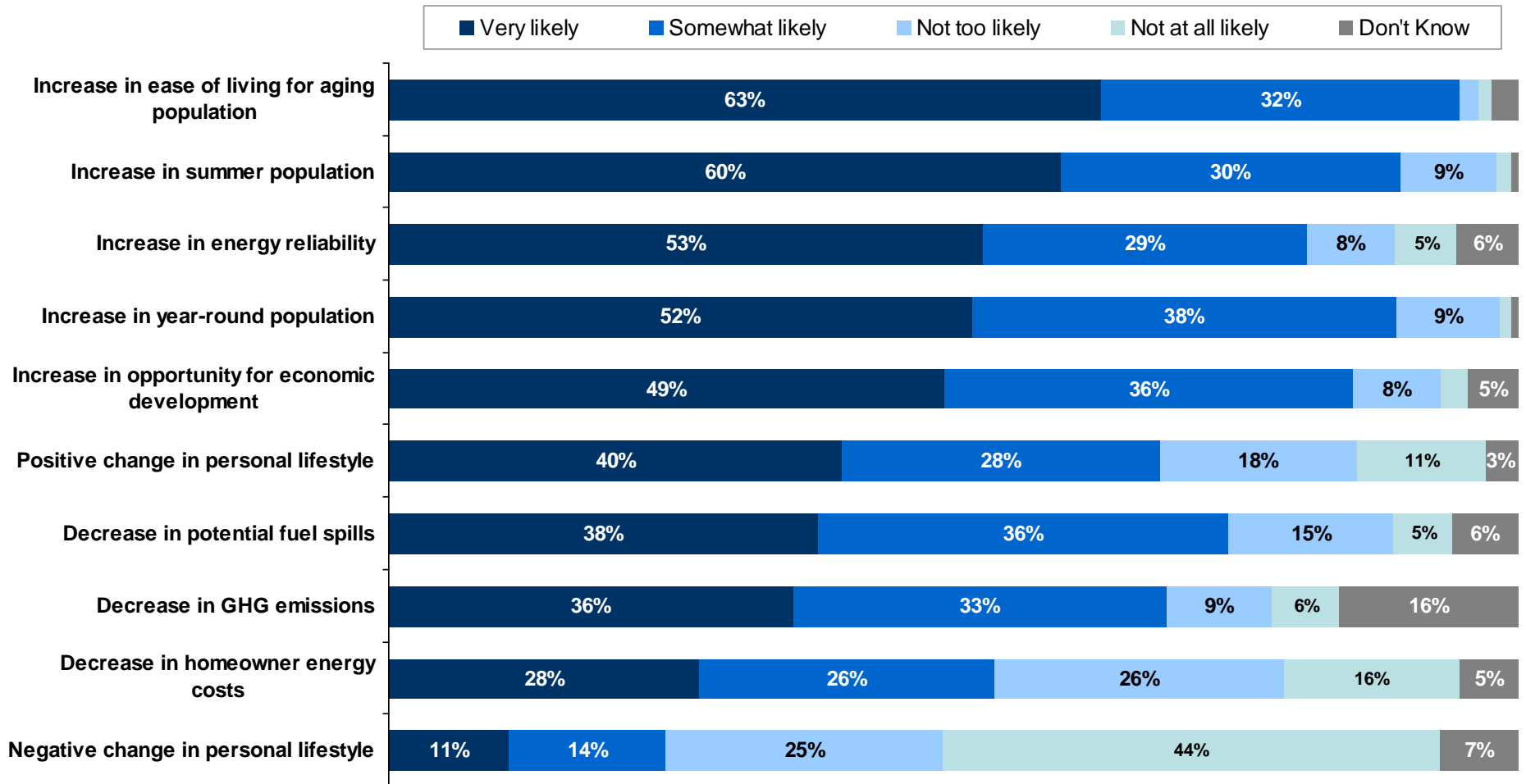
(n=165)

“Other” (verbatim) include: buried cables, no capital cost for those not using it and voluntary hookup .

Changes if BCH Service Brought to Seymour Arm

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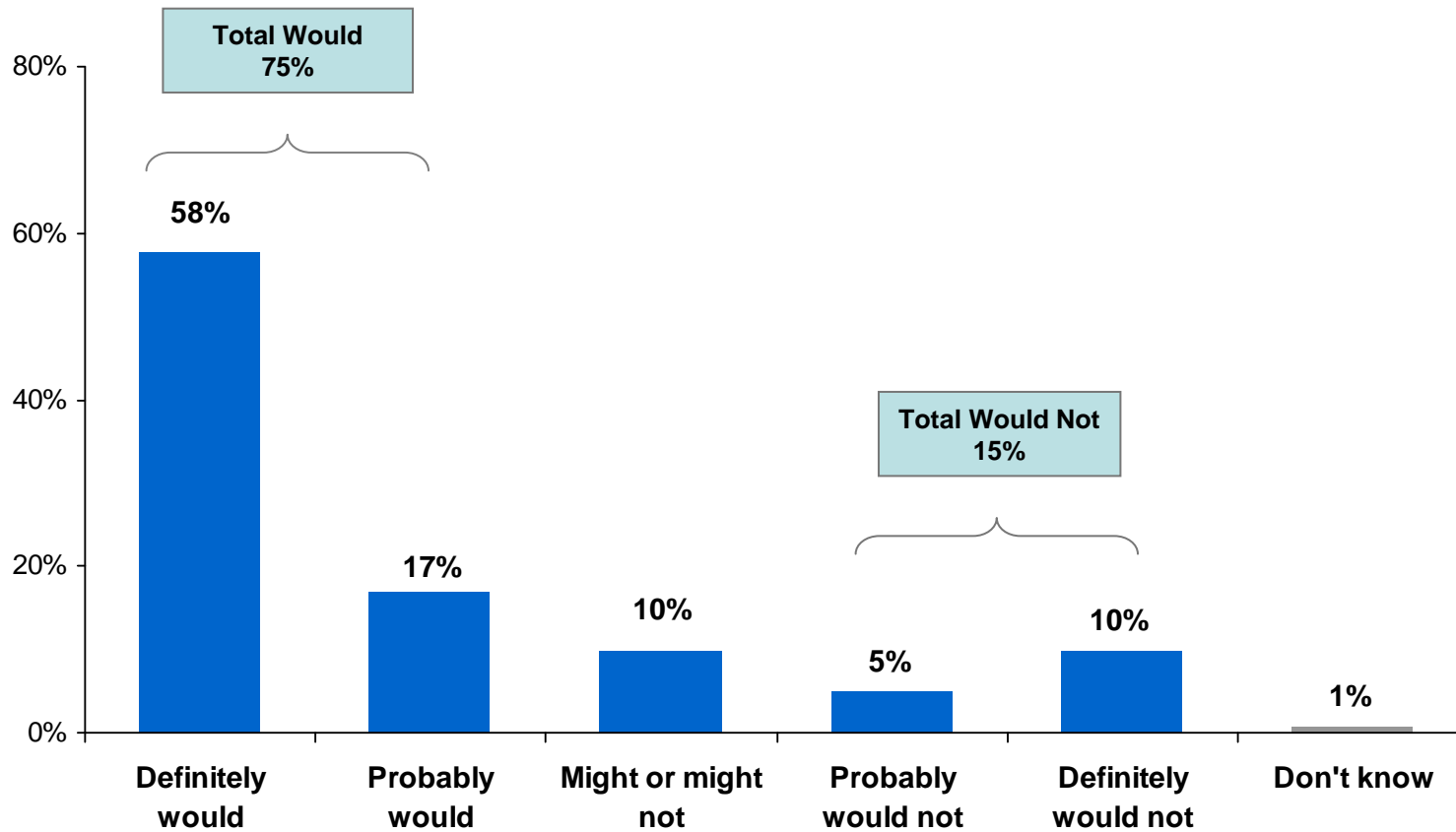
How likely do you see the following changes taking place in Seymour Arm if the community decides to have BC Hydro service brought to the community?



(n=146 to 161) "Other" likely changes (verbatim) include: increased taxes, power lines visible, more trees cut down and no more generator noise.

Likelihood of Requesting Connection

In the event that the community wishes to have electrical service brought to Seymour Arm, how likely would you be to request connection specifically to your own property, assuming it is reasonably priced?



(n=165)

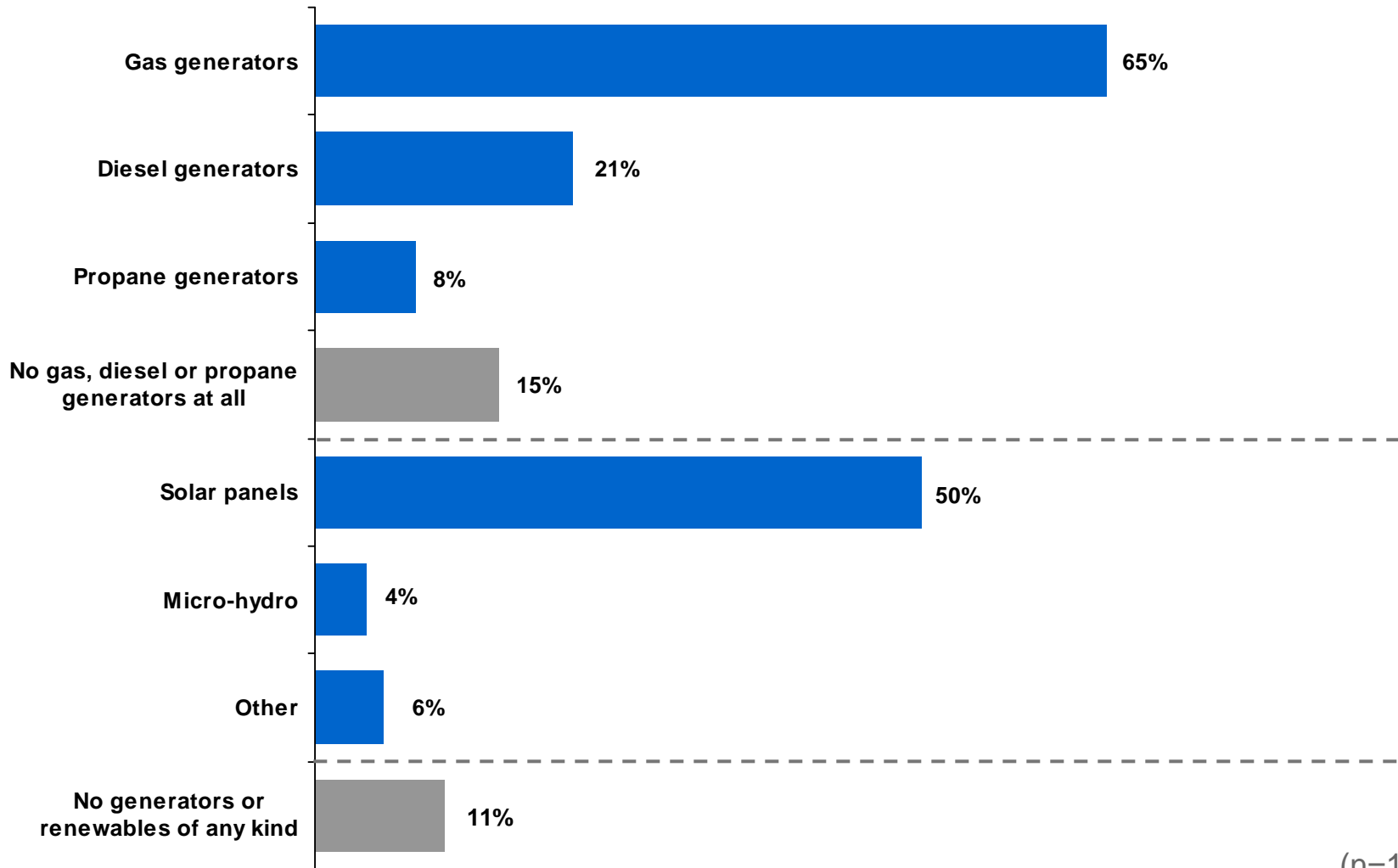
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Unweighted base	(n=25)	(n=140)	(n=11)	(n=27)	(n=118)	(n=9)
Total Would (Top-2 Box)	74%	75%	100%	57%	75%	83%
Definitely would	70%	56%	94%	47%	57%	47%
Probably would	4%	19%	6%	10%	18%	36%
Might or might not	7%	10%	0%	20%	9%	0%
Probably would not	4%	5%	0%	10%	4%	7%
Definitely would not	15%	9%	0%	13%	10%	10%
Total Would Not (Bottom-2 Box)	19%	14%	0%	23%	14%	17%
Don't know	0%	1%	0%	0%	1%	0%

Fuels & Renewables Currently Used

Do you currently use any diesel, gas or propane fuelled generators in Seymour Arm? Do you currently use any solar panels/micro-hydro/wind turbines in Seymour Arm? (multiple response)



(n=166)

Current Generator Use

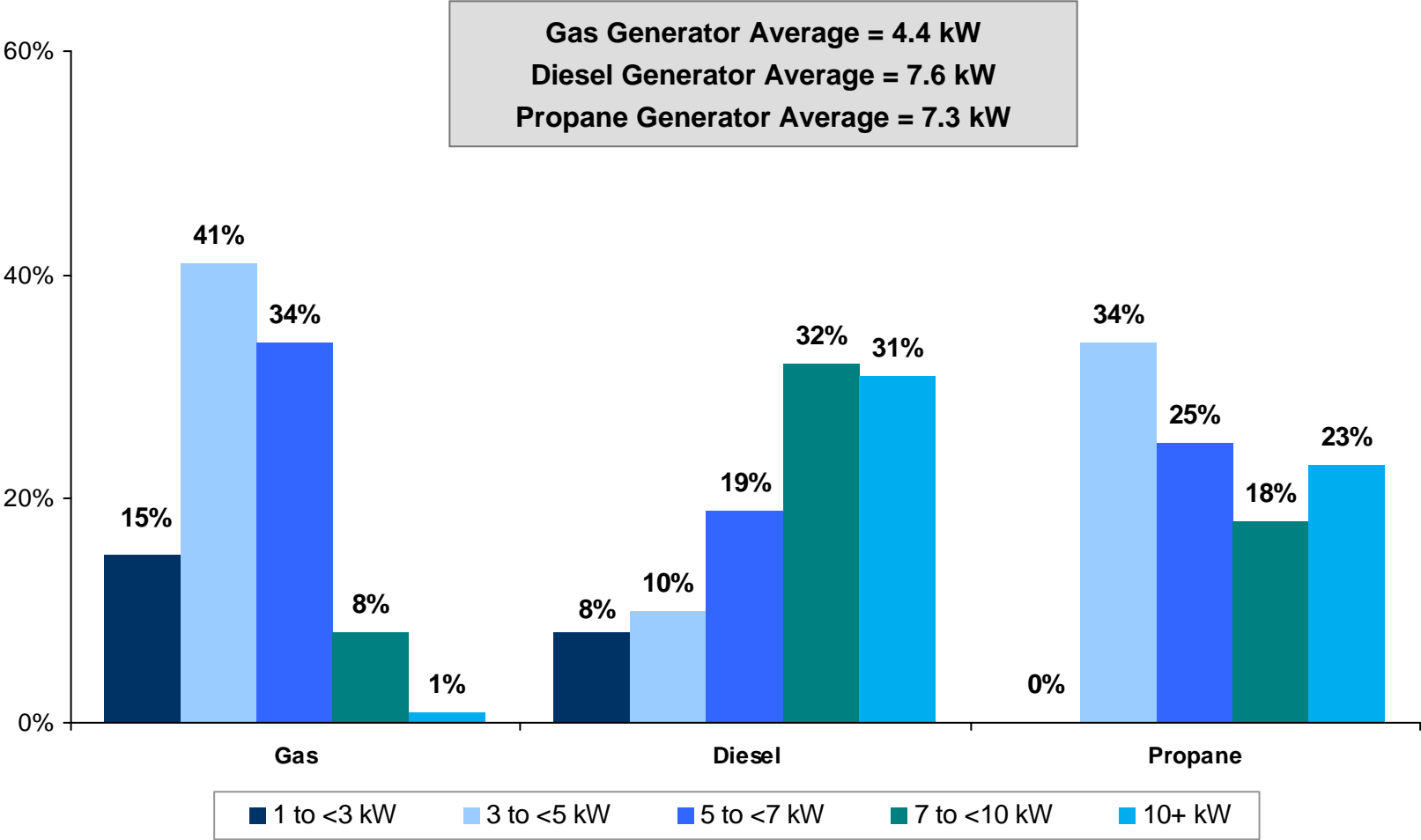
Do you currently use any diesel, gas or propane fuelled generators in Seymour Arm?

	Currently In Use (multiple response)	Average Maximum Output	Average Hours Used per Day (when occupied)		Average Fuel Used per Year*
	(% properties)	(kW)	(Winter)	(Summer)	(\$)
ALL GENERATORS TYPES COMBINED →	85%	5.3 kW	6.5 hrs	3.4 hrs	\$582
Gas →	65%	4.4 kW	6.5 hrs	3.1 hrs	\$425
Diesel →	21%	7.6 kW	9.6 hrs	5.6 hrs	\$1,194
Propane →	8%	7.3 kW	5.1 hrs	3.5 hrs	\$1,466
No generators →	15%	-	-	-	-

*Average fuel used per year excludes one diesel outlier of \$24,000.

Gas, Diesel & Propane Generator Output

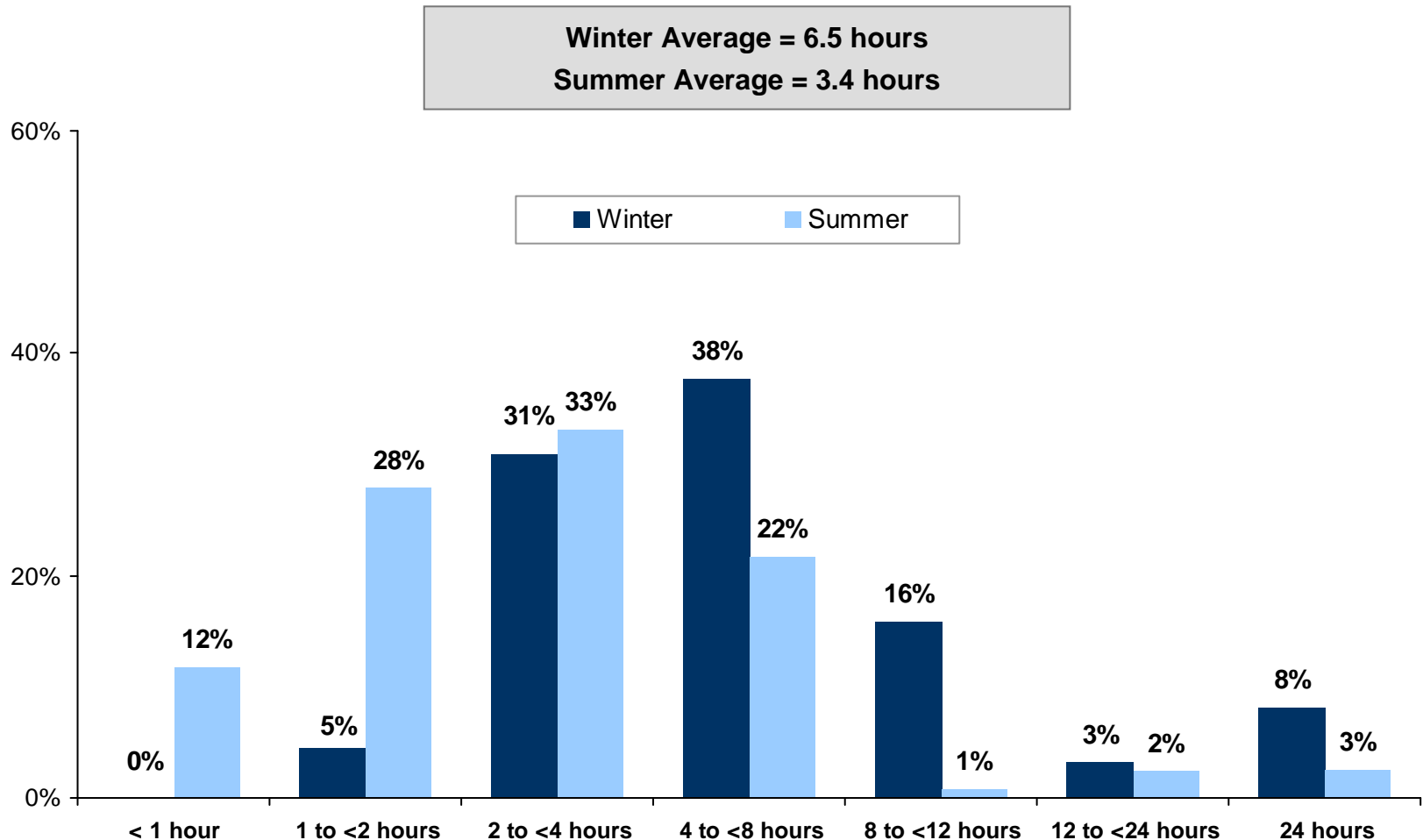
What is the total maximum electrical output of your generator(s)?



(n= 86 gas / 29 diesel / 12 propane)

Diesel, Gas & Propane Generator Hours

When you are in Seymour Arm in the winter/summer, how many hours per day on average do you run the generator(s)?



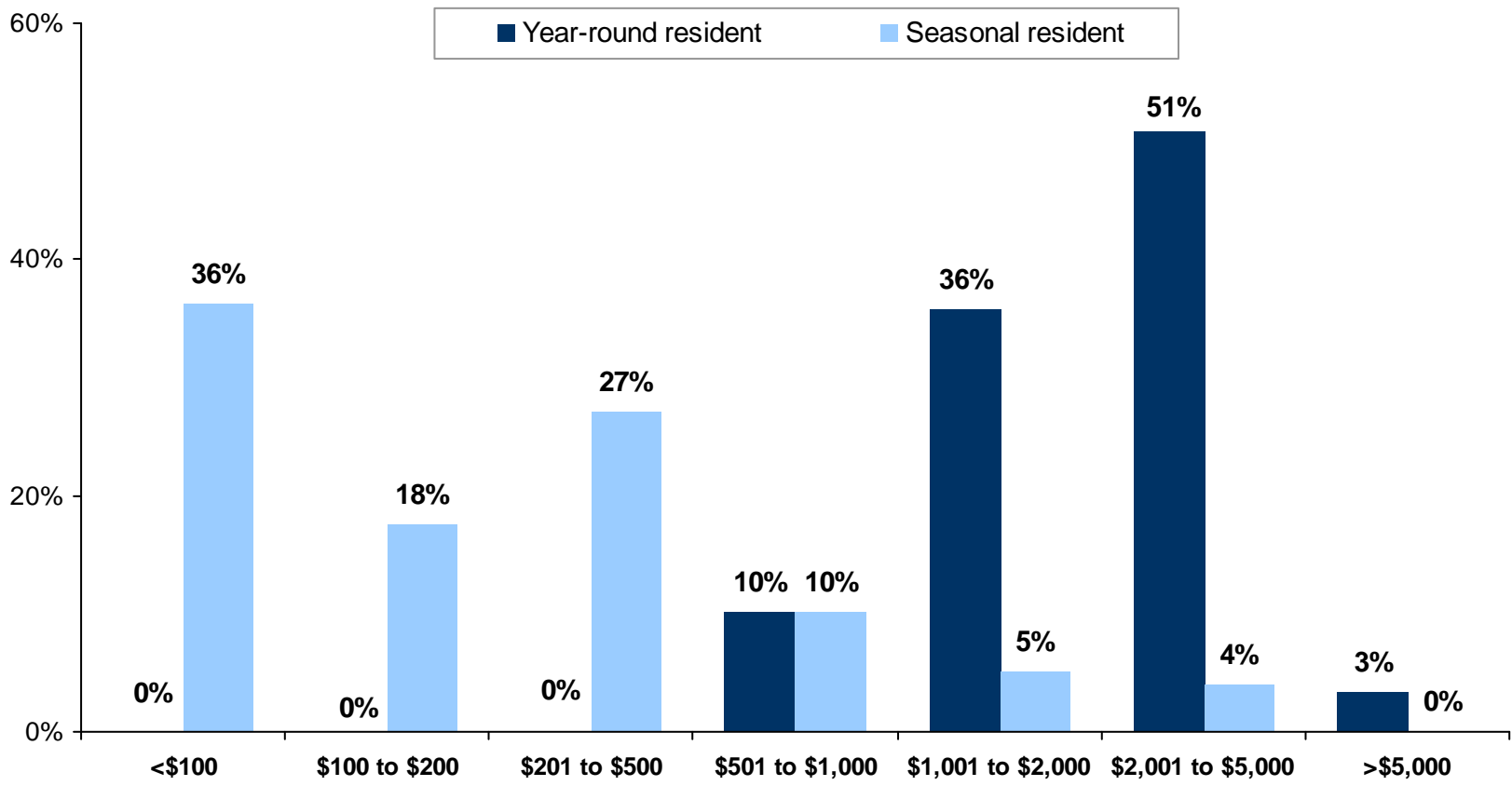
(n= 68 winter / 124 summer)

Diesel, Gas & Propane Fuel Used (\$) Per Year **BC Hydro**

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How much of this fuel do you use per year specifically for the generator(s)?

Year-round resident Average = \$2,184 per year
Seasonal resident Average = \$393 per year

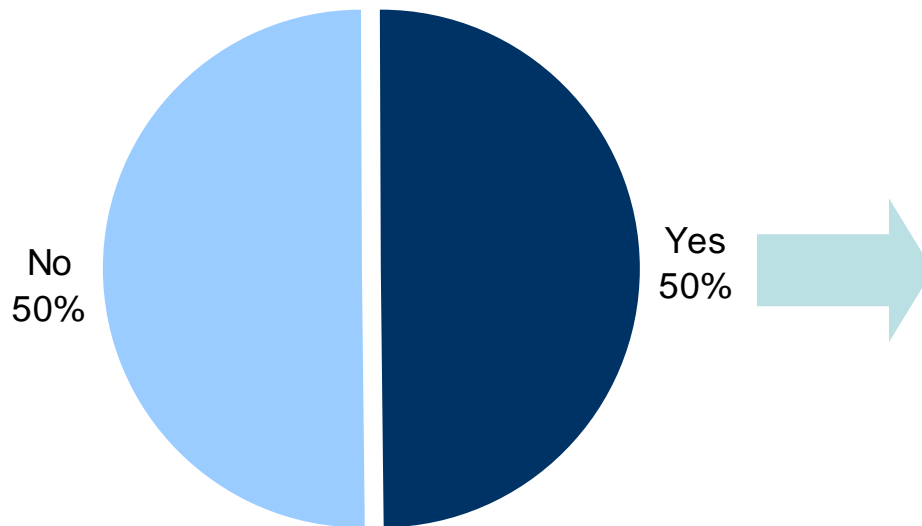


(n=19 year-round / 96 seasonal)

Current Solar Panel Use

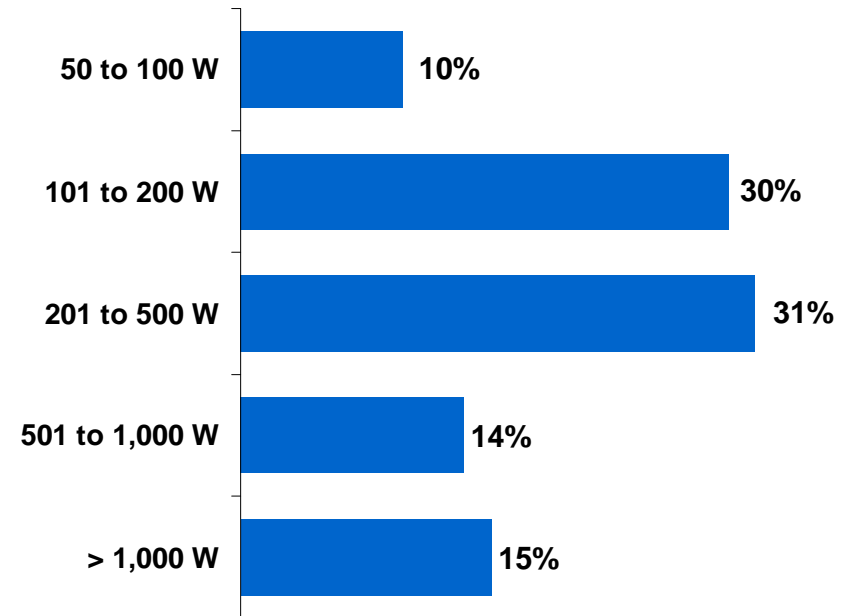
Do you currently use any solar panels at your home in Seymour Arm? What is the total maximum electrical output of your solar panel system?

Solar Panel Use



(n=165)

Solar Panel Electrical Output*



Average Solar Panel Output = 552 W

(n=51)

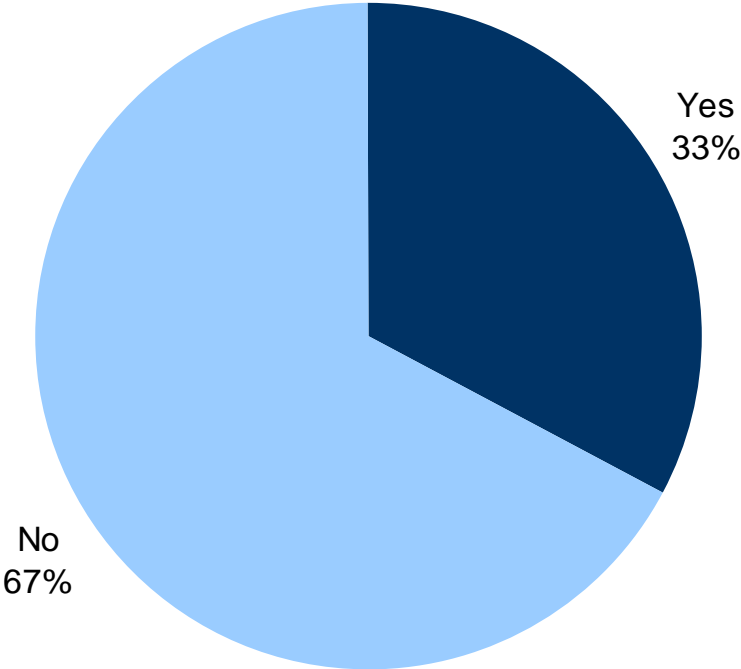
*Solar panel output ranges and averages exclude cases of < 50W.

Space Heating

	Main Heating Fuel/System	Secondary Heating Fuel/Systems (multiple response)
Unweighted base	(n=164)	(n=164)
Wood fireplace/stove/heater	59%	11%
Propane fixed/installed heater(s)	17%	10%
Electric portable heater(s)	4%	8%
Propane portable heater(s)	3%	12%
Electric baseboard(s)	<1%	4%
Gas portable heater(s)	0%	2%
Heat pump – ground source	0%	1%
Other	3%	5%
None / No space heating / No secondary	13%	60%

Use of Electric Fan to Assist with Heating

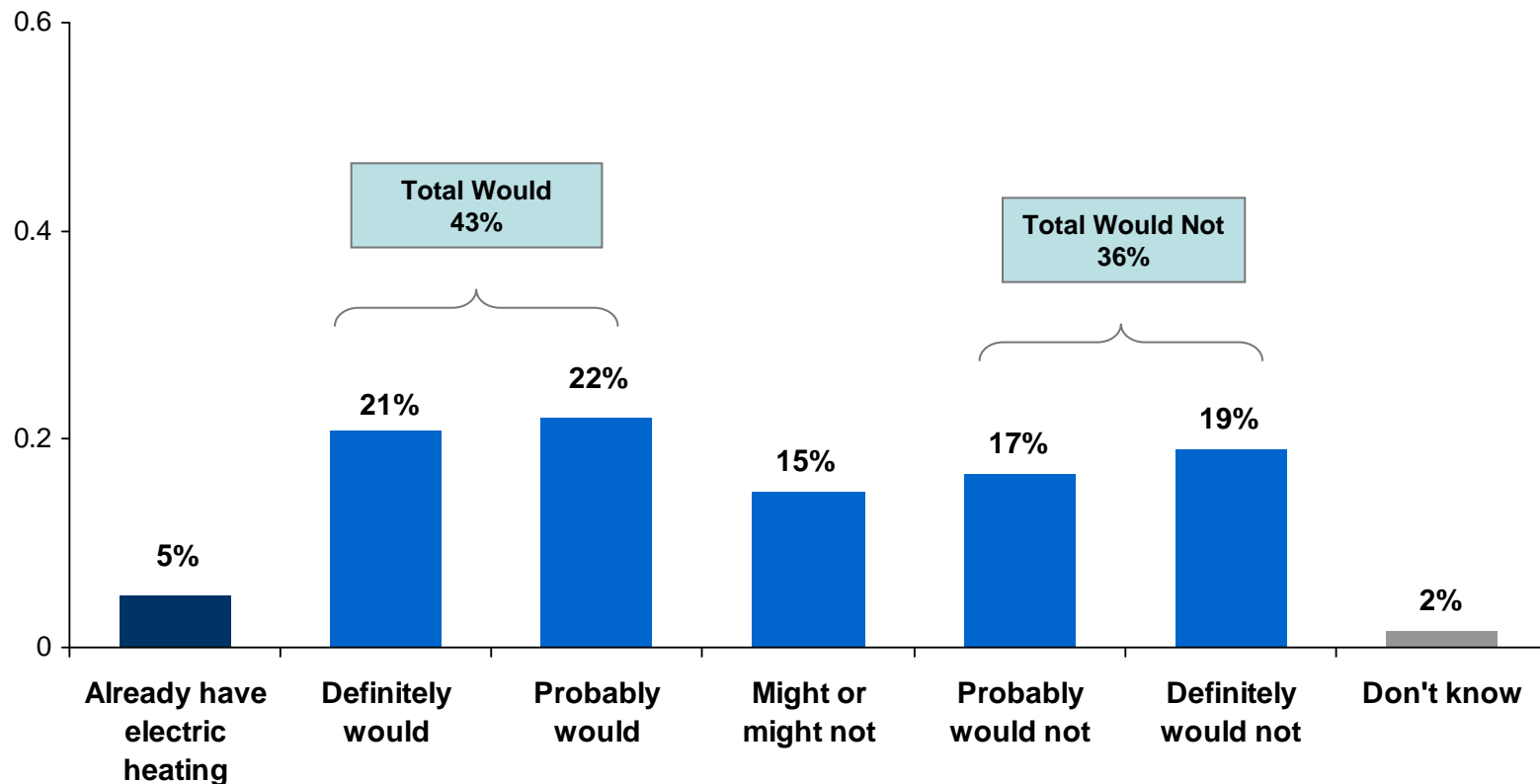
Do you currently use an electrical fan to assist with your home heating? (among all properties)



(n=142)

Likelihood of Changing to Electric Heating

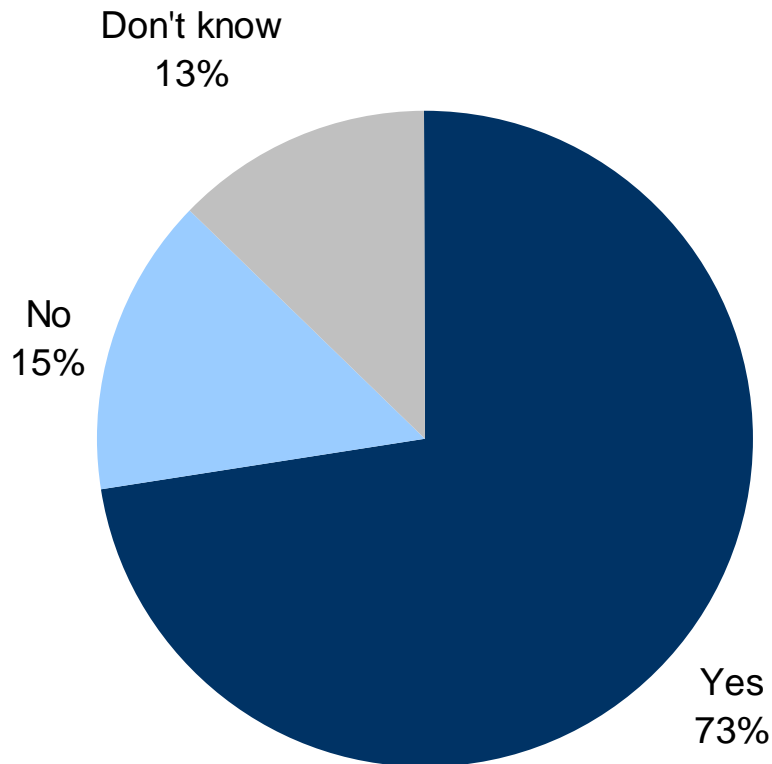
How likely are you to eventually add or change your main home heating to an electric fuel/system in the event that electric service is brought to the community? (among properties with non-electric main space heating)



(n=159)

Use of Electric Heat for Winterization

Would one of your reasons for doing so be to reduce the amount of winterization you normally do on your home each year? (among those who would “definitely” or “probably” add electric heating to their home)



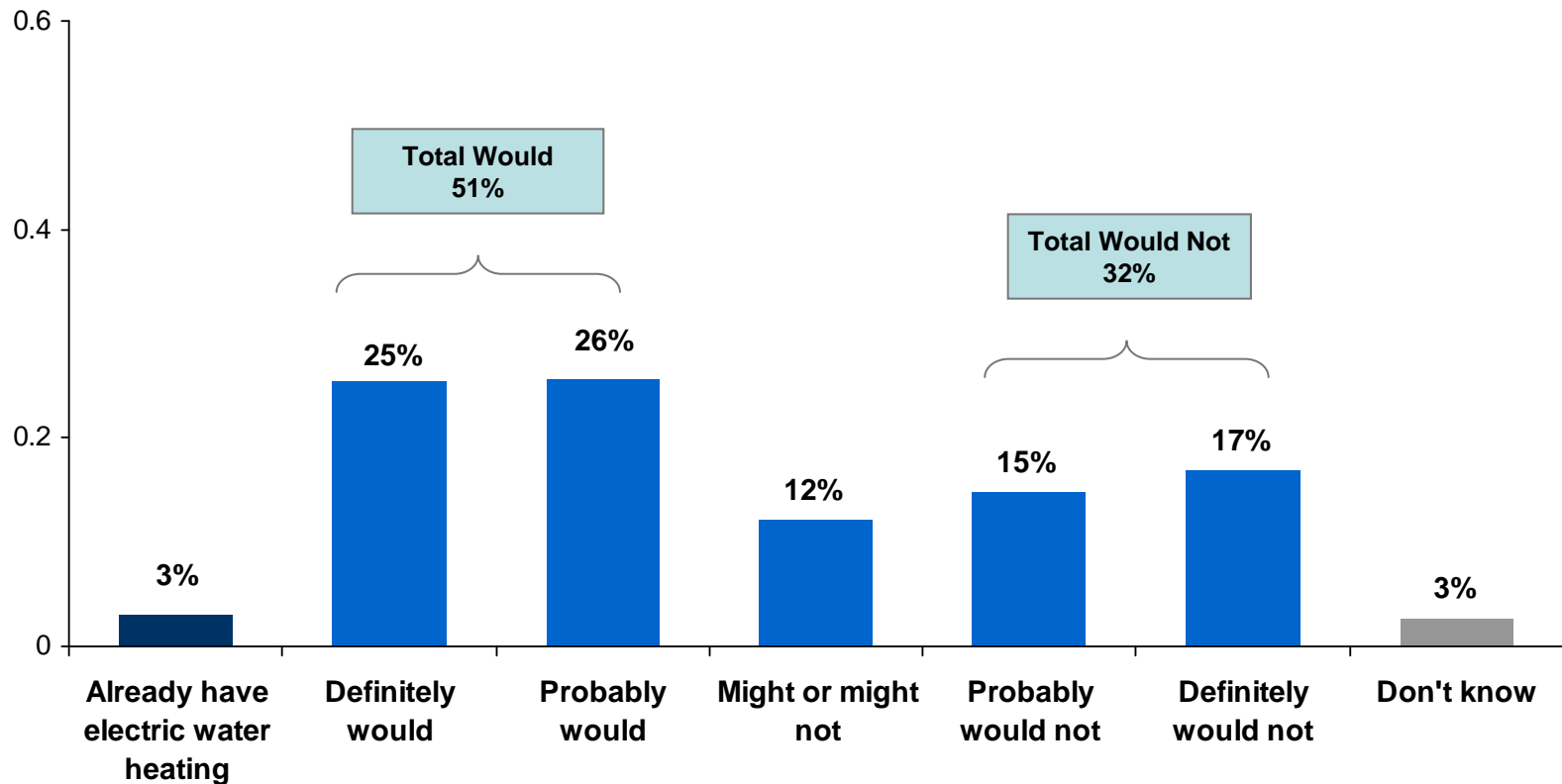
(n=64)

Hot Water Heating








	Main Hot Water Heating Fuel	Secondary Hot Water Heating Fuels (multiple response)
Unweighted base	(n=164)	(n=164)
Propane (direct to burner)	71%	2%
Electricity (via generator)	3%	1%
Gas (direct to burner)	2%	0%
Solar collector panel(s)	1%	1%
Other	5%	3%
None / No water heating / No secondary	17%	94%

Likelihood of Changing to Electric Water Heating

How likely are you to eventually add or change your main water heating to an electric fuel/system in the event that electric service is brought to the community? (among those with non-electric main water heating)



(n=141)

Lighting	Has at Least One	Average Number in Use <small>(among households with at least one)</small>
Unweighted base	(n=165)	(n=varies)
Any type of bulb	90%	17 bulbs
CFL bulbs 	51%	15 bulbs
Propane mantels 	45%	3 mantles
Incandescent bulbs 	40%	9 bulbs
Fluorescent tubes 	26%	4 tubes
Halogen bulbs & tubes 	14%	5 bulbs/tubes
LED bulbs 	17%	7 bulbs
Other electric bulbs (sodium, mercury vapour, metal halide, etc.) 	2%	3 bulbs

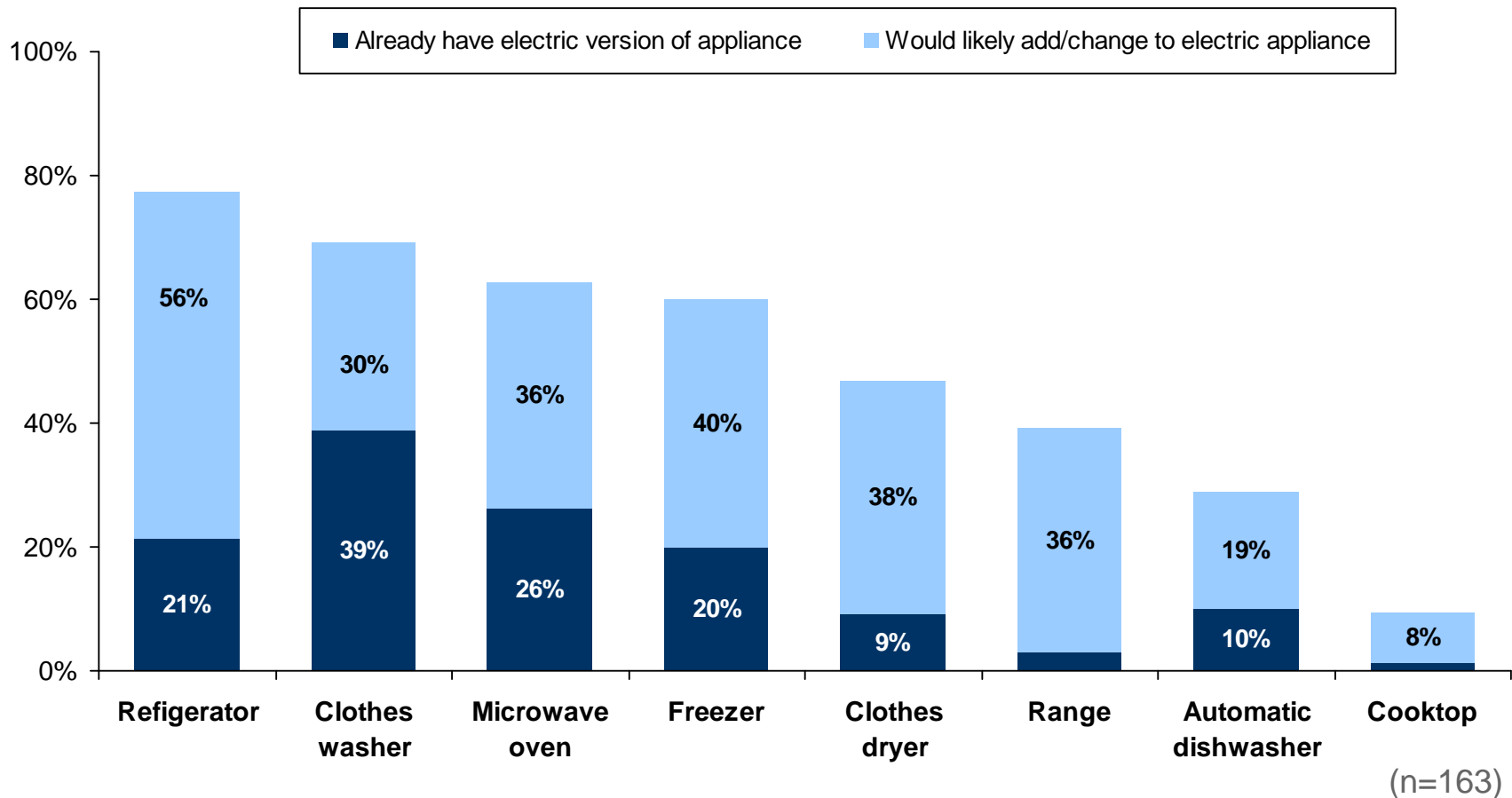
Kitchen & Laundry Appliances

Kitchen & Laundry Appliances	Has at Least One	Average Number in Use <small>(among households with at least one)</small>	% Fuelled by Propane	% Fuelled by Generator / Batteries	% Fuelled by Both
Unweighted base	(n=163)	(n=varies)	(n=varies)		
Refrigerator	85%	1.4	73%	24%	3%
Range (cook top & oven)	75%	1.1	95%	4%	1%
Clothes washer	40%	1.0	n/a	100%*	0%
Cook top (including Coleman stove)	33%	1.3	96%	2%	2%
Microwave oven	28%	1.1	n/a	100%*	0%
Clothes dryer	23%	1.0	60%	40%	0%
Freezer (not part of refrigerator)	23%	1.1	12%	85%	3%
Automatic dishwasher	11%	1.0	n/a	100%*	0%

*Fuel for microwaves, clothes washers and dishwashers assumed to be generator/batteries.

Current Penetration of Electric Appliances & Likelihood of Changing to Electric Appliances

Which of the following appliances would you likely eventually add and/or change to electric appliances in the event that electric service is brought to the community? (among those currently without the appliance or with a non-electric version of the appliance)

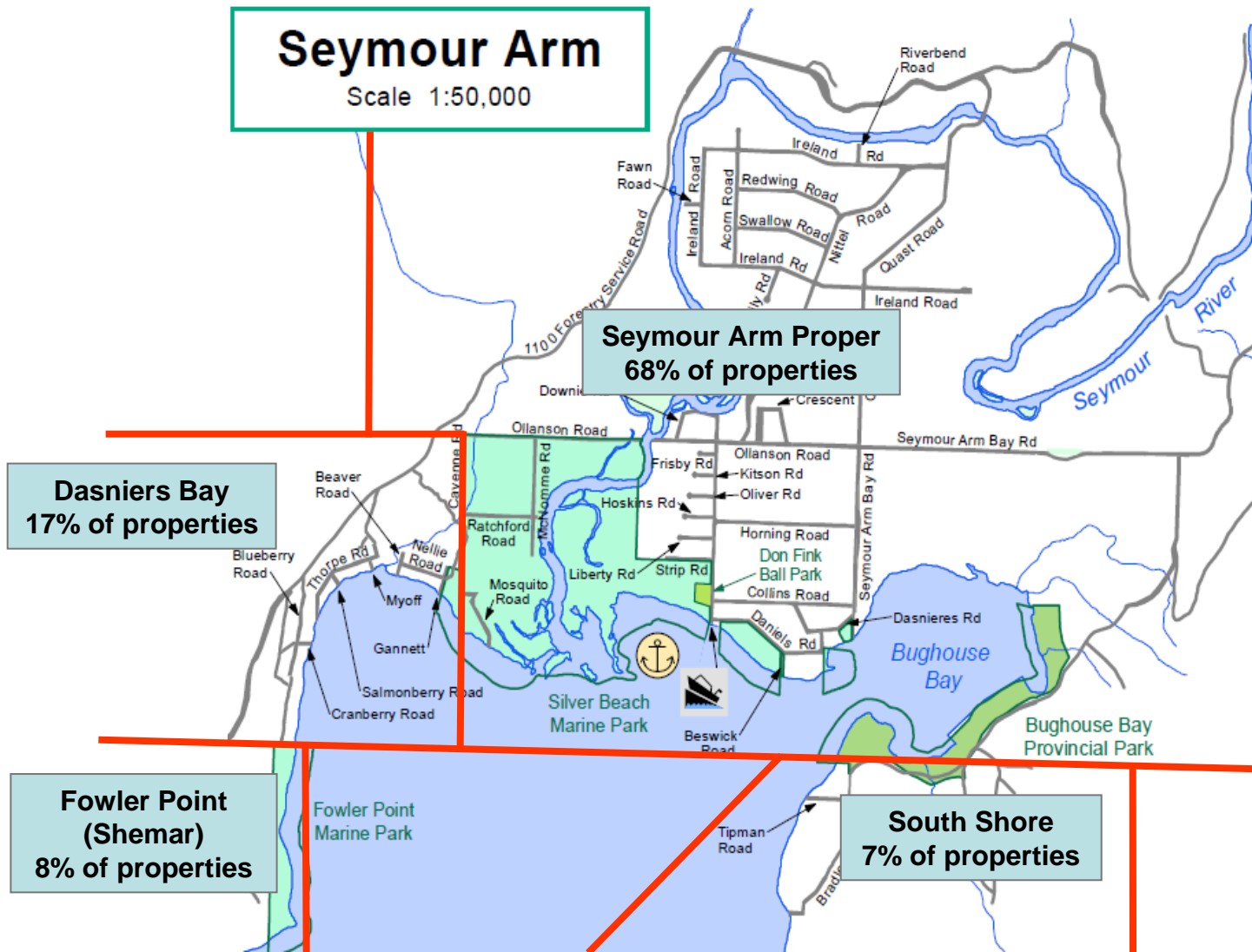


Other End Uses

	Has at Least One	Average Number in Use (among households with at least one)
Unweighted base	(n=161)	(n=varies)
Power tools	67%	5.8
DVD player	56%	1.1
Stereo	51%	1.2
Laptop computer	39%	1.3
Standard (CRT) TV	38%	1.2
Set-top box	31%	1.1
Water pump	30%	1.2
LCD/plasma TV	26%	1.1

	Has at Least One	Average Number in Use (among households with at least one)
Unweighted base	(n=161)	(n=varies)
Printer	20%	1.1
Cordless phone	17%	1.4
Video game console	15%	1.1
Router for internet	14%	1.0
Desktop computer	12%	1.2
Answering machine	5%	1.0
Block timer heater	3%	1.8

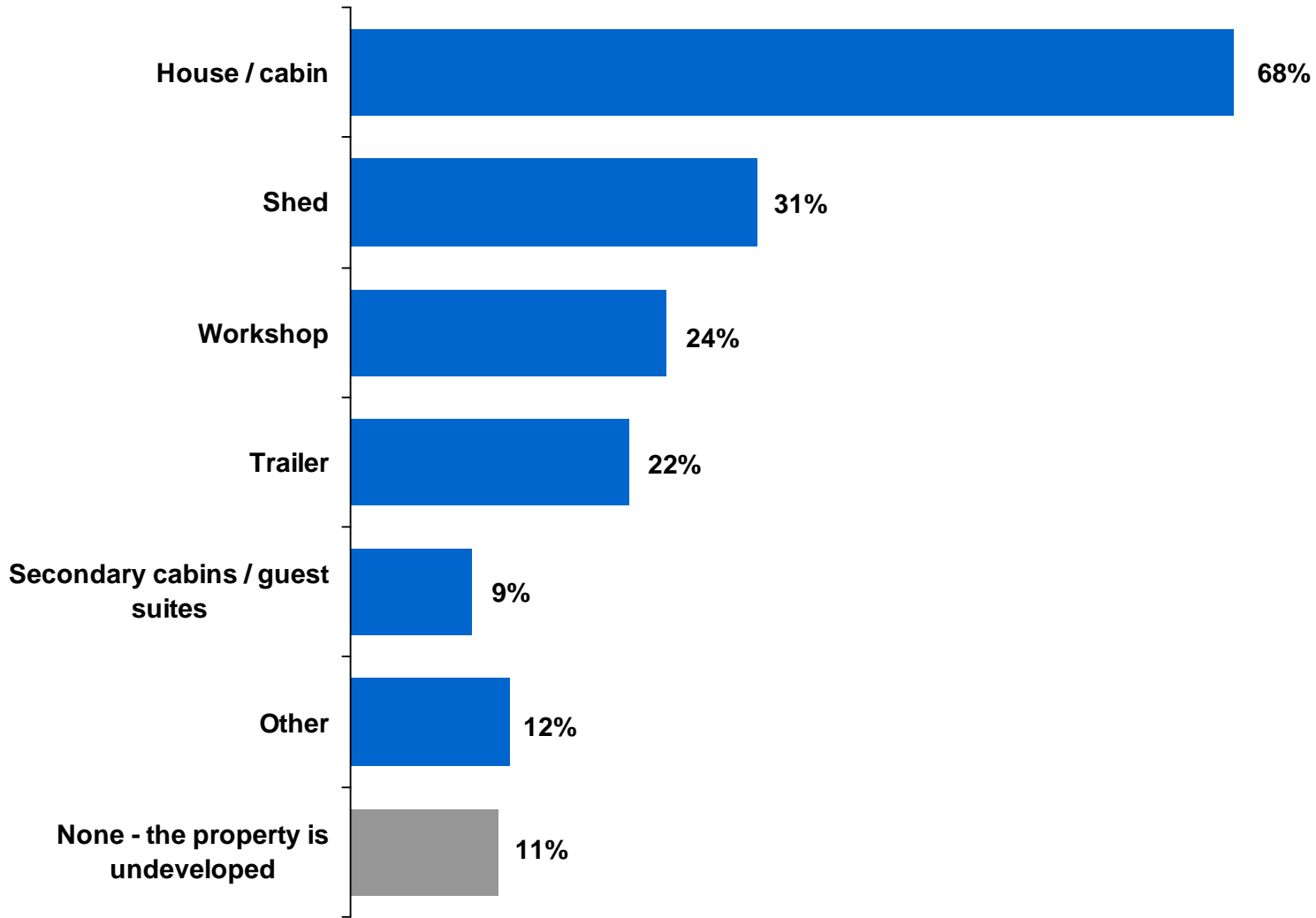
Distribution of Properties within Seymour Arm



(n=169)

Dwelling Types

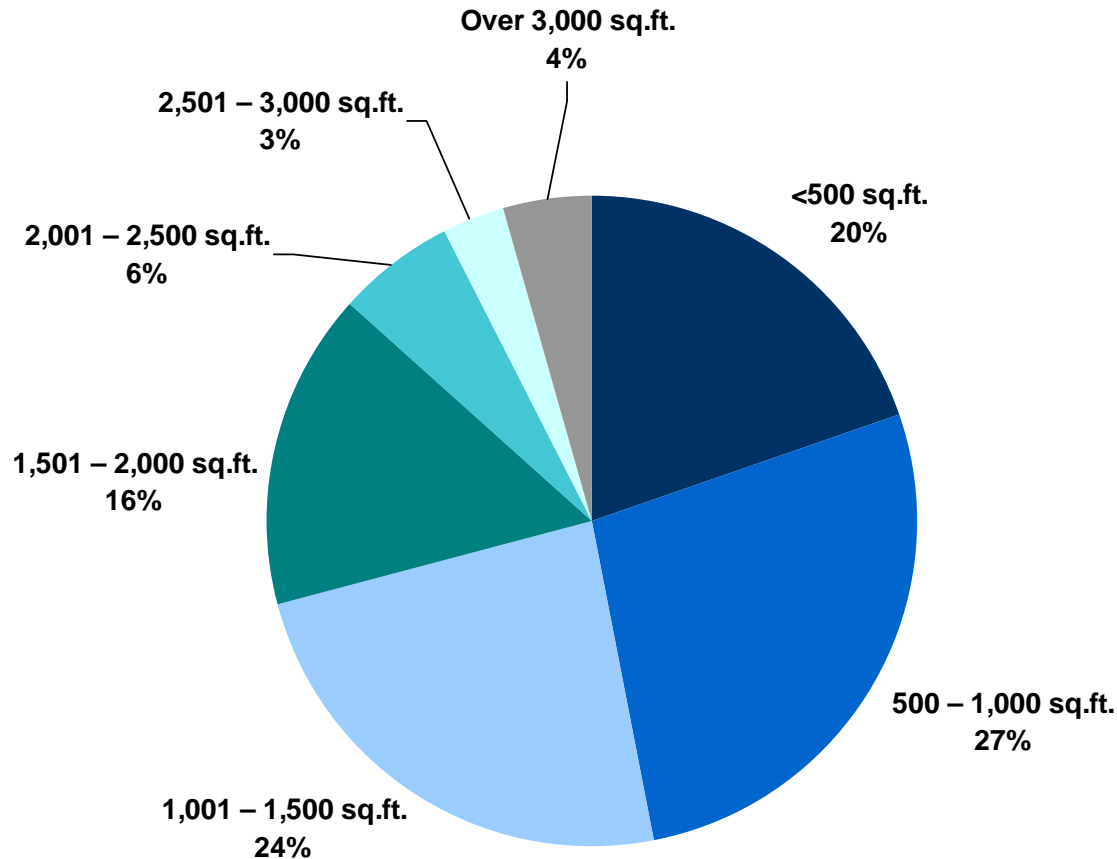
Which of the following best describes the dwelling(s) on your (main) property? (multiple response)



(n=168)

Floor Area

What is the total enclosed floor area of your dwelling (including basement and unfinished areas, but excluding garage areas?)

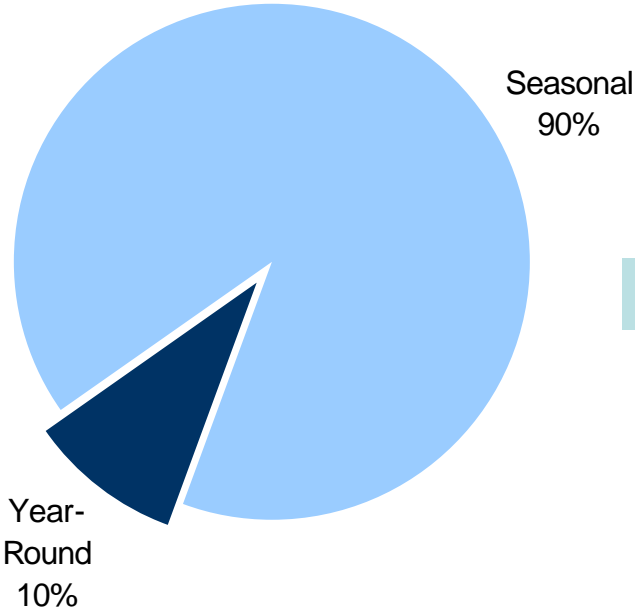


Average = 1,287 square feet

(n=147)

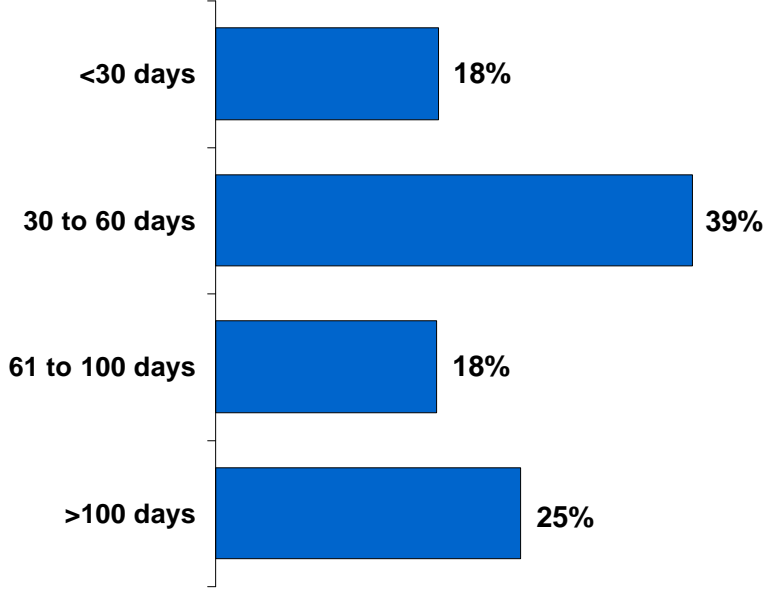
Year-Round versus Seasonal Residents

Year-Round versus Seasonal



(n=169)

Average Number of Days for Seasonal Residents
(among those spending at least one day)

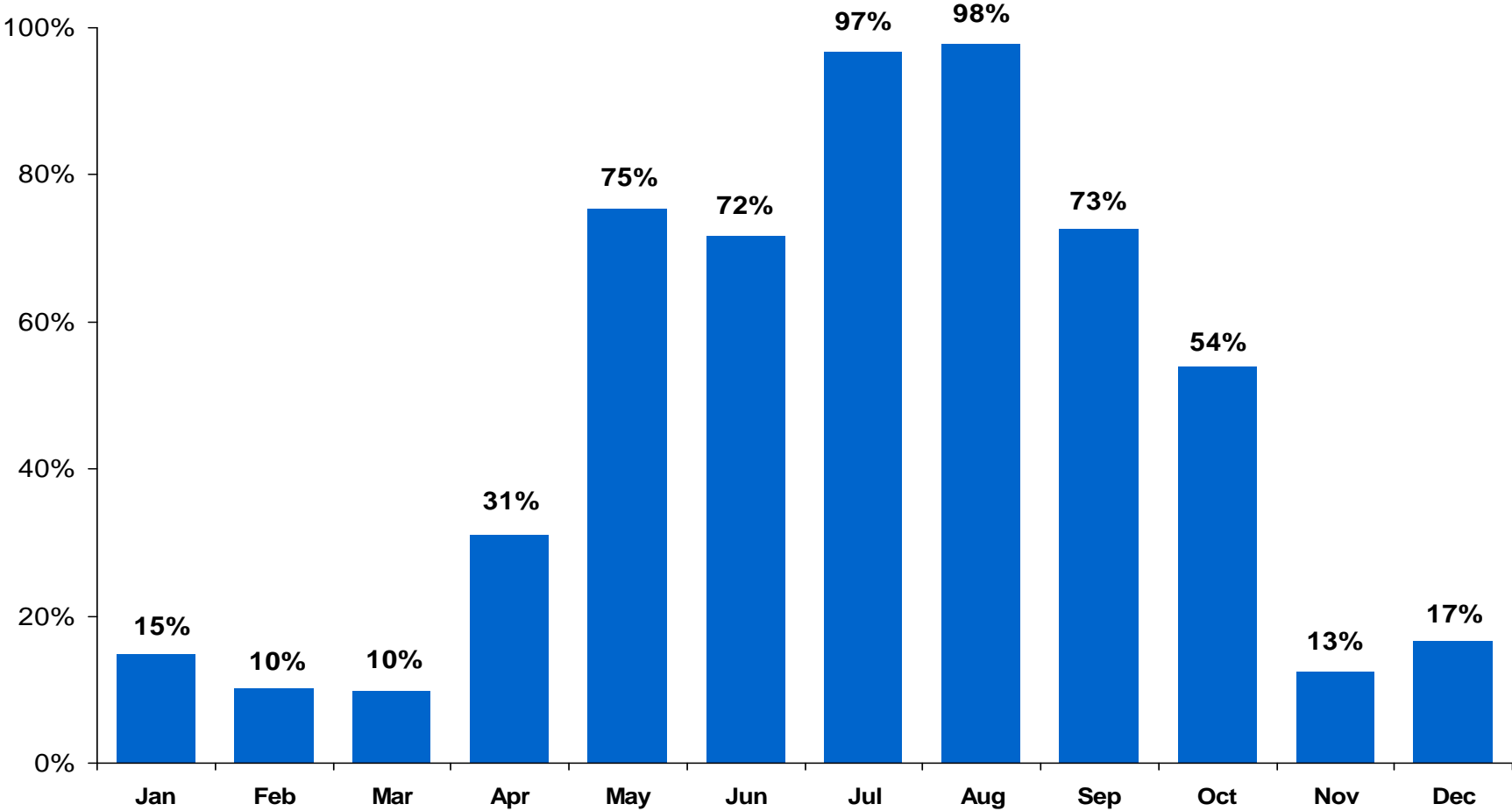


Average Seasonal Days = 77

(n=124)

Months Occupied – Seasonal Residents

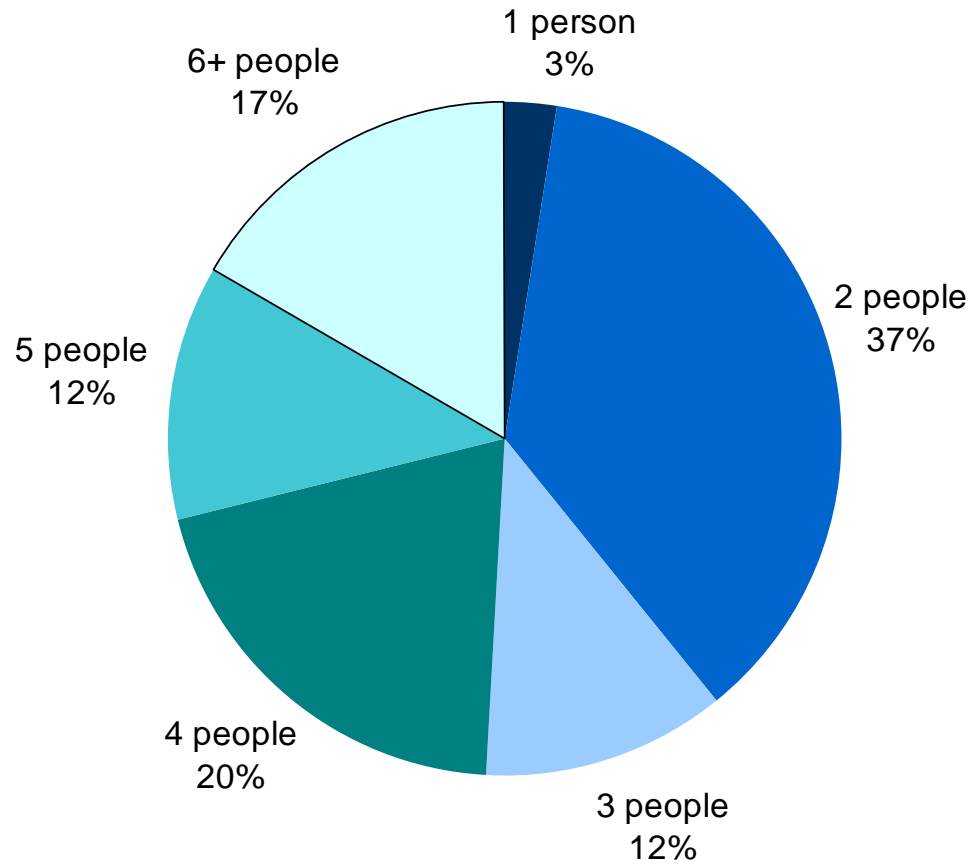
Which months of the year do you, your family or friends typically spend at least a few days at your property in Seymour Arm?



(n=139)

Occupancy

*Please indicate the number of people living on your property in Seymour Arm. If it is a seasonal dwelling, please indicate the number usually living there at the time(s) of the year when it is typically occupied.
(among properties that are occupied at least one day per year)*



Average = 3.8 people

(n=154)