



Strathcona
REGIONAL DISTRICT



COMMUNITY SURVEY
FEEDBACK-
NORTHWEST
VANCOUVER ISLAND
TSUNAMI MAPPING

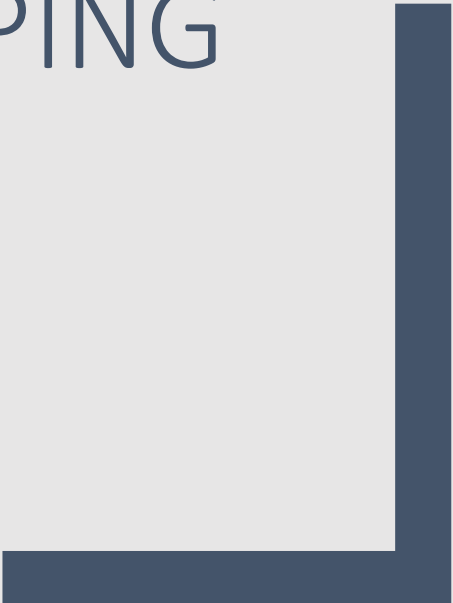


Table of Contents

Purpose	1
Background	1
Engagement	2
Total Responses Per Community	3
Methodology	3
Entire Survey Area Response to Each Question	4
Community Responses to Each Question	5
Responses to Each Question Down by Community	11
Gold River	11
Port Alice	21
Tahsis	31
Quatsino	41
Zeballos	50
Ka:'yu:'k't'h'/Che:k:tles7et'h' First Nation	60
Winter Harbour	70
Coal Harbour	79
Walter's Island	87
Esperanza	96
Holberg	106
Visitors	113
References	114

Purpose

The purpose of this report is to present the feedback and data from the responses to the Northwest Vancouver Island Tsunami Mapping Survey to better understand community:

- Preparedness;
- Risk perception; and
- Resilience to tsunamis.

The survey was conducted by Strathcona Regional District with assistance from Gabriel Peters, Northwest Hydraulic Consultants and Ocean Networks Canada. This report contains data from 282 responses received from 11 communities as well as visitors to the region.

81% of the responses came from the Villages of Gold River, Port Alice or Tahsis. 19% of the responses came from Quatsino, Zeballos, Winter Harbour, Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nation, Coal Harbour, Holberg, Esperanza, Walters Island and visitors. The total sample size from the survey is approximately 9% of the area's population of 3000 people (STATSCAN). An attempt was made to survey all communities in the study area, however no responses were received from some communities.

Background

The Strathcona Regional District in partnership with the Ka:'yu:'k't'h'/Che:k'tles7et'h' First Nations and Nuchatlaht First Nation are currently undertaking tsunami mapping for the northwest coast of Vancouver Island from Muchalaht Inlet to Cape Scott Provincial Park (Figure 1). Our goal is to better understand tsunami risks in this area through



Figure 1 - Project study area

tsunami models and the completion of a risk assessment with the integration of community experience and indigenous knowledge. This project aligns with the Sendai Framework for Disaster Risk Reduction by ensuring the use of traditional, Indigenous and local knowledge complements western science in the risk assessment. This project involves numerous rural hamlets, five First Nations, four municipalities, two Regional Districts. In addition to these locations, the study area covers the

many historic community locations, recreation sites, parks, sacred sites, fishing and hunting areas, shellfish harvesting sites and old village sites.

Geological studies, historical records from Japan, and oral history from Indigenous communities along the west coast of North America show that the last large local



Figure 2 - Illustration by Nuu-chah-nulth artist Tim Paul of the earthquake foot in drum legend.

tsunami was generated by a strong Cascadia earthquake which occurred on January 26th, 1700. Scientific study of tsunamis on the west coast of Vancouver Island began in earnest in the 1980s, however, the history of tsunamis and the impacts of tsunamis is much longer. This is represented in several ways including the Nuu-chah-nulth story of mountain dwarves and the foot in drum legend (Figure 2). Along with other references, these accounts highlight the knowledge and teachings that exist with regards to earthquake and tsunamis on the west coast of Vancouver Island.

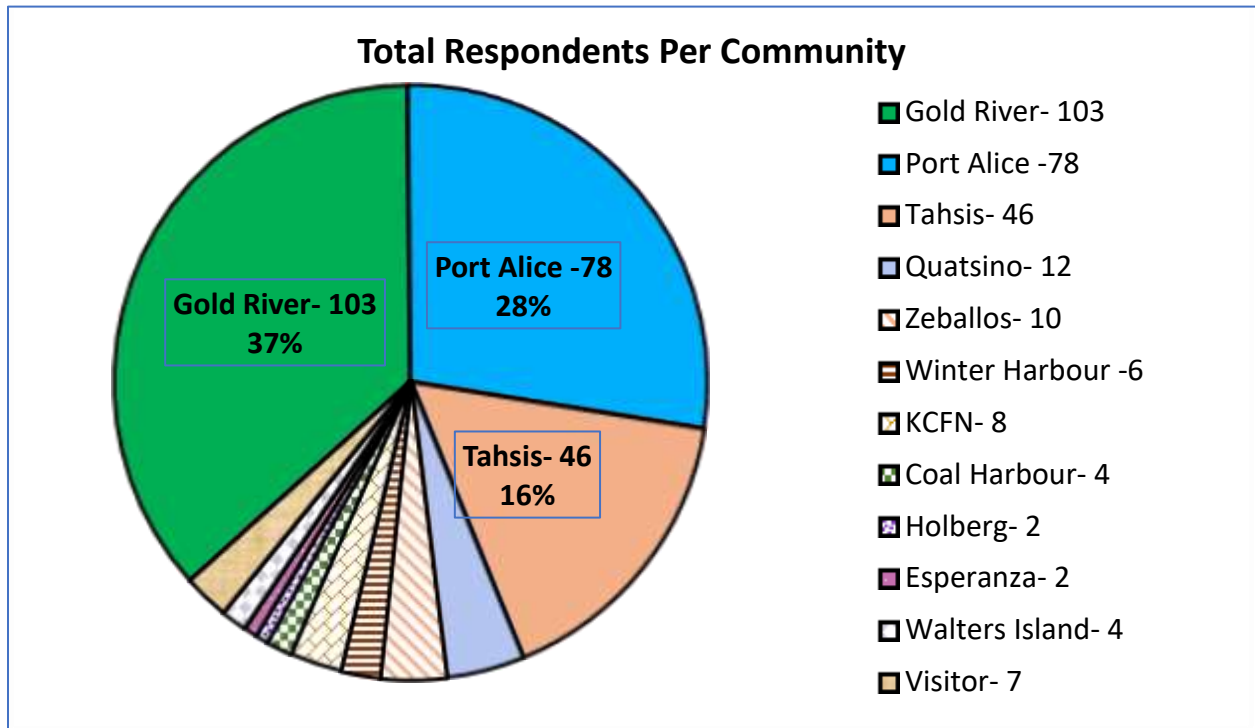
Engagement

Part of this project included surveying residents of in the study area's communities in order to build community resilience by:

- The sharing of experiences and knowledge we hope to help reduce tsunami risk in communities.
- Assessing community evacuation and shelter-in-place preparedness levels.
- Help the community understand where they can access emergency programs.

Surveys were promoted through a media release, neighbourhood mailouts, email and community-specific social media sites. Responses could be mailed in or submitted electronically.

Total Responses Per Community



Methodology

The data was collected using an online submission survey as well as mail in responses. Survey results were compiled in Word document format and tabulated into an Excel spreadsheet using binary transcription for “yes” and “no” questions and to record results of qualitative questions. The binary data was filtered and analyzed to show percentages, where the higher percentage indicates a better score. The data charts were transformed into pie charts for information accessibility. Qualitative results were coded using the read and record method, key themes were counted and tabulated based on relevance and frequency.

Entire Survey Area Responses to Each Question

282 Responses Total

Question	Yes (%)	No (%)
Do you and your family have enough disaster supplies in case your community is cut off for two weeks and you have to shelter in place?	67	33
Are your supplies portable, such as in a back-pack or suitcase with wheels?	43	57
Do you know your community's tsunami meeting points?	53	47
Do you know your community's tsunami evacuation routes?	58	42
Do you know how your community will alert you if there is a tsunami threat?	52	48
Do you know how the Canadian Coast Guard's broadcasts tsunami alerts to mariners?	28	72
Do you know that the immediate signs of an approaching local tsunami are: - Strong ground shaking; - A rapid and unexpected recession of water levels; and a loud roaring sound coming from the ocean.	88	12
Do you know that the immediate signs of an approaching distant tsunami are: - A rapid and unexpected withdraw of water level; and - A loud roaring sound coming from the ocean.	88	12
Do you know that a tsunami can also be triggered by landslides?	73	27
Are you a certified Amateur Radio Operator?	8	92
Are you interested in receiving information about how to achieve an Amateur Radio Certification to help disaster communications of your community?	32	68
Do you have a satellite communication device (Spot X, In Reach)?	14	86

Community Responses to Each Question

Do you and your family have enough disaster supplies in case your community is cut off for two weeks and you have to shelter in place?	Yes (%)	No (%)	Total Responses
Gold River	71	29	103
Port Alice	58	42	78
Tahsis	78	22	46
Quatsino	83	17	12
Zeballos	50	50	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	50	50	8
Winter Harbour	67	33	6
Coal Harbour	75	25	4
Walter's Island	25	75	4
Esperanza	50	50	2
Holberg	100	0	2

Are your supplies portable, such as in a back-pack or suitcase with wheels?	Yes (%)	No (%)	Total Responses
Gold River	42	58	103
Port Alice	35	65	78
Tahsis	43	57	46
Quatsino	83	17	12
Zeballos	60	40	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	37	73	8
Winter Harbour	67	33	6
Coal Harbour	25	75	4
Walters Island	50	50	4
Esperanza	50	50	2
Holberg	100	0	2

Do you know your community's tsunami meeting points?	Yes (%)	No (%)	Total Responses
Gold River	26	74	103
Port Alice	50	50	78
Tahsis	93	7	46
Quatsino	75	12	12
Zeballos	90	10	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	100	0	8
Winter Harbour	67	33	6
Coal Harbour	50	50	4
Walters Island	50	50	4
Esperanza	50	50	2
Holberg	50	50	2

Do you know your community's tsunami evacuation routes?	Yes (%)	No (%)	Total Responses
Gold River	54	46	103
Port Alice	37	63	78
Tahsis	85	15	46
Quatsino	83	17	12
Zeballos	80	20	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	87	13	8
Winter Harbour	83	17	6
Coal Harbour	50	50	4
Walters Island	50	50	4
Esperanza	50	50	2
Holberg	50	50	2

Do you know how your community will alert you if there is a tsunami threat?	Yes (%)	No (%)	Total Responses
Gold River	21	79	103
Port Alice	59	41	78
Tahsis	85	15	46
Quatsino	83	17	12
Zeballos	80	20	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	87	13	8
Winter Harbour	50	50	6
Coal Harbour	50	50	4
Walters Island	75	25	4
Esperanza	100	0	2
Holberg	50	50	2

Do you know how the Canadian Coast Guard's broadcasts tsunami alerts to mariners?	Yes (%)	No (%)	Total Responses
Gold River	19	81	103
Port Alice	21	79	78
Tahsis	37	63	46
Quatsino	50	50	12
Zeballos	20	80	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	75	25	8
Winter Harbour	17	83	6
Coal Harbour	75	25	4
Walters Island	50	50	4
Esperanza	100	0	2
Holberg	50	50	2

Do you know that the immediate signs of an approaching local tsunami are: - Strong ground shaking; - A rapid and unexpected recession of water levels; and a loud roaring sound coming from the ocean.	Yes (%)	No (%)	Total Responses
Gold River	87	13	103
Port Alice	83	17	78
Tahsis	87	13	46
Quatsino	100	0	12
Zeballos	100	0	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	100	0	8
Winter Harbour	100	0	6
Coal Harbour	100	0	4
Walters Island	100	0	4
Esperanza	50	50	2
Holberg	100	0	2

Do you know that the immediate signs of an approaching distant tsunami are: - A rapid and unexpected withdraw of water level. - A loud roaring sound coming from the ocean.	Yes (%)	No (%)	Total Responses
Gold River	84	16	103
Port Alice	86	14	78
Tahsis	89	11	46
Quatsino	100	0	12
Zeballos	100	0	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	100	0	8
Winter Harbour	100	0	6
Coal Harbour	100	0	4
Walters Island	100	0	4
Esperanza	100	0	2
Holberg	100	0	2

Do you know that a tsunami can also be triggered by landslides?	Yes (%)	No (%)	Total Responses
Gold River	70	30	103
Port Alice	69	31	78
Tahsis	80	20	46
Quatsino	75	25	12
Zeballos	100	0	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	75	25	8
Winter Harbour	33	67	6
Coal Harbour	100	0	4
Walters Island	75	25	4
Esperanza	100	0	2
Holberg	100	0	2

Are you a certified Amateur Radio Operator?	Yes (%)	No (%)	Total Responses
Gold River	7	93	103
Port Alice	1	99	78
Tahsis	9	91	46
Quatsino	16	84	12
Zeballos	0	10	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	25	75	8
Winter Harbour	17	83	6
Coal Harbour	25	75	4
Walters Island	25	75	4
Esperanza	50	50	2
Holberg	50	50	2

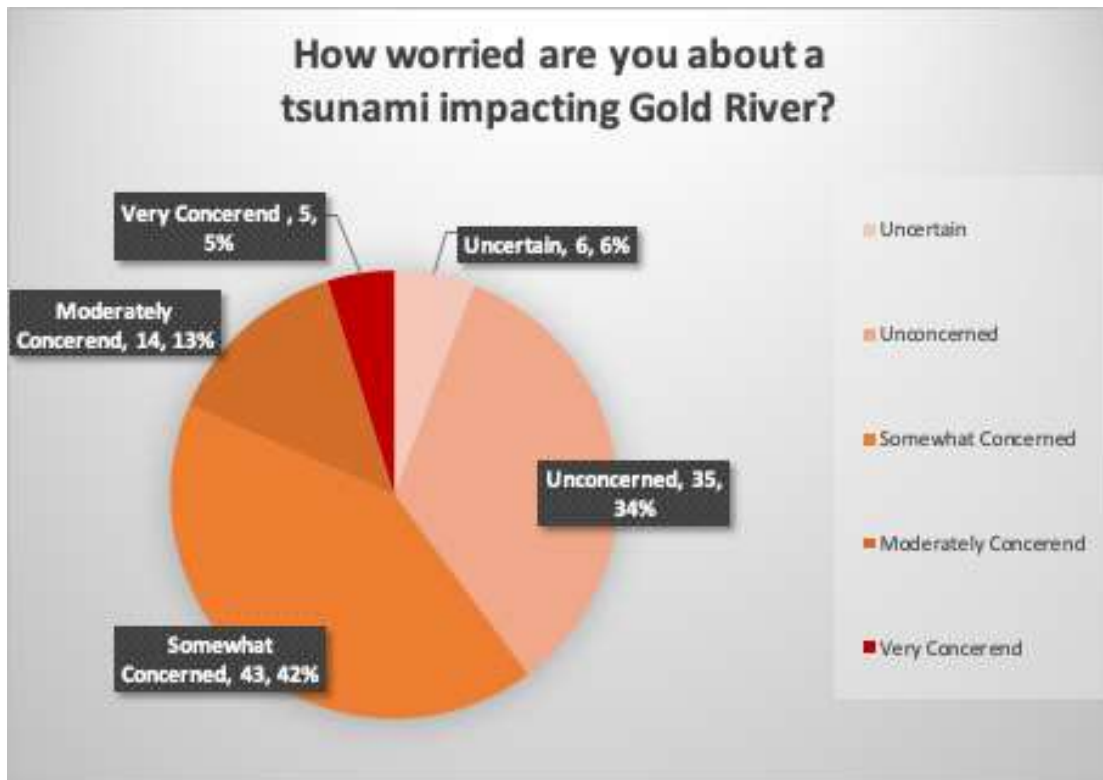
Are you interested in receiving information about how to achieve an Amateur Radio Certification to help disaster communications of your community?	Yes (%)	No (%)	Total Responses
Gold River	10	90	103
Port Alice	10	90	78
Tahsis	15	85	46
Quatsino	25	75	12
Zeballos	0	10	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	50	50	8
Winter Harbour	33	67	6
Coal Harbour	25	75	4
Walters Island	25	75	4
Esperanza	50	50	2
Holberg	0	100	2

Do you have a satellite communication device (Spot X, In Reach)?	Yes (%)	No (%)	Total Responses
Gold River	32	68	103
Port Alice	32	68	78
Tahsis	20	80	46
Quatsino	58	42	12
Zeballos	30	70	10
Ka:'yu;'k't'h'/Che:k'tles7et'h' First Nations	62	38	8
Winter Harbour	33	67	6
Coal Harbour	25	75	4
Walters Island	0	100	4
Esperanza	0	100	2
Holberg	100	0	2

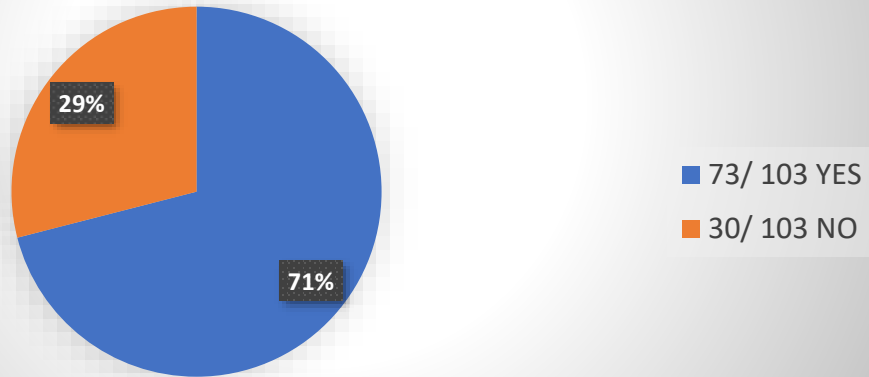
Gold River

103 Responses

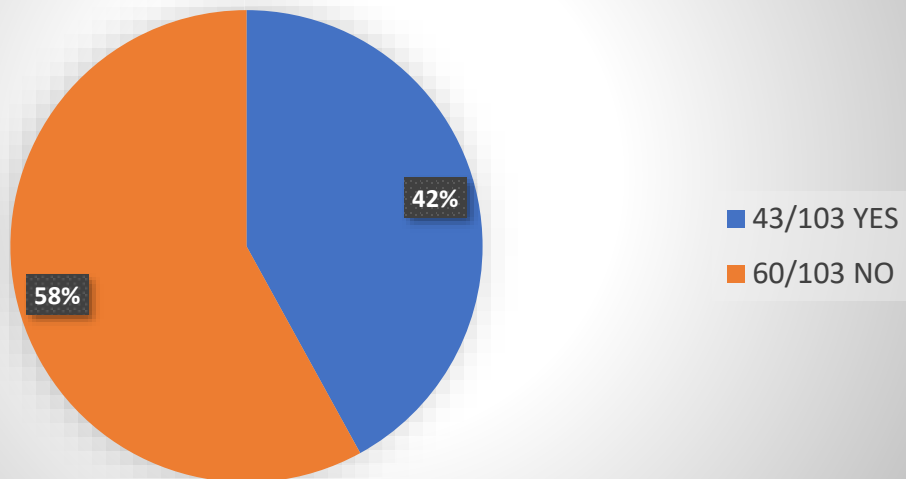
There was a common belief that the Village of Gold River is high enough to avoid tsunami impacts however the estuary faces significant challenges. Respondents indicated a community-level lack of information and education on tsunami awareness and preparedness. There was a desire for more signage and emergency information posted in an accessible place. A handout from the post office that includes contact information and relevant procedures as well as water level signs by rivers was also suggested. The community regarded emergency drills as being important and there is interest in more comprehensive emergency plans.



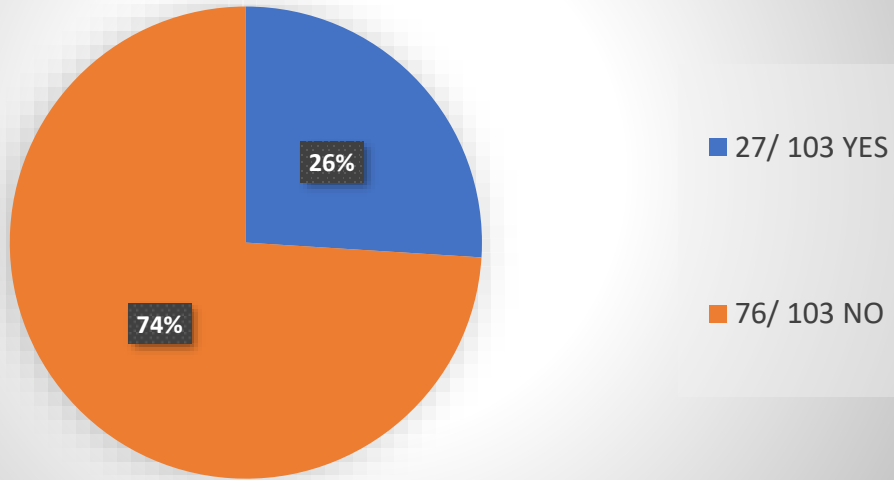
Do you and your family have enough disaster supplies in case Gold River is cut off for two weeks and you have to shelter in place?



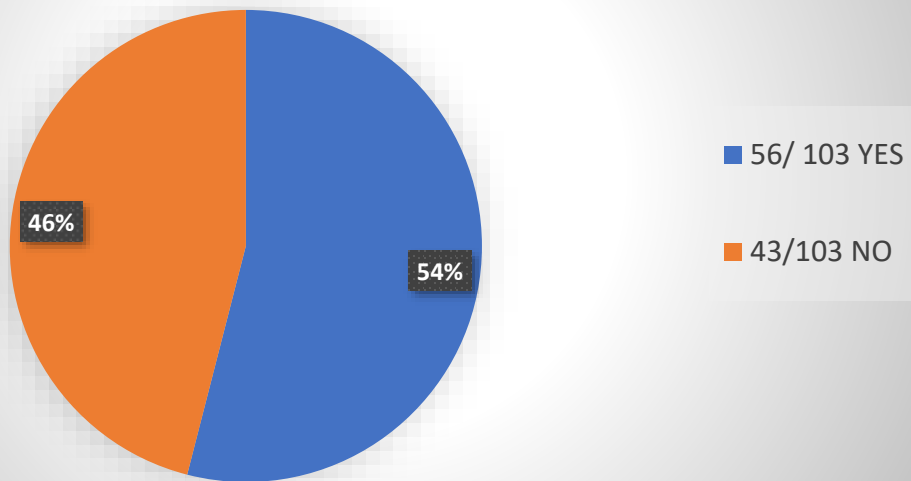
Are your supplies portable, such as in a backpack or suitcase with wheels?



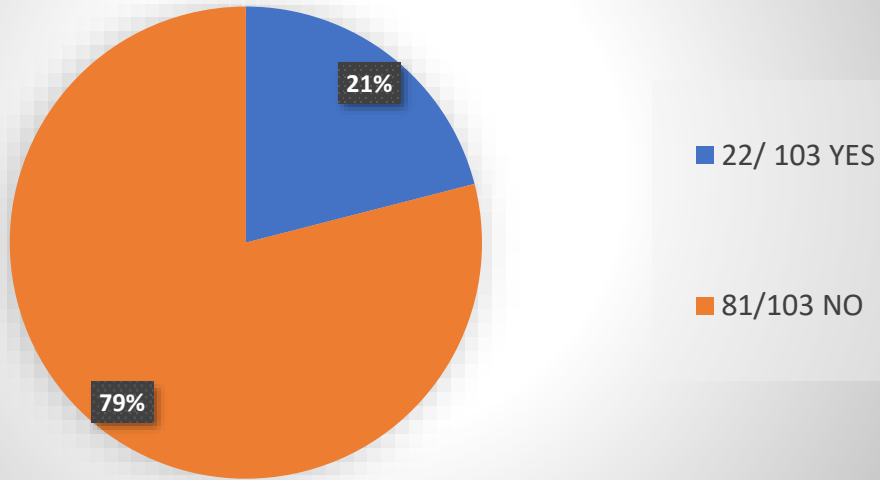
Do you know Gold River's tsunami meeting points?



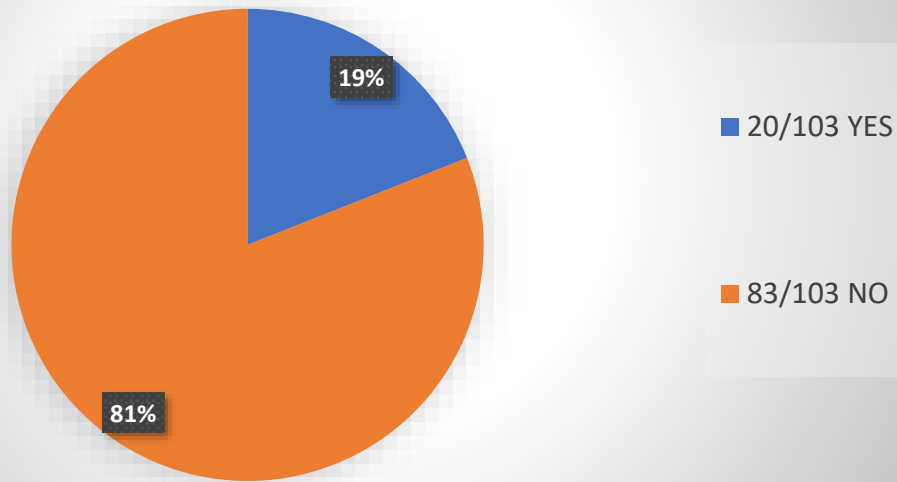
Do you know Gold River's tsunami evacuation routes?



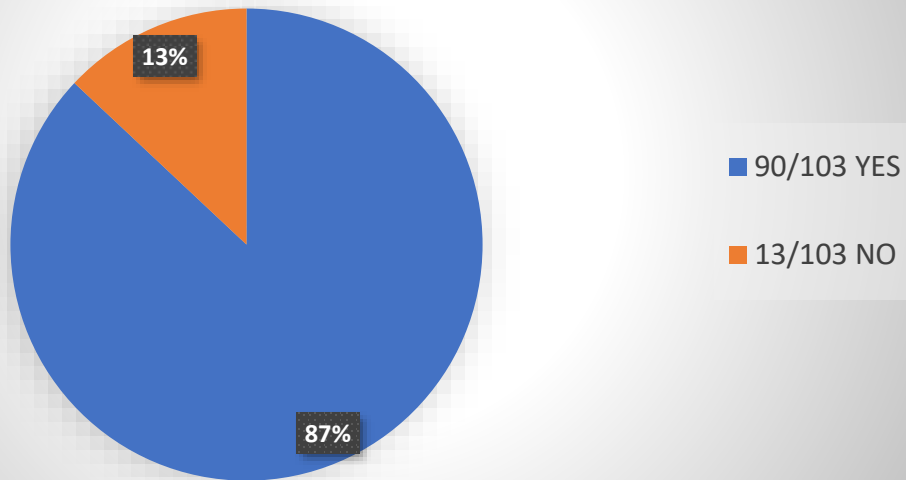
Do you know how your community will alert you if there is a tsunami threat?



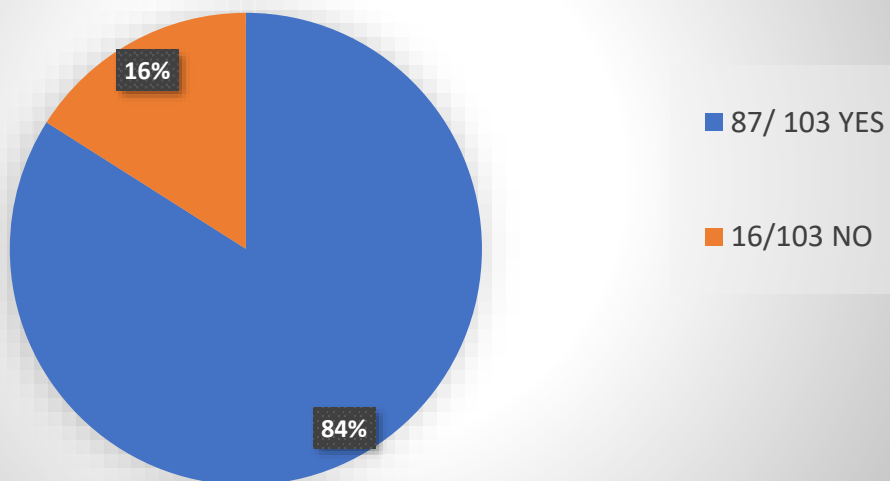
Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



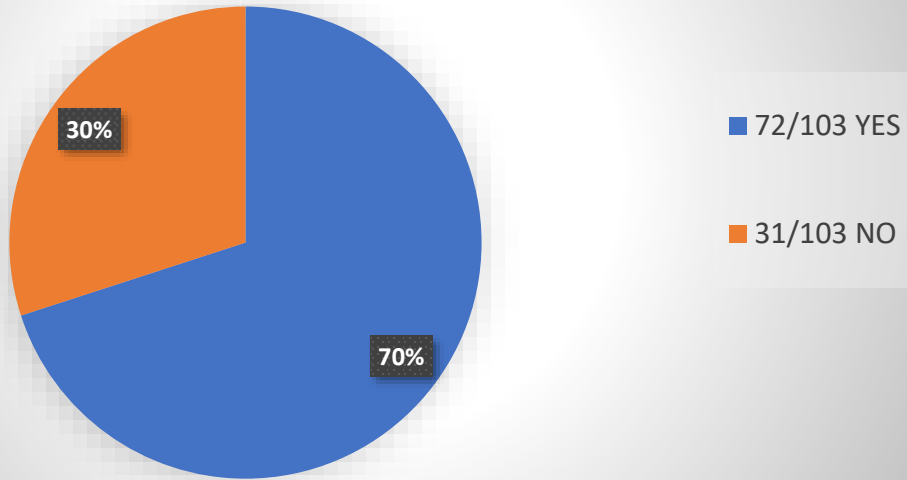
Do you know the immediate signs of an approaching local tsunami?



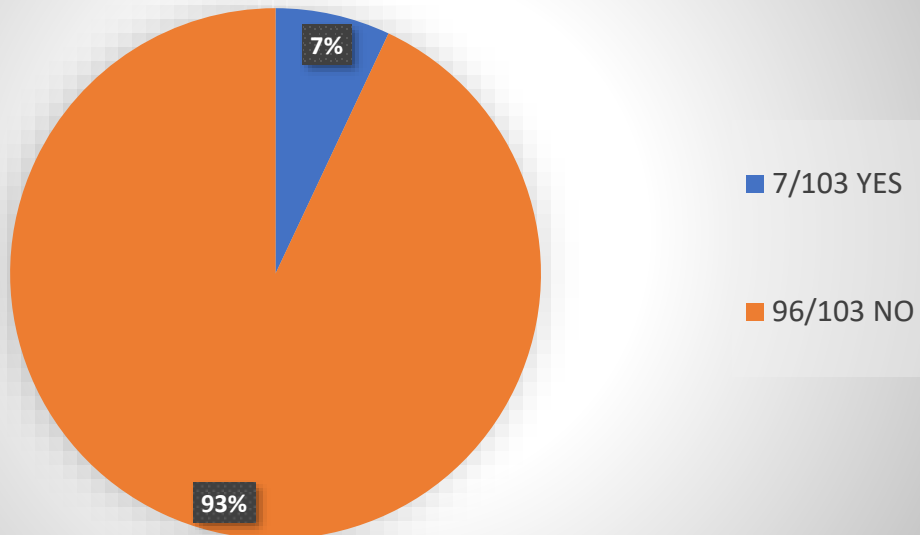
Do you know the signs of an approaching distant tsunami?



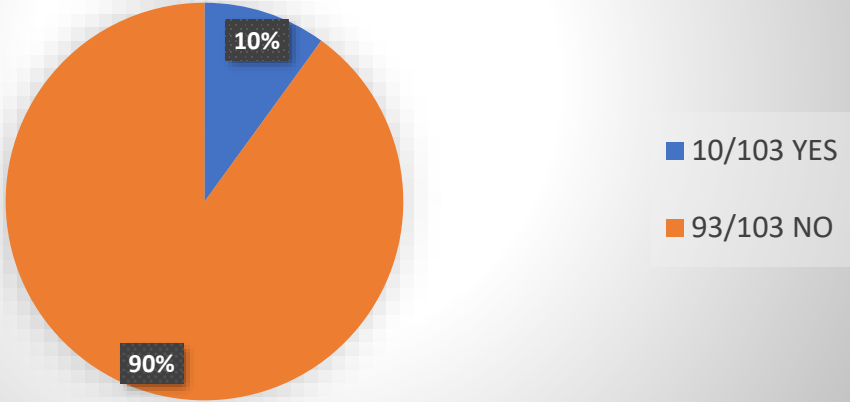
Do you know tsunami can also be triggered by landslides?



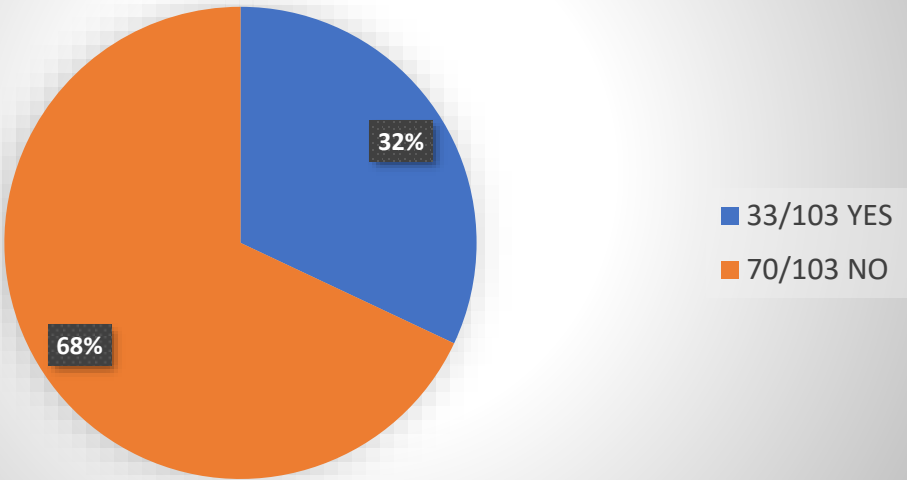
Are you a certified amateur radio operator?



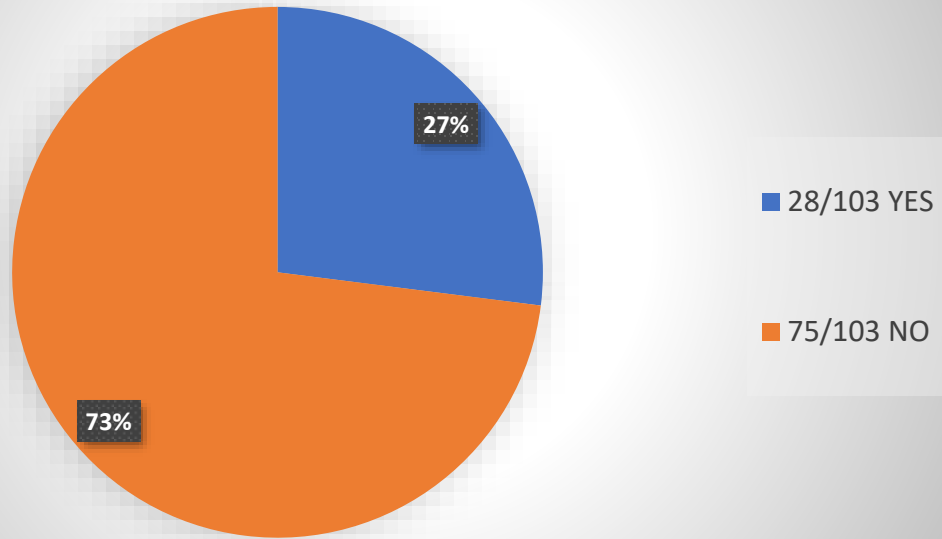
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in your community?



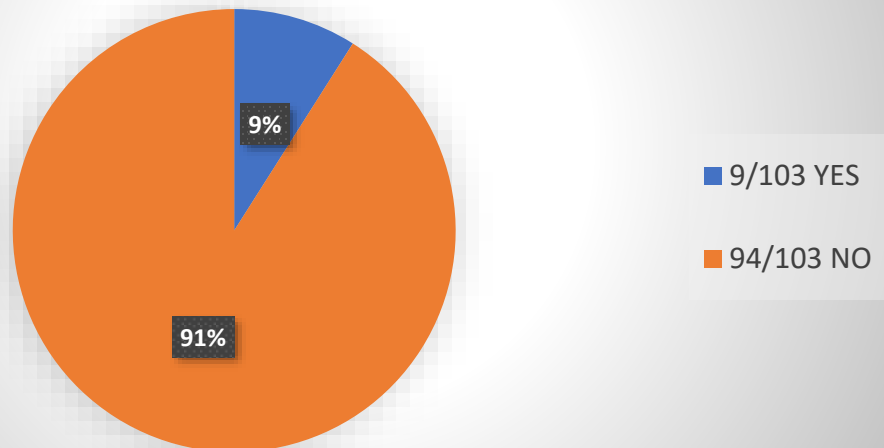
Do you have a satellite communication device?



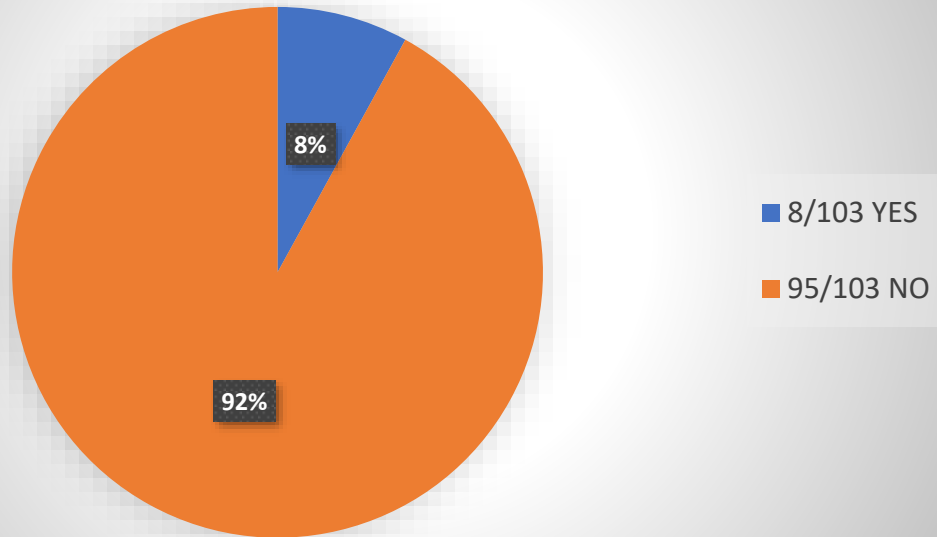
Do you have any recommended feedback?



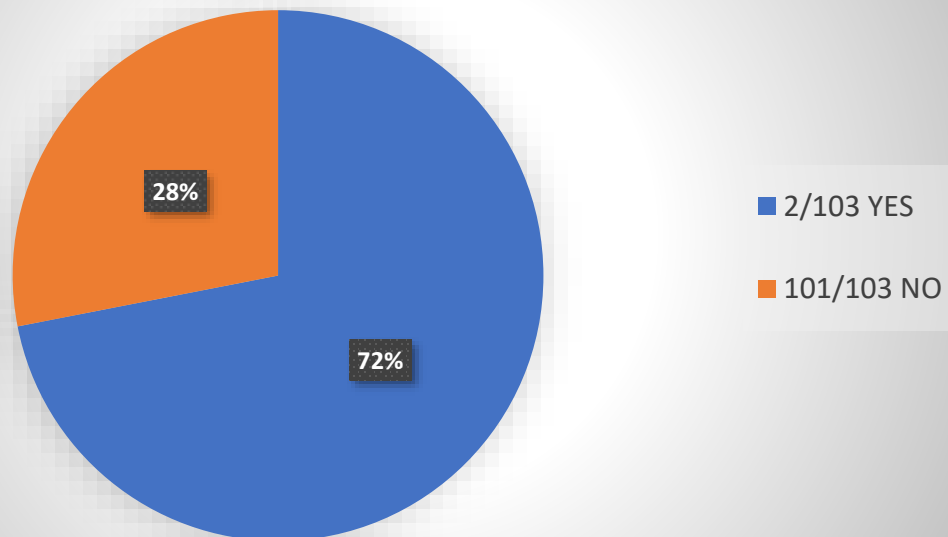
Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



Anything else you want to share with us?



Gold River Feedback & Experiences

“Commercial boat in the area of Burke Channel- the sea water dropped and everything became still. Coast Guard did issue warning...both voice and sound. Eventually giving us the all clear.”

“In our commercial boat, and knowing the Alberni/Alaska tsunami we had no choice but to head straight out to sea...away from the long narrow inlets. All well. preparedness works!”

1997 or 1998 Zone C - “I was with the St. John Ambulance Brigade in the late 90's and was part of their emergency response team - we were put on standby for the Tsunami Warning for Port Alberni in 97 or 98. Thankfully there was no need for us to deploy. We were all very impressed at the speed of which we were contacted when the Earthquake was reported and the watch/warning for the area issued. As our team was located in Courtenay, we did not see the area but I believe there was no or very little damage as the warning/watch was cancelled.”

“We left the AGFord tied to a fish farm and we took a small rescue boat to high ground.”

“Was about 15 years ago, just an alert from an offshore earthquake. Most of the community went to the fire hall meeting point, but I took my daughters on the ATV to a very high hill. We had a VHF radio and emergency go bag. Some villagers with ATV's followed us as well. I was very impressed on how fast and efficient the community (First Nations Reserve) responded. Ahousaht.”

“No tsunami but several earthquakes. Once while working at Nootka sort on Muchalaht inlet somewhere around 2010 there was an earthquake as a precaution we assembled the crew at a tsunami marshalling point on higher ground up the highway.”

March 1964 Ucluele t- “I was at Ucluelet in Spring Cove the firemen came around with loud speaker and told us to evacuate. We drove to Ucluelet and waited 1 to 2 hours in car. I think registration was occurring in old UAC Hall. The water whirled around and fishing boats were untied and floating. No damage was done.”

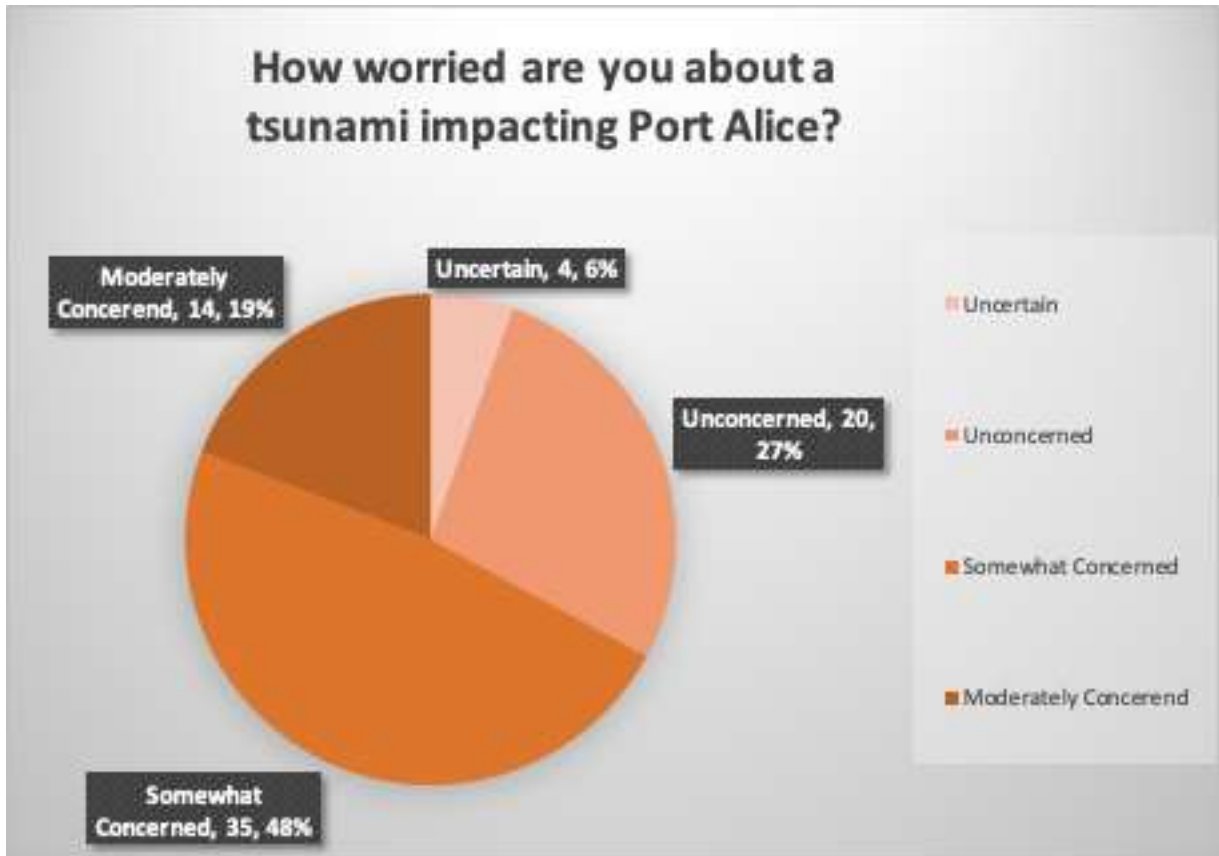
“Was body boarding when a tsunami-like event occurred. Water quickly receding followed by a sudden and chaotic rise of ocean swells and choppy multidirectional wave action that lasted about 10-15 minutes followed by a resumption of normal wave patterns. This happened about 20-23 years ago.”

2006 - “6.6 on Richter scale Gold River estuary. In a gravel truck, ground undulating telephone wires swinging, 6 foot wave, surf breaking along river mouth, headed for higher ground stat. Tsunami evacuation meeting spot being mindful of where Electrical lines were.”

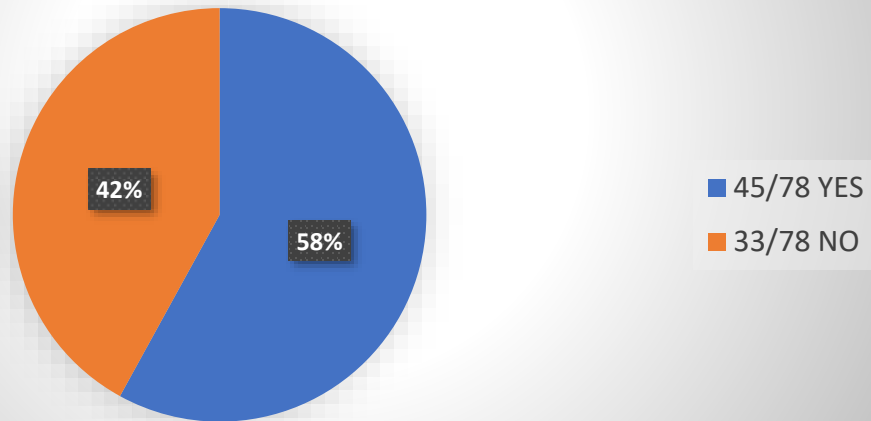
Port Alice

78 Responses

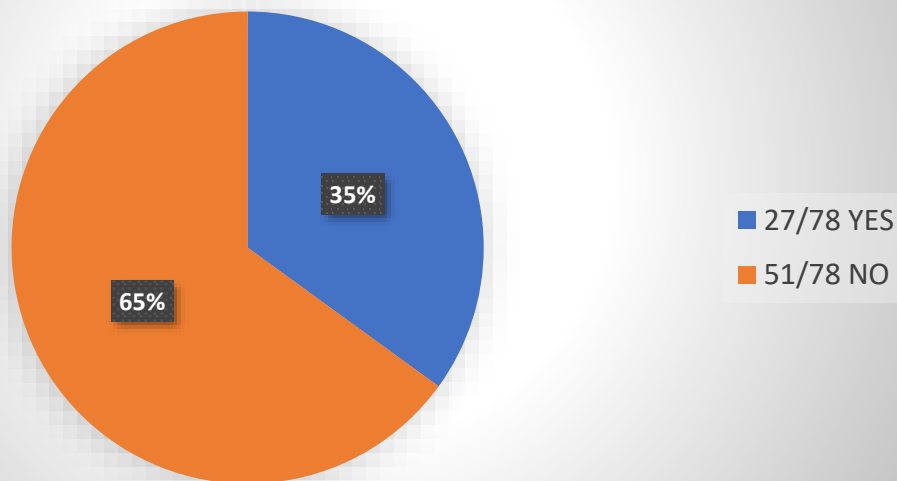
Port Alice community feedback recommended an increase in general signage including contact info, muster points and water levels. Door to door information giving is also recommended in addition to more training, contact with residents and public education campaigns, particularly among remote residents. Suggestions also include testing the tsunami alarm monthly instead of weekly. Some residents believe there is a false sense of security, and education around how a tsunami would impact the village may raise awareness of the hazards.



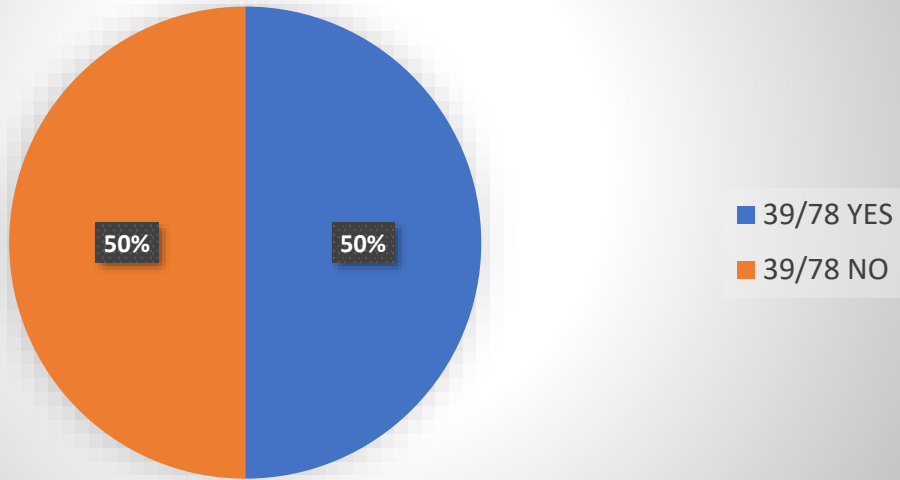
Do you and your family have enough disaster supplies in case Port Alice is cut off for two weeks and you have to shelter in place?



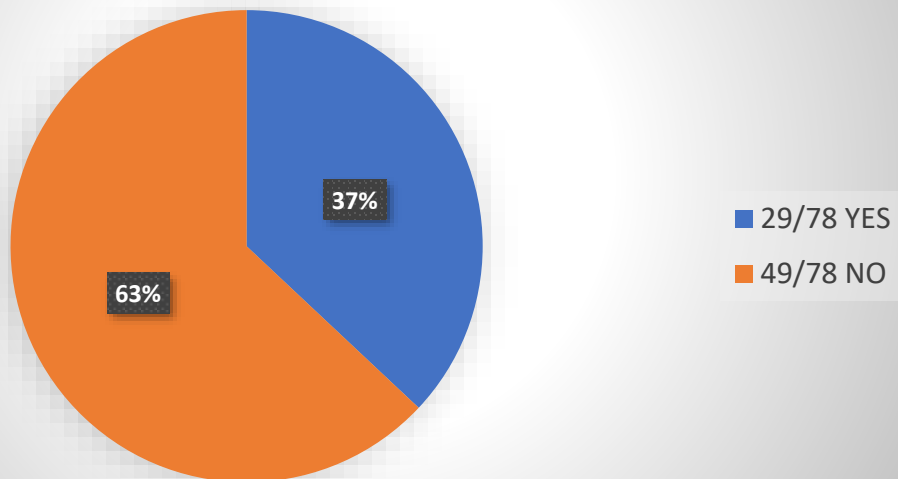
Are your supplies portable, such as in a backpack or suitcase with wheels?



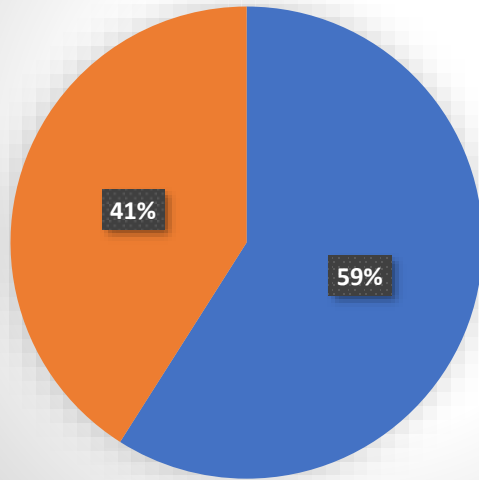
Do you know Port Alice's tsunami meeting points?



Do you know Port Alice's tsunami evacuation routes?



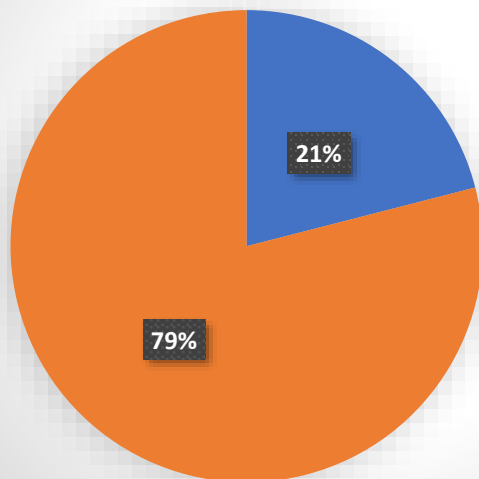
Do you know how Port Alice will alert you if there is a tsunami threat?



■ 46/78 YES

■ 32/78 NO

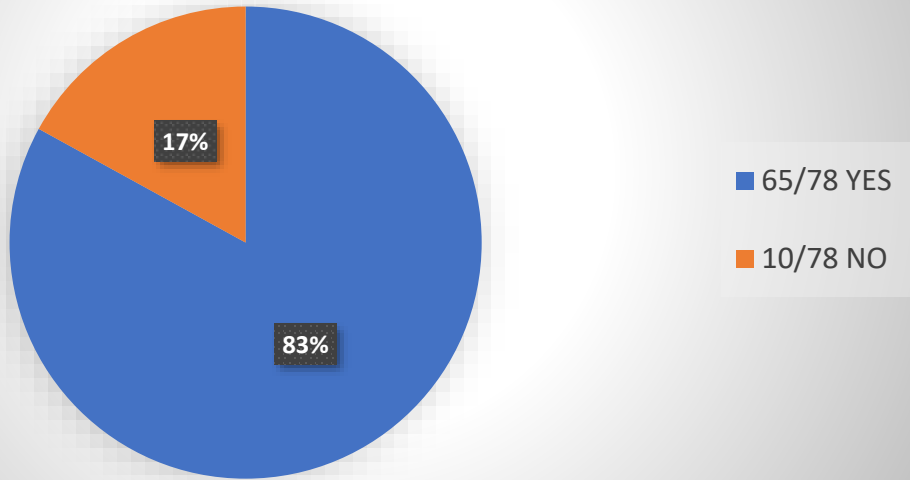
Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



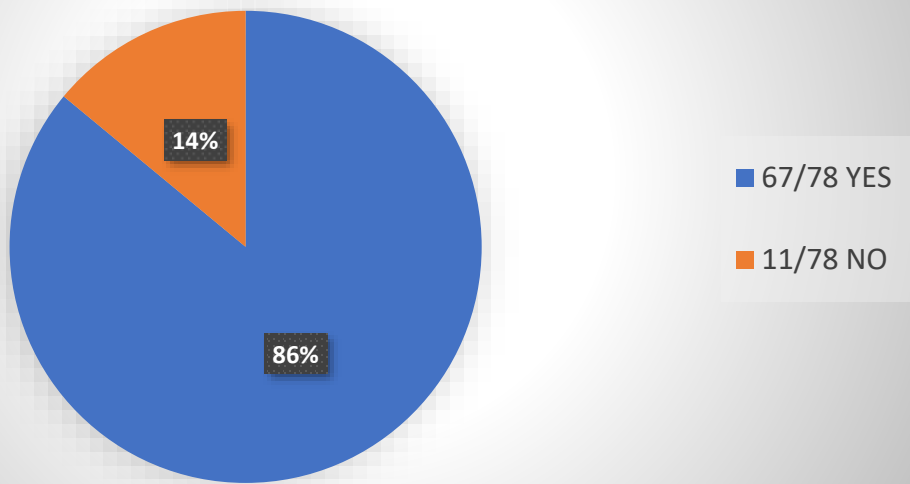
■ 16/78 YES

■ 57/78 NO

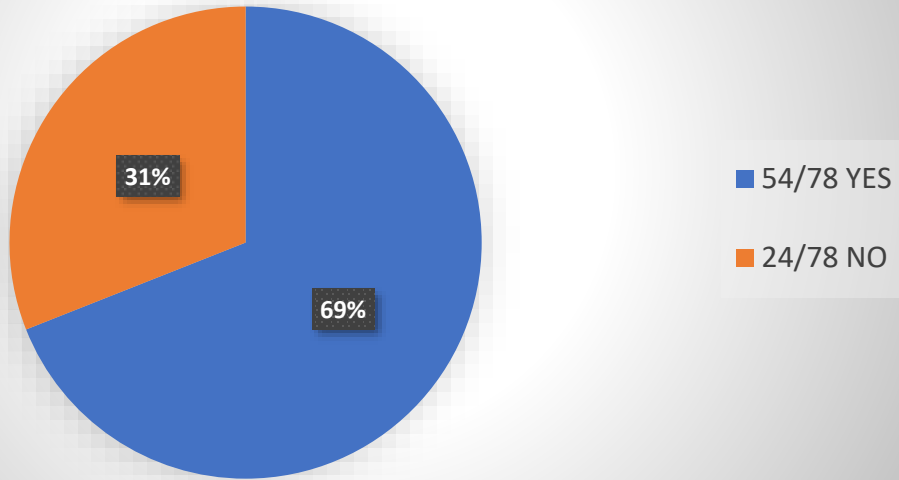
Do you know the immediate signs of an approaching local tsunami?



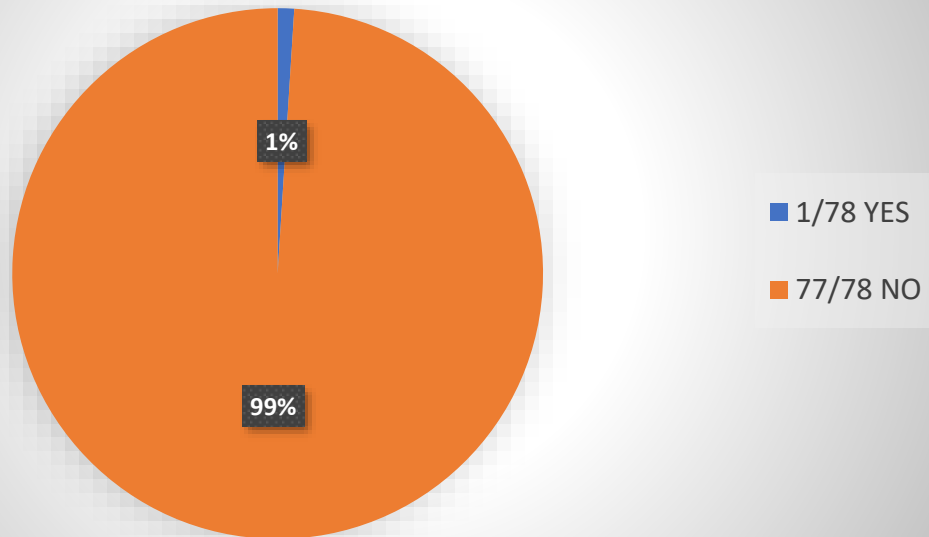
Do you know the signs of an approaching distant tsunami?



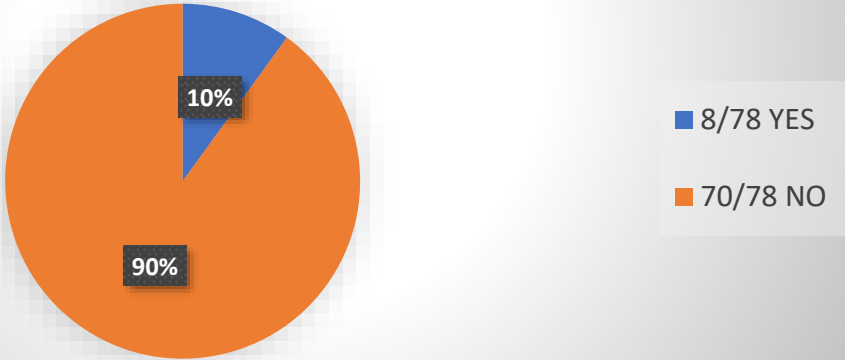
Do you know tsunami can also be triggered by landslides?



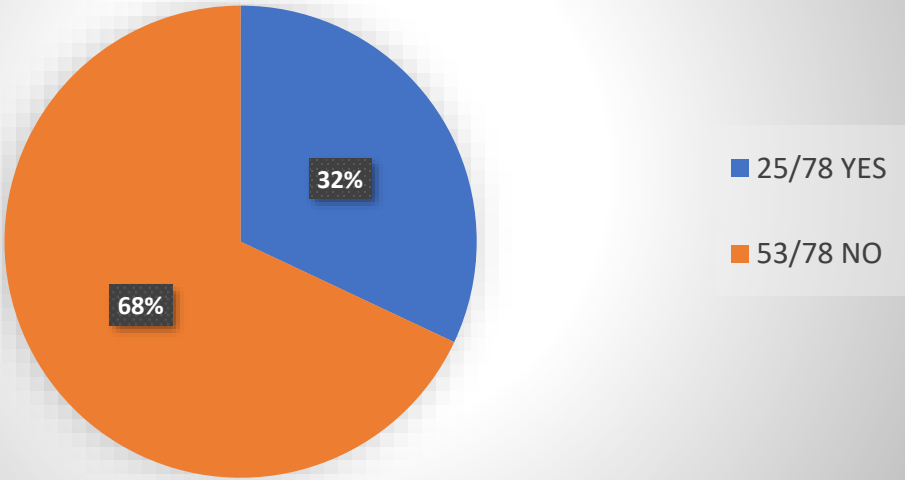
Are you a certified amateur radio operator?



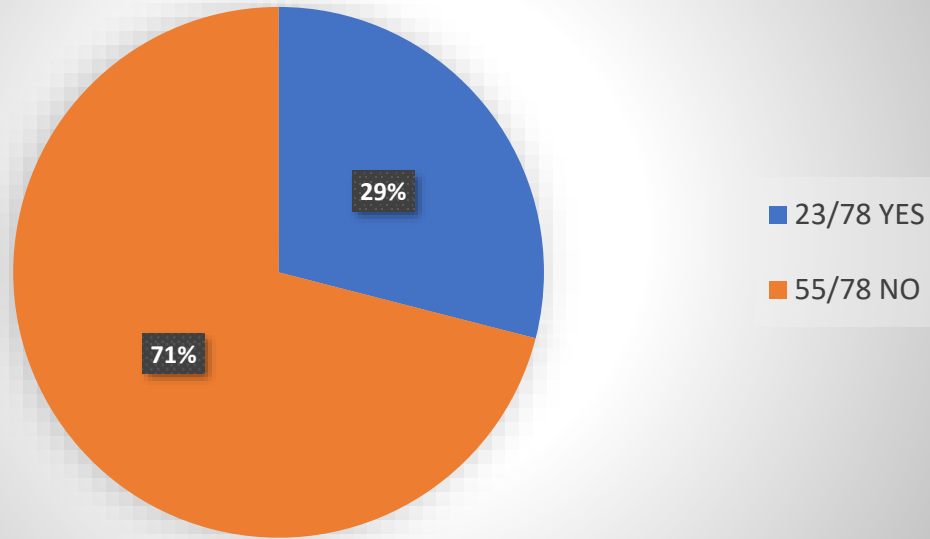
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Port Alice?



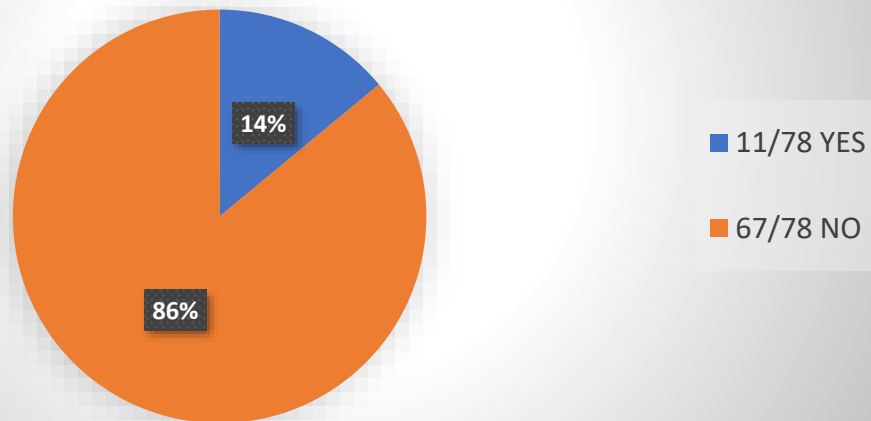
Do you have a satellite communication device?

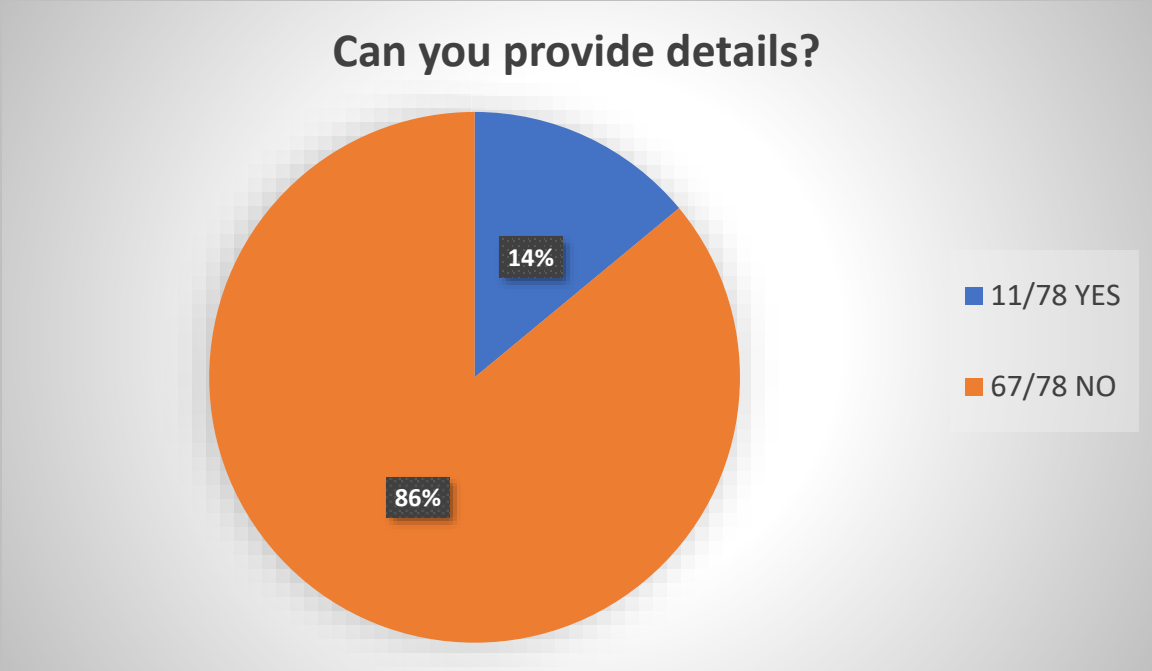


Do you have any recommended feedback?



Do you have personal experience of a tsunami event in Northwest Vancouver Island?





Port Alice Feedback & Experiences

“An alert at 1.30 am at Port Alberni, Jan 23 , 2018.... scary nights, i was newer in the area, and both my house 2 month before. No damage, just scary hours”

Port Hardy 2017 - “Big Alaska quake. Member with port hardy fire department, evacuation of houses in tsunami zone and directing people to civic center.”

Port Alice / Port Hardy - “At one time we were in the danger zone according to a map they had. Now we are no longer in the danger zone. When there was an evacuation because of a tsunami warning a couple of years ago, we didn’t know about it till after. They just evacuated the waterfront homes, which I understand of course. As a senior I would very much like to be alerted if it happened again.”

“Tsunamis in Port Alice have been more like a King Tide. I think a major slide in the Inlet or Quatsino Sound might be a bigger worry here. Maybe there is lore from the past that would be effective teaching tool for this area.”

“Since completing this survey we attended the Port Alice office and obtained public published brochures by Province of BC and Government of Canada. We as well discovered online information available locally for immediate procedures and evacuation center.”

Rupert Arm 19 - "Our family was clam digging (before Utah mine) it was a low tide when suddenly the tide went out drastically further than any of us had ever seen our father yelled at us to grab everything and get into the car which we drove to egress from Port Alice north or south involves marine drive smack on the ocean if forced to go south via logging roads the roads are not well marker and very convoluted."

"My husband lived in Port Alice in 1964 when tsunami hit the inlet. An abundance of water building up at the head of the inlet causing log-booms to break loose. Damage to the pulp mill near water level closer to the head of the inlet."

"Don't worry about it here the tsunami pretty well collapses at Quatsino! Then a riffle/small wave flows north and south."

"Yes summer 1994 was tug boat hand and various cancelled warnings small wave about 2' high."

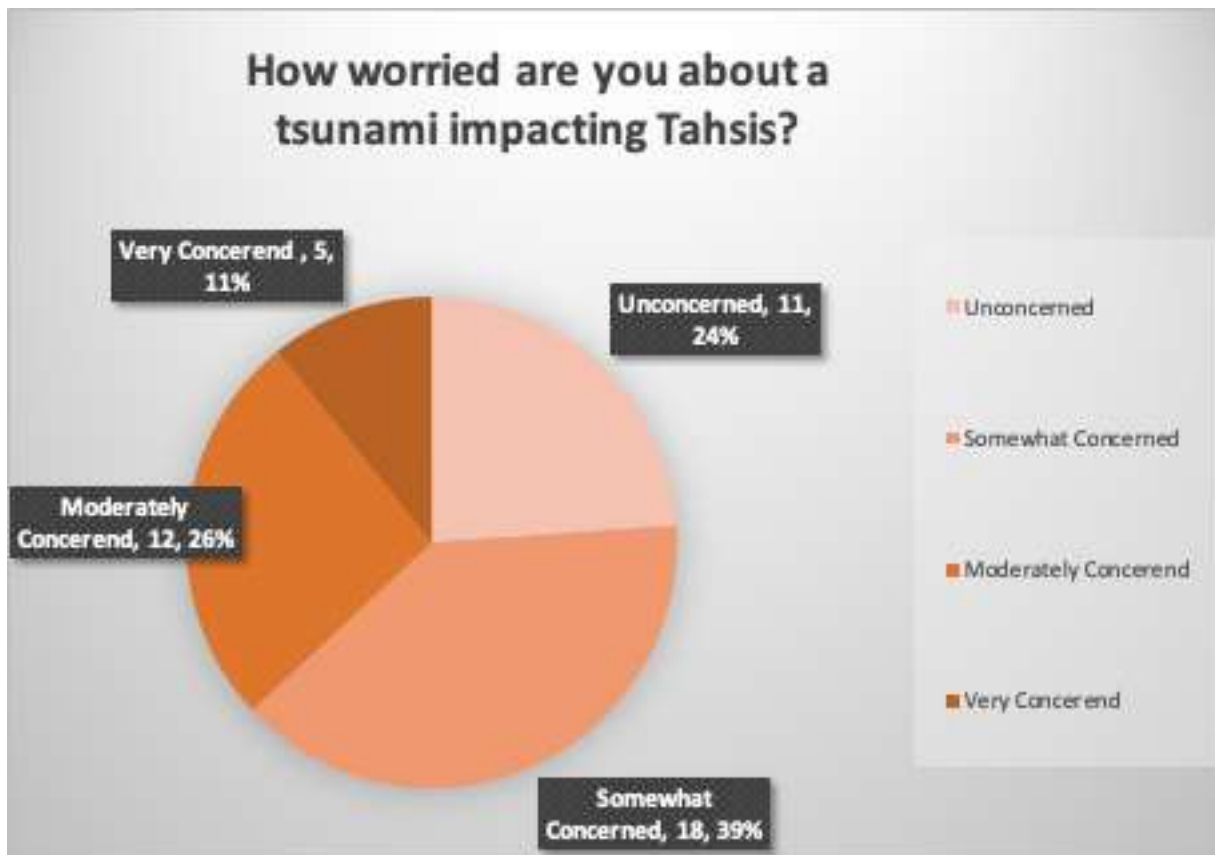
"As part of the Volunteer Fire Dept, when we are alerted, we meet at our fire hall and then go door to door informing the residence that live in the evacuation area. We are the front line. We work hand in hand with RCMP and the Village EOC. Port Alice seems to have procedures in place in case of an event. We live above the tsunami safe site, so shouldn't have to worry about evacuating."

"...If a big waves comes in it will break into 2 at Drake Island reducing the velocity of the wave. Earthquake is a bigger concern."

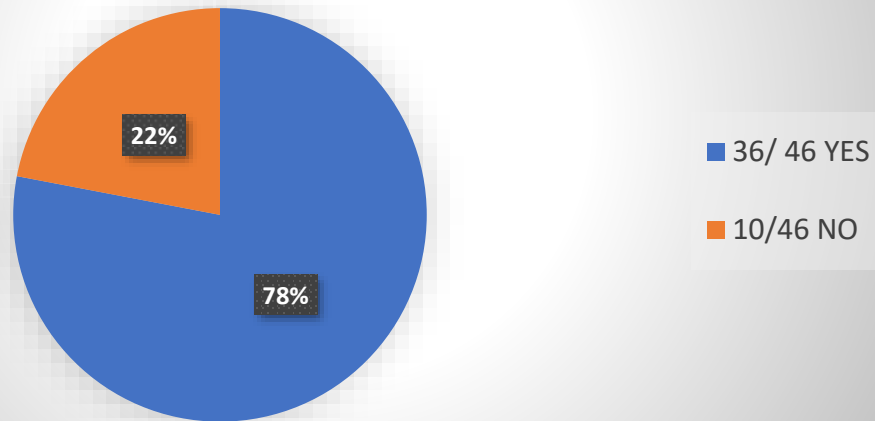
Tahsis

46 Responses

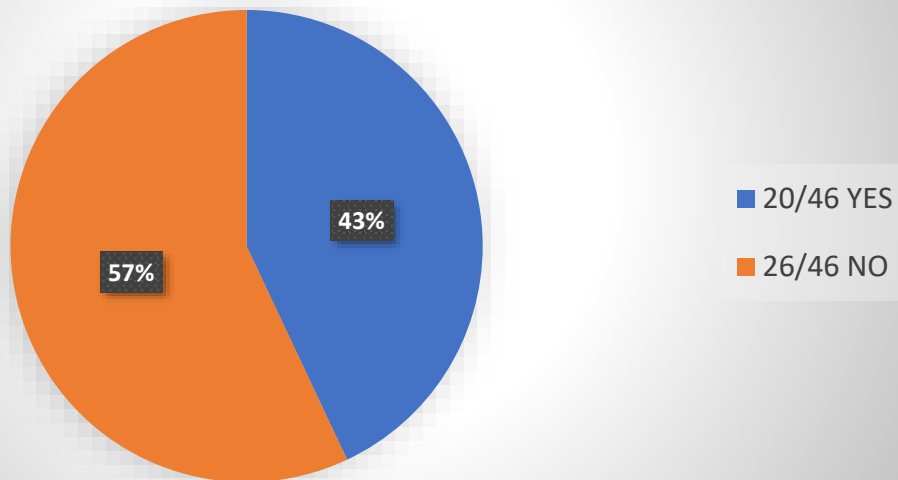
Residents indicated that the main road is vulnerable to storm surges and flooding. Several respondents have indicated that they do not expect to survive a subduction event. There was a perception that Nootka Island blocks large waves from severely impacting the village. Mobility issues should be considered in emergency procedures as well as the limited cellphone access and reception. Residents expressed a desire for more infrastructure in the logging roads to Zeballos for improved EMS access due to lack of transportation security. Slope instability was also a concern in Tahsis. Many residents cannot hear the tsunami siren from their home and suggested undergoing regular evacuation and preparedness drills involving multiple forms of alerts. Residents also suggested to provide mapping of routes to evacuation sites and emergency containers with supplies at evacuation site.



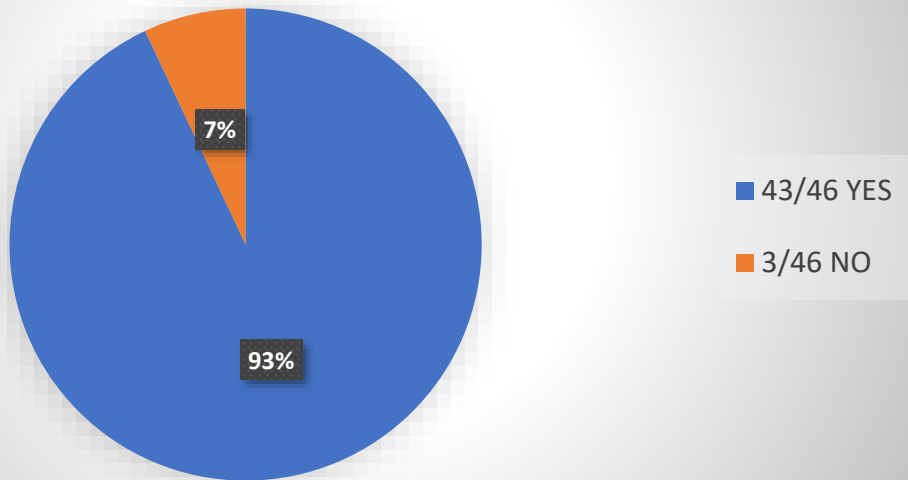
Do you and your family have enough disaster supplies in case Tahsis cut off for two weeks and you have to shelter in place?



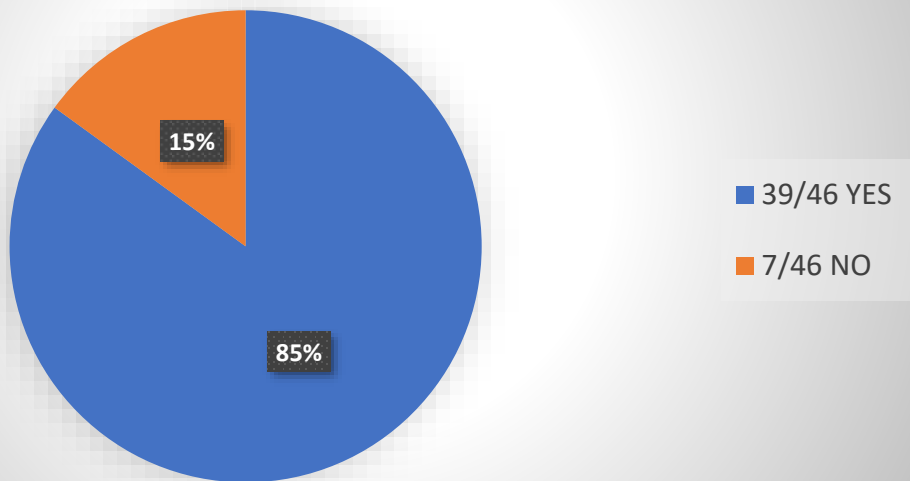
Are your supplies portable, such as in a backpack or suitcase with wheels?



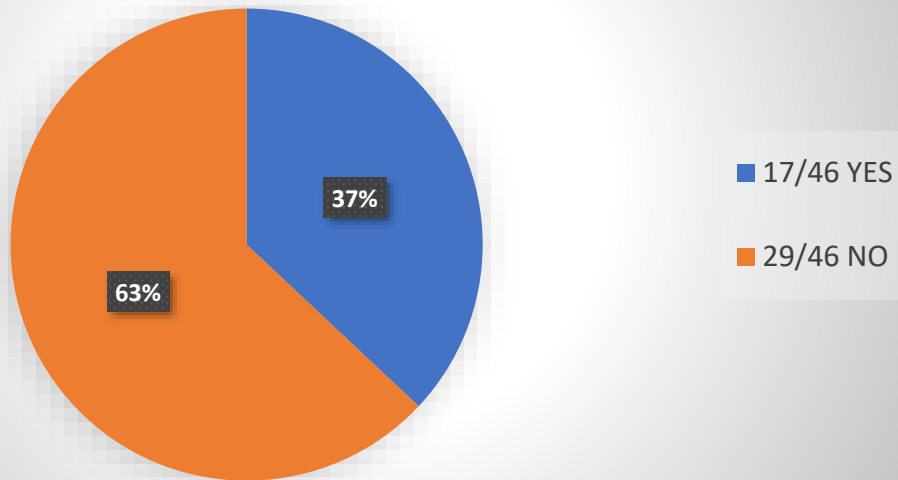
Do you know Tahsis' tsunami meeting points?



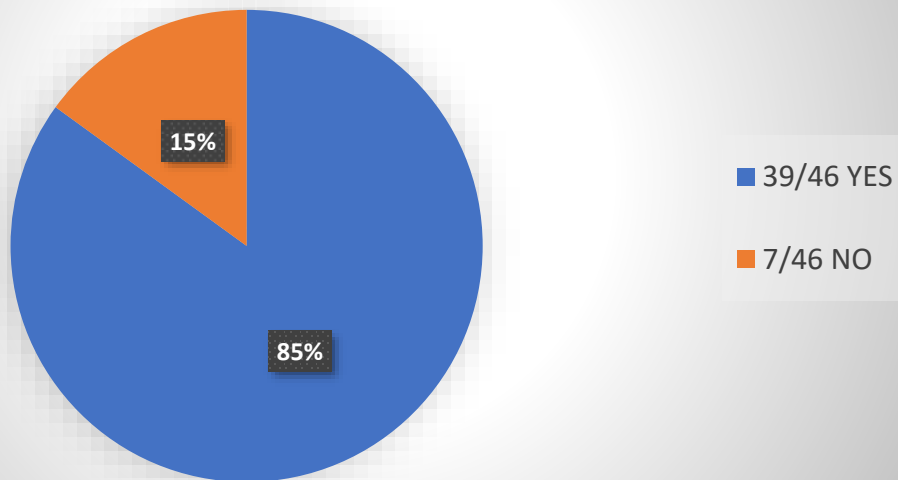
Do you know Tahsis' tsunami evacuation routes?



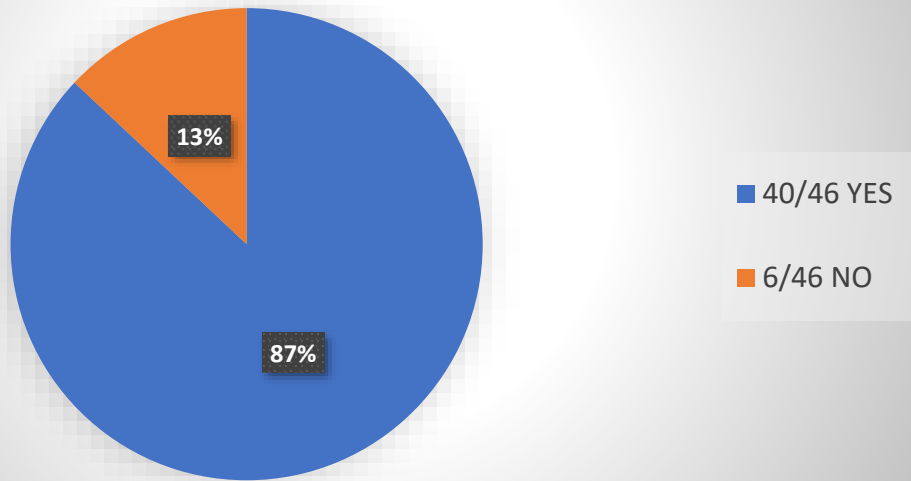
Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



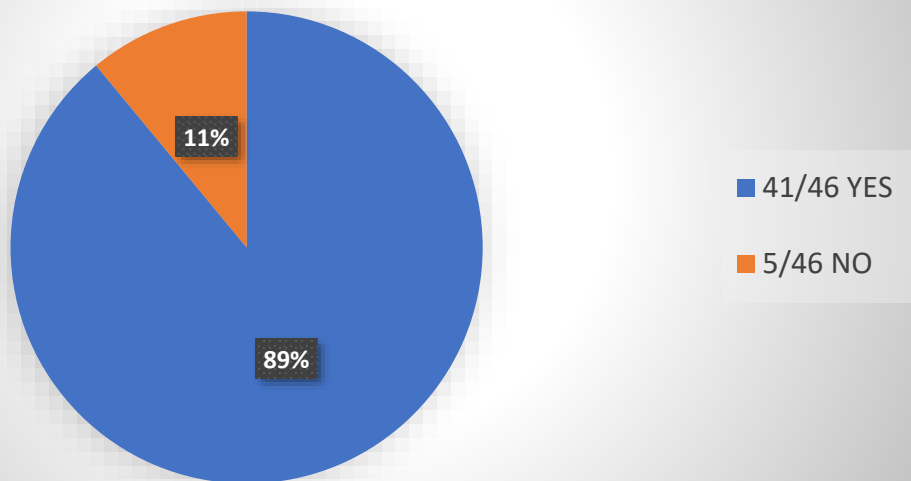
Do you know how your community will alert you if there is a tsunami threat?



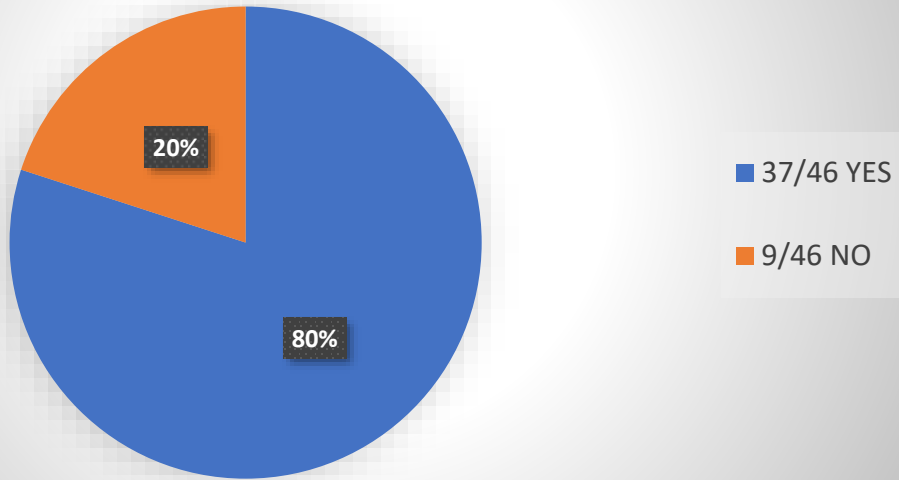
Do you know the immediate signs of an approaching local tsunami?



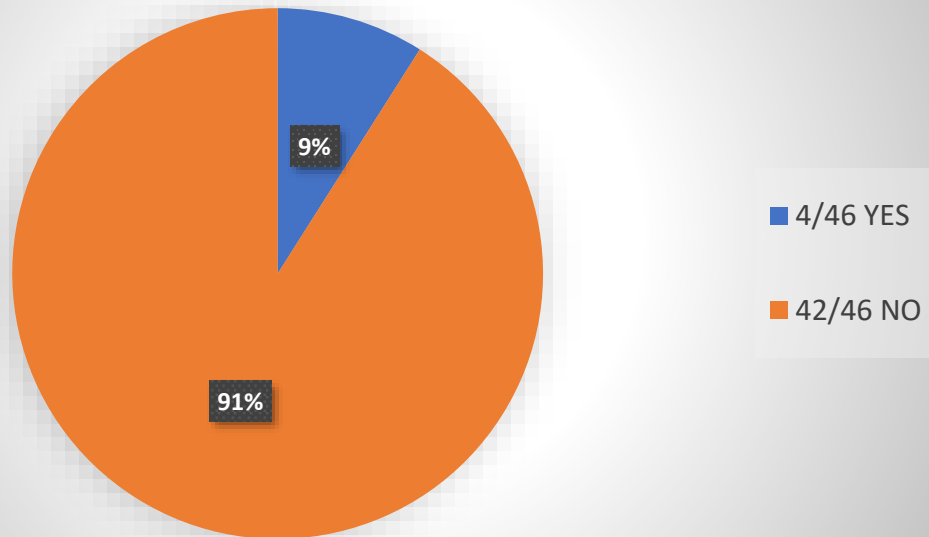
Do you know the signs of an approaching distant tsunami?



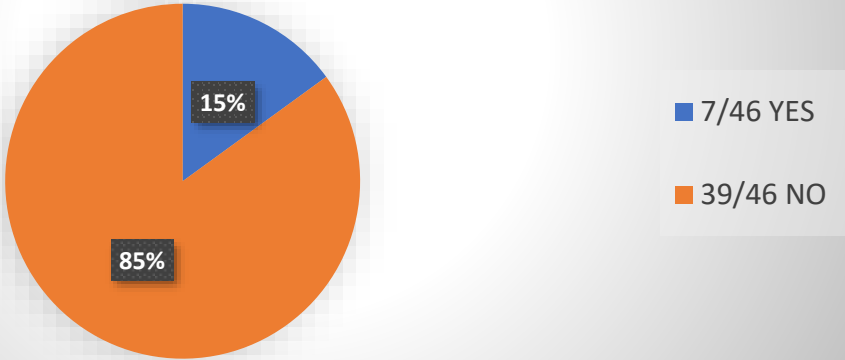
Do you know tsunami can also be triggered by landslides?



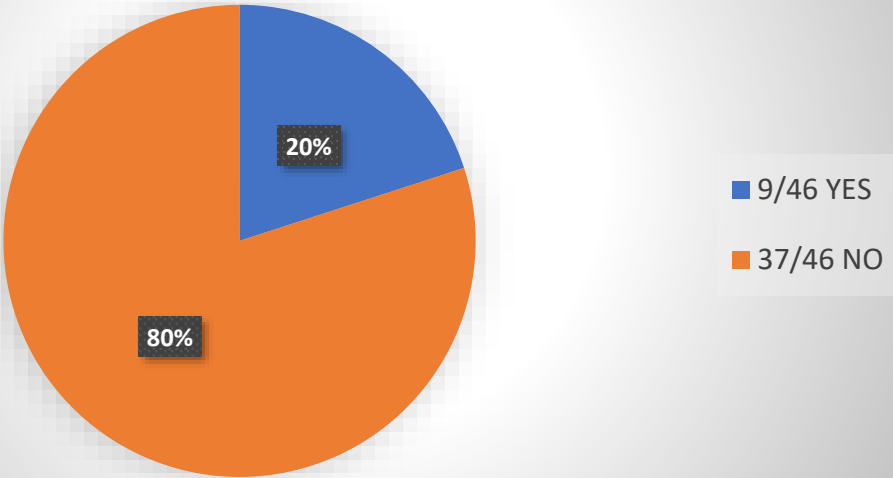
Are you a certified amateur radio operator?



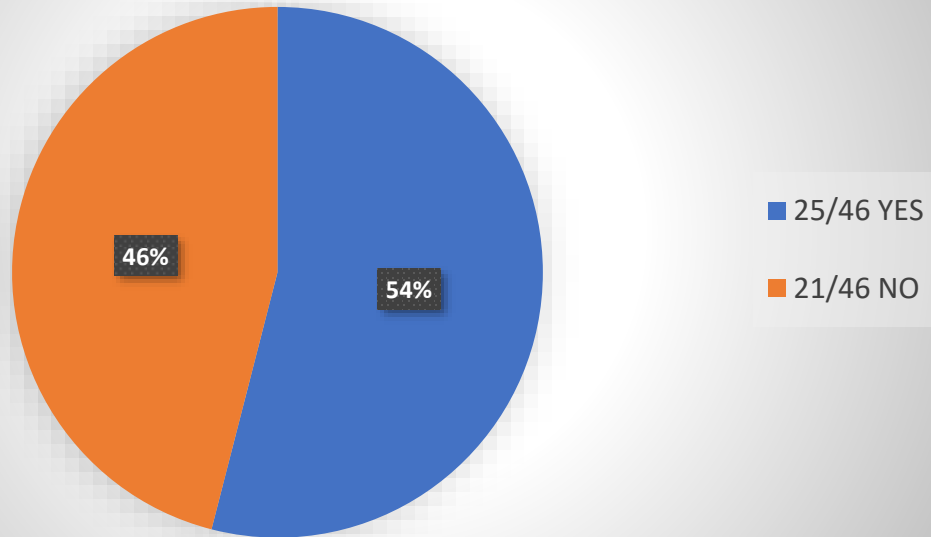
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Tahsis?



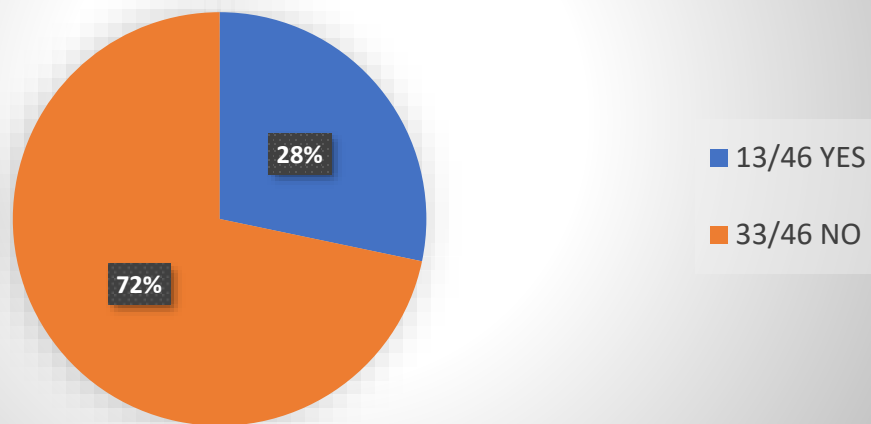
Do you have a satellite communication device? (spot X, in Reach)



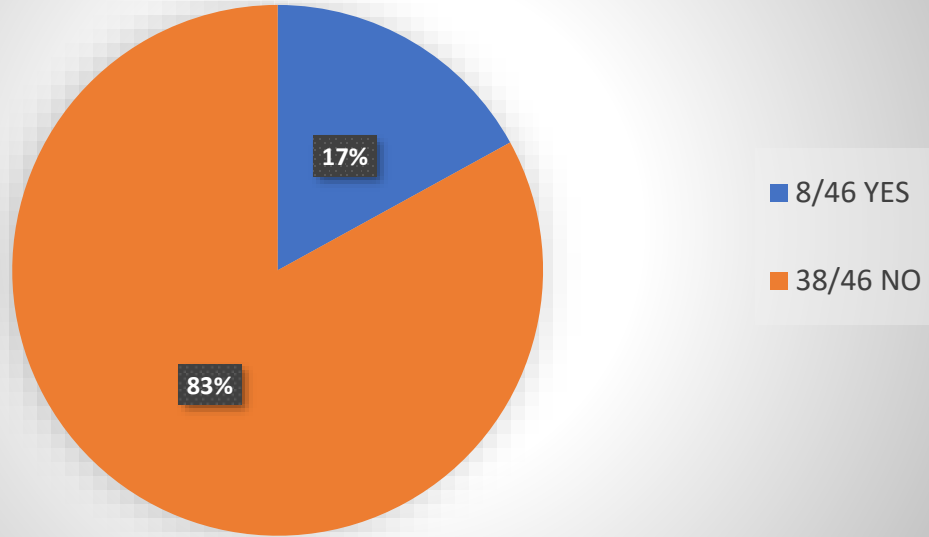
Do you have any recommended feedback?



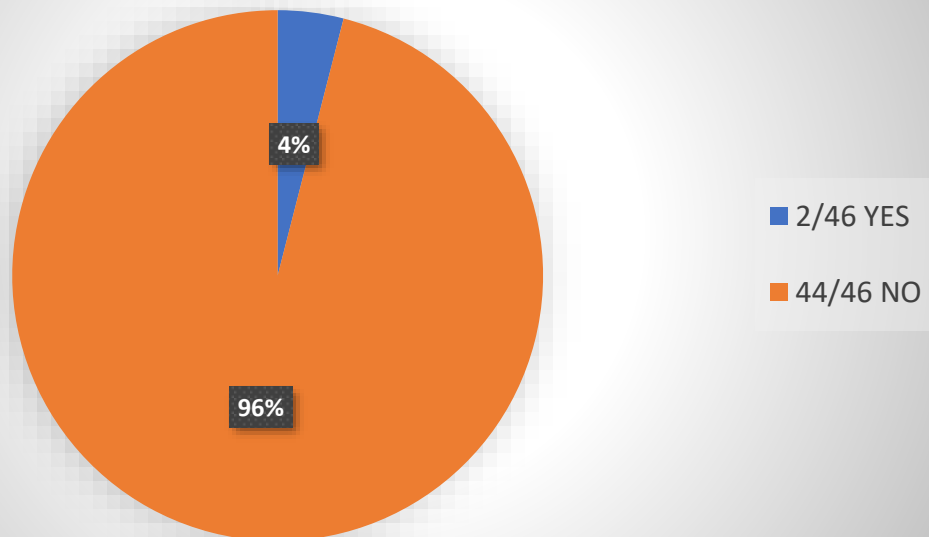
Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



Anything else you want to share with us?



Tahsis Feedback & Experiences

January 2018 - "One of my household members woke up to the sound of the tsunami siren & woke up the rest of the house. We grabbed some personal stuff & our pets and headed up to our friends house in the townsite. Mostly kept ourselves up to date on the tsunami via news on tv & online social media."

"Yes in Tahsis a few times between 1980 and 1995."

"We experienced a tsunami warning a while back that was a false alarm but better safe than sorry. Response on the whole by staff was good but felt a sense of panic which might be resolved with more practice. Perhaps an annual full alert drill would be helpful."

"Someone from the community picked us up and took us to the old elementary school up on school hill. It was just like a higher tide but it did flood some houses in the valley."

"Only a 1-2 inch rise. But and evacuated community. Learning how it feels under pressure. How they would respond in a crisis situation. Along with issues that needed to be addressed."

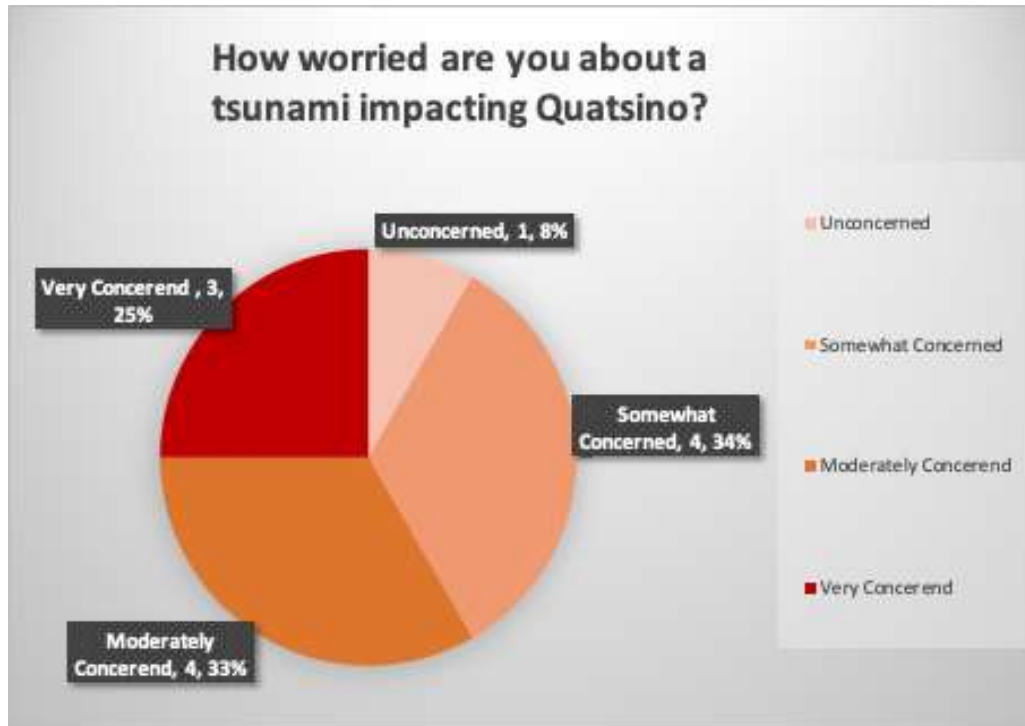
"We responded to a tsunami warning a few years back. It was pretty hectic, but we all sheltered with friends until the all clear. Many people, especially Seniors, did not want to leave their homes, did not have transport to the safe sites or did not hear the warning."

"Tahsis went through a Tsunami Alert 2+ years ago – I did not hear the tsunami siren, but did hear the fire chief's truck siren as he drove around the village, this was 1 or 2 am and woke me up. I looked for a fire, smelt for smoke. It I until I went on Facebook where I found out was going on. I am now subscribed to the emergency phone calls, and have also signed up a couple of seniors I know who do not have internet."

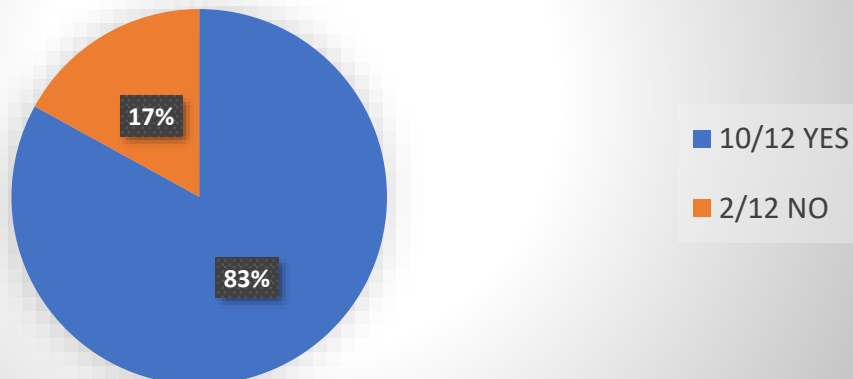
Quatsino

12 Responses

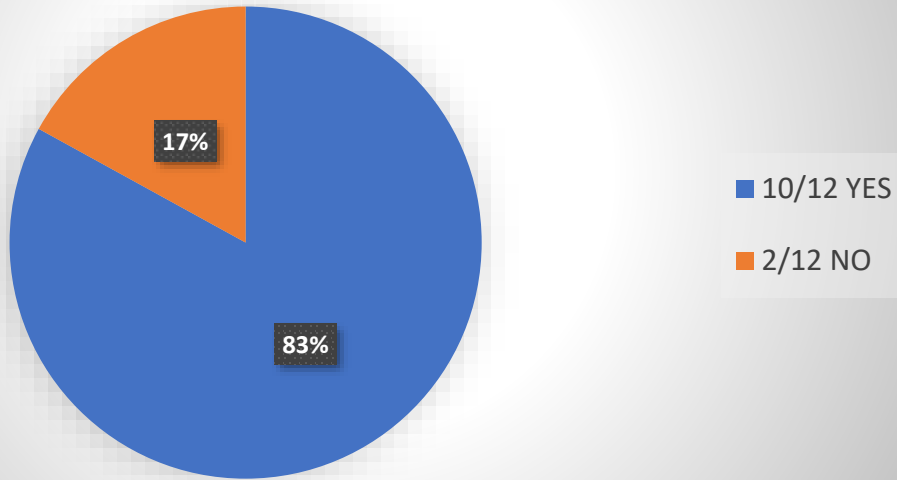
Quatsino expressed a need for well secured emergency supply boxes that are regularly stocked and maintained. Resorts and lodges could be capable of storing extra supplies. There was an interest in updated tsunami projections and storm water levels.



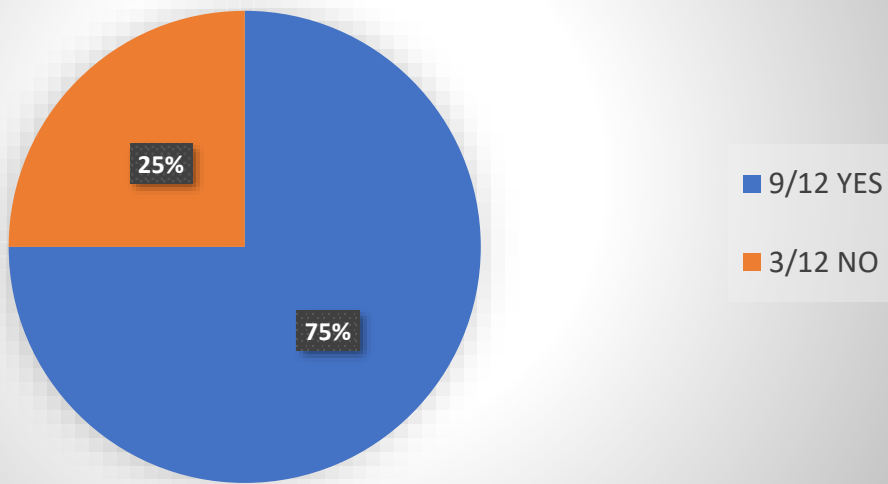
Do you and your family have enough disaster supplies in case Quatsino is cut off for two weeks and you have to shelter in place?



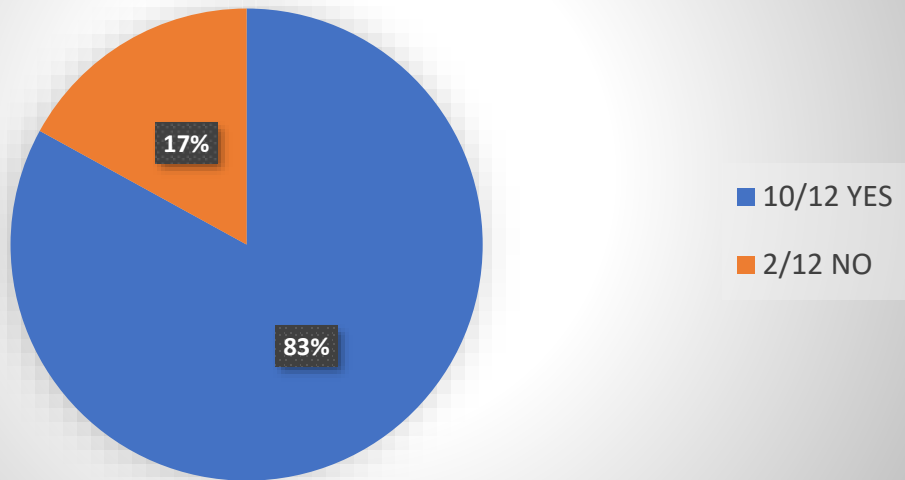
Are your supplies portable, such as in a backpack or suitcase with wheels?



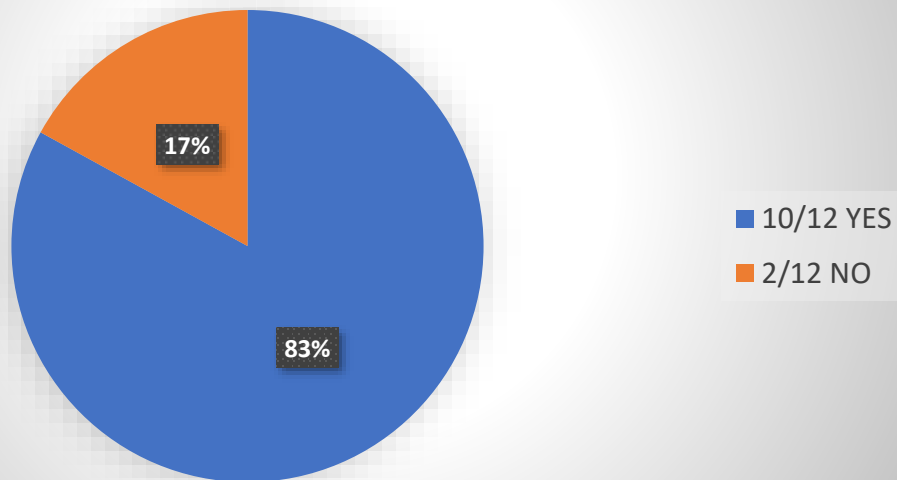
Do you know your Quatsino's tsunami meeting points?



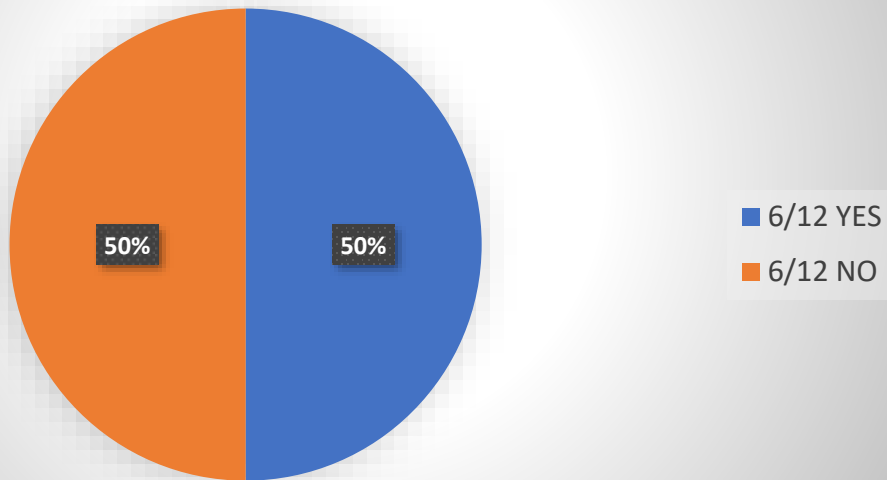
Do you know your Quatsino's tsunami evacuation routes?



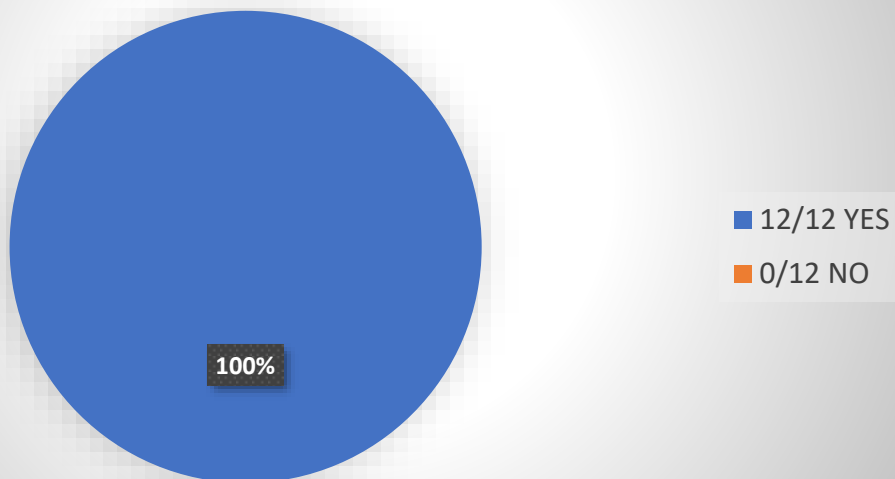
Do you know how your community will alert you if there is a tsunami threat?



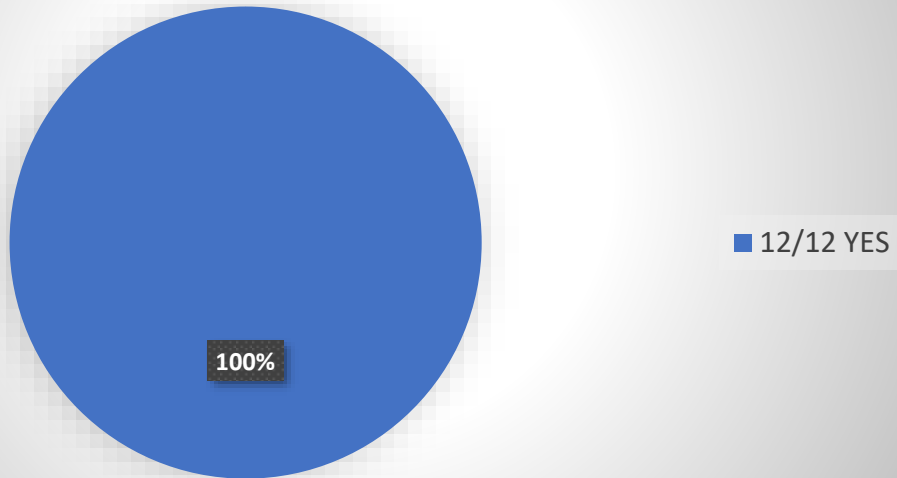
Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



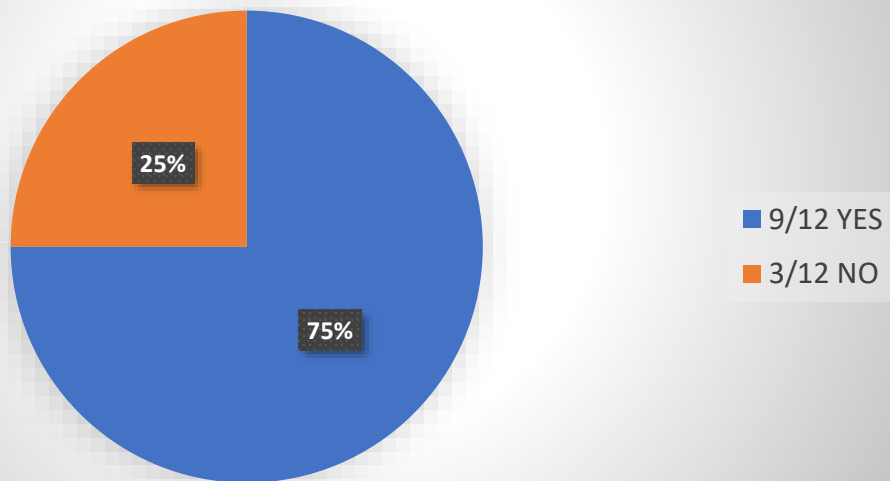
Do you know the immediate signs of an approaching local tsunami?



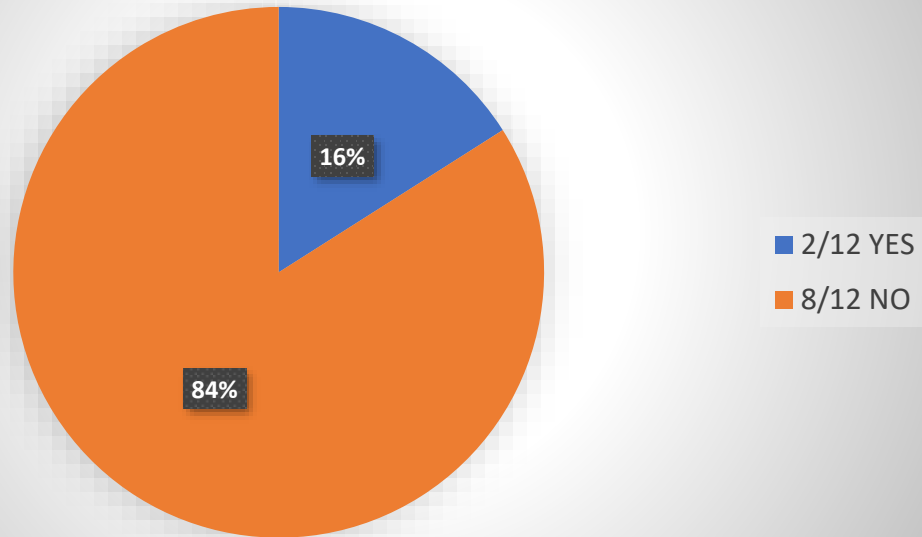
Do you know the signs of an approaching distant tsunami?



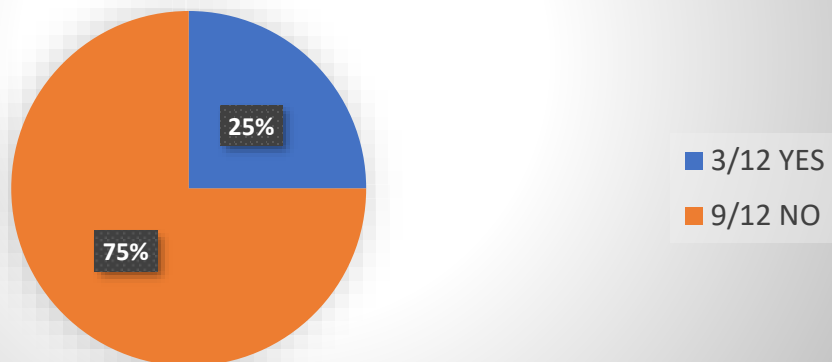
Do you know tsunami can also be triggered by landslides?



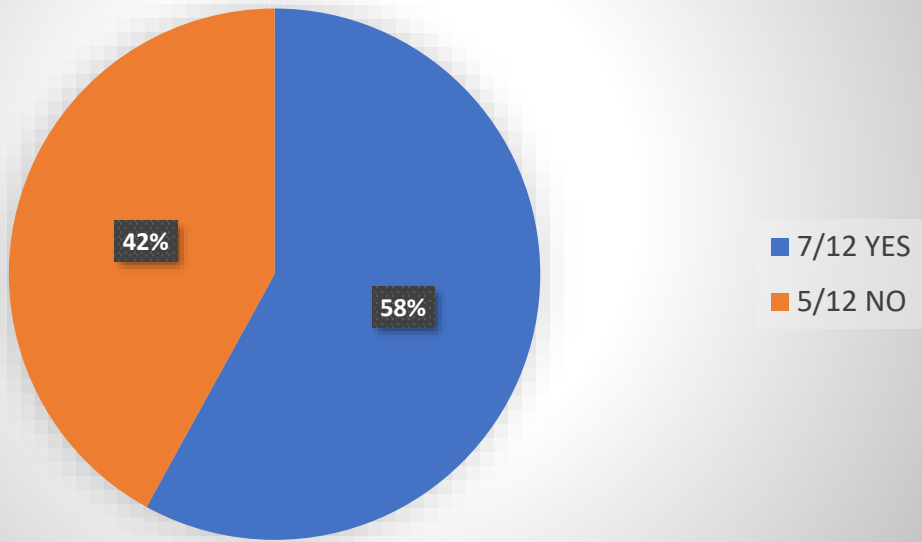
Are you a certified amateur radio operator?



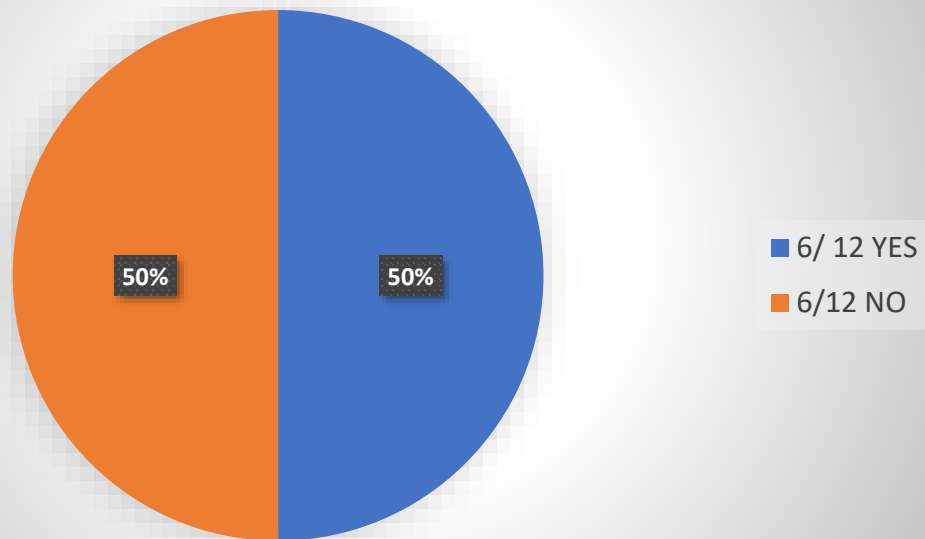
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Quatsino?



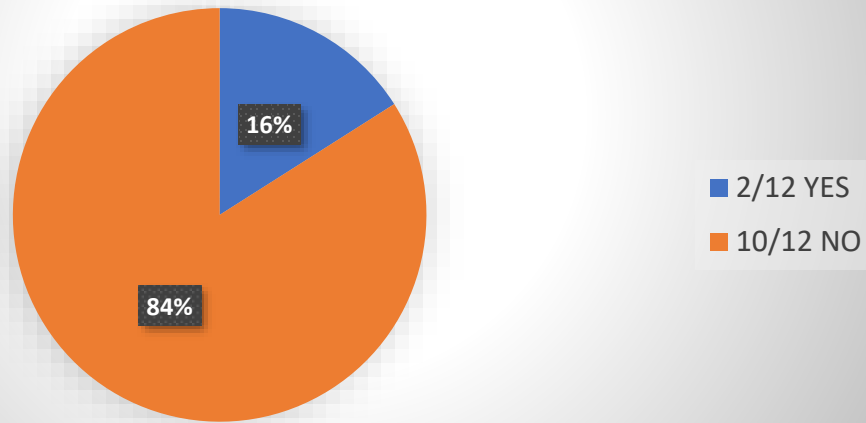
Do you have a satellite communication device? (spot X, in Reach)



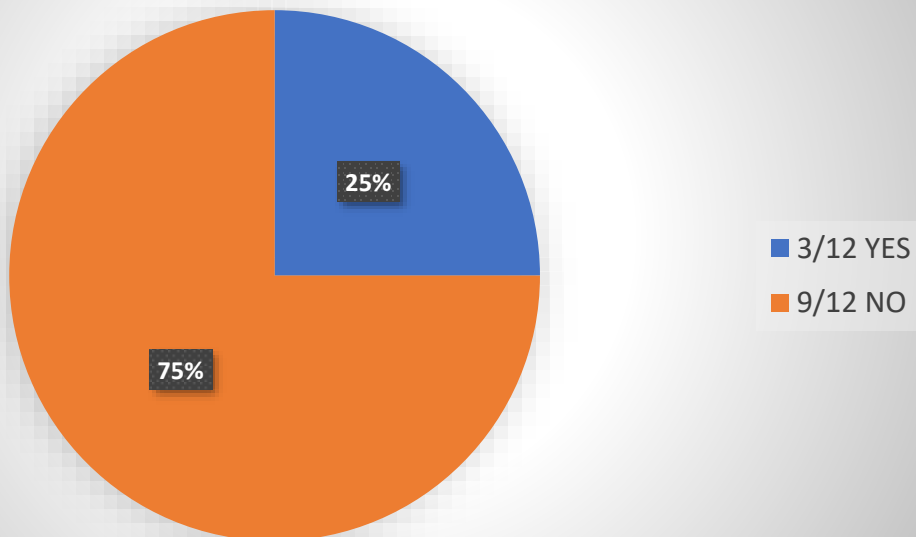
Do you have any recommended feedback?



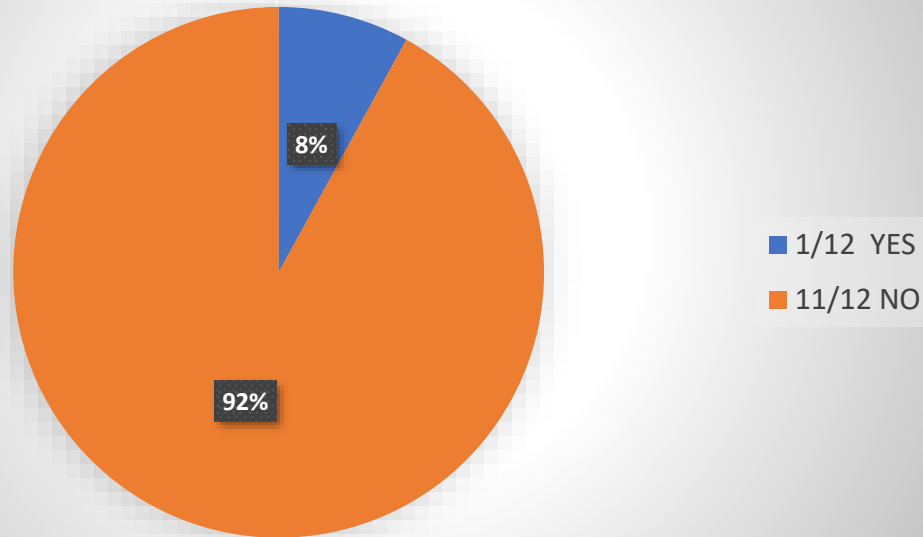
Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



Anything else you want to share with us?



Quatsino Feedback & Experiences

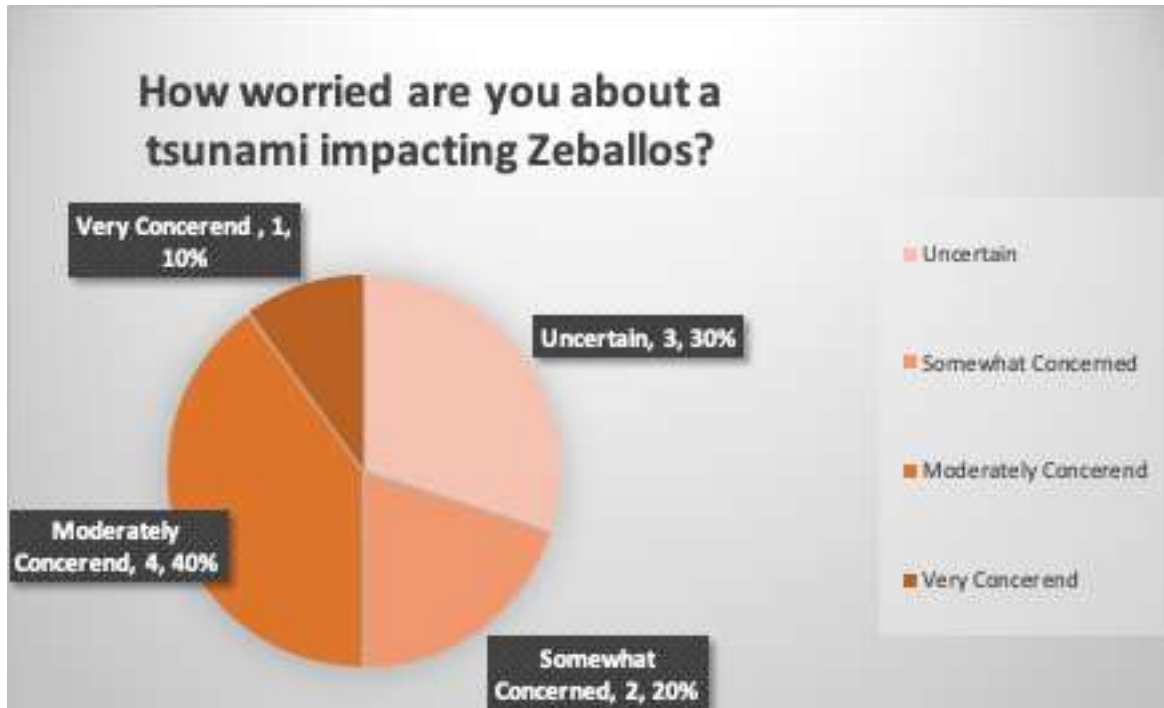
Winter 2017/2018 - "Middle of the night ESS knocking on doors in Port Alice on waterfront addresses on Marine Drive... we were in the car in 5 minutes drove up highway 30 to the highpoint midway ... were able to receive some radio broadcasts and talk with other travelers especially work crews with radios... did not know anything about evacuation plan did not know anything about school gathering place."

Long Beach, 1963 - "Camping on Long Beach with group and had to decamp and head for higher ground when unexpected tide flooded area. No injuries that I recall but equipment losses. Was associated with quake near Anchorage. No phone, radio or contact. We were blissfully unaware and very lucky."

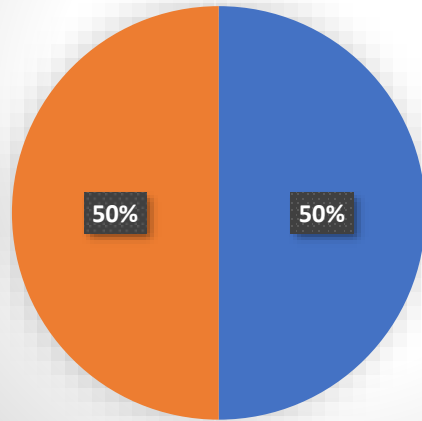
Zeballos

10 Responses

Residents express concern about the seacan being fully stocked and maintained. There was a demand for improved information accessibility for visitors and frequent travelers as they enter the village. Responses also recorded that the tsunami siren is not loud enough.

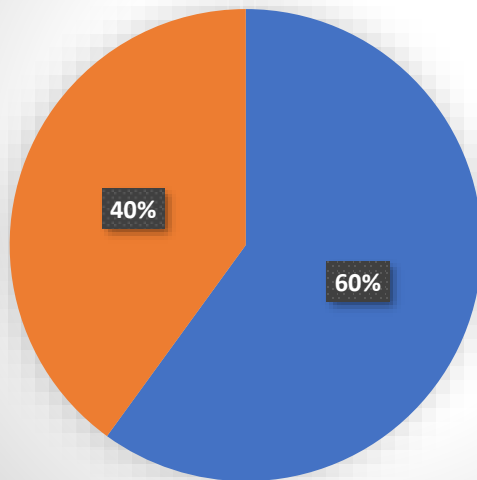


Do you and your family have enough disaster supplies in case Zeballos is cut off for two weeks and you have to shelter in place?



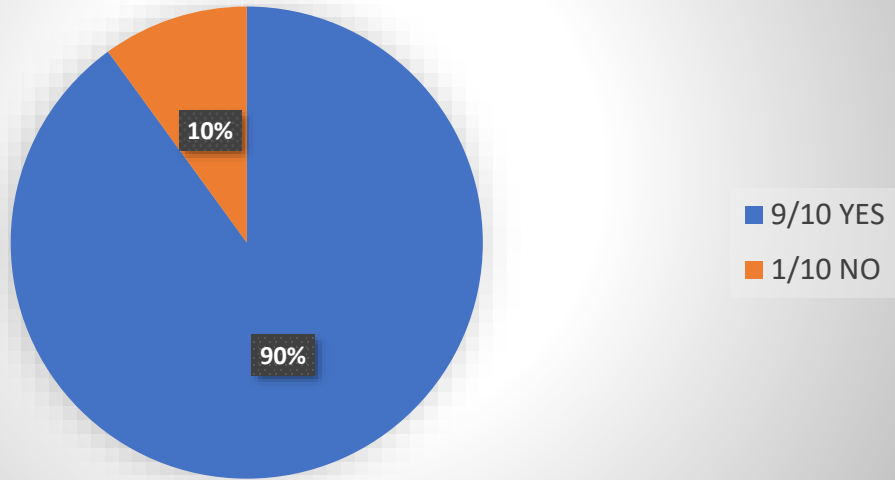
■ 5/10 YES
■ 5/10 NO

Are your supplies portable, such as in a backpack or suitcase with wheels?

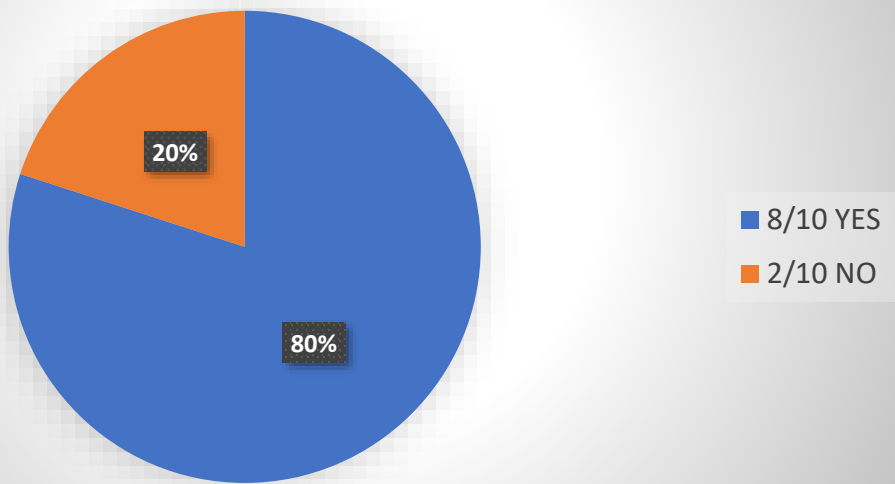


■ 6/10 YES
■ 4/10 NO

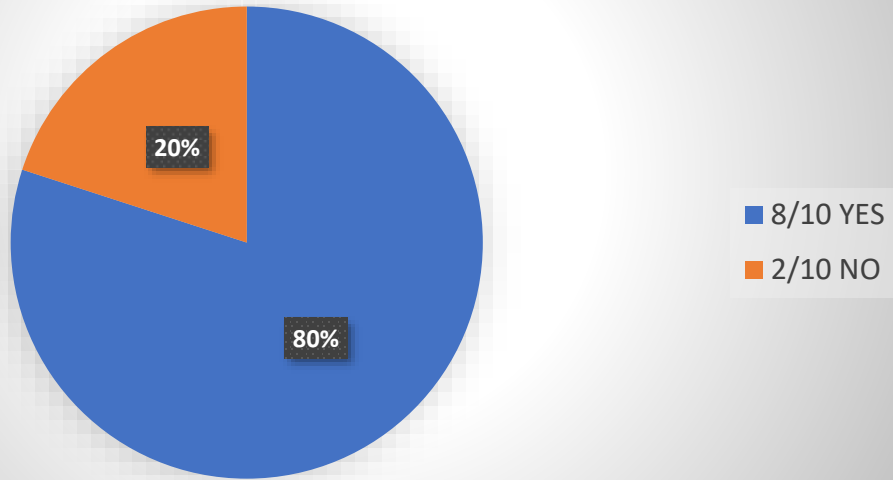
Do you know Zeballos' tsunami meeting points?



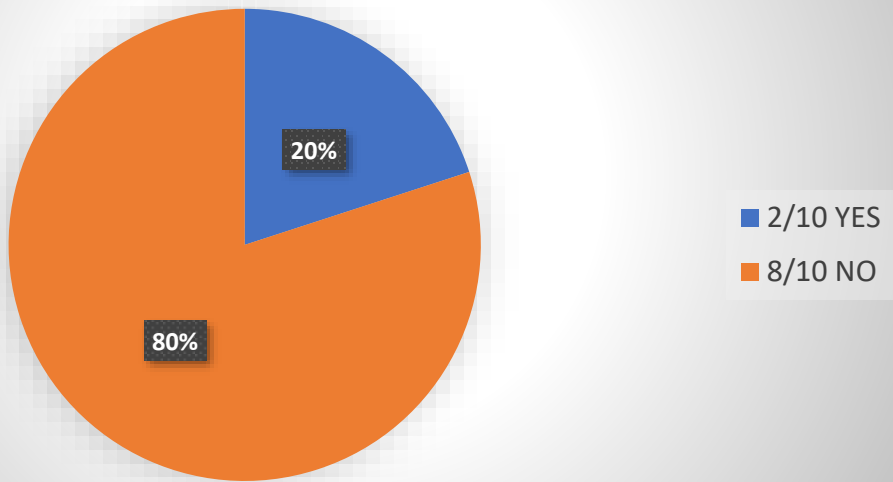
Do you know Zeballos' tsunami evacuation routes?



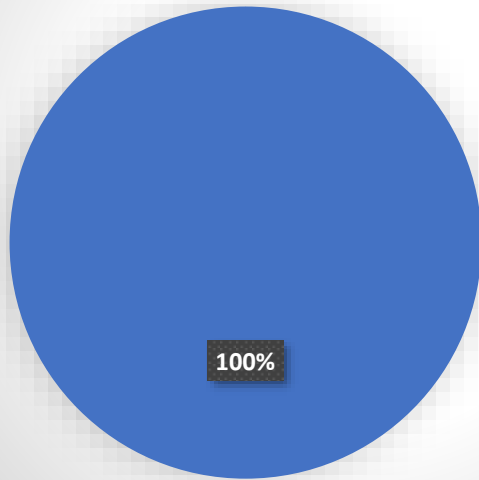
Do you know how your community will alert you if there is a tsunami threat?2



Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?

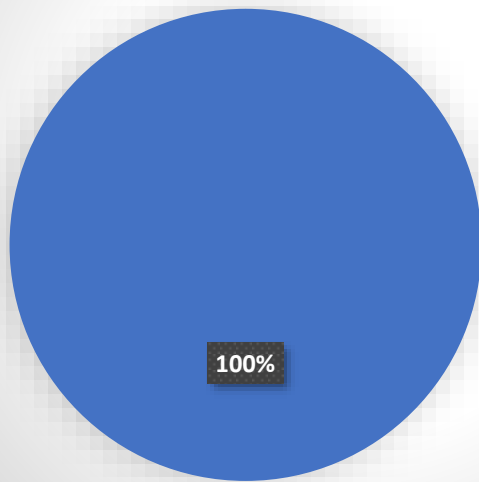


Do you know the immediate signs of an approaching local tsunami?



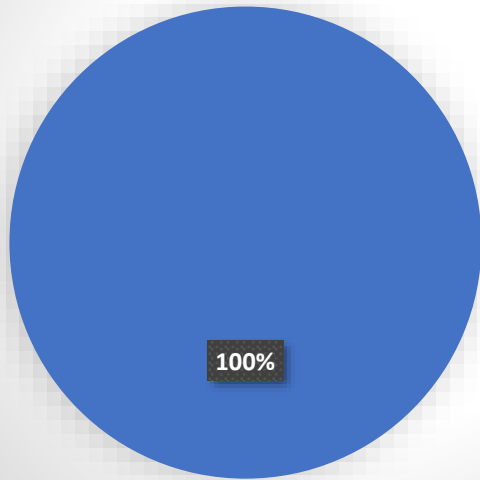
■ 10/10 YES

Do you know the signs of an approaching distant tsunami?



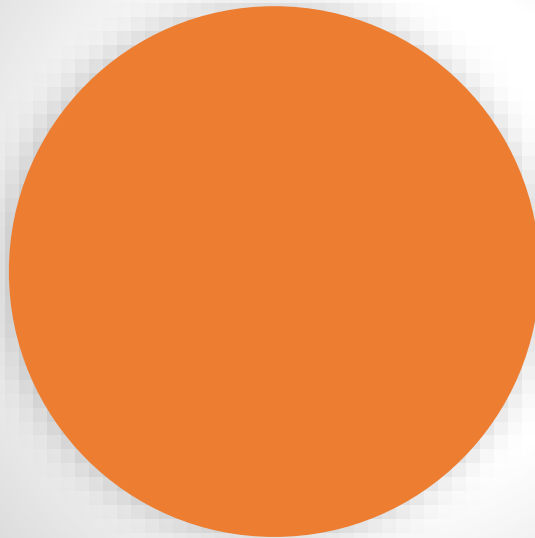
■ 10/10 YES

Do you know tsunami can also be triggered by landslides?



■ 10/10 YES

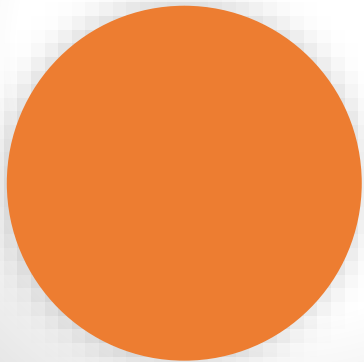
Are you a certified amateur radio operator?



■ 0/10 YES

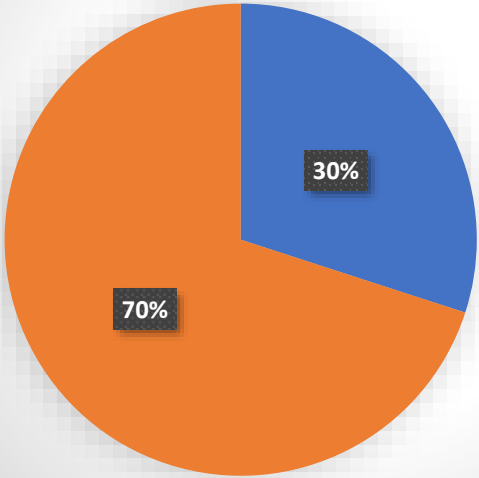
■ 10/10 NO

Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Zeballos?



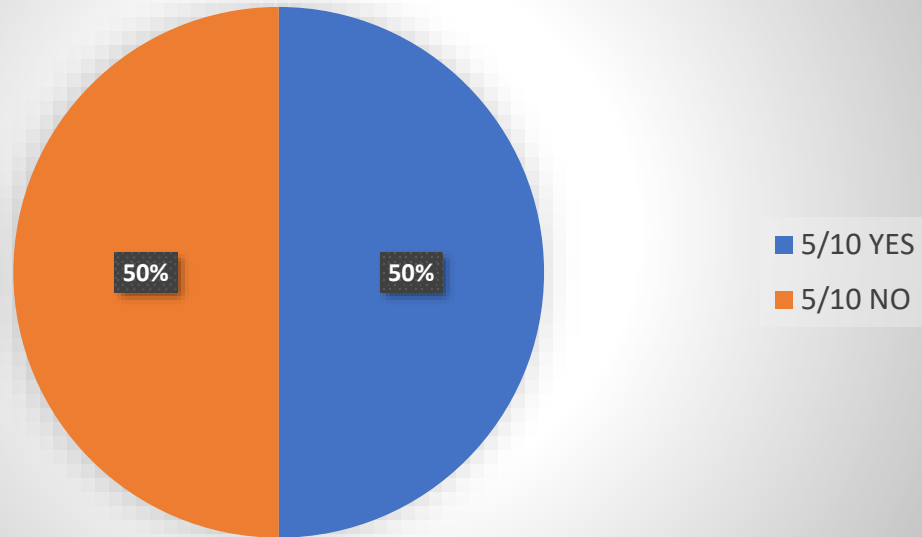
■ 0/10 YES
■ 10/10 NO

Do you have a satellite communication device?

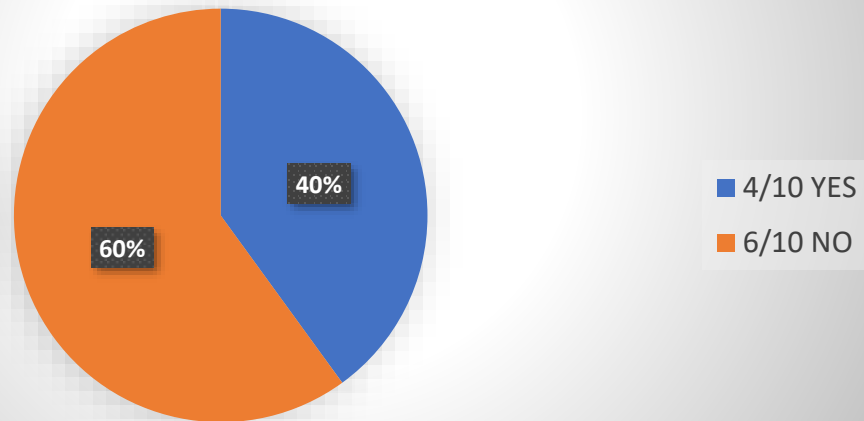


■ 3/10 YES
■ 7/10 NO

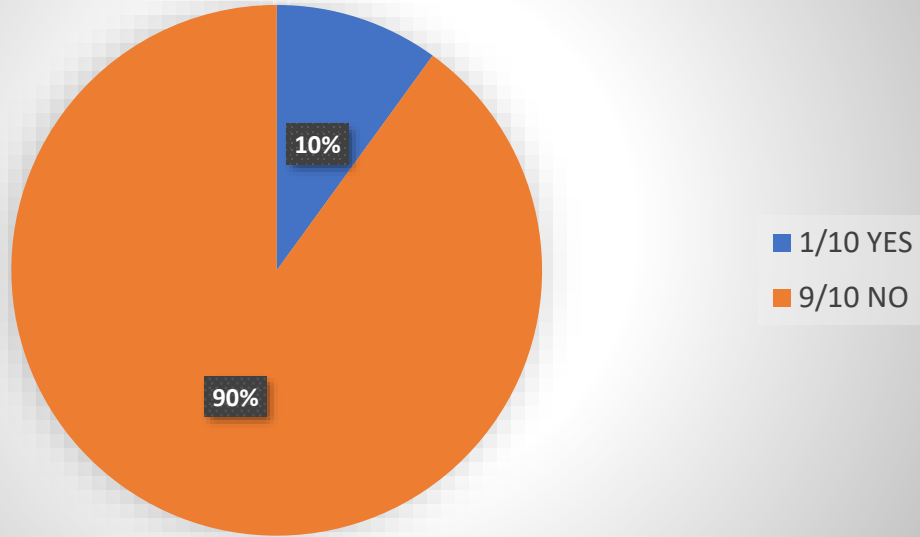
Do you have any recommended feedback?



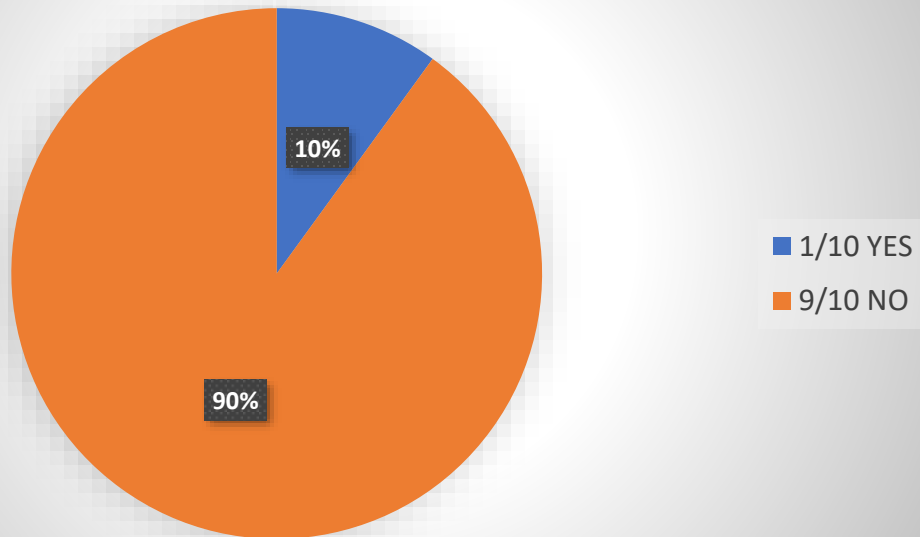
Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



Anything else you want to share with us?



Zeballos Feedback & Experiences

Zeballos 1964 - "Lived in Zeballos when tsunami arrived. Saw damages and have couple of photos. No warning of first wave. Warned of possible second wave. Action taken i.e.: Zeballos Iron Mines provided shelter."

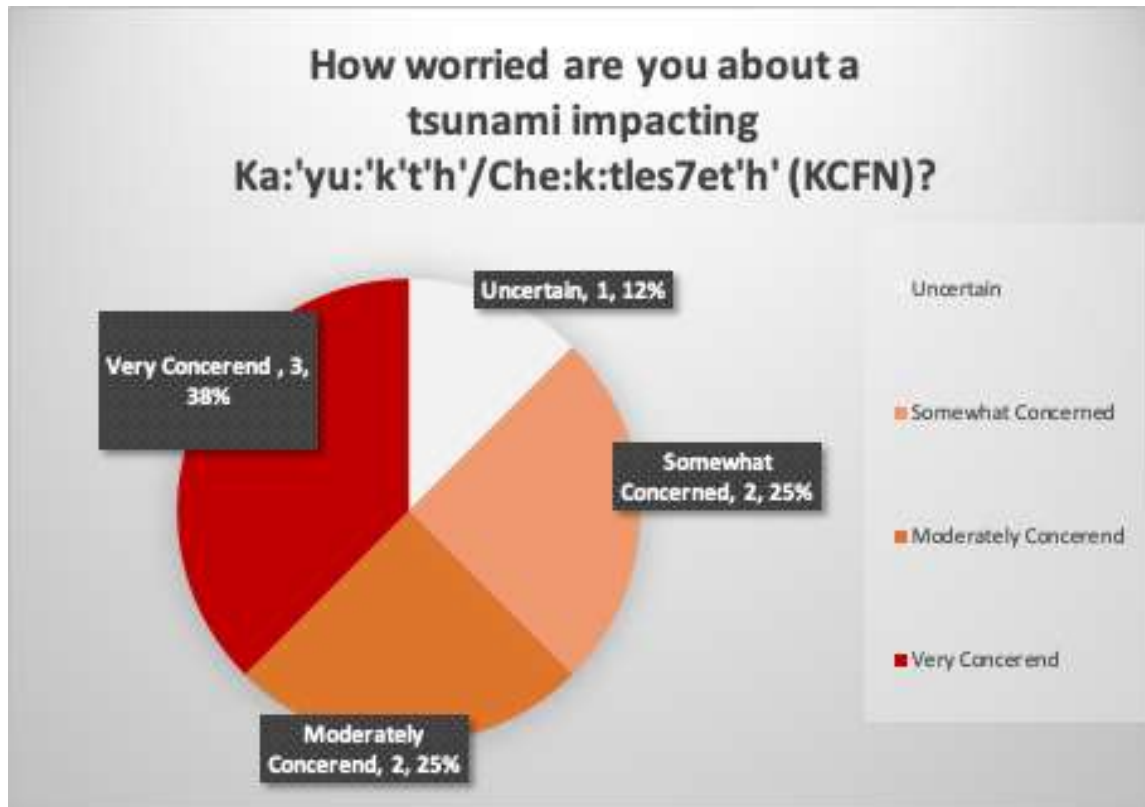
"Personal vision of second wave, and damage done through the Village."

"Last one was middle of the night, we went to the evac site until the all clear, the one a bunch of years ago was like three or four high tides in couple hours."

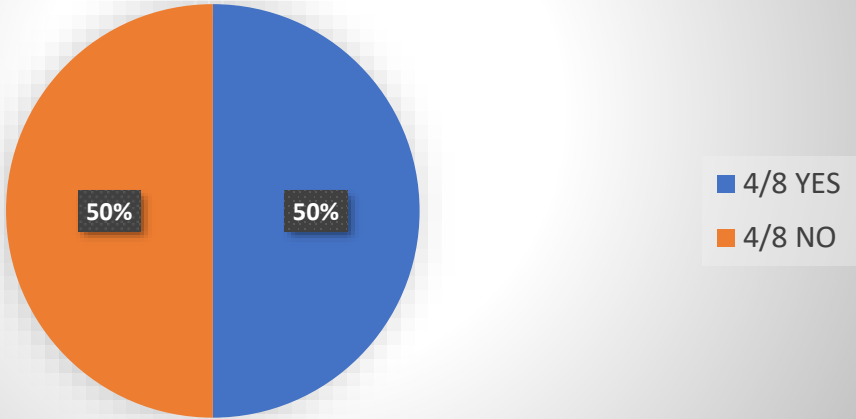
"Japan earthquake and tsunami. We were at Flunny's Cove and witness the surging waters for well over half an hour."

Ka:'yu:'k't'h'/Che:k:tl̥s7et'h' First Nation
8 responses

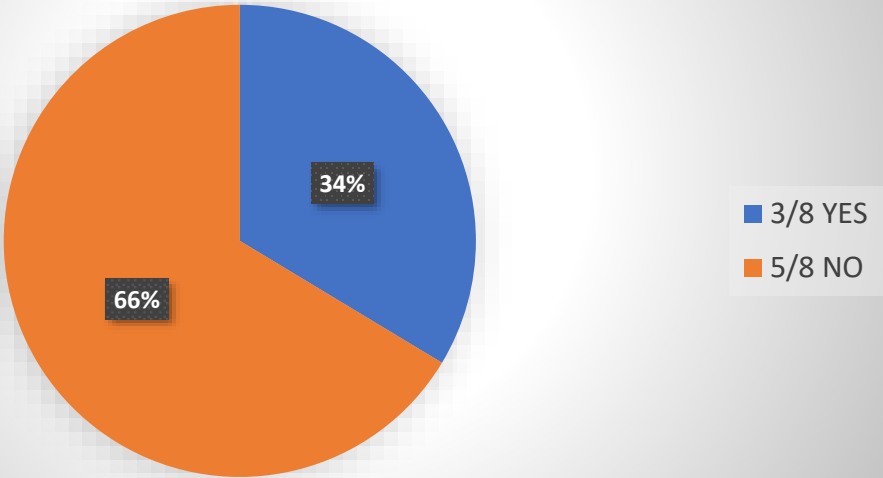
Responses expressed interest in more public education, training, drills and exercises.



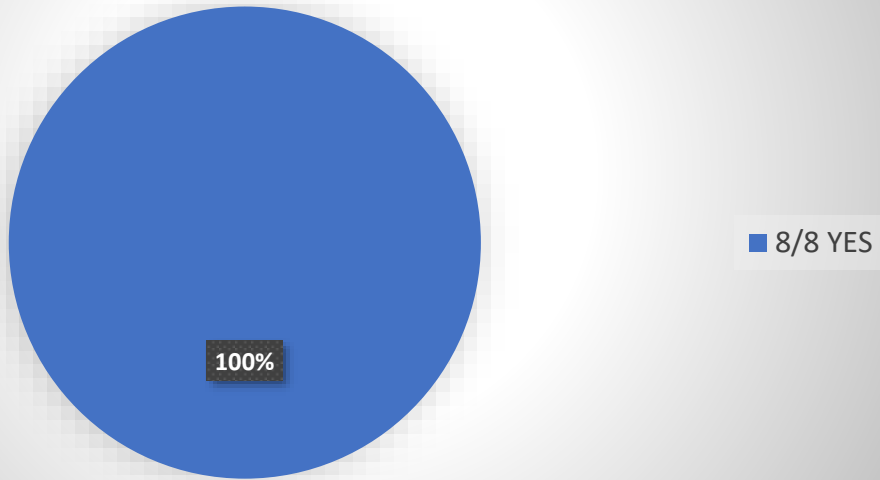
Do you and your family have enough disaster supplies in case KCFN is cut off for two weeks and you have to shelter in place?



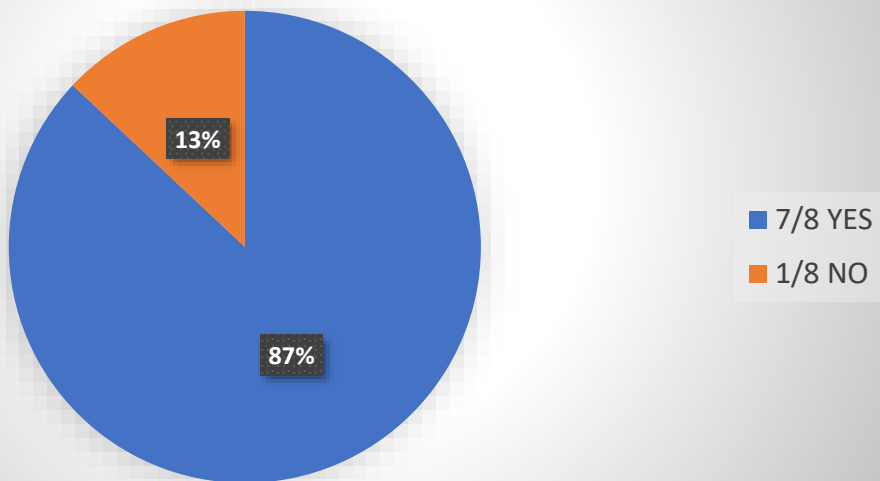
Are your supplies portable, such as in a backpack or suitcase with wheels? 2



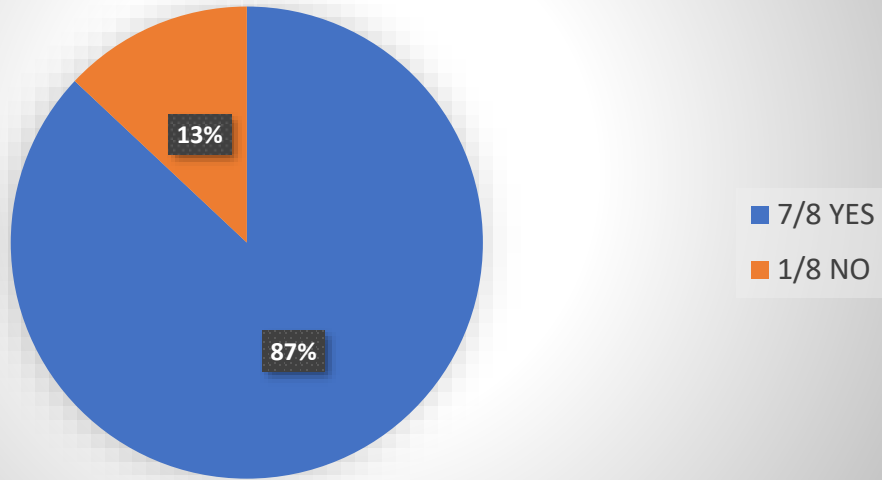
Do you know your KCFN's tsunami meeting points?



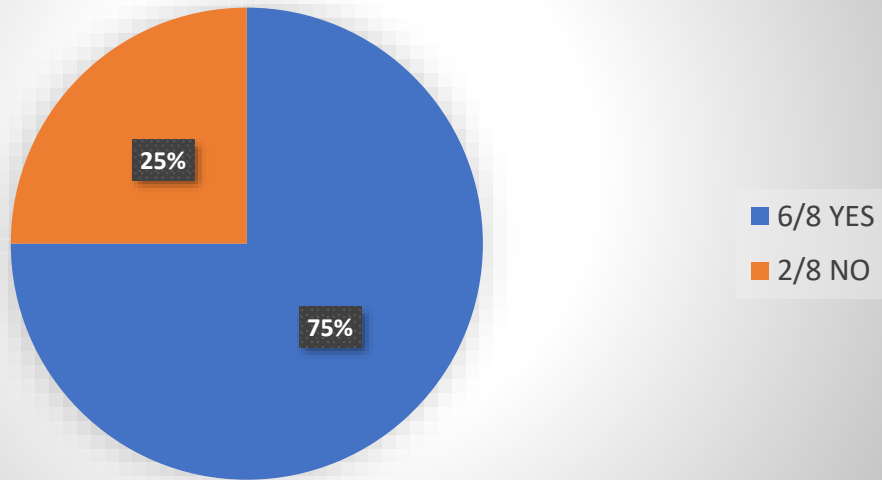
Do you know your KCFN's tsunami evacuation routes?



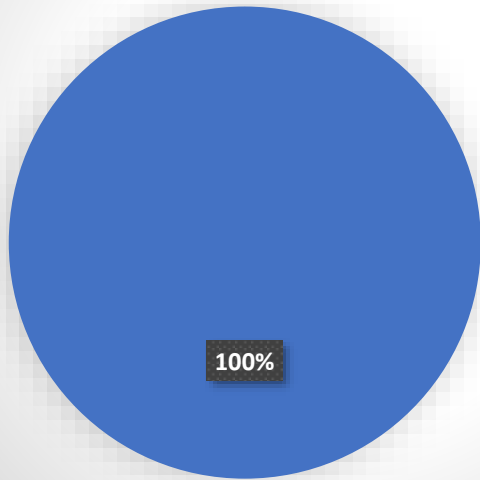
Do you know how your community will alert you if there is a tsunami threat?



Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?

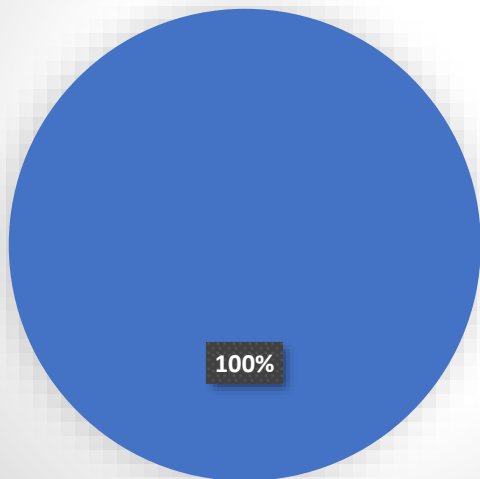


Do you know the immediate signs of an approaching local tsunami?



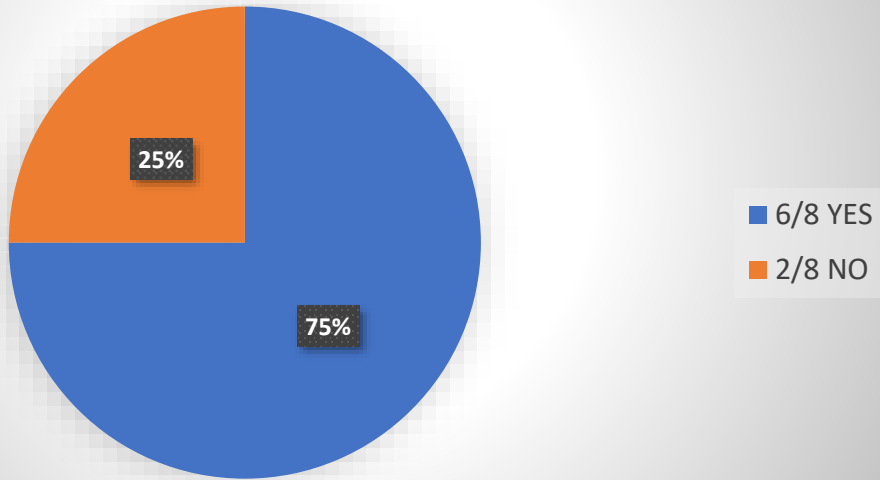
■ 8/8 YES

Do you know the immediate signs of an approaching distant tsunami?

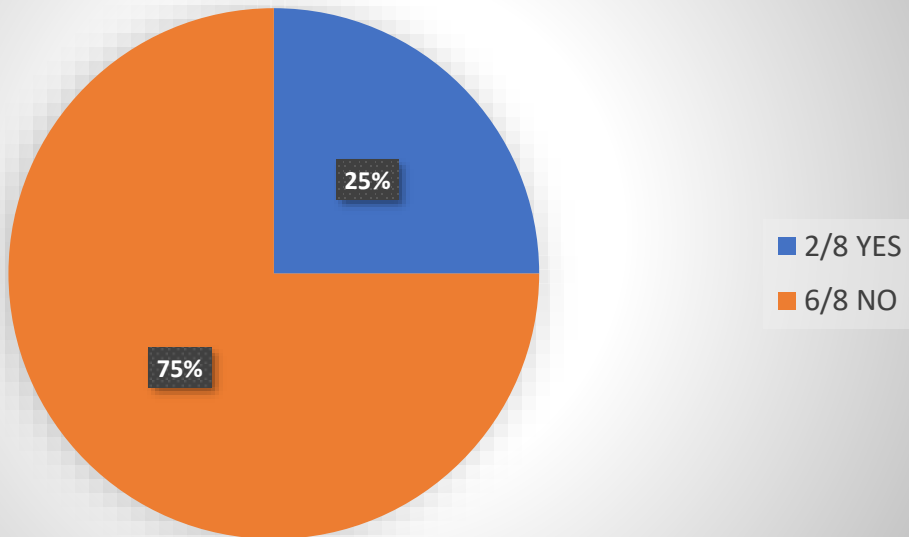


■ 8/8 YES

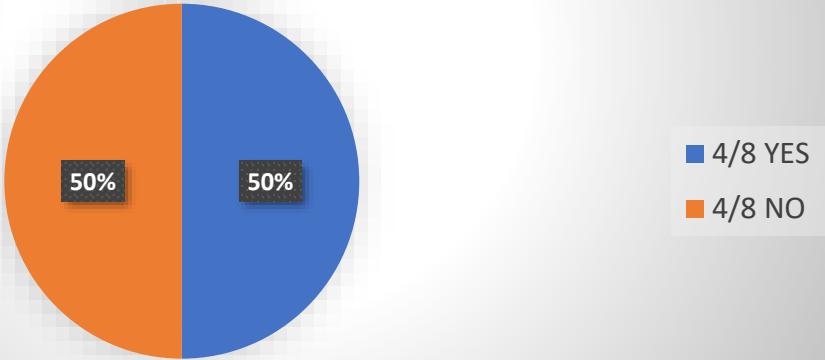
Do you know tsunami can also be triggered by landslides?



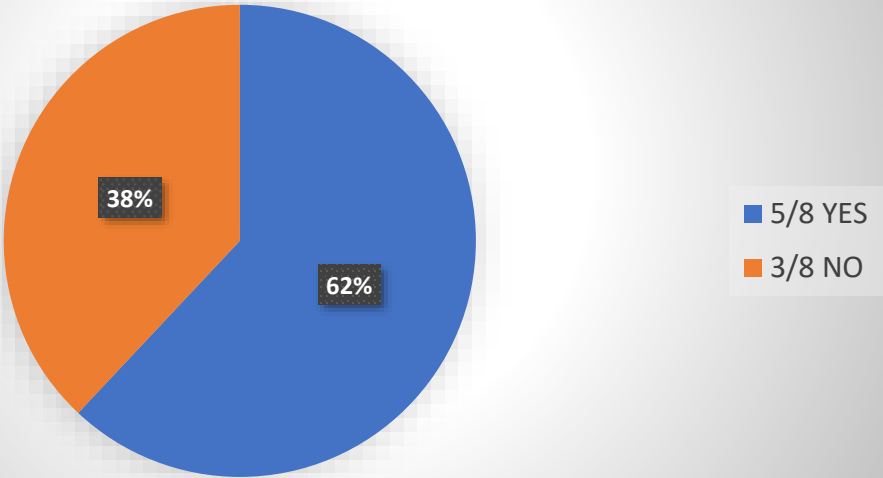
Are you a certified amateur radio operator?



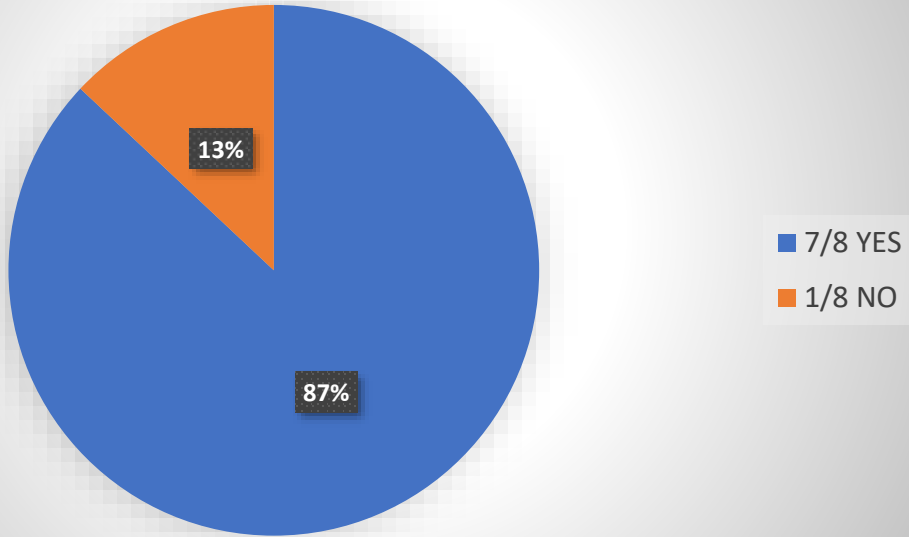
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in KCFN?



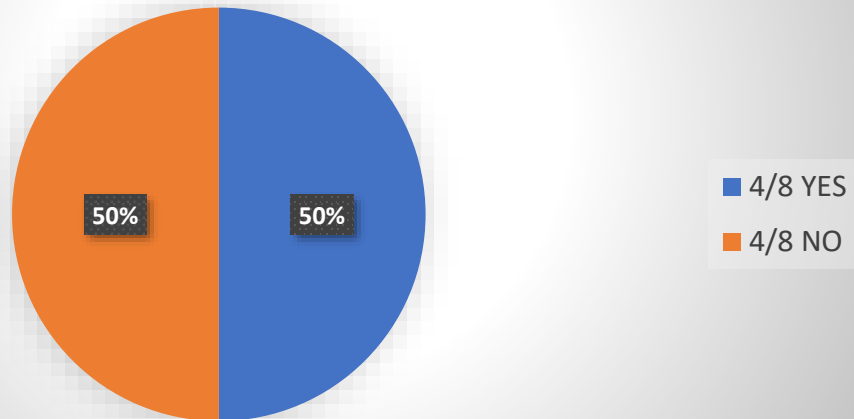
Do you have a satellite communication device?



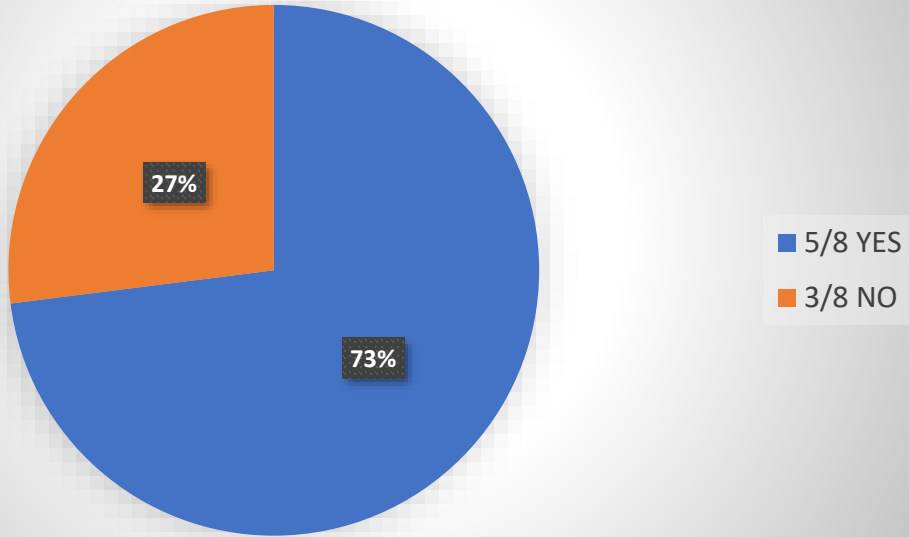
Do you have any recommended feedback?



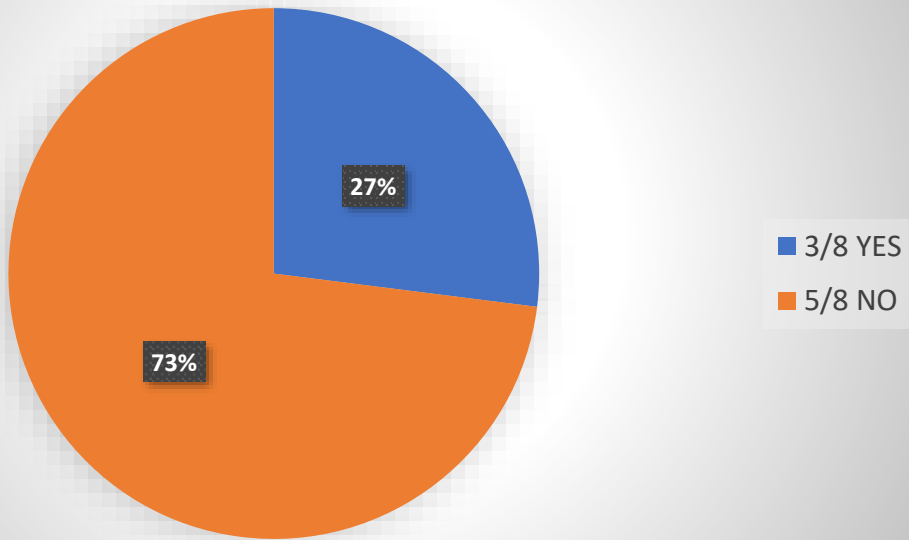
Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



Anything else you want to share with us?



Ka:'yu:'k't'h'/Che:k:tles7et'h' Feedback & Experiences

Early 60's Kyuquot Sound - "Damaged logging camps that were close to sea level. Tides receding rapidly and returning and way above normal high water. This happened three or four times. We were on a hill above the village watching this happen, luckily all the fishing boats were out fishing. There was another one a few years later, probably the one that hit Port Alberni."

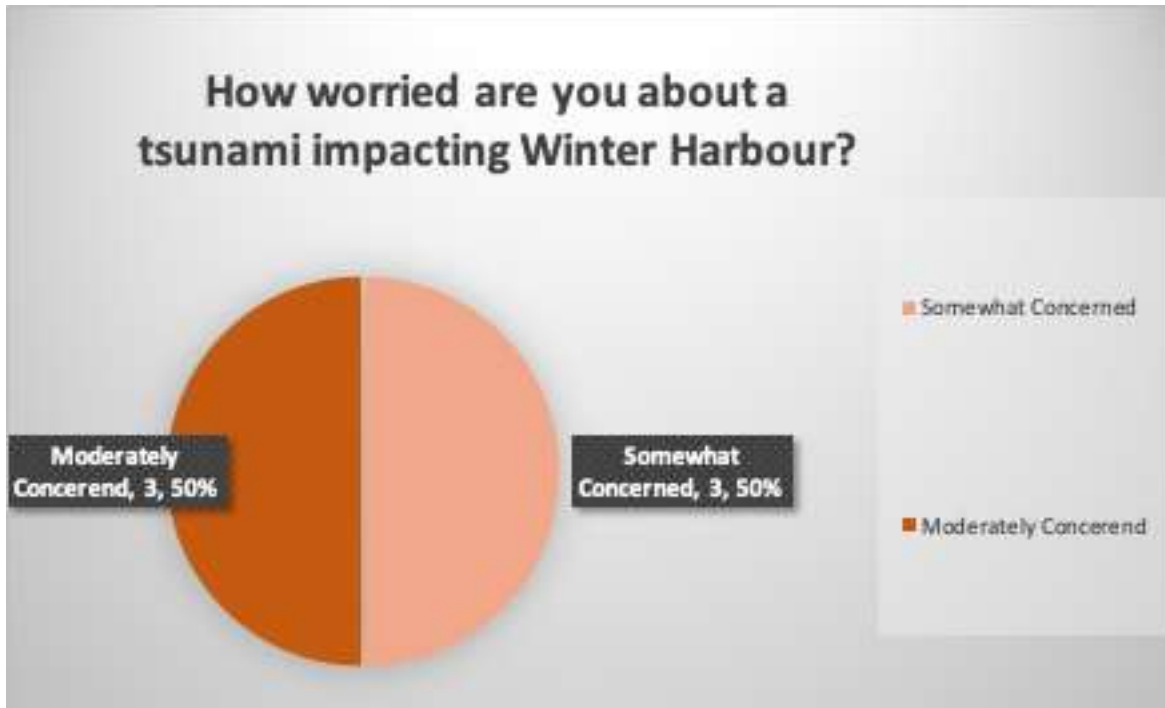
Early 60's Actis Island - "It was late spring and a very nice day, all the fish boats were out fishing. There was no warning, just the water receding to just about drying out the bay, and then ocean roaring back in and the water level several feet over normal tides, water was close to level on our ball field, maybe some got it on north end of island as it is a few feet lower there. The tidal wave as it was called then, receded and washed back in maybe three times maybe four during that day, no damage on the island. Most of us that were there watched the whole event from a hill on south end of island. There was another tsunami, this one hit at night, I only heard the stories from others. More damage this time, logging camp in Amai inlet darn near washed out. Also heard stories in Zeballos where buildings were moved, probably have records on when this one hit."

Winter Harbour

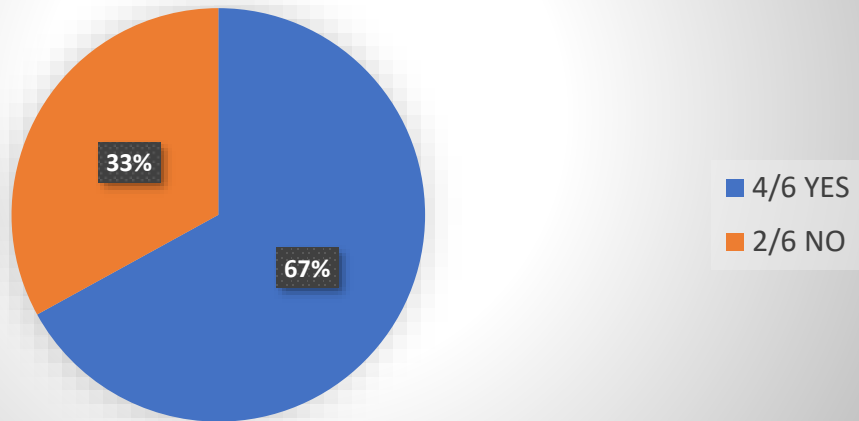
6 Responses

Responses expressed a concern that the siren is not loud enough and communications will be problematic. There was also a demand for:

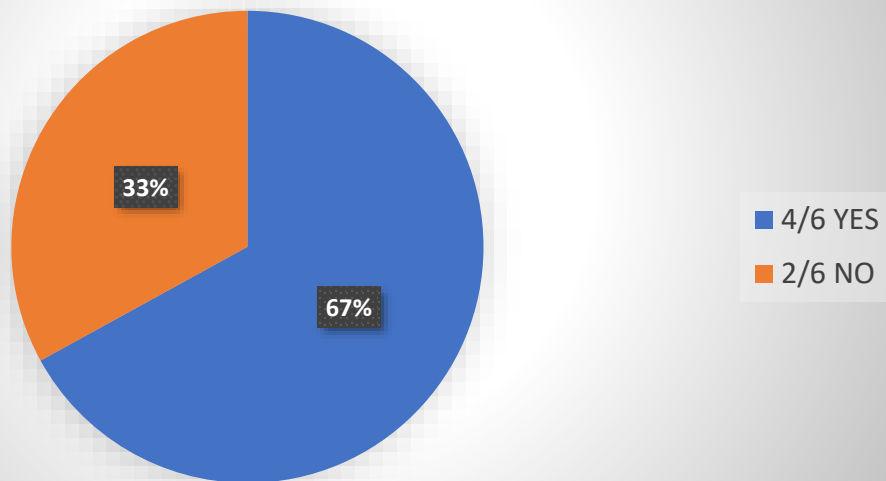
- Training and education.
- Door-to-door information.



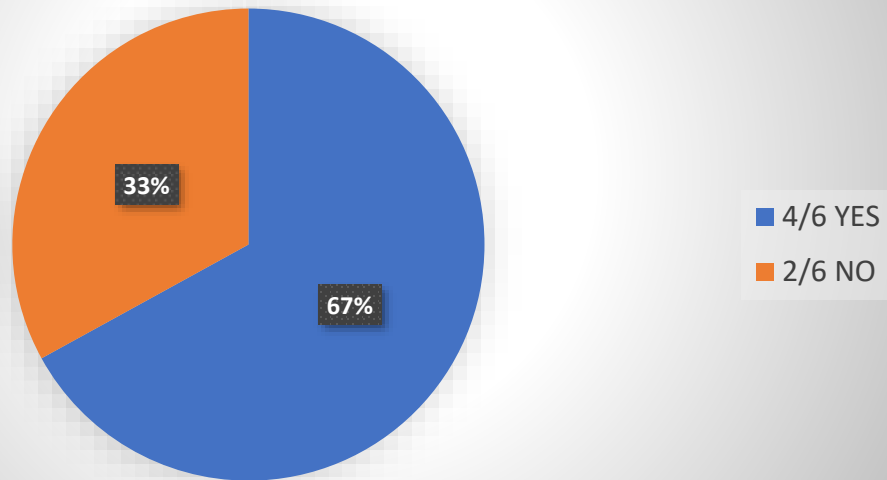
Do you and your family have enough disaster supplies in case Winter Harbour is cut off for two weeks and you have to shelter in place?



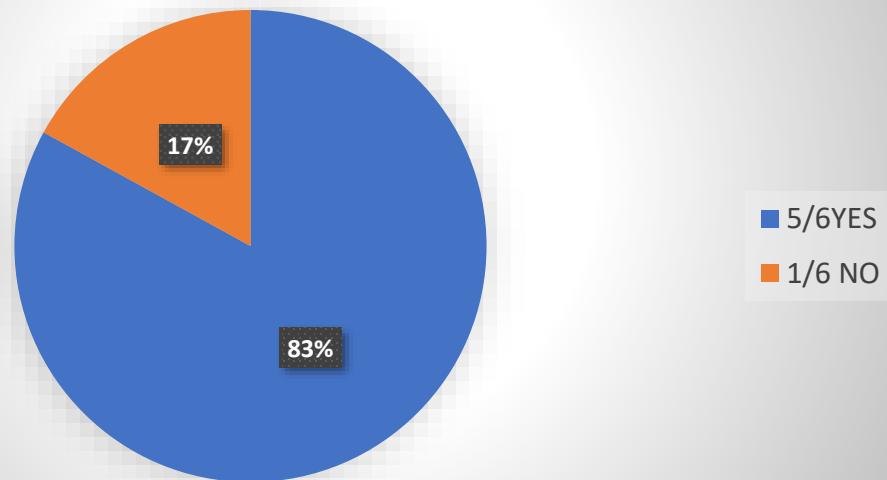
Are your supplies portable, such as in a backpack or suitcase with wheels?



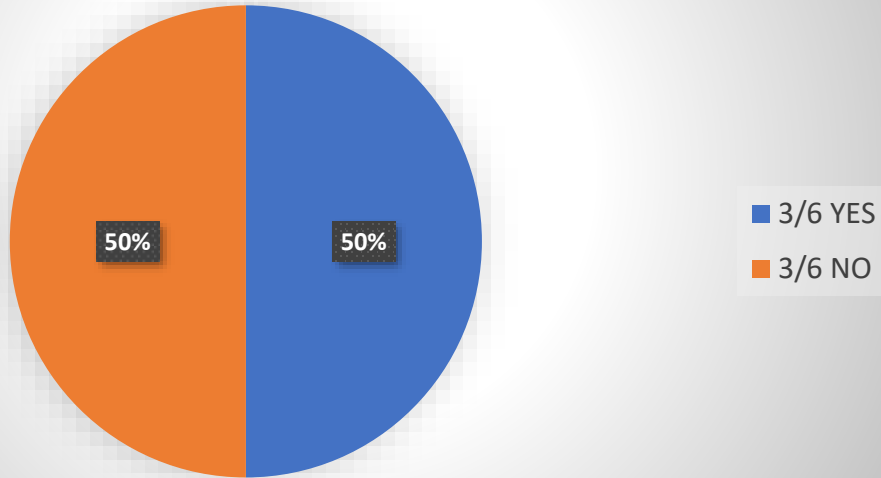
Do you know your Winter Harbour's tsunami meeting points?



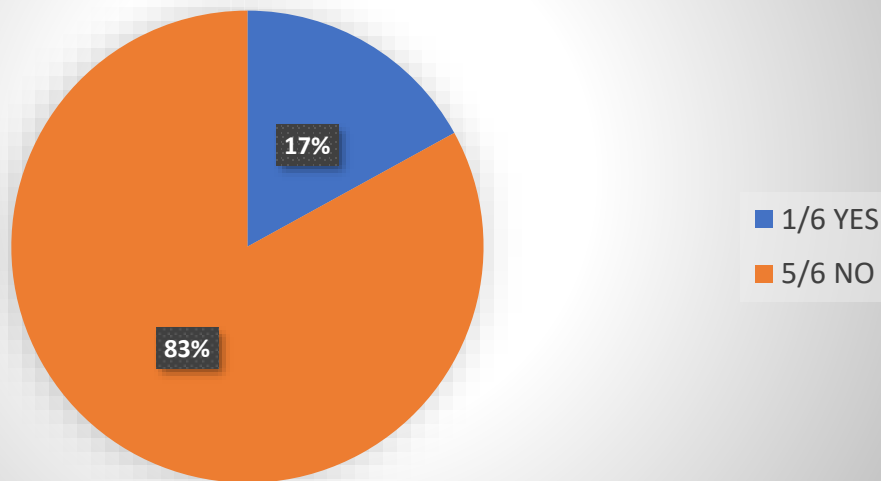
Do you know your Winter Harbour's tsunami evacuation routes?



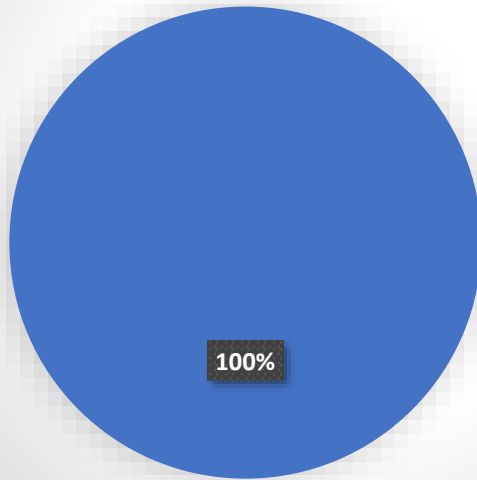
Do you know how your community will alert you if there is a tsunami threat?



Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?

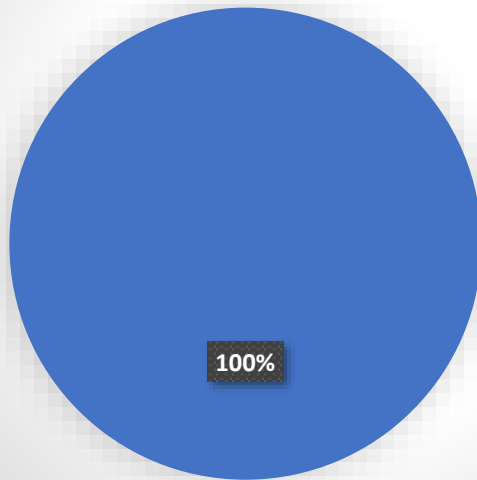


Do you know the immediate signs of an approaching local tsunami?



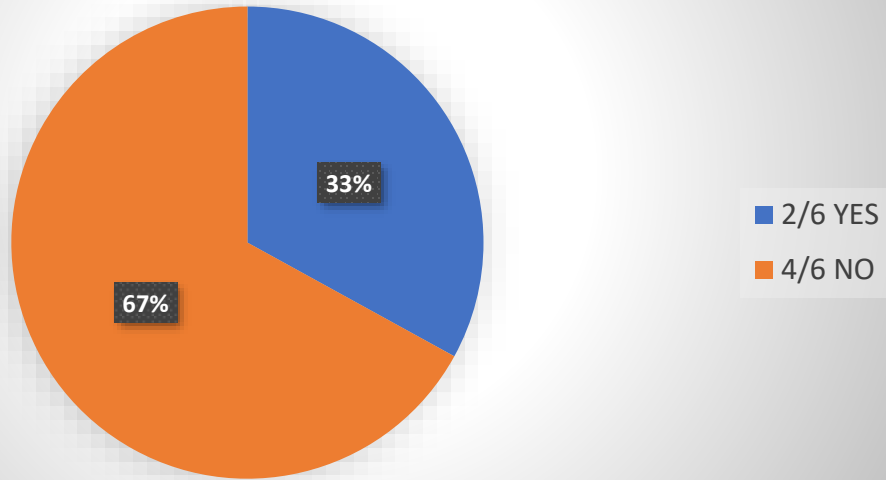
■ 6/6 YES

Do you know the immediate signs of an approaching distant tsunami?

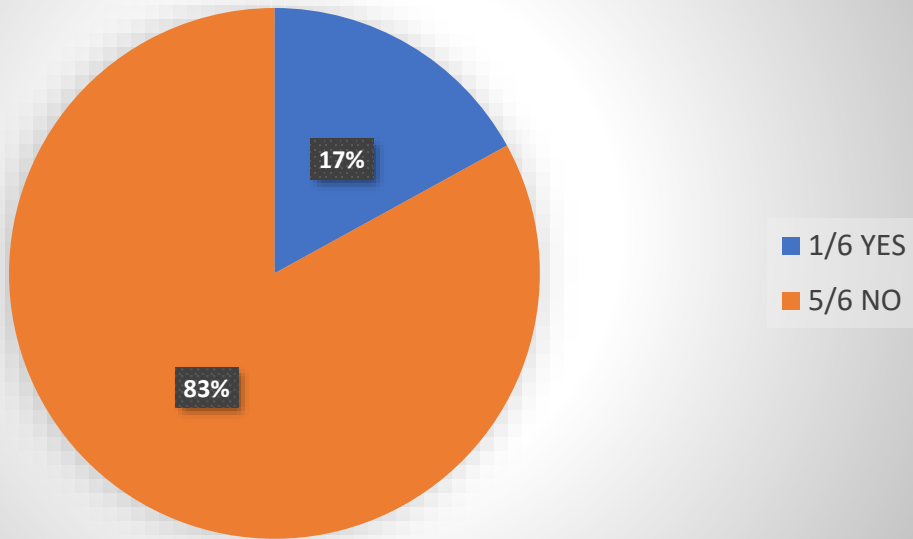


■ 6/6 YES

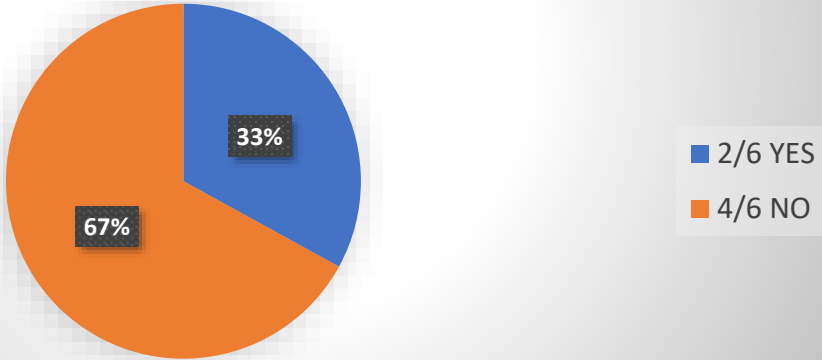
Do you know tsunami can also be triggered by landslides?



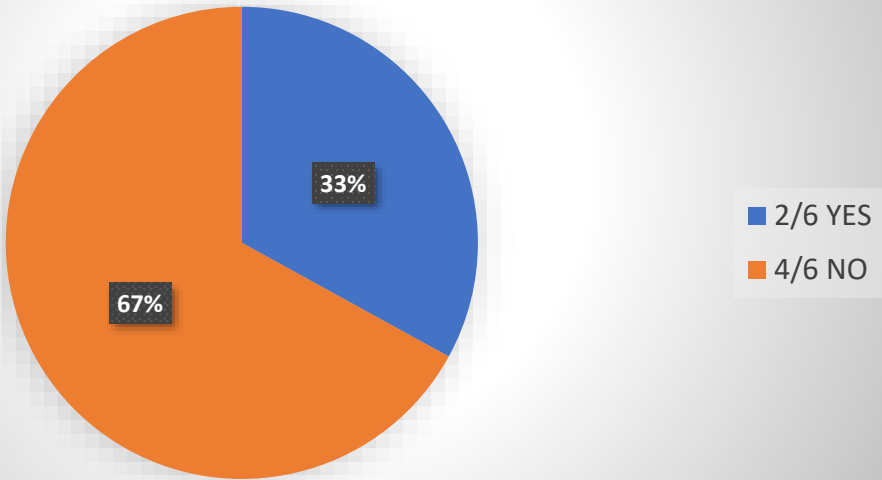
Are you a certified amateur radio operator?



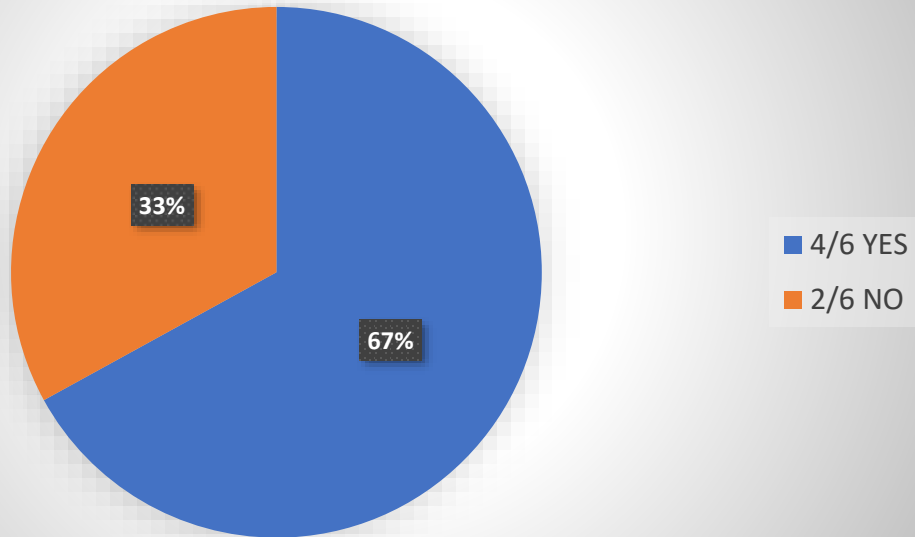
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Winter Harbour?



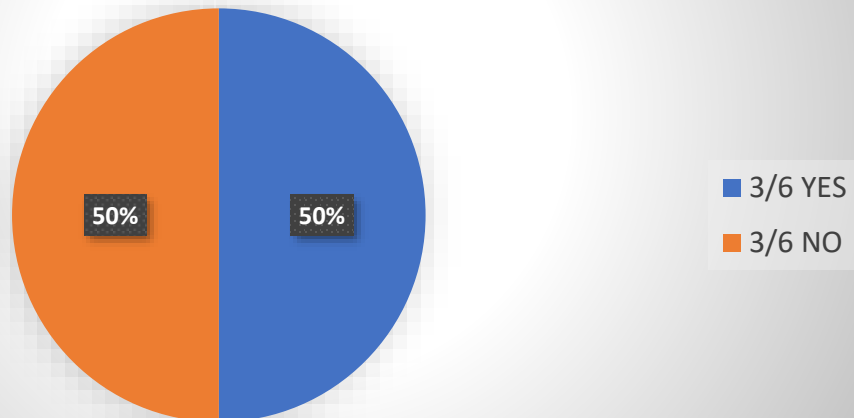
Do you have a satellite communication device?



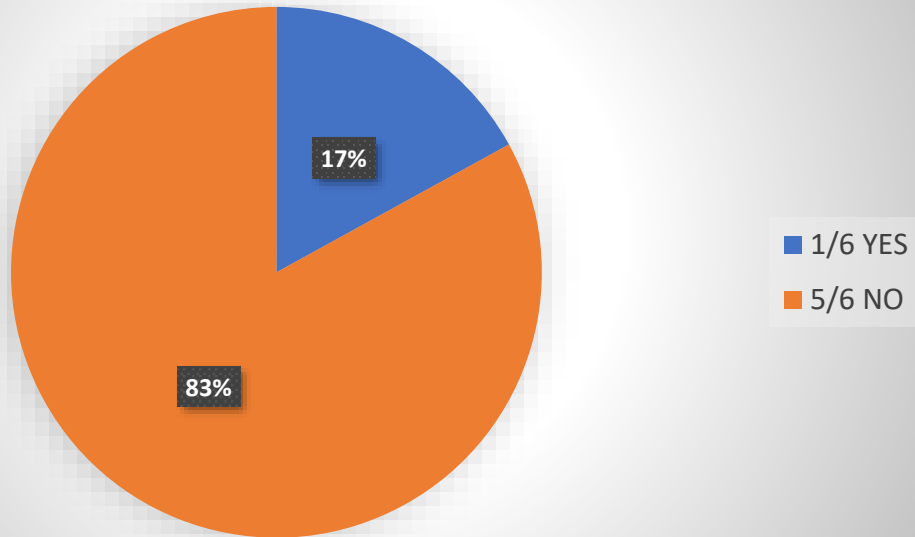
Do you have any recommended feedback?



Do you have personal experience of a tsunami event in Northwest Vancouver Island?



Can you provide details?



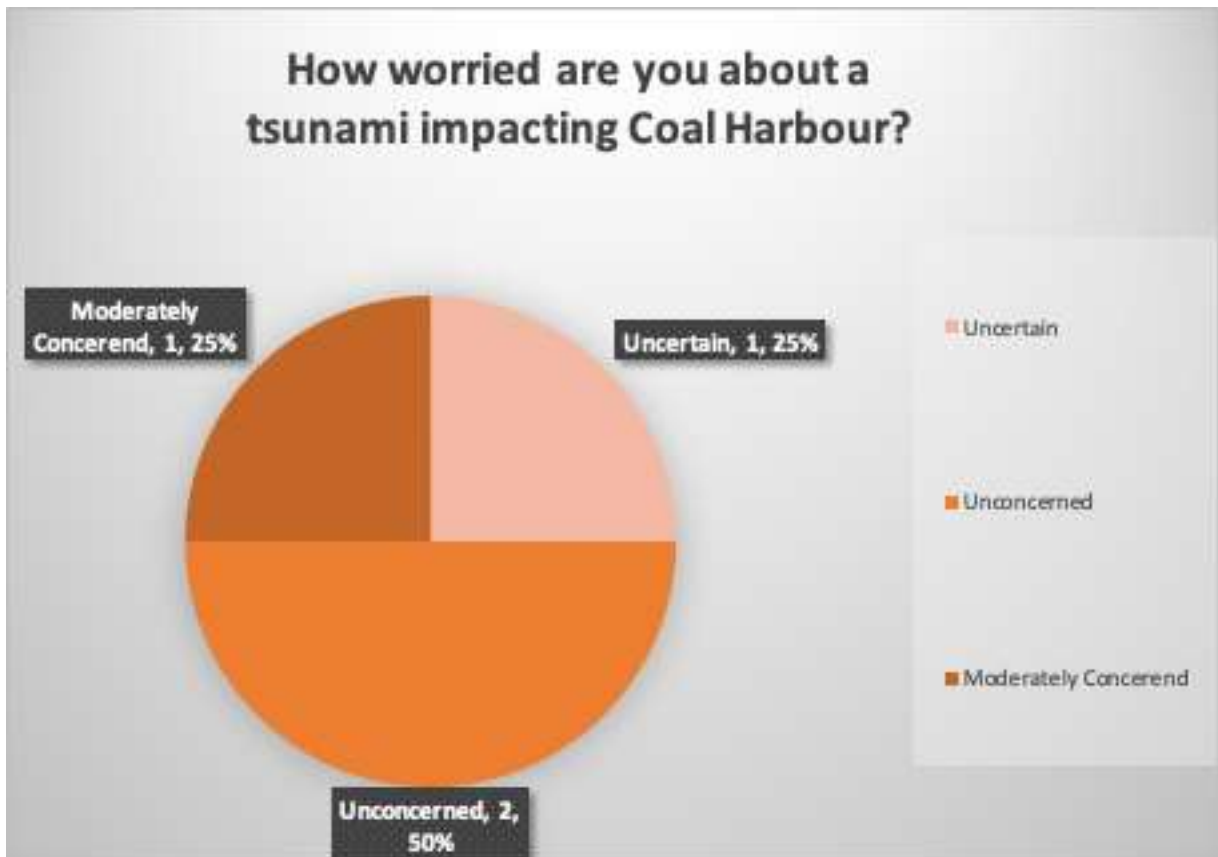
Winter Harbour Feedback & Experiences

2009 - "Japan tsunami. Small recession and surge of waters."

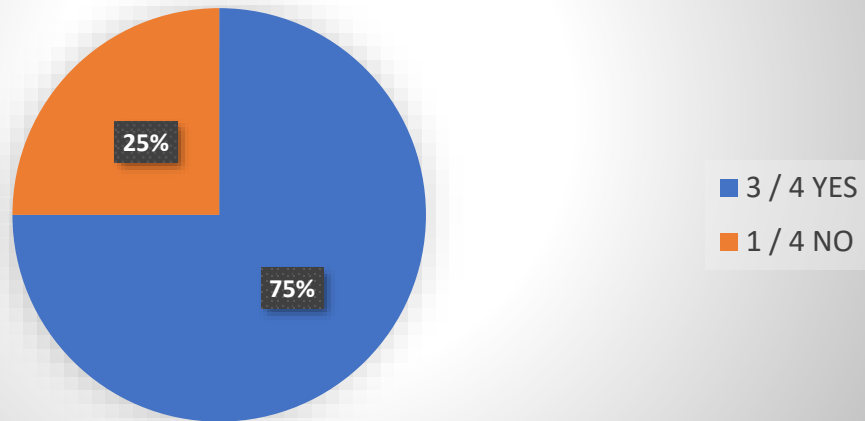
"The Chilean earthquake of 1960 hit our community hard with a tidal surge cycle of 3hrs. The Alaskan earthquake of 1964 hit us even harder."

"Last Japan Tsunami reached here, it was large, fast tides all day."

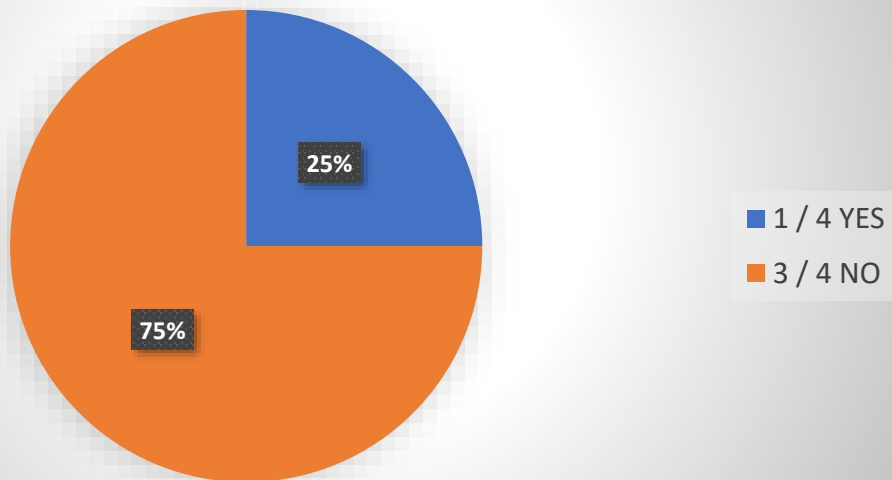
Coal Harbour
4 responses



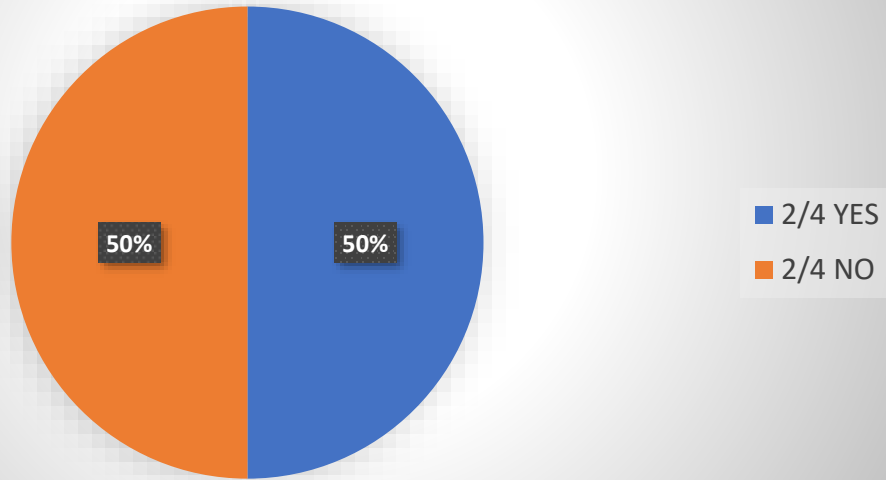
Do you and your family have enough disaster supplies in case Coal Harbour is cut off for two weeks and you have to shelter in place?



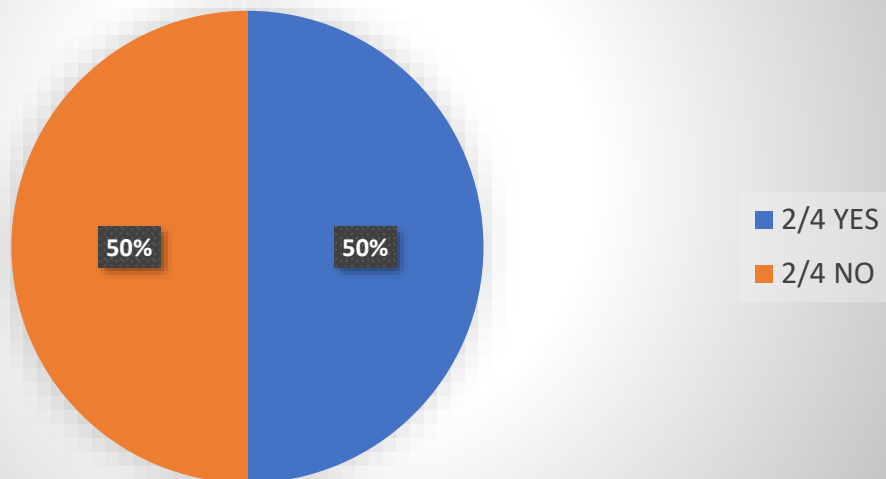
Are your supplies portable, such as in a backpack or suitcase with wheels?



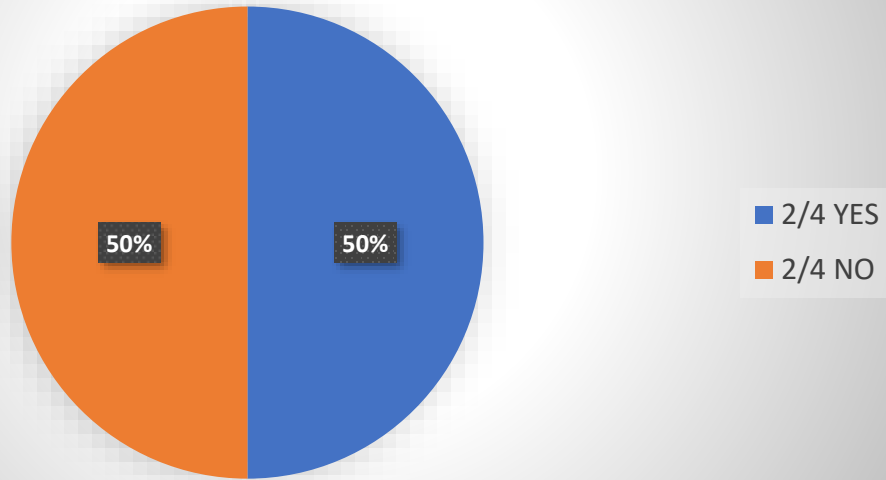
Do you know Coal Harbour's tsunami meeting points?



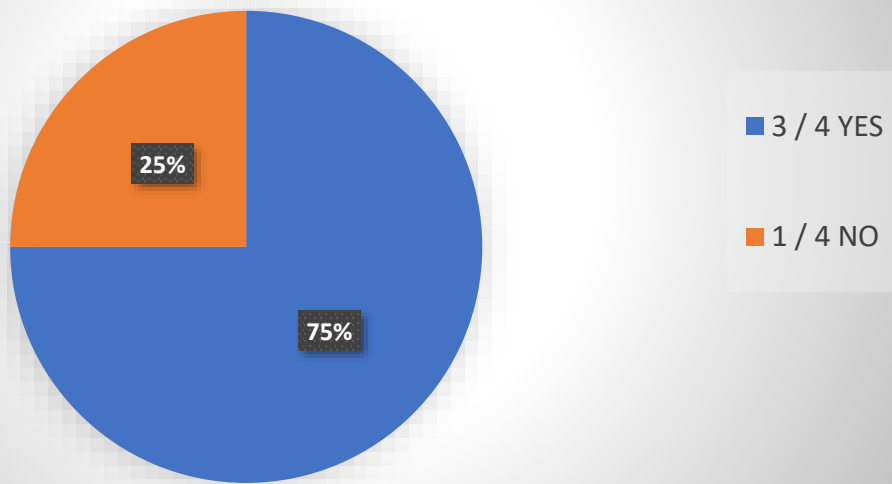
Do you know Coal Harbour's tsunami evacuation routes?



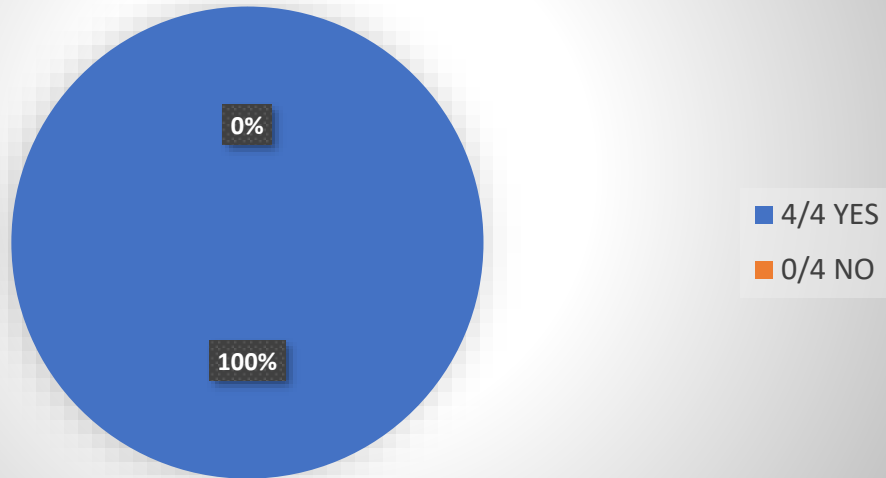
Do you know how your community will alert you if there is a tsunami threat?



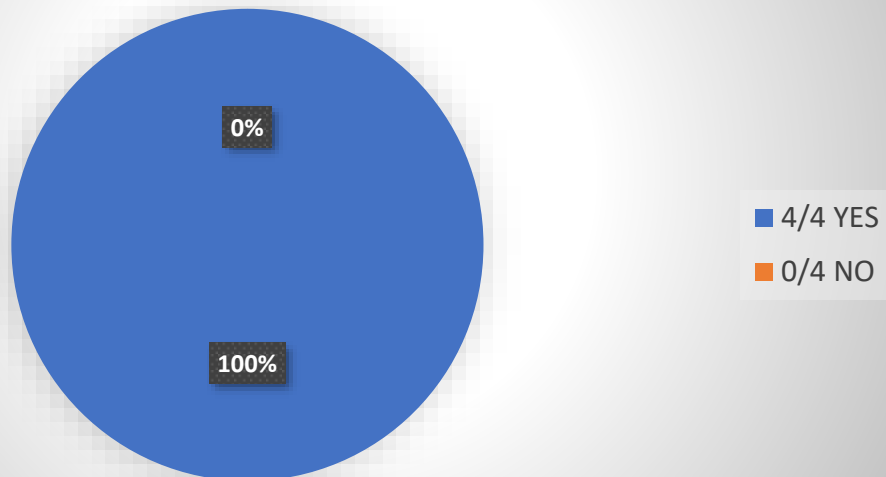
Do you know how the Canadian Coast Guard broadcasts tsunami alerts to mariners?



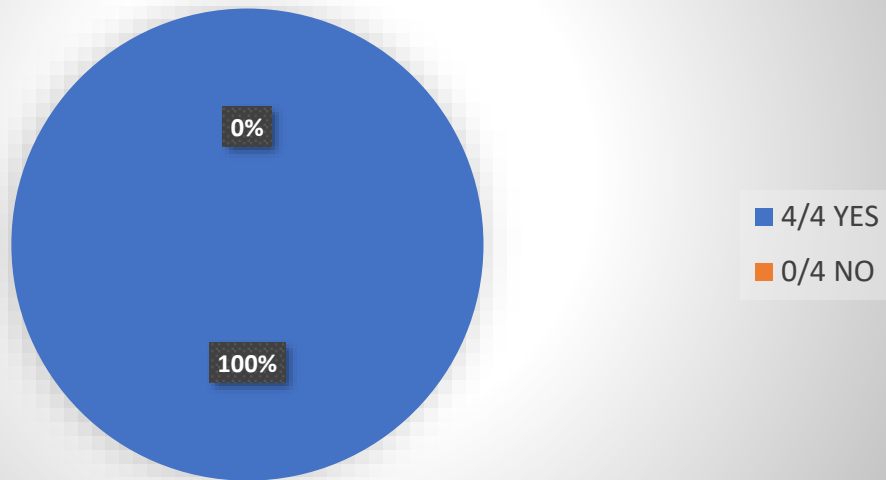
Do you know the immediate signs of an approaching local tsunami?



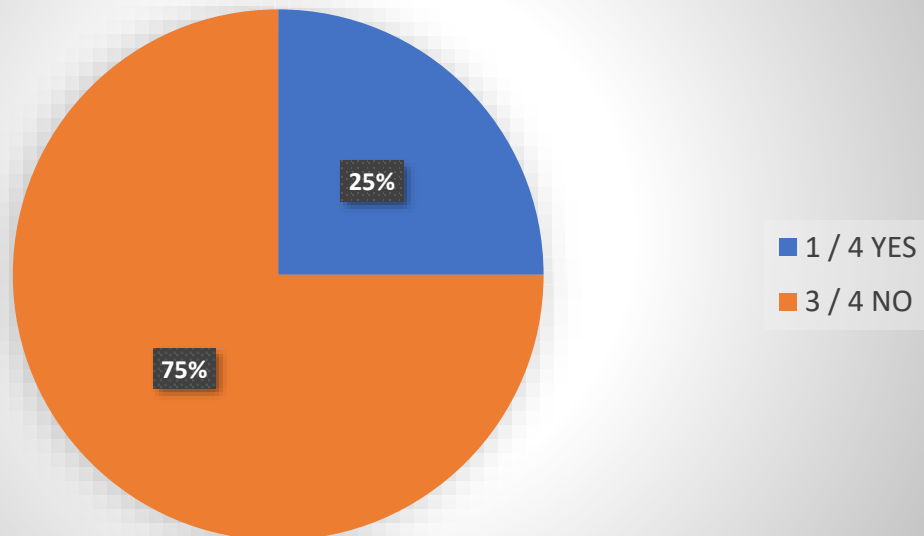
Do you know the immediate signs of an approaching distant tsunami?



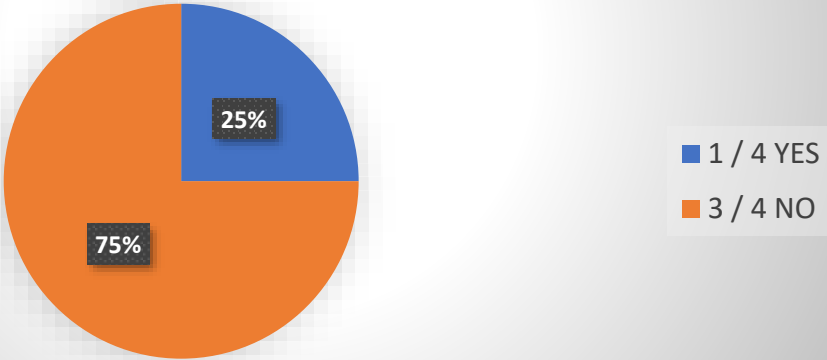
Do you know tsunami can also be triggered by landslides?



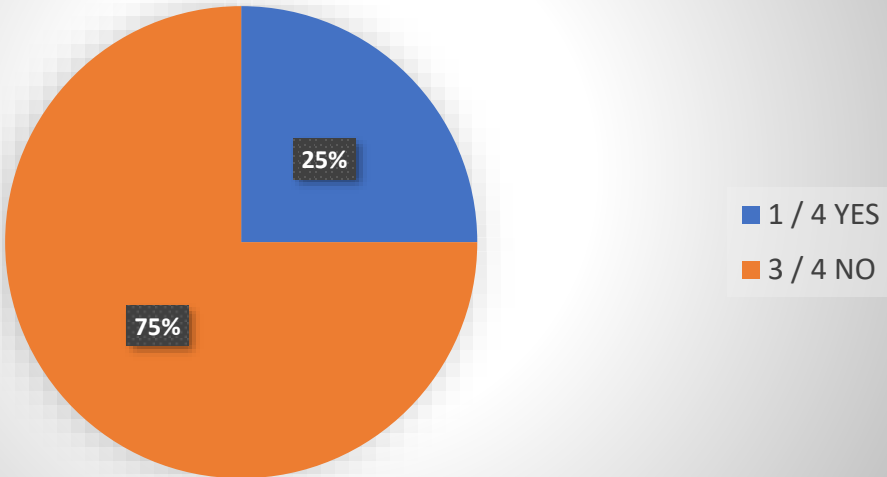
Are you a certified amateur radio operator?



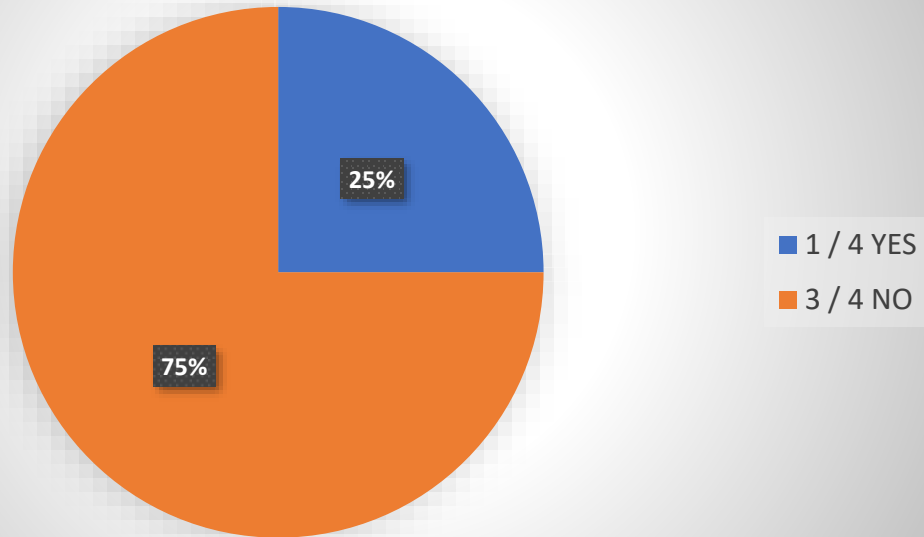
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Coal Harbour?



Do you have a satellite communication device?



Do you have any recommended feedback?



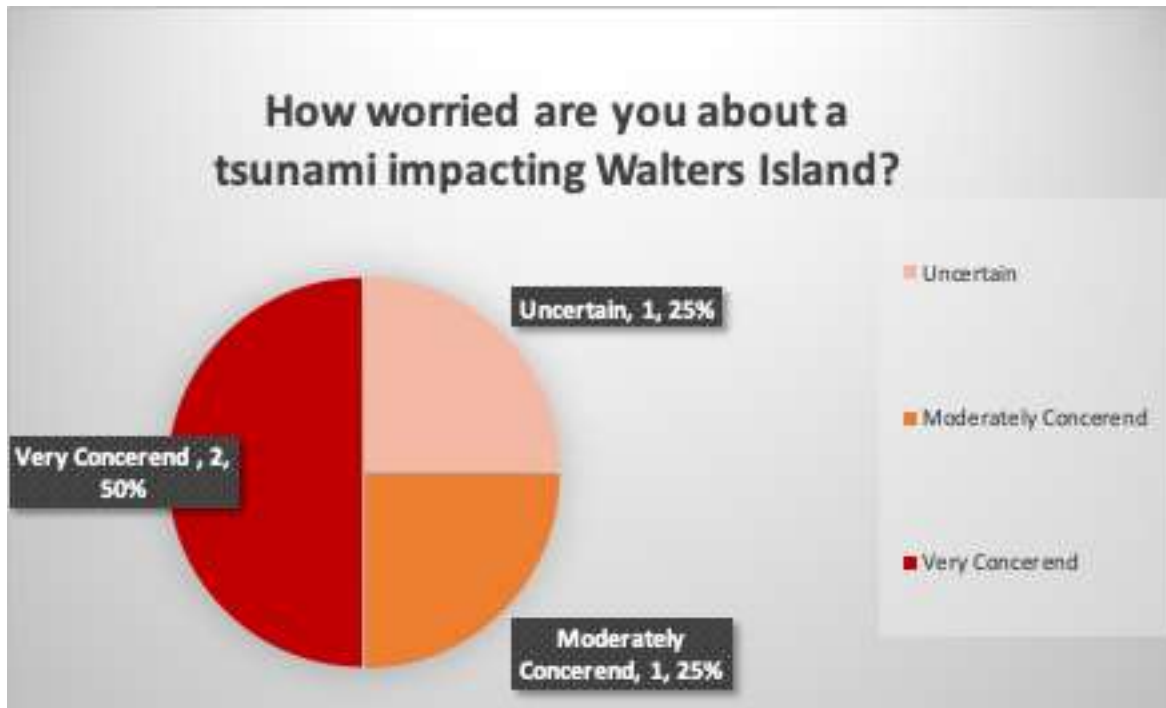
Coal Harbour Feedback & Experiences

“If the quake happened in outside waters, would the energy of the wave be able to fit through Quatsino Narrows?”

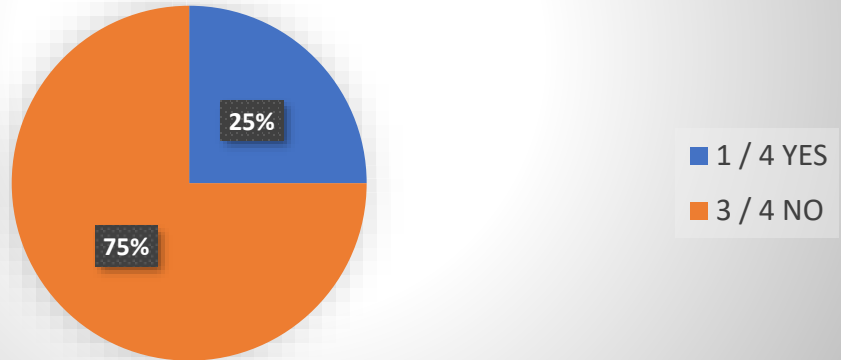
Walter's Island

4 responses

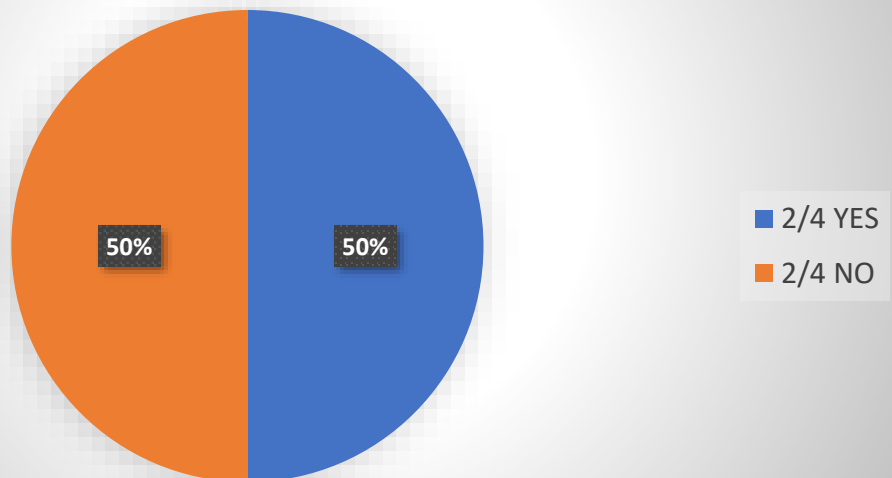
Public education and emergency preparedness drills were requested by the community responses.



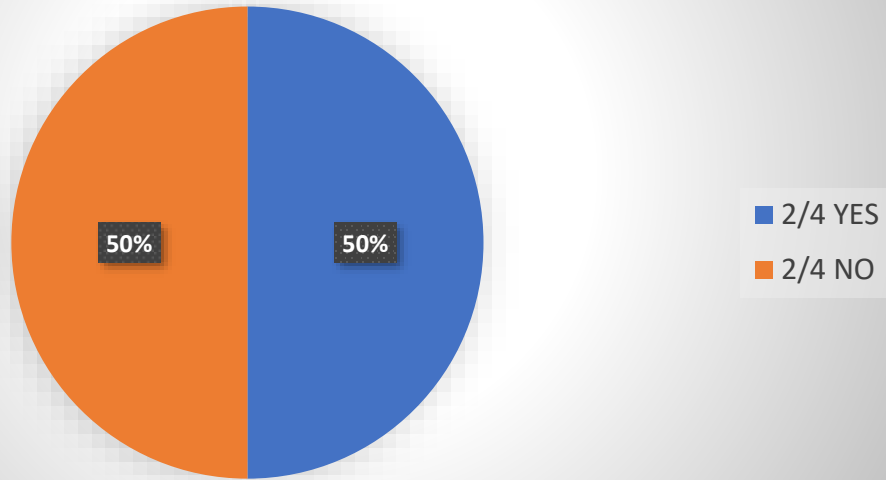
Do you and your family have enough disaster supplies in case Walter's Island is cut off for two weeks and you have to shelter in place?



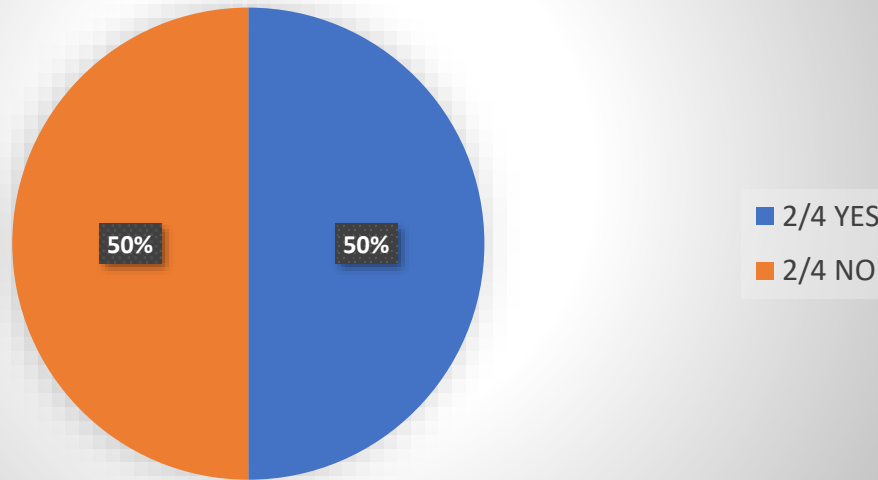
Are your supplies portable, such as in a backpack or suitcase with wheels?



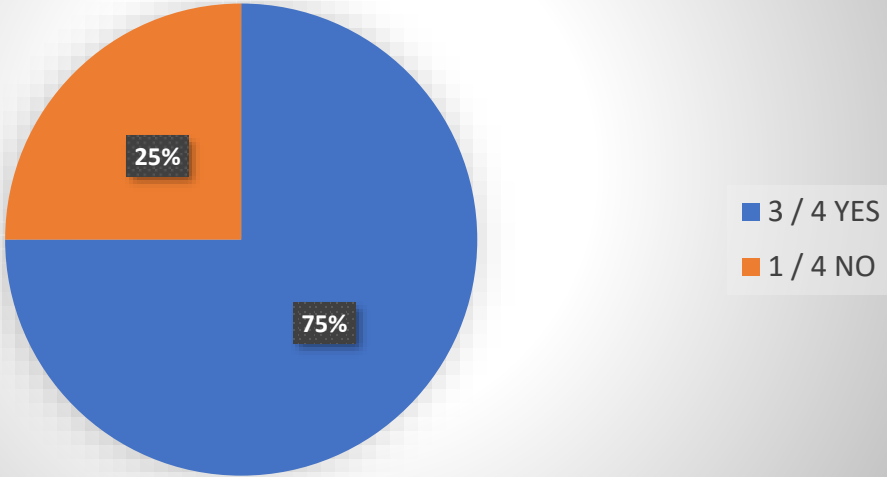
Do you know Walter's Island's tsunami meeting points?



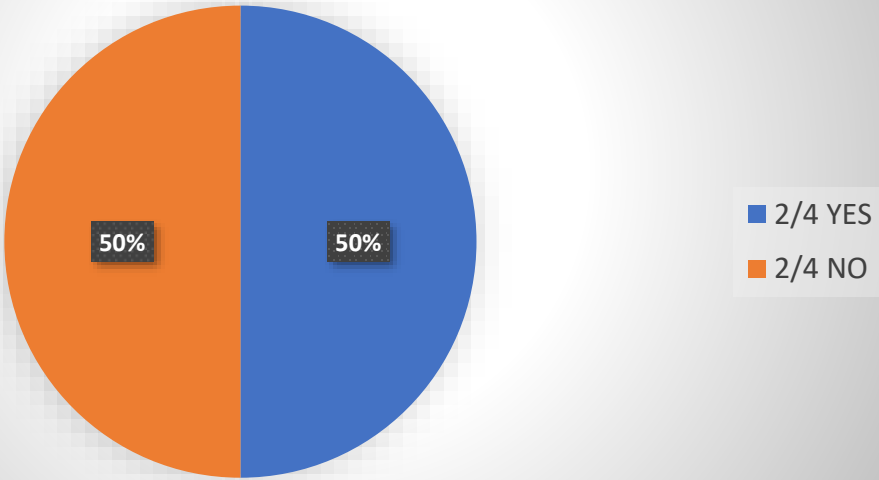
Do you know Walter's Island's tsunami evacuation routes?



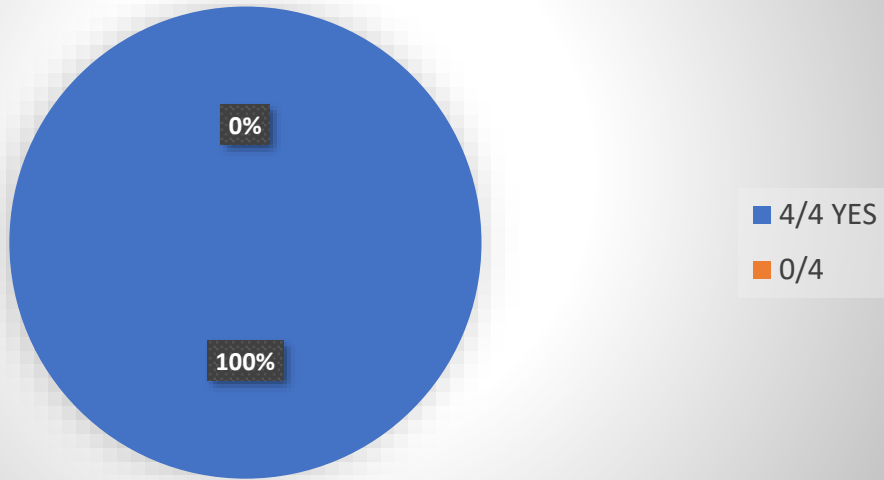
Do you know how your community will alert you if there is a tsunami threat?



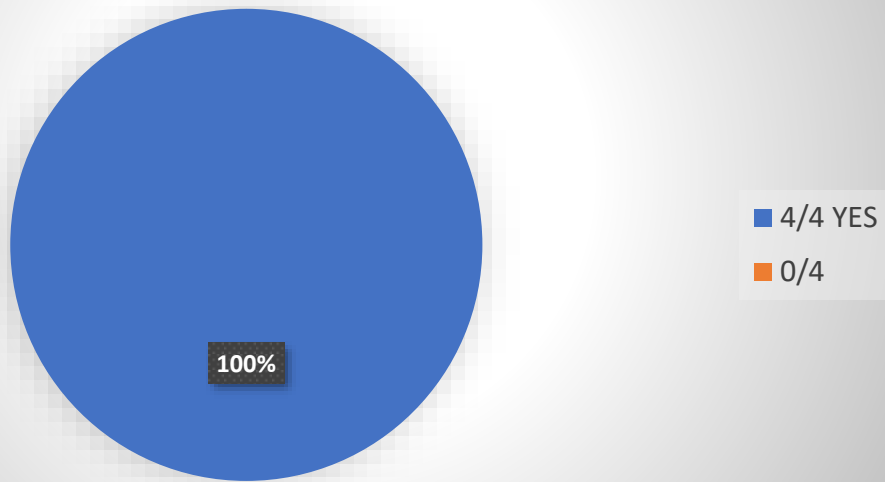
Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



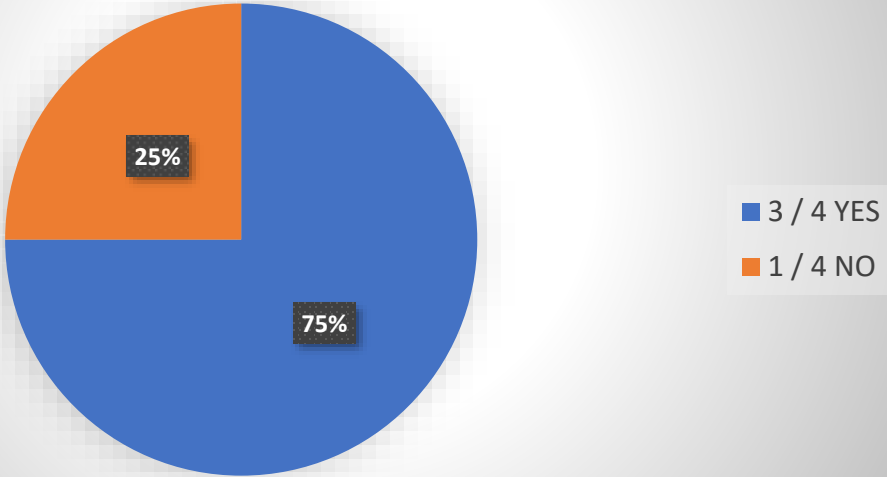
Do you know the immediate signs of an approaching local tsunami?



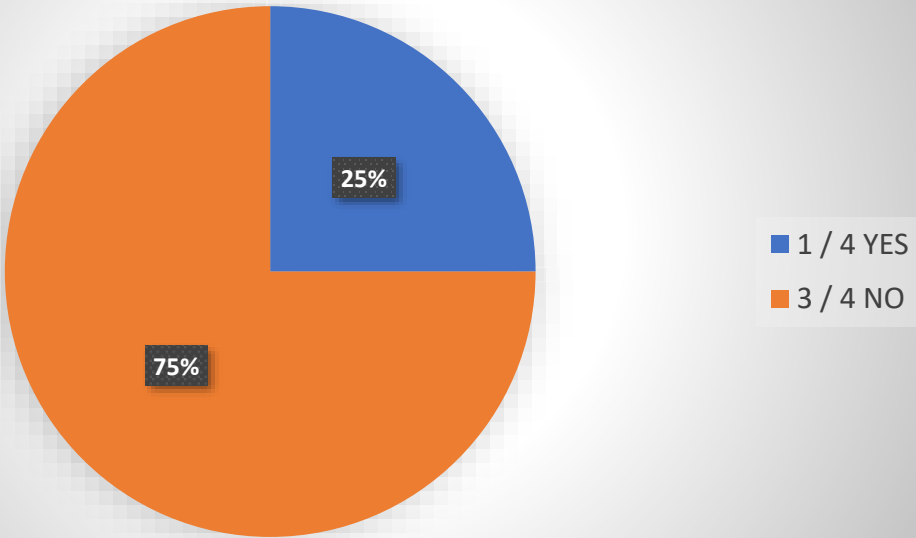
Do you know the immediate signs of an approaching local tsunami?



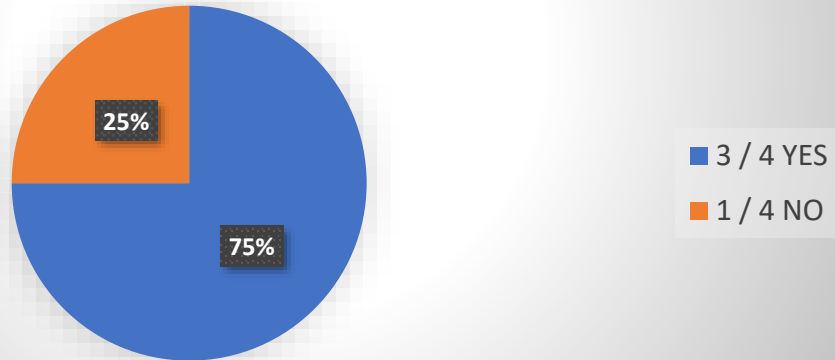
Do you know tsunami can also be triggered by landslides?



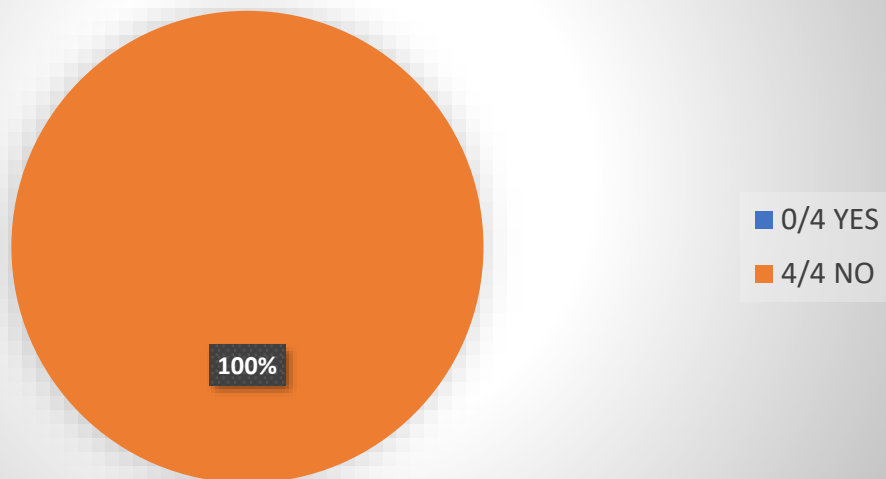
Are you a certified amateur radio operator?



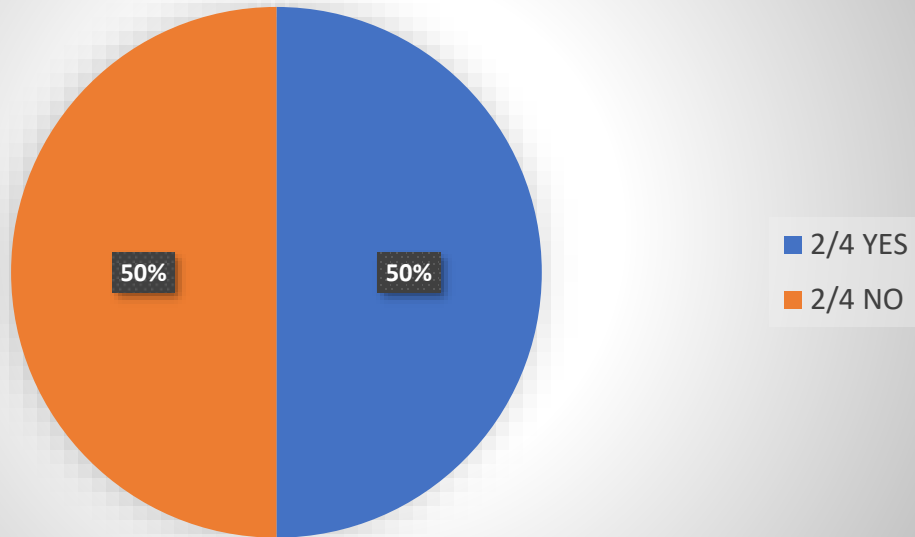
Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications on Walter's Island?



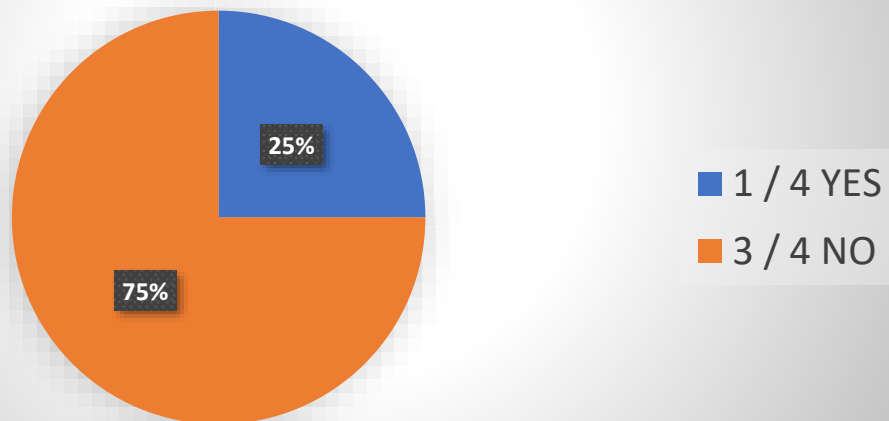
Do you have a satellite communication device?



Do you have any recommended feedback?



Do you have personal experience of a tsunami event in Northwest Vancouver Island?



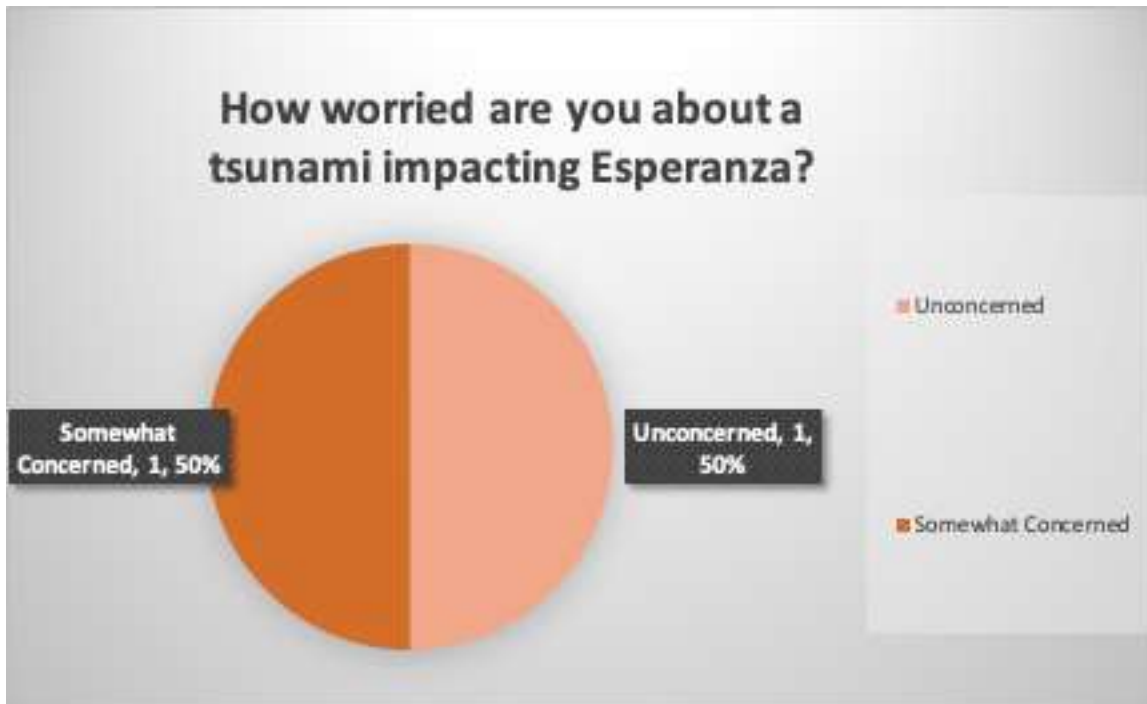
Walters Island Feedback & Experiences

“The local tsunami muster station is at the school (KESS) across the bay. However, as a resident of Walter's Island, I worry we may not be able to cross the bay if there is a tsunami coming. I would like to know where a safe place (safe elevation) would be on Walters Island.”

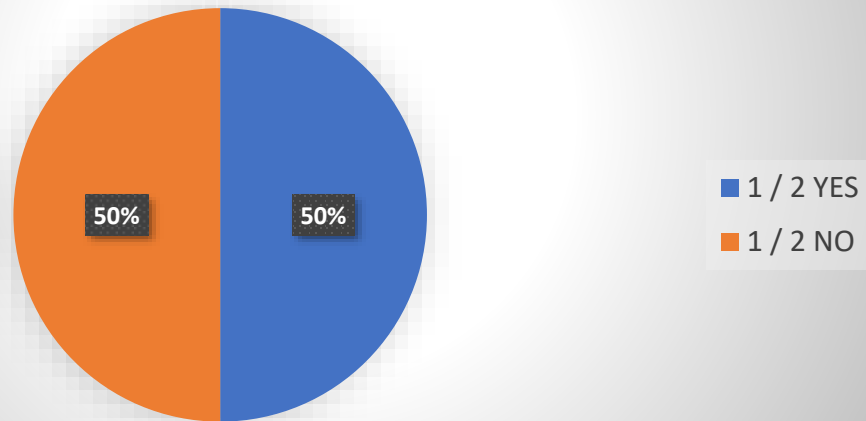
“It is unrealistic to be able to transport two weeks of food, water, and other supplies for five people (our family) in a tsunami bag. It would be nice to be able to store some supplies at a local muster site.”

Esperanza
2 Responses

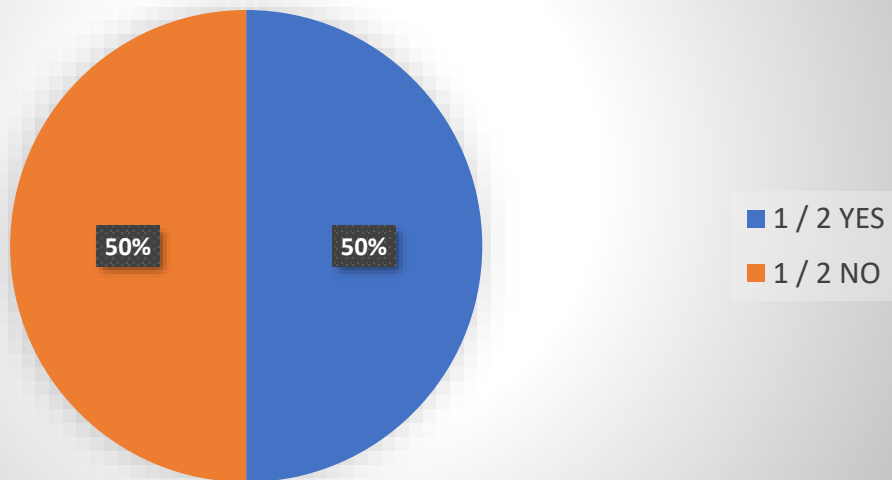
Responses requested regular emergency preparedness drills and reported that Esperanza was minimally impacted from past tsunamis.



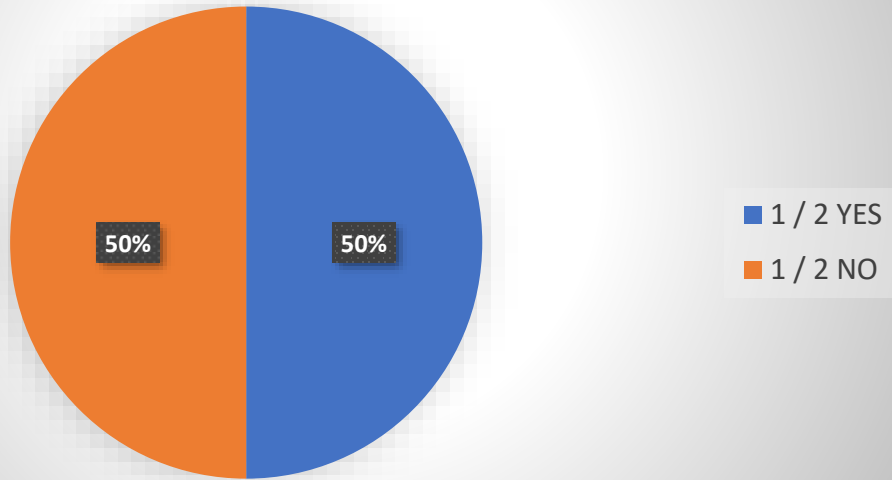
Do you and your family have enough disaster supplies in case Esperanza is cut off for two weeks and you have to shelter in place?



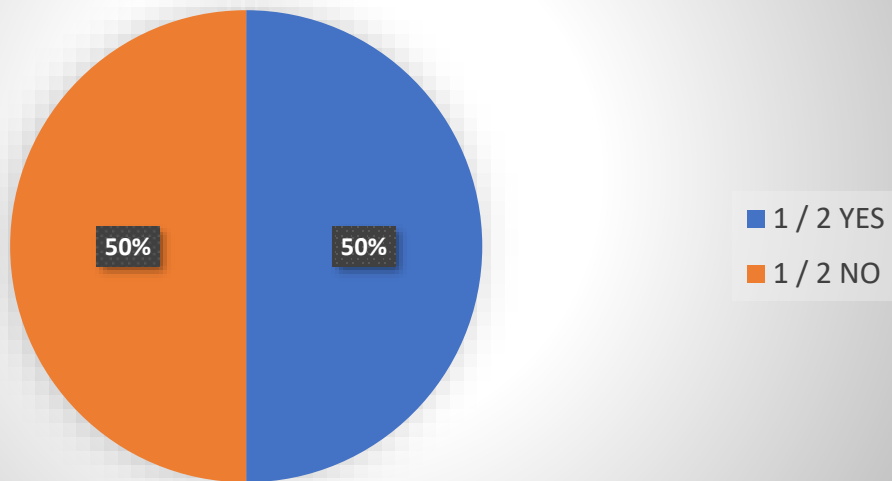
Are your supplies portable, such as in a backpack or suitcase with wheels?



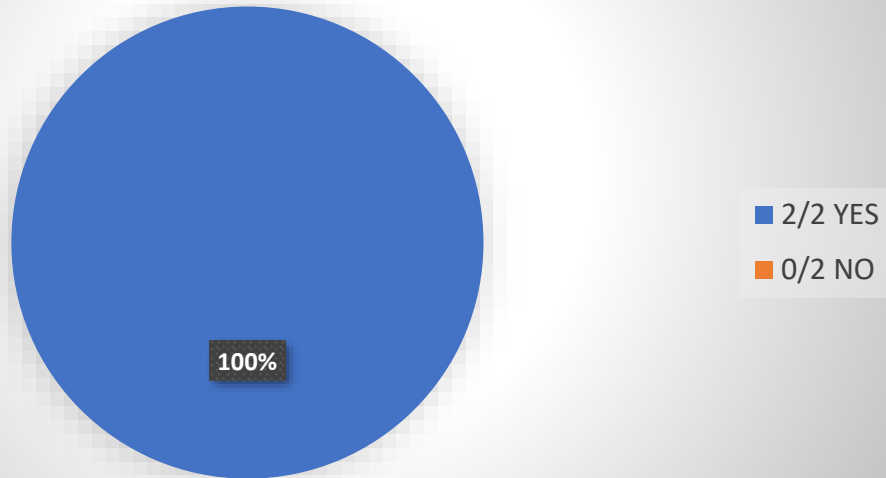
Do you know Esperanza's tsunami meeting points?



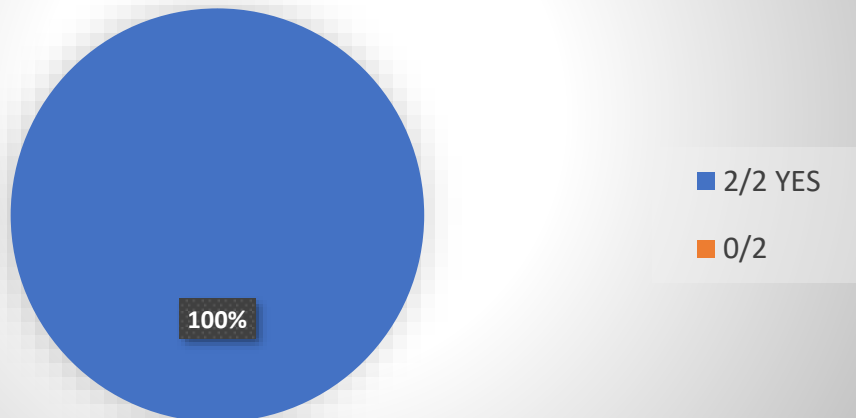
Do you know Esperanza's tsunami evacuation routes?



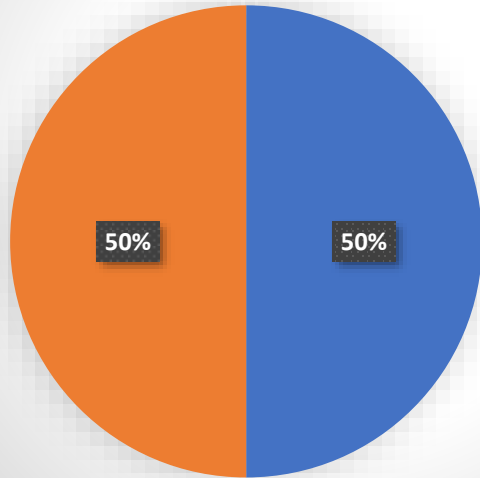
Do you know how your community will alert you if there is a tsunami threat?



Do you know how the Canadian Coast Guard Broadcasts tsunami alerts to mariners?



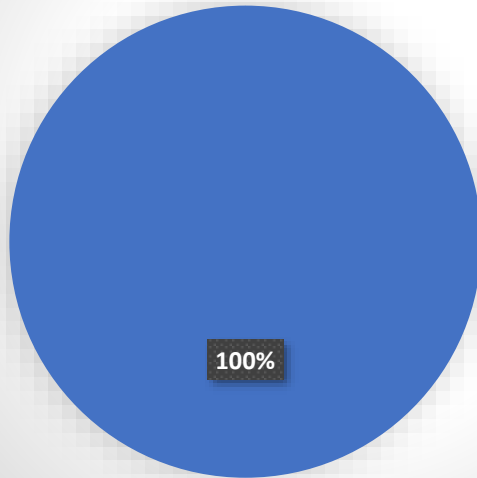
Do you know the immediate signs of an approaching local tsunami?



■ 1 / 2 YES

■ 1 / 2 NO

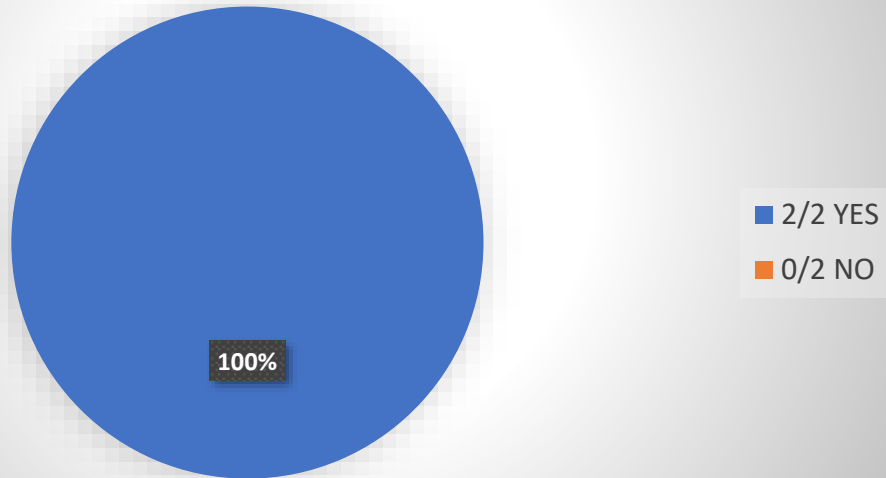
Do you know the signs of an approaching distant tsunami?



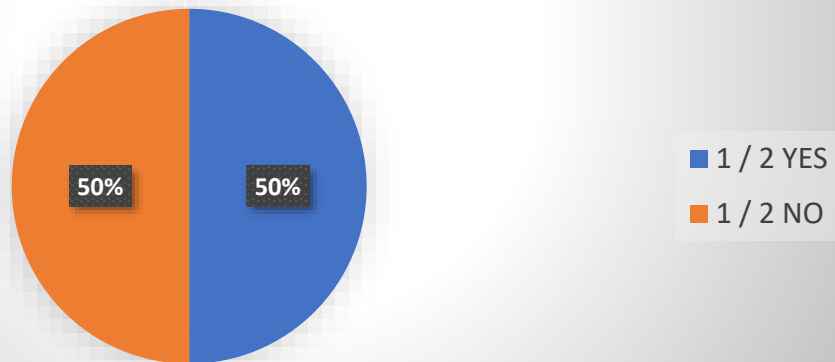
■ 2/2 YES

■ 0/2 NO

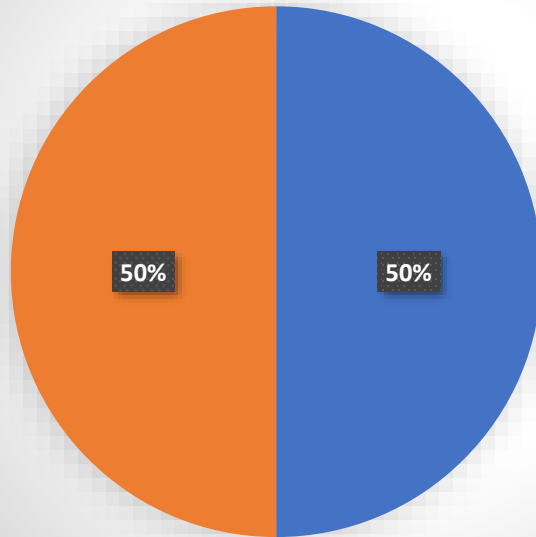
Do you know tsunami can also be triggered by landslides?



Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Esperanza?

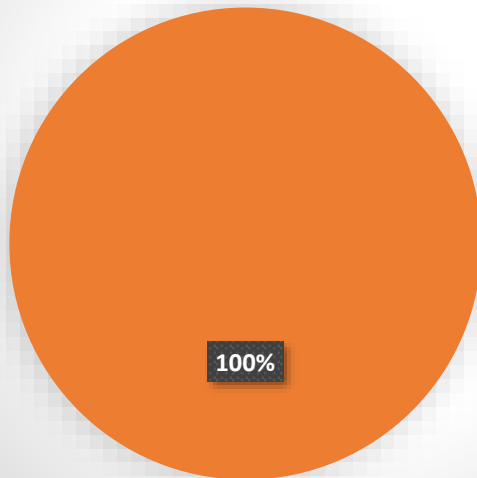


Are you a certified amateur radio operator?



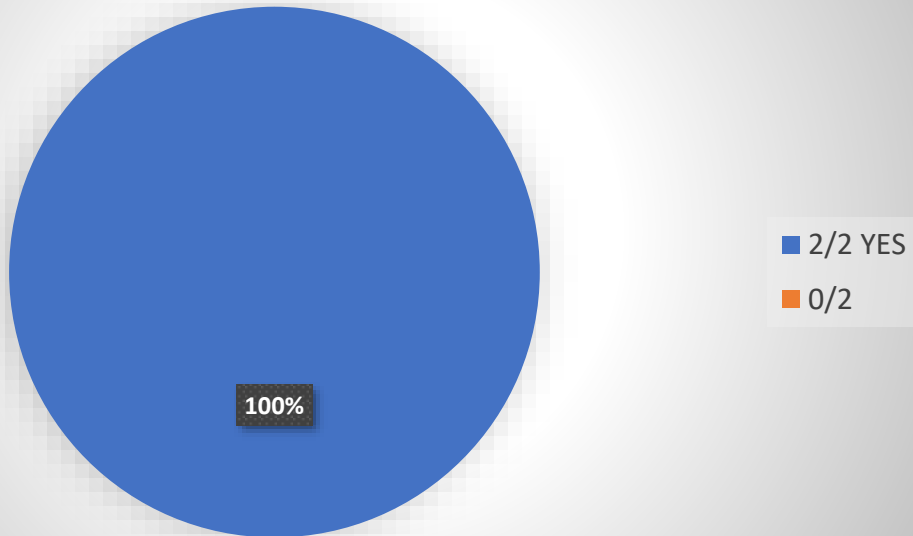
- 1 / 2 YES
- 1 / 2 NO

Do you have a satellite communication device?

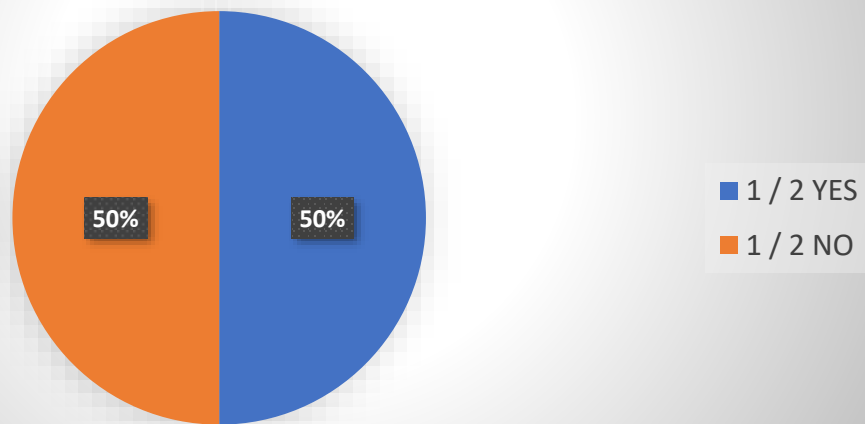


- 0/2 YES
- 2/2 NO

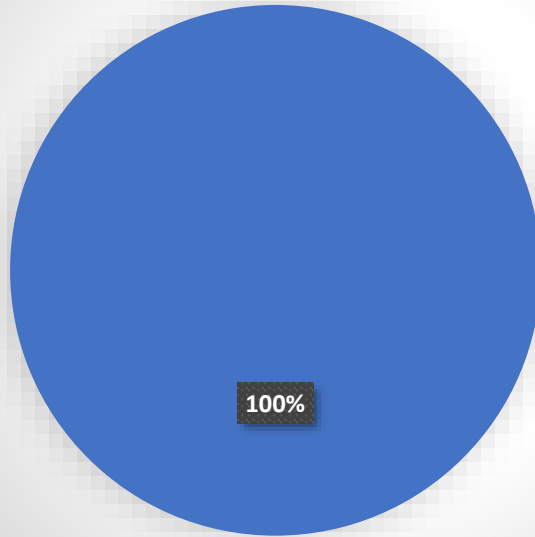
Do you have any recommended feedback?



Do you have personal experience of a tsunami event in Northwest Vancouver Island?

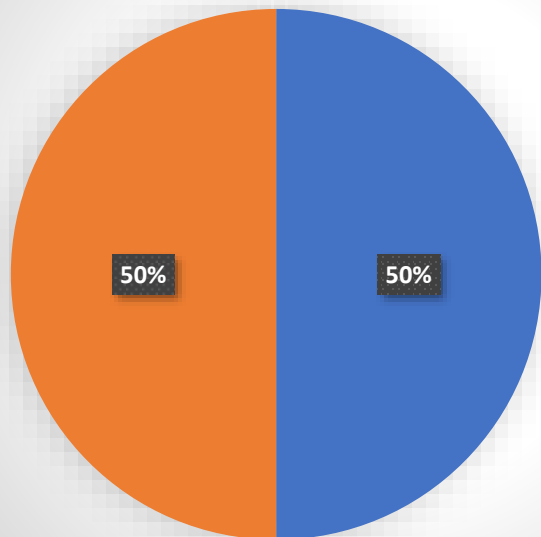


Can you provide details?



- 2/2 YES
- 0/2 NO

Anything else you want to share with us?



- 1 / 2 YES
- 1 / 2 NO

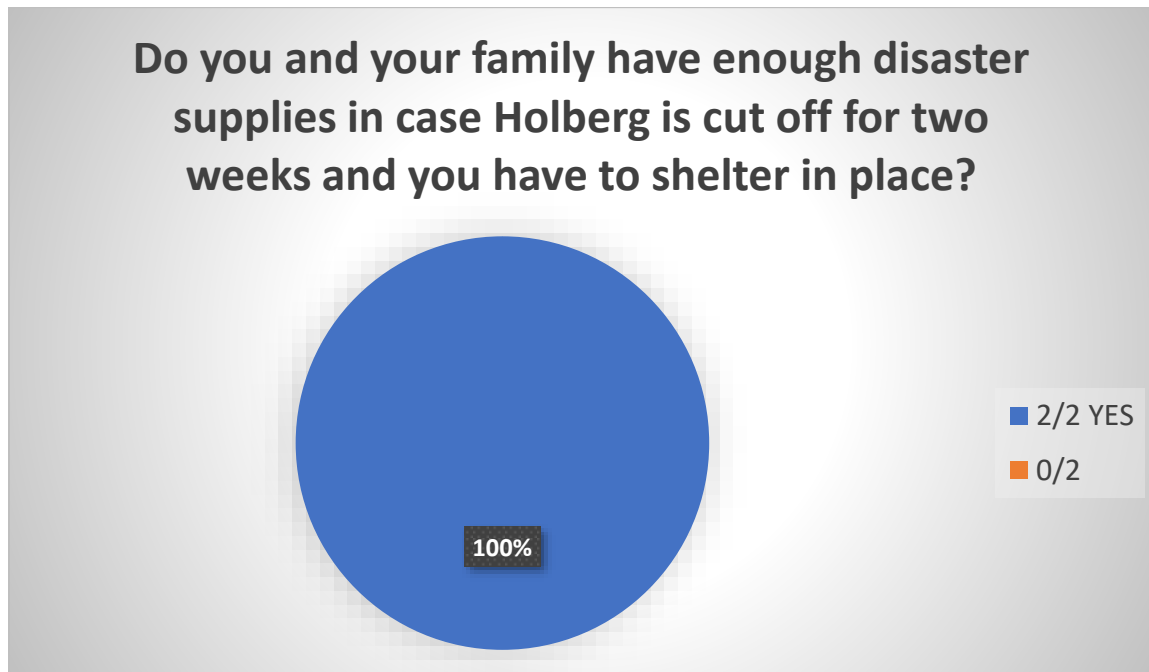
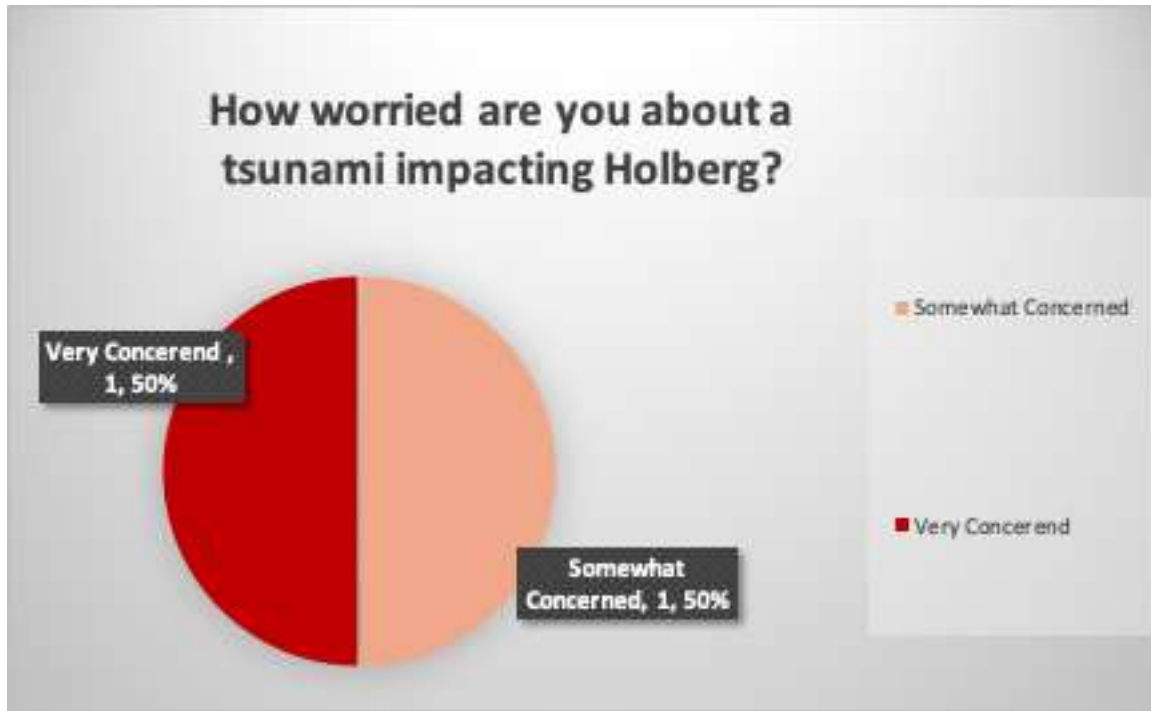
Esperanza Feedback & Experiences

1964 - "High waters, not sure what I recall I was pretty young, only 3."

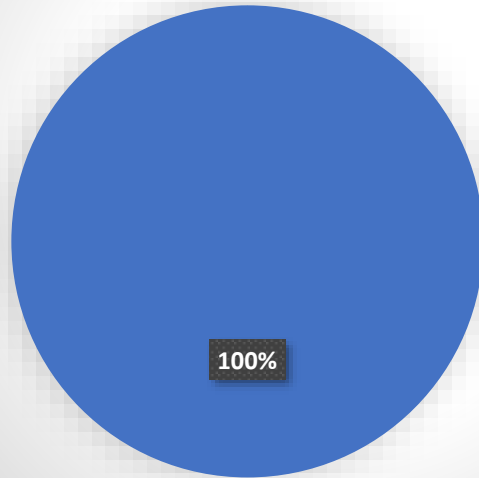
"Water up a long way on shore. Boats and docks out of the water."

2018 – "Woken up by banging on our house. I think a siren alert was going across the bay told us to come to his house on higher ground. He was monitoring things on weather websites and communicating to others by radio because the telephones weren't working After a bit we heard the Tsunami was cancelled. Sure enough there was a noticeable drop and larger than usual water return lifting the wharf a bit more than usual."

Holberg
2 responses

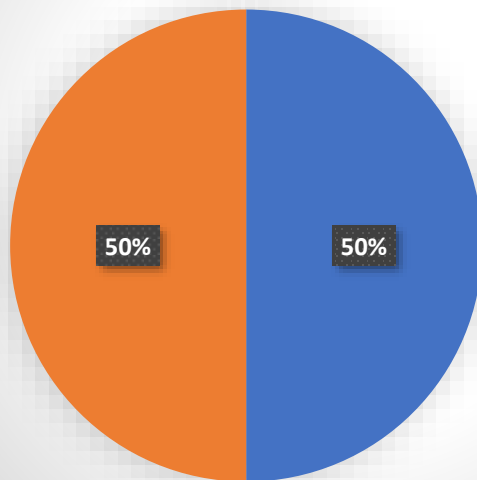


Are your supplies portable, such as in a backpack or suitcase with wheels?



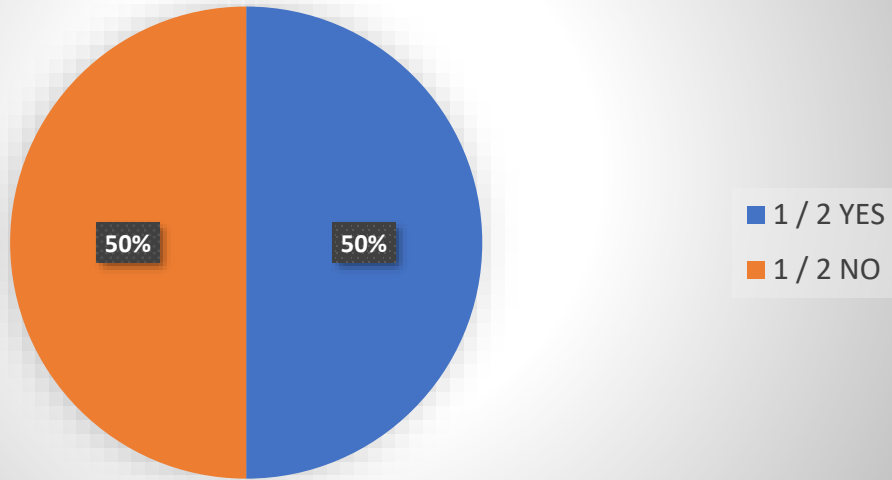
■ 2/2 YES
■ 0/2 NO

Do you know your Holberg's tsunami meeting points?

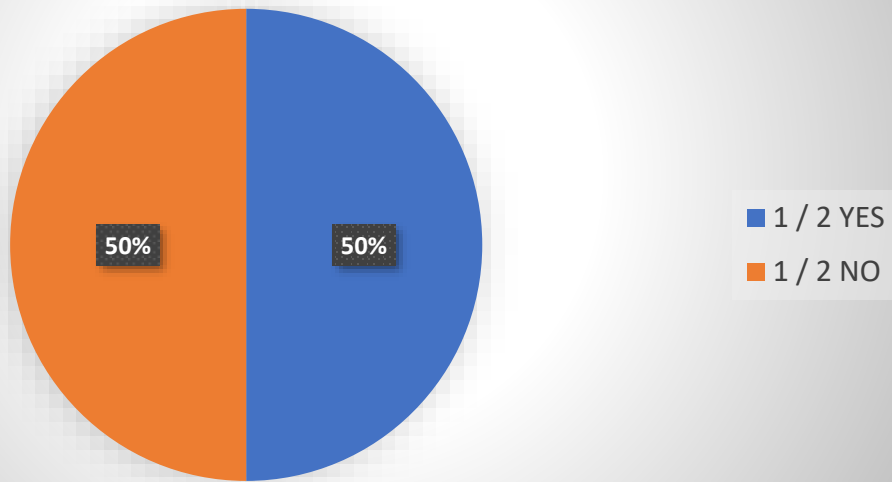


■ 1 / 2 YES
■ 1 / 2 NO

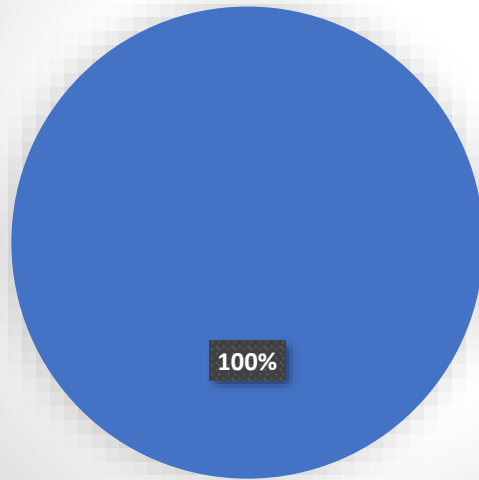
Do you know how your community will alert you if there is a tsunami threat?



Do you know how the Canadian Coast Guard broadcasts tsunami alerts to mariners?

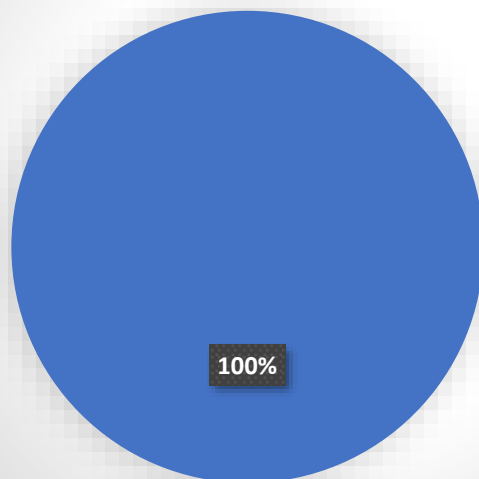


Do you know the immediate signs of an approaching local tsunami?



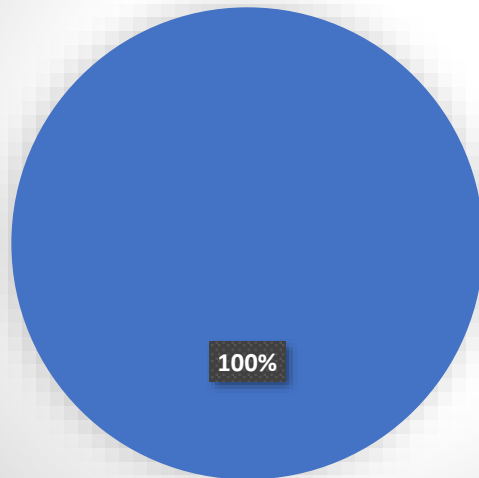
■ 2/2 YES
■ 0/2

Do you know the signs of an approaching distant tsunami?



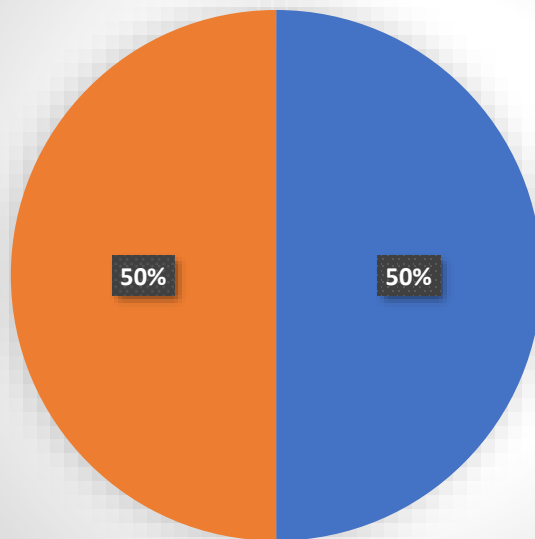
■ 2/2 YES
■ 0/2

Do you know tsunami can also be triggered by landslides?



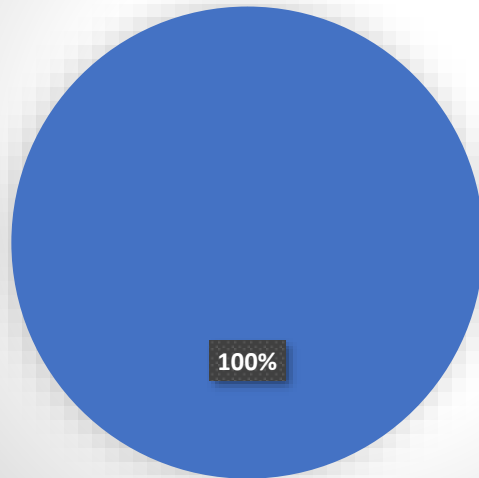
■ 2/2 YES
■ 0/2 NO

Are you a certified amateur radio operator?



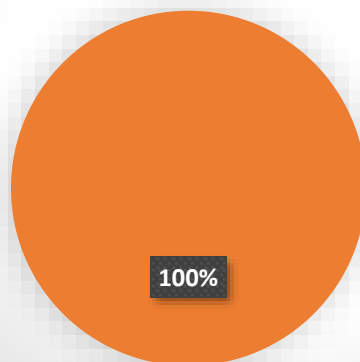
■ 1 / 2 YES
■ 1 / 2 NO

Do you have a satellite communication device?



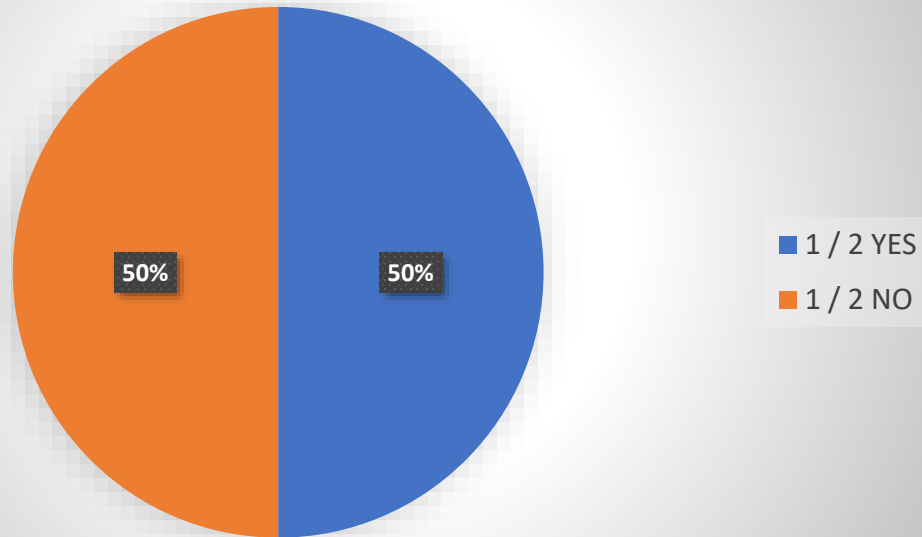
■ 2/2 YES
■ 0/2 NO

Are you interested in receiving information about how to achieve an amateur radio certification to help disaster communications in Holberg?



■ 0/2 YES
■ 2/2 NO

Do you have any recommended feedback?



Holberg Feedback & Experiences

“For Holberg and Winter Harbour to Cape Scott residents and businesses are depending on old, obsolete analogue telus service/phone lines in case of emergencies. These lines are no longer supported by Telus and with no cell service the only way to notify people of imminent danger is by going door to door. The Canadian Radio + Broadcasting is aware of this and is turning a blind eye to the communities concerns.”

Visitors

7 responses

“Many other visitors we see don't seem to have a device capable of notifying them of a threat. The Okime Island Hospital/Clinic is not very high off the water. Many homes/buildings you see by boat in this area are low in elevation, if there was a major event I feel a lot of people may need help and they would be very spread out. A lot of home owners only communicate via personal radio or email/internet (when it is working). Thanks very much.”

“Signage would be good.”

“Spend a lot of time out in Holberg and Zeballos working in the woods and through and around those communities and lived in both for short periods.”

“I'd like to see something much more like the Oregon coast which has clear tsunami signage and routes for safe places to go”

“I work on a fish farm out on the water . I have gone up evac trails twice in 14 years. Once for Japanese earthquake and one for a Port Alice quake. Do not remember the years”

“Being an annual user of the north west coast of Vancouver Island, I'm just wondering about the tsunami risk when most of us are camping on beach for several days with no contact with the outside. This is the main reason people wants to get away from cellphone service or other communication device. But what if a tsunami gets trigger and there is no way to know about it?”

“Maybe there should a bit more education around trip organization and letting people know where we camp for how many days. Most of us do it, but I can picture that being a problem in the summer months with tourist.”

“My main concern would be to get the message of a Tsunami threat in a timely fashion to folks who are working, camping, boating or just touring the areas. How would they receive an alert to a tsunami threat?”

“I think it's an issue of serious concern and relieved that resources are being invested to better understand the risk and implement mitigation strategies.”

“I live in Port Hardy and often go out to the beaches on the west coast and work in Port Alice. I have concerns about the risks and what the warning signs are and what weather changes are seen with a major earthquake. It's all very intriguing especially with so many conflicting online experts.”

References

Statistics Canada. (2016). Census profile, 2016 census: Vancouver Island and Coast [economic region], British Columbia and British Columbia [province]. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=ER&Code1=5910&Geo2=PR&Code2=59&SearchText=vancouver%20island&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0>.