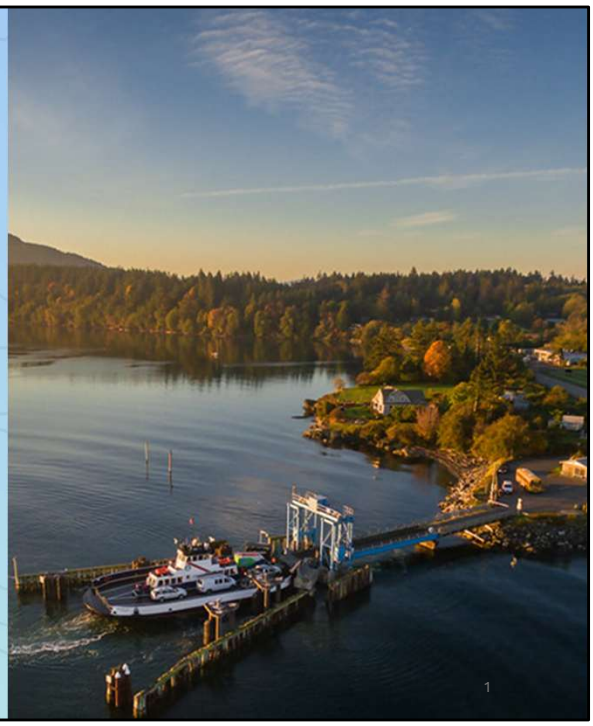
Lummi Island Preparedness Survey: Implications for Evacuation Planning

Western Washington University &
Lummi Island Fire Department
November 14th, 2025



Hi everyone, thank you for coming to tonight's town hall. Today we are presenting to you about the process of writing an on-island evacuation plan for Lummi Island for wildfire and earthquake/tsunami events.

Lummi Island Evacuation Planning: Introductions

- Lummi Island Representatives
  - Fire Chief Michael Lish
  - Assistant Fire Chief John Granger
  - Fire Commissioner Bill Lee
  - Fire Commissioner Joan Moye
  - Fire Commissioner Dan Ohms
- WWU Research Team
  - Dr. Rebekah Paci-Green, Environmental Studies Dept
  - Research Assistants
    - Jeff Baker
    - Harry Grantz
    - Madisyn Cook
    - Rebeca Galpani
    - Max Edwards

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Lummi Island Fire Department Disaster Preparedness Team

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Lummi Island Evacuation Planning : Agenda

- Evacuation Planning Case Studies (10 min)
  - Discussion (10 min)
- Lummi Island Preparedness and Evacuation Survey (30 min)
  - Discussion (15 min)
- Raffle! (10 min)
- Common Elements of Evacuation Plans (10min)
  - Discussion (15 min)

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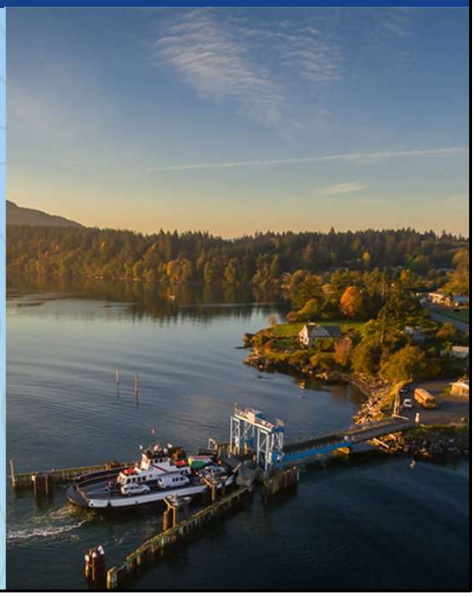
Introduce presenters

Evacuation Plans

- Support safe and orderly exit from dangerous situation
- Provide clear instructions for how to escape, routes to use, and where to go



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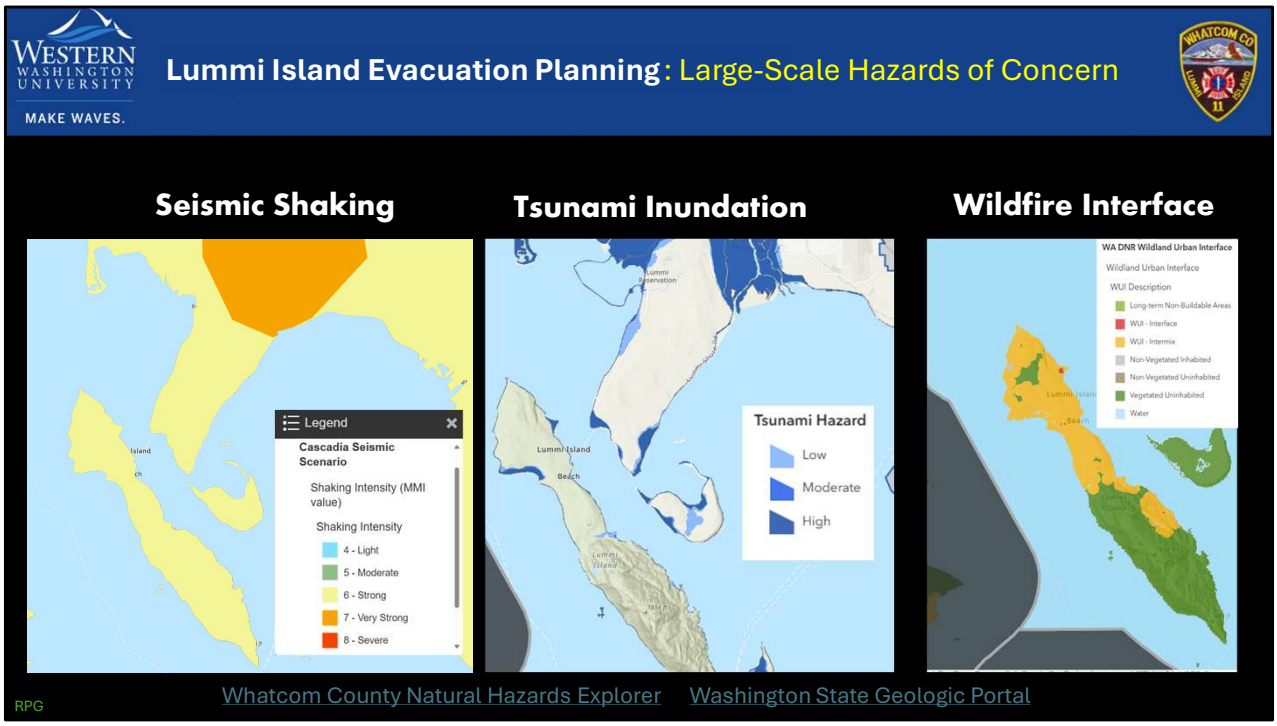


Lummi Island faces seismic risk and its associated tsunami risk, as well as wildfire risk. Though the island has not experienced these hazards in recent history, there is always a chance it may.

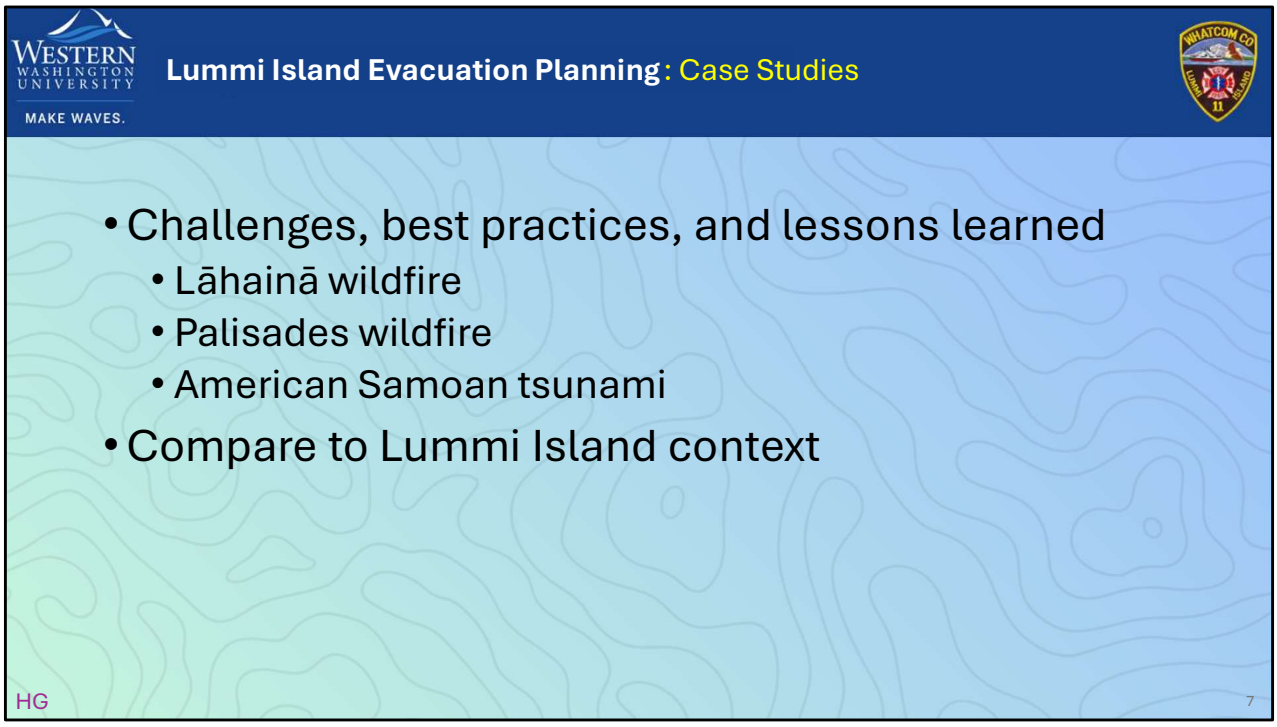
As the seismic scenario map for a Cascadia Subduction Zone earthquake displays, the island is expected to experience strong shaking throughout the island. Strong shaking is associated with movement of heavy furniture and light damage to interiors. It can also mean some poorly built or very old buildings sustain damage and unsecured chimneys may be at risk of cracking or toppling.

The larger threat associated with seismic activity is tsunami inundation, specifically around Legoe Bay Road and Lane Spit, highlighted in dark blue. In Whatcom County, that high tsunami hazard zone is associated with up to 18 feet of inundation. One concern for Lummi Island is that the the Lummi Reservation is expected to experience significant inundation that will most likely block roadways round the ferry landing and the Nooksack Delta, cutting off access to I5, Ferndale and Bellingham.

Wildfire risk pervades larger swaths of Lummi Island because of high levels of

wildland urban interface--the construction of homes and buildings directly next to flammable growth such as trees or brush. All of the inhabited portion of the island is designated a WUI – intermix, meaning it is comprised of low-density housing and undeveloped wildland vegetation. Large, high intensity fires have naturally occurred in Western Washington every 200-600 years, though my colleagues who study wildland fires in the region indicate that changes in climate, historic suppression of low-intensity fires, and pest infestation have made our forests more susceptible to high-intensity fires than in the past.

Intermix: **Lower-density housing mingled with undeveloped wildland vegetation**



We reviewed incident reports from small and isolated communities to identify recurring challenges, best practices, and lessons learned
Examples include Lahaina wildfire, Palisades wildfire, and American Samoan tsunami
We don't mean to fearmonger by including disaster case studies, but we can learn from them

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Lummi Island Evacuation Planning: Case Studies

Lāhainā, Maui, Hawai'i Wildfire August 8th-September 3rd, 2023

- Island w/ wildfire risk
- 11,000 population
- Fallen power line, high winds
- Loss of cell and power, evac order not received
- Tsunami siren not used
- Residents confused about where to go

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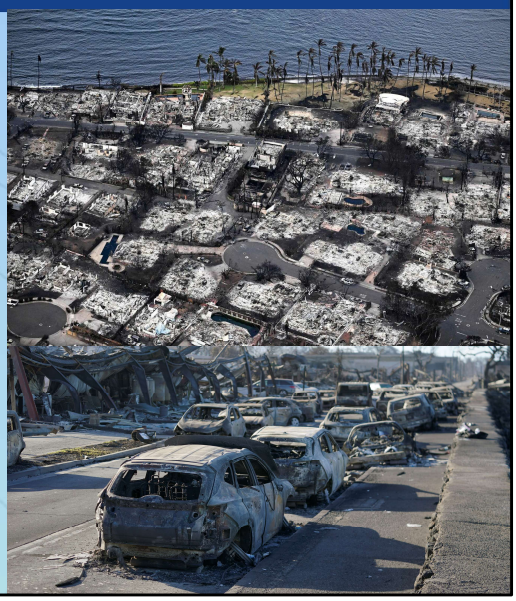
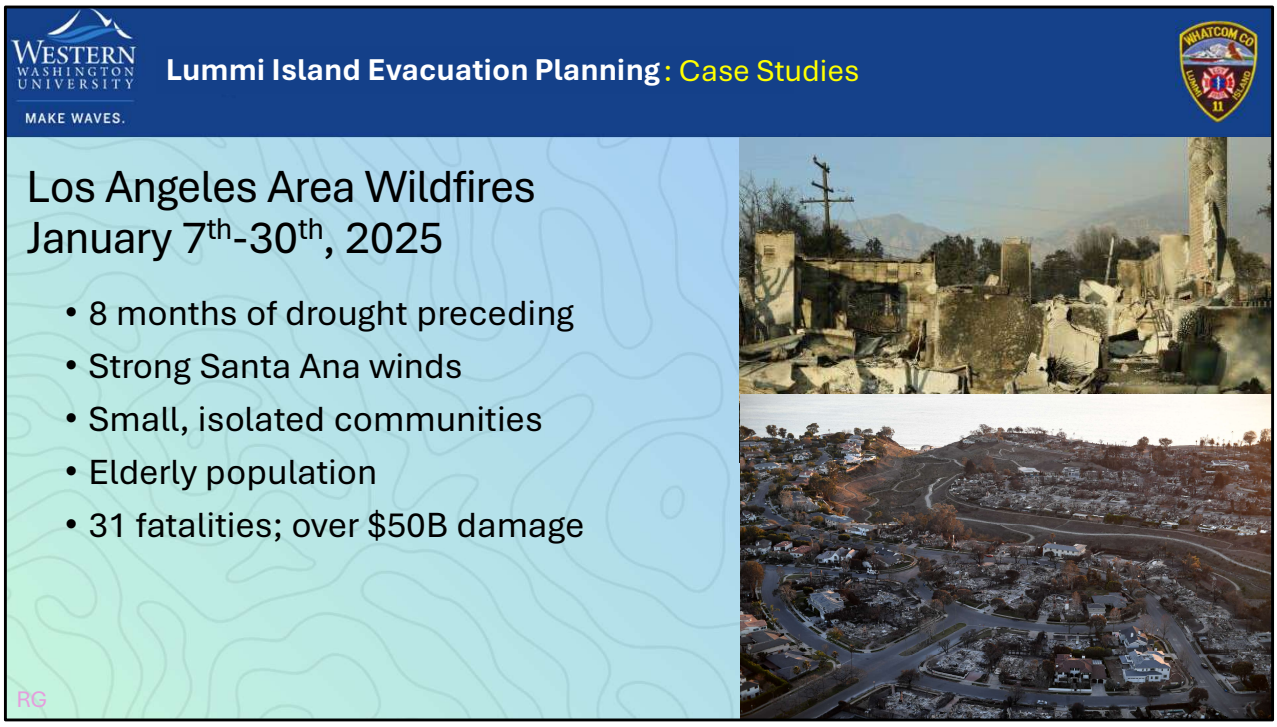


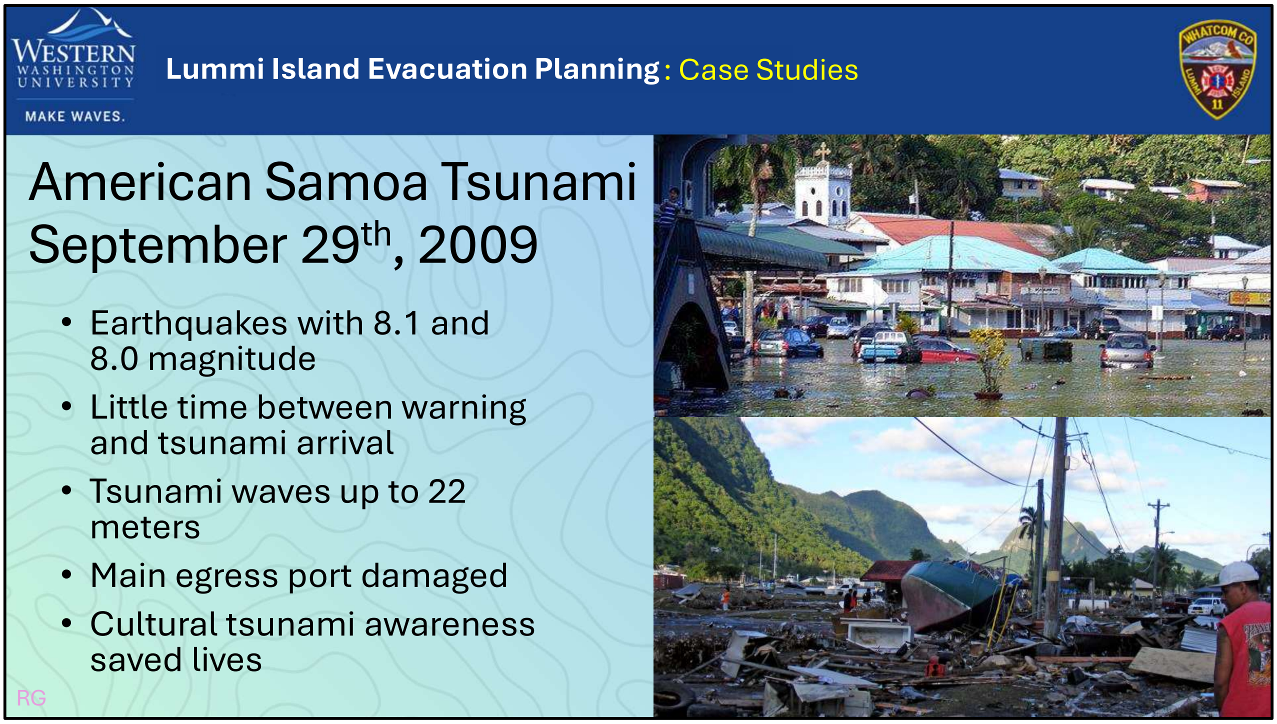
On August 8th, 2023, in Lahaina, Maui, Hawaii, a wildfire struck the small island town of 11,000 people. At 6:37 a.m. a fallen power line ignited dry vegetation in Lahaina and caught a fire that spread across Lahaina due to high winds. The fire inflicted road blockages throughout Lahaina from downed telephone poles, car accidents, and abandoned cars. The fire destroyed critical infrastructure such as cell towers and feedlines, causing power outages and loss of cell service throughout Lahaina. The tsunami siren was not sounded in case residents didn't know what to do upon hearing it.

Although Lahaina had an evacuation plan, the residents had little to no warning that a fire was headed their way and had no time to prepare, and when evacuation was ordered, residents were confused about where to go and how to get there. The uncoordinated response between actors resulted in higher death rates and loss of infrastructure.



On January 7th, 2025 10:20 a.m., a wildfire erupted in Palisades, California when strong winds picked up a smoldering fire started by an arsonist. As the wildfire began to spread closer to residences, the Los Angeles Fire Department released an evacuation order, but so many residents were already evacuating that gridlock had formed on the local road. By the following day, intense winds had pushed the wildfire across 15,000 acres through schools, neighborhoods and nursing homes, despite containment attempts by fire crews.

The Palisades community has many residents aged 65 and over who lived at home or in assisted living facilities. Responders did not have an adequate plan to assist the elderly or disabled folks who were unable to self-evacuate. The main road was rendered unusable because of abandoned cars in the roadway, blocking people from evacuating and response from accessing fire points.



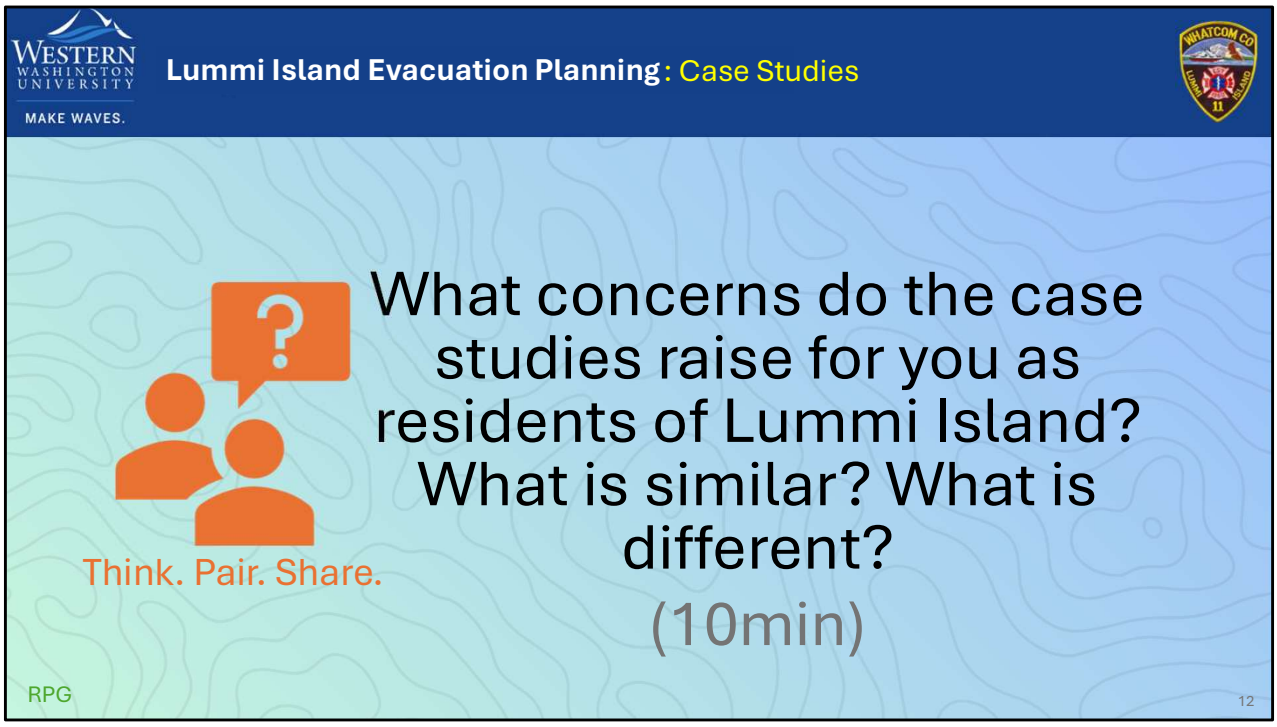
On September 29th, 2009, at 7:48 a.m. (HST) earthquakes with 8.1 and 8.0 magnitudes erupted 150 miles off the southwestern coast of American Samoa. After only 17 minutes, tsunami waves began to crash into coastal areas of the island territory. The first waves measured up to 4 meters but eventually reached a height of up to 22 meters, destroying houses, businesses, coral reefs, a power plant, and the main port of American Samoa.

Though the tsunami decimated infrastructure, much of the American Samoan population remained safe. High cultural awareness of earthquakes and tsunamis pervaded the island, so when people felt the earthquake, they knew to run to higher ground. Just that summer and fall, American Samoan community members had participated in EQ and TS training drills and mapping and signage for evacuation. Tsunami awareness saved many lives in the 2009 disaster.

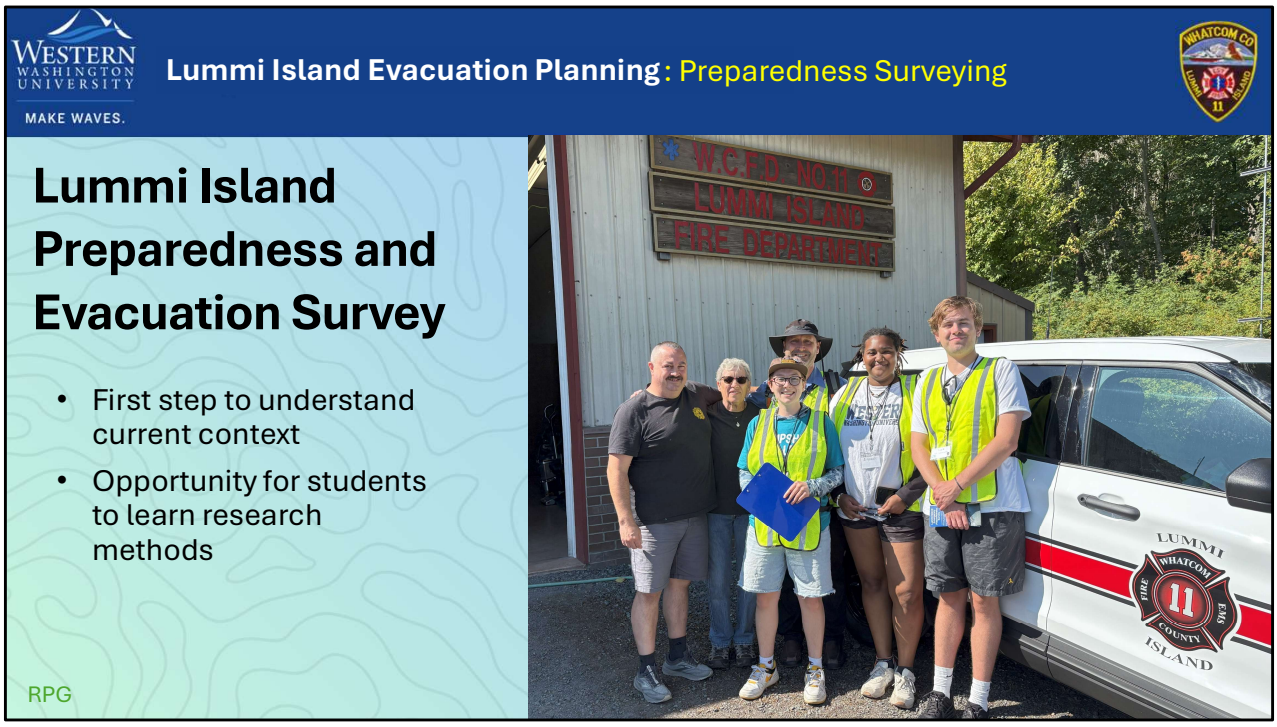
Major themes presented in the Lahaina and Palisades Wildfires and the American Samoan Tsunami include firstly that most scenarios include the use of one road as the primary ingress and egress. Heavy dependence on this single road runs risk of experiencing road blockages due to gridlocked or abandoned cars, fallen trees or powerlines, or damaged roads. These incidents can reduce evacuation options for residents and access for critical response activities. A good evacuation plan should identify and attempt to mitigate this potential risk.

Secondly, we need to plan for the assisted evacuation of those with functional limitations, including elderly and disabled folks and young children. Not only do we need a plan for the physical evacuation, but also a plan of how to communicate with people in the event itself. Knowing where people are located and what resources they require are important evacuation planning elements that demand our focus.

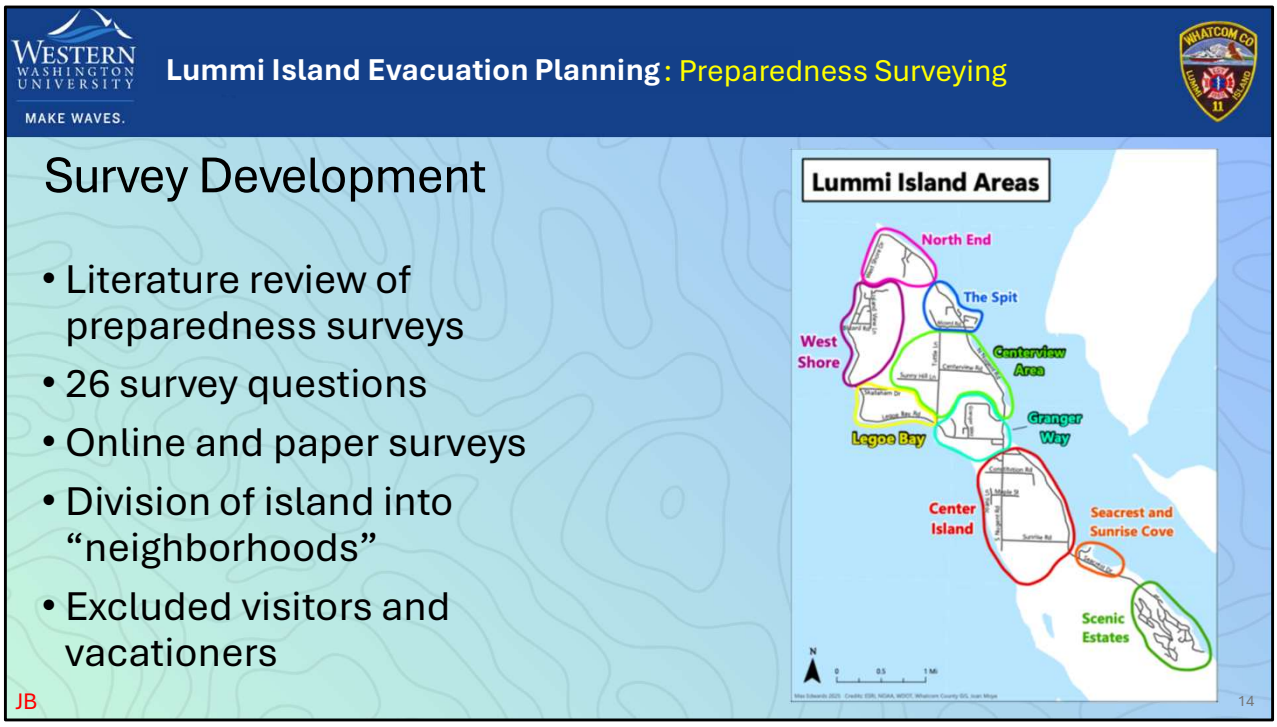
Finally, we need to recognize the important of a coordinated official response in a disaster, Residents often will not evacuate in a disaster until they receive a mandate from trusted local officials.



1.) Turn to the people around you and discuss the question.
2.) Write common themes on your sticky note.
3.) Select a group speaker to share most important themes with the group.



You may have noticed this eager looking bunch of Western students knocking on your doors this summer....



When developing the survey, we started with FEMA's national household preparedness survey. **Working with the Lummi Island representatives of the Disaster Preparedness Team**, we selected the questions that seemed most appropriate to the Lummi Island community **and then added questions that were specific to evacuation planning, especially evacuation planning on a small, rural island.** We also divided the island into nine areas based on their input. These are not formal divisions, but functional groupings that helped us plan our trips, ensure roughly proportional sampling across the island, and look for geographic patterns in the data.

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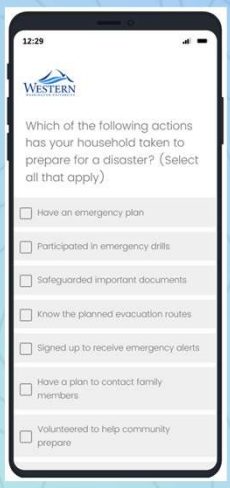
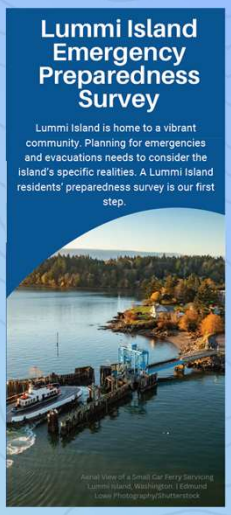
Lummi Island Evacuation Planning: Preparedness Surveying

Survey Implementation

- Door knocking, door hangers, and information pamphlets
- Sampling of each neighborhood
- Saturday Market and ferry line
- 142 household responses
- Compiled results and calculated statistics





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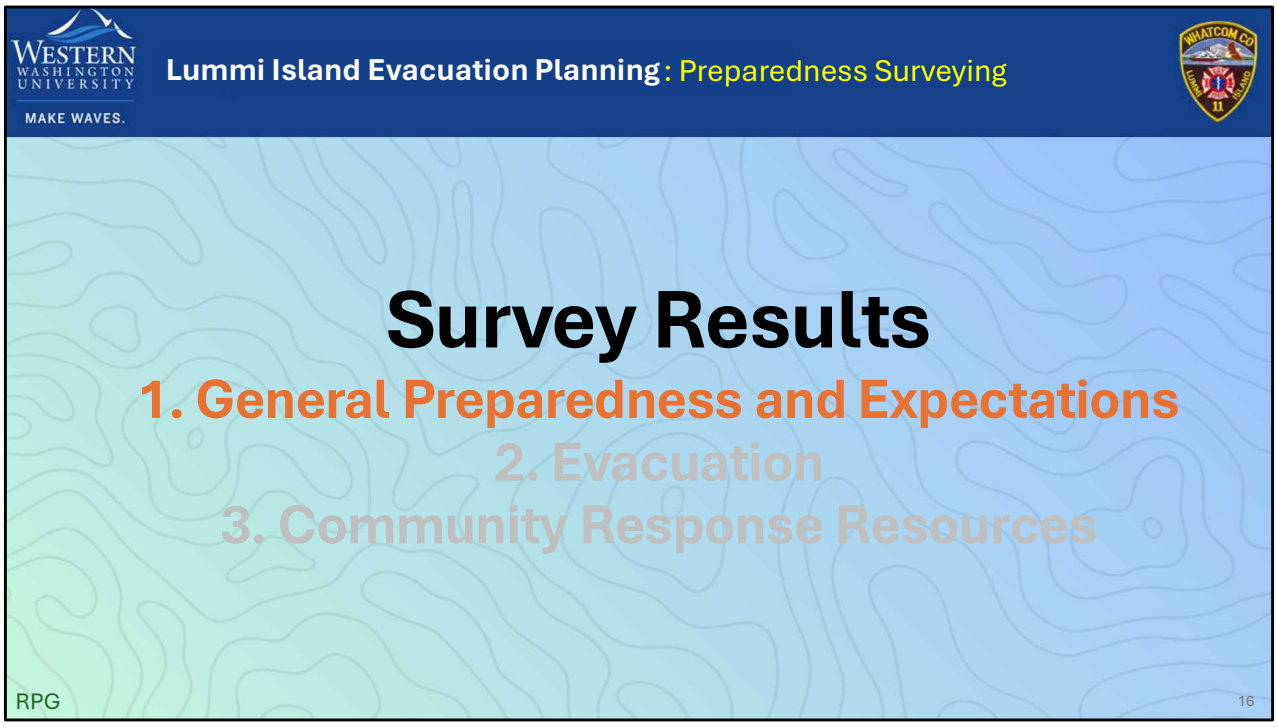
We offered these surveys both remotely and in person, both online and using paper copies. Before going out to survey, we asked Joan to post messages on local media sites to give Lummi Islanders a heads up about our coming, so people weren't caught off guard by strangers. We visited each of the nine areas we had identified, knocking on doors to survey residents. When people were not home, we left door hangers so residents could take the survey online once they'd returned home. We also had a booth at the Saturday Market and walked up and down ferry lines, delivering pamphlets with our information and access to the online survey. In total we collected 142 survey responses, which we processed through Excel and performed statistical analyses.



We created 26 survey questions and offered them remotely and in person, both online and using paper copies. Survey questions were developed based on an existing FEMA Household Preparedness survey, but modified to fit the context of Lummi Island, largely shaped with the guidance of Joan Moye.

Before going out to survey, we asked Joan to post messages on local media sites to give Lummi Islanders a heads up about our coming, so people weren't caught off guard by strangers. We grouped the neighborhoods into 9 larger areas and walked around each, knocking on doors to survey residents. When people were not home, we left door hangers so residents could take the survey online once they'd returned home. We also had a booth at the Saturday Market on island and walked up and down ferry lines, delivering pamphlets with our information and access to the online survey.

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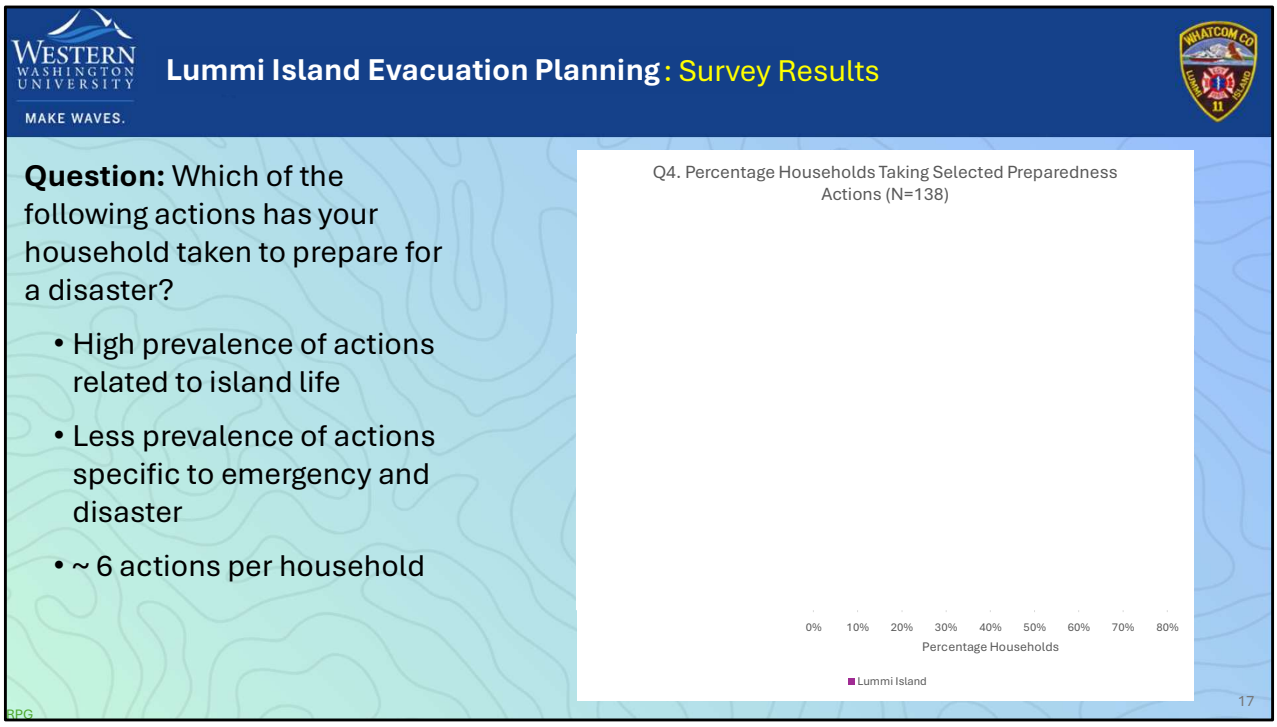


Nearly all households had purchased residential insurance (85%) and most had set aside emergency supplies (67%) and money for emergencies (62%) and safeguarded important documents (57%). About half had made improvements to protect their home (54%), knew their evacuation route (54%), and signed up for emergency alerts (46%). Making emergency plans with family members, neighbors, or volunteering for community preparedness were actions less often taken, with only about a third of households doing so. Fewer than a fifth of the households (17%) had participated in emergency drills.

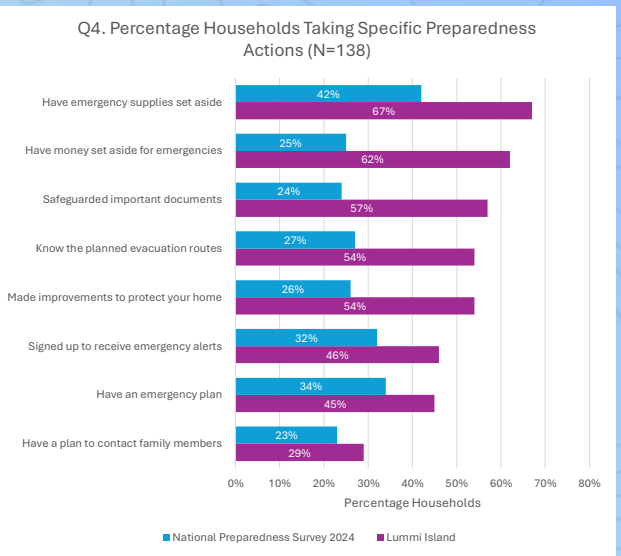
Lummi Island households had an average of six preparedness specific actions taken, and a standard deviation of three actions. Many residents stated they had an intuitive idea of what their emergency plan would be and did not explicitly need to discuss it with their household.

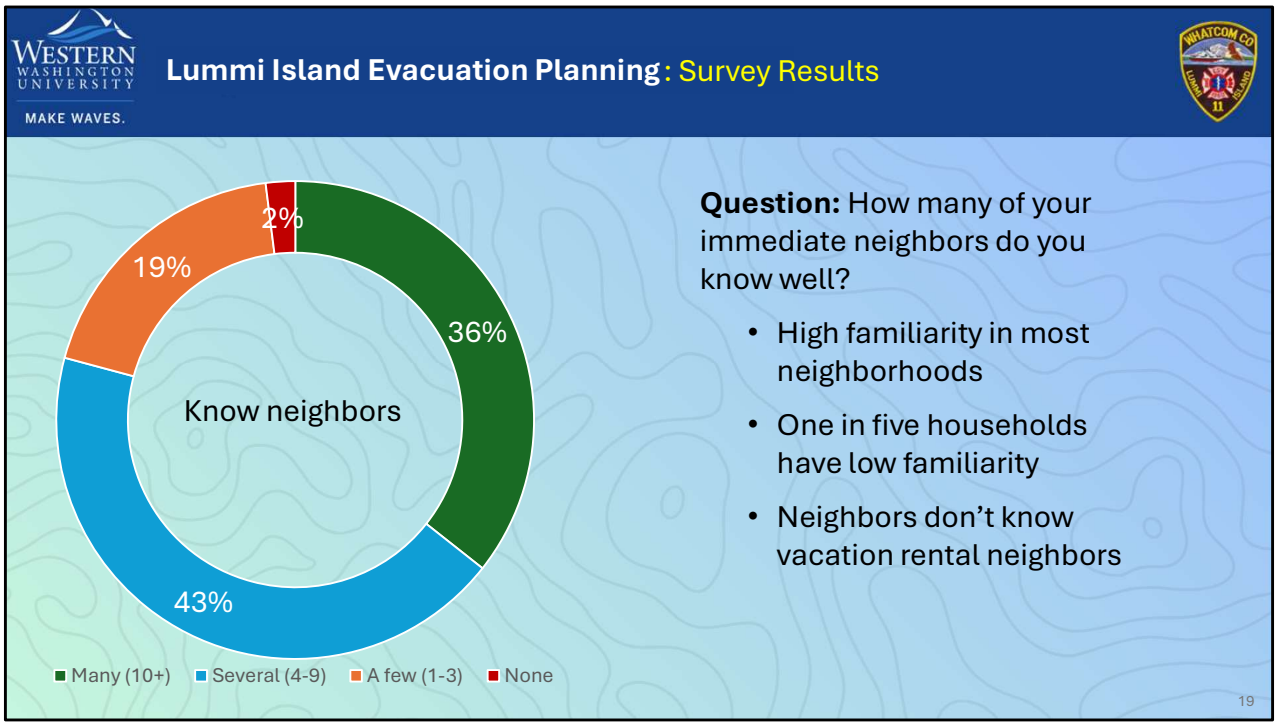
Q4: Which of the following actions has your household taken to prepare for a disaster?

Lummi Island Evacuation Planning: Survey Results

Much higher rates of preparedness action than national average!

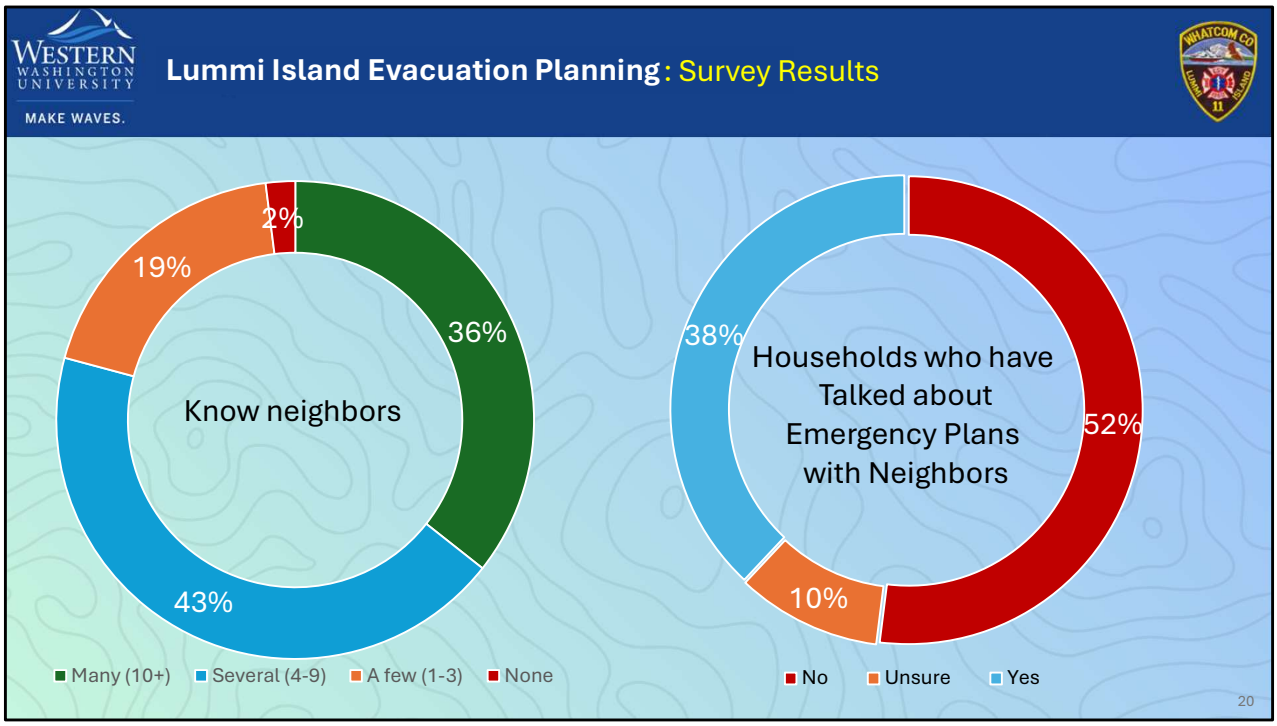
Wildcard: visitors and vacationers





Lummi Island residents value neighborly connection, with nearly all (98%) households knowing the members of at least one or more immediate neighboring households well. One out of five (19%) households knew a few neighbors, half (44%) knew several, and one third (36%) knew many households. Neighbors did not know households that are vacation rental homes through platforms such as Airbnb, contributing to the 2% of participants who did not know any neighboring households.

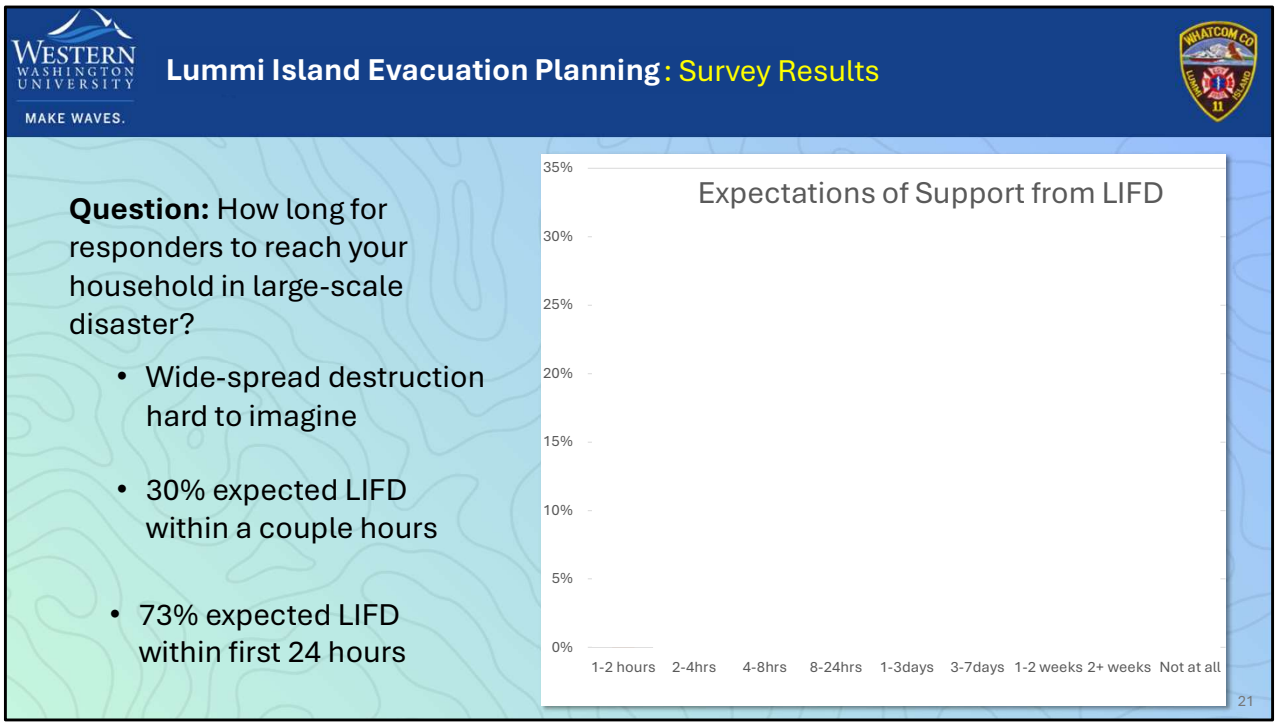
Q5. How many of your immediate neighbors do you know well?



Many Lummi Island residents had ideas of what their plans would be with their neighbors in an emergency but had never actually discussed and agreed upon plans. Not all residents may have considered how a disaster would disrupt their ability to carry out typical activities, such as a major disaster disrupting cell phone communication or buckling roads. Just over a third had discussed plans with their neighbors (38%), such as having participated in Map Your Neighborhood (37%), a emergency planning program in which neighbors come together and discuss important planning items such as the location of propane tanks, backup generators; children, disabled, or elderly folks; and safe emergency assembly zones, among other disaster planning criteria.

Regardless of formal discussions or planning, island residents were clear that they had an unspoken community agreement that everyone would help each other.

Q5. How many of your immediate neighbors do you know well?
Q6. Discussing disaster or emergency plans with neighbors



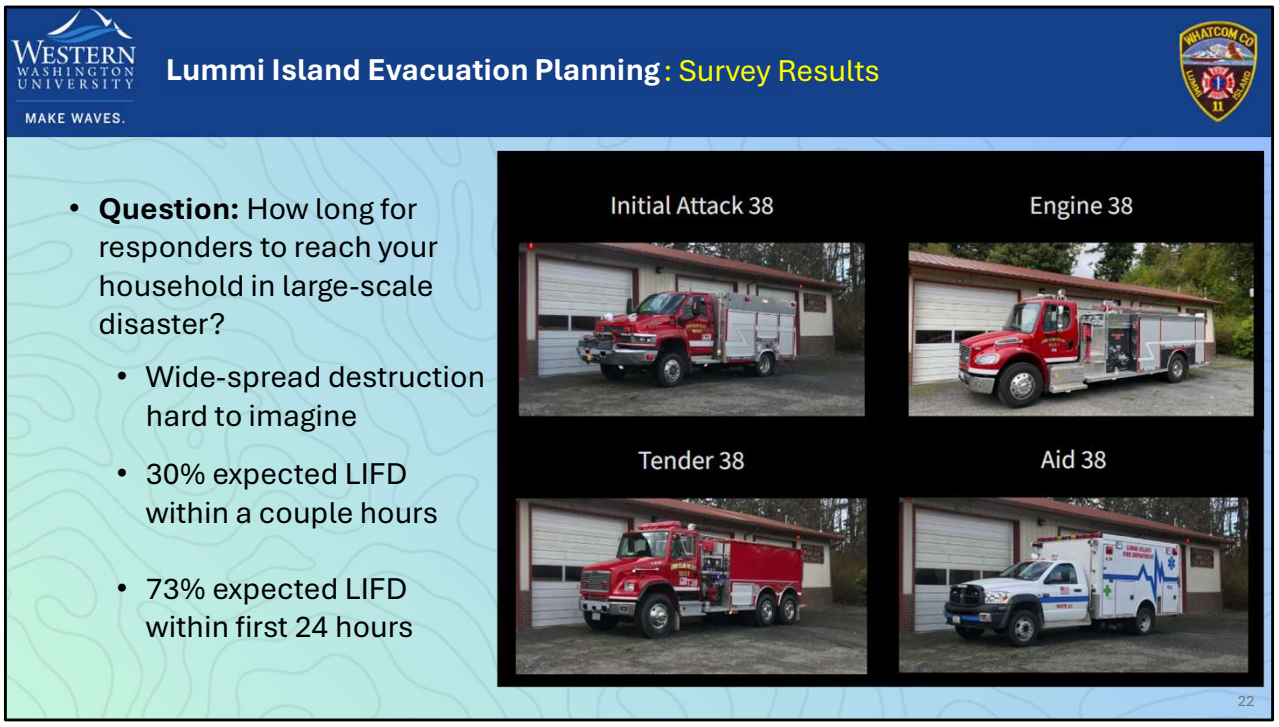
Residents expected immediate response to personal emergency needs from the Lummi Island Fire District (LIFD) #11, the island's volunteer fire department, in a large-scale disaster. One out of three (30%) survey participants stated that in a large-scale disaster, the fire department would respond to their personal emergency needs within 1-2 hours, the smallest time increment option on our survey. Most (73%) of survey participants expected the Lummi Island fire district to respond to their personal emergency needs in 24 hours or less in a large-scale disaster. Many residents noted that the survey should have had a "less than one hour" option because the fire district could respond as quickly as 5 minutes.

Lummi Islanders' expectations for off-island authorities to respond to personal emergency needs was remarkably lower than for the local island Fire District. Very few survey respondents (20%) indicated they expected a response from off-island authorities in the first 24 hours. One quarter of survey participants (23%) expected response to personal needs from off-island authorities between 1-3 days. A handful of participants (5%) expected no response at all from off-island authorities.

Survey participants expect support from additional groups including Lummi

Island friends and neighbors (88%) and themselves or their household (82%). Half of survey participants also expect support from their insurance companies (51%) and off-island friends or family (48%), off-island nonprofits such as American Red Cross (43%).

Q7. In a large-scale disaster or emergency affecting the region, how soon would you expect the local fire district on Lummi Island to respond to your emergency needs?
Q8. In a large-scale disaster or emergency affecting the region, how soon would you expect off-island authorities (Sheriff, Coast Guard, FEMA, or similar) to respond to your emergency needs?
Q9. In the event of a disaster or emergency, who else would you expect support from?



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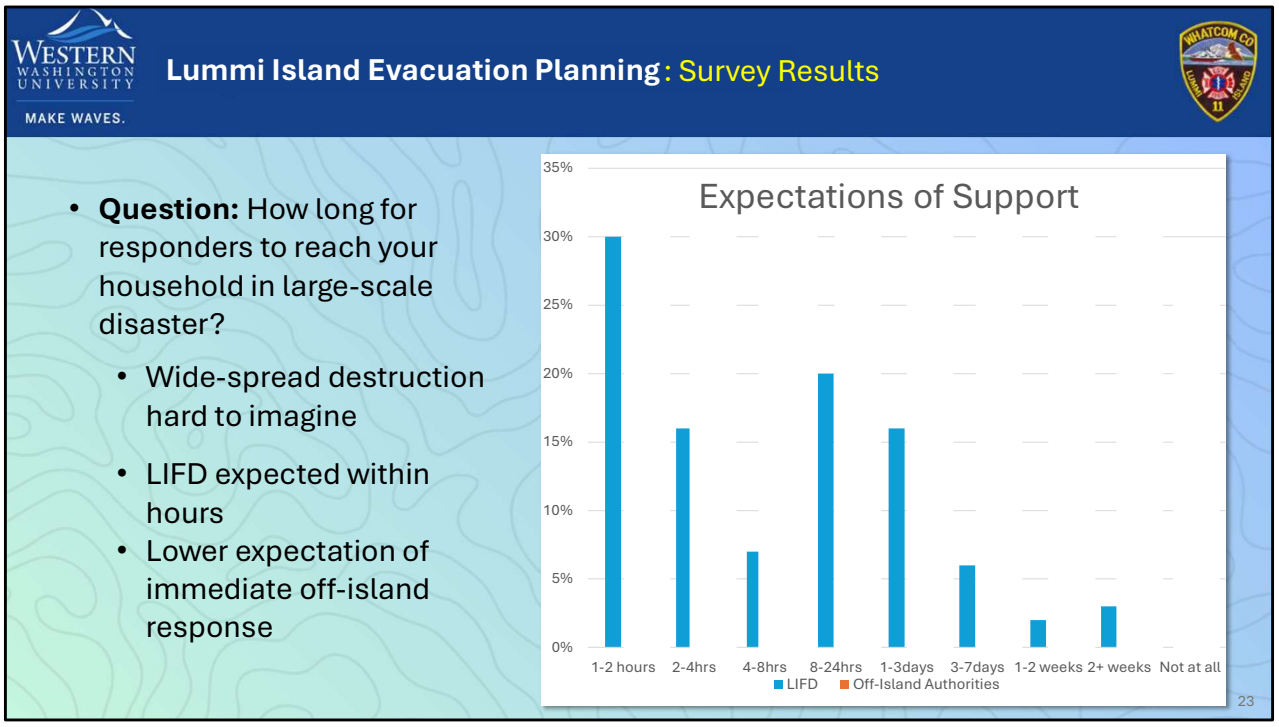

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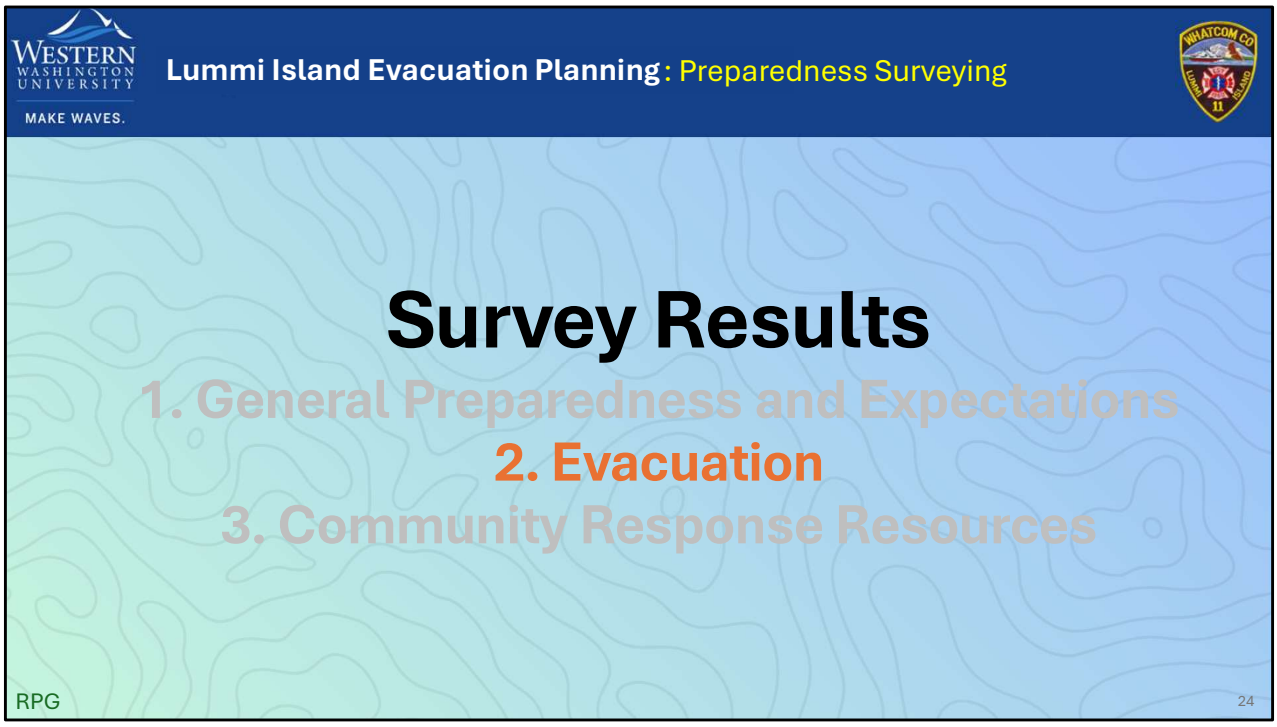

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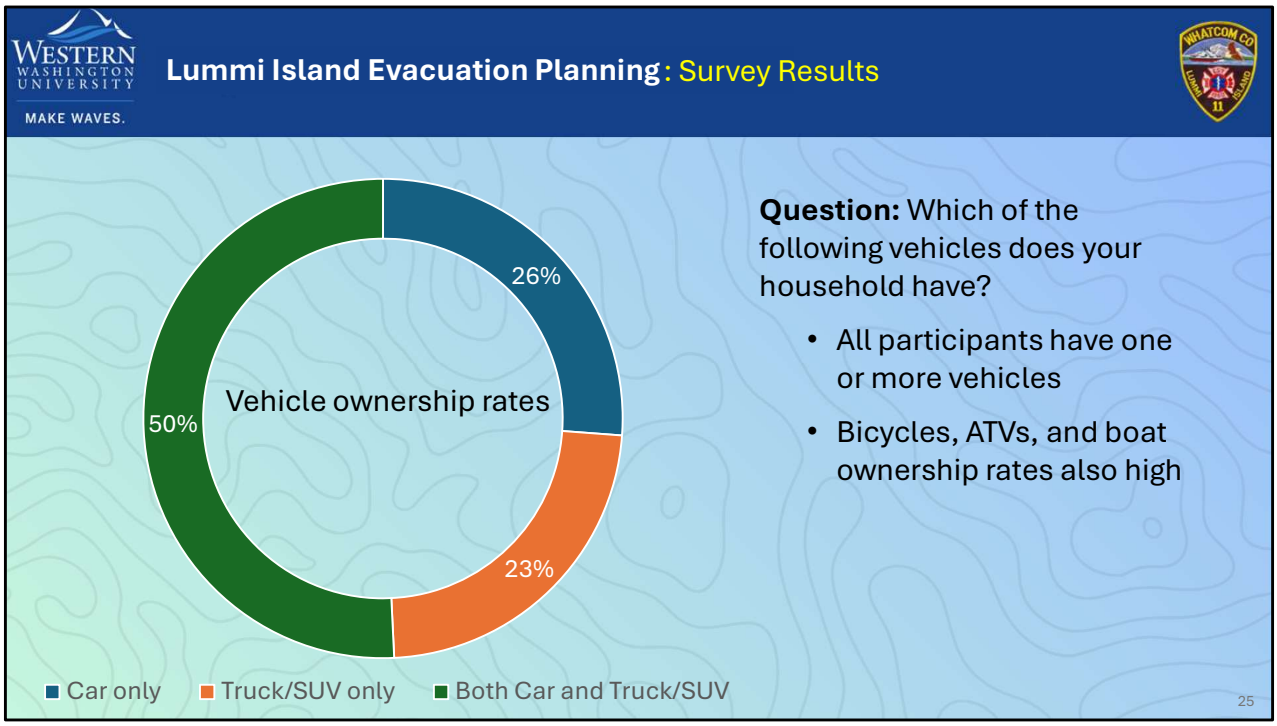
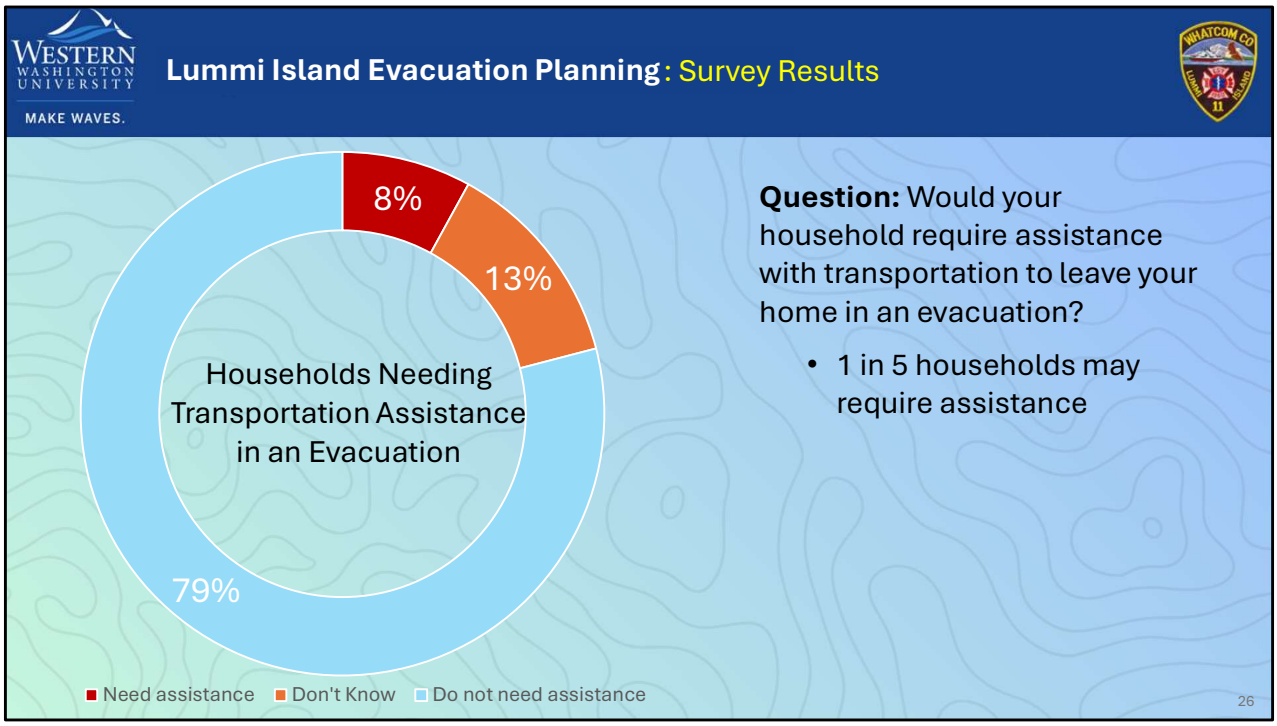


All respondents reported having at least one vehicle. A quarter (26%) had a passenger cars and a similar number (23%) had a truck or SUV. Half the respondents (50%) had both. These vehicles would allow many people to carpool or could carry response or relief equipment in an evacuation.

Additionally, bicycle, motorcycle, all-terrain vehicles (ATVs) and passenger boat ownership was very prevalent throughout Lummi Island. In particular, ten households stated they had larger boats that could hold more than 5 passengers. Assuming boats are undamaged in an emergency and are accessible via dock or beach landing, these ten larger boats, at minimum, could evacuate 50-60 people at a time.

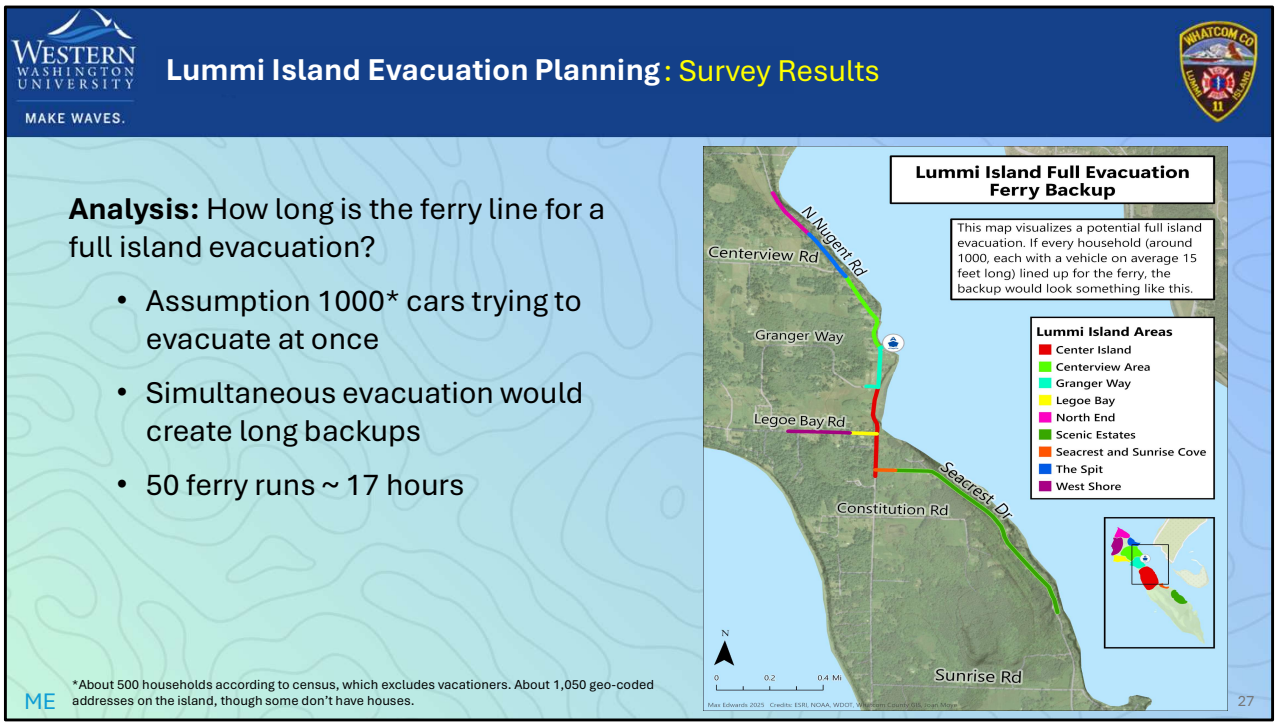
Q15. Which of the following vehicles does your household have?



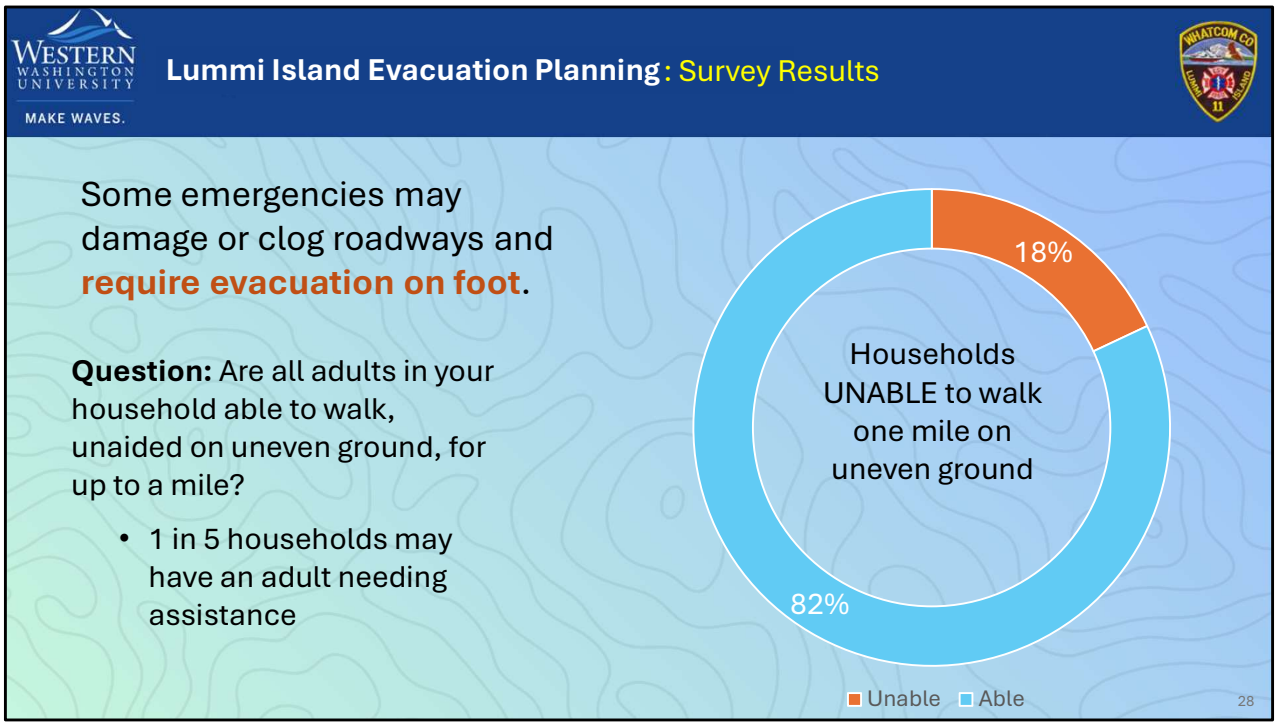
While some residents indicate that they would need definitely assistance to evacuate from their home (8%) or stated they did not know (13%), most respondents (79%) would not require transportation assistance when evacuating their homes.
In fact, most (69%) felt they would still be able to self-evacuate even if injured or recovering from surgery, likely with the aid of a spouse or others in their household.

However, many responding to the question may have assumed they would be able to evacuate by vehicle. In a large-scale emergency, that may not always be possible.

Q10. Would your household require assistance with transportation to leave your home in an evacuation?
Q11. Injuries and post-surgery recovery can temporarily limit the mobility of members of your household. In this scenario, what assistance would your household need to evacuate to an on-island assembly area?

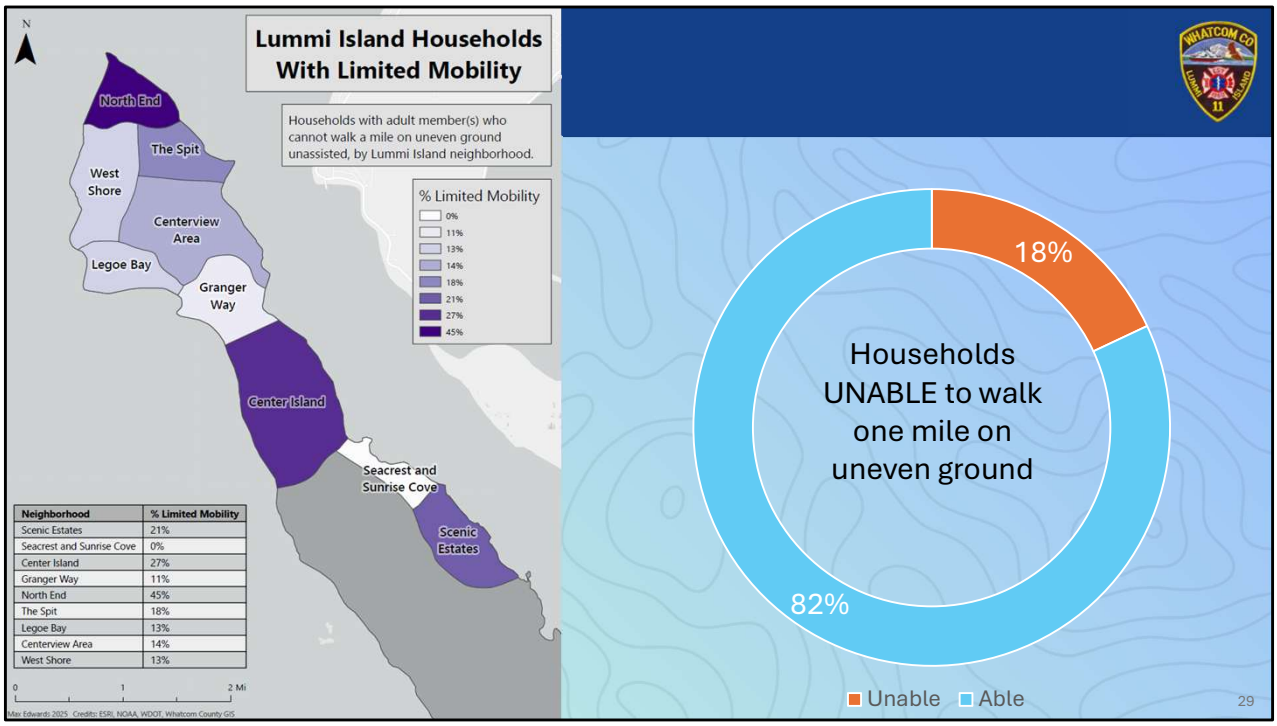


I originally estimated the number of households by designating parcels with a building value that would indicate a house, then converted those parcels to points, then used that as the household count (839). Later on I found address point data online (1049) and began to use that, as provided it provided more accurate positioning for the houses. However, I'm realizing that number is an overestimate as some address points don't have houses.



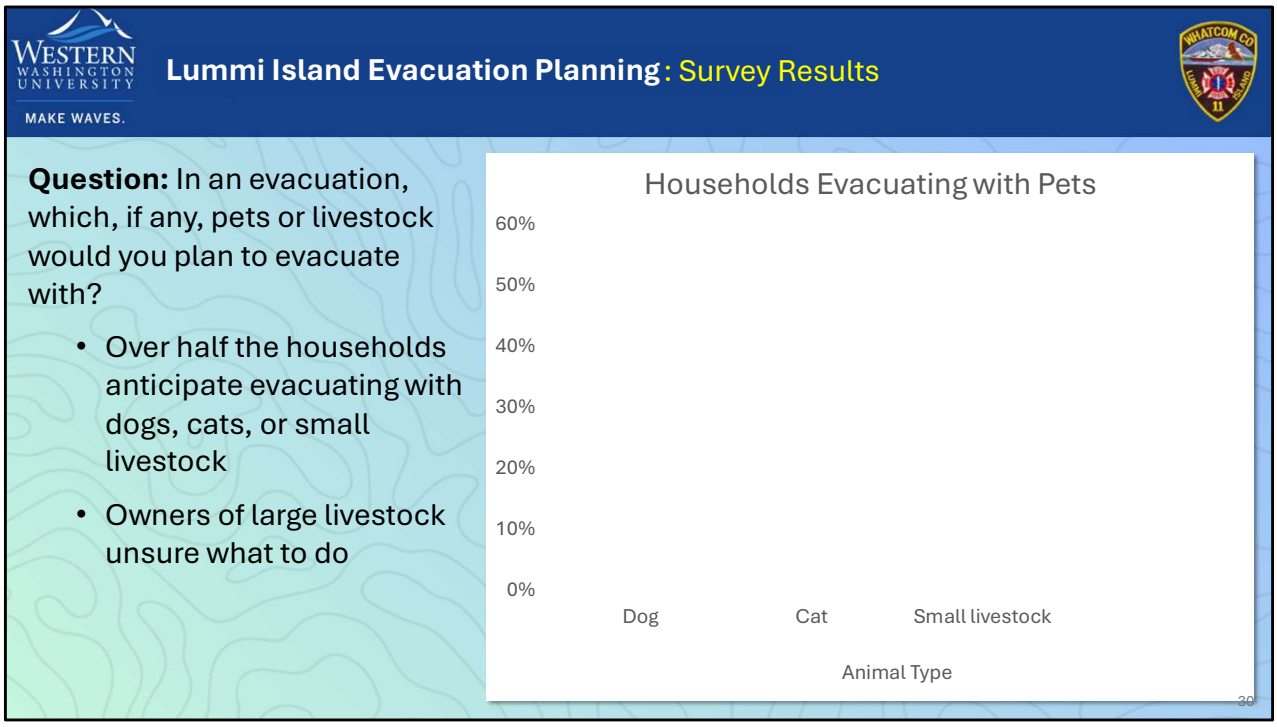
For that reason, we also asked people whether the adults in their household would be able to walk unaided on uneven ground for up to a mile. Most households (82%) stated all adults would be able to walk a mile on uneven ground without assistance.
Nearly one-fifth (18%) of survey participants had one or more adult household members who would be unable to walk a mile on uneven ground without assistance.

Q10. Would your household require assistance with transportation to leave your home in an evacuation?
Q12. Of the people that live in your Lummi Island household, how many of the adults may be UNABLE TO WALK A MILE on uneven ground without assistance?



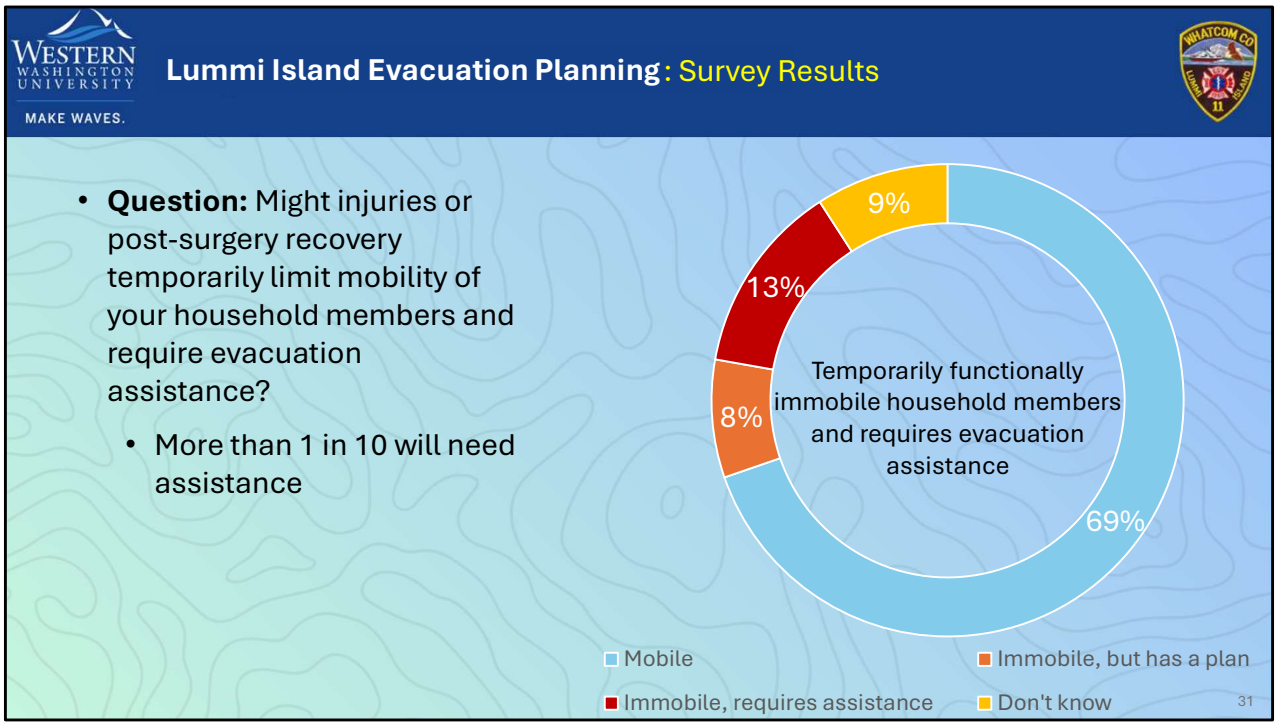
The percentage of households with one or more adults who might struggle to walk unassisted for a mile varied across the island quite considerably. Of those who responded to the survey, nearly half the households in North End/Point Migley fell into this category. Households in Center Island and Scenic Estates also had about one in five households with an adult who could not walk a mile on uneven ground unassisted. Nearly as many (18%) of the households on The Spit, an area within the tsunami evacuation zone, may also have difficulty evacuating on foot.

Q12. Of the people that live in your Lummi Island household, how many of the adults may be UNABLE TO WALK A MILE on uneven ground without assistance?



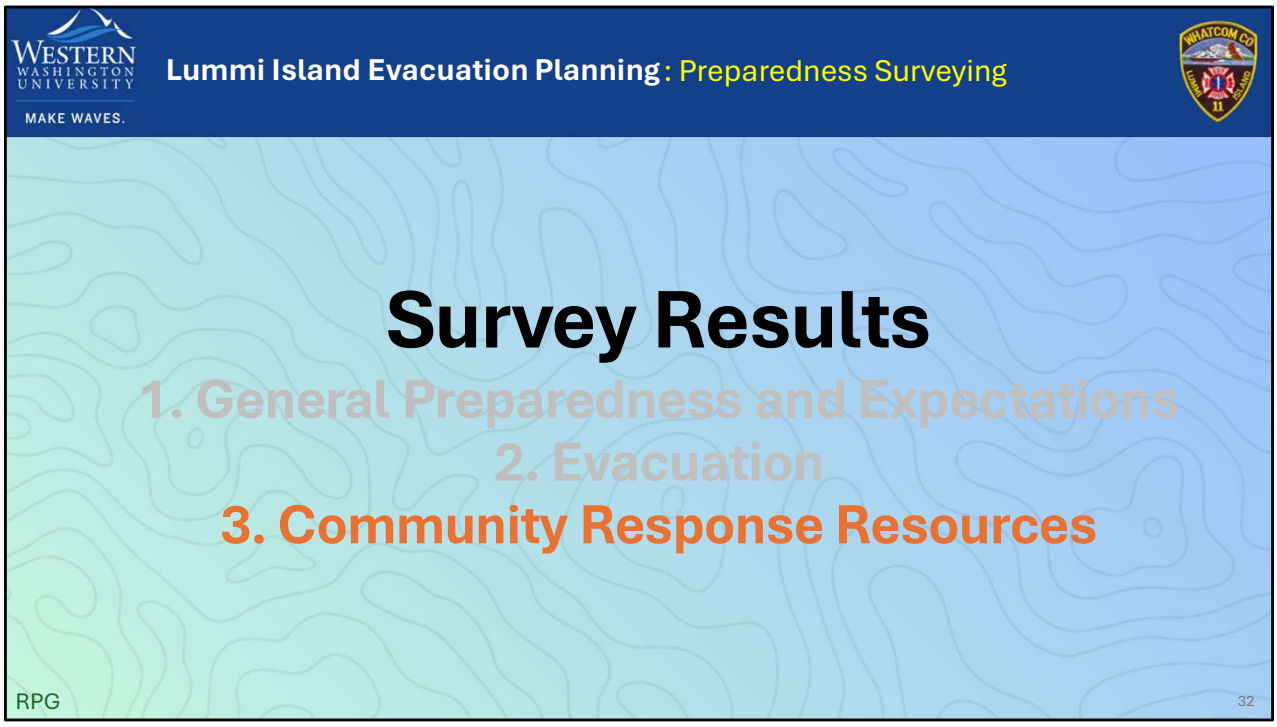
Slightly over half (54%) of households have at least one animal that they plan to bring in the event of an evacuation. Dogs are the most common (38%) with cats next (20%). Although no respondents reported plans to take large livestock (horses, cattle, etc.) in an evacuation, some reported to researchers that they did not know how best to protect large animals in a disaster.

Q23. In an evacuation, which, if any, pets or livestock would you plan to evacuate with?



Two-thirds (69%) of survey participants felt they would still be able to self-evacuate even if injured or recovering from surgery, likely with the aid of a spouse or others in their household.
A small portion (8%) stated that had a transportation plan with neighbors, who could help if they were injured or temporary mobility limitation; others (13%) indicated that injuries or post-surgery recovery may necessitate temporary transportation assistance in an evacuation.

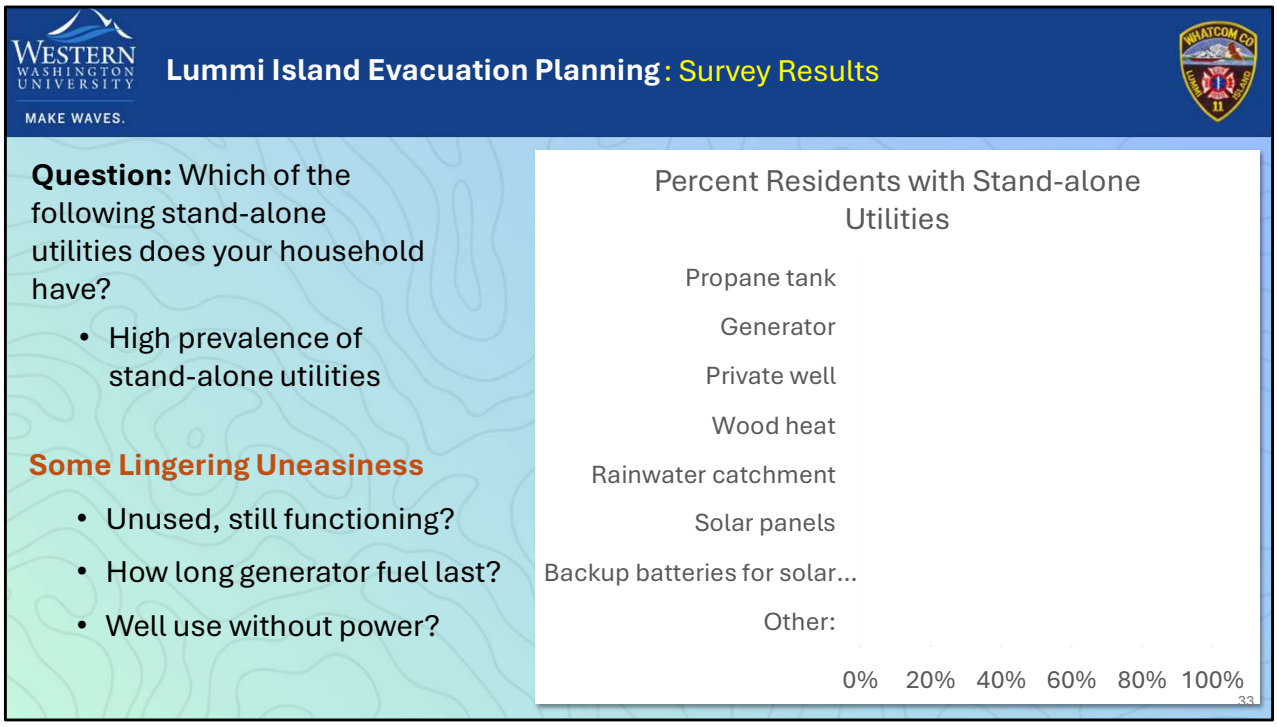
Q11. Injuries and post-surgery recovery can temporarily limit the mobility of members of your household. In this scenario, what assistance would your household need to evacuate to an on-island assembly area?



We created 26 survey questions and offered them remotely and in person, both online and using paper copies. Survey questions were developed based on an existing FEMA Household Preparedness survey, but modified to fit the context of Lummi Island, largely shaped with the guidance of Joan Moye.

Before going out to survey, we asked Joan to post messages on local media sites to give Lummi Islanders a heads up about our coming, so people weren't caught off guard by strangers. We grouped the neighborhoods into 9 larger areas and walked around each, knocking on doors to survey residents. When people were not home, we left door hangers so residents could take the survey online once they'd returned home. We also had a booth at the Saturday Market on island and walked up and down ferry lines, delivering pamphlets with our information and access to the online survey.

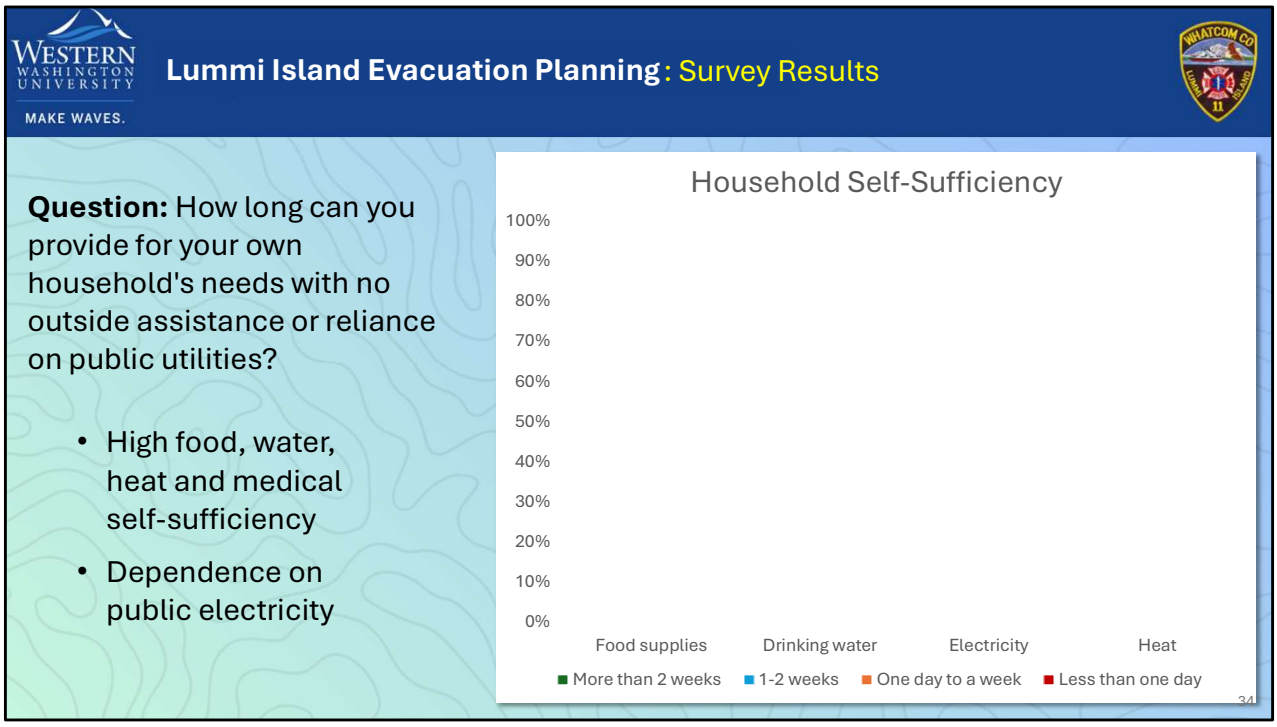
In total we collected 142 survey responses, which we processed through Excel and performed statistical analyses.



Standalone utilities are important assets in disaster events because they can provide electricity, water, heat and other essential services that can substitute for public services that may be disrupted. Over half the households had propane tanks, generators, private wells, and wood heat (84%, 66%, 60%, and 57% respectively).

Islanders noted they had not used some of these backup utilities in years and that they could potentially be out of service. Participants who had standalone generators also commented that they did not know how long their generators could operate for in an emergency event. Those with private wells also may not have considered whether they knew how to use a manual pump to access their private well in the case of a loss of power.

Q13. Which of the following standalone utilities, if any, does your household have? (Select all that apply)



In disaster scenarios, weather events can disrupt people's access to outside assistance or public utilities for essential survival services such as food supplies, drinking water, electricity, heating, and medication.

Food Supplies. Nearly half (43%) of residents said they had stored food provisions that would last more than two weeks and another third (36%) said they generally had provisions that would last 1-2 weeks.

Drinking Water. One third of participants could provide their household with drinking water for more than 2 weeks and nearly as many (29%) said they had supplies for 1-2 weeks.

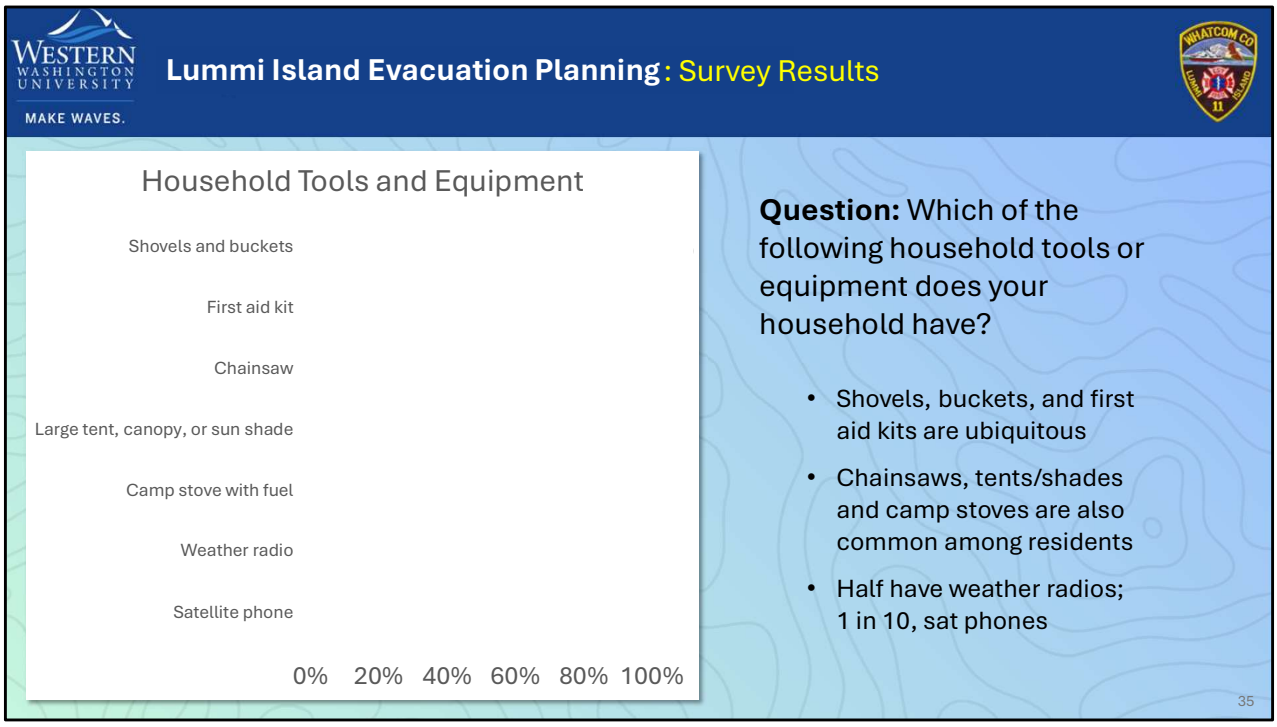
Electricity. Only about 1 in five (21%) participants could provide electricity to their household for more than two weeks without public utilities, likely with the use of solar panels and backup batteries. Some households (17%) would not be able to provide electricity to their homes for more than one day, if at all, without public utilities.

Heating. One-third (31%) of respondents could heat their households for 1-2 weeks and one-half (50%) for more than two weeks.

Medication. Two-thirds (66%) of households had enough backup medication to provide for their house for more than 2 weeks and a quarter (27%) had enough for 1-2 weeks. The remainder (15%) had enough medication for less than one week

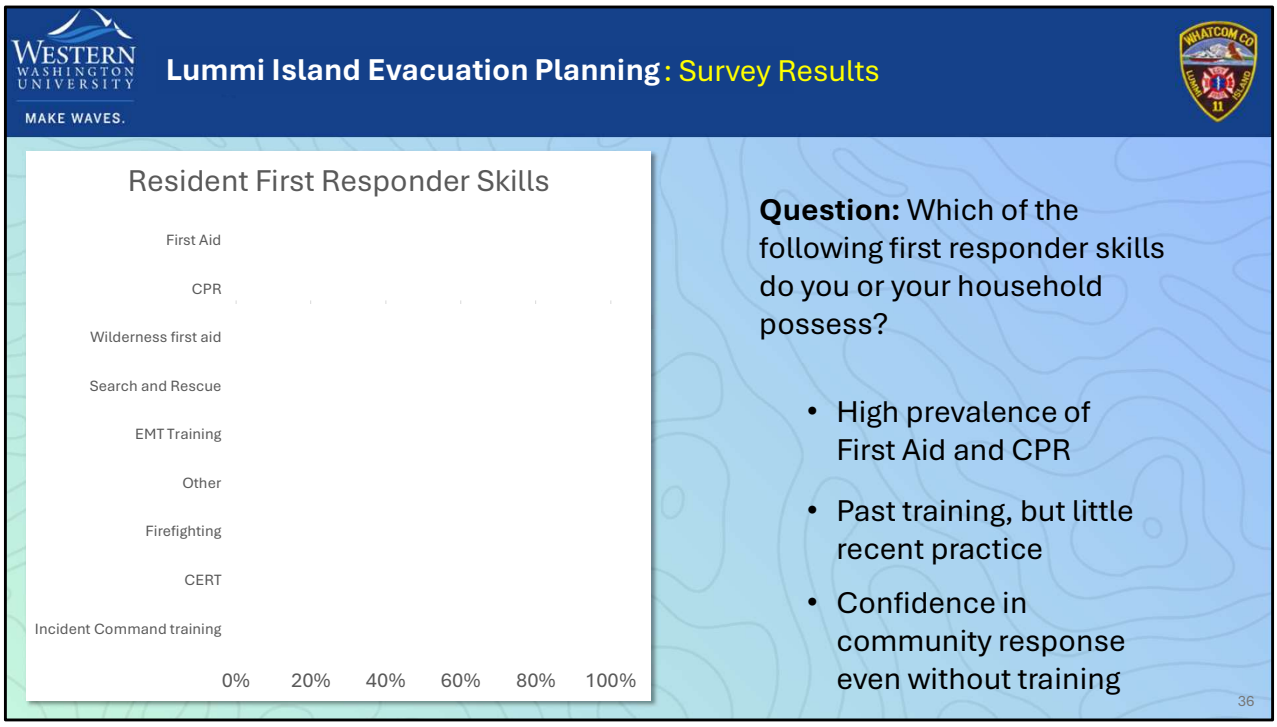
without outside assistance.

Q14. How long can you provide for your own household's needs with no outside assistance or reliance on public utilities?



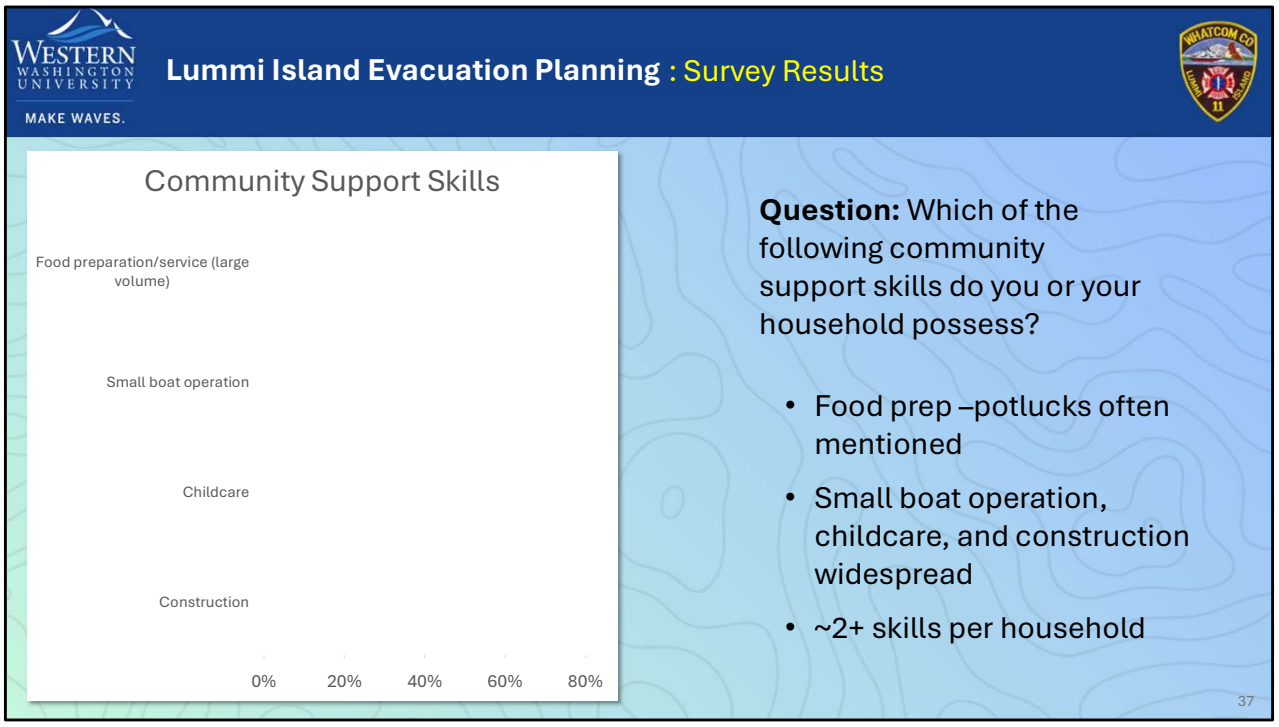
Virtually all households (98%) have shovels and buckets (98%) and first aid kits (91%). At least two-thirds also have chainsaws, tents, sunshades, and camp stoves. With over half (53%) reporting weather radios and 10% owning satellite phones—and these phones and radios spread out across north, central and south island—most neighborhoods are likely to be informed about conditions, even without cell coverage.

Q16. Which of the following tools or equipment does your household have?



Many households had someone with first responder skills. Almost all had someone who knew CPR (85%) and basic First Aid (71%), with all other skills falling between 10% and 20% prevalence. Thus, at least a few residents within each neighborhood are likely to have each type of skill. Some mentioned having past skills/training but no recent practice, which could limit their effectiveness. EMT training is limited to volunteer firefighters, whose extensive breadth and depth of training are tracked by the Fire District. “Other” skills residents reported included healthcare provider, HAM radio, and nurse aid training.

Q17. Which of the following first responder skills do you or your household possess?

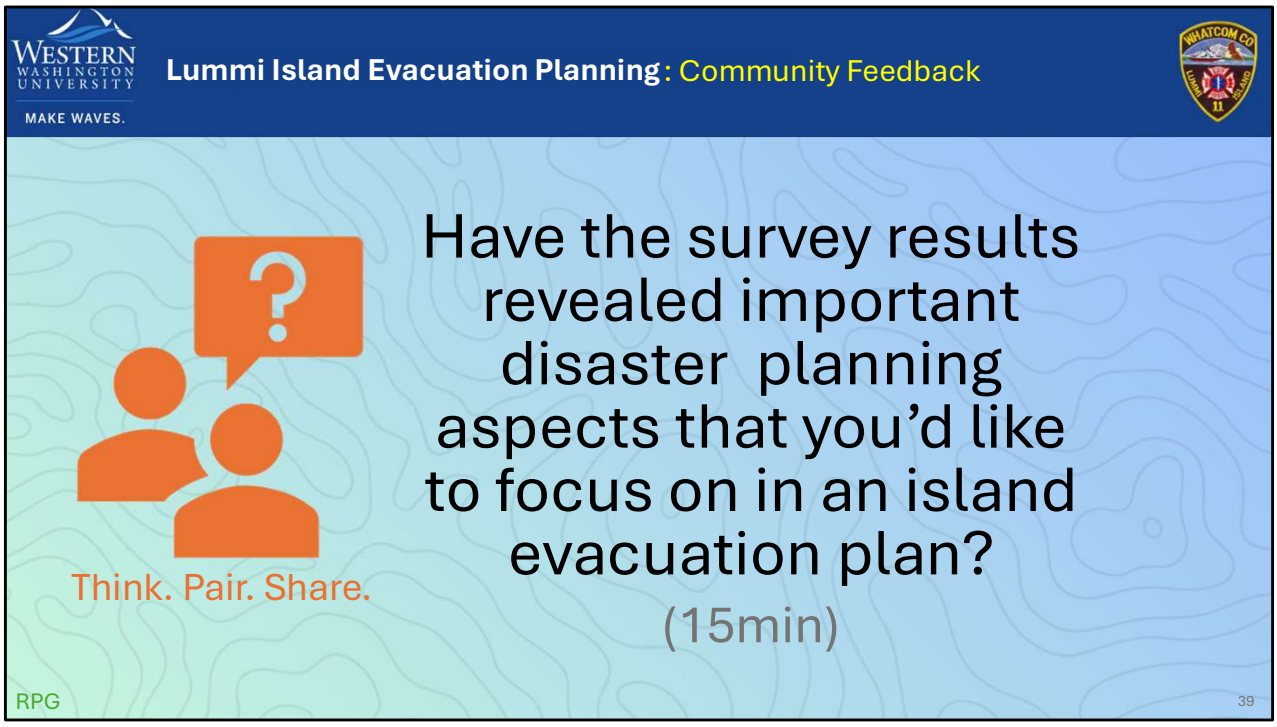


Lummi Islanders have a wide and comprehensive variety of community support skills that could be useful in an emergency shelter or staging situation. Food preparation, small boat operation, childcare and construction were prevalent skills (67%, 52%, 48%, and 44% respectively). The average household reports having at least two of the skills listed. Many residents indicated in comments or in conversation with team members that they are proud of their ability to contribute to the community and willing to use these skills if needed.

Q18. Which of the following community support skills do you or your household possess?

Lummi Island Evacuation Planning: Resident Thoughts/Concerns

- Desire for preparedness meetings, workshops, or reinstating of CERT training (6 comments)
- Concern over off-island, including concerns about a lack of public dock, limitation of ferry, damage to ferry dock in an earthquake (6 comments)
- Concern over evacuation routes, including not knowing them, single road egress (3 comments)
- Availability or resources, especially location of water holding tanks and heavy equipment)
- Unclear what siren means when it goes off (1 comment)



1.) Turn to the people around you and discuss the question.
2.) Write common themes on your sticky note.
3.) Select a group speaker to share most important themes with the group.

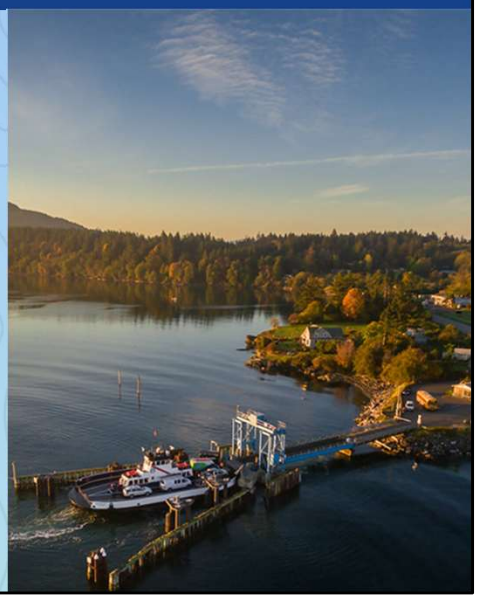
Drawing for participation prizes

Lummi Island Big Picture

- Exposure to large-scale hazards
- Limited egress
- Vulnerable groups
- Limited formal response capacity

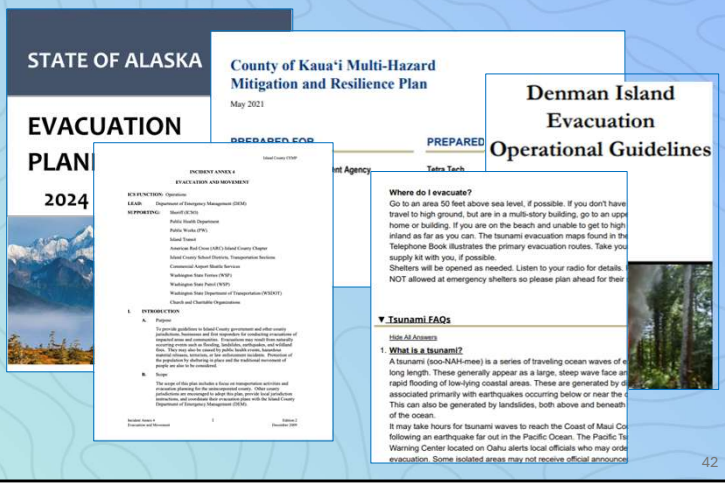
Develop an **Evacuation Plan**?

RPG



Review of Good Practice

- Review of several relevant evacuation plans
- Identified seven common elements of evacuation plans

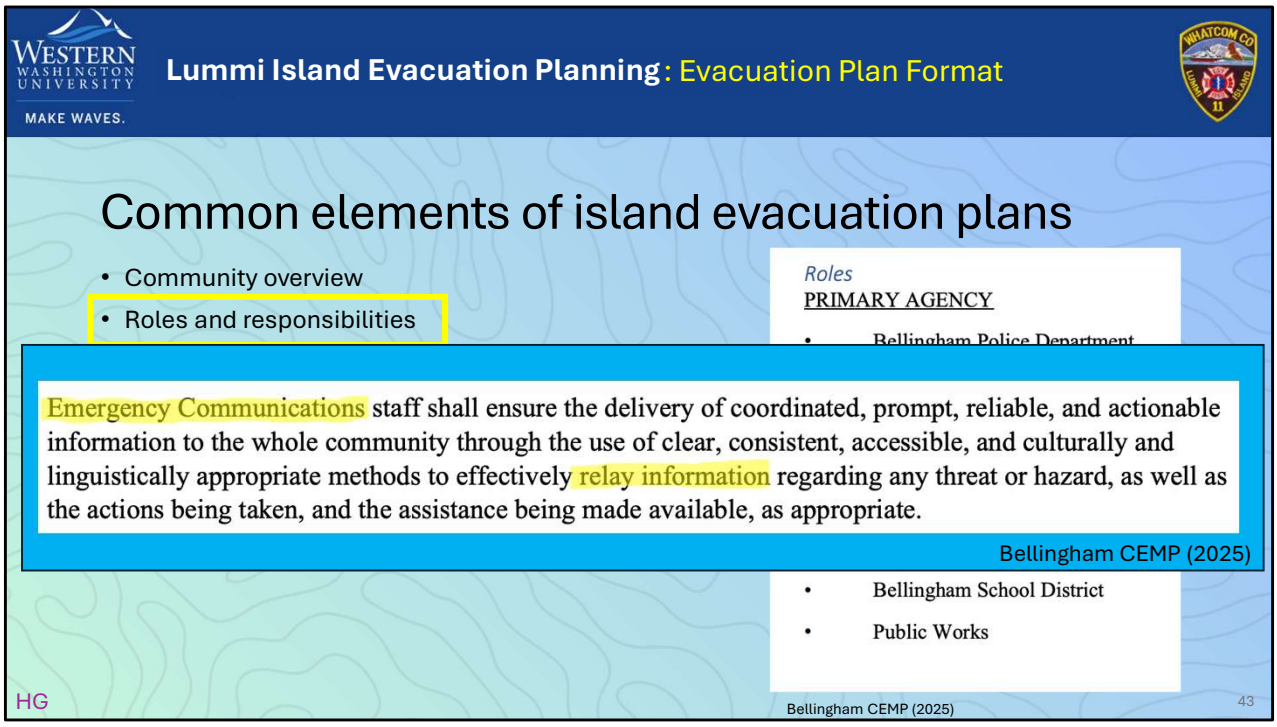


MC

So for this part, we wanted to make sure our evacuation plan built on proven strategies instead of reinventing the wheel.
We started by reviewing several existing evacuation plans from coastal and island communities — including ones from the State of Alaska, Kaua‘i County in Hawai‘i, and Denman Island in British Columbia. These places share similar challenges with Lummi Island, like limited evacuation routes, ferry dependency, and geographic isolation.

Through that review, we identified seven key elements that consistently appeared across effective evacuation plans. These became the foundation for our own recommendations.
We focused on what worked — clear communication systems, defined roles for emergency managers, accessible routes for residents, and procedures that account for people with disabilities or limited mobility.

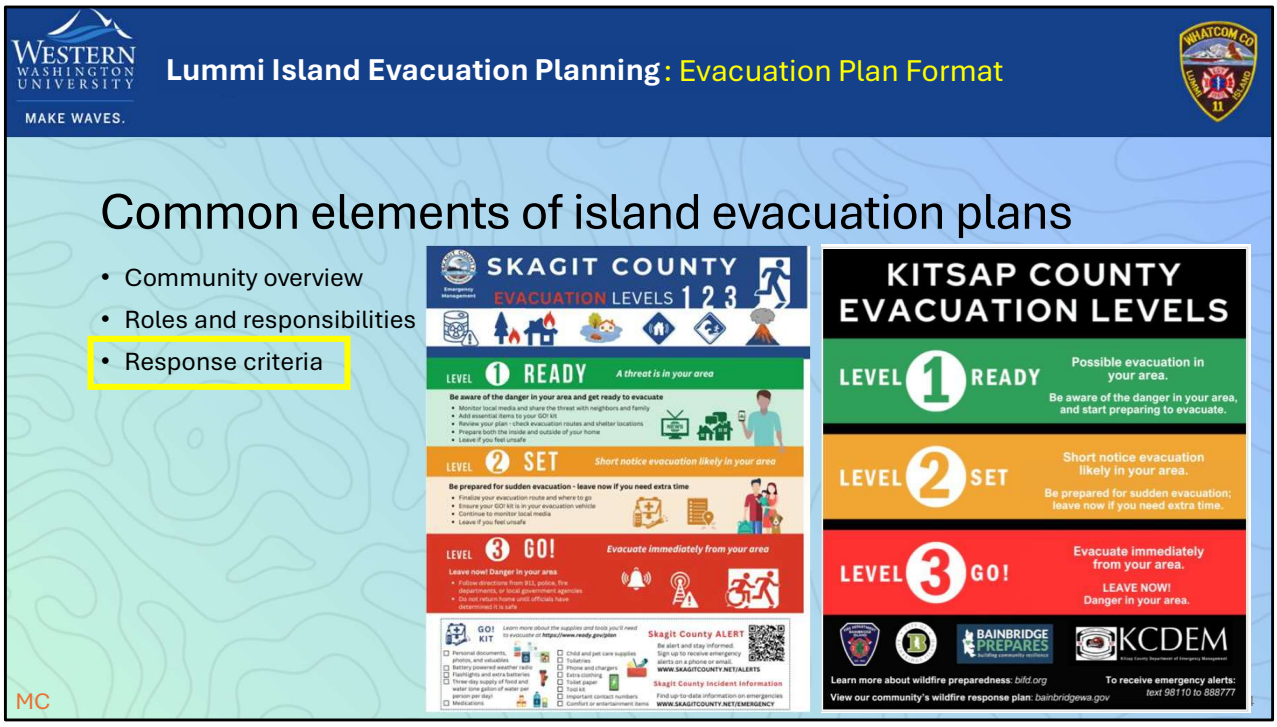
Overall, this step helped us align our approach with best practices while still adapting to the specific needs and geography of Lummi Island.



- The Community overview is usually an introductory paragraph explaining the situation of the area for which the evacuation plan is being written. This briefs emergency personnel about who they are working for and what they can expect about the community and the hazards it faces.

- Plans then tend to have a section on roles and responsibilities of all potentially participating organizations that may be called upon for resources in a disaster, depending on the severity of the event and the capacity of local organizations to cope. It's important to define roles and responsibilities so all actors know who to look to and so all essential activities are addressed. Roles and responsibilities will help off-island authorities know who to contact when responding to an emergency.
  - Local, a Lummi Island evacuation plan may need to define the roles of:
    - LIFD
    - Neighborhood leads
    - Safe assembly zone personnel

- Off-island, it may be relevant to work with other organizations to understand what role they are able to play. Off island, these may include:
    - Whatcom County emergency management
    - Coast Guard
    - FEMA
    - American Red Cross
    - Public Works
    - Salvation Army
    - Etc.



Many plans have clear criteria for initiating a response. These could be defined geographically, temporally or based upon risk. For instance, several plans included a evacuation levels that were based upon population impacted, size of the hazard, or how quickly a hazard was going to occur. After reviewing multiple evacuation plans, we found that most successful ones share a similar structure. These elements create a consistent framework that helps communities organize and respond effectively during emergencies.

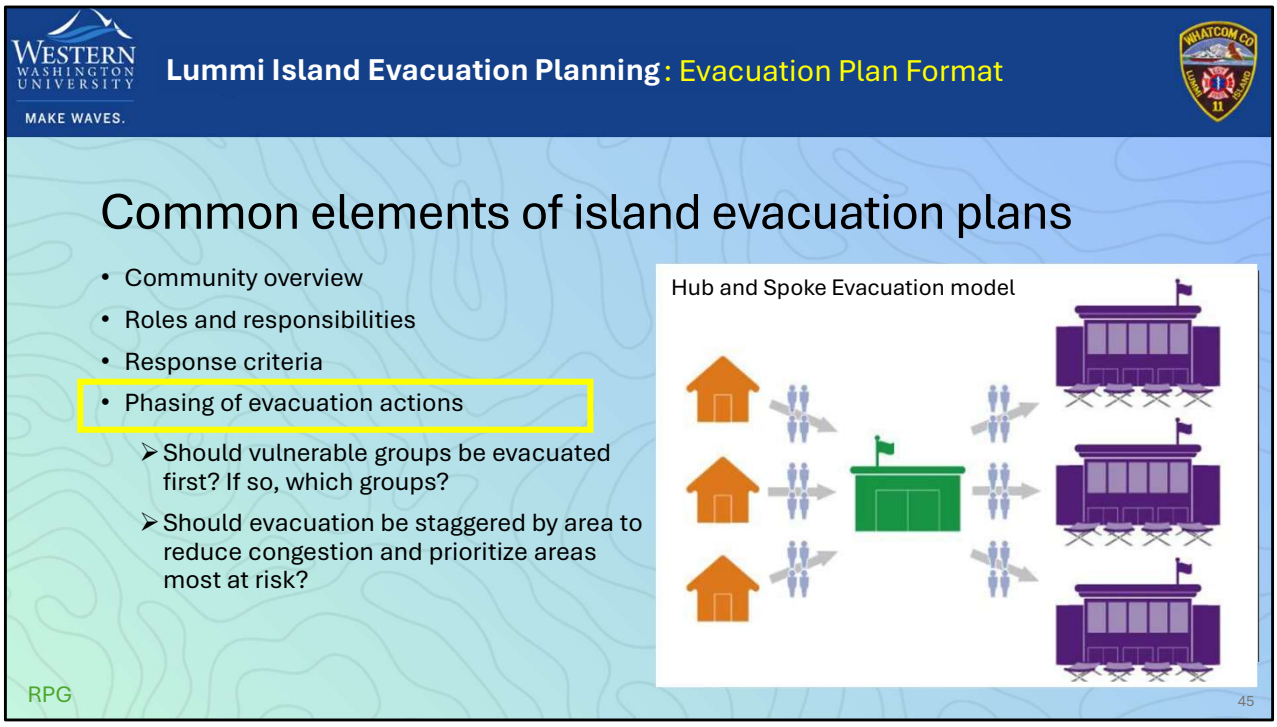
They usually start with a community overview, which gives context—like geography, population, and key risks. Next is a clear outline of roles and responsibilities, identifying who does what before, during, and after an evacuation.

Response criteria explain when evacuations are triggered and what conditions make them necessary. Then there's the phasing of evacuation actions, which breaks the process into stages—such as warnings, voluntary evacuations, and mandatory orders.

We also looked at means or modes of evacuation, which can include ferries, boats, or air transport, depending on what's available. Staging and sheltering locations are mapped by area, ensuring residents know where to go if transportation or routes are limited.

Finally, strong communication plans were a universal feature. These define how updates are shared across agencies and with the public, especially through local media, alerts, and accessible formats for vulnerable populations.

Together, these seven elements form the foundation of a reliable and community-centered evacuation plan—something we're applying directly to Lummi Island's context.



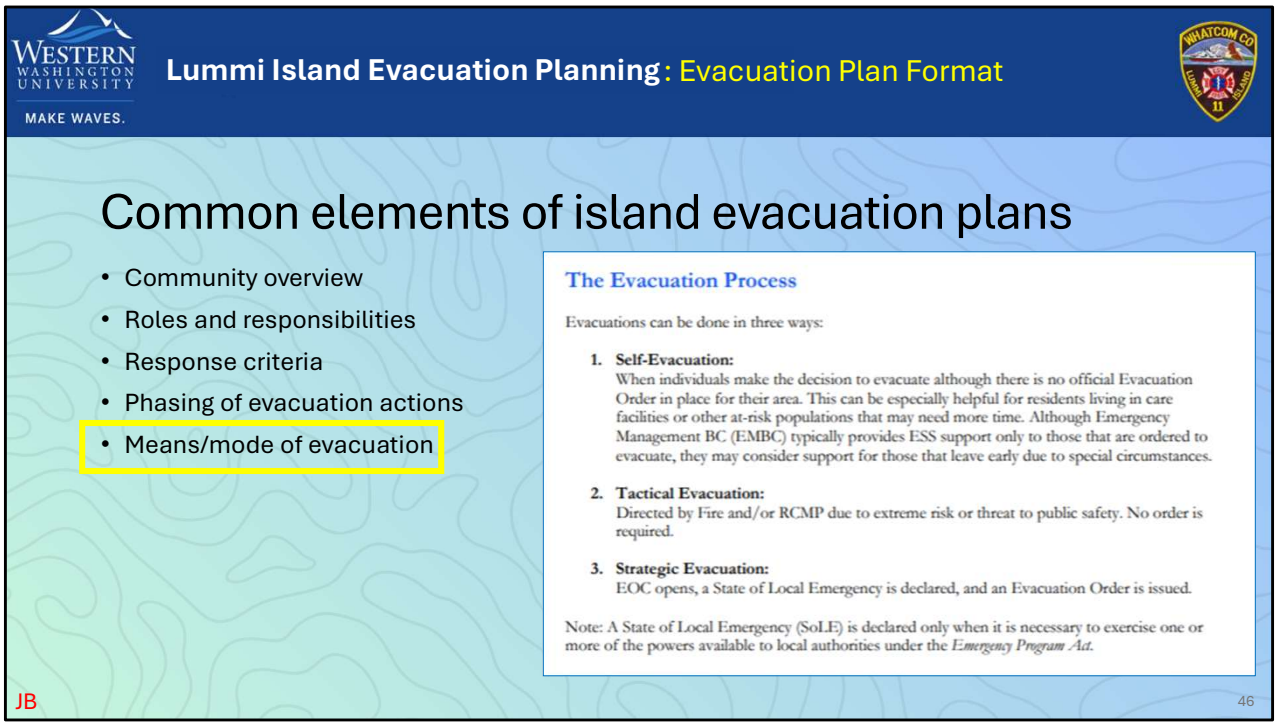
Another common element is an explicit discussion of evacuation phasing.

This section considers and answers questions around whether there are vulnerable groups that may need priority evacuation.

More generally, it might also consider ways to avoid congestion by laying out a staggering plan, such as one that evacuates high risk areas first, followed by moderate, and then low risk areas.

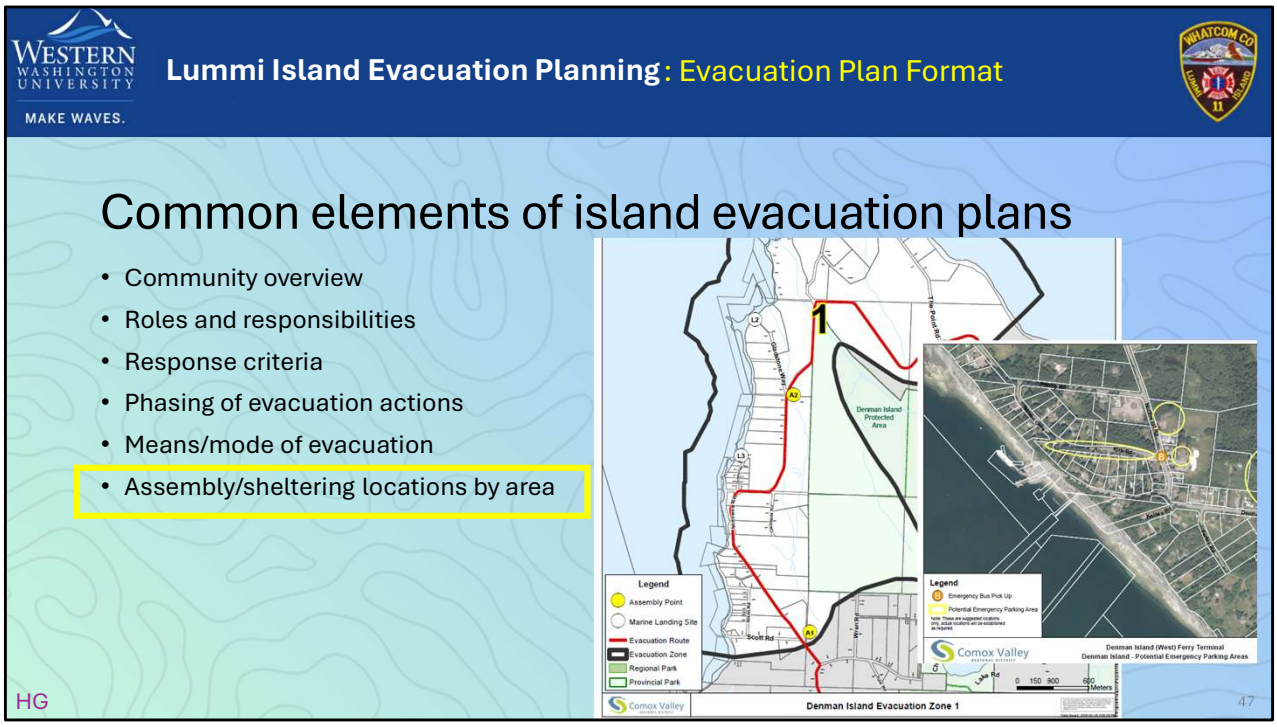
Such phasing can be for both on-island movement from one area to another, or for off-island evacuation.

Some plans we reviewed used what FEMA calls a "hub and spoke evacuation model". This approach has individuals or households evacuate to one or more centralized assembly areas. From the assembly area, those managing the evacuation can identify needs and triage urgency. Individuals and households are then sent from the staging area to an evacuation location. Through the hub and spoke model, people with critical transportation needs can be targeted for evacuation first.



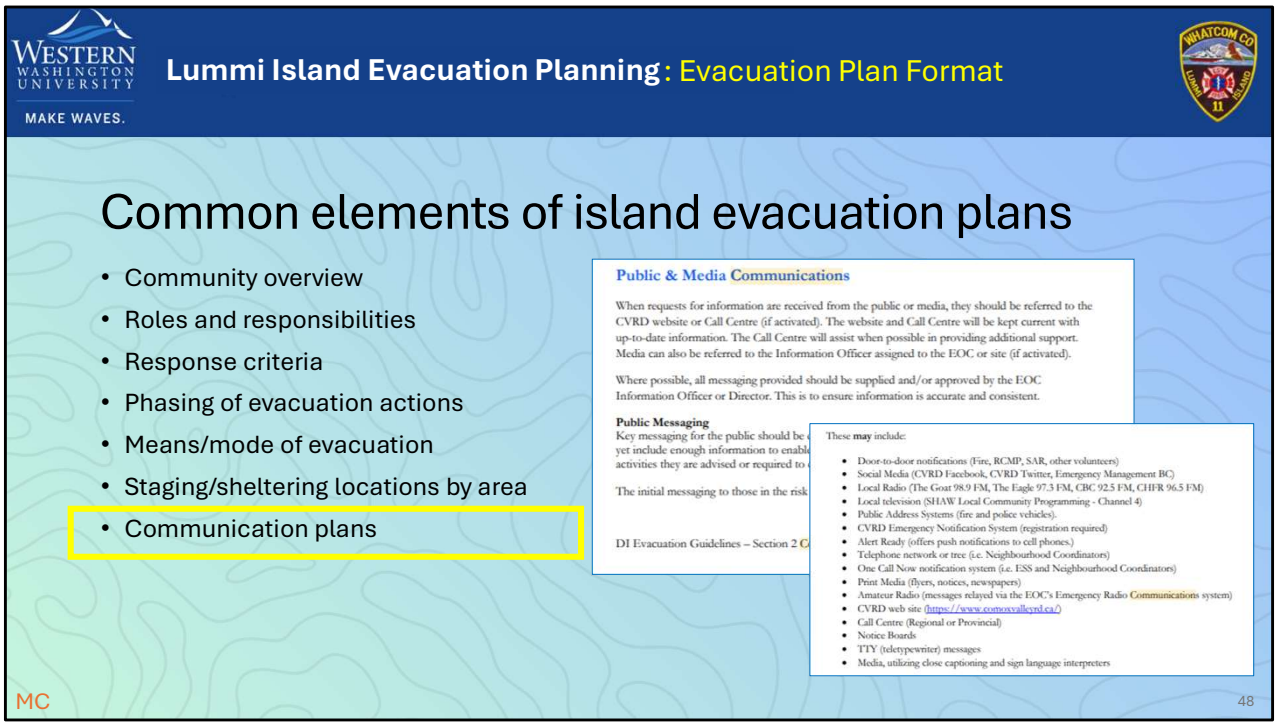
The next common element is a discussion of means and modes of evacuation. This means identifying available vehicles and other kinds of transportation, as well as options for self-evacuation and assisted evacuation.

- Mapping household vehicle availability here was the first step; the plan should also consider all official vehicles at LIFD, potential county DEM resources, etc
- Private boats are present in meaningful quantities – participation would be voluntary but should be investigated



- Clearly identified staging and sheltering locations by zones
  - Include backup options if the primary site for a neighborhood is compromised or full

The WA DNR created a tsunami evacuation map for Lummi Island in 2012. Each area has different evacuation methods as displayed by distinct symbology. The red arrows on the West and North Shores and Scenic Estates display run uphill, whereas Legoe Bay Rd, Nugent Rd and center island areas are instructed to drive to Beach School and Lummi Island Grange, the designated shelters.



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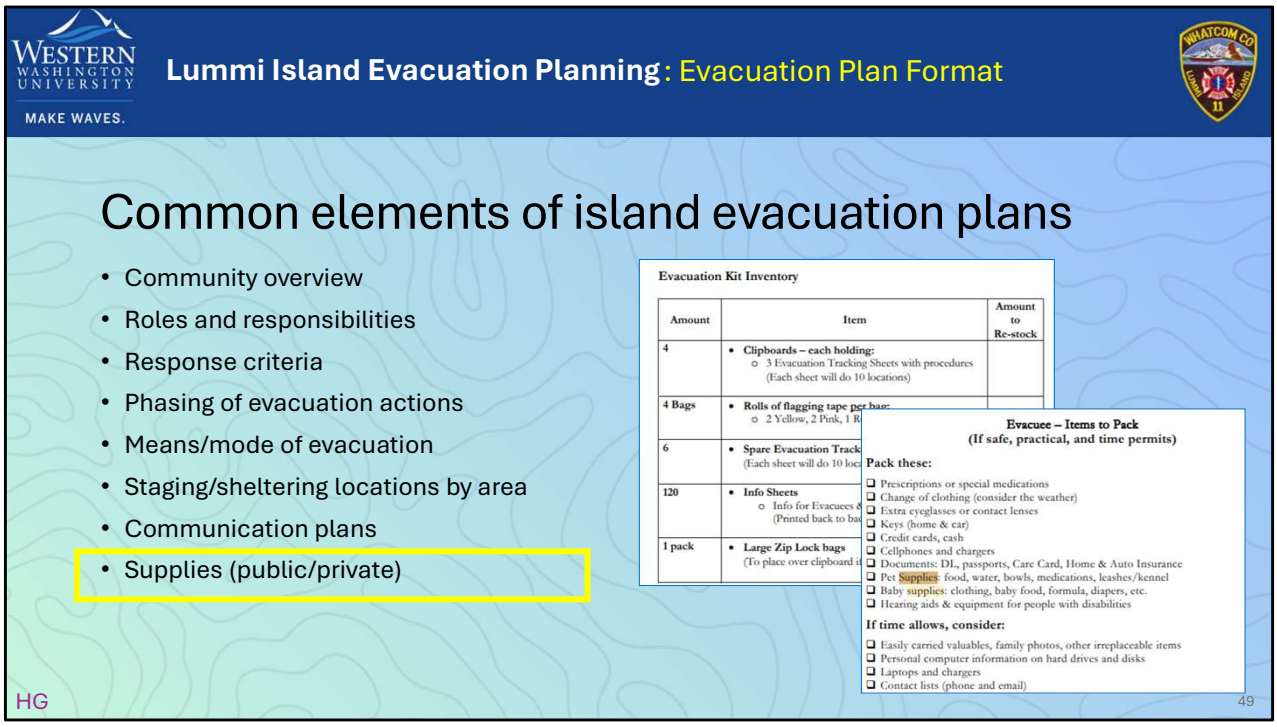
- Effective, redundant communication plans for authorities and residents
    - Remember that power may go out and cell networks may be overloaded or inoperative
    - Make sure residents know what every possible siren means

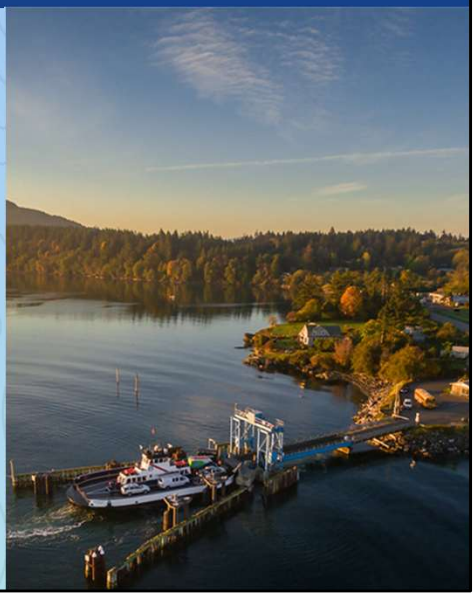


- Public supplies:
  - Pre-positioned response supplies where feasible
  - These may be limited; can also be moved from central storage to peripheral sites as a response begins
- Private supplies:
  - Recommendations for household supplies (go-bags)
  - Simple and standardized; residents can tailor their kit to their own needs and preferences

Evacuation Plans Caveats

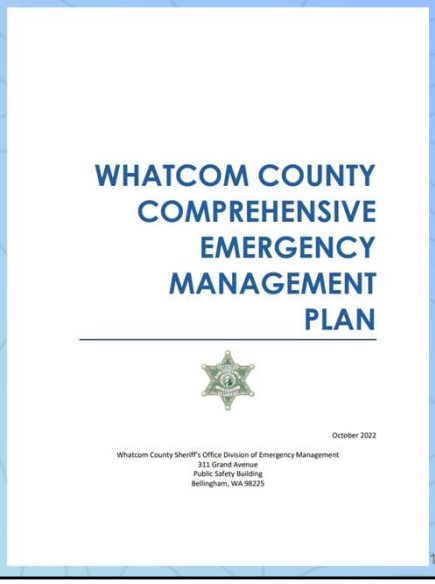
- No way to plan for all possibilities.
- Real evacuations require flexibility and creativity.
- Benefit of evacuation plan comes from the process.
- Best plans are ones with widespread participation.

RPG



Whatcom County Plan

- CEMP includes 5pg annex on evacuation
- Establishes authority to call evacuation and evacuation levels
- Mostly conceptual in nature
- Only mention of Lummi Island is that it is accessed by ferry



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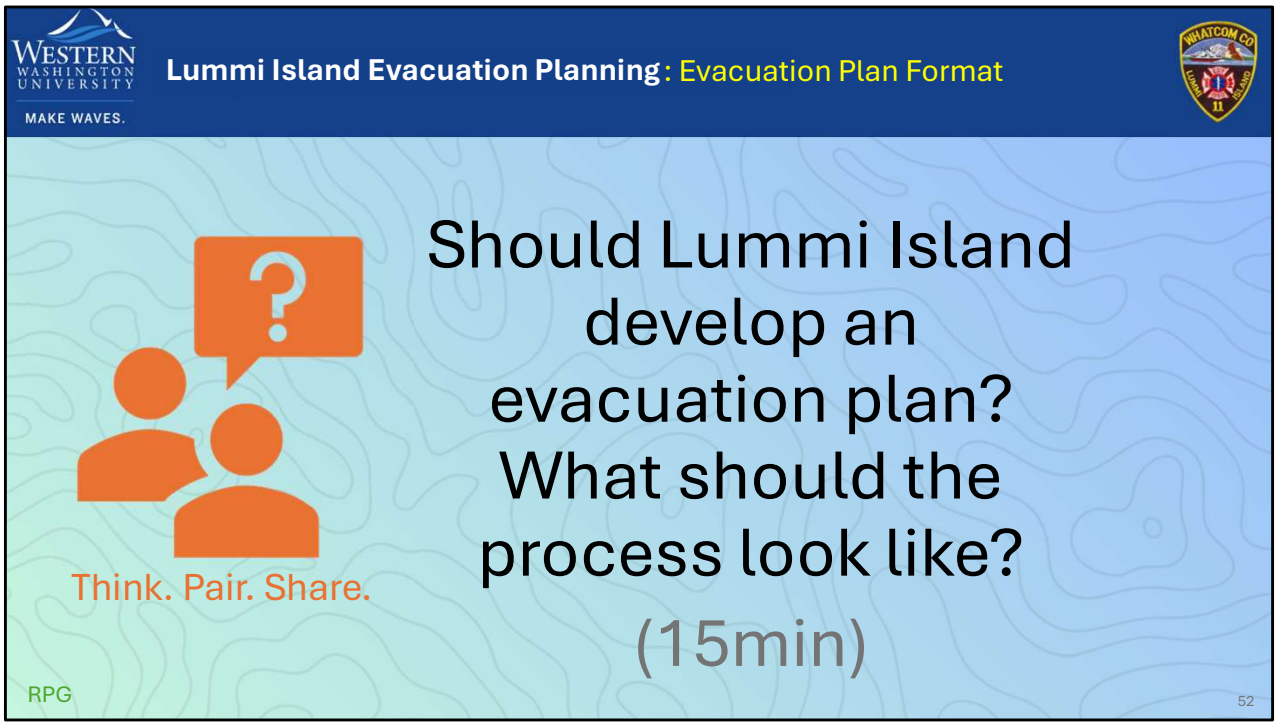

1.) Turn to the people around you and discuss the question.
2.) Write common themes on your sticky note.
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Lummi Island Evacuation Planning: Closing Comments

What might come next?

- Document tonight's feedback
- Form an Island Evacuation Committee
- Gather information
- Draft plan
- Public Review
- Periodic evaluation & updates

Photo by Carl Hanson, courtesy of www.washingtonruralheritage.org

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Just guessing at these, may need some guidance from RPG
Time estimates would be good if we're ready to give them

Thank You!

Active and involved communities are safer communities!

We look forward to continued engagement as we build these plans

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