

Vashon Island Fire & Rescue Plan Annex

Introduction

A manmade isthmus connects Vashon Island to Maury Island, so they are known collectively as “Vashon.” Vashon is the largest Puget Sound island south of Admiralty Inlet. Situated at the far western edge of unincorporated King County, it lies just north of Tacoma in southern Puget Sound. While Vashon is surrounded by water and has no bridge to the mainland, it is reachable via Washington State Ferries from West Seattle, Southworth, and Tacoma, as well as by King County Water Taxi, a passenger-only ferry to downtown Seattle. Vashon Municipal Airport, with its grass landing strip, also serves the island, although it is limited to general aviation and has no scheduled service. King County Fire Protection District 13 – Vashon Island Fire & Rescue (VIFR) – provides fire and rescue services to the entire island of Vashon.

Glaciers repeatedly advanced and retreated in Puget Sound over geologic time, depositing gravel, sand and silt to create Vashon and Maury islands, and carving out the surrounding channels of Puget Sound. The land has been occupied over the past 10,000 years by native people of the Marpole, Salish, and later the S’Homamish. Tulalip tribes also fished from the islands and used waterways and inlets for travel by canoe. First European contact occurred when Captain George Vancouver began surveying the islands, starting in 1792. Logging began in 1852, joining fishing as the primary industries. Agriculture for export took off in 1890, in particular with the farming of strawberries.

From 1940 until the present day, Vashon has evolved into a rural bedroom community, from which over 70% of workers commute to the mainland. Tourists and residents alike are drawn to the rural community of beaches, forests, small farms, and an active arts and music scene. Vashon is also known for a high rate of volunteerism and community engagement, a small community served by approximately 100 island-based nonprofit organizations.

Development Trends

The island has a just-in-time import economy, with mostly smaller, locally-focused businesses, and heavy dependence on summer tourism. In addition to the ferry-dependent transportation bottleneck, rural zoning and limited access to water have constrained Vashon’s economy as well as its population growth, helping to maintain its rural character. A shortage of affordable housing has led to efforts by a non-profit community organization to develop some price-controlled housing, but demand exceeds supply.

The largest employer on the island is Vashon Island School District (VISD). Education for K-12 includes about 200 students who commute daily by ferry from the mainland; there are also a handful of private preschools and grade schools. While the island demographic remains mixed, in recent decades an influx of residents from other places has shifted it toward a more cosmopolitan perspective, with an associated expectation of city-level services.

The island has limited primary medical care services from two clinics. The community does not have a hospital; urgent care and emergency care are a ferry ride away. As a result, more than 80% of VIFR’s calls are for medical aid. Voters recently approved a new public hospital district, with commissioners who aim to address the challenges

Vashon Island Fire & Rescue Profile

Location: [47°24'58"N 122°28'6"W](#)

Area protected: 36.9 square miles

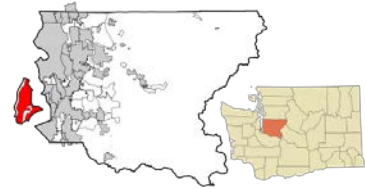
Population: 10,624 (2010 Census)

Households: Approximately 4,500

Government: Unincorporated area of King County plus special taxing districts for fire and rescue, schools, sanitation, parks and recreation

Transportation: Ferries, no bridge, no scheduled air service

Website: www.VIFR.org



of providing an affordable and appropriate mix of outpatient healthcare services. (A hospital would not be sustainable for the small island population.)

The coastal edges of much of the island are subject to periodic landslides; a hazard that became more apparent after recent LIDAR geotechnical studies revealed new evidence of historic slides. Heavy winter rains over multiple weeks exacerbate slips and slumps. Landslide danger to housing and population will increase in coming decades, due to sea level rise from climate change. Historically, development of Vashon was from the shoreline edges inward because water access was the primary transportation link available to settlers and early farmers. Thus, settlement was concentrated near the water’s edge. One hundred years ago, Vashon’s shoreline neighborhoods were served by the Puget Sound “Mosquito Fleet” of small point-to-point privately operated steam boats. The Mosquito Fleet no longer exists and today, thirty-three of Vashon’s waterfront neighborhoods can be reached only via their steep, winding access road – their sole emergency access.

Wildfire risk has increased as fuel has accumulated in the wildland-urban interface, where homes built in wooded areas far from main roads are challenging to defend.

Two east-west earthquake faults pose potential quake and tsunami risks to Vashon: the Seattle fault to the north, and the Tacoma fault that crosses the center of Vashon island at roughly Point Robinson lighthouse. Vashon is also at risk from the Cascadia Subduction Zone fault. All three faults have been researched and all three have caused major seismic events in Puget Sound, including Vashon and including tsunamis.

The rural isolation enjoyed by residents also increases vulnerability for nearly every hazard listed in this plan. With mutual aid at least an hour away by ferry – the only available transportation route – efforts towards self-sufficiency and resilience are a continuing focus for mitigation, preparation, response, and recovery.

Vashon Point of Contact:	Plan Prepared By:
Name: Charles Krimmert	Name: Rick Wallace
Title: Chief	Title: Manager (volunteer)
Entity: Vashon Island Fire & Rescue	Entity: Vashon EOC
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Vashon Risk Summary

Hazard Risk and Vulnerability Summary

HAZARD	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
Avalanche	No risk. The island’s highest points are only about 500 feet above sea level, so there are no avalanche slope conditions. Maritime climate moderates temperatures. Snow accumulations are historically low and short-lived before melt.	Not applicable.	Not applicable.
Earthquake	High risk. Two east-west earthquake fault-lines pose potential quake and tsunami risks to Vashon: the Seattle fault to the north, and the Tacoma fault that crosses at Point Robinson on Maury island. Vashon is also at risk of earthquakes and tsunamis from the Cascadia Subduction Zone fault.	A major seismic event could isolate the island, cutting ferry service and isolating the community from most healthcare, food, fuel and other necessities of life. Damage to local businesses’ buildings, and cutting them off from supplies, could decimate the local economy. (Federal studies estimate that 40% of small businesses never come back from a disaster.) The island has only primary healthcare, with no provision of healthcare for trauma or chronic health issues. A major earthquake could collapse three of the four VIFR fire stations, decades-old structures that predate modern seismic building codes. Earthquakes may also introduce other hazards such as tsunami or structure fires, covered at topics in this listing.	We designate this hazard as high risk because of the severe consequences of a major earthquake on the community. The frequency of significant earthquake events is low, but a major earthquake could isolate the island for weeks. Isolation could leave our population of 10,000 in humanitarian crisis, with no hospital for serious injuries or chronic health issues. Estimates during several major Island exercises showed that food stocks at the Island’s two supermarkets would be depleted in less than a week in an isolation situation. Vashon’s participation in the Cascadia Rising 2016 exercise illustrated that fuel for emergency vehicles and basic transportation would run out in 3 to 6 days. Collapse of multiple fire stations could injure or kill many of the island’s first responders, and potential building collapses could render most of the island’s fire trucks and ambulances unusable due to damage or being trapped in debris from damaged buildings.
Flood	No risk. No major rivers in	Not applicable.	Not applicable.

	<p>area. No history of flood damage to the few buildings near a few small creeks. (Flood risk estimate does not include consequences of climate change on Vashon’s marine shoreline)</p>		
Landslide	<p>High risk. The coastal edges of much of the island are subject to at-least annual landslides; risks became more apparent after recent LIDAR projects revealed multiple historic slides. Coastal slips and slumps are exacerbated by sea level rise from climate change, and by heavy rains from winter storms. Development near cliff-edges and below high bluffs increases risks to life safety.</p>	<p>An estimated 15% of the island’s population live in homes along the shoreline. Landslides are seen at least yearly in certain areas, such as Tramp Harbor at Dockton Rd. Slides are a likely consequence of earthquakes that are of moderate to severe amplitude, nearer earth’s surface, and/or proximal to the island. Shoreline erosion frequently occurs in areas where previous slides have occurred, as well as in new locations during heavy rains and other extreme weather events.</p>	<p>A number of Vashon’s shoreline slopes are at high risk of landslide – slopes where 10 to 45 homes could be damaged or destroyed, with high potential for trapping occupants, injuring them or killing them. Some factors including rural development, low population density, and mostly low wood-frame buildings, suggest that a limited number of people or buildings would be affected by any one slide. However, a major earthquake could set off multiple severe slides, potentially affecting numerous residents and dwellings.</p>
Severe Weather	<p>High risk. Windstorms several times per year cause downed trees or branches across roadways and power lines, disrupting transportation, electric utilities, and communications in isolated areas. Loss of power from the electric grid could mean no power to pump water from various water systems, leaving numerous residents without water.</p> <p>Vashon has a sole-source aquifer that is not affected by mainland droughts, but extended periods of hot, dry weather and reduced rain could dry up wells and damage wild or cultivated</p>	<p>Heavily forested areas with falling trees and branches, above-ground power lines, and challenging rural roadways, contribute to vulnerabilities resulting from severe wind events. Damage to forests from heat and drought is already apparent. Consequences include increased insect-based diseases, die-offs of certain tree types, forced changes to re-planting, and increasing ground-based fuel from dead trees, resulting in increased wildfire risk.</p>	<p>Significant numbers of island households and businesses lose electric power one or more times per year, for multiple hours or days. Droughts could disrupt or destroy local farms and residential water supplies, and commercial operations that depend on significant water supply. Wildfire risk would be increased by drought.</p>

	<p>flora and fauna.</p> <p>Some experts predict that climate change could cause a sea level rise of as much as eight feet by the end of the century. In that case, significant ports of the island would be inundated around the shorelines.</p>		
Severe Winter Weather	<p>High risk. Winter storms including heavy rains, snow and ice, occur multiple times per decade, and result in widespread effects of drastically reduced transportation, widespread loss of electric power, and degraded communication.</p>	<p>Heavily forested areas with falling trees and branches, above-ground power lines, and challenging rural roadways, contribute to vulnerabilities resulting from severe weather.</p>	<p>Snow and ice and fallen trees or branches significantly reduce transportation safety on steep, winding island roadways. Cellphone and internet services (including VOIP phone service) are disrupted when cell towers and cable providers lose electric power.</p>
Tsunami	<p>Medium risk. Two east-west earthquake fault-lines could cause tsunami events within Puget Sound. The faults are the Seattle fault to the north, and the Tacoma fault that crosses Maury island. Vashon is also at risk of earthquake-resulting tsunamis from the Cascadia Subduction Zone fault.</p>	<p>A quake of medium or higher intensity at the shallower, nearer Seattle or Tacoma faults might cause significant tsunami activity around Vashon within minutes. A moderate to severe Cascadia Subduction Zone earthquake could result in moderately increased wave height and seiche activity in south Puget Sound. A recent DNR model showed potential 10-foot wave effects from a Cascadia tsunami reaching Tacoma and back-washing to the south end of the island. In addition, the island could be isolated even if the north and south end docks survived because the Fauntleroy ferry dock in west Seattle is the most susceptible in the Washington State Ferry System in event of a tsunami.</p>	<p>Tsunamis or seiches around Vashon's waterfronts could result in coastal erosion affecting homes and roads. In particular, a Cascadia backwash could break the isthmus connecting Vashon and Maury islands, cutting off about one-fourth of the community population. It could also damage or destroy docks, boats, and fishery resources and ecosystems such as tidal oyster beds, creek heads where salmon swim to spawn, beaches with clam populations, or eelgrass beds that support squid and forage fish.</p>
Volcano	<p>Low risk. Mount St. Helens, Mount Rainier, Mount Baker, Mount Adams, and Mount</p>	<p>The most recent eruption, of Mount St. Helens in May of 1980, resulted in</p>	<p>People suffering from lung-related illness would need protective masks,</p>

	Hood are among volcanoes potentially affecting the Puget Sound region.	airborne ash effects on Vashon. This posed highest risks for Vashon residents with lung-related illness, and for vehicle air intakes and paint. Lateral blasts and lahars are not considered risks for Vashon.	extra medicines and medical treatment. Vehicles would need extra air filters and washing to protect paint. Some minor injuries might occur from dealing with ash damage. Regional economic losses and delays might have a detrimental effect on the Vashon economy.
Wildfire	Medium risk. Wildfire risk has increased, as fuel accumulates in the wildland-urban interface, where residences built in wooded areas far from main roads are more challenging to defend.	Limited fire-fighting resources on the island, and a one-hour plus delay before any mutual aid could reach the island, increase Vashon’s vulnerability from island wildfire. Where few alternate routes exist, and roads are steep, narrow and winding, evacuation of some areas would be difficult or impossible. Firefighting might require water-based assets such as the Tacoma fireboat. Climate change in the form of longer, hotter summers with dryer conditions is increasing the risk of wildfire.	Loss of lives and buildings could be significant to severe because the limited VIFR resources would be overwhelmed and the fire could be moving so fast that mainland resources would not arrive in time to prevent major damage and loss of life.
Civil Disturbance	Low risk.	Vashon has no history of significant civil disturbance. Two officers from KCSO are on duty on the island at any given time. This is a high ratio of officers per capita, compared to an urban population, but the large forested land mass and dispersed population make policing more difficult. Also, mutual aid is at least one hour away, and there is no staffed holding cell on the island.	Some potential exists for unrest in an island isolation situation, when the population might become desperate for food and other depleted resources.
Cyber Attack	Low risk. No large institutions are based on the island that would affect the whole island economy in a significant way if internet connectivity or data integrity were compromised.	Island residents’ and businesses’ close ties to regional resources such as banks, universities, and large businesses, represent a vulnerability. A significant percentage of wage earners	Individuals, groups, or economic sectors might be significantly affected.

		work from home and would face significant hardship if internet connections or telecommunications were disrupted.	
Dam Failure	No risk.	Not applicable.	Not applicable.
Hazardous Materials Incident	<p>Low risk. For security reasons, most hazardous materials are not permitted at all, or in significant quantities, on Washington State Ferries, the only transportation link with the mainland.</p> <p>Petrochemicals are shipped to the island on a scheduled and secure basis. However, tankers transit Puget Sound and other commercial shipping vessels utilize large volumes of fuel and potential exists for a marine spill accident.</p>	<p>Hazardous material response on Vashon must be handled by Washington State Patrol. VIFR would set a perimeter, and King County Sheriffs can manage evacuation, but neither agency has the capacity to neutralize a hazardous material event.</p> <p>Oil spills on land are primarily the responsibility of the state Department of Natural Resources. Responses to marine oil spills are handled by the Coast Guard.</p>	In the unlikely event of a hazardous material incident, there could be injury and loss of life due to the challenge of evacuation and the time delay before mainland resources could arrive.
Public Health Emergency	Low risk. Decentralized water (and to a more limited extent, food supplies) to this small rural population would mean lower rates of exposure for any locally generated public health event. Greatest risk is from international pandemic, such as was seen with H1N1, or water-borne pathogens after a major regional incident, when water systems are breached and purification methods are not widely available.	<p>Water systems are multiple and redundant, so failure of more than one is unlikely except after a major regional earthquake. Island residents travel globally for work and leisure, sharing pathogens with people of all nations. Livestock and pets, which may carry pathogens transmissible to humans, also pose a risk.</p> <p>It appears that Vashon has an above average reluctance for vaccination. T</p>	Quarantine of island residents and/or animals would be relatively easy compared to the mainland, due to the surrounding waterways and controlled access via state ferries and limited air traffic. Private marine traffic would make quarantine more difficult to manage. Very limited healthcare resources could also pose challenges. In a regional or international pandemic, drug or vaccine supplies for a small community might not be a regional priority, and transportation of and distribution/administration could be challenging.
Structure Fire	Low risk. Structures are spread far apart except in the uptown core. In the town core, professional firefighters and good water pressure would support fairly rapid containment.	Historically, there have been major damage fire events in the town core but they took place before the formation of the Fire District or prior to the District's transition from a	Loss of some businesses in the uptown core could create temporary critical shortages. For instance, loss of the only pharmacy on Vashon could be a hardship for island

		100% volunteer department to a combined department with career firefighters on duty and ready to respond from the main fire station 24/7. On average, VIFR responds to three major alarm house fires per year. Fire equipment resources and personnel are limited. Mutual aid for firefighting is at least one hour away.	residents who rely on it for medicines.
Terrorism	Low risk. Vashon does not include high-value assets or national symbols that might make it an attractive terrorist target.	Collateral damage from terrorist strikes to nearby military bases or nuclear assets could adversely affect Vashon life and property.	Unlikely impact.

Hazard and Asset Overview Map

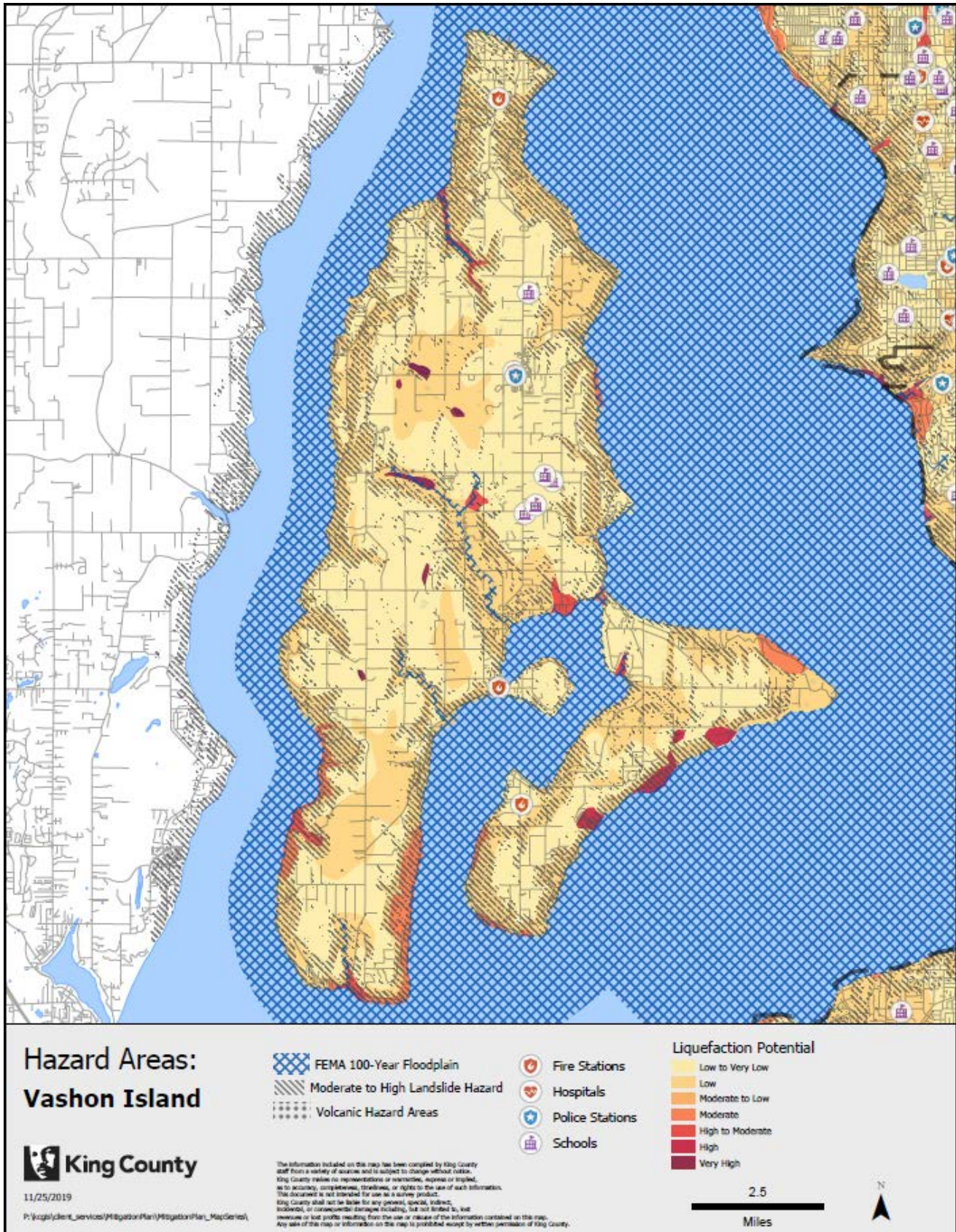


Figure 1: This hazard area map shows: 1) no flood hazard on Vashon Island, 2) extensive landslide risk along shorelines, 3) no volcanic hazard areas.

Assets at Risk

ASSET	VALUE (\$)	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
VIFR Rolling Stock (engines, ambulances, tenders, etc.)	\$14,378,000	This equipment is mission-critical to all emergency responses on the island.	It is an aging fleet garaged in four fire stations, three of which are not seismically reinforced.	Equipment could be disabled, destroyed or trapped, and thus unable to respond during earthquake, severe weather or other major event.
VIFR buildings (fire stations, training facility, EOC, etc.)	\$14,751,000	The four fire stations house all the Fire District emergency equipment. The training center serves as the island's EOC.	Three of the four fire stations are not seismically reinforced. The training center/EOC is not seismically reinforced.	Structural failure during an earthquake or other major event could severely reduce the Fire District's capability to respond to emergency needs. Failure of the training center/EOC could severely reduce the community's ability to respond to and recover from a major event. Any of these building failures could injure or kill essential personnel needed for the emergency.
Community under protection.	\$3,388,771,761 (King County Assessor appraised value)	The Fire District has responsibility under law to provide protection of life, property and the environment for the entire island.	The area under protection includes approximately 4,500 households and a population of about 10,000 people. Of particular concern is the town's commercial center, which includes most of the town businesses and special district facilities. Islanders rely on these businesses and special district facilities for food, medicine, fuel, medical care, water, sanitation, schools and more. All those services would be essential to help the community come back from a major event.	A HAZUS analysis estimates a hypothetical 7.0 earthquake on the Tacoma or Seattle faults could render 25% of the island's housing stock uninhabitable. All of the island's services rely in some manner on the state ferry system transportation connection to the mainland.

Plan Update Process

Vashon Island Fire and Rescue (VIFR) has been a participant for some years in the King County Regional Hazard Mitigation Plan. This plan annex takes a fresh look at the last plan update, published in 2015. There have been few changes in asset exposures in the five years since the last planning effort.

The Fire District has devoted significant resources to this new look at hazard mitigation. This poses a challenge for a small organization, so VIFR relies on a nonprofit organization of volunteers, VashonBePrepared, for much of the work.

VashonBePrepared, a 501(c)(3) nonprofit coalition which serves as the island’s Citizen Corps Council, has been heavily involved in the plan update process. The group has responsibility in the Fire District for disaster planning, with oversight from Fire Chief Charles Krimmert. A primary mission of VashonBePrepared is to build community awareness of earthquake, severe weather and other hazards. The organization supports VIFR with community organizing of self-reliant neighborhoods and households, crucial to the Island as a ferry only community.

This planning structure has been vital to our success because Vashon Island is a community in unincorporated King County. We have no city government, no Mayor, no City Council, and no city departments. Our community services are for the most part provided by special taxing districts and volunteer organizations.

A representative of the planning team has participated in most of the King County Office of Emergency Management (KCOEM) series of trainings and interactive workshops. Staff of KCOEM has been an important resource for our effort.

Vashon Island Fire & Rescue Planning Team

NAME	TITLE	ORGANIZATION	CONTRIBUTION
Charles Krimmert	Chief	Vashon Island Fire & Rescue	Oversight, policy guidance
Rick Wallace	Manager	EOC Team (also Vice President, VashonBePrepared)	Point person, principle author
Vicky de Monterey Richoux	President	VashonBePrepared (also EOC team)	VashonBePrepared coalition, co-author
Carolyn Wilbur	Board Member	VashonBePrepared (also Vashon HouseHold, CERT)	VashonBePrepared coalition, co-author
John Cornelison	Board Member	VashonBePrepared (founding President)	VashonBePrepared coalition, co-author

Plan Update Timeline

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
EOC Team Drill Nights	Monthly throughout year	Monthly drill nights in over the last 15 years focused on effects, response and recovery from earthquake, landslide, severe weather, wildfire	Rick Wallace, EOC Team members, CERT, MRC, Chief Krimmert, Planning Team
Signed RHMP Letter of Intent	April 5, 2018	Launched planning process	Chief Krimmert, Rick Wallace, Janice Rahman

Planning Team Meetings	At least once per month and as needed, ongoing	Discussions regarding effects, response and recovery from earthquake, landslide, severe weather, wildfire	Planning Team members as listed above
RHMP 2020 workshop	December 13, 2018	Risk Assessments workshop conducted by KC OEM	Rick Wallace, KCOEM staff
RHMP 2020 workshop	February 20, 2019	Planning workshop conducted by KCOEM	Rick Wallace, KCOEM staff
RHMP 2020 workshop	July 25, 2019	Strategy workshop conducted by KCOEM	Rick Wallace, KCOEM staff
RHMP 2020 workshop	August 22, 2019	Funding workshop conducted by KCOEM	Chief Krimmert, Commissioner Schran-Brown, Firefighter Davidson, Rick Wallace, KCOEM staff.
Plan Document	September thru November, 2019	Authoring the plan	Planning Team

Public Outreach

Community stakeholder input has been channeled through VashonBePrepared, a 501(c)(3) nonprofit. The VashonBePrepared coalition is the designated Citizen Corps Council for our community, and includes organizations comprised of more than 1,000 members of the community, about 10% of the Island population. The coalition includes:

- Emergency Operations Center Team (EOC Team of volunteers).
- Vashon Island Fire & Rescue (King County Fire District 13).
- Neighborhood Emergency Response Organization (NERO, Citizens Corps neighborhood organization).
- Community Emergency Response Team (CERT, Citizen Corps organization of trained volunteers).
- Medical Reserve Corps (MRC, Citizen Corps organization of medical volunteers).
- Marine Emergency Response Team (MERT, volunteer organization of boat owners).
- Vashon-Maury Island Radio Club (VMIRC, Ham Radio volunteer organization).
- Voice of Vashon (VoV, community radio and television and operator of Emergency Alert System).
- Vashon Maury Community Food Bank.
- Vashon Island School District (VISD).

Each of these organizations has a representative on the Board of the coalition providing broad community input and coordination on emergency management. As described above, this planning and community input structure has been vital to the quality of our process, because Vashon Island is a community in unincorporated King County with no city government, no mayor, no city council, and no city departments.

Public Outreach Events

EVENT	DATE	SUMMARY	ATTENDEES
VashonBePrepared coalition Board meetings	Quarterly	Discussion of RHMP at each meeting for last year	VashonBePrepared Board
Preparedness workshops: Preschools	Throughout year	An ongoing project to help island preschools build customized	Vicky de Monterey Richoux, preschools

		emergency plans	
NERO meetings	Many throughout year	Interactive coffee meetings to discuss emergency preparedness with neighborhood groups wanting to organize to support each other	Vicky de Monterey Richoux, Chief Krimmert
Household Preparedness Workshop	January 26, 2019	Interactive community workshop on neighborhood and household preparedness	Chief Krimmert, Planning Team
MRC Conference	April 6, 2019	MRC conference on disaster response open to public	Chief Krimmert, MRC Co-Coordinator Osborn and Opplinger, Planning Team
Prepare Fair	October 5, 2019	Public open house at main fire station with over 400 attendees	Chief Krimmert, Planning Team
Ongoing Interactive Public Awareness/Education Activities	Continuous	VashonBePrepared.org, Facebook, public presentations, etc.	Chief Krimmert, Planning Team

Vashon Hazard Mitigation Program

Hazard mitigation strategies were developed through a two-step process. A planning team identified a comprehensive range of mitigation strategies. These strategies were then prioritized using a process established at the county level and documented in the base plan.

Plan Monitoring, Implementation, and Future Updates

King County leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and bi-annual mitigation strategy updates. Updates on mitigation projects are solicited by the county for inclusion in the countywide annual report. As part of participating in the 2020 update to the Regional Hazard Mitigation Plan, every jurisdiction has agreed to convene their internal planning team at least annually to review their progress on hazard mitigation strategies, and to update the plan based on new data or recent disasters.

As part of leading a countywide planning effort, King County Office of Emergency Management will send to planning partners any federal notices of funding opportunity for the Hazard Mitigation Assistance Grant Program. Proposals from partners will be assessed according to the prioritization process identified in this plan, and the county will, where possible, support those partners submitting grant proposals. This will be a key strategy to implement the plan.

The next plan update is expected to be due in April 2025. VIFR will submit a letter of intent by 2023, at least two years prior to plan expiration. The county will lead the next regional planning effort, beginning at least 18 months before the expiration of the 2020 plan.

Integration into Other Planning Mechanisms

This updated Hazard Mitigation Plan will be a primary source for a total rewrite of the 2009 Vashon Emergency Management Plan (VEMP, listed below in the section on Authorities, Responsibilities, and Capabilities). The 2009 VEMP predated VIFR's first Hazard Mitigation Plan so the mitigation planning was not integrated at the time the plan was developed.

VashonBePrepared and VIFR started the VEMP update process in 2019 by outlining the scope of work for a ground up rewrite and a contractor was identified to help VashonBePrepared volunteers and VIFR produce the update. This update was included by reference in the VEMP scope of work. VashonBePrepared funding was allocated for the update to take place in 2020. However, activation for the island's COVID-19 pandemic response forced a delay in the VEMP process. Depending on the evolution of the pandemic response, the new VEMP will be produced in 2021 or 2022 and will incorporate this updated Hazard Mitigation Plan.

Continued Public Participation

VashonBePrepared has broad, deep and frequent community reach for its mission of supporting community resilience. For example, VashonBePrepared:

- Conducts dozens of neighborhood and household preparedness sessions each year and in three years has increased the number of Neighborhood Emergency Response Organizations from 65 to 250.

Plan Goals

1. Access to Affordable, Healthy Food and Clean Water?
2. Access to Health and Human Services
3. Access to Parks and Natural Resources
4. Access to Safe and Efficient Transportation
5. Affordable, Safe, Quality Housing
6. Community and Public Safety
7. Early Childhood Development
8. Economic Development
9. Equitable Law and Justice System
10. Equity in Government Practices
11. Family Wage Jobs and Job Training
12. Healthy Built and Natural Environments
13. Quality Education
14. Strong, Vibrant Neighborhoods

- Publishes, in partnership with the local Vashon Beachcomber weekly newspaper, an eight-page winter storm readiness insert each year.
- Maintains an extensive and frequently updated website, as does VIFR.
- Holds a Prepare Fair in conjunction with VIFR each year, that attracts 400+ community members.
- Coordinates community resilience activities that include coalition member emergency volunteer groups such as CERT, MRC and Ham Radio.

In addition, King County maintains substantial public outreach capabilities, focusing on personal preparedness and education. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into public outreach efforts. This will provide King County residents, already engaged in personal preparedness efforts, with context and the opportunity to provide feedback on the county’s progress and priorities in large-scale mitigation. In the vertical integration of risk-reduction activities from personal to local to state and federal, it is important that the public understand how its activities support, and are supported by, larger-scale efforts.

The outreach and mitigation teams will also continue to work with media and other agency partners to publicize mitigation success stories and help explain how vulnerabilities are being fixed. When possible, public tours of mitigation projects will be organized to allow community members to see successful mitigation in action.

Hazard Mitigation Authorities, Responsibilities, and Capabilities

Plans

PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
Vashon Emergency Management Plan	Vashon Island Fire & Rescue	Chief Charles Krimmert	Adopted in 2009 and on file with KCOEM. Includes analysis of hazards and concept of operations for response
King County Emergency Management Plan	KCOEM	Jennifer Rosenberger	Currently in revision
Operation Lifeline	Vashon Island Fire & Rescue and partners	Chief Charles Krimmert	Plan for emergency temporary marine transportation system in event of Island isolation

Programs, Policies, and Processes

PROGRAM/POLICY	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
National Incident Management System	Vashon Island Fire & Rescue	Chief Charles Krimmert	Adopted in 2009.
Federal, State and King County laws, codes and regulations	Various	Chief Charles Krimmert	Ongoing.

Entities Responsible for Hazard Mitigation

AGENCY/ORGANIZATION	POINT OF CONTACT	RESPONSIBILITY(S)
Vashon Island Fire & Rescue	Chief Charles Krimmert	Life safety hazards related to firefighting and rescue response
VashonBePrepared	President Vicky de Monterey Richoux	Federally designated Citizen Corps Council for Vashon. Volunteer nonprofit crafting this plan
King County Office of Emergency Management	Director Brendan McCluskey	Overall emergency management for unincorporated King County, including Vashon Island

National Flood Insurance Program

National Flood Insurance Program Compliance

What department is responsible for floodplain management in your community?	Not applicable
Who is your community's floodplain administrator? (title/position)	Not applicable
What is the date of adoption of your flood damage prevention ordinance?	Not applicable
When was the most recent Community Assistance Visit or Community Assistance Contact?	Not applicable
Does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are?	Not applicable
Do your flood hazard maps adequately address the flood risk within your community? If so, please state why.	Not applicable
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of training/assistance is needed?	Not applicable
Does your community participate in the Community Rating System (CRS)? If so, what is your CRS Classification and are you seeing to improve your rating? If not, is your community interested in joining CRS?	Not applicable
How many Severe Repetitive Loss (SRL) and Repetitive Loss (RL) properties are located in your jurisdiction?	Not applicable
Has your community ever conducted an elevation or buy out of a flood-prone property? If so, what fund source did you use? If not, are you interested in pursuing buyouts of flood prone properties?	Not applicable

Hazard Mitigation Strategies

2015 Hazard Mitigation Strategy Status

STRATEGY	DESCRIPTION	PRIORITY	STATUS
VIFR-1	Support county-wide initiatives in RHMP	High	Ongoing
VIFR-2	Participate in RHMP plan maintenance	High	Ongoing
VIFR-3	Conduct study of survivability of fire stations, recommendations for improvements or replacement	Medium	No progress (now included in 2020 VIFR-5)
VIFR-4	Per study (VIFR-3), retrofit or replace fire stations to comply with building codes, improve survivability, maintain? Enhance continuity of emergency services	Medium	One retrofit completed. Study not conducted (now included in 2020 VIFR-5)
VIFR-5	Expand Neighborhood Emergency Response Organization program	Medium	Done and continuing. NEROs increased from 65 to 250.
VIFR-6	Update/upgrade 2009 Vashon Emergency Management Plan	Medium	Funding and planning resource identified (now included in 2020 VIFR-1, VIFR-2, VIFR-3)
VIFR-7	Develop landslide annex to Vashon Emergency Management Plan	Medium	Gap identification conducted. See VIFR-6. (now included in 2020 VIFR-1, VIFR-2, VIFR-3)
VIFR-8	Assemble mobile cache for response to landslide or building collapse, alternate EOC	Medium	MCI and MERT trailers being refreshed
VIFR-9	Purchase flexible vessel and docking facility (e.g., small landing craft)	Medium	No progress (now 2020 VIFR-6)
VIFR-10	Develop/maintain coordination between VIFR and water purveyors to identify improvements needed for firewater supplies	High	Ongoing

2020 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
VIFR-1: Support KCOEM RHMP Initiatives, Maintain Plan	VIFR, VashonBePrepared	Ongoing	High
VIFR-2: Prepare Neighborhoods/Households for Catastrophic Event & Isolation	VIFR, VashonBePrepared, NEROs	Ongoing	High
VIFR-3: Improve Resilience and Continuity of Operations Capability in Town Core	VIFR, VashonBePrepared, Chamber of Commerce, businesses and agencies	Ongoing	High
VIFR-4: Collaborate & Support Emergency Planning for New Hospital District	VIFR, King County Hospital District #5, Medical Reserve Corps, VashonBePrepared	Ongoing	High
VIFR-5: Optimize Fire Stations	VIFR	Ongoing	Medium
VIFR-6: Acquire Flexible Vessel & Docking Facility	VIFR	Ongoing	Medium

VIFR-1: Support KCOEM RHMP Initiatives, Maintain Plan

Lead Points of Contact VIFR Fire Chief	Partner Points of Contact VashonBePrepared President	Hazards Mitigated/Goals Addressed All hazards described on pages 3 through 7 All 14 goals listed on page 13	Funding Sources/Estimated Costs VIFR, VashonBePrepared operational budgets Low cost
Strategy Vision/Objective Pursue the overall Vashon and regional process of hazard mitigation.			
Mitigation Strategy Continue to support countywide initiatives. as described in the RHMP base plan. Continue to participate in KCOEM-led plan maintenance process.			
2-Year Objectives Convene VIFR HMP planning team annually to assess progress on each of the strategies and recommend actions to advance progress on each one.	5-Year Objectives Update VIFR HMP every five years.	Long-Term Objectives Mitigate identified hazards through sustained partner collaboration effort.	
Implementation Plan/Actions A particular challenge of this strategy will be to maintain continuity from year to year, given the likelihood of personnel changes. For example, VashonBePrepared has a key role, and as a volunteer organization can expect to see changes in leadership over the next five years. To meet that challenge, it will be important to establish the annual planning effort as a tradition of both VIFR and VashonBePrepared.			
Performance Measures Holding annual planning team meetings. Performing the 5-year update to the Vashon annex to the RHMP.			

VIFR-2: Prepare Neighborhoods/Households for Catastrophic Event & Isolation

Lead Points of Contact VashonBePrepared President	Partner Points of Contact VIFR Fire Chief, existing and newly established NEROs, leadership of each organization in the VashonBePrepared coalition	Hazards Mitigated/Goals Addressed Earthquake, landslide, severe weather, severe winter weather, tsunami, wildfire All goals but especially 1, 2, 4, 5, 6, 8, 13, 14	Funding Sources/Estimated Costs VIFR, VashonBePrepared operational budgets Cost under study
Strategy Vision/Objective Prepare the community to be self-reliant to respond to and recover from a catastrophic event given our small community's slender resources. In particular, prepare for the potential of isolation in a catastrophic event, particularly an earthquake.			
Mitigation Strategy Approach this challenge at the grassroots level through our existing robust neighborhood organizing program, Neighborhood Emergency Response Organizations (NEROs). Leverage the VashonBePrepared coalition of partners via ongoing and expanded outreach and continued neighborhood level organizing/education meetings. This will require an update of the 2009 Community Emergency Management Plan.			
2-Year Objectives Expand the number of NEROs to 300. Update the 2009 Community Emergency Management Plan	5-Year Objectives Assure continuity of effort by establishing a paid NERO community organizer/coordinator position.	Long-Term Objectives Foster a community culture of self-reliance building on the VashonBePrepared motto: "Neighbors Helping Neighbors."	
Implementation Plan/Actions Establish the continued expansion of the NERO program as a budget/planning goal of VashonBePrepared, with VIFR support. Because it will rely on volunteer effort, VashonBePrepared will include in its 2020 budget funding for an intern program to help update the 2009 Community Emergency Management Plan. As with VIFR-1, a particular challenge of this strategy will be to maintain continuity from year to year, given the likelihood of personnel changes. For example, VashonBePrepared has a key role and as a volunteer organization can expect to see changes in leadership over the next five years. For this reason we set an objective to eventually fund a paid NERO community organizer/coordinator position.			
Performance Measures Reaching the goal of 300 NEROs. Updating the 2009 Community Emergency Management Plan.			

VIFR-3: Improve Resilience and Continuity of Operations Capability in Town Core

Lead Points of Contact	Partner Points of Contact	Hazards Mitigated/Goals Addressed	Funding Sources/Estimated Costs
<p>VIFR Fire Chief, VashonBePrepared President</p>	<p>Chamber of Commerce, owners of businesses in downtown core, leadership at agencies located in and serving the town core</p>	<p>Earthquake, landslide, severe weather, severe winter weather, tsunami, wildfire</p> <p>All 14 plan goals listed on page 13</p>	<p>VIFR, VashonBePrepared budgets, affected businesses and agencies, local non-profit grants</p> <p>Cost under study</p>
<p>Strategy Vision/Objective</p> <p>The town core of Vashon includes most of the community’s essential business and agency services, so this strategy aims to strengthen them to be able to continue or resume operating after a catastrophic event. As with VIFR-2, prepare for the potential of isolation in a catastrophic event, particularly an earthquake.</p>			
<p>Mitigation Strategy</p> <p>Leverage the community organizing skills of VashonBePrepared and its coalition partner, the Chamber of Commerce. Conduct educational workshops on business continuity.</p> <p>Achieving town core resilience will require a study to identify ways to ensure availability of potable water, fire water, fuel, electricity, food, medicine, sanitation and education.</p>			
<p>2-Year Objectives</p> <p>Design, fund and complete the town core resilience improvement study. Conduct two business continuity workshops per year.</p>	<p>5-Year Objectives</p> <p>Based on the town core resilience improvement study, fund and complete at least one of the high priority study recommendations.</p>	<p>Long-Term Objectives</p> <p>Help the community make the most of limited resources until mainland help can arrive. Help mainland resources arrive as quickly as possible.</p>	
<p>Implementation Plan/Actions</p> <p>The town core resilience study, to be funded jointly by VashonBePrepared and VIFR, with support from the Chamber of Commerce and community grants, will identify the most cost-effective ways to achieve the objective, including the essentials listed above such as drinking water, fire water, food, fuel etc.</p> <p>VashonBePrepared, in partnership with the Chamber of Commerce, has in place a nascent Business NERO program, which will be expanded.</p> <p>VIFR and VashonBePrepared are already working closely with Water District 19 (WD19) to help it obtain a \$2 million Pre-Disaster Mitigation grant to seismically harden the WD19 well field and tank farm servicing the town core. VIFR and VashonBePrepared will build out and exercise the existing conceptual Operation Lifeline plan for a temporary emergency marine transportation system in event of island isolation.</p>			
<p>Performance Measures</p> <p>Completion of the town core resilience improvement study and a start on implementing its recommendations. Conducting business continuity workshops. Fleshing out and exercising the Operation Lifeline plan.</p>			

VIFR-4: Collaborate/Support Emergency Planning for New Hospital District

<p>Lead Points of Contact</p> <p>VIFR Fire Chief</p>	<p>Partner Points of Contact</p> <p>Executive Director and Commissioners of King County Hospital District #5</p> <p>Medical Reserve Corps, Coordinator</p> <p>VashonBePrepared President</p>	<p>Hazards Mitigated/Goals Addressed</p> <p>Public health emergency, as well as the catastrophic events listed in VIFR-2 and VIFR-3</p> <p>Broad community impact for all 14 plan goals listed on page 13, particularly 2, 4, 6, 7, 8</p>	<p>Funding Sources/Estimated Costs</p> <p>VIFR, Hospital District budgets</p> <p>Cost under study</p>
<p>Strategy Vision/Objective</p> <p>Vashon voters have just approved establishment of a new hospital district, and elected the five Commissioners who will start up the district. This strategy aims to leverage that opportunity, as a new way to help serve the community’s medical needs.</p>			
<p>Mitigation Strategy</p> <p>Even with tax support, there will be limited resources for urgent and emergency medical care, so VIFR will work with the new district to coordinate and plan how the two entities will work together. This will be an evolving process as the new district conducts needs assessment and awaits receipt of its first tax funds beginning in 2021.</p> <p>NOTE: The newly elected commissioners have made it clear that there will not be an effort to build a hospital on Vashon. Vashon could not feasibly fund one, given the small population. It is possible that the new district will not be able to achieve significant expansion of services by the island’s two clinics, which at this time provide only limited primary care and no urgent care. Three successive mainland providers have not been able to financially sustain the formerly island owned and operated Vashon Health Center.</p>			
<p>2-Year Objectives</p> <p>Achieve an understanding of how the hospital district and VIFR can work together.</p>	<p>5-Year Objectives</p> <p>Achieve a steady-state level of service based on the understanding of service described in the 2-year objective.</p>	<p>Long-Term Objectives</p> <p>Help the community sustain a desired level of health care.</p>	
<p>Implementation Plan/Actions</p> <p>Establish a working relationship with the Executive Director and five Commissioners. Codify the understanding of how the two will work together, with a written plan or possibly a contract or memorandum of understanding.</p>			
<p>Performance Measures</p> <p>Approval by the Fire District Commission and the Hospital District Commission of a written plan or other formal understanding of how the two districts will work together.</p>			

VIFR-5: Optimize Fire Stations

Lead Points of Contact VIFR Fire Chief	Partner Points of Contact	Hazards Mitigated/Goals Addressed All hazards described on pages 3 through 7 All 14 goals listed on page 13	Funding Sources/Estimated Costs VIFR budget, VIFR voter bonds, applicable FEMA grants Cost under study
Strategy Vision/Objective Optimize response capability from the Fire District’s four fire stations by adjusting for the shifts in population, nature of calls, and style of operations since the original fire stations were built. King County Fire District 13 was formed almost 80 years ago and much has changed since then. The majority of calls are for medical assistance rather than fires. The department has converted from all-volunteer to combined career/volunteer. An aging population and increased commuting patterns has reduced availability of volunteers, so response is now centralized from the main fire station.			
Mitigation Strategy Conduct a study of existing and potential locations of fire stations, with a goal of optimizing response time and meeting industry standards for radius of protection for each station. Based on the study, develop priorities and funding to retrofit or move fire stations.			
2-Year Objectives Complete optimization study of fire stations. Determine need for funding.	5-Year Objectives Complete at least one of the high priority recommendations from the optimization study.	Long-Term Objectives Improve response time and thus service on emergency calls.	
Implementation Plan/Actions The requisite optimization study could be covered within the annual VIFR budget. However, if construction of one or more new stations is required, it will be necessary to seek capital funding from grants and possibly voter bonds.			
Performance Measures Completion of the optimization study and a financial plan to fulfill the recommendations. Action to achieve at least one of the study recommendations.			

VIFR-6: Acquire Flexible Vessel & Docking Facility

Lead Points of Contact VIFR Fire Chief	Partner Points of Contact	Hazards Mitigated/Goals Addressed Earthquake, landslide, severe weather, severe winter weather, tsunami, wildfire All 14 plan goals listed on page 13	Funding Sources/Estimated Costs VIFR, grants, acquisition of used or military surplus vessel Cost under study
Strategy Vision/Objective For any emergency at the island’s 45 miles of shoreline, a boat is an essential emergency vehicle. For some years the Fire District has made do with a Zodiac-style boat, but it is not capable of supporting many of the emergency marine operations that might be required.			
Mitigation Strategy Water rescues, patient transport, landslide response, support of firefighting operations and other emergencies will require water-based operations. In an isolation event, a flexible vessel such as a small landing craft could be a vital lifeline for essential emergency patient transport and supplies of life essentials such as medicine and food.			
2-Year Objectives Complete the vessel study and acquire the vessel and docking capability. Train crew to operate it.	5-Year Objectives Achieve a steady-state level of vessel operation including development of operational guidelines for its use.	Long-Term Objectives Maintain vessel readiness over the long haul.	
Implementation Plan/Actions Study is already underway to identify a type of flexible craft that will support the types of emergency operations described above. When the study has been completed, the Fire District will craft a plan for docking the vessel and training the responders who will operate it. The plan will also provide for ongoing and sustainable maintenance. When that work has been completed, the project can be funded and the vessel acquired.			
Performance Measures Achievement of the 2-year and 5-year objectives as described above.			