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State of the Islands Indicator Project: Final Report

Explanatory Text
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I. Introduction

Contemplating the Islands, Mt. Erskine, Salt Spring Island

Why is reporting on the state of the islands important? Informed discussions about how we can all preserve and protect the Islands Trust Area depend on being firmly grounded in the realities that surround us. All too often, in the absence of insightful indicators, we form opinions and beliefs based on anecdotal experiences or feelings about how things are. This report includes a selection of socio-economic and environmental indicators that illustrate what is happening on our islands and in our communities.
An Interim Report was published in August 2016; however, data from the 2016 census was not available for inclusion. This Final Report includes 2016 census data and updates to some previously reported indicators.

The State of the Islands indicators will support public engagement and help the current Trust Council, as well as future Trust Councils, to measure the progress of the Islands Trust in achieving its vision of "preserving and protecting" the Trust Area.

First Nations

The Islands Trust area is located within the homeland of BOḰEĆEN (Pauquachin) First Nation, Cowichan Tribes, Halalt First Nation, Homalco First Nation, Klahoose First Nation, K'ómoks First Nation, Lake Cowichan First Nation, Lekwungen (Songhees) Nation, Lyackson First Nation, MÁLEXEŁ (Malahat) Nation, Penelakut Tribe, Qualicum First Nation, Scia'new (Beecher Bay) First Nation, SEMYOME (Semiahmoo) First Nation, shíshálh First Nation, Snuneymuxw First Nation, Sḵwxwú7mesh (Squamish) Nation, Snaw-naw-as (Nanoose) First Nation, SȾÁUTW̱ (Tsawout) First Nation, Stz'uminus First Nation, SXIMEŁEŁ (Esquimalt) Nation, Tla'amin (Sliammon) Nation, Tsawwassen First Nation, Tsleil-Waututh Nation, T'Sou-ke Nation, Wei Wai Kum (Campbell River) First Nation, We Wai Kai (Cape Mudge) First Nation, W̱JOŁEŁP (Tsartlip) First Nation, W̱SIḴEM (Tseycum) First Nation, xʷməθkʷəy̓əm Musqueam, since time immemorial.

For over 10,000 years, Indigenous Peoples of these lands and waters passed down wisdom, laws, teachings, and governance through their familial ties and cultural ways. The history of Coast Salish Peoples is sustained in the language, place names, village sites, cultural and sacred sites that encompass the whole of the Islands Trust area. Over 28,000 Coast Salish People live in and around the Islands Trust area and call this place home.

Tsawout Reserve, Salt Spring Island

II. Indicators by Trust Area

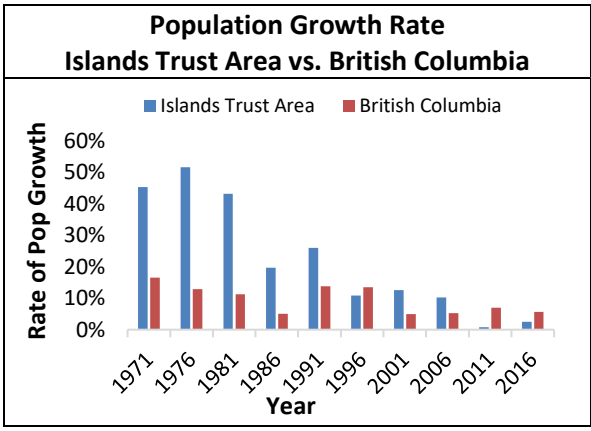
Socio-Economic Indicators

Demographics

Derived from 1971 to 2016 census data from Statistics Canada, these demographic indicators explain trend information on four key aspects: population growth rate, percentage of children, percentage of seniors, and median age. The Trust Area has been compared to trends experienced by the Province of British Columbia (BC). Children are defined as persons aged 0-19 years old and seniors as persons aged 65+. More than 28,000 Coast Salish people call the Islands Trust Area their homeland.

Key Findings - Population Growth Rate

- The population of the Trust Area from 2006 to 2016 has grown approximately 3.38%, whereas BC has grown 13.14%
- Both BC and the Trust Area follow similar trends of a decreasing percentage of children, an increasing percentage of seniors, and an increasing median age. The Trust Area in 2016 had a median age 18.4 years older than BC, compared to 11.4 years older in 2006.
- In 2006, the Trust Area's population of seniors was 21.7% compared to only 14.3% across BC. In 2016, the Trust Area's population of seniors was 33% compared to 18.3% across BC.
- In 2006, the Trust Area's youth population (age 0-19 years) was 17.3% compared to 23.2% across BC. In 2016, the Trust Area's youth population was 14.3% compared to 20.4% across BC.
- Though the Trust Area's population growth rate has increased with each census since 1971 (since Islands Trust began tracking), the population growth rate was highest between 1971 and 1991, when it surpassed the population growth rate of BC. Between 1996 and 2006, the growth rate began to plateau at approximately 10%; and from 2006 to 2016 the Trust Area's population growth rate slowed, falling below the population growth rate for the province.
- Between 2006 and 2016, the population decreased in the following local trust areas: Gabriola, Galiano, Gambier, Hornby, Mayne, Saturna, South Pender, and Thetis. The biggest population decrease was experienced in the Galiano Island Local Trust Area (215 people). The remaining islands experienced a modest increase in population, with the largest absolute growth occurring in the Salt Spring Island Local Trust Area (860 people).



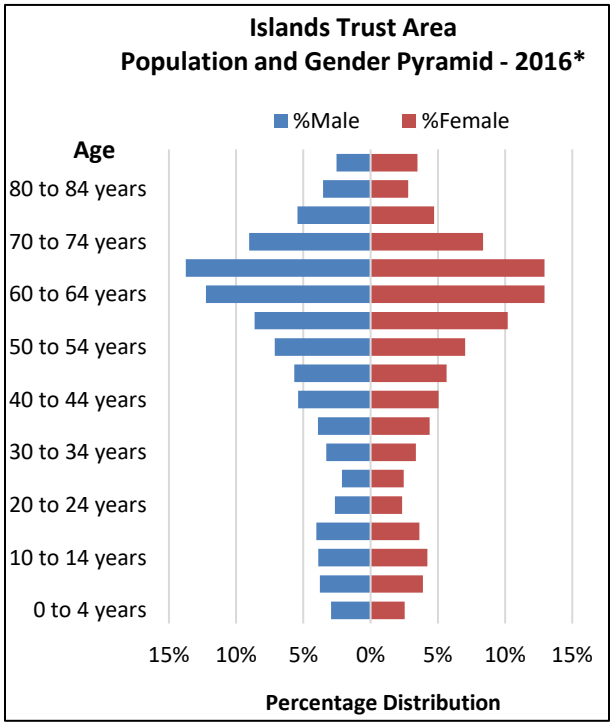
	Trust Area		British Columbia	
	2006	2016*	2006	2016
Population:	25,385	26,245	4.11 M	4.65 M
% of Children (0-19):	17.3%	14.3%	23.2%	20.4%
% of Seniors (65+):	21.7%	33.0%	14.3%	18.3%
Median Age:	52.2	61.4	40.8	43.0

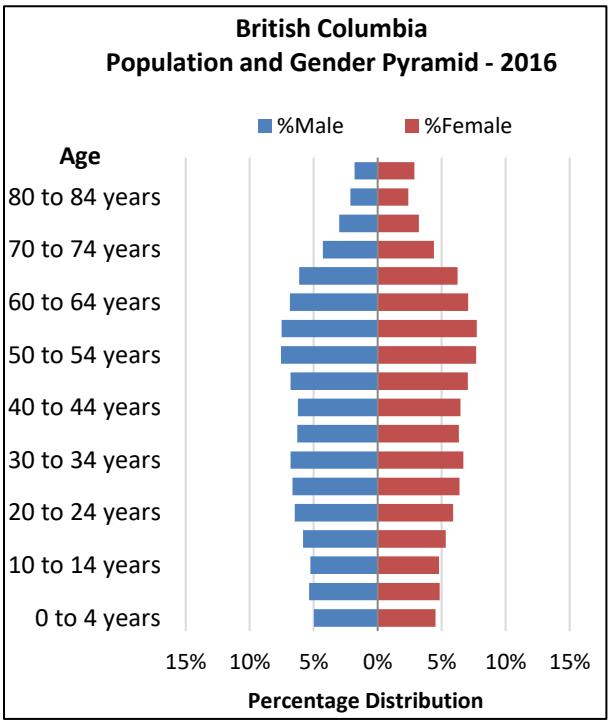
*2016 census data was not available for Lasqueti Island Local Trust Area; 2011 data was used instead.

Source: Adapted from Statistics Canada, Custom Tabulations, 1971-2016 Census. This does not constitute an endorsement by Statistics Canada of this product. Adapted from Statistics Canada, Semi-custom Profile, 2011 Census. This does not constitute an endorsement by Statistics Canada of this product.
Limitations: See 2011 Statistics Canada Data Quality and Confidentiality Standards and Guidelines.

Key Findings – Aging Population

The population of the Islands Trust Area is aging. By 2050, many properties on the islands will have been sold or bequeathed, and this presents both opportunities and challenges for place protection planning and land conservation. Island population growth is influenced by land use decisions about zoning, dwelling sizes, and permitted land uses, along with owners' decisions about whether to livein or rent their homes full-time.





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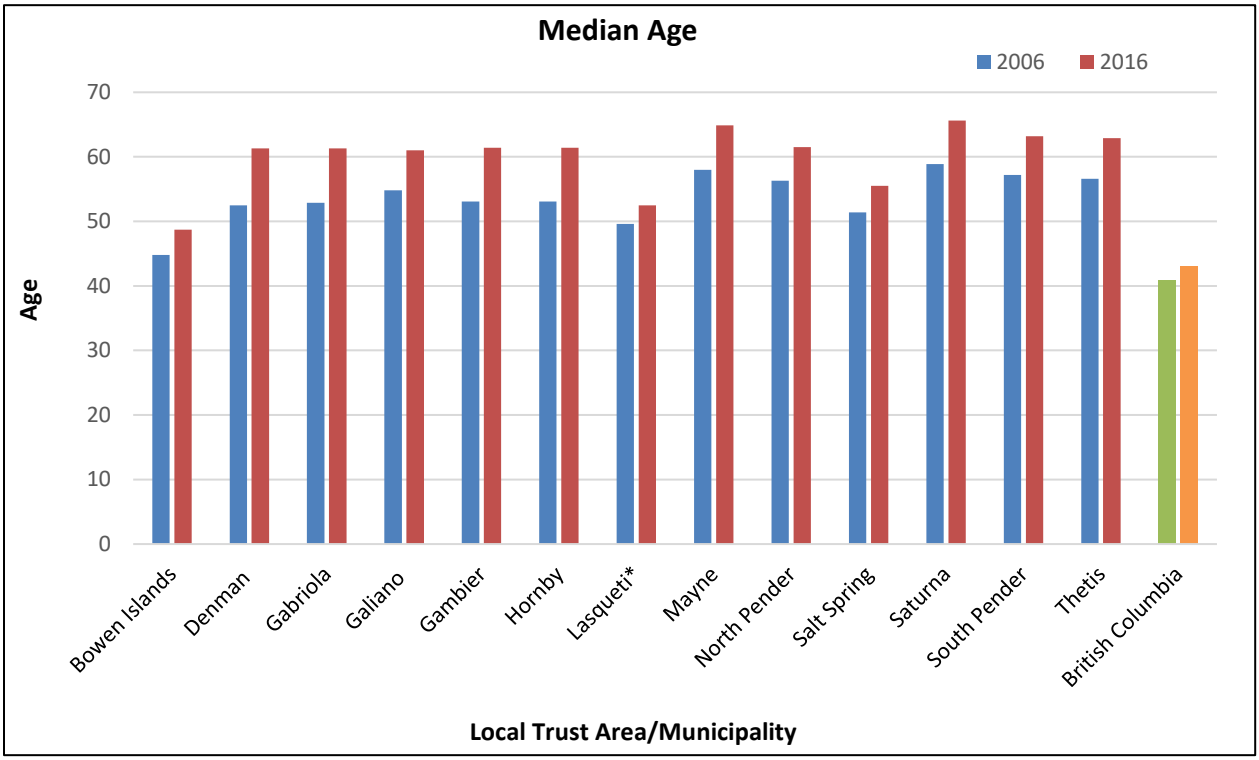
Fulford Harbour, Salt Spring Island

Key Findings - Median Age

Median age is the point where exactly one-half of the population is older, and the other half is younger. The increase of the median age is one of many indicators that a population is aging, a development that has implications for the labour force, economy, social services and health-care systems.



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Land Title

This indicator uses residential and farm land title information from BC Assessment. The data illustrates four aspects of island property ownership: where owners of Trust Area properties live (local, BC, Canadian and non-Canadian ownership); subdivision rates (rates of increase of folios/parcels); assessed property values; and, the size of the land held. The dates of the data include three snapshots: 1978, 2005 and 2016. All Crown and commercial properties are excluded to allow for a focus on residential trends.

Key Findings – Land Title

- Between 1978 and 2005, the number of folios (parcels) in the Islands Trust Area doubled from 10,963 to 21,490.
- Since 2005, Islands Trust property owners are predominantly local (52%) and from BC (40%). While the proportion of properties owned locally has increased from 10% in 1978 to 52% in 2016, the percent of properties owned internationally has been stable at 4% since 1978.
- From 2005 to 2016, assessed values for parcels zoned residential increased from $7.6B to $11.7B.

Land Title Information for the Trust Area

1978						
Trust Area	**Folios**	**Per centage**	**Value ($)**	**Per centage**	**Size (ha)**	**Per centage**
Local	1,070	9.8%	-	-	-	-
BC	8,373	76.4%	-	-	-	-
Canada	1,067	9.7%	-	-	-	-
International	453	4.1%	-	-	-	-
Totals	10,963	100%	-	-	43,212	
2005						
Trust Area	**Folios**	**Per centage**	**Value ($)**	**Per centage**	**Size (ha)**	**Per centage**
Local	11,340	52.8%	4,262,637,254	56.3%	22,771	47.2%
BC	8,334	38.8%	2,678,448,063	35.4%	21,142	43.9%
Canada	972	4.5%	288,357,400	3.9%	1,497	3.1%
International	844	3.9%	339,687,500	4.5%	2,789	5.8%
Totals	21,490	100%	7,569,130,217	100%	48,199	100%
2016						
Trust Area	**Folios**	**Per centage**	**Value ($)**	**Per centage**	**Size (ha)**	**Per centage**
Local	12,019	51.9%	6,534,912,215	56.0%	24,475	49.2%
BC	9,174	39.6%	4,214,404,393	36.1%	21,063	42.4%
Canada	1,077	4.6%	436,733,586	3.7%	1,602	3.2%
International	909	3.9%	485,464,732	4.2%	2,590	5.2%
Totals	23,179	100%	11,671,514,926	100%	49,730	100%

Source: BC Assessment, 2005, 2016. *Islands Trust: Some Basic Statistical Data for the Designated Islands, 1978.*

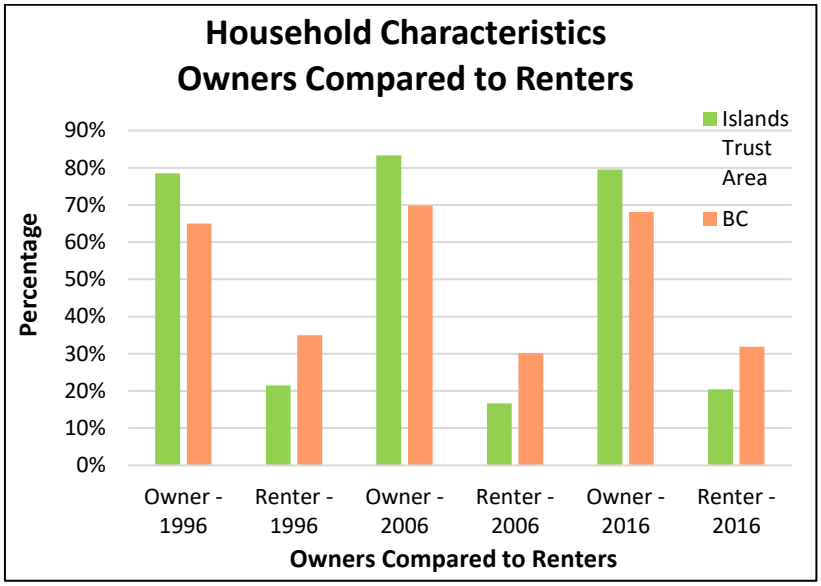
Limitations: This data set excludes Ballenas-Winchelsea (Executive Islands). The methodology for the 1978 data is unknown and may be different from the methodology applied to the 2005 and 2016 data.

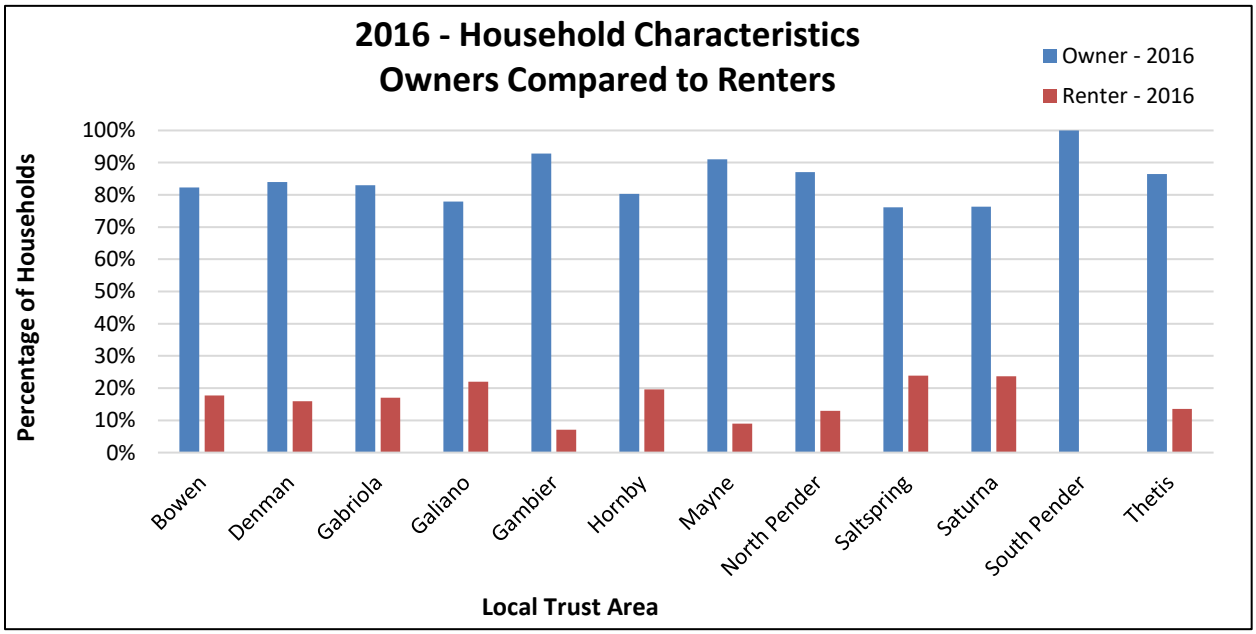
Household Characteristics

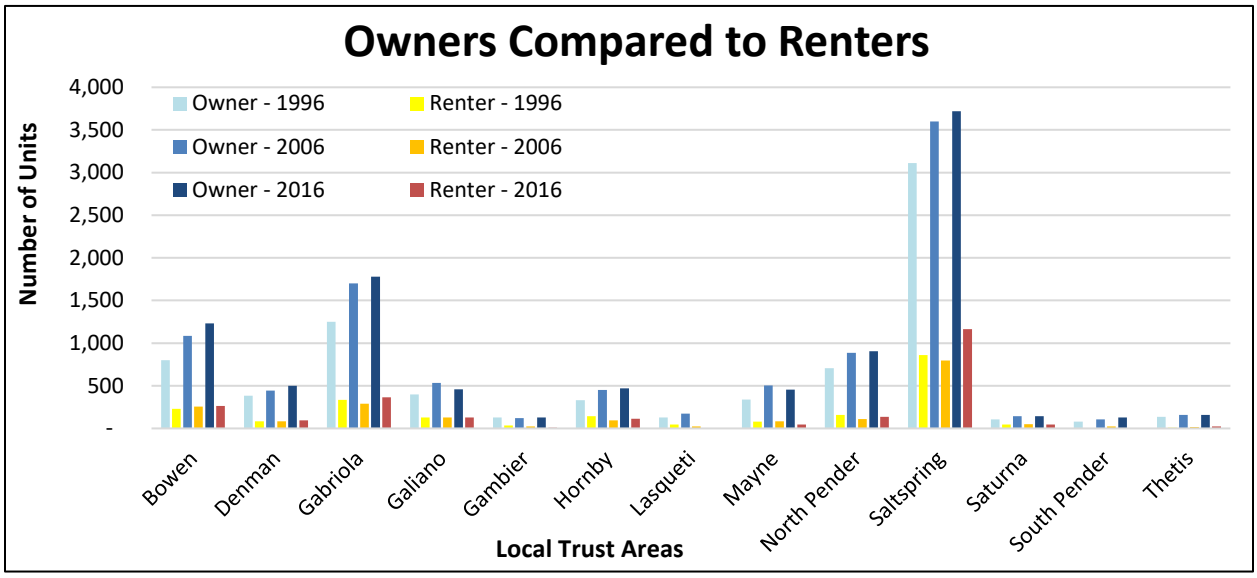
The availability and affordability of housing is a significant challenge that has social and economic impacts on communities within the Islands Trust Area. The Capital Regional District has completed an assessment of housing needs in the Southern Gulf Islands. The February 2018 Southern Gulf Islands Housing Needs Assessment report concluded that "all evidence clearly points to serious shortages in secure, appropriate and affordable housing for low to moderate income earners". Island residents described the housing situation as bordering on crisis, with serious impacts on individuals, families, community well-being and economic sustainability.

Key Findings – Households by Tenure

- Many LTCs have placed housing as a top priority and needs assessments are the first step a community can take to understand the gap(s) between the housing needs of its people and the availability of suitable housing to meet that need.







2016 census data on household characteristics was not available for Lasqueti and South Pender Island Local Trust Areas.

Sample size – Statistics Canada used a 25% sample data.
Tenure – refers to whether the household owns or rents their private dwelling.

Source: Adapted from Statistics Canada, Custom Tabulations, 1971-2016 Census. This does not constitute an endorsement by Statistics Canada of this product. Adapted from Statistics Canada, Semi-custom Profile, 2011 Census. This does not constitute an endorsement by Statistics Canada of this product.

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Hornby Island

Transportation: Ferry Ridership

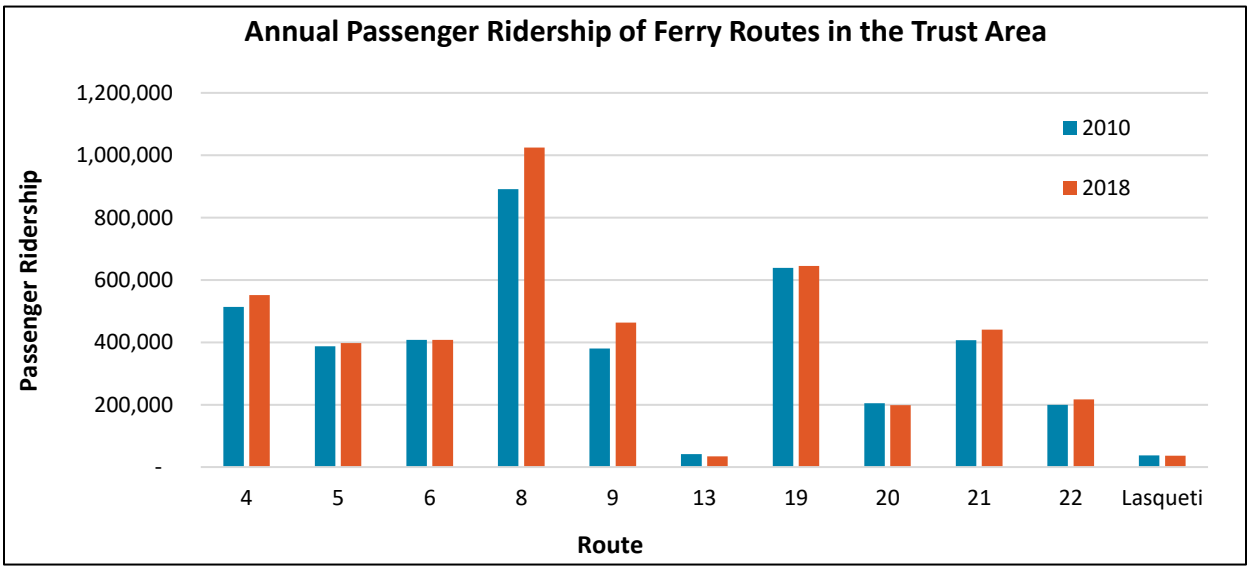
There are many possible reasons why ferry ridership numbers can vary over time. For the last decade or so, coastal communities have been concerned that increasing ferry fares were negatively affecting ferry ridership level and, by extension, local economies.

BC Ferries – Routes

- Route 4 – Victoria (Swartz Bay) - Salt Spring Island (Fulford Harbour)
- Route 5 – Victoria (Swartz Bay) - Southern Gulf Islands -- Galiano Island (Sturdies Bay), Mayne Island (Village Bay), Pender Island (Otter Bay) and Saturna Island (Lyall Harbour)
- Route 6 – Salt Spring Island (Vesuvius Bay) to Crofton (Vancouver Island)
- Route 8 – Vancouver (Horseshoe Bay) – Bowen Island (Snug Cove)
- Route 9 – Metro Vancouver (Tsawwassen) to Southern Gulf Islands (Galiano Island, Mayne Island, Northern Pender Island, Salt Spring Island, Saturna Island)
- Route 13 – Gibsons – Sunshine Coast (Langdale) to New Brighton – Gambier Island (New Brighton) to Keats Landing – Keats Island West (Keats Landing)
- Route 19 – Nanaimo (Nanaimo Harbour) to Gabriola Island (Descanso Bay)
- Route 20 – Chemainus (Chemainus) to Thetis Island (Preedy Harbour) to Penelakut Island (Penelakut Island)
- Route 21 – Denman Island West (Denman Island West) to Buckley Bay (Buckley Bay)
- Route 22 – Denman Island East (Gravelly Bay) to Hornby Island (Shingle Spit)
- Lasqueti – Western Pacific Marine, private ferry operator

Key Findings – Ferry Ridership

Between 2010 and 2018 annual passenger ridership, as well as seasonal ridership, increased across most BC Ferries routes in the Islands Trust Area. Lasqueti Island has a private passenger-only ferry service, which tracks annual passenger ridership but not monthly ridership, so a seasonal comparison is not possible for this route.



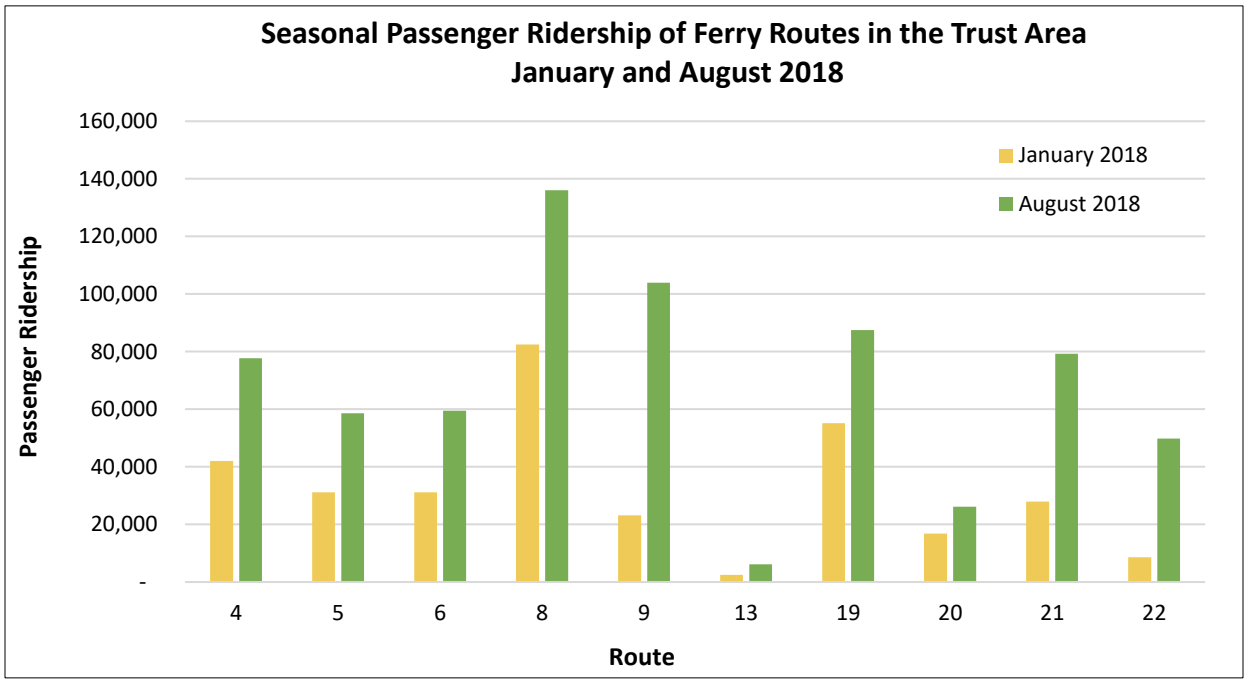
Source: BC Ferries. *Traffic Statistics.* Year End as of December 2010 and December 2018; Western Pacific Marine Ltd. – Lasqueti Ferry Services

BC Ferries - Seasonal Population Change

The Islands Trust Area is cherished by British Columbians as a world-renowned tourist destination. The beauty, climate and culture of the islands make it a popular summer holiday destination for tourists and part-time residents. The influx in summer visitors stimulates local economies and provides residents with opportunities to share their art, farm products, and services. However, the seasonal population increase also results in greater pressure on water resources and a heightened risk of wildfires, at a time when natural systems are already under stress due to drought conditions.

Key Findings – Seasonal Population Change

In 2018, passenger ridership to the Trust Area was 51.2% higher in August than in January.



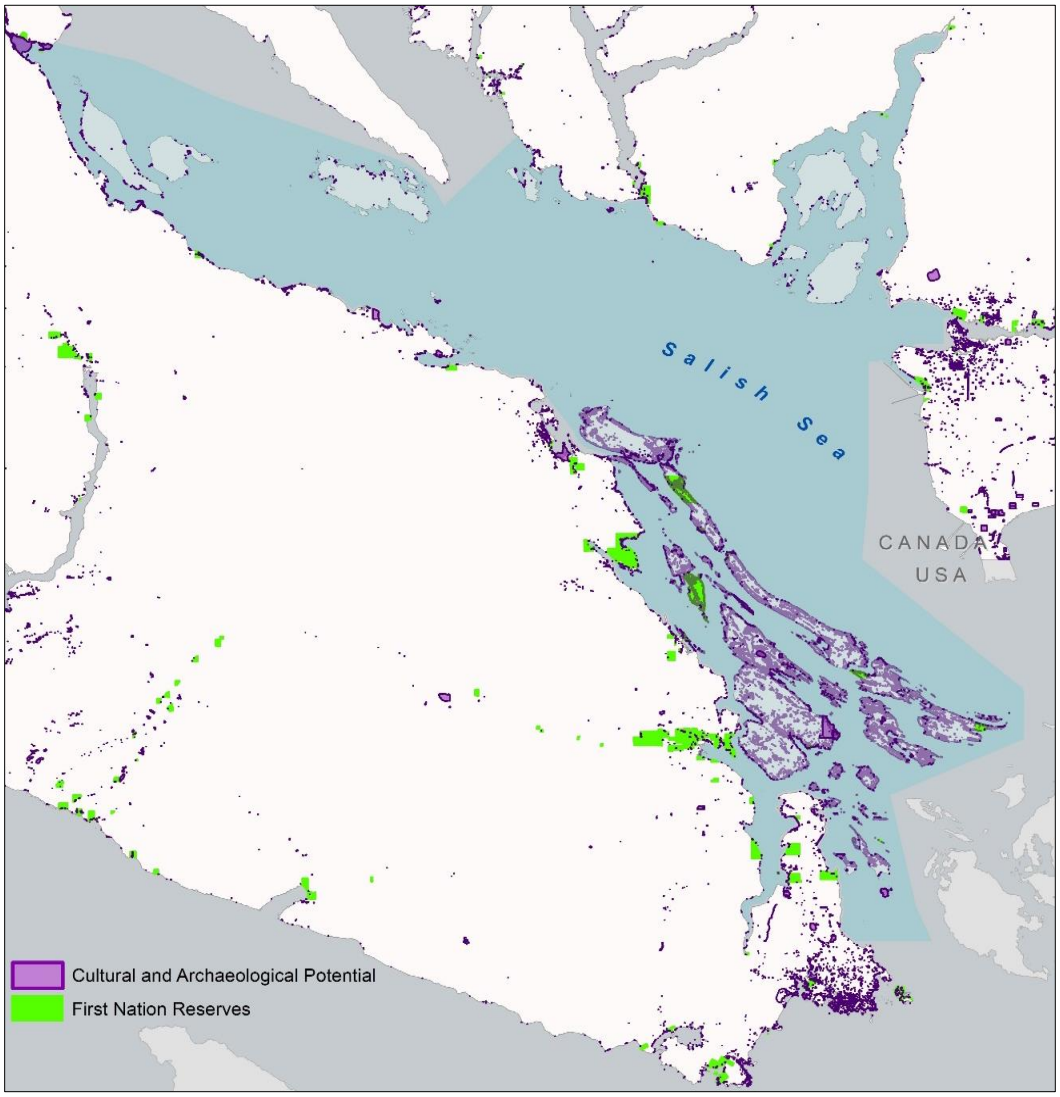
Source: BC Ferries. *Traffic Statistics.* January 2018 and August 2018.
Limitations: Unable to include Lasqueti due to a lack of seasonal ridership information.

BC Ferries, Mayne Island

Cultural and Archaeological Presence

Middens are places of cultural and archaeological heritage for the First Peoples of the Salish Sea and Coast Salish territory. A midden is found by or within a village site or resource gathering area and defines an area that has been utilized for thousands of years. Middens tell us about how vital resources were sustained over time. They also provide scientific understanding of the past that is key to understanding climate change impacts, and human activity.

Sites within the Islands Trust Area can be over 8,000 years old, and any archaeological site on private or public land is protected under the *Heritage Conservation Act*. Middens can contain archaeological artifacts, tools, and ancestral remains. Removal of items or impacts to middens contribute to the destruction of cultural heritage, language, and knowledge, and has long-term impacts for reconciliation with First Nations.



Environmental Indicators

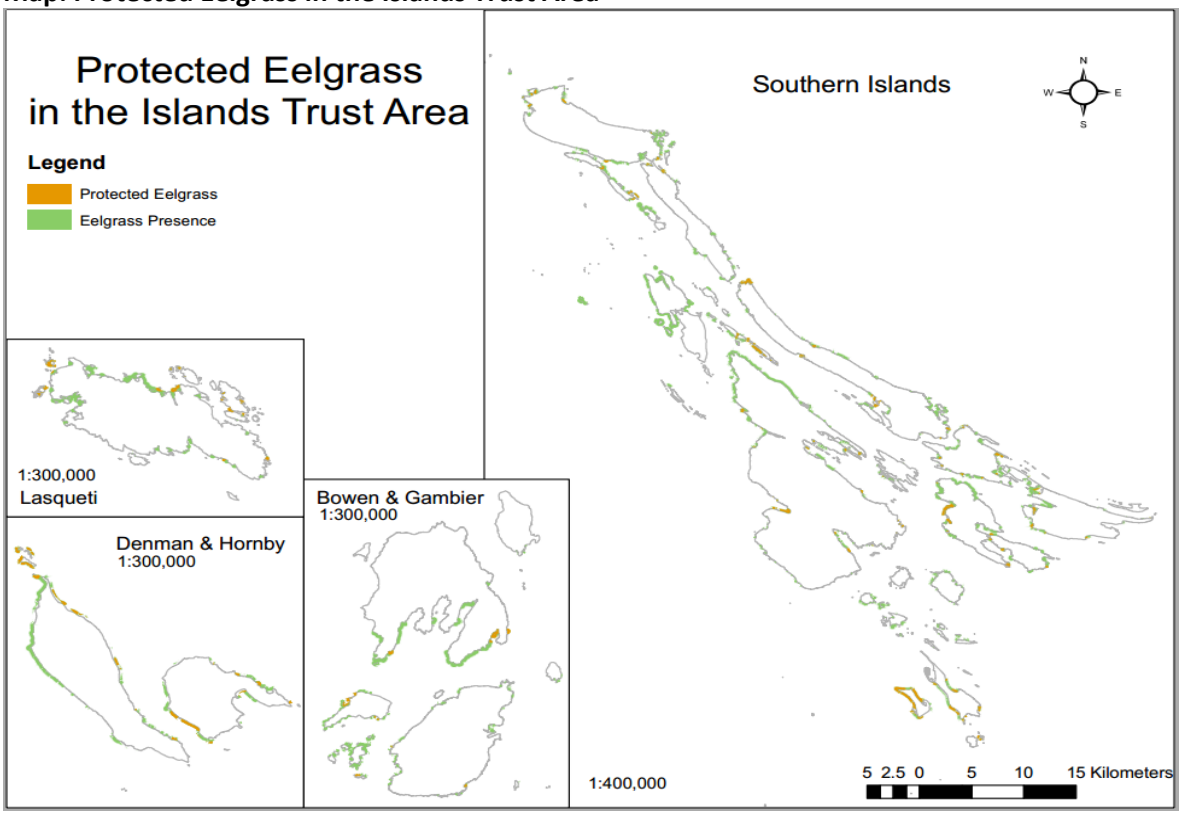
Eelgrass

Eelgrass (*Zostera marina*) is a flowering marine plant that provides critical habitat to fish, shellfish, birds and mammals. It grows at or below the low tide line in soft sediment. Eelgrass meadows serve as a nursery habitat, providing food and protection for over 80% of the region's commercially important fish and shellfish species at some point in their lifetime. Sometimes called 'salmon highways', eelgrass habitats are essential to the survival of all species of salmon along our coast. Activities and structures on land and in the marine environment can negatively impact eelgrass and the species that depend on it.

Key Findings - Eelgrass

- 19% of the Islands Trust shorelines mapped for eelgrass had eelgrass present.
- 43% of known eelgrass meadows in the Islands Trust Area have some measure of protection through a marine or terrestrial protected area.

Map: Protected Eelgrass in the Islands Trust Area



Source: Islands Trust Area Geographic Information System

Limitations: Between 2012 and 2014, the Islands Trust Conservancy mapped eelgrass habitats along the shores of the following areas: Ballenas-Winchelsea, Bowen, Denman, Gabriola, Galiano, Gambier, Hornby, Lasqueti, Mayne, North and South Pender, the associated islands of the North Pender Island Local Trust Area, Thetis and Valdes Islands, Salt Spring Island and Saturna Island. The percentages developed through Geographic Information System analysis are estimates only. Eelgrass was given a protected status if it was within a marine park or adjacent to an upland protected area.

Docks

The Docks indicator provides a baseline on the number of docks and marinas present in the Islands Trust Area. Private docks offer waterfront owners convenient access to the water and are often a lifestyle choice that attract waterfront owners to the Islands Trust Area. However, large docks or large numbers of small docks can reduce the public's enjoyment of their shorelines. Also, depending on where they are located and how they are built, docks can have negative environmental impacts.

During dock construction, machines often damage marine plants and the presence of pilings may lessen chances of plant regrowth (Environmental and Aesthetic Impacts of Small Docks and Piers, 2003). Once built, docks block sunlight necessary for marine life survival and boats using docks may damage marine plants with their props or by stirring up bottom sediments. This is of particular concern for eelgrass and kelp beds which are important fish nurseries. Over time, the wood preservatives applied to pilings or docks can leach into the water and contaminate the food chain.

As docks age, they can create new problems by shedding styrofoam which contaminates the ocean and threatens marine life, or becoming derelict structures that detach from land and threaten navigation. Fisheries and Oceans Canada bans the harvesting of shellfish, an important First Nations resource for food, social and ceremonial purposes, less than 125 metres from a dock because of the risk of contamination.

Dock Indicator:

Trust Area	Total Docks
Bowen	98
Denman	3
Executive	6
Gabriola	63
Galiano	127
Gambier	341
Hornby	2
Lasqueti	17
Mayne	76
North Pender	104
Salt Spring	312
Saturna	55
South Pender	14
Thetis	57
TOTAL	**1,275**

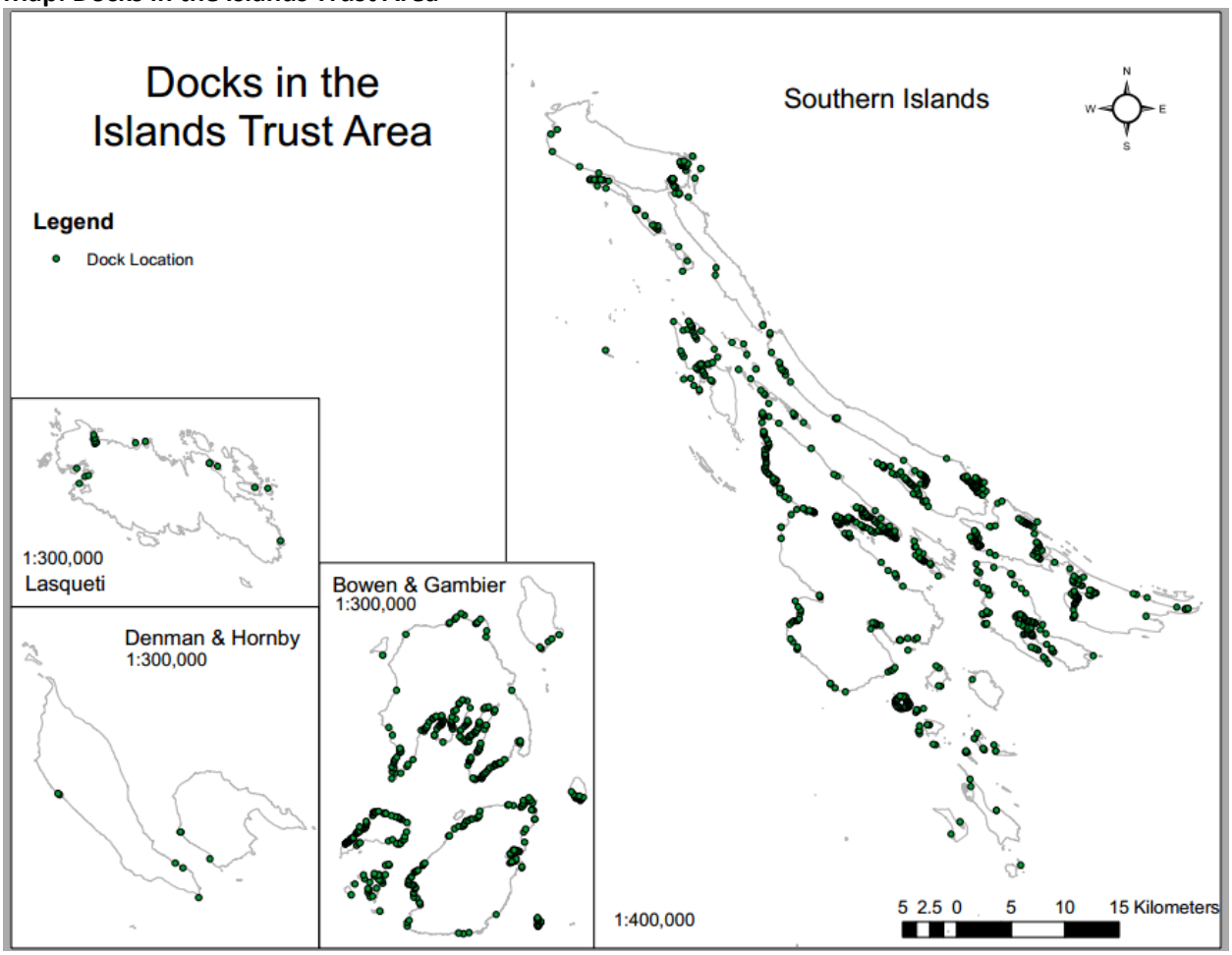
Key Findings - Docks

- There are approximately 1,275 docks in the Islands Trust Area.
- The number of docks in a local trust area or municipality range from two on Hornby Island which has no private docks to 341 on Gambier Island which does not have a vehicle ferry.

Source: Islands Trust Area Geographic Information System.

Limitations: The dock numbers are based on a manual count and visual interpretation of docks in Islands Trust aerial photos from 2013-2014. The accuracy of the count could be compromised when docks are obscured by shadow or tree cover. A marina was only counted as one dock and BC Ferries docks were not included.

Map: Docks in the Islands Trust Area



Source: Islands Trust Geographic Information System

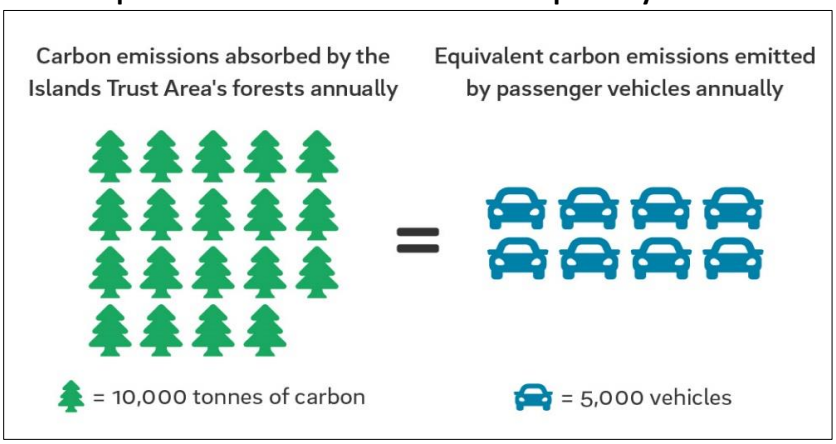
Carbon Sequestration in Forests

According to a 2014 study, the Coastal Douglas-fir forests of the Islands Trust Area store and sequester more carbon than Coastal Douglas-fir forests outside the Trust area. Carbon storage results may indicate a higher forest density and higher amounts of mature forest in Islands Trust area. Carbon sequestration results are likely due to a higher density of maturing forests, which tend to store and take in more carbon to support their growth.

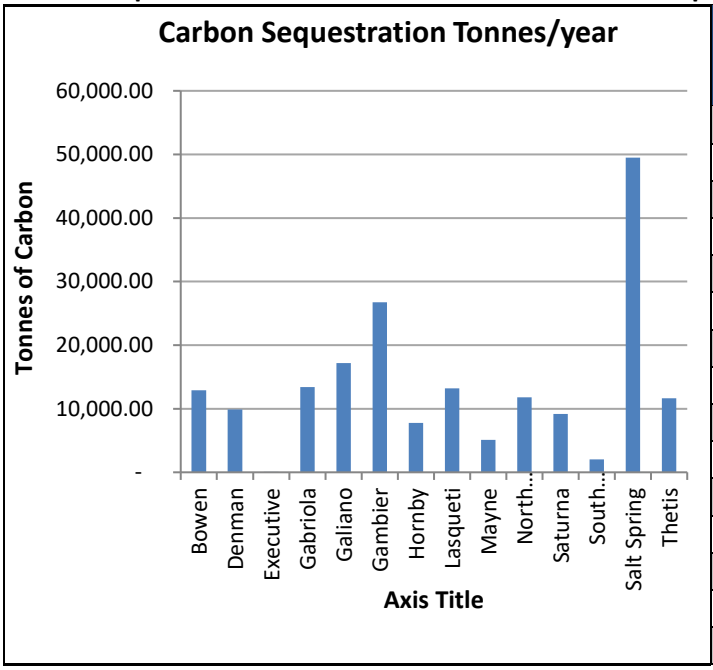
Key Findings – Carbon Sequestration in Forests

- The Trust Area, as a whole, sequesters 190,506 tonnes of carbon per year, which equates to about 40,241 passenger vehicles per year.
- On average, forests in the Islands Trust area store 82% more carbon per hectare than forests in the rest of the Coastal Douglas-fir zone.
- On average, forests in the Islands Trust area have the potential to absorb 43% more carbon per hectare over the next 20 years than forests in the rest of the Coastal Douglas-fir zone.

Annual Equivalent of Carbon Emissions Absorption by Islands Trust Area Forests



Carbon Sequestration in the Islands Trust Area – Tonnes per Year



Local Trust Area	Sequestration (Tonne/Year)	Equivalent to Number of Vehicles
Islands Trust	**190,506.50**	**40,241**
Bowen	12,886.61	2,722
Denman	9,872.25	2,085
Executive	88.98	18
Gabriola	13,416.68	2,834
Galiano	17,187.42	3,631
Gambier	26,745.98	5,650
Hornby	7,770.89	1,641
Lasqueti	13,221.91	2,793
Mayne	5,118.76	1,081
North Pender	11,816.41	2,496
Saturna	9,187.49	1,941
South Pender	2,029.12	429
Salt Spring	49,513.75	10,459
Thetis	11,650.25	2,461

Source: Islands Trust carbon sequestration and storage statistics were derived in 2014 through a contract between a UBC Grad student, Richard Schuster, and the Islands Trust Conservancy. The project examined how carbon storage and sequestration within the Islands Trust Area compared with carbon storage and sequestration within other areas of the Coastal Douglas-fir Biogeoclimatic zone.

Limitations: Data obtained is based on Terrestrial Ecosystem Mapping (TEM) and excluded mapping of the Coastal Douglas-fir (CDF) Biogeoclimatic zone on the Lower Mainland, so comparisons of the quality of carbon sequestration and storage for Islands Trust area forests do not account for this area of the CDF zone. Parts of the Islands Trust area are in the Coastal Western Hemlock Biogeoclimatic zone and differences in carbon storage and sequestration in these forests may affect the results. However, because many of the forest types were similar to the CDF and the non-similar forests were small in size, the effect on the data is assumed to be minimal. The displayed data does not compare each Island's carbon sequestration on a proportional (per km2) basis.

Land Conversion

Converted land is land that is no longer in a natural state and unlikely to return to a natural state. For example, lands used for urban, rural, residential, industrial, reservoir, agricultural, or recreational uses are converted lands. Forestry lands, because they may recover to a natural state, are not considered 'converted'.

This indicator shows how much humans have removed from the natural landscape of the Islands Trust Area. It is an important measure because other species require a base amount of natural habitat to survive. As the amount of natural habitat decreases, the number of species lost increases. This relationship is not linear but consists of 'thresholds' at which the rate of species loss increases rapidly. Scientists have varying opinions, but an accepted threshold for our region is approximately 30-40% of converted area for any given habitat. As land conversion begins to go above this threshold, the number of species in a given habitat decline more rapidly.

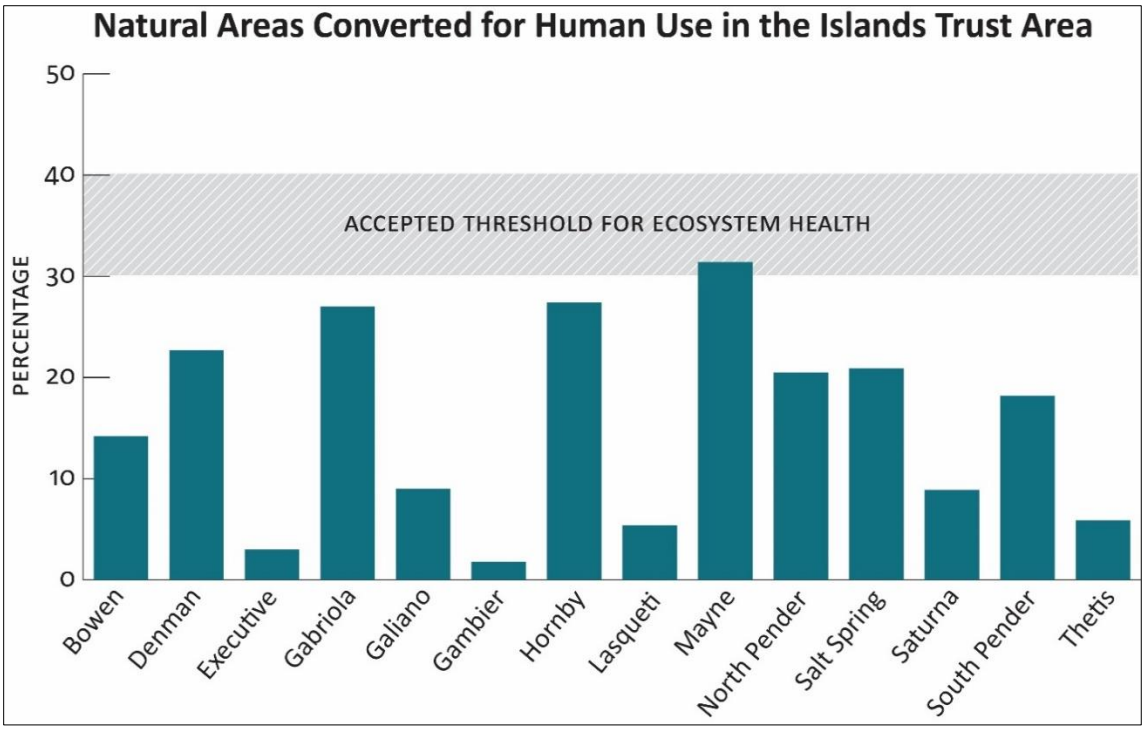
Through disturbance mapping, the change in the natural landscape was analyzed over a ten year period from 2004-2014. In that analysis, it was estimated that approximately 1,070 ha of land were disturbed or lost through deforestation, vegetation clearing, creation of rural developments and roads, wetland loss, and disturbance to soils. Between 2004 and 2014 approximately 640 ha of this disturbed area has been converted to non-natural uses (e.g. roads and buildings) and represents a loss of about 0.8% of the natural land base. If this rate continues, the Islands Trust Area can expect to reach land conversion levels of over 30% in the next 150-200 years. In some local trust areas, this threshold has already been reached or nearly reached.

Key Findings – Land Conversion

As of 2017:

- Approximately 15.7% of the Islands Trust Area's land base had been converted for human use.
- Converted land for local trust areas (LTA) and the Bowen Island Municipality ranged from 1.8% (Gambier LTA) to 31.4% (Mayne LTA).
- Of the converted lands in the Islands Trust Area, more than half (52.8%) is for rural and urban development, about 29.8% is for agriculture, and 16.4% is for roads.

Denman Island



Source: All information, with the exception of roads, is derived from the Islands Trust Conservancy Regional Conservation Plan (2018-2027) and Islands Trust Mapping.

Limitations: The scale of the Terrestrial Ecosystem Mapping (TEM) varied for different islands and was derived from air photos which were flown over a number of years. TEM for the Executive Islands was produced using a mixture of air photos and satellite imagery. Road mapping for Lasqueti was omitted because digital road maps were unavailable when the data was gathered. Other road mapping is accurate as of 2010.

Mayne Island

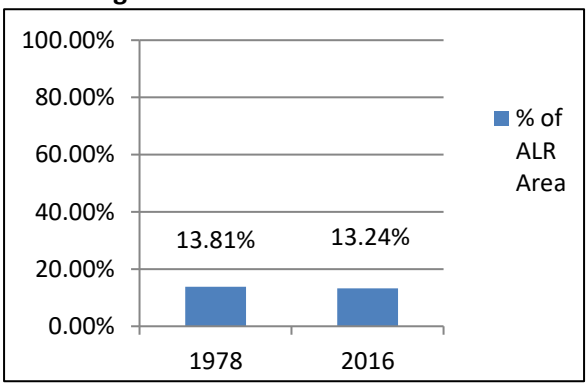
Agricultural Land Reserve

The provincial government created the Agricultural Land Reserve (ALR) in 1973 through the *Land Commission Act* to protect BC's agricultural land. The 4.7 million hectares of the Reserve were identified between 1974 to 1976 through cooperative efforts with regional districts and member municipalities. Local input was gained through a public hearing process. Despite boundary changes over the decades, the Reserve in BC remains approximately the same size (5% of the province).

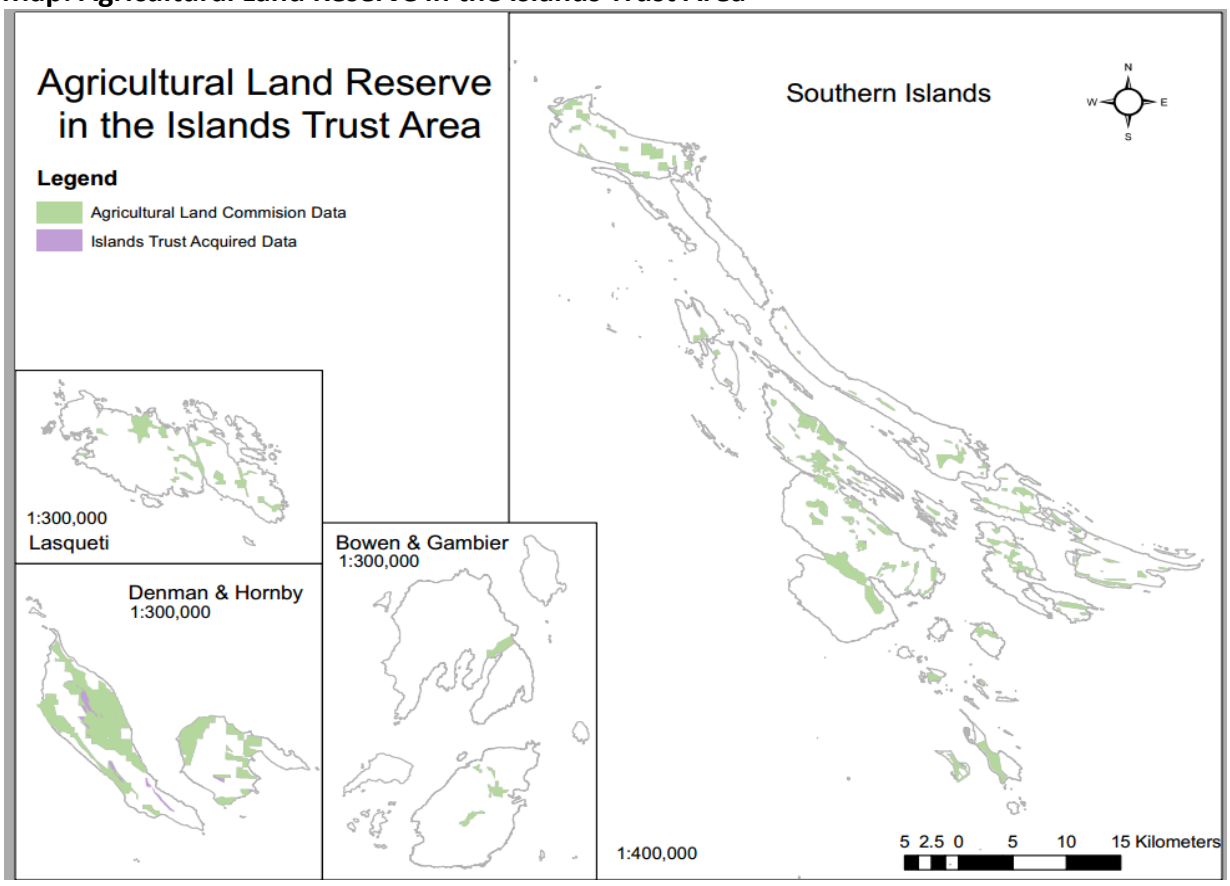
Key Findings – Agricultural Land Reserve

- Although there have been some small changes to the size of ALR land within local trust areas, generally the amount of ALR land in the Islands Trust Area has remained consistent.

Percentage of ALR Land in the Trust Area



Map: Agricultural Land Reserve in the Islands Trust Area



Source: Agricultural Land Commission, 2019

Limitations: The methods used to measure ALR lands in 1978 differ from the methods used in 2019. The accuracy of the 1978 data is not verified. The results should be treated as estimates only.

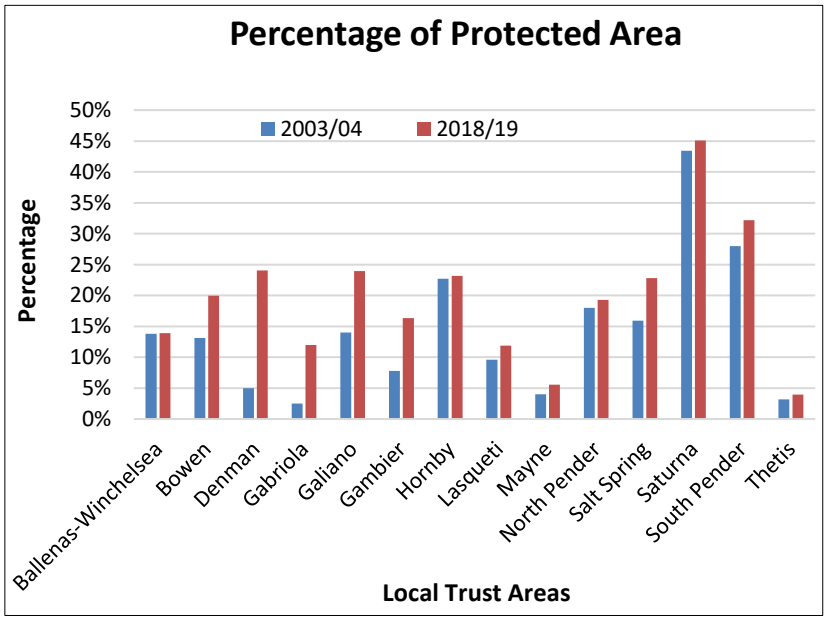
Protected Areas

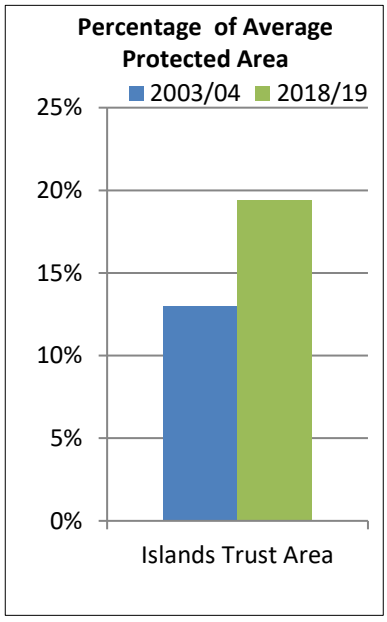
The Islands Trust Area is home to an exceptional diversity of birds, fish, intertidal life and plant species. Throughout the Islands Trust Area, engaged residents and conservation partners work together to protect natural areas and key wildlife habitat in protected areas that include parks, ecological reserves, watershed protection areas, provincially designated protected areas and nature reserves as well as conservation covenants on private lands.

The ecosystems of the Islands Trust Area are home to many species at risk. At-risk species have a better chance of survival if their homes are protected. To protect species from becoming endangered, some of every type of ecosystem should be protected, regardless of its sensitivity or threat level.

Key Findings – Protected Areas

- Between 2004 and 2019, protected areas in the Islands Trust Area grew from 13.0% to 19.37% of the land base. This change represents an addition of over 5,000 ha of protected land. Salt Spring Island, Denman Island, Gambier Island, and Gabriola Island Trust Areas were responsible for over 70% of the increase in protected areas in the Islands Trust Area between 2004 and 2019, adding 3,148.3 ha, 257.6 ha, 765 ha and 145.4 ha respectively, to their total amount of protected lands in that period. Increases were due primarily to Coastal Douglas-fir Protected Areas, Old Growth Protected Areas, Covenants and Nature Reserves established throughout the Trust Area.
- Hornby Island, Mayne Island, South Pender Island, and Thetis Island Trust Areas had less than a 1% increase in protected areas between 2004 and 2019.





Source: Islands Trust Parks and Protected Areas data

Limitations: Protected area statistics are determined through use of cadastral boundaries (property lines) and an established island area. Both measurements are subject to minor error and can change from year to year in minor ways as cadastral boundaries become more accurate. The data is also limited by the Islands Trust's ability to track additional parks and protected areas; there may be errors of omission and inclusion from time to time.

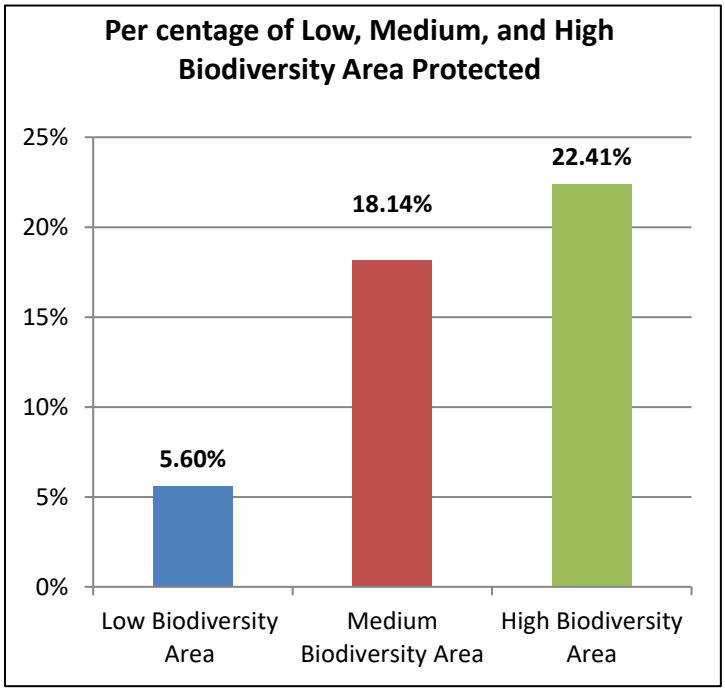
Biodiversity Protection

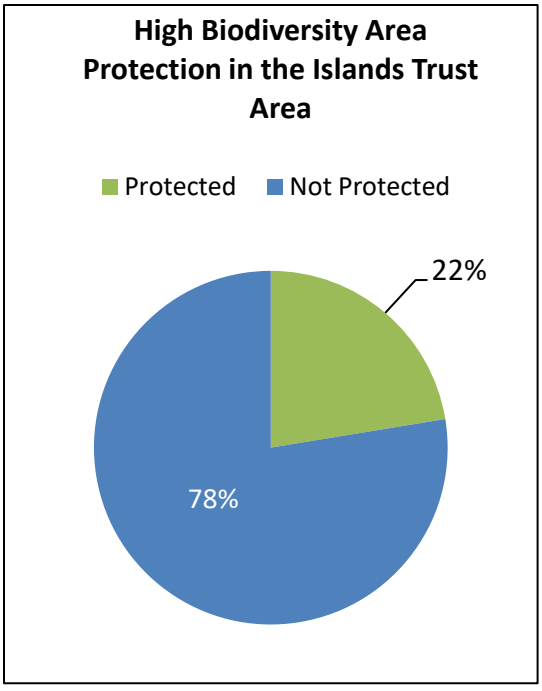
The Islands Trust Area is home to biologically-rich, sensitive ecosystems and hundreds of rare plants and animals. With more than 65% of the Islands Trust Area in private land ownership, the pressures to develop and change the natural landscape are tremendous. There are limited resources available for land protection so it is important to focus on protecting areas of high biodiversity.

Pacific Chorus Frog

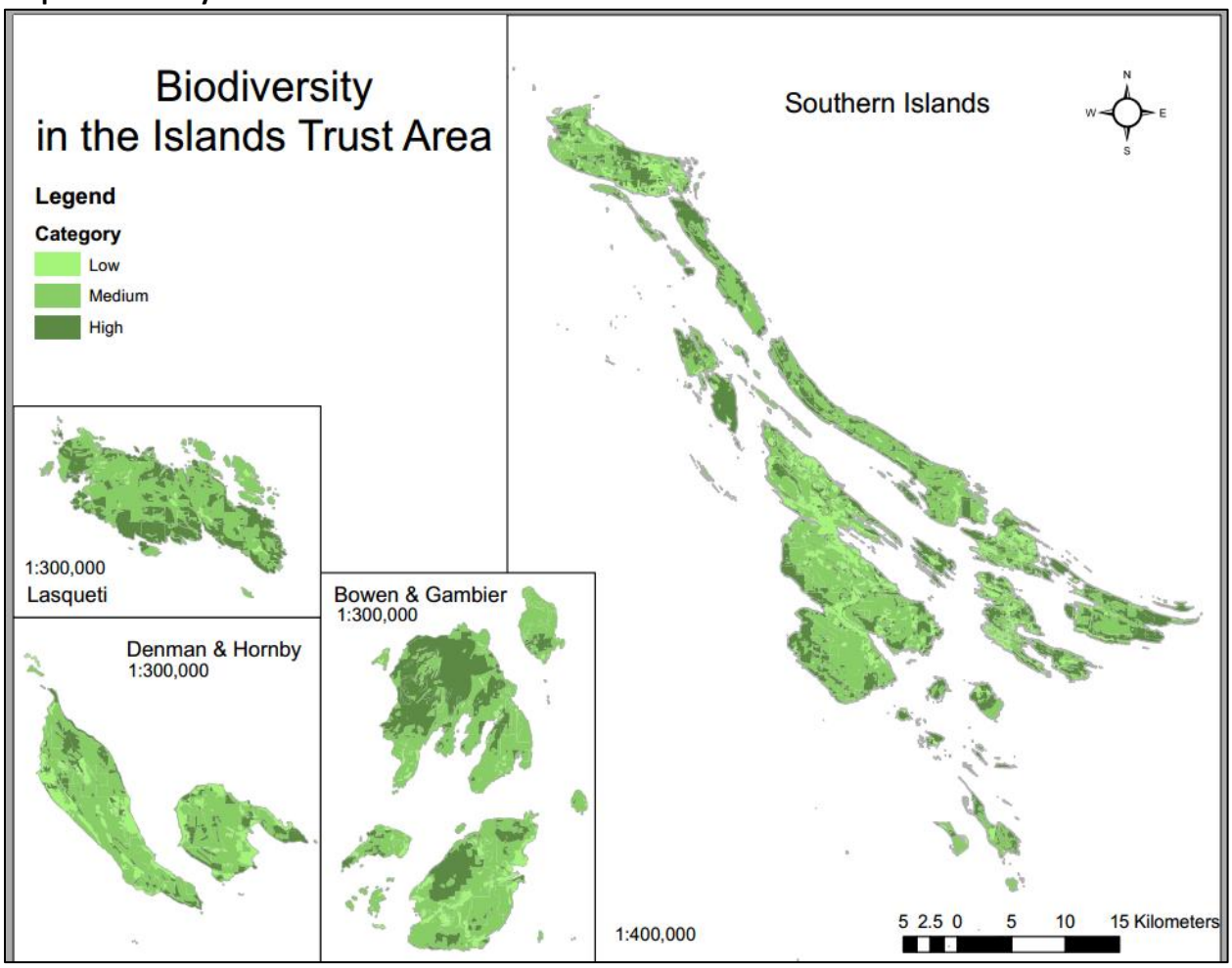
Key Findings – Biodiversity Protection

- As of July 2016, only 22% of the high biodiversity areas of the Islands Trust Area have been protected. For this reason, it is important to support continued land protection efforts and for islanders to carefully maintain habitat on their lands so that we can keep our best ecosystems intact, and help sustain the plants and animals that share these beautiful islands.
- Less than 6% of low biodiversity areas have been protected. This means that protected area planners are effectively directing resources towards the most important ecosystems.





Map: Biodiversity in the Islands Trust Area



Source: Islands Trust Area Geographic Information System

Limitations: High biodiversity areas are defined as the top 30% of natural ecosystems in the Islands Trust mapping system. They were determined by running a custom Geographic Information System model. High biodiversity areas are derived from an externally-reviewed Multiple-criteria Decision Analysis (MCDA) of the landscape which was used to rank and prioritize various ecosystem components within a Geographical Information System. Several criteria were used, including presence of Sensitive Ecosystems, potential for Provincial Ecosystems at Risk, threat level, site 'naturalness', and adequate representation of all habitats. The landscape was then divided into levels of biodiversity. The top 30% was considered 'high', the middle 30% was considered 'moderate', and the bottom 40% was considered 'low'.

Freshwater

Freshwater is a unique amenity in the Islands Trust Area; supporting ecosystem health and overall hydrological function of watersheds. With vulnerabilities of seasonal precipitation changes, evapotranspiration forcing, recharge alterations, and saltwater intrusion; freshwater resources are a metric of climate change. To understand past, current, and future use of freshwater, investigation of groundwater recharge potential, water use, and impacts of land-use development is required. Local Trust Committees across the Islands Trust Area have identified freshwater as a top priority in Official Community Plans and as part of land-use decision making through evidence-based projects.

In 2019, a new approach to groundwater recharge potential was implemented in the Southern Gulf Islands using a Geographical Information Science methodology. This approach is anticipated to be effective to implement over large areas and may be able to qualitatively and quantitatively address difficult to measure impacts on hydrology from a changing climate and land-use development.

In 2016 the provincial government made changes to the rules governing the use of surface water and groundwater. The new *Water Sustainability Act* (WSA) is designed to protect BC's water supply and make sure it is well managed now and into the future. One of the significant changes introduced by the WSA is that authorization is now required to use groundwater for anything other than domestic use. Regulating groundwater use allows surface water and groundwater to be managed and protected as one interconnected resource, and clarifies the rights of groundwater users. The Province of British Columbia operates a provincial observation well network and other hydrometric programs in the Islands Trust Area to support these new legislative changes. For more information on water data and tools visit: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-science-data/water-data-tools

Next Steps:

The Islands Trust Council's 2018-2022 Strategic Plan includes the strategy: develop i) a set of climate change, demographic and environmental data and ii) performance criteria in order to identify the effects of climate change in the Trust Area and to measure mitigation and adaptation efforts. This work will supplement and update the information provided in this report.

III. Appendix: The Islands Trust Life of the Islands – Area Resident Survey Final Results, August 2016

The Islands Trust
Life on the Islands - Area Resident Survey

Final Results

Prepared for: **The Islands Trust**

August 2016

Background and Objectives

Background and Objectives

- In 1974, BC's Islands Trust Act created the Islands Trust to be a federation of local government bodies. The federation represents 25,000 people living within the Islands Trust Area and another 10,000 non-resident property-owners. The area covers the islands and waters between the British Columbia mainland and southern Vancouver Island. It includes 13 major islands and more than 450 smaller islands.

- The Islands Trust is responsible for preserving and protecting the unique environment and amenities of the Islands Trust Area through planning and regulating land use, co-operation with other agencies, and land conservation.

- **The Islands Trust required the services of an experienced market research firm to conduct a statistically significant survey of the Islands Trust Area.**

- On behalf of the Islands Trust, Forum Research conducted a survey of island residents and property owners to learn more about life on the island.

- When respondents asked for the purpose of the survey, interviewers explained the Islands Trust Council approved funding this year for a "State of the Islands" project. Islands Trust staff have been using the funds to research and report on social, economic and environmental trends. This poll is part of that project, and will inform Trust Council about the pros and cons of island life today and what might improve island life in the future. The results of the poll will be public as part of the meeting package going to Trust Council in mid-September.

Methodology and Limitations

Methodology

- A sample of respondents was generated based on area and postal codes, along with a qualifying screener at the beginning of the survey to ensure the correct respondents were contacted.
- Forum Research used a CATI (telephone) methodology to conduct the survey.
    - **Life on the Islands - Area Resident Survey**
        - (N = 426)
            - ***Please note that considering the small sample size, significant findings and differences will be limited.***
        - August 9th to 15th, 2016

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Survey Limitations and Opportunities

- The survey was based on a random sample of households in and around the Islands Trust Area.
- The targeted population available was 25,670.
  - **Based on this population, the response rate was 2%.**
  - ***The findings collected in this survey should be interpreted with caution.***

- The response rate from some islands was very low due to a number of limiting factors,

  - Residents and property owners on the islands can be wary of government and market researchers.
  - Residents of some islands cannot be reached via telephone methodology..

A suggestion for further research would be to consider two different data collection methodologies.

(1) Paper-based survey methodology
This would create a more personalized experience for the respondent. Telephone methodology may feel intrusive and impersonal. Considering the small population sample, Islands Trust would have the capability to send a survey to every home address available.

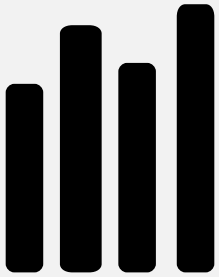
(2) In-person surveying via Tablet data collection
Islands Trust should travel to, and canvas popular island spots. This way those respondents without telephone numbers, or temporary residents would be more likely to be approached.

Using a paper-based methodology would result in a higher response rate. The ability to conduct higher level analysis with a larger response rate would provide more conclusive findings.

Summary

Summary

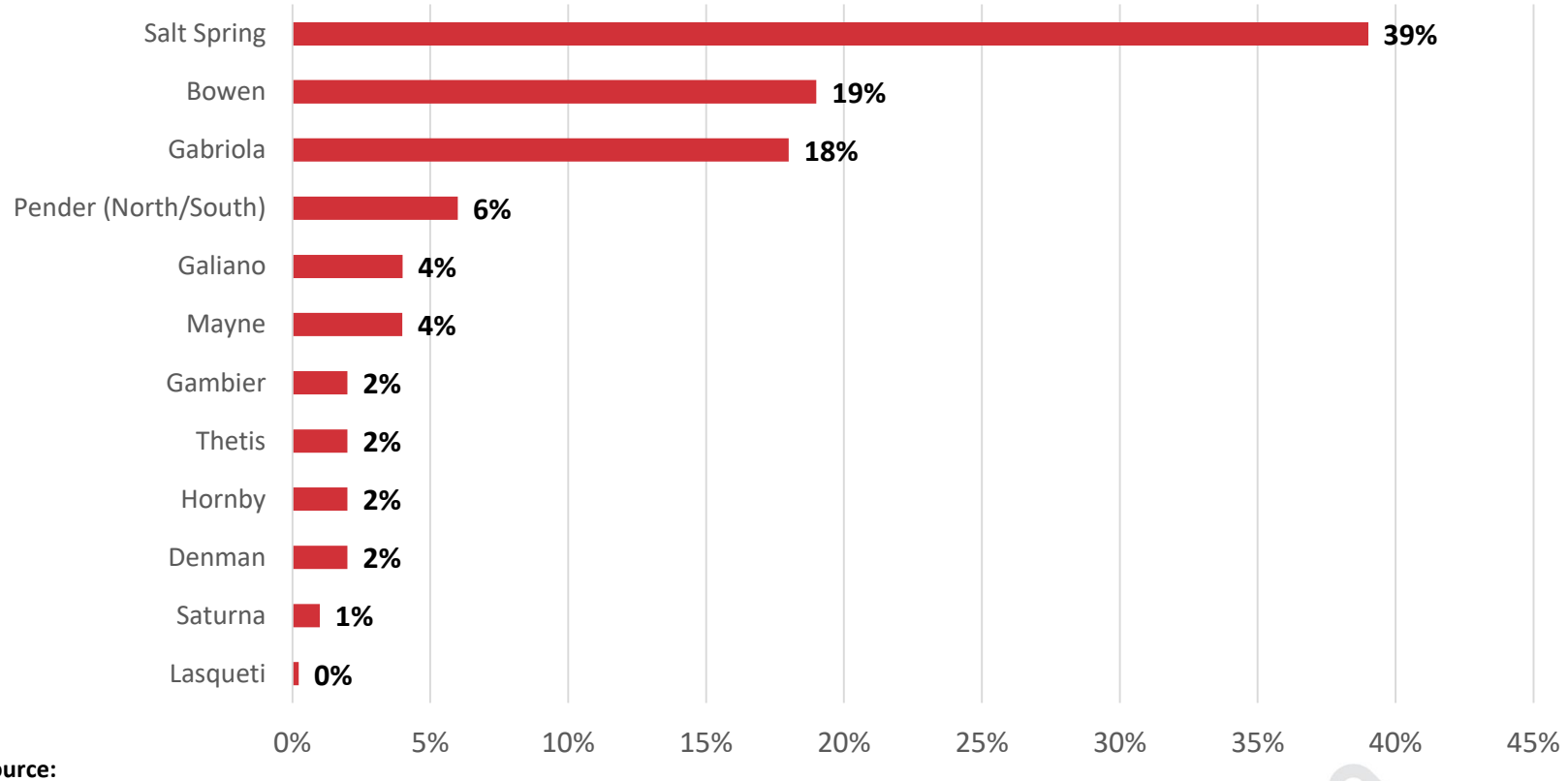
- The majority of respondents live or own property on on Salt Spring (40%) followed by just under 1-in-5 respondents living or owning property on Bowen (19%) and Gabriola (18%).
- Over one third of respondents live on the island because they like the rural/independent feel to their island and think it's a good place to raise kids (36%), followed by just over 1-in-4 respondents appreciating the natural landscape (28%). 26% of respondents live on the island because they like it for no reason in particular.
- Roughly 1-in-2 respondents enjoy their islands natural beauty (53%) and the community/people who live there (49%).
- 4-in-10 respondents stated that transportation is the biggest challenge facing their island (40%).
- 38% of respondents want the island to stay the same when asked what they hoped would improve 20 to 30 years from now.
- When asked for reasons they would consider moving off their island, 4-in-10 respondents would consider leaving the island in order to gain better access to healthcare (39%).
- 1-in-10 respondents stated they would never consider moving (10%).
- 93% of respondents stated they knew their neighbours well enough to ask for or offer help.
- The majority of respondents prefer to receive information from their local government through local newspapers (63%) and email (55%).
- 2-in-5 respondents prefer to receive information via Canada Post (39%).
- 82% of the respondents were above the age of 55.



Final Results

Qualifying Screener

- The majority of respondents live on Salt Spring (40%). This is in proportion to the population.
- Just under 1-in-5 respondents live or own property on Bowen (19%) and Gabriola (18%).
- At least one respondent completed the survey from each major island within the Islands Trust area. More specifically, only one respondent completed the survey from Lasqueti Island.



Source:
S1. Which island do you live on, or own property on? If you own multiple properties, please choose the island you spend most of your time on. **S2**. Which island do you live on, or own property on?

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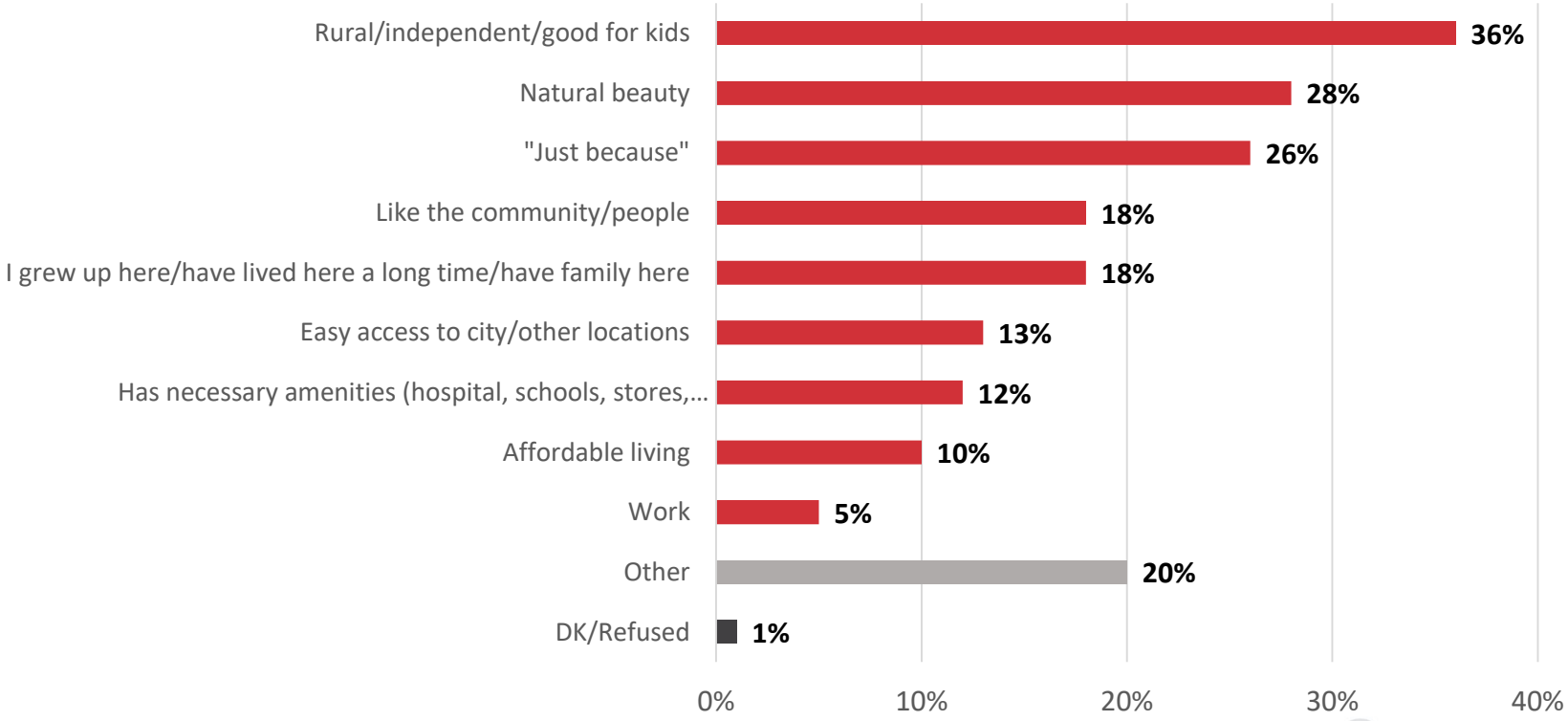
Reason for Living on Island

- Over one third of respondents live on the island because they like the rural/independent feel to their island and think it's a good place to raise kids (36%), followed by just over 1-in-4 respondents appreciating the natural landscape (28%). 26% of respondents live on the island because they like it for no reason in particular.
- Respondents over the age of 55 were more likely to mention necessary amenities when compared to the younger population (26%, compared to 12%).



Source:
Q1. Why did you choose to live on your island? (N=426) **(multiple mention)**

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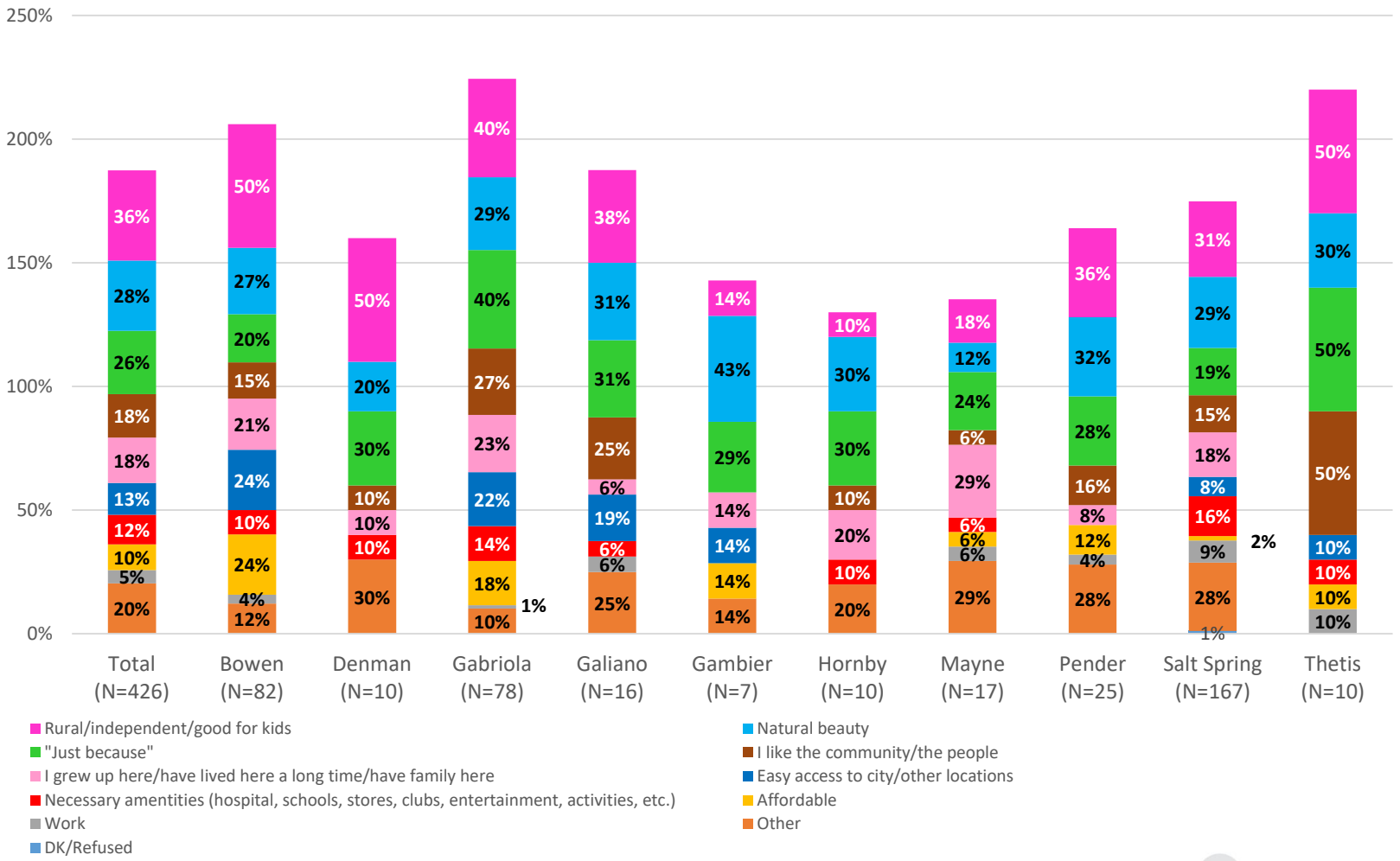
Reason for Living on Island (Island Breakout*)



Source:

Q1. Why did you choose to live on your island? (N=426) **(multiple mention)**

*Lasqueti Island and Saturna Island are not reported on due to a small sample size. One completion came from South Pender specifically. This has been grouped with the twenty four North Pender responses as 'Pender'.

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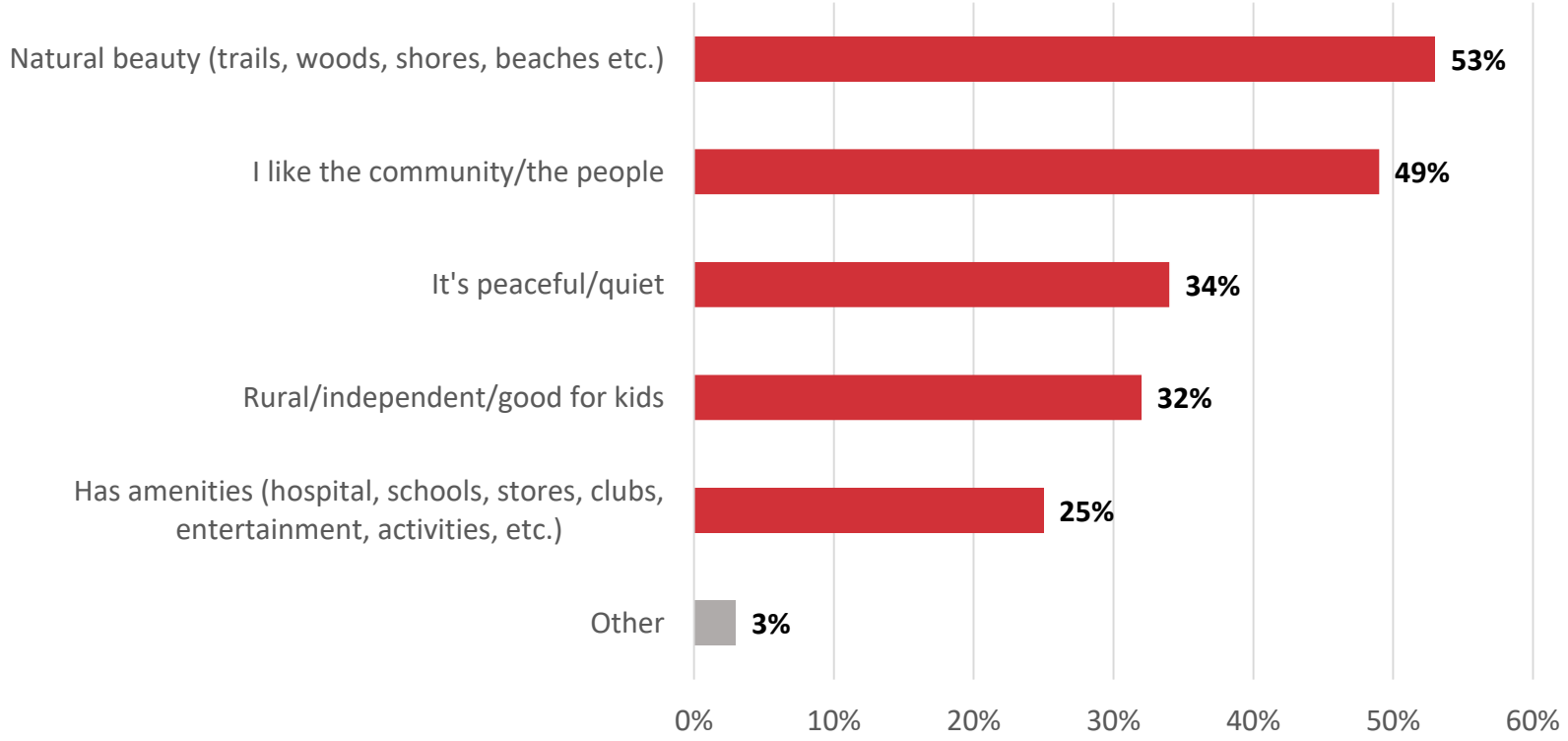
Islands Strengths

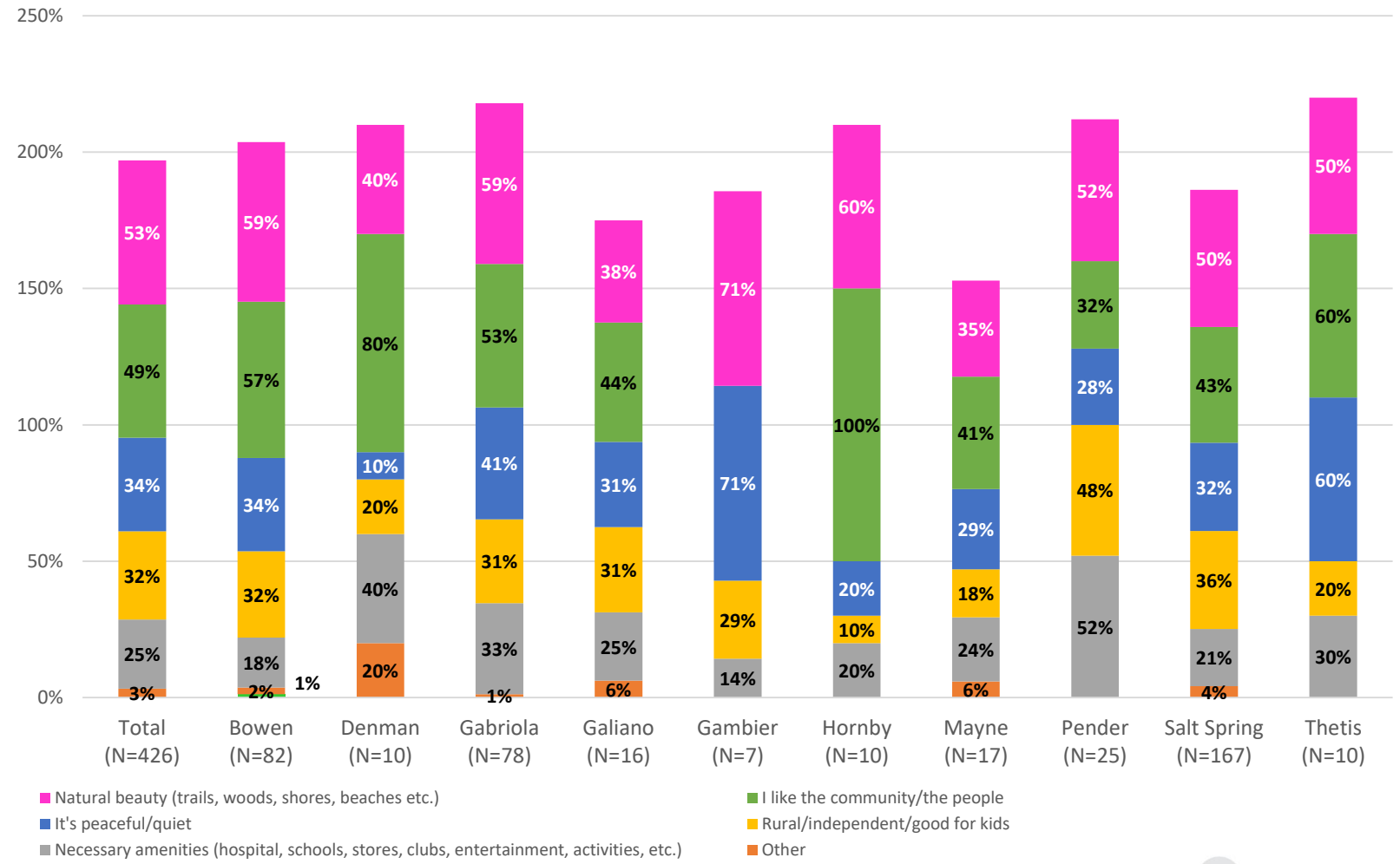
- Roughly 1-in-2 respondents enjoy their islands natural beauty (53%) and the community/people who live there (49%).
- 1-in-3 respondents find it peaceful (34%) and like the rural environment for raising kids (32%).
- 1-in-4 respondents stated the island has all the amenities they need (25%).
- There are no significant differences in opinion based on age and island.



Source:
Q2. What do you enjoy about your island? (N=426) **(multiple mention)**

FORUM RESEARCH INC.

Islands Strengths (Island Breakout*)



Source:

Q2. What do you enjoy about your island? (N=426) **(multiple mention)**

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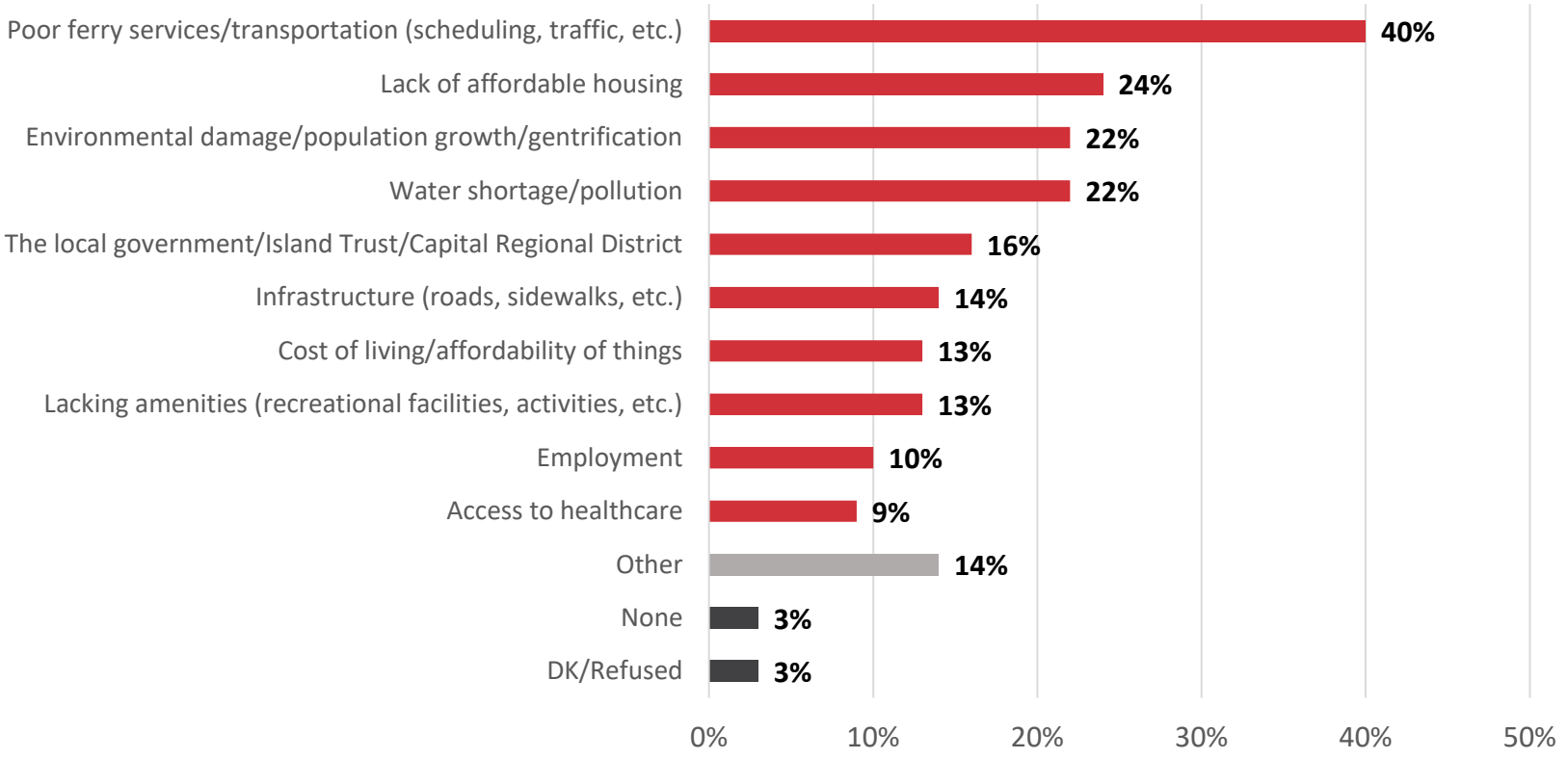
Challenges Facing Island

- The majority of respondents stated that transportation is the biggest challenge facing their island (40%).
- 1-in-4 respondents stated there is a lack in affordable housing (24%) while just over 1-in-5 respondents voiced a concern for gentrification/environmental damage and water shortage/pollution (22% for both).



Source:
Q3. What are some challenges facing your island today? (N=426) **(multiple mention)**

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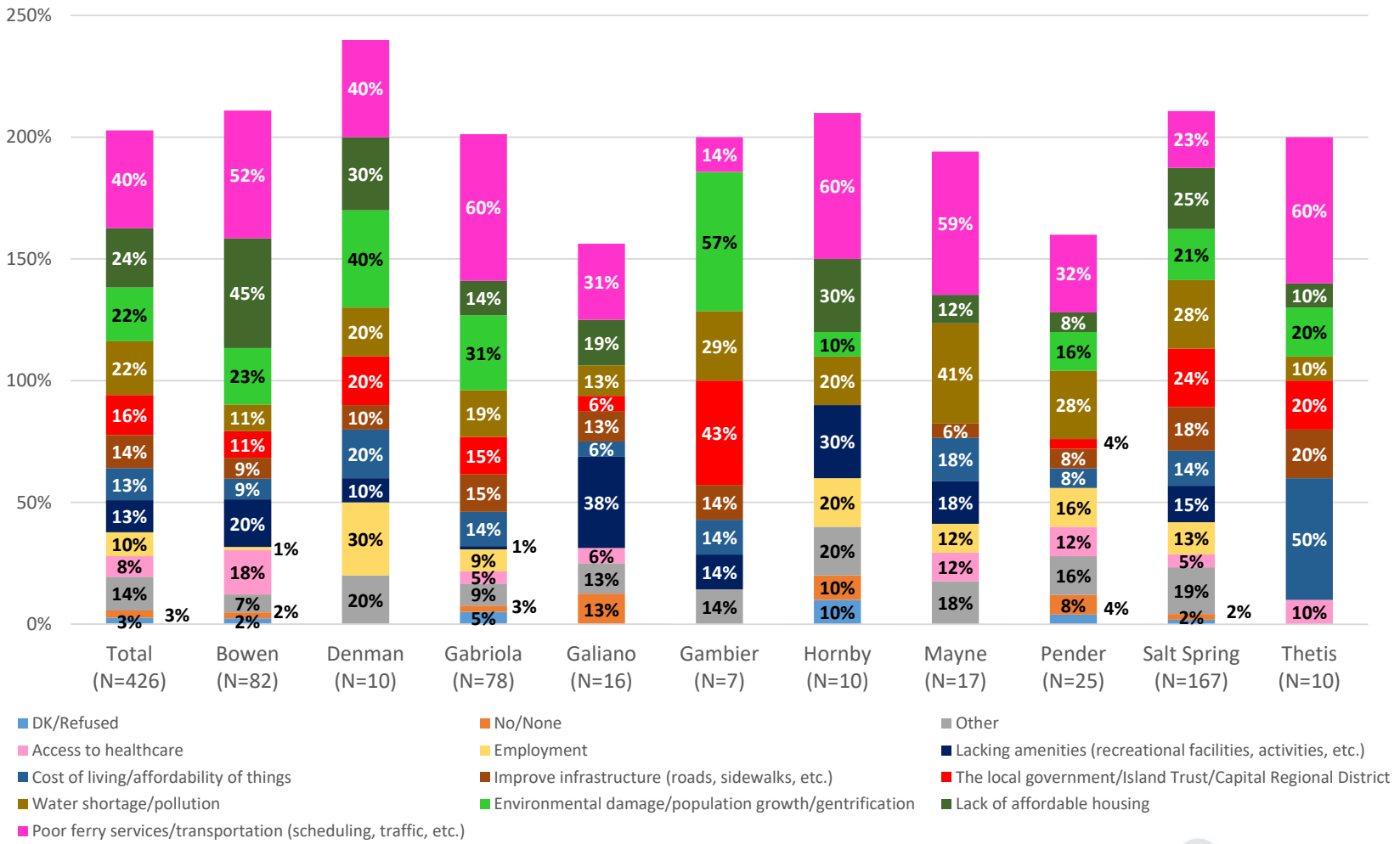
Challenges Facing Island (Island Breakout*)



Source:

Q3. What are some challenges facing your island today? (N=426) **(multiple mention)**

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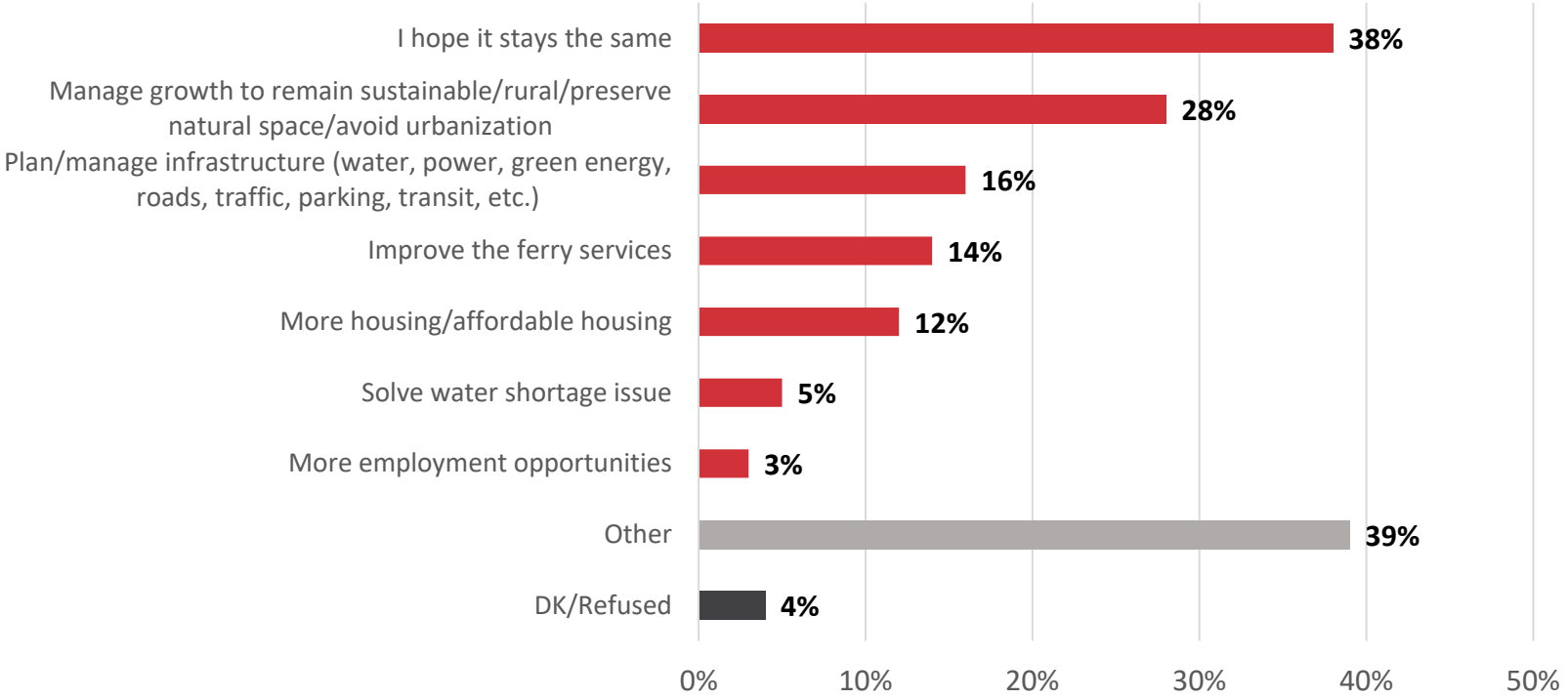
Perspective on Future of Island

- 38% of respondents want the island to stay the same when asked what they hoped would improve 20 to 30 years from now.
- Just under 3-in-10 respondents want the islands to properly manage growth and remain sustainable while avoiding urbanization (28%).
- Please note that 40% of respondents had other comments that could not be categorized due to their uniqueness.



Source:
Q4. In 20 or 30 years, do you hope island life stays the same or what do you hope will improve? (N=426) **(multiple mention)**

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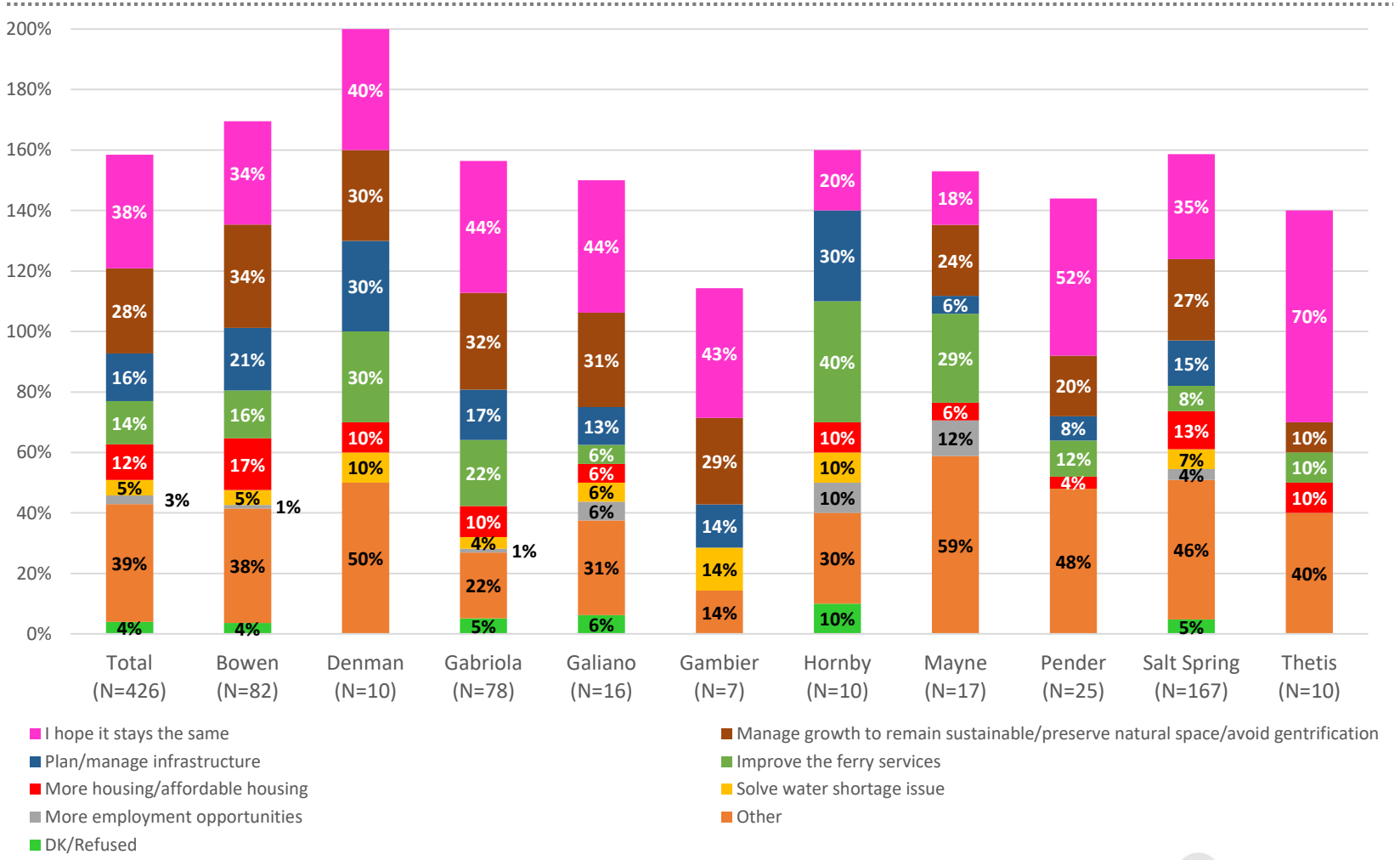
Perspective on Future of Island (Island Breakout*)



Source:

Q4. In 20 or 30 years, do you hope island life stays the same or what do you hope will improve? (N=426) **(multiple mention)** *Lasqueti Island and Saturna Island are not reported on due to a small sample size. One completion came from South Pender specifically. This has been grouped with the twenty four North Pender responses as 'Pender'.

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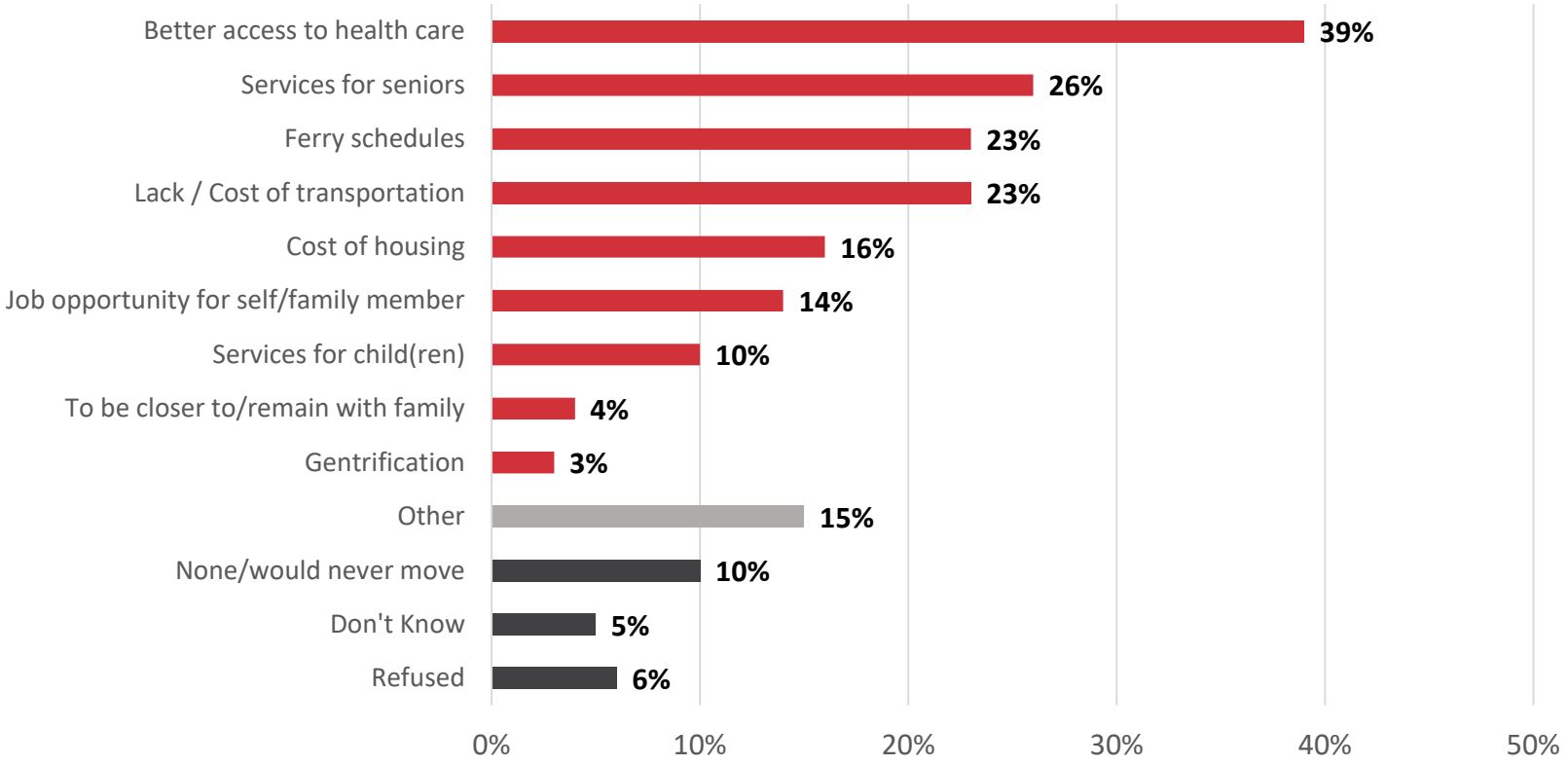
Reasons to Leave Island

- When asked what are some reasons a resident would consider moving off an island, 4-in-10 respondents would consider leaving the island in order to gain better access to healthcare (39%).
- 1-in-10 respondents stated they would never consider moving (10%).



Source:
Q5. What are some reasons you might consider moving off your island? (N=426) **(multiple mention)**

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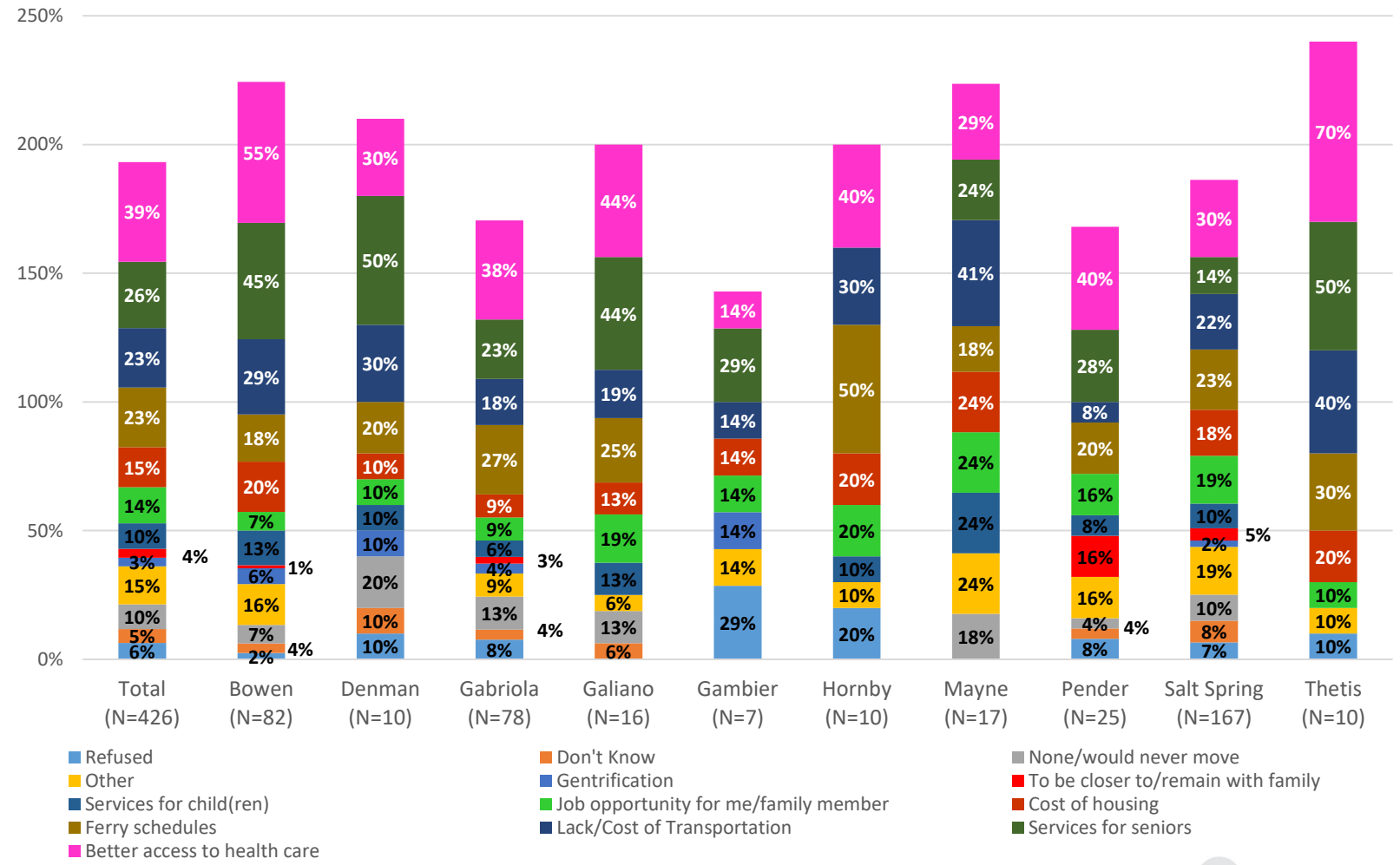
Reasons to Leave Island (Island Breakout*)



Source:

Q5. What are some reasons you might consider moving off your island? (N=426) **(multiple mention)**

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Agreement with Statements Regarding Island Life

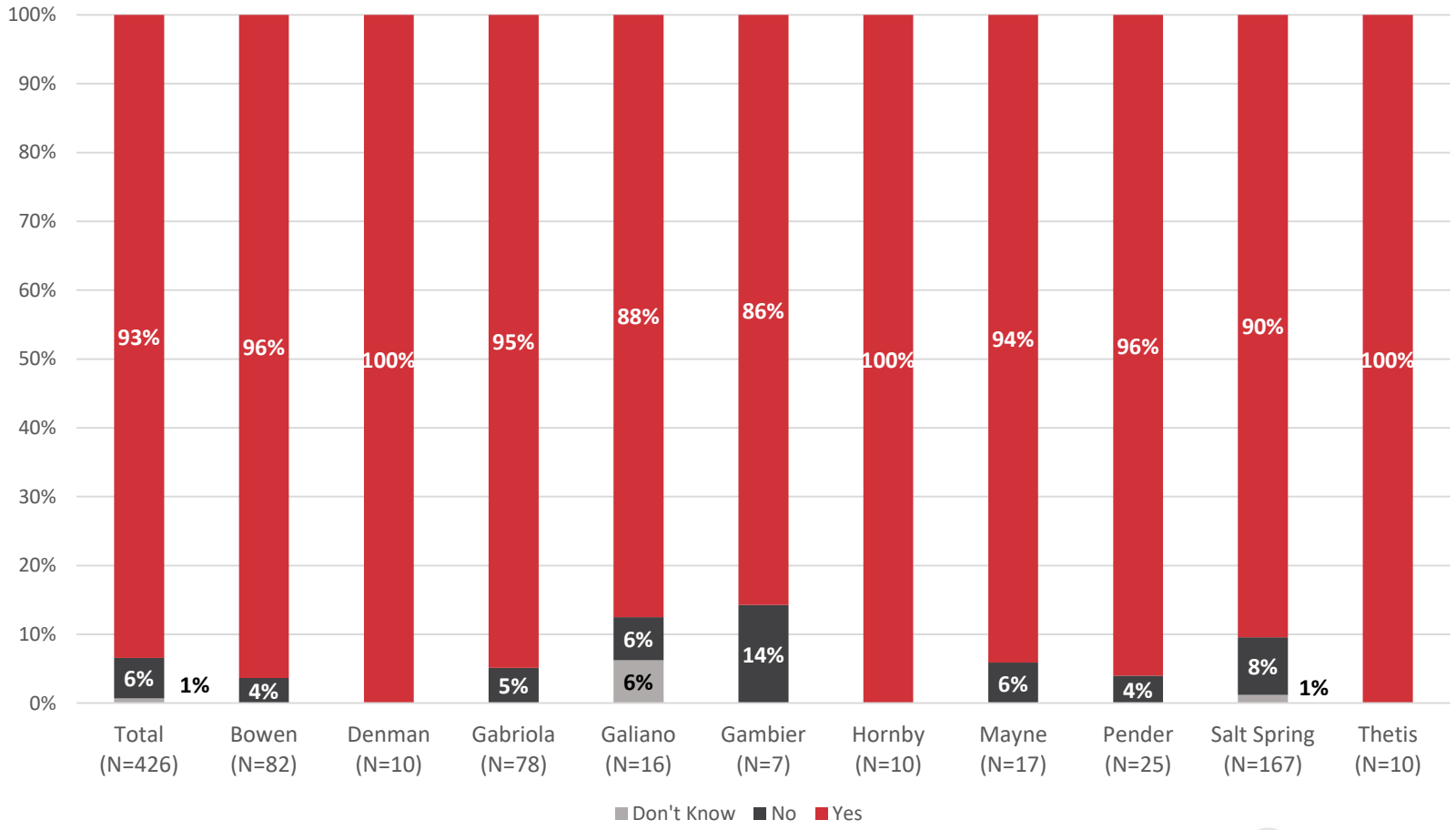
- When it came to agreeing with statements regarding island life, respondents were most likely to know their neighbours well enough to ask for or offer help (93%).
- A significant number of respondents (41%) say they sometimes worry about their household running out of fresh water.
- 84% of the respondents volunteered or donated to a local organization in the last year and 82% of respondents have access to high-speed internet.
- 79% of respondents agreed that the Islands Trust area requires a high level of environment protection.

Source:
Q6. I am going to read a series of statements about living on the island. Please answer whether or not each statement applies to you. (N=426)

FORUM RESEARCH INC.

Agreement with Statements Regarding Island Life (Island Breakout*)

"I know my neighbours well enough to ask for or offer help"



Source:

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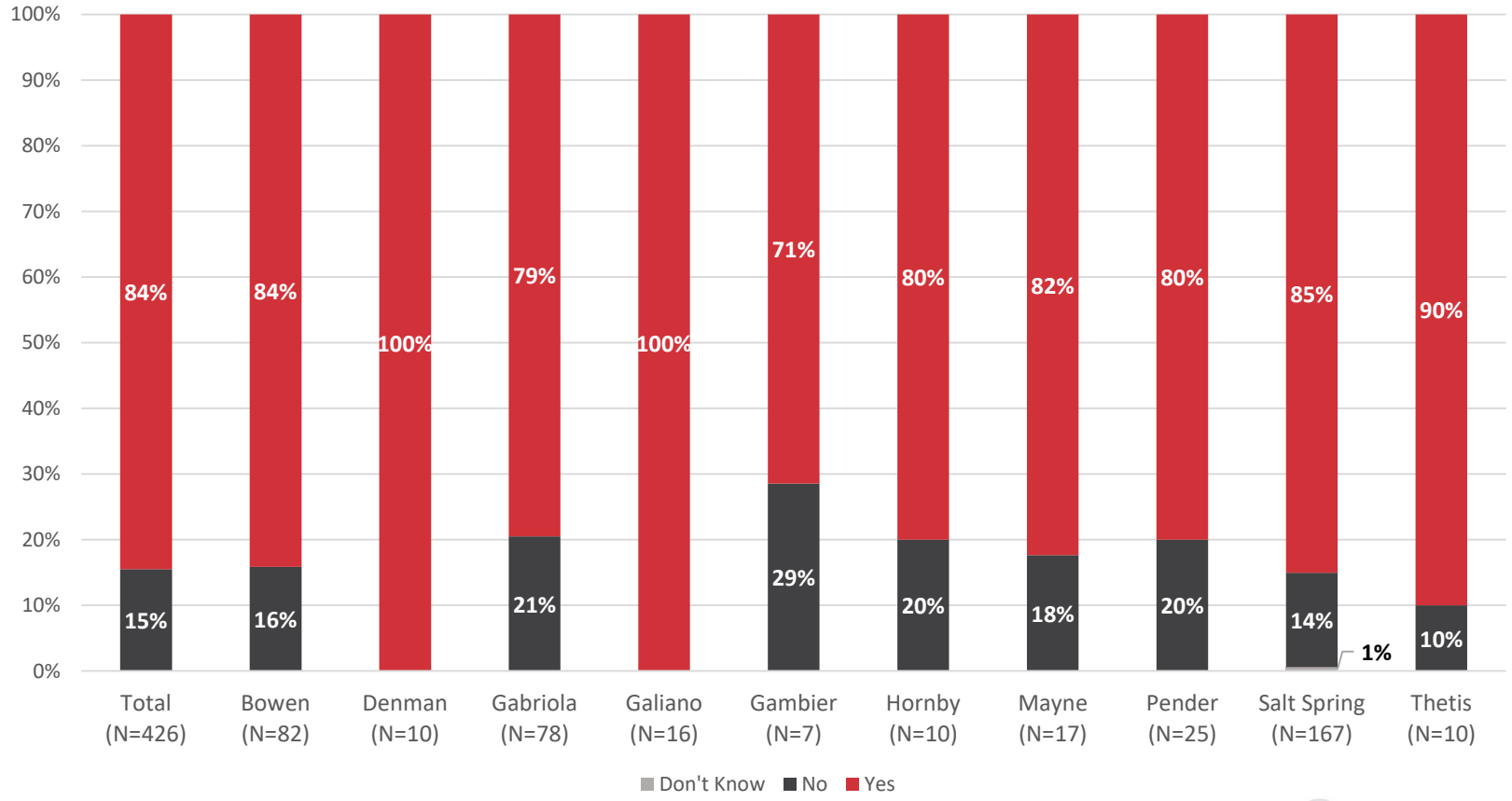
Agreement with Statements Regarding Island Life (Island Breakout*)

"In the last year, I volunteered or donated to an organization in my island community"



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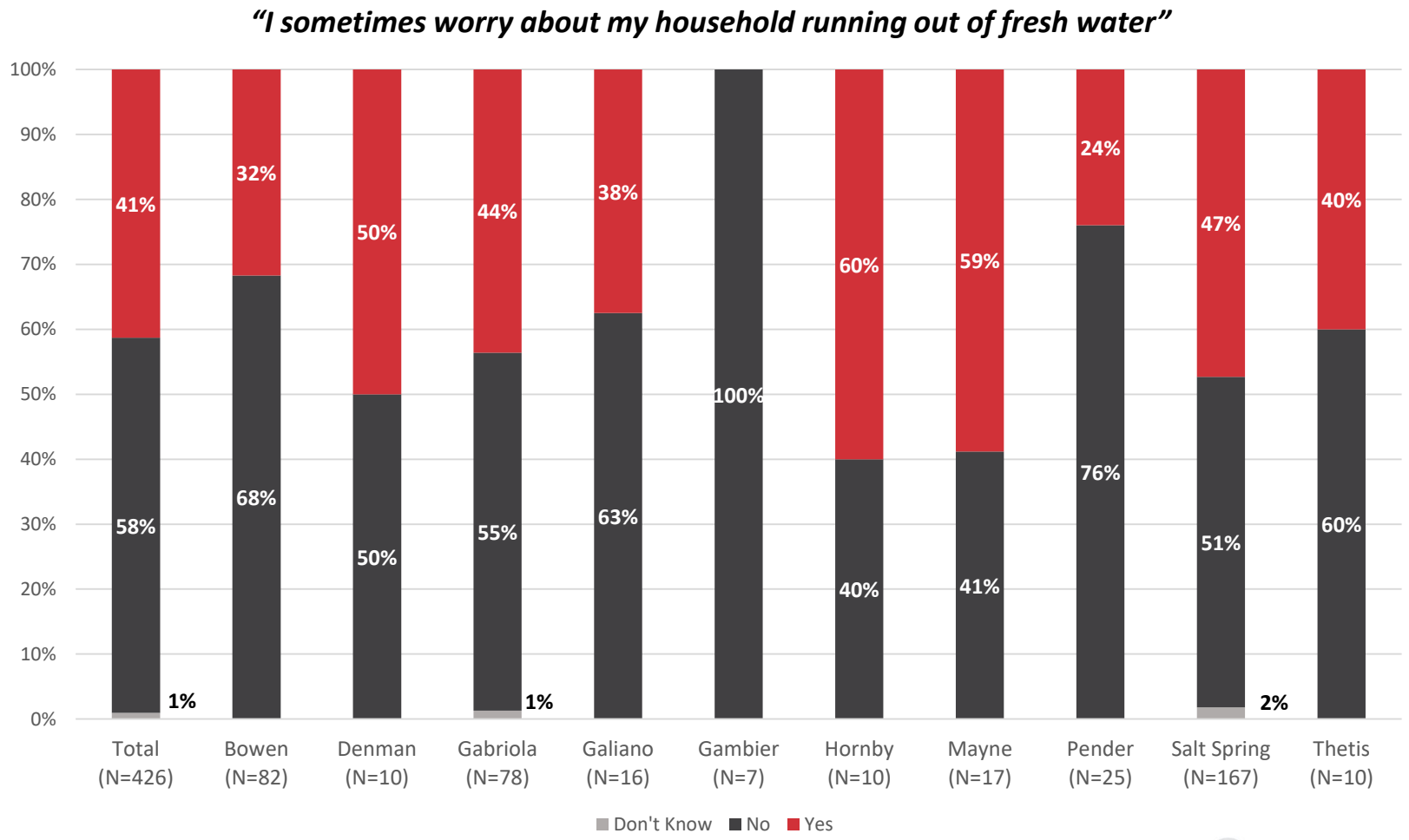
Agreement with Statements Regarding Island Life (Island Breakout*)



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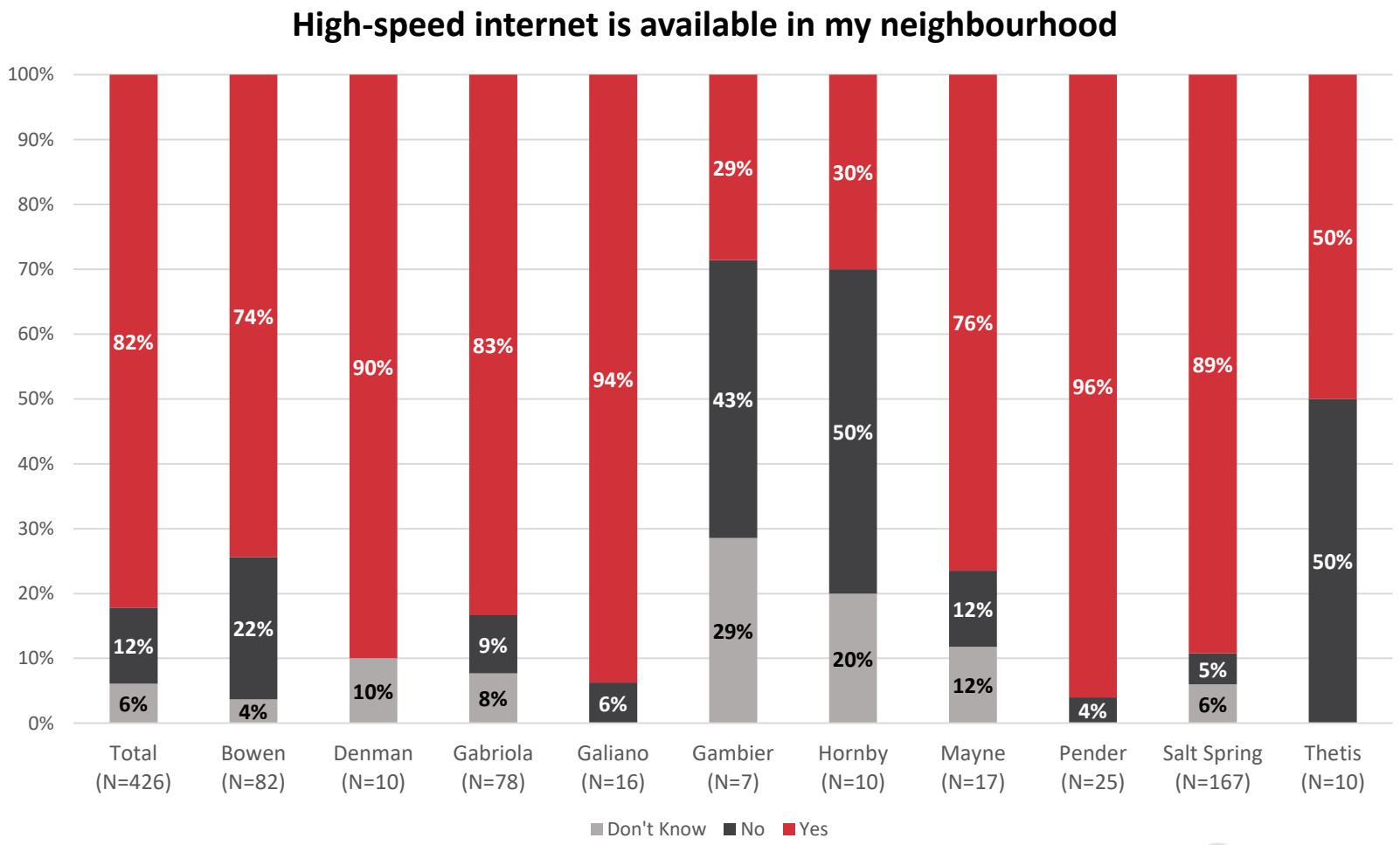

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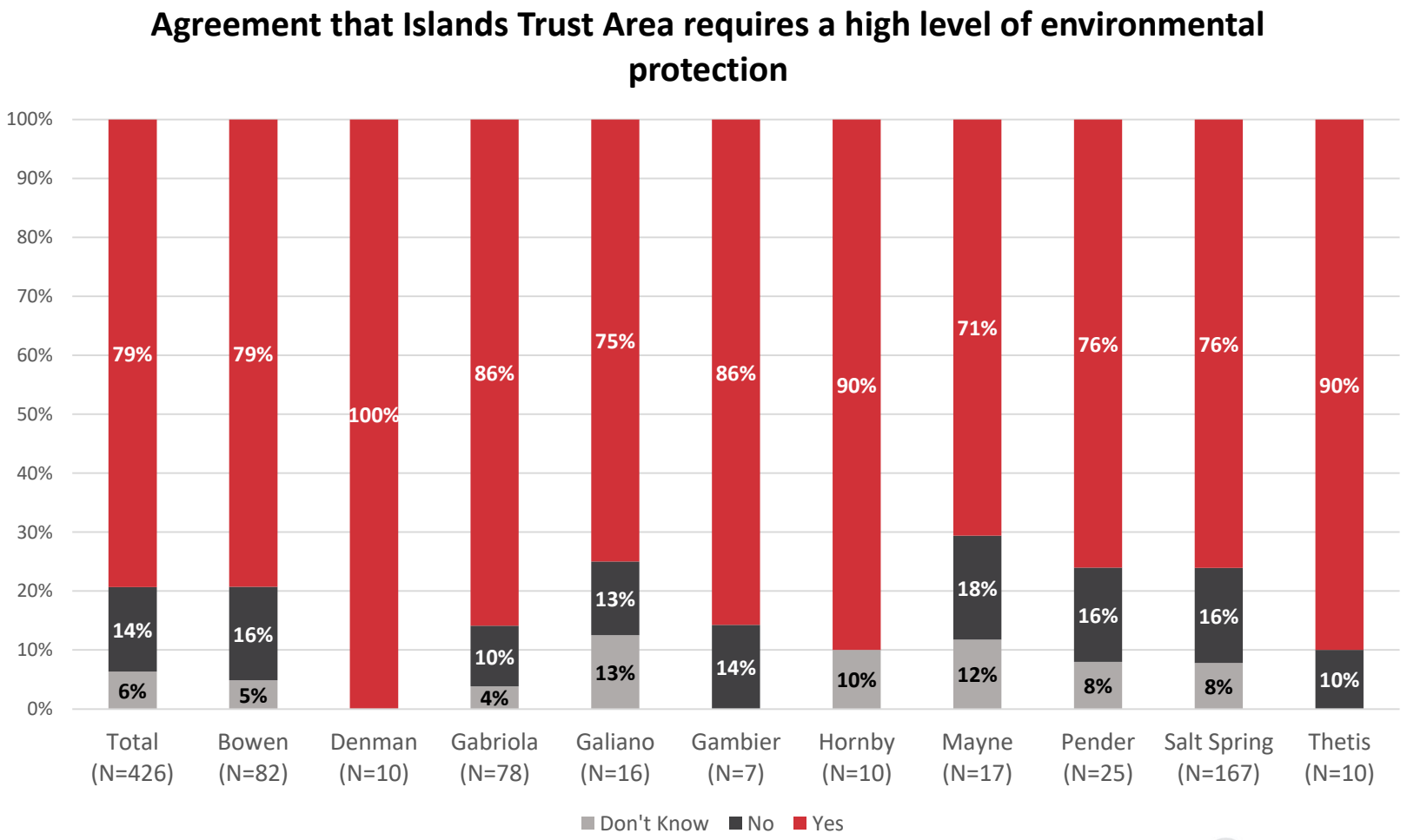
Agreement with Statements Regarding Island Life (Island Breakout*)



Source:

Q6. I am going to read a series of statements about living on the island. Please answer whether or not each statement applies to you. (N=426)

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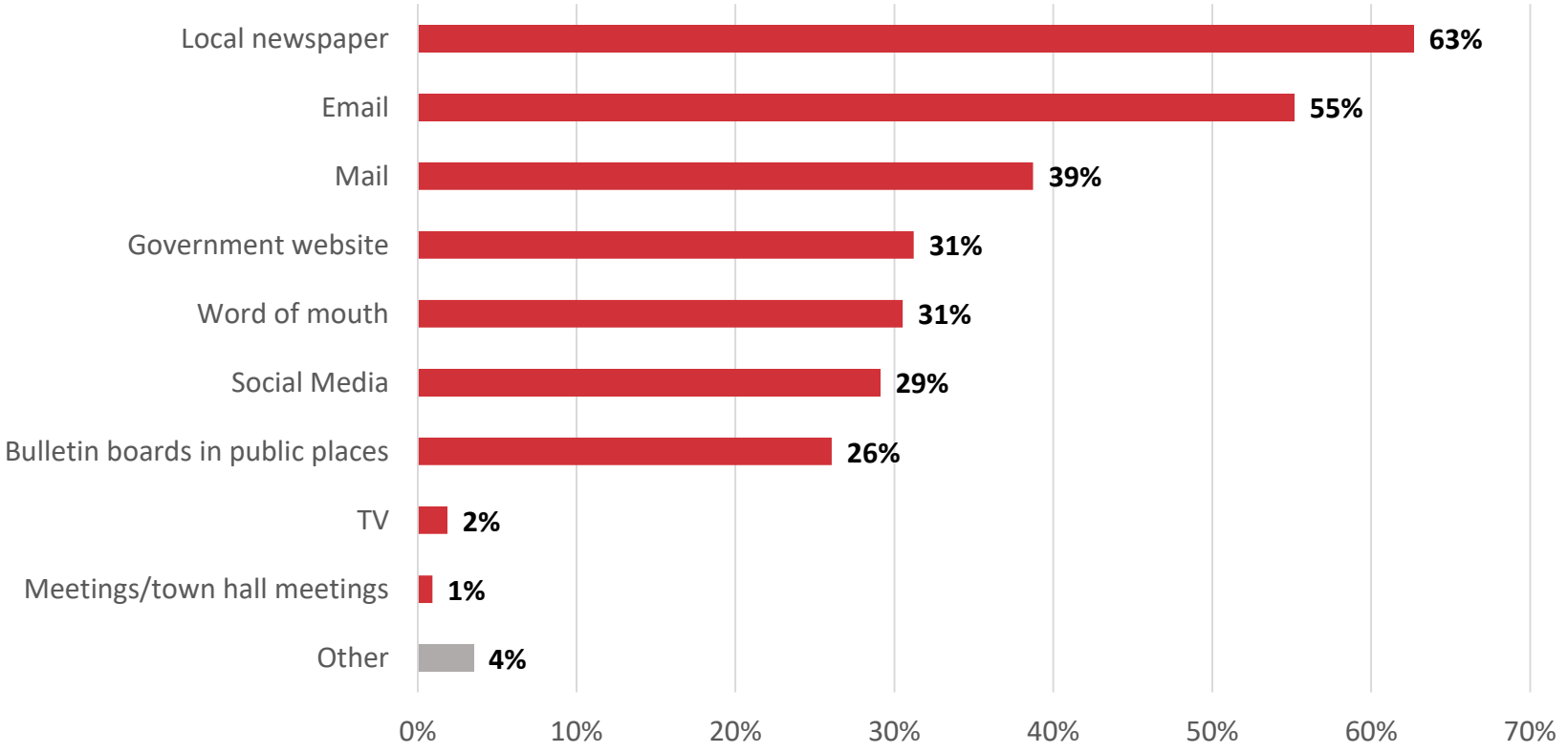
Information Preference

- The majority of respondents prefer to receive information from their local government through local newspapers (63%) and email (55%).
- 2-in-5 respondents prefer to receive information via Canada Post (39%).



Source:
Q7. How do you prefer to receive information from your local government? **[Select all that apply]** (N=426)

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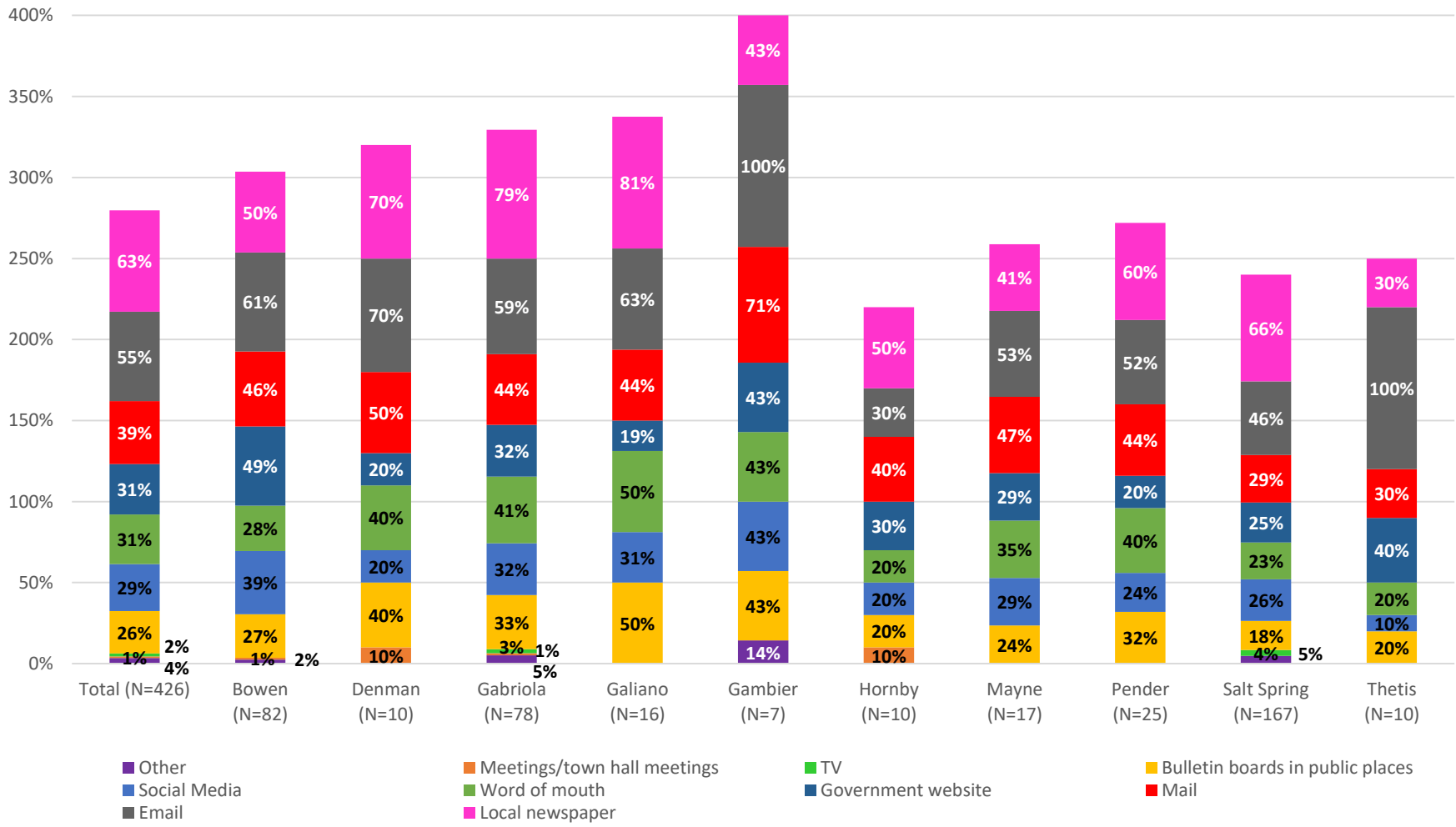
Information Preference (Island Breakout*)



Source:

Q7. How do you prefer to receive information from your local government? **[Select all that apply]** (N=426)

*Lasqueti Island and Saturna Island are not reported on due to a small sample size. One completion came from South Pender specifically. This has been grouped with the twenty four North Pender responses as 'Pender'.

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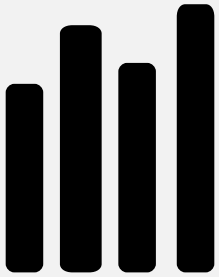
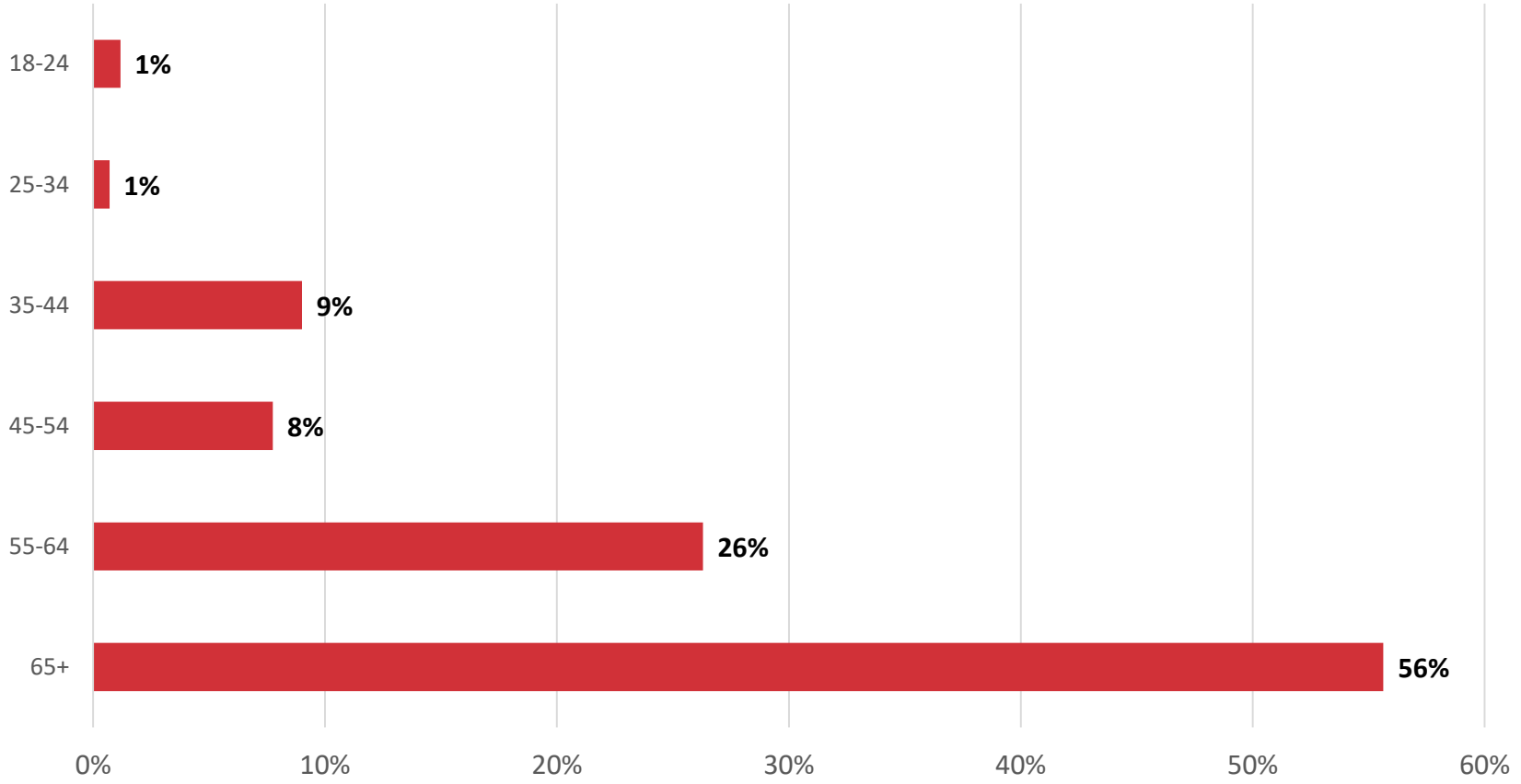


Demographics

Age

- 82% of the respondents were above the age of 55.



Source:
Q8. Which age category do you fall into? (N=426)

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