CLAYOQUOT SOUND BIOSPHERE RESERVE REGION'S VitalSigns®



Welcome to the Clayoquot Sound Biosphere Reserve Region's Vital Signs® 2016!

From Our Co-Chairs

We are pleased to present our 2016 Vital Signs report. Vital Signs is a valuable tool for understanding our communities and ecosystems.

Canada's 18 biosphere reserves are leaders in creating sustainable communities, while conserving our natural and cultural heritage. At the international level, biosphere reserves are an integral part of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) family. For the first time, we have aligned the local data in this report with the sustainable development goals of the United Nations in order to understand our local contribution to these international targets.

As a community foundation, the Vital Signs report informs our grant making and allows us to focus our programs and funding where they will make the biggest impact. We are proud to know that our biennial



Rebecca Hurwitz, Tammy Dorward and Cathy Thicke.

From the Executive Director

This report provides a snapshot of our region in numbers, pictures, and stories. Bringing together data from a range of sources, this information describes the health of our region in areas that matter to us.

Grounded in the principle of *hishuk ish ts'awalk*, everything is one, Vital Signs can help us to understand the complex and changing systems in which we live. This marks our third report and while trends are emerging, the data doesn't predict what the future will bring. We each have a role in creating healthy communities and ecosystems. I hope this report helps you to understand your experiences and observations, and is a starting point for positive action.

Vital Signs is a result of great collaboration. Dozens of community members who are experts in their respective fields contributed their knowledge, experience, and advice, and residents of all communities contributed via a number of local surveys. To everyone involved, we would like to express our sincere thanks. Together, we are building smart and caring communities.

Rebecca Hurwitz

Executive Director Clayoquot Biosphere Trust

report has become a part of conversations at all levels of decision-making from kitchen kitchen tables to council chambers. We look forward to continuing

> Tammy Dorward and Catherine Thicke

Co-Chairs, Board of Directors Clayoquot Biosphere Trust

the conversation with you.

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About Vital Signs®

Vital Signs is a community check-up conducted by community foundations across Canada that measures the vitality of our communities and identifies significant trends in a range of areas critical to quality of life. Vital Signs is coordinated nationally by Community Foundations of Canada and with special thanks to the Toronto Foundation for developing and sharing the Vital Signs concept. For more information visit: clayoquotbiosphere.org/vital-signs

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About the Clayoquot Biosphere Trust

The CBT stands on two pillars: we are both a biosphere reserve and a community foundation. As the only organization in Canada that encompasses both of these internationally recognized mandates, we are able to see the opportunities and challenges in our region through a unique lens.

Our Biosphere Reserve

Clayoquot Sound is one of Canada's 18 UNESCO biosphere reserves. The CBT is the local organization responsible for upholding the spirit and intent of the UNESCO biosphere reserve designation. Biosphere reserves are places where people share a way of living with nature that builds a future we're proud of. We model solutions for ecological sustainability, celebrate cultural and biological diversity, and encourage people to work together for healthier communities. Biosphere reserves foster and share scientific, indigenous, and local knowledge to balance the health of natural systems with the needs of our growing population.

Your Community Foundation

The CBT is one of 191 community foundations across Canada. As a community foundation, we act as champions for issues that matter and direct grants to everything from research and environment to the arts, community development, and recreation. We are governed by a board of directors representing all of our west coast communities. We work with local governments, organizations, schools, and businesses to identify priorities in our region and facilitate collaboration. We also work with donors keen to make a difference by matching their resources with local needs.

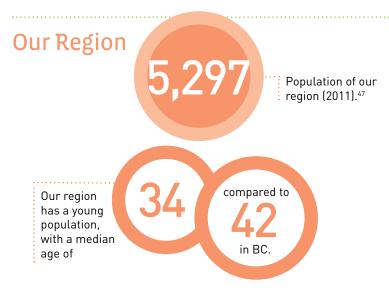
The Clayoquot Sound Biosphere Reserve Region

The Clayoquot Sound Biosphere Reserve Region, referred to as "our region" in this report, includes Hot Springs Cove, Ahousaht, Opitsaht, Tofino, Esowista/Ty-Histanis, Ucluelet, Hitacu, Macoah, and the ACRD-Area C. We often refer to our region as the "west coast" as we are the most western communities of Vancouver Island, BC. Our region is also part of the Alberni-Clayoquot

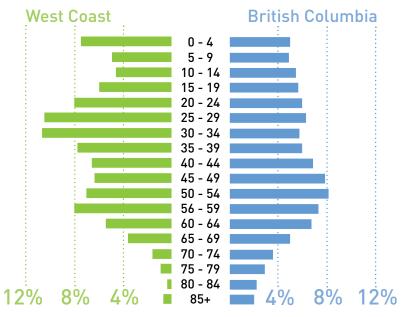


Regional District (ACRD), which includes Port Alberni, the west coast, as well as the Sproat Lake-Alberni Valley area and Bamfield. Throughout this report, information specific to the west coast is used wherever possible, but, given our small population, the best available data is often for the entire Alberni-Clayoquot area. Note, that this data does not always include data from all west coast communities.

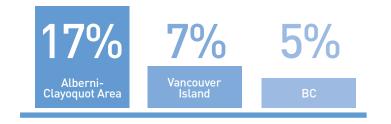
Highlights



West Coast population by age, 201147



Proportion of residents that identify as aboriginal²¹



Living Wage

and making

a Living Wage.

A Living Wage is the income a family requires to meet its basic needs and to maintain a decent standard of living. Working families that do not earn a living wage may face tough choices, such as deciding between paying rent or buying healthy food. Learn more at clayoquotbiosphere.org/vital-signs



67% of our regional earns less than our Living Wage.

Food Security

Given our region's remote location, we rely on shipping in the majority of our food, which can result in higher food costs.



The west coast land and soil is also unsuitable for agriculture, but local gardening is becoming more popular in our warm year-round climate.

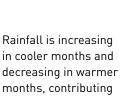
In our region, an individual working 40 hours a week and earning minimum wage would need to spend 42% of their after-tax income on housing (one-bedroom rental) and more than 20% on eating a healthy diet.⁶⁶ This leaves \$621 a month for all other expenses including utilities, transportation, healthcare, clothing, and more.

The average monthly cost of a nutritious food basket for a family of four on Vancouver Island has gone up 16% in the last five years, and the cost of food on the west coast is already higher than the island average.⁶⁶



Climate Change

In our region, we rely on our environment for our economy, culture, and well-being. Changes in climate, and in particular rainfall and our watershed, will have an impact on our relationship with our ecosystem.



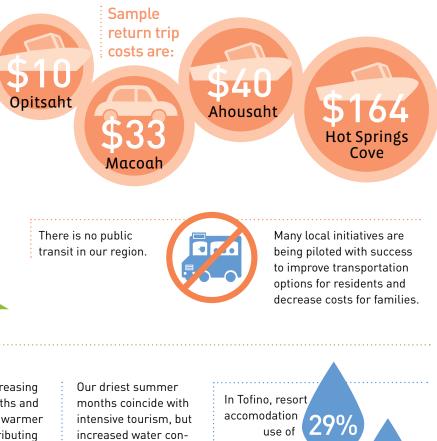
to a decrease in the number of salmon returning to rivers.

months coincide with intensive tourism. but increased water conservations measures in our communities are helping to protect fresh water sources.

In Tofino, resort accomodation use of potable water, almost as much as local residents

Transportation

Our communities are rural and remote. Some people in our region must travel outside their communities by boat or car for everyday needs, such as buying groceries or seeing a doctor.

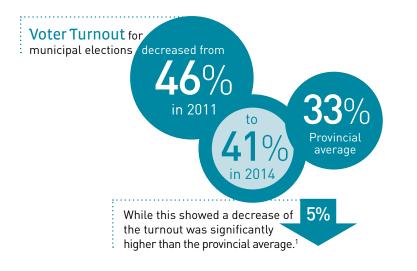


32%

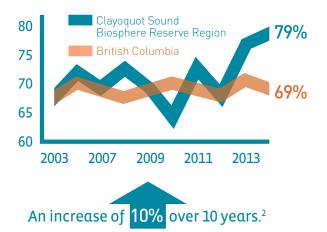
who use³⁴

Belonging and Leadership

Having a strong sense of belonging leads individuals to better health, education, and employment outcomes. And it leads to strong communities too, ones that are likely to be safer, more resilient, with higher volunteer participation, and strong cultural ties.



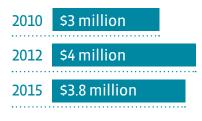
Percentage of people in our region who feel satisfied with their life.



Be-long-ing (n): Being part of a collective "we."

In 2015, 32 registered charities

were active on the west coast. Overall, they had 72 part-time employees and 26 full-time employees and contributed over \$3.8 million in annual expenditures to the west coast economy. These figures have not changed significantly since 2012.³



In 2016, female elected officials filled more than one-third of the seats in public office, within our region. $250/_0$

in 2014

While this percent is higher than the **27%** of seats held by women in Canada's 25 largest cities, it's lower than the **47%** of seats held by women in BC cities.⁵



Since 2014, 49 students have graduated from the west coast chapter of Leadership Vancouver Island. After completing the program, the alumni reported that over 85% feel more empathy and understanding for other cultures and over 77% talk to more people in their community and surrounding communities.⁶

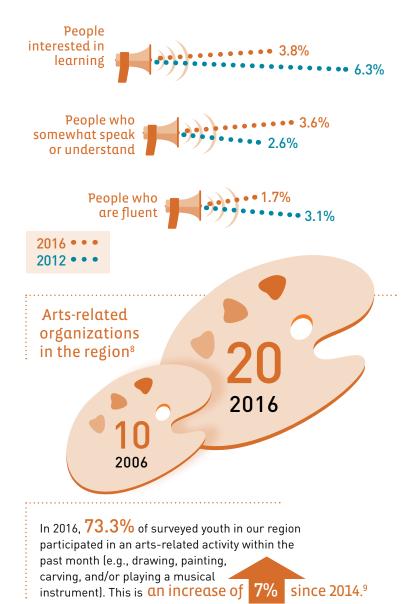
35% in 2016

This includes two mayors and one chief.⁴

Individuals can now apply for CBT project funds to support community events or projects that bring people and neighbourhoods together. In 2015, the CBT Neighbourhood Small Grants Program provided 2,600 to help fund 12 community projects including a beach cleanup and a gardening workshop.

Arts, Culture, and Recreation

Nuu-chah-nulth language speakers⁷



In 2015, the CBT contributed \$28,200 towards arts and culture projects. This included funding for a Cultural Expo and Nuu-chah-nulth audio lessons.

2079

Number of library borrowers

24

2016

2

2014

59% of the population in our region are registered borrowers at a public library in Tofino or Ucluelet. This has increased 2% since 2013.

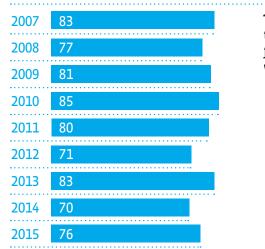
Annual events

and festivals¹⁰

21% of residents age 19 and under are registered borrowers, which is up from 18% in 2013. 11

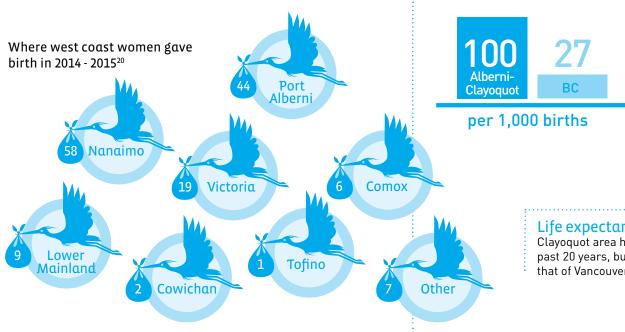
Health and Wellness

Women and families on the west coast must leave the region to give birth. This can incur high costs and separate families from their social support networks in the region.²⁰



Total births to women from the west coast²⁰





In 2015, the rate of birth to teen mothers

78.

Alberni-

Clayoquot

BC

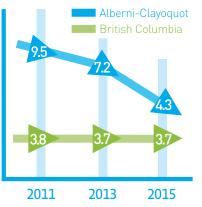
(<20 years old) is almost four times higher in the Alberni-Clayoquot area than in BC. The BC rate has been declining since 2011, while the Alberni-Clayoquot has remained constant.²¹

Life expectancy in the Alberni-

Clayoquot area has risen over the past 20 years, but it is still below that of Vancouver Island and BC.²²

82.1 Vancouver Island





The rate of infant mortality is

a key indicator of a society's overall health and well-being. It measures mortality of babies less than one year old.21

744

West Coas

West coast communities have 6 family physicians for 5.297 residents.²⁵

Our region has four full-time and two part-time family physicians. As well as their regular practice, these physicians also service the Tofino General Hospital.²⁵

Number of ER visits per 1,000 residents in 2015

Emergency room (ER) use is high on the west coast. In

the summer, the number of visitors to our region can be

five times greater than the number of residents, with ER

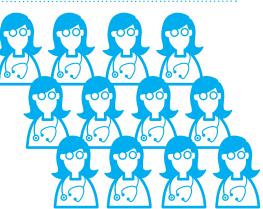
visits increasing dramatically. Visits to the ER have also

been increasing in shoulder seasons.^{21, 23, 24}

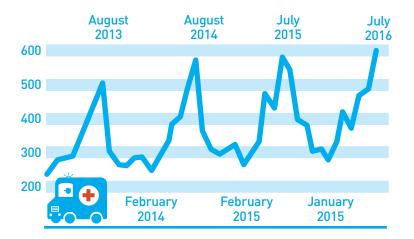
BC

403

If our region had the same number of doctors per capita as the Central Vancouver Island region or BC. we would have 12 physicians.²⁶



Comparison of the number of monthly emergency room visits at Tofino General Hospital ^{21,23,24}

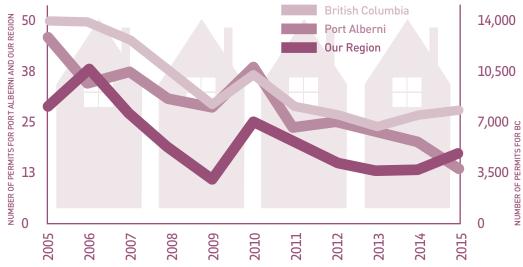


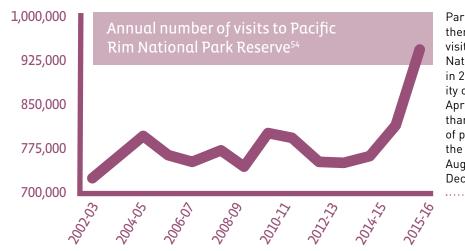
94% of residents in our region report having a regular doctor (compared to 85%in BC), but only 26% think they could see their doctor on the same day for an urgent issue. 42% of residents have visited the ER for a non-emergency because of challenges accessing their family doctor.25,26,27

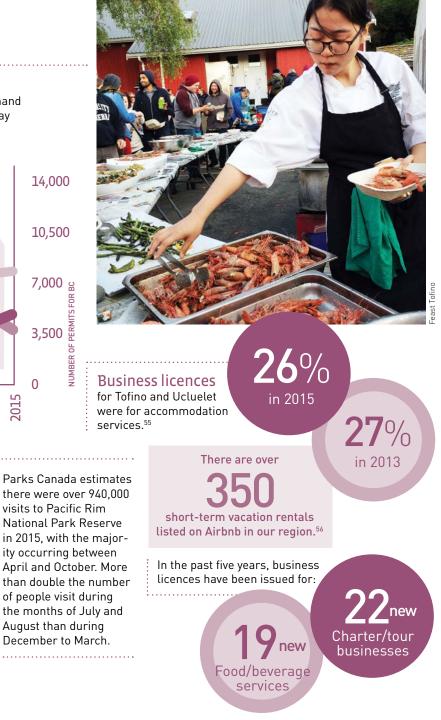
Economy

Residential building permits issued in Tofino and Ucluelet for single-dwelling units⁵³

Residential housing is in high demand on the west coast; construction may not be keeping up with demand.







Impact on Food Security

F ood security exists when everyone in a community has physical and economic access to adequate amounts of nutritious, safe, and culturally-appropriate food. Eat West Coast is an initiative of the Clayoquot Biosphere Trust that acts as a hub for community-driven food security in our region by helping to bridge gaps in our food systems so that everyone gets the food they need.

As of 2016, a **community garden** exists in 7 of our 8 communities: Tofino, Hitacu, Ahousaht, Opitsat, Esowista/Ty-Histanis, ACRD-Area C, and Hesquiaht



In the summer there are farm-direct local fresh produce markets in three communities.⁵⁹

Tofino

The cost

of food has

been increasing

across the

province.

Ahousaht

Food Bank on the Edge⁵⁸

The food bank sees an average of 7 new clients per month.

West coast children in grades 4 and 7 eat dinner

with their families most days of the week (5 to

7 days) and maintain that behaviour through to

7 from our region eat breakfast on a regular

grade 12. While 90% of children in grades 4 and

basis, only half continue to do so when they are

Even though food distribution is increasing, donations have gone down.⁵⁸

Only 2 of our 8 communities have grocery stores. Many people in our region must travel by boat or car to reach grocery stores at significant expense.

Free community lunches are

provided every week by the Westcoast Community Resources Society in Ucluelet and by Fish and Loaves in Tofino. Community supported fisheries allow fish to be shared among First Nations members.⁵⁹

Ucluelet

In 2015, over **60,000 lbs**. of farm direct fresh produce from Vancouver Island farms was brought to west coast restaurants, grocers and families by the Tofino Ucluelet Culinary Guild, up from 40,000 lbs. in 2014.⁶⁴

in secondary school.^{19, 9}

In 2012, a comparison of 10 healthy food items showed that food prices were 13% to 21% higher on the west coast than in Port Alberni. In 2016, west coast prices are 8% to 17% higher, but the cost rose significantly for both regions.⁶³



Eating fish and marine foods has always been an important part of west coast culture and nutrition. This is increasingly being recognized as a priority for local health and agricultural strategies to not only ensure sustainable harvest for economic prosperity but to create opportunities for residents to live "sea to fork." In 2016, the Alberni-Clayoquot Regional District produced a report on shellfish and aquaculture and will feature marine foods in the 2017 Islands Agriculture Show.

> with planning underway for the other half to launch in 2017. Our schools are also starting new breakfast, snack, and hot lunch programs in 2016-17.⁵⁹

The first ever West Coast Farm and Garden Show was held in February 2015 by the Tofino Community Food Initiative, with

As of 2016

3 out of 6

schools have

gardens

over **300** attendees⁶²

Eat West Coast a program of the Clayoquot Biosphere Trust has invested over \$100,000 since 2010 to support food security and food system projects in the region.⁵⁹



Youth Vital Signs

The west coast region is one of the youngest communities in Canada. Youth input into programs and services is vital to build a happy and healthy community for everyone.⁹

they have a say in how

their community is run. In 2014, less than half felt this way.

I belong in my

I have people in my life

I enjoy spending time

who care about me

I volunteered

with my family

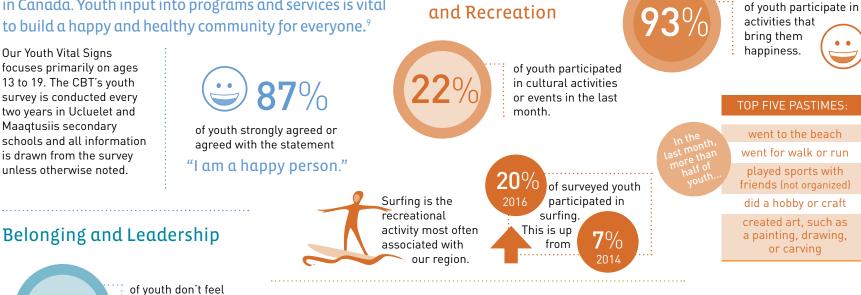
recently

community

Our Youth Vital Signs focuses primarily on ages 13 to 19. The CBT's youth survey is conducted every two years in Ucluelet and Maagtusiis secondary schools and all information is drawn from the survey unless otherwise noted.

81%

98%



Arts, Culture,

Environment



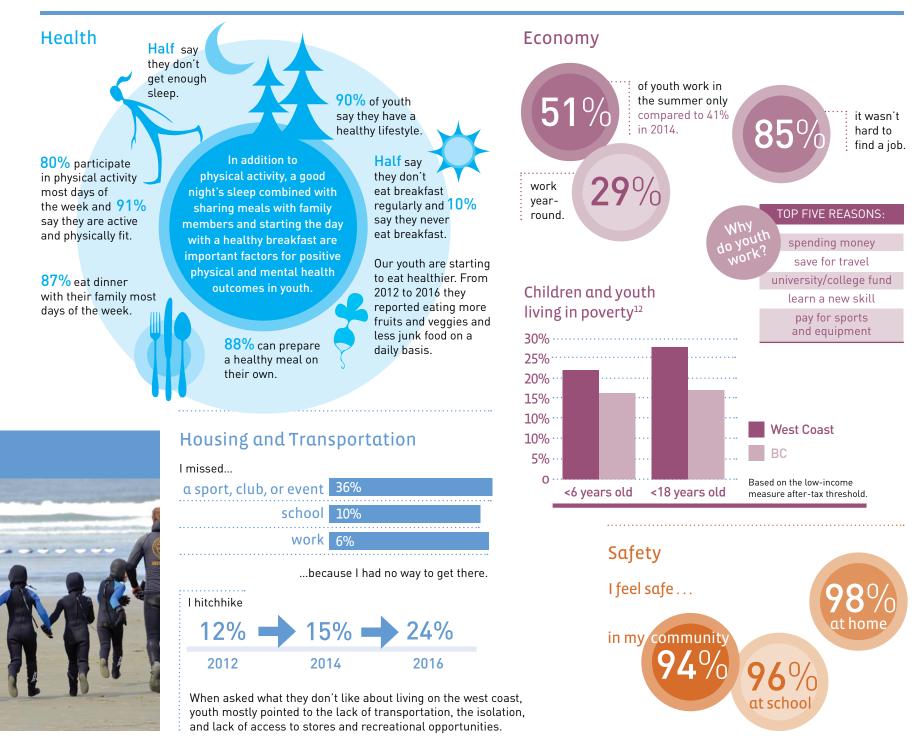
In the 2015-16 school year, 108 students from five schools developed the skills to identify and track animals, act safely around wildlife, and prevent negative human-wildlife interactions through the Connecting Students with Wildlife program, a partnership between co-founders Bob Hansen and Keltie Minton, the Raincoast Education Society and the CBT. The students gathered for the first regional wildlife science symposium to share their experiences and hear from wildlife ecologists.



When asked what they liked most about living on the west coast, youth overwhelmingly choose our environment.







Learning

Ucluelet

Elementary

School enrolment 2015-16^{13,14}

Ucluelet

Secondary



Hesquiaht Place of Learning

Heartwood Tofino

Number of students enrolled¹³

Wickaninnish

Elementary



Note: Does not include Hesquiaht Place of Learning or Heartwood Tofino.

Six-year completion rates show how

many students graduate from grade 12 within six years of starting grade 8. This information is only available for School District 70, which includes Ucluelet Secondary. Students who drop out or move to another school district are not captured.¹³



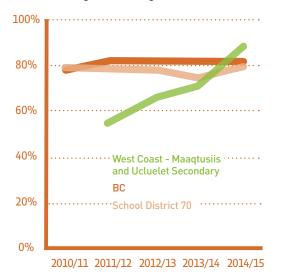
Average annual cost of university undergraduate tuition¹⁵

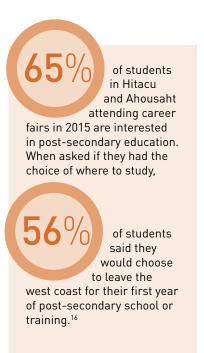
ROYAL ROADS UNIVERSITY



An indication of the **graduation success** of our west coast students can be seen in grade 12 graduation rates, which shows the percentage students who start grade 12 for the first time and graduate in the same year.

First-time grade 12 graduation rates¹³

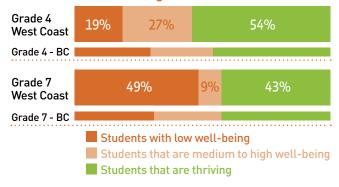




The Middle Years Development Instrument

looks at the well-being of grade 4 and 7 students across many indicators of health.¹⁹ Overall well-being of children during these years establishes a student's lifelong identity and sets the stage for adolescence and adulthood. On the west coast, students are thriving in grade 4, but by grade 7 the percentage of students with a low overall well-being more than doubled.¹⁹

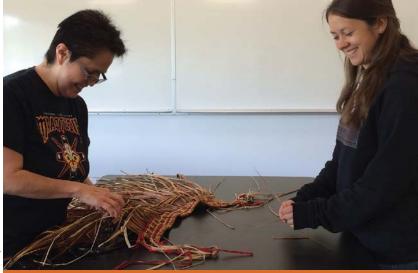
Well-being index



To understand the influences on well-being, the Middle Years Development Instrument also looks at the assets in children's lives in four key areas that support positive development.

Children reporting positive assets in their lives¹⁹

		West Coast Grade 4 Grade 7		B Grade 4	BC Grade 4 Grade 7	
	Adult relationships	91%	77%	86%	77%	
	Peer relationships	86%	66%	86%	84%	
22	Nutrition and sleep	71%	71%	67%	67%	
IN	After school activities	90%	82%	87%	85%	



Environment

Change in eelgrass meadows is a key indicator of environmental health in marine ecosystems. In 2014, the Strawberry Isle Marine Research Society, in collaboration with the Raincoast Education Society, found that the area of the

Grice Bay eelgrass meadow increased 32%

since 2011. Future research could explore why the eelgrass meadows are expanding and whether more wildlife species are using the habitat.²⁸

> Between July 1, 2015 and July 31, 2016

sightings in our region were double those

period in 2013-14.29

2014

42

reported during the same

2016

108

reported wildlife

2014

20

2016

14

2014

2016

21

Thanks to the research of the Association of Wetland Stewards for Clayoquot & Barkley Sounds, Swan Lake, near Pacific Rim National Park Reserve, is now recognized as the most productive breeding site for northern red-legged frogs in all of Canada.

> In 2016, over 2,100 egg masses for this species were counted compared with 1,300 in 2011, an increase of 62%

> > Unlike other areas of British Columbia where populations of northern red-legged frogs are declining, the west coast has not been invaded by the American bullfrog, a major predator. Report sightings of American bullfrogs to:

•				
BC Frogwatch				
(env.gov.bc.ca/wld/frogwatch/)				
or the				
Association of Wetland				
Stewards for Clayoquot				
& Barkley Sounds				
(Facebook)				
• •				

00

2016

1.300

in the last 5 years³⁰

201

Sightings of most loyal groups of Bigg's killer whales

Between 1991 and 2014, the Strawberry Isle Marine Research Society determined that 12 groups of Bigg's (transient) killer whales regularly return to Clayoquot Sound. The groups below were sighted in at least 13 of the 25 years.³¹

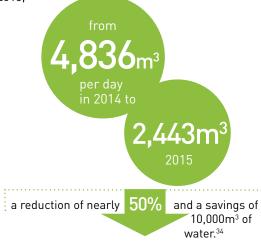


Water conservation programs

will likely be an important strategy to mitigate climate change vulnerability on the west coast. In Tofino, stage 2 watering restrictions and the

20% Challenge

helped to reduce the maximum daily demand from 4,836m³ per day in **2014** to 2,443m³ in 2015.



The maximium daily total count of

western sandpipers during the north-

ward migration was 12,295 in 1988,

compared with 51,527 in 2011. During the south-ward migration, the count

was 3,812 in 1988 and 11,622 in 2011.

In 2016, as many as 37% of all

western sandpipers counted

on the west coast were feed-

ing in the Tofino Wah-nah-jus

Hilth-hoo-is Mudflats, a signifi-

population count criteria for inclu-

sion within the Western Hemisphere Shorebird Reserve Network.³³

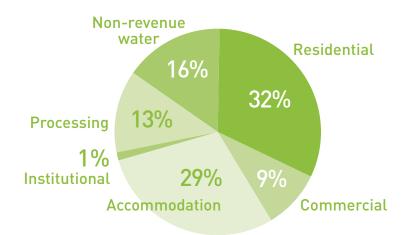
cant migratory habitat that meets the

In 2015, the average daily outfall of untreated sewage flowing into the Clayoquot Sound marine ecosystem was 1,583 m³ (from outfalls in Tofino and Ahousaht). This is over half the volume of an Olympic-sized swimming pool.³⁴

Thanks to the work of the Raincoast Education Society, local awareness of the importance of eelgrass meadows for shorebird migration habitat is growing; however, shorebird disturbance on beaches from people and unleashed dogs continues to be a concern during the spring and fall migrations.³²



The impact of tourism on **SUMMET Water USE** is a growing concern for drought vulnerability. The peak of summer tourism comes when water levels are at their lowest; the accommodation sector is a large water user in summer months. In Tofino, commercial accommodations used nearly one-third of the water supply in 2015.³⁴



Safety



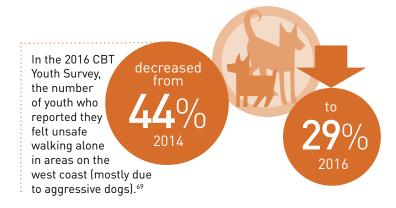
community members in our region volunteer with public safety organizations such as local fire departments and search and rescue teams.⁶⁷

In May 2016, the community of Ahousaht held a two-day training course on firefighting and home fire safety for senior high school students and interested residents.



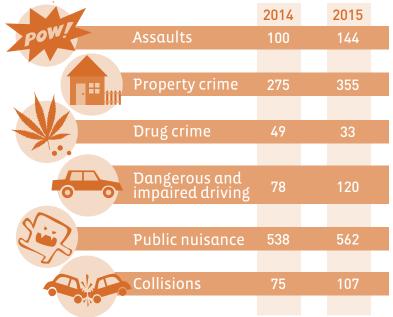
The goal of the workshop was to provide younger people with fire safety skills they could then teach other members of their family.⁶⁸

Raising the level of **Pet-Care awareness** believed to lower the number of animals showing aggressive behaviour. The CARE Network in partnership with Ahousaht First Nation and animal welfare organizations, has held animal care clinics in Ahousaht to provide veterinary services and education on pet care and health. This project helped to increase the number of Ahousaht youth who feel safe in their community.





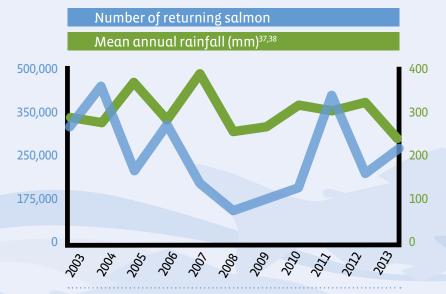
Crime rates for Tofino, Ucluelet, and Ahousaht RCMP detachments⁷⁰



Climate Change Impact on Salmon

July 2016 was the hottest year on record globally.³⁵ As air temperatures rise in the Pacific Northwest, water levels in our rivers are declining. Rainfall precipitation is now higher in cooler seasons, causing more frequent flooding and increased erosion in salmon spawning habitat. These conditions, together with other stressors, are driving down the number of salmon returning to rivers in Clayoquot Sound.

Over the next 10 years, salmon will likely become even more vulnerable to threats such as increased fishing, and increased exposure to predation, marine contaminants, diseases, and invasive species. In an effort to restore salmon habitat and support salmon recovery, local organizations have formed the Clayoquot Sound Salmon Roundtable to develop a collaborative stewardship approach.³⁶



Over the last 10 years, the number of salmon returns, for all species, have declined in the rivers of Clayoquot Sound. In the few years that show an increase, local fish hatcheries enhanced salmon to prevent population extinction. But government funding for salmon enhancement ceased in subsequent years. Twenty years of salmon habitat restoration in Lost Shoe Creek is showing results. The Central Westcoast Forest Society's salmon smolt trap monitoring indicates that riparian ecosystem restoration may have a positive impact on coho salmon returns.

Estuaries provide important feeding habitat for juvenile salmon as they transition from the river to the ocean. But more frequent spring flooding is contributing to a loss of this critical habitat.

Between 1994 and 2012, the area of salt marsh habitat located at the mouth of Tranquil River has decreased by nearly



due to washouts.⁴⁰

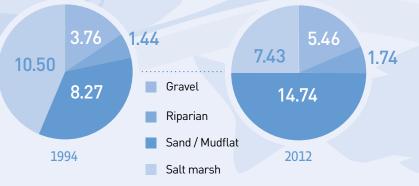
The mean number of returns is

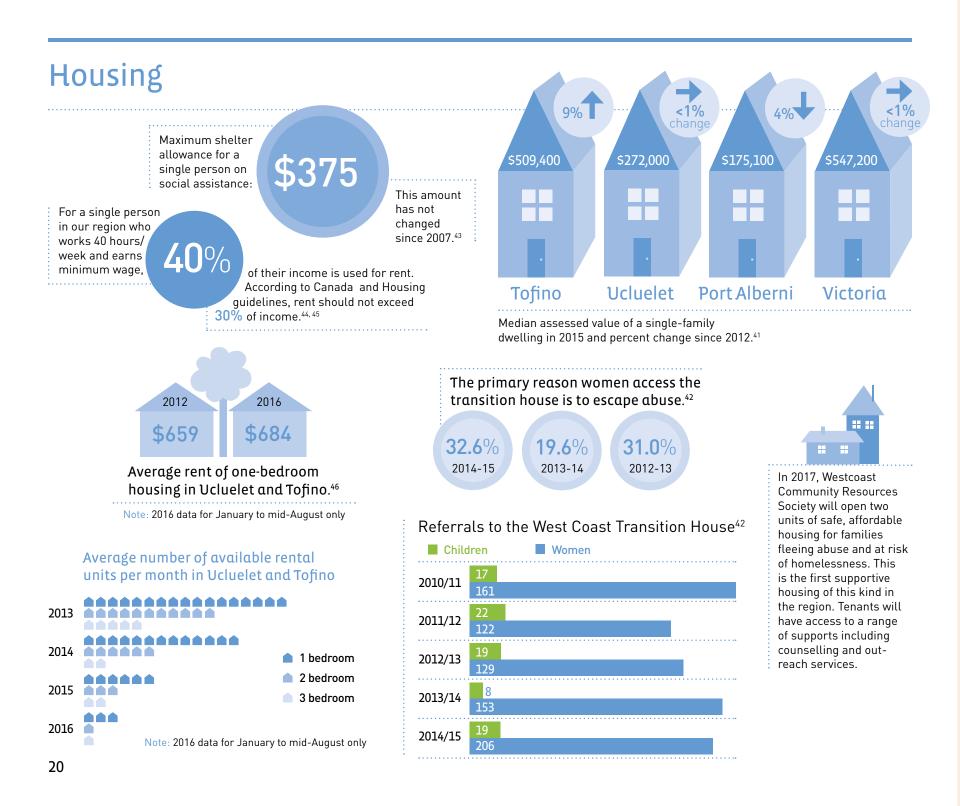


coho smolts per year. This is an average increase of



Tranquil River Estuary habitat classification (ha)

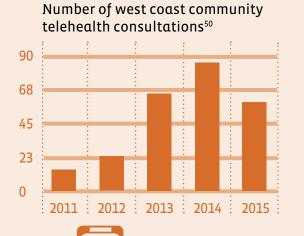




Transportation on the West Coast

n our region, there is no public transportation that would enable people to buy groceries, see a doctor, or go to work. 13% of respondents to the CBT's 2014 regional survey said that lack of transportation regularly affected their ability to get to appointments or work. 17% indicated that transportation affected their ability to participate in social events. Here's a snapshot of a few efforts underway in our region that are helping to address this issue.⁴⁸

In 2015, the Alberni-Clayoquot Health Network collaborated with local organizations and the Wheels for Wellness Society to provide transportation to medical appointments outside the west coast region (more than 60 km). An average of 30 people per month accessed this service in the spring of 2016.⁴⁹

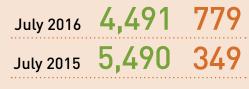


Two telehealth stations, one in Tofino and one in Hitacu, provide remote medical appointments for local patients. A total of 273 people have used the telehealth system since 2006, saving thousands of dollars in transportation costs and many hours of travel time.⁵⁰

In 2012, the District of Tofino tested a free shuttle bus for summer visitors to reduce parking and traffic congestion. The service was a major success and had the added benefit of providing a tempo-

rary public transit system for

local people.



From 2015 to 2016,

use of the shuttle by local residents increased by $440^{\circ}/_{0}$ with an average of 25 local riders per day.⁵¹

In May 2016, a group of students from the west coast chapter of Leadership Vancouver Island developed an 11day pilot project to test the ridership demand between the communities of

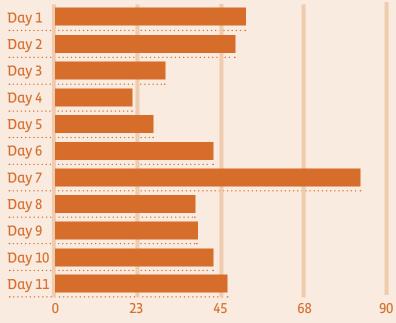
Hitacu, Ucluelet, Esowista, Ty-Histanis, Tofino, and Opitsaht.

used the Chuu-Train service, averaging 15 riders per day. The students posted the bus schedule on Facebook and used social media to promote ridership.⁵²

Number of Chuu-Train passengers⁵²

Over

passengers



Our Progress Towards Sustainable Development

The Clayoquot Sound UNESCO Biosphere Reserve is one of 669 designated sites in the Man and the Biosphere Programme in 120 countries worldwide. As part a global network, our goal is to promote sustainable development using local knowledge, collaborative partnerships, multi-level governance, and scientific research.

Here's a quick snapshot of how our work at the CBT is a natural fit with eight of the 17 United Nations sustainable development goals to end poverty, fight inequality, improve education, initiate partnerships, and tackle climate change.⁷¹



The Living Wage calculation, published by the CBT in November 2015, has catalyzed new conversations about poverty within the west coast region and helped prioritize actions to improve our health and well-being, including the need for fresh food at a lower cost for households with budgets beneath the living wage.

To address this need, our Eat West Coast program, in collaboration with the Tofino Ucluelet Culinary Guild, initiated the Ahousaht Monday Market in an effort to supply fresh fruit and vegetables to a remote community.



In 2015, a unique field-based wildlife ecology program, Connecting Students with Wildlife, was offered to grade 6 and 8 students throughout the region. Now run as a partnership between Bob Hansen and Keltie Minton, the Raincoast Education Society, and the CBT, the goal is to reduce harmful human-wildlife encounters on the west coast and to increase awareness of wildlife ecology.



Salmon have long been a keystone species on the west coast, linking the ocean to the forest. However, local salmon returns have been steadily declining as a result of habitat damage in river ecosystems caused by heavy logging in the late 1960s and '70s, the ongoing changes in the marine environment such as sea temperature rise, and declining water levels in river basin ecosystems. Local organizations involved in the Clayoquot Salmon Roundtable are collaborating to develop a long-term salmon recovery and watershed restoration plan for Clayoquot Sound.



Sources

For this report we used existing data from local, provincial, and national sources, as well as our own Clayoquot Biosphere Trust Youth Survey (completed by 172 youth ages 12-23). We were constrained by the lack of updated long form census data from Statistics Canada, with the most recent National Household Survey available data from 2011. Wherever possible, we used data sources specific to the communities of our west coast region.

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