Towards a 'One Planet' region:
A Community Conversation series

Conversation 1

The Anthropocene, the One Planet Region and the Happy Planet Index

- **Trevor Hancock, Professor and Senior Scholar, School of Public Health and Social Policy, UVic**

Measuring Victoria's Ecological Footprint

- **Jennie Moore, Associate Dean, Building Design and Construction Technology, School of Construction and the Environment, BCIT.**

Outline

1. Welcome to the Anthropocene
2. One Planet Living
3. What is the GVR?
4. The Happy Planet Index
5. The Conversations

1. Welcome to the Anthropocene

- **Our efforts to subdue nature have been so successful that the time in which we now live has been called the Anthropocene - it will show up in the geologic record**
- **Welcome to the Anthropocene!**

Welcome to the Anthropocene

Geologic signatures of the Anthropocene

Layers containing

Minerals

- Pure aluminum
- Tungsten carbide
- Glass
- Plastic
- Concrete

Chemicals

- CO_2
- Nitrogen fertilisers
- POPs
- Radioactive particles

Plus changes in fossil assemblages

- Humans – 1/3 of mass of all land vertebrates
- Domesticated species – 2/3
- Wild species - <5%

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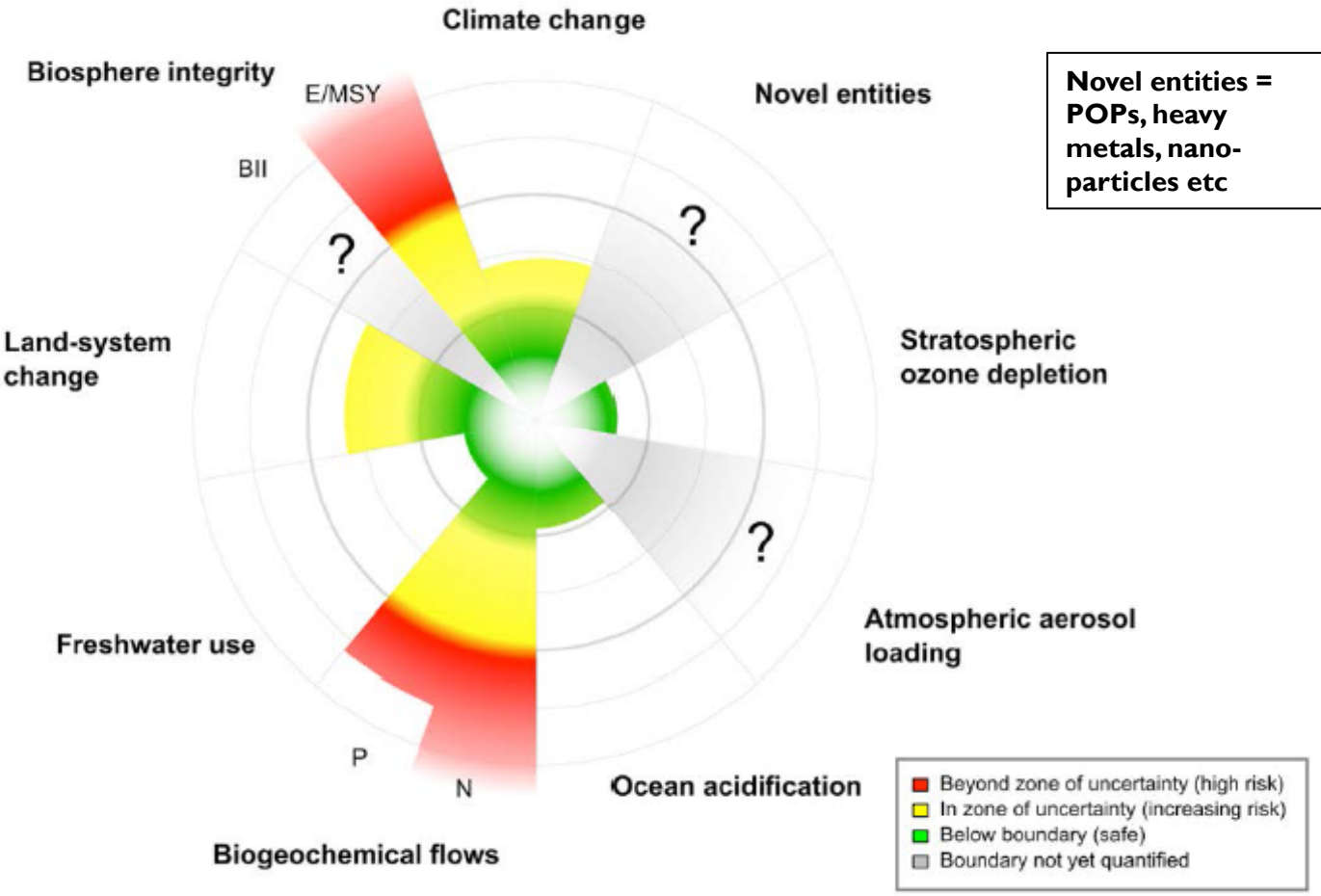
Key aspects of the Anthropocene

- Climate change
- Ocean acidification
- Ozone layer depletion
- Resource depletion
- Pollution
  - Ecotoxicity
- Species extinctions

Crossing Planetary Boundaries

- **Genetic diversity = extinctions per million species-years (E/MSY)**
- **Functional diversity = Biodiversity Intactness Index (BII)**



Novel entities = POPs, heavy metals, nano-particles etc

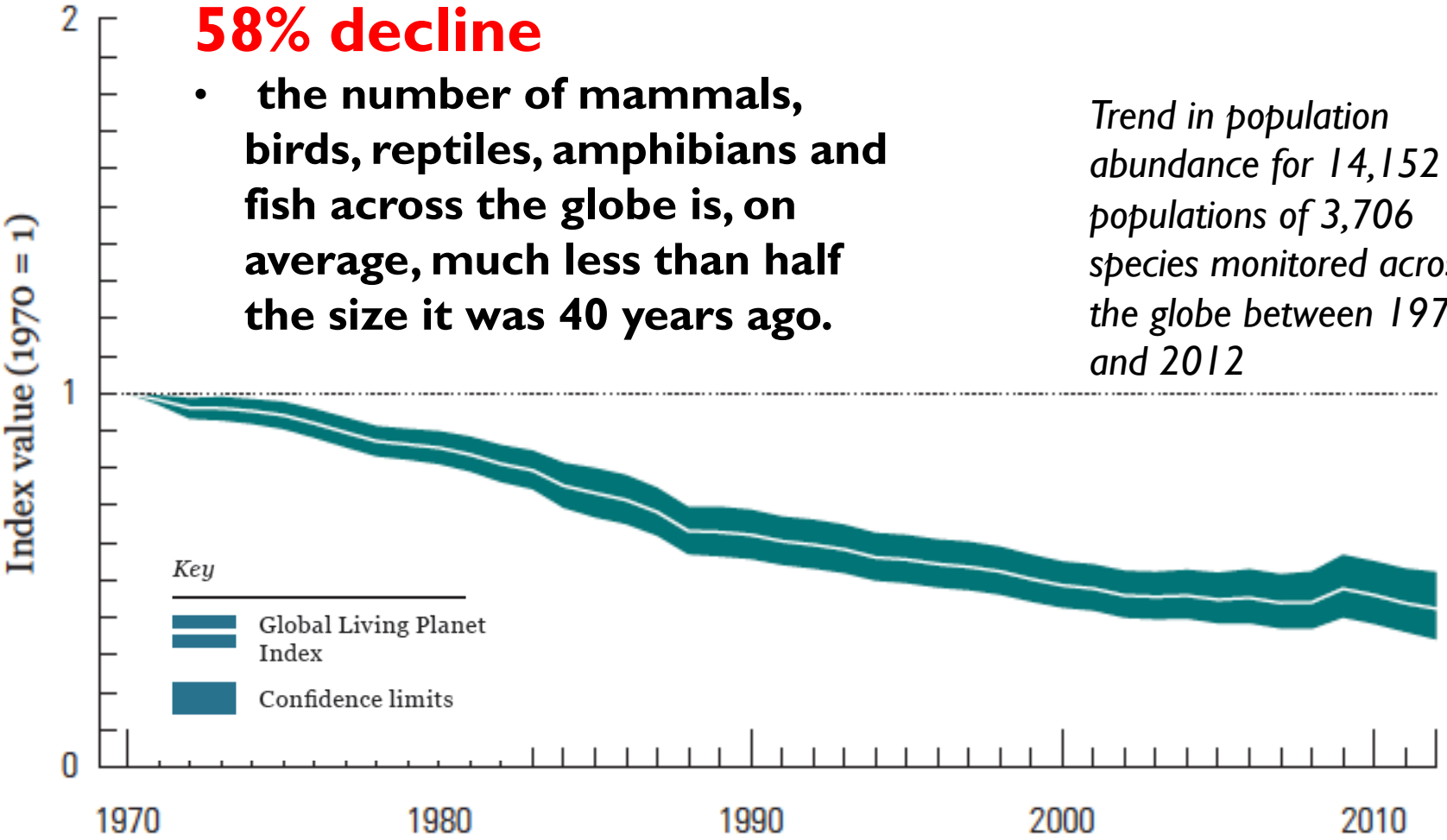
Steffen et al, 2015

Living Planet Index 1970 - 2012

58% decline

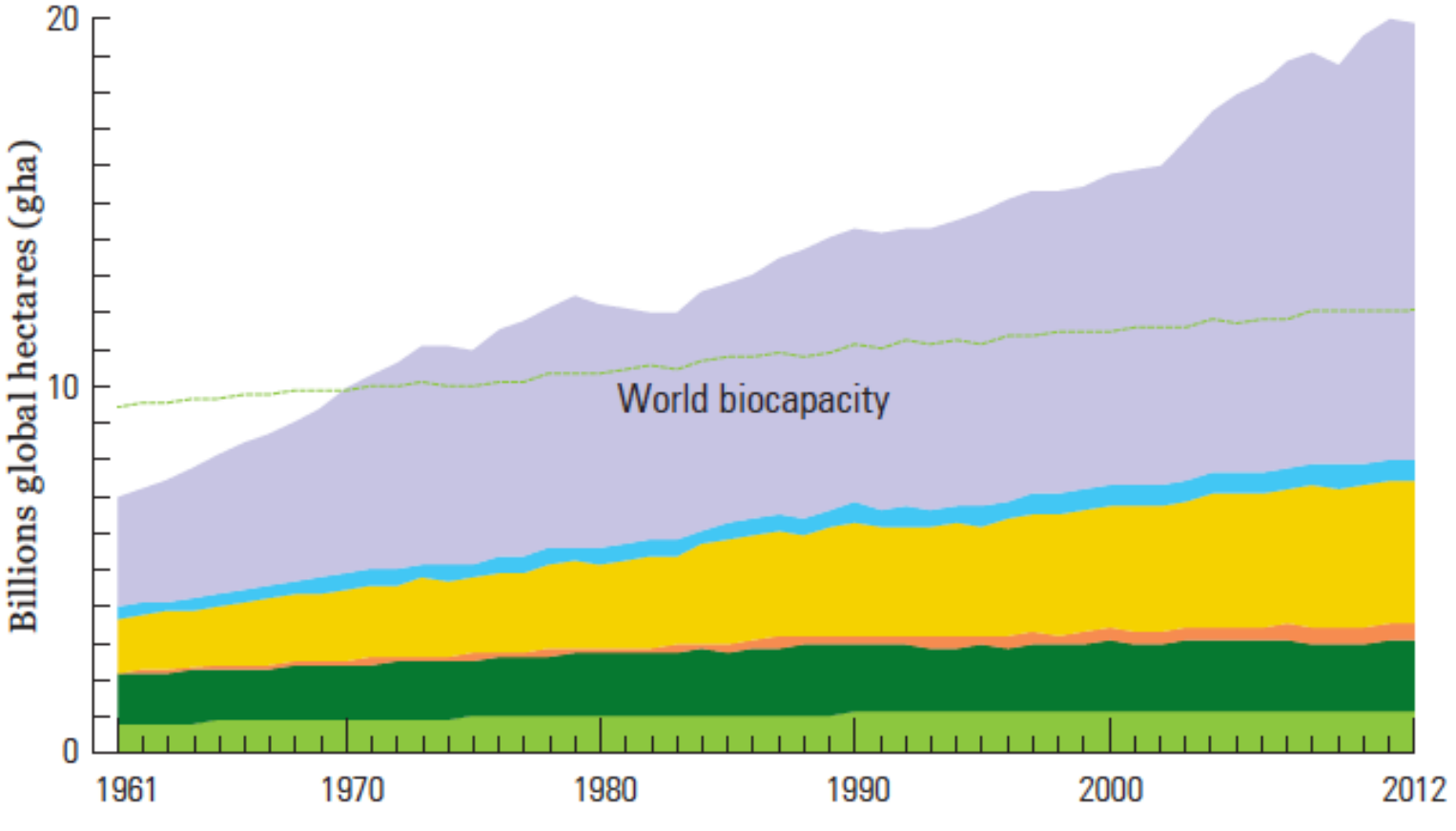
- the number of mammals, birds, reptiles, amphibians and fish across the globe is, on average, much less than half the size it was 40 years ago.

Trend in population abundance for 14,152 populations of 3,706 species monitored across the globe between 1970 and 2012



Terrestrial down 38 percent
Marine down 36 percent
Freshwater down 81 percent

Ecological footprint, 1961 - 2012



In 2012, the biocapacity equivalent of 1.6 Earths was needed to provide the natural resources and services humanity consumed in that year

Source: *WWF Living Planet Report 2016* (p 75) / *Global Footprint Network, 2016*

2. 'One Planet' living

- **"The Earth's natural capital, on which our social and economic prosperity is built, is finite. This basic fact should be embedded in every economic forecast and development strategy, in business plans and investment decisions, in our livelihoods and lifestyle choices."**

WWF Living Planet Report 2014, p 100

One planet solutions

WWF Living Planet Report 2014

PRESERVE NATURAL CAPITAL
restore damaged ecosystems, halt the loss of priority habitats, significantly expand protected areas

PRODUCE BETTER
reduce inputs and waste, manage resources sustainably, scale-up renewable energy production

CONSUME MORE WISELY
through low-Footprint lifestyles, sustainable energy use and healthier food consumption patterns

REDIRECT FINANCIAL FLOWS
value nature, account for environmental and social costs, support and reward conservation, sustainable resource management and innovation

EQUITABLE RESOURCE GOVERNANCE
share available resources, make fair and ecologically informed choices, measure success beyond GDP

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10 principles of One Planet Living


Health and happiness


Local and sustainable food


Equity and local economy


Travel and transport


Culture and community


Materials and products


Land and nature


Zero waste


Sustainable water


Zero carbon energy

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Bioregional Annual Review, 2015 -16

Bioregional's One Planet Principles - Expanded

Health and happiness

- **Encouraging active, sociable, meaningful lives to promote good health and well being**

Equity and local economy

- **Creating bioregional economies that support equity and diverse local employment and international fair trade**

Culture and community

- **Respecting and reviving local identity, wisdom and culture; encouraging the involvement of people in shaping their community and creating a new culture of sustainability**

Land use and wildlife

- **Protecting and restoring biodiversity and creating new natural habitats through good land use and integration into the built environment**

Sustainable water

- **Using water efficiently in buildings, farming and manufacturing. Designing to avoid local issues such as flooding , drought and water course pollution**

Local and sustainable food

- **Supporting sustainable and humane farming, promoting access to healthy, low impact, local, seasonal and organic diets and reducing food waste**

Sustainable materials

- **Using sustainable and healthy products, such as those with low embodied energy, sourced locally, made from renewable or waste resources**

Sustainable transport

- **Reducing the need to travel, and encouraging low and zero carbon modes of transport to reduce emissions**

Zero waste

- **Reducing waste, reusing where possible, and ultimately sending zero waste to landfill**

Zero carbon

- **Making buildings energy efficient and delivering all energy with renewable technologies**

Helpu Cymru i leihau
ei Hôl Troed Carbon

Help Wales reduce
its Carbon Footprint

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

One Wales: One Planet

The Sustainable Development Scheme of the Welsh Assembly Government

May 2009

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One Wales: One Planet

The Welsh government has confirmed its commitments to using ecological footprinting as a means of measuring progress under the Well-Being of Future Generations Act and to achieving its goal that the ecological footprint of the whole of Wales should be reduced to its fair share of the planet's total ecological footprint within a generation – taken to be by 2050.

One Planet Council

http://www.oneplanetcouncil.org.uk/welsh-government-confirms-commitment-to-ecological-footprinting/

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City of Fremantle

One Planet
Fremantle Strategy

2014/2015 – 2019/2020

One Planet Brighton & Hove

- The aim: to maintain this top seaside resort as a thriving and attractive city while spreading opportunities to all of its citizens and living and working within a fair share of the earth's resources.
- detailed but practical three year plan sets out baselines ("where we are now"), high level objectives ("where we want to get to") and short, medium and long term actions ("what we are going to do")
- The council also regularly publishes case studies detailing work going on around the city under the plan

Vancouver - How Do We Become a One Planet City?

- Vancouver's goal to reduce its ecological footprint by 33% over 2006 levels by 2020 will require leadership and innovation at all levels, including in our neighbourhoods
- Fri, 13 January 2017
- 6:00 PM – 8:00 PM PST
- This event is co-organized by SFU Public Square, One Earth, Whistler Centre for Sustainability, Evergreen and the City of Vancouver

Towards a 'One Planet' region

- What would our community be like, and what would our lives be like, if we reduced our EF
  - By 50%,
  - Down to a 'One Planet' footprint

  While retaining a high life expectancy and life satisfaction (see the Happy Planet Index - HPI)
- Describe what this would mean and look like for people, and preferably model it.
- Use this as a community engagement initiative

- **I see this work as the next step in both Healthy Cities and Sustainable cities that - finally - brings them together!**

3. From Anthropocene to Symbiocene

- **Re the Anthropocene: "I want this period in history to become redundant as soon as possible. The longer it prevails, the more likely we will suffer catastrophic failure as a species here on earth."**
- **"the next era in human history should be named the Symbiocene . . . symbiosis affirms the interconnectedness of life and all living things."**

Glenn Albrecht, 2016

From resilient to symbiotic city

- The ResilientCity.org website is no longer being updated.
- The team that created this site is now developing the Symbiotic Cities Network website.

The old idea – A Resilient City

- *"A Resilient City is one that has developed capacities to help absorb future shocks and stresses to its social, economic, and technical systems and infrastructures so as to still be able to maintain essentially the same functions, structures, systems, and identity."*

http://www.resilientcity.org

The new idea – A Symbiotic City

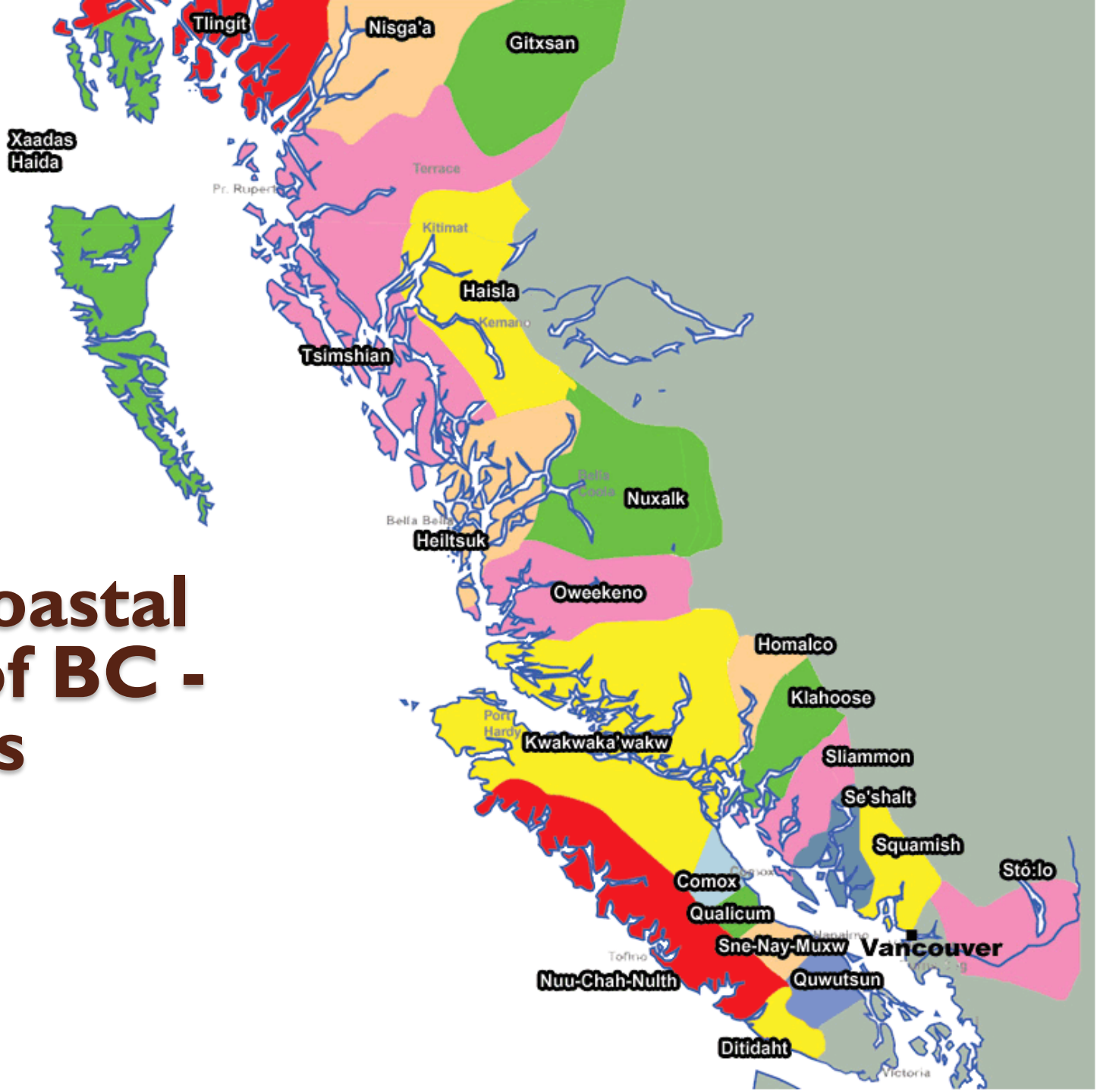
- **"develop ideas that will help facilitate our species' transition from its current pathological parasitic relationship with the planet towards a regenerative, mutualistic, and symbiotic relationship with the natural systems that support life on earth."**

http://www.symbioticcities.net

3. What is the Greater Victoria Region?

- Indigenous boundaries and land claims
- Political
- Watershed
- Bioregion
- Commutershed
- Foodshed
- Other?

Map of Coastal Nations of BC - Joho Maps



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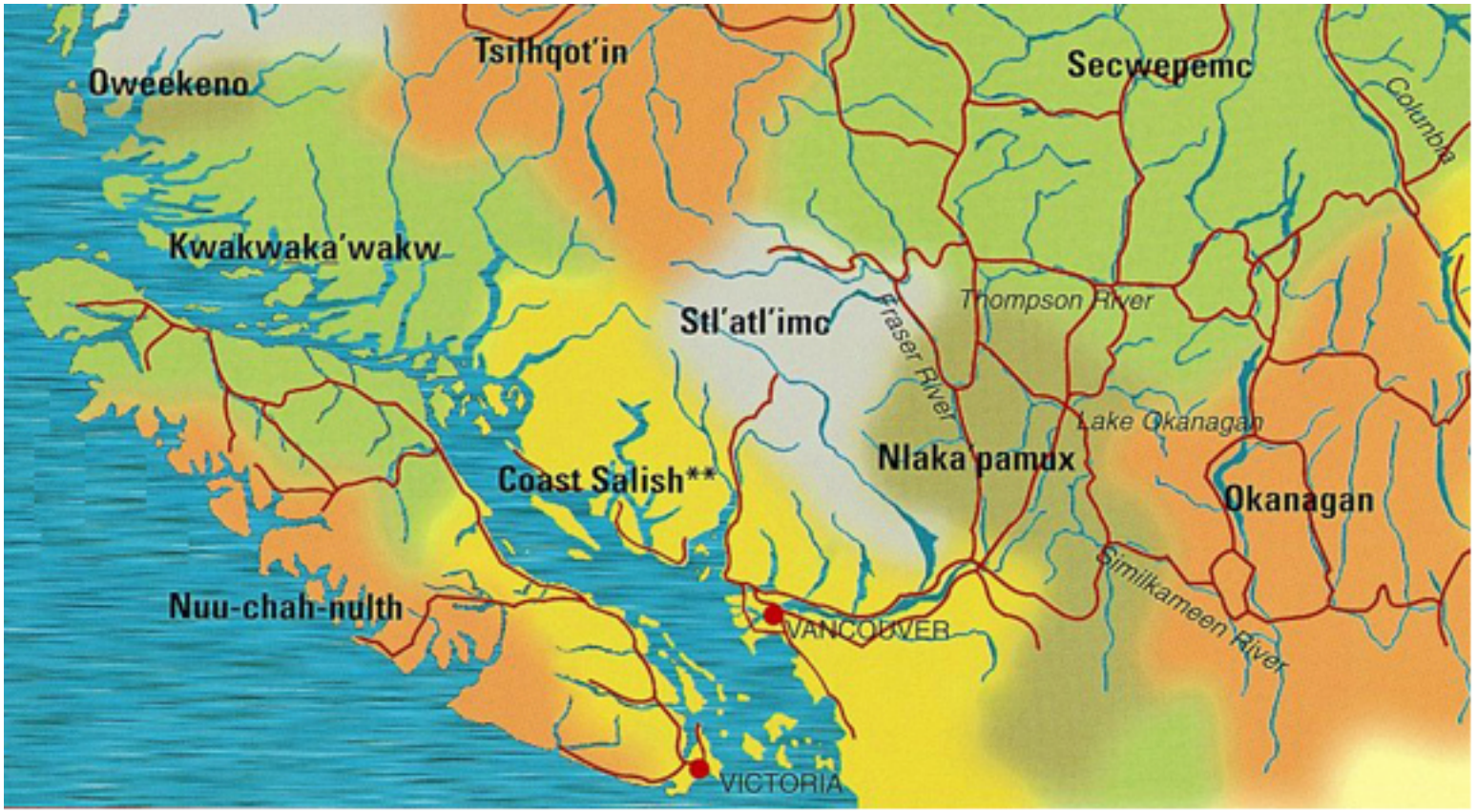
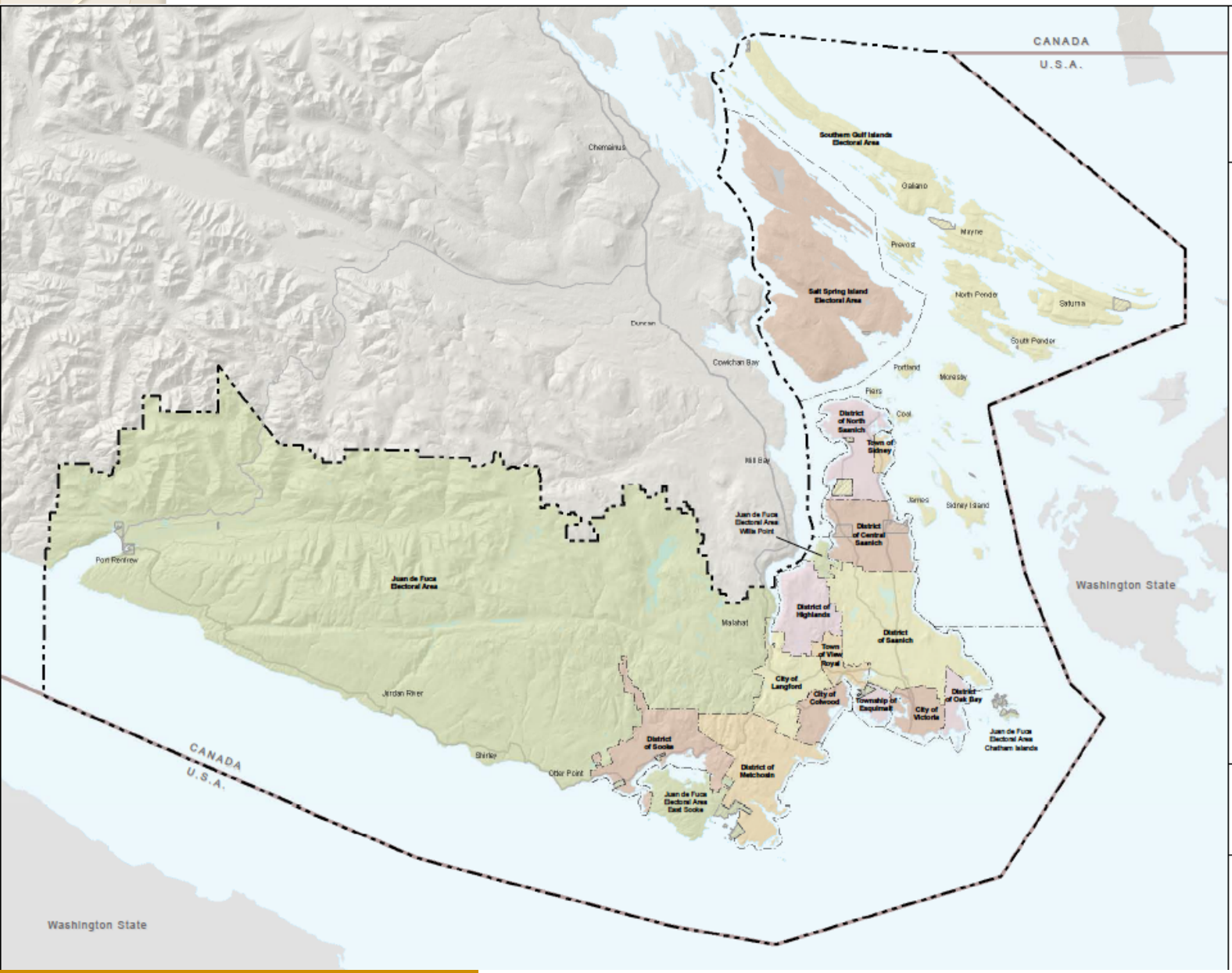
First Nations





Capital Regional District

Administrative Boundaries

Capital Region Municipalities

- City of Victoria
- District of Saanich
- Township of Esquimalt
- District of Central Saanich
- District of North Saanich
- City of Langford
- District of Sooke
- District of Oak Bay
- Town of Sidney
- Town of View Royal
- City of Colwood
- District of Highlands
- District of Metchosin

Unincorporated Areas

- Juan de Fuca Electoral Area
- Salt Spring Island Electoral Area
- Southern Gulf Islands Electoral Area
- First Nation Reserves

Please visit us on-line for more information:
http://www.crd.bc.ca | gis@crd.bc.ca

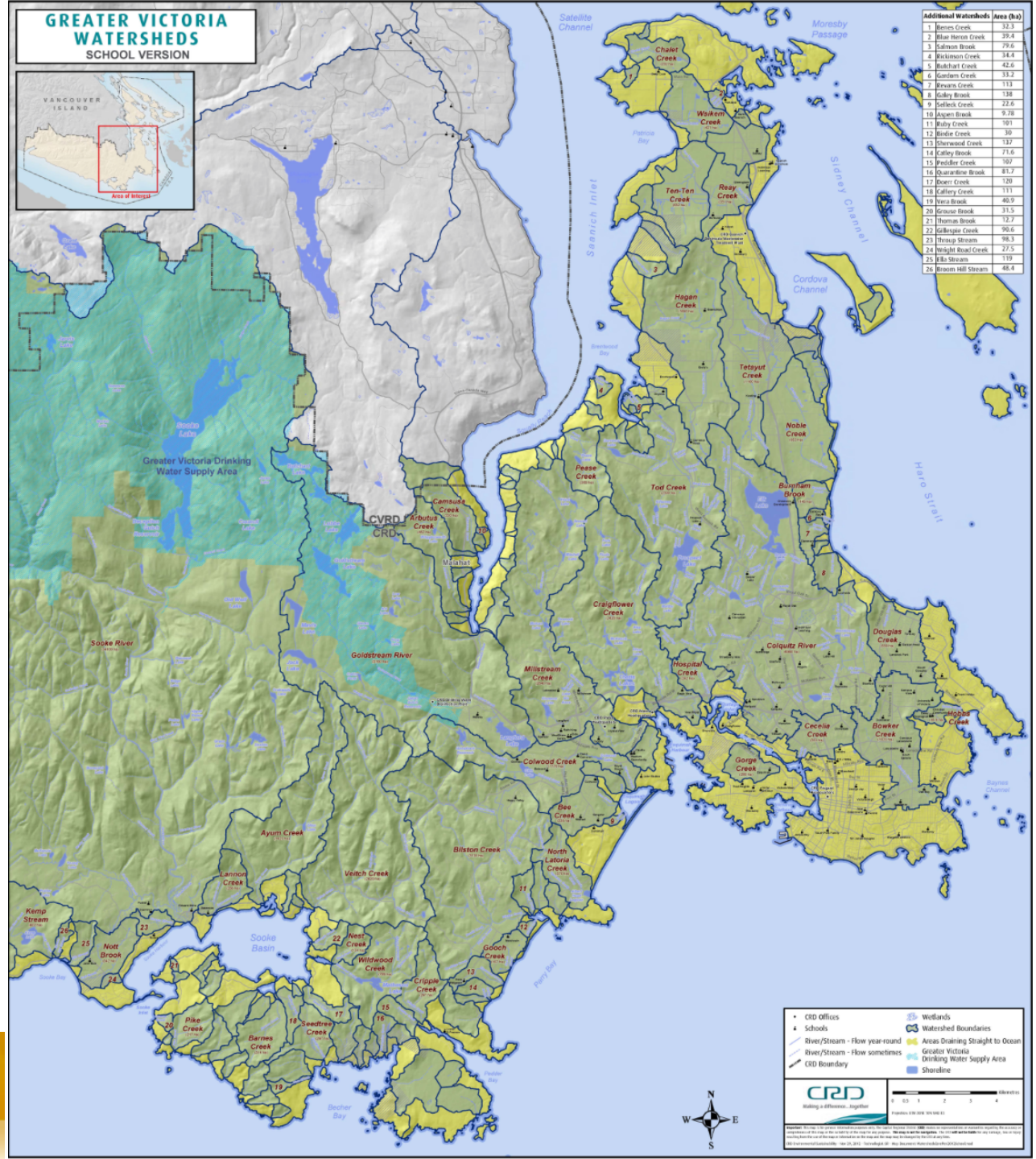
1:350,000

0 2.5 5 10 15 Kilometres

Projection: Universal Transverse Mercator, Zone 10, North. North American Datum.

September 2009 | CRD_Administrative_Boundaries_11x17_2009.mxd

Greater Victoria watersheds



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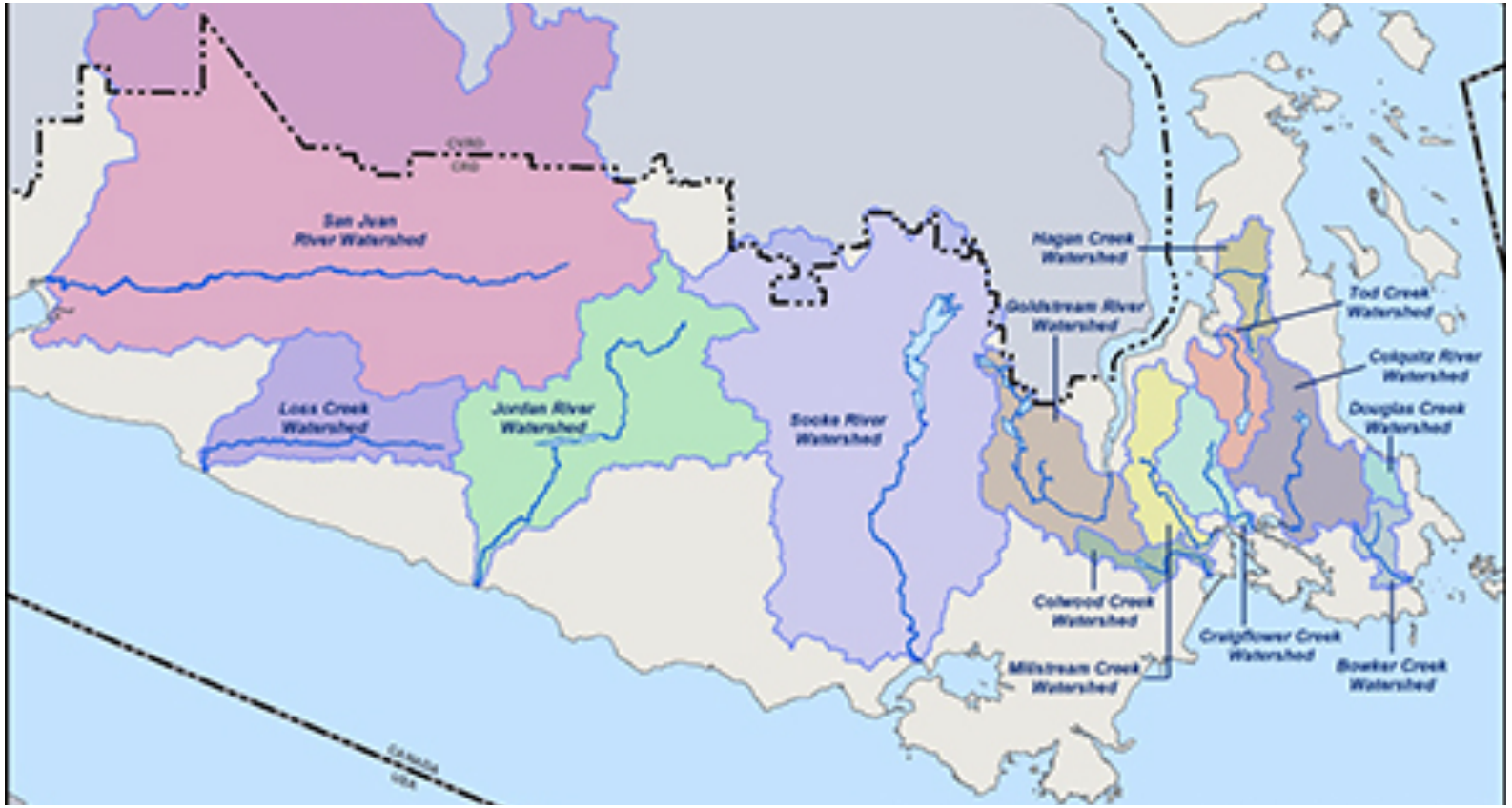
CRD watersheds



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Cascadia Map, 2014

Commutershed?

Chart 8
Commuting Flow Patterns
CRD and Municipalities, 2001

Place of Residence / Place of Work	North Saanich	Sidney	Central Saanich	Saanich	Gulf Islands	Oak Bay	Victoria	Esquimalt	Colwood	Metchosin	Langford	View Royal	Highlands	Sooke	Juan de Fuca EA	Capital Region
North Saanich	580	930	490	515	0	45	965	60	20	0	40	55	-	10	-	3,775
Sidney	665	1,245	395	285	10	30	720	50	0	-	15	45	-	10	-	3,475
Central Saanich	325	500	1,490	1,255	-	75	1,980	240	50	0	25	50	-	10	10	6,090
Saanich	640	675	1,415	12,100	50	1,475	20,595	1,675	205	85	705	970	-	110	-	40,865
Gulf Islands	30	30	25	50	2,675	10	100	15	-	-	-	0	-	-	-	2,940
Oak Bay	50	65	135	1,275	0	545	3,590	105	20	-	50	115	-	-	-	5,955
Victoria	350	330	715	4,635	15	1,400	20,130	1,240	270	65	305	580	15	70	-	30,165
Esquimalt	80	95	135	960	-	110	3,315	1,530	55	15	110	180	-	-	-	6,610
Colwood	40	25	105	820	-	75	2,135	810	475	60	580	355	-	55	-	5,550
Metchosin	15	10	30	285	10	15	670	65	175	105	205	120	-	70	-	1,770
Langford	90	115	250	1,120	-	115	2,890	770	405	110	1,180	360	15	75	-	7,510
View Royal	50	45	95	530	-	45	1,435	315	90	25	135	285	-	10	-	3,085
Highlands	10	10	30	165	-	25	335	40	30	-	55	35	40	0	10	795
Sooke	15	0	60	465	-	15	860	385	125	50	245	125	-	850	40	3,255
Juan de Fuca EA	10	25	50	235	-	10	460	70	20	15	130	50	-	225	80	1,380
Capital Region	3,005	4,180	5,525	24,885	2,755	4,025	60,550	7,465	1,945	525	3,785	3,350	65	1,510	150	124,355

Commuting Flow Patterns

This chart is based on Statistics Canada's 2001 Census Journey to Work data. Place of Residence refers to a person's usual place of residence (i.e. the dwelling where a person lives most of the time). Place of Work refers to the place of work of non-institutional residents 15 years of age and over worked at some time since January 1, 2000, and who had a usual place of work.

Places of Residence (vertical axis) are coded to a residential block representative point within a municipality. Workplace locations (horizontal axis) are coded to a geographic point location within a municipality.

Cells with very low commuting flow counts have been suppressed. Sums for municipal cell counts will not add to totals for the Capital Region.

Source: Statistics Canada, 2001 Census custom tabulation

Foodshed??

4. The Happy Planet Index

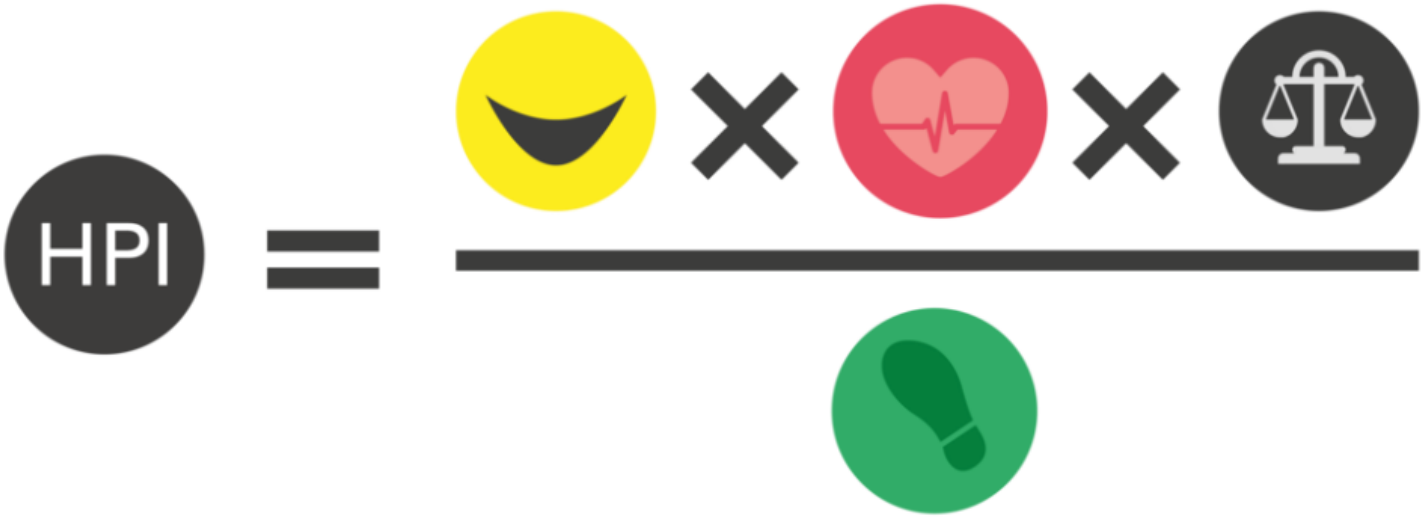
- The Happy Planet Index measures what matters: sustainable wellbeing for all. It tells us how well nations are doing at achieving long, happy, sustainable lives.
- It was developed by the New Economics Foundation in the UK.

How is the Happy Planet Index calculated?

The Happy Planet Index combines four elements to show how efficiently residents of different countries are using environmental resources to lead long, happy lives.

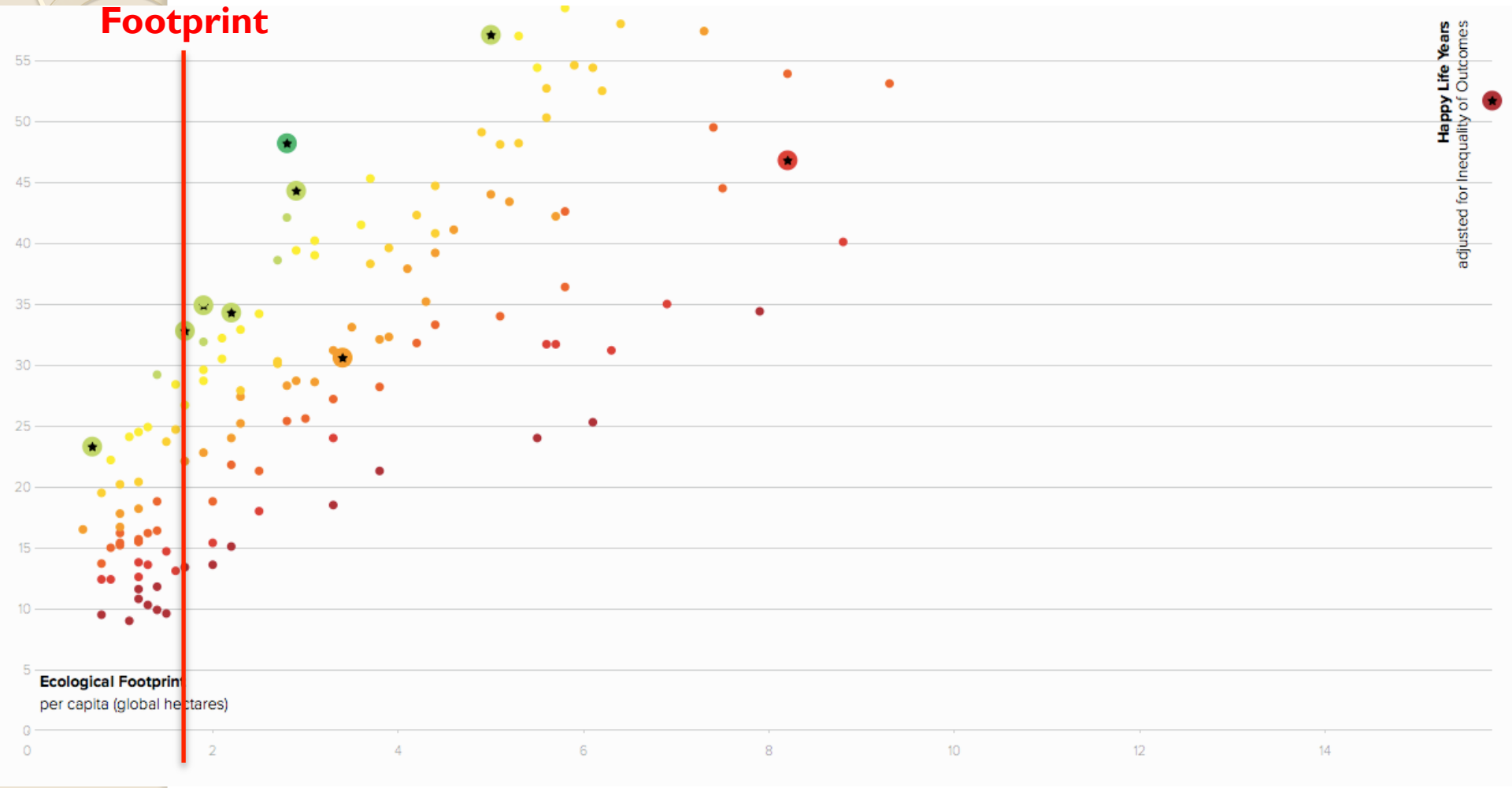
- **Wellbeing**
- **Life expectancy**
- **Inequality of outcomes**
- **Ecological Footprint**

The Happy Planet Index

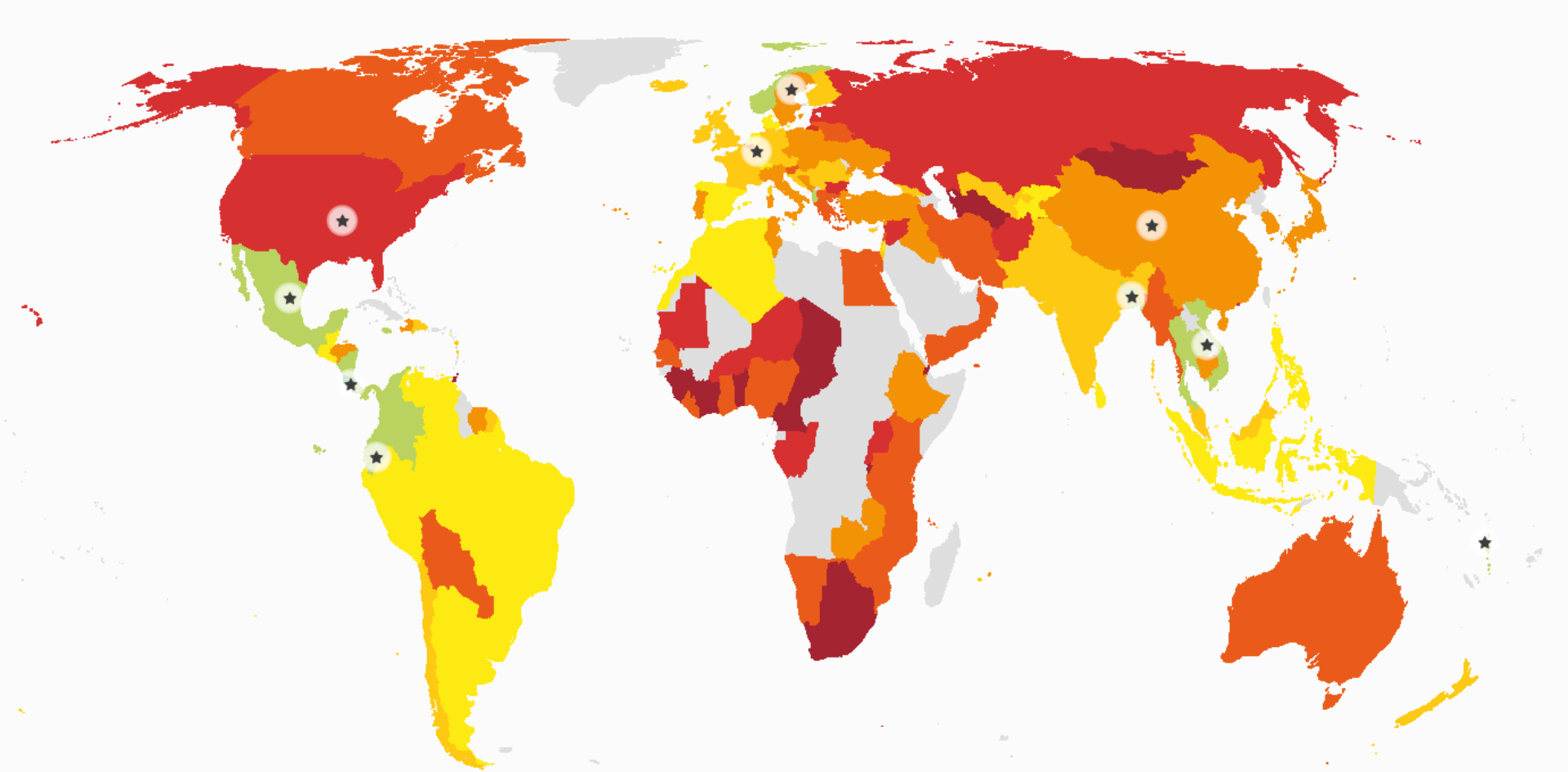


Wellbeing x Life expectancy x Inequality of outcomes
Ecological footprint

The Happy Planet Index 2016



HPI 2016



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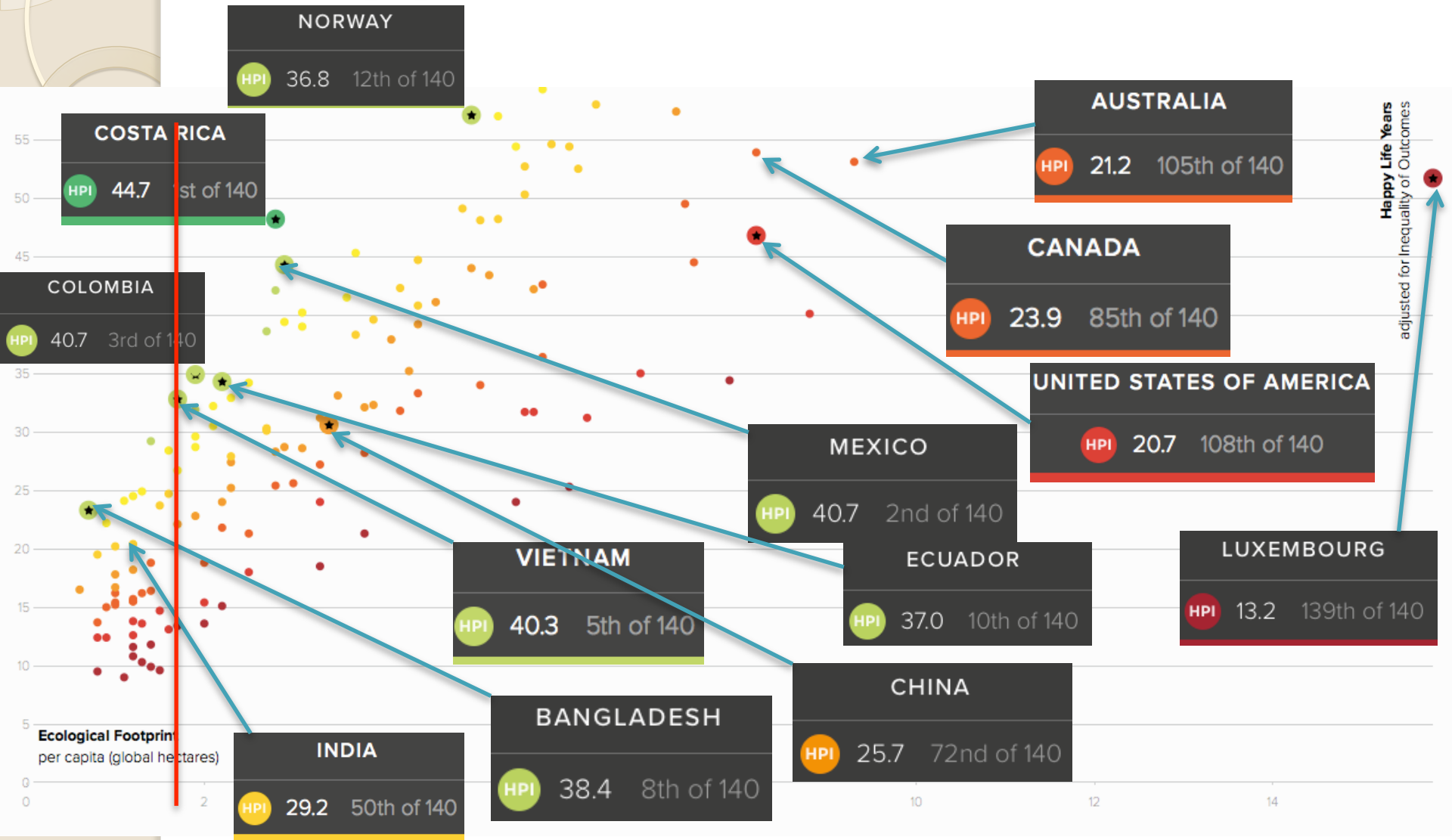
LOWEST HIGHEST

Happy Planet Index 2016



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LOWEST — HIGHEST

5. The Conversations

Monday 23 January

- The Anthropocene, the One Planet Region and the Happy Planet Index
- Trevor Hancock, Professor and Senior Scholar, School of Public Health and Social Policy, UVic
- Measuring Victoria's Ecological Footprint
- Jennie Moore, Associate Dean, Building Design and Construction Technology, School of Construction and the Environment, BCIT

~~Monday 30 January~~

- ~~A Conversation on Indigenous views of the One Planet region~~
  - ~~Nick Claxton and colleagues. Nick is an Instructor with the Faculty of Education and is Tsawout Band & WSÁNEĆ Nation Indigenous Academic Advisor/ Coordinator~~

Monday 6 February

- A Conversation on renewable energy systems for a One Planet region
  - Presentation by Tom Hackney, Policy Director, Victoria chapter of BCSEA (BC Sustainable Energy Association) with interactive discussion facilitated by climate social scientist Jan Inglis

Monday 13 February

- **A Conversation on transportation systems and urban development patterns for a One Planet region**
  - **Led by Todd Litman, Victoria Transport Policy Institute**

Wednesday 22 February

- **A Conversation on a food system for a One Planet region**
  - **Led by Jeremy Caradonna, Adjunct Professor, Environmental Studies, UVic with support from CRFAIR (Capital Region Food and Agriculture Initiatives Roundtable)**

The Anthropocene is here! Living well in a 'One Planet' region

- **Saturday March 11th, 2 – 4 PM, New Horizons, James Bay**
- **This is an IdeaFest event**
- **A panel presentation and discussion**

Some things we might ask students to do

- **Re-vamp the website (once I figure out who has access - see http://www.uvic.ca/research/centres/globalstudies/discussion-groups/anthropocene/index.php**
- **Set up a registration system (free, simple, home-made or Canadian)**
- **Develop a mailing/contact list**
- **Dig out maps/data do some research on issues/ideas coming out of the Conversations**
- **Record discussions at Conversations**
- **Map the groups/organisations that are potential players in moving us towards a 'One Planet' region**
- **Do social media work (Facebook, Twitter etc) to promote the events and the ideas**