



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2022 Salish Sea Ecosystem Conference
(Online)

Apr 26th, 1:30 PM - 3:00 PM

Three Big Themes (and a thousand Band-aids) we need to move forward to protect the Salish Sea

Ginny Broadhurst
Western Washington University

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Broadhurst, Ginny, "Three Big Themes (and a thousand Band-aids) we need to move forward to protect the Salish Sea" (2022). *Salish Sea Ecosystem Conference*. 371.

<https://cedar.wwu.edu/ssec/2022ssec/allsessions/371>

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**SALISH SEA
INSTITUTE**



Environmental Cooperation Agreement

Between the Province of British Columbia and The State of Washington

WHEREAS the Province of British Columbia and the State of Washington are committed to ensuring a consistent and high-level of environmental quality for their citizens; and

WHEREAS environmental concerns and impacts respect neither physical or political boundaries, and both governments recognize the necessity for joint action on issues of mutual interest; and

WHEREAS the Ministries of the Province and the Executive Departments of Washington wish to share information and to cooperate on environmental matters, are prepared to work together with respect to their responsibilities, and wish to enter into specific cooperation arrangements; and

WHEREAS the increased complexity of environmental issues, particularly their interjurisdictional impacts, requires coordinated responses from both governments;

Now, THEREFORE, the Province of British Columbia and the State of Washington agree to establish a **British Columbia/Washington Environmental Initiative** to promote and coordinate mutual efforts to ensure the protection, preservation and enhancement of our shared environment for the benefit of current and future generations;

The parties also agree to develop an action plan, which shall form part of these efforts, reflecting mutual priorities and to enter into specific arrangements necessary to address environmental problems.

DATED AT Olympia Washington, United States of America,
This 7th day of May, AD 1992.


Mike Harcourt, Premier
Province of British Columbia


Booth Gardner, Governor
State of Washington

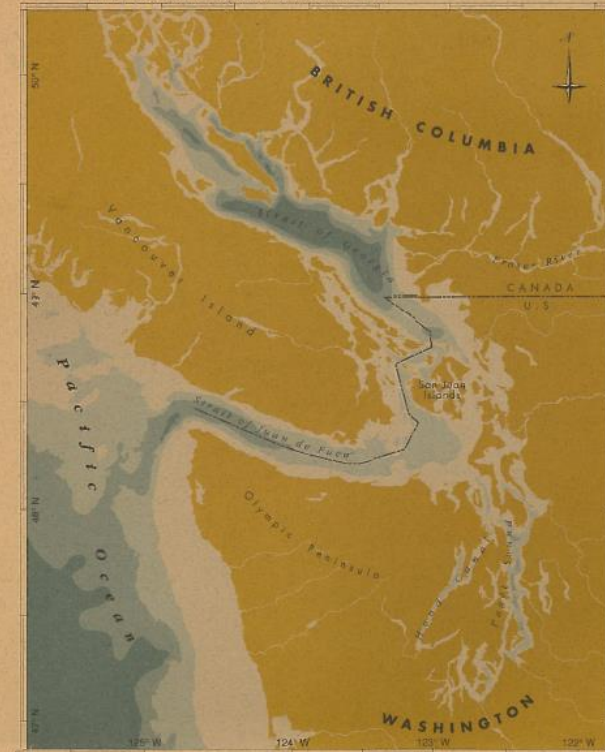


1992

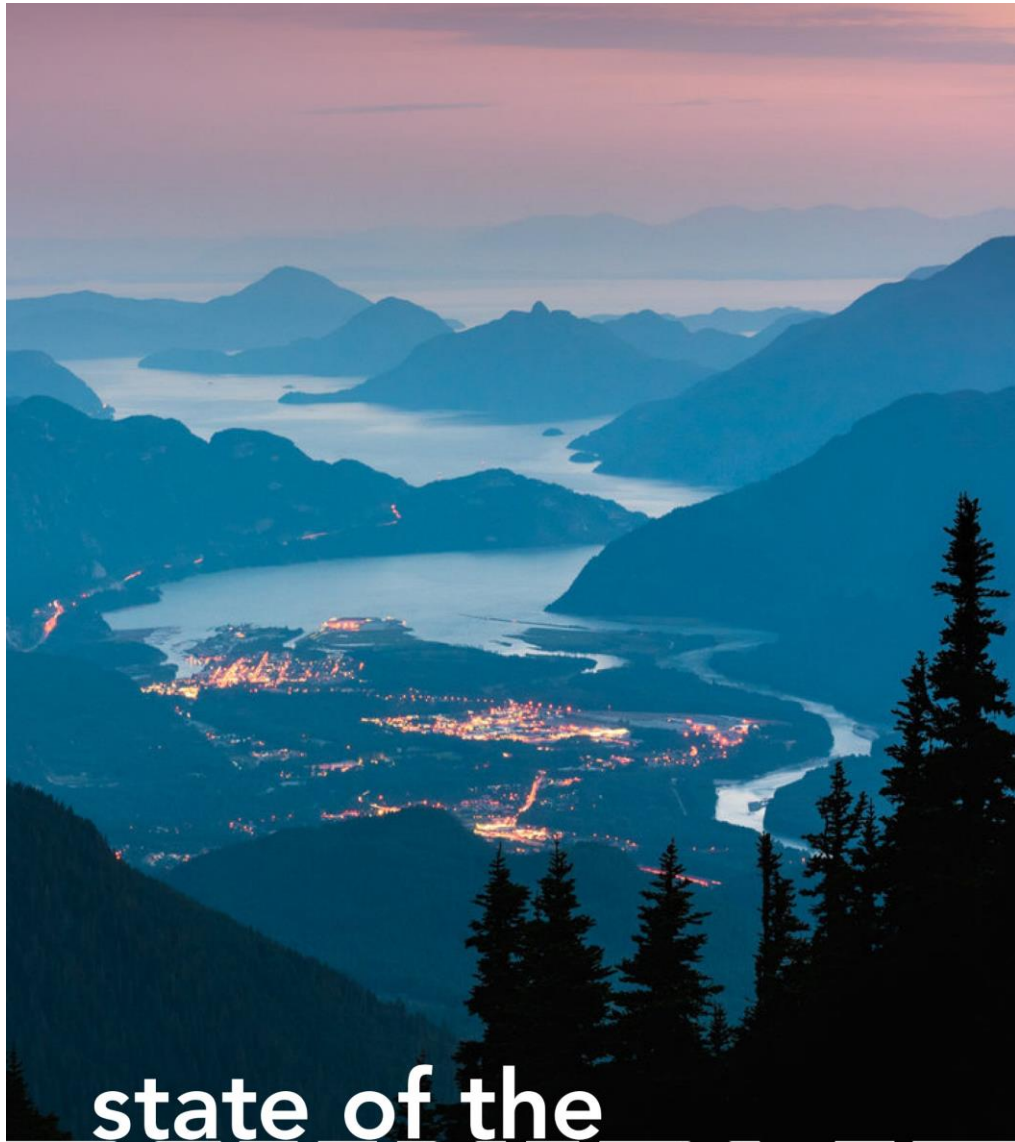
The Shared Marine Waters of British Columbia and Washington

1994.

Report to the British Columbia / Washington Environmental Cooperation Council by the
British Columbia / Washington Marine Science Panel



1994



state of the
SALISH SEA


Released May 25, 2021

Sobocinski, K.L. (2021). State of the Salish Sea (G. Broadhurst and N.J.K. Baloy, Contributing Eds.). Salish Sea Institute, Western Washington University, Bellingham, WA.



3 Big Themes

- Salish Sea is one ecosystem
- Solutions are possible – think big
- We all need to plan for a different future

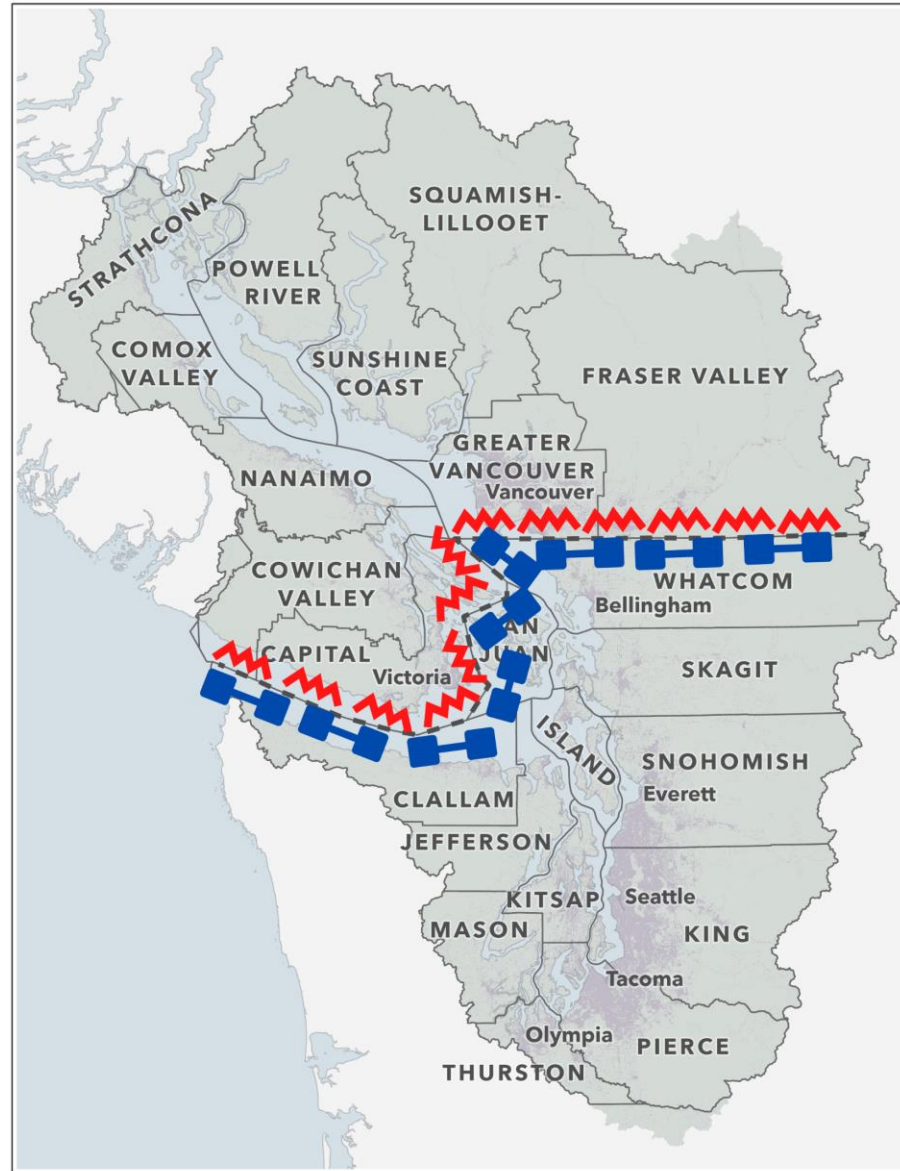
A satellite image of the Salish Sea region, showing a complex network of rivers, streams, and coastal waters. The land is covered in dense green forest, and the water bodies are a mix of light and dark blue. The text "One Ecosystem" is centered in the upper portion of the image.

One Ecosystem

Salish Sea from space
Source: NASA 2021



Map by Stefan Freelan, WWU, 2009



Map by Dr Aquila Flower, WWU,
2021 – embellishment by Tabitha
Hellman, directed by Ginny
Broadhurst

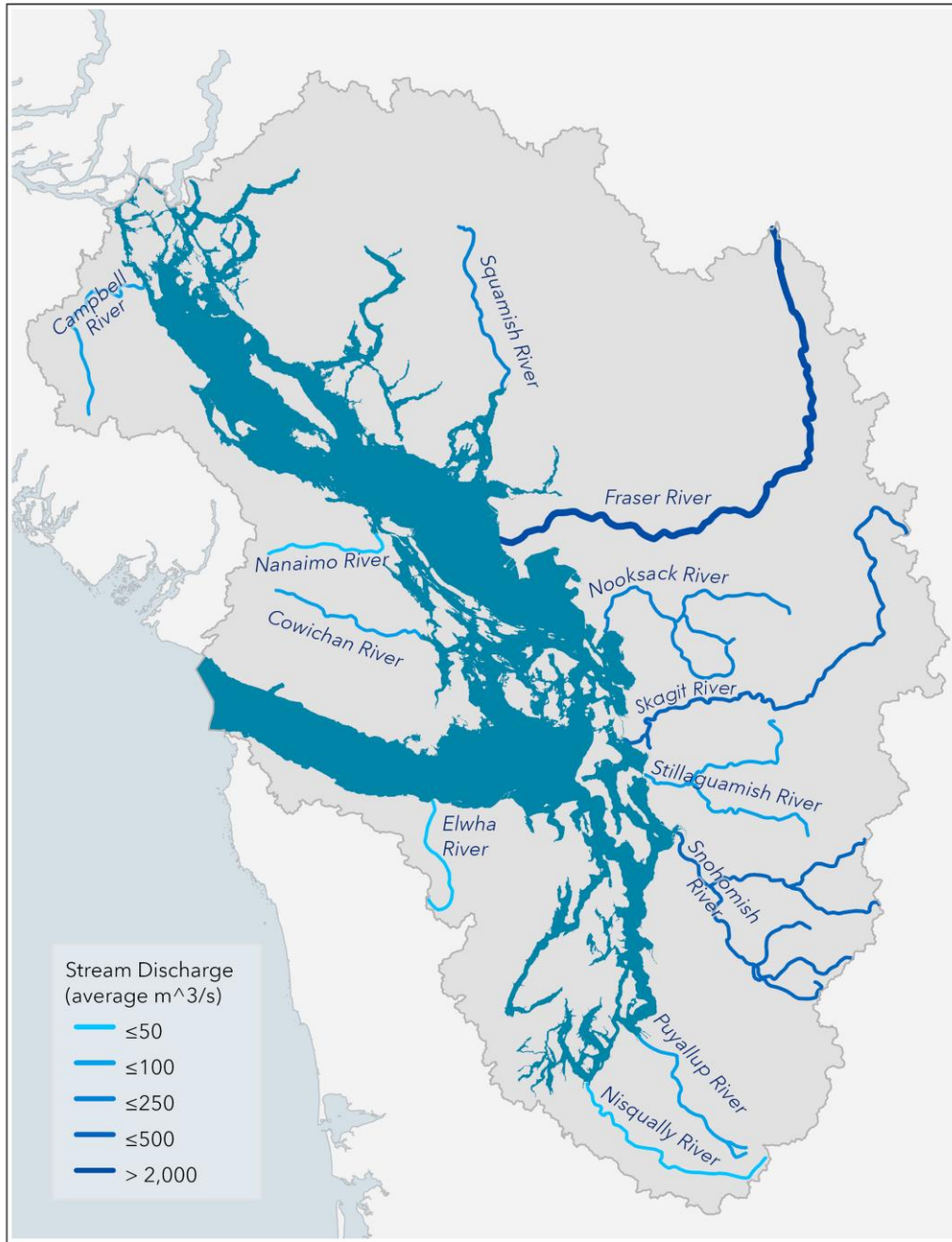


Bow had a limp that turned out to be elbow displacia

Sorry I only have jurisdiction on the tail and back legs – our monitoring system doesn't indicate any problems

you'll have to talk to my Canadian counterpart to find out what's going on up there.





Map by Dr Aquila Flower, WWU, 2021



The Fraser River plume
As seen by European Space
Agency's Copernicus satellite

Source: European Space Agency
2021



Orcas in Bellingham Bay 2020



Vessel Filters

UNLOCK ALL LAYERS

Ship Type

- Enable/Disable all ship types
-  Cargo Vessels
-  Tankers
-  Passenger Vessels
-  High Speed Craft
-  Tugs & Special Craft
-  Fishing
-  Pleasure Craft
-  Navigation Aids
-  Unspecified Ships

Capacity

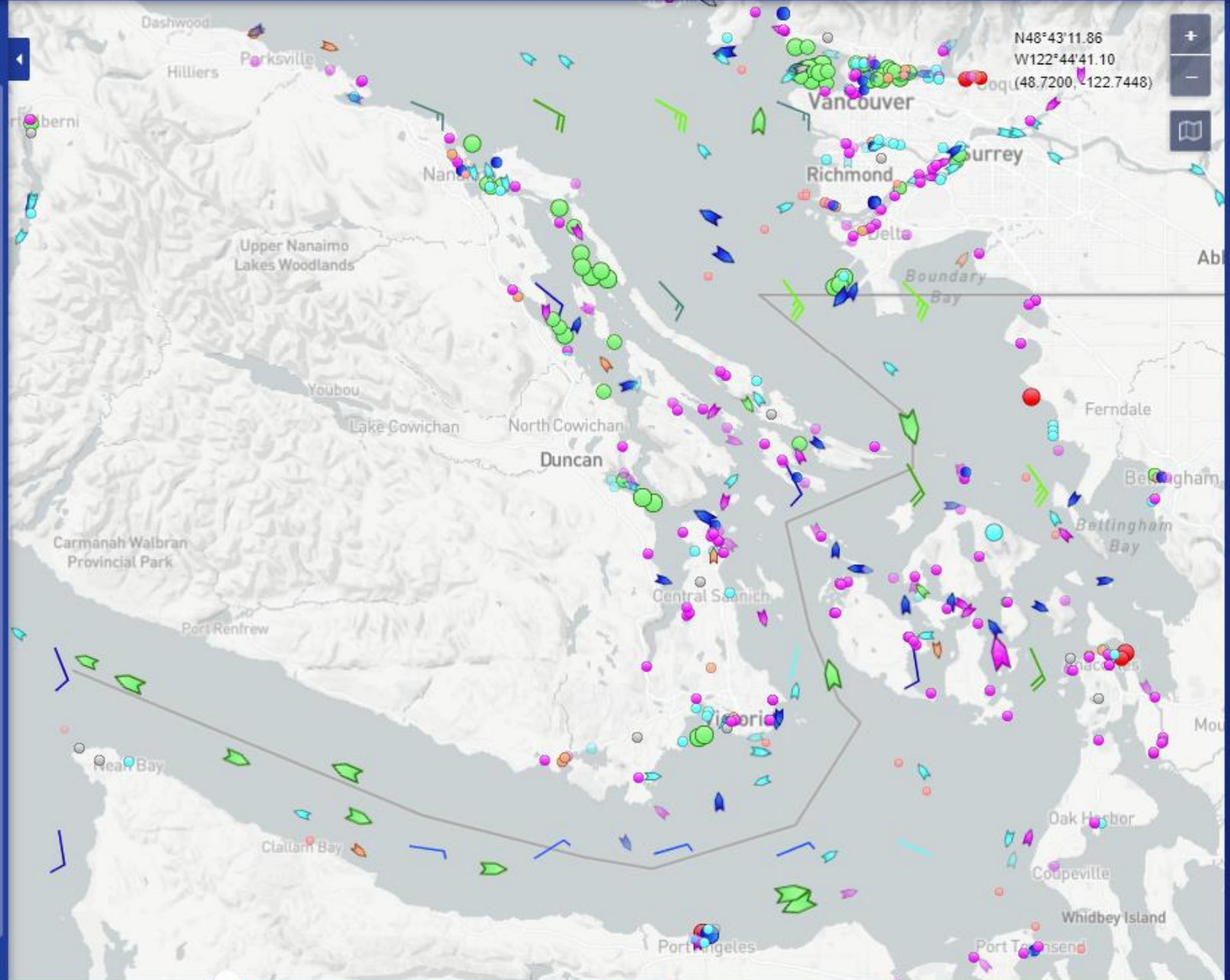
Other Particulars

Current Status

Smart Filters

new

Voyage



Tuesday

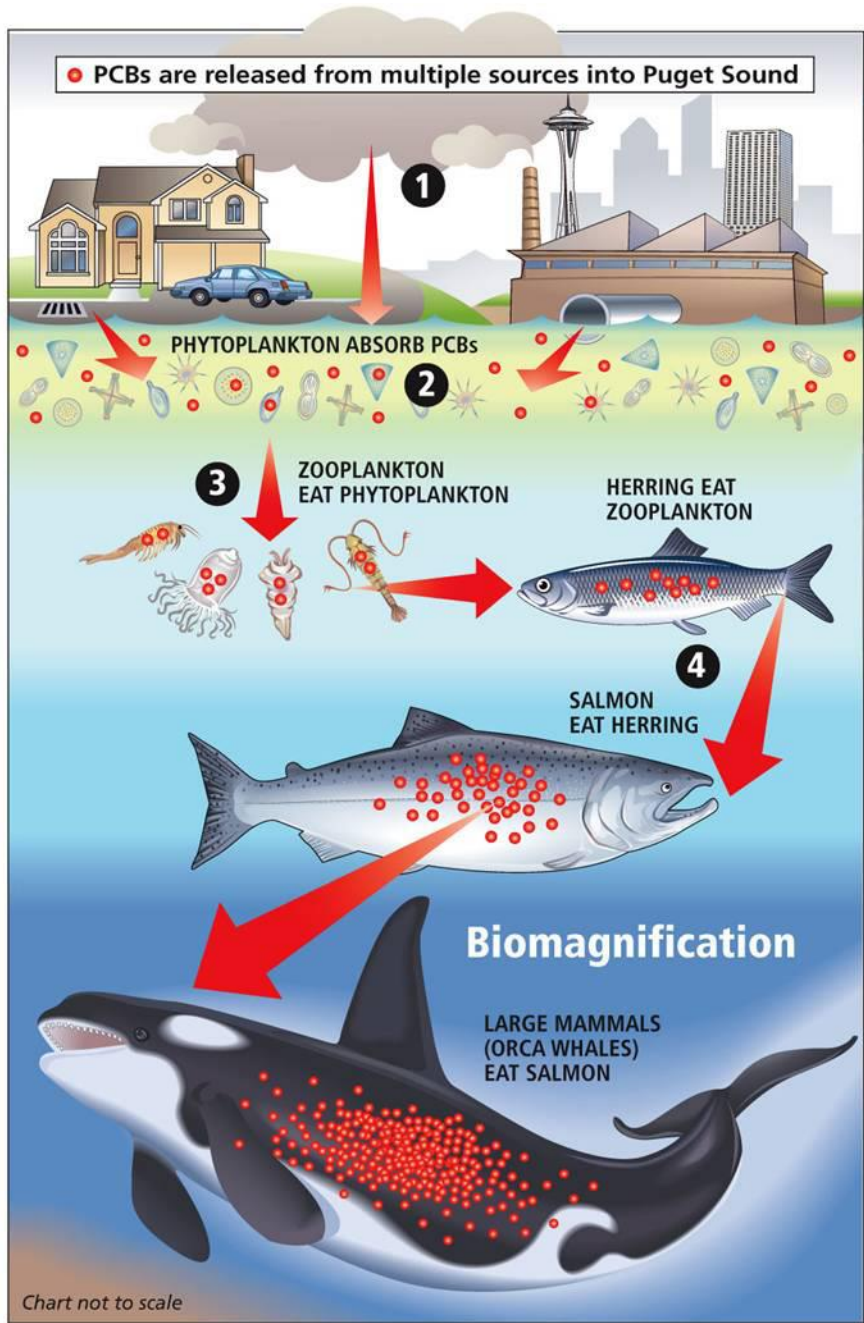
Wednesday

now

290K

∞

⌵

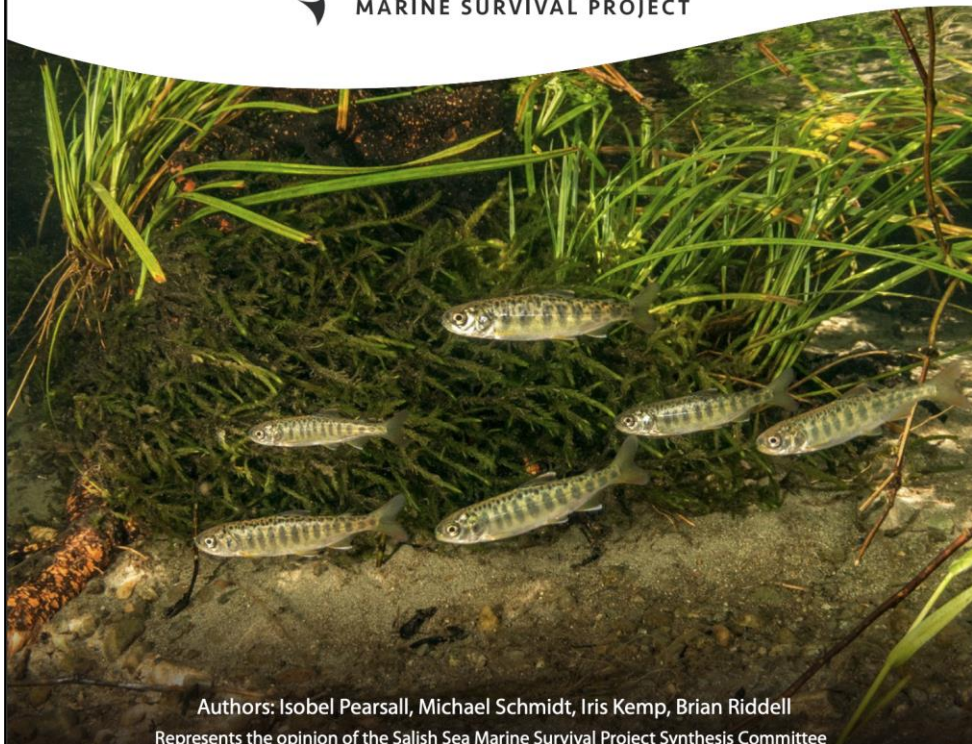


FACTORS LIMITING SURVIVAL OF JUVENILE
CHINOOK SALMON, COHO SALMON AND STEELHEAD
IN THE SALISH SEA: SYNTHESIS OF FINDINGS OF THE



SALISH SEA

MARINE SURVIVAL PROJECT



Authors: Isobel Pearsall, Michael Schmidt, Iris Kemp, Brian Riddell
Represents the opinion of the Salish Sea Marine Survival Project Synthesis Committee

LONG LIVE
THE KINGS

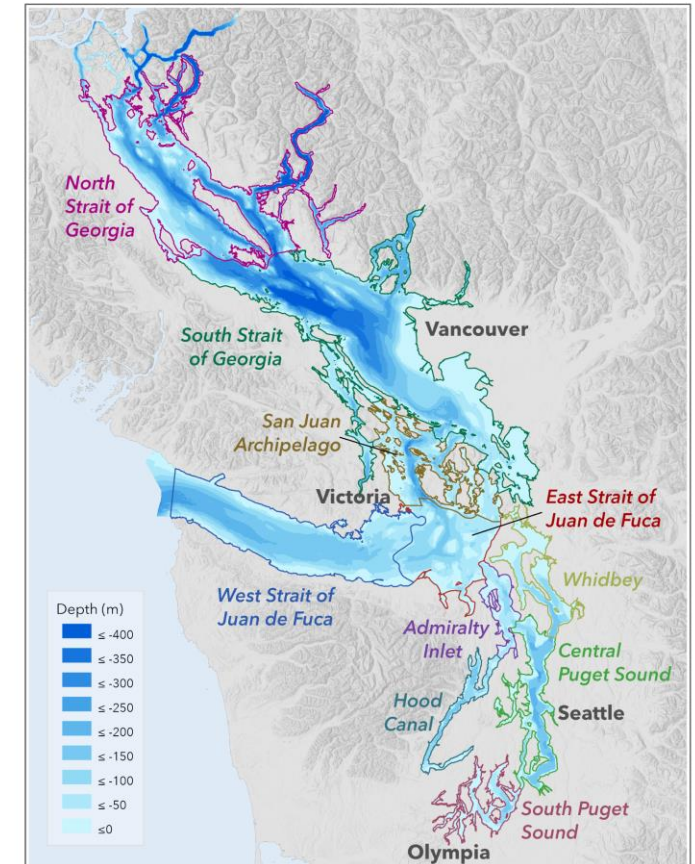


marinesurvivalproject.com



Map by Dr Aquila Flower, WWU,
2021

Salish Sea maps and models are vital tools



Maps by Flower, Freelan and Flower respectively

Open access, free downloads
www.wvu/salishsea - maps

Draft

Species at Risk Act
Recovery Strategy Series

Amended Recovery Strategy for the
Northern and Southern Resident
Killer Whales (*Orcinus orca*) in
Canada

Killer Whale



Washington State Blue Ribbon Panel on Ocean Acidification



**Ocean Acidification:
From Knowledge to Action**

Washington State's Strategic Response

November 2012



**CLIMATE CHANGE AND
OUR NATURAL RESOURCES**

A Report from the Treaty Tribes in
Western Washington



Volume I

Plan adopted by the
National Marine
Fisheries Service (NMFS)
January 19, 2007

Puget Sound Salmon Recovery Plan



2020 State of Our Watersheds
A Report by the Treaty Tribes in Western Washington



WRIRAs 1-23

Recovery Plan
for
Southern Resident Killer Whales (*Orcinus orca*)



Prepared by
National Marine Fisheries Service
Northwest Regional Office



Georgia Basin
Action Plan
(Archived)

Fraser River
Estuary
Management
Plan

And many, many more....



2018-2022 ACTION AGENDA
FOR PUGET SOUND

THE 2018-2022 ACTION AGENDA
FOR PUGET SOUND



PUGET SOUND
PARTNERSHIP
DECEMBER 2018

**Treaty Rights
at Risk**



102 species are **AT RISK** of extinction in the Fraser River Estuary

It's not too late to save them.

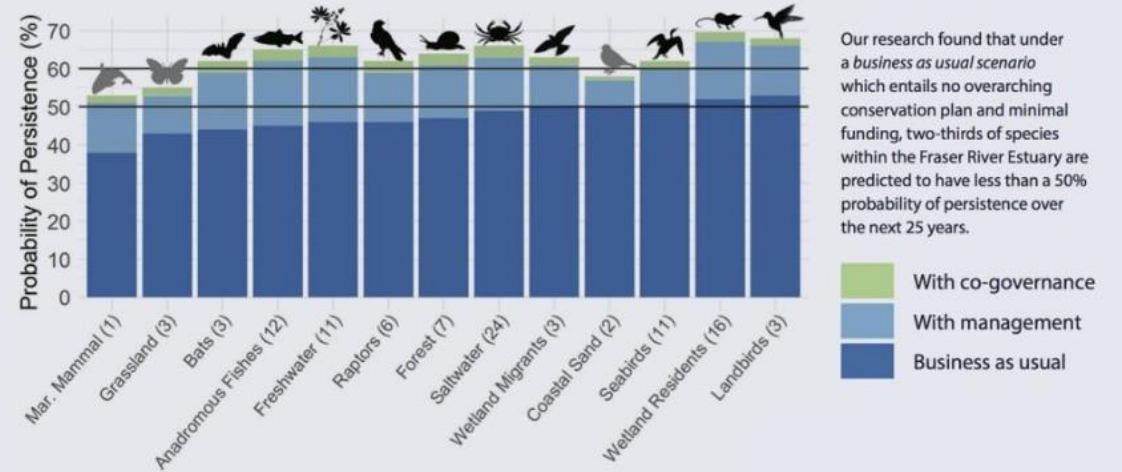


The cost of saving 102 species is \$15M per year



The cost of doing nothing is staggering

Priority management and co-governance are crucial for species recovery.



Our research found that under a *business as usual scenario* which entails no overarching conservation plan and minimal funding, two-thirds of species within the Fraser River Estuary are predicted to have less than a 50% probability of persistence over the next 25 years.

Loss of 8 of 13 species groups representing 67 species, including Southern Resident killer whales.

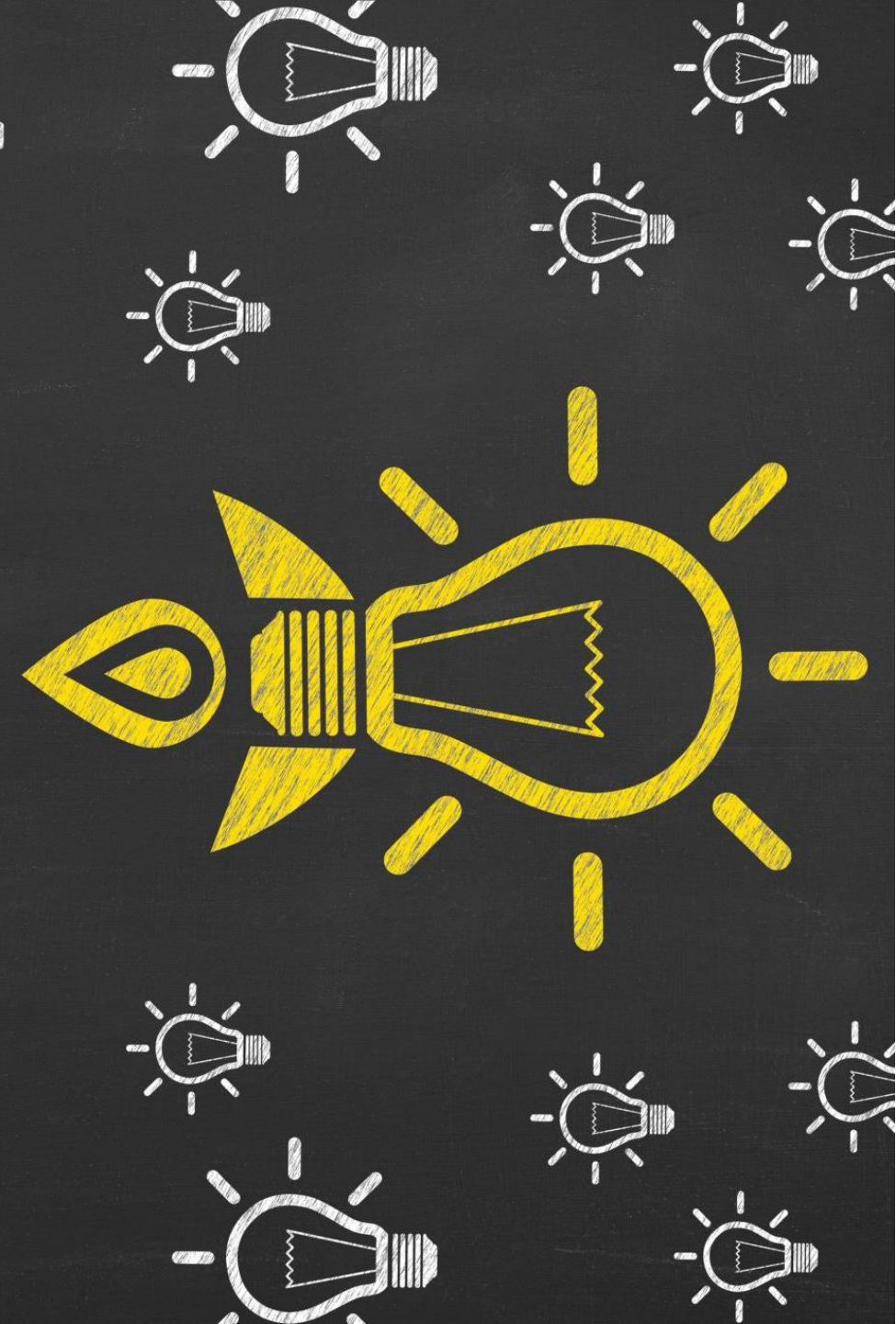
Loss of whale tourism worth \$26M per year.

Loss of Fraser river fishery worth \$300M per year.

Source: Kehoe et al. 2020

Conservation in heavily urbanized biodiverse regions requires urgent management action and attention to governance

Conservation Science and Practice



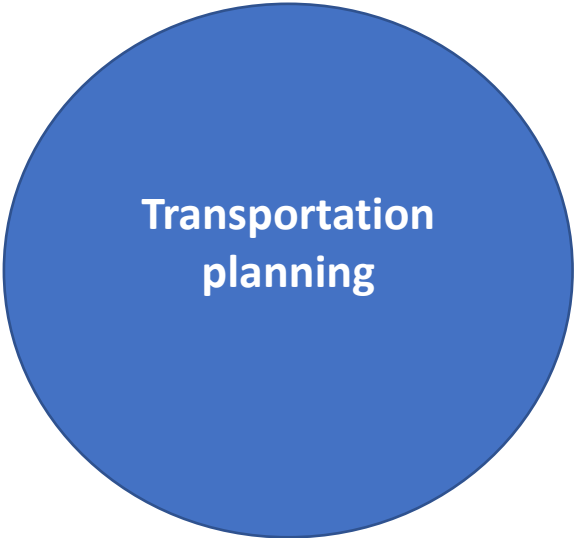
Plan for a different future – not business as usual



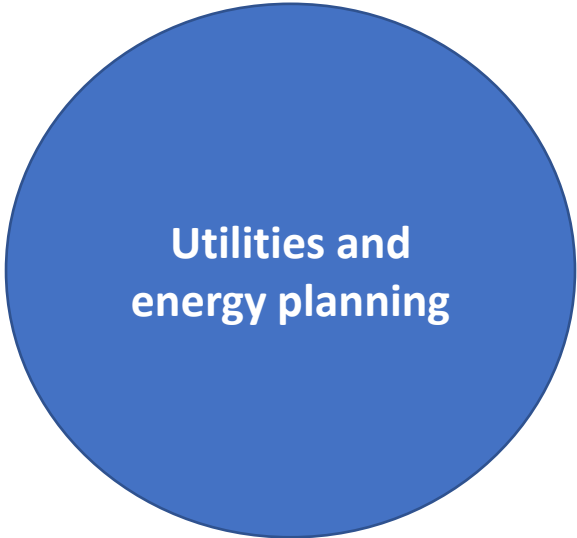
Land use planning



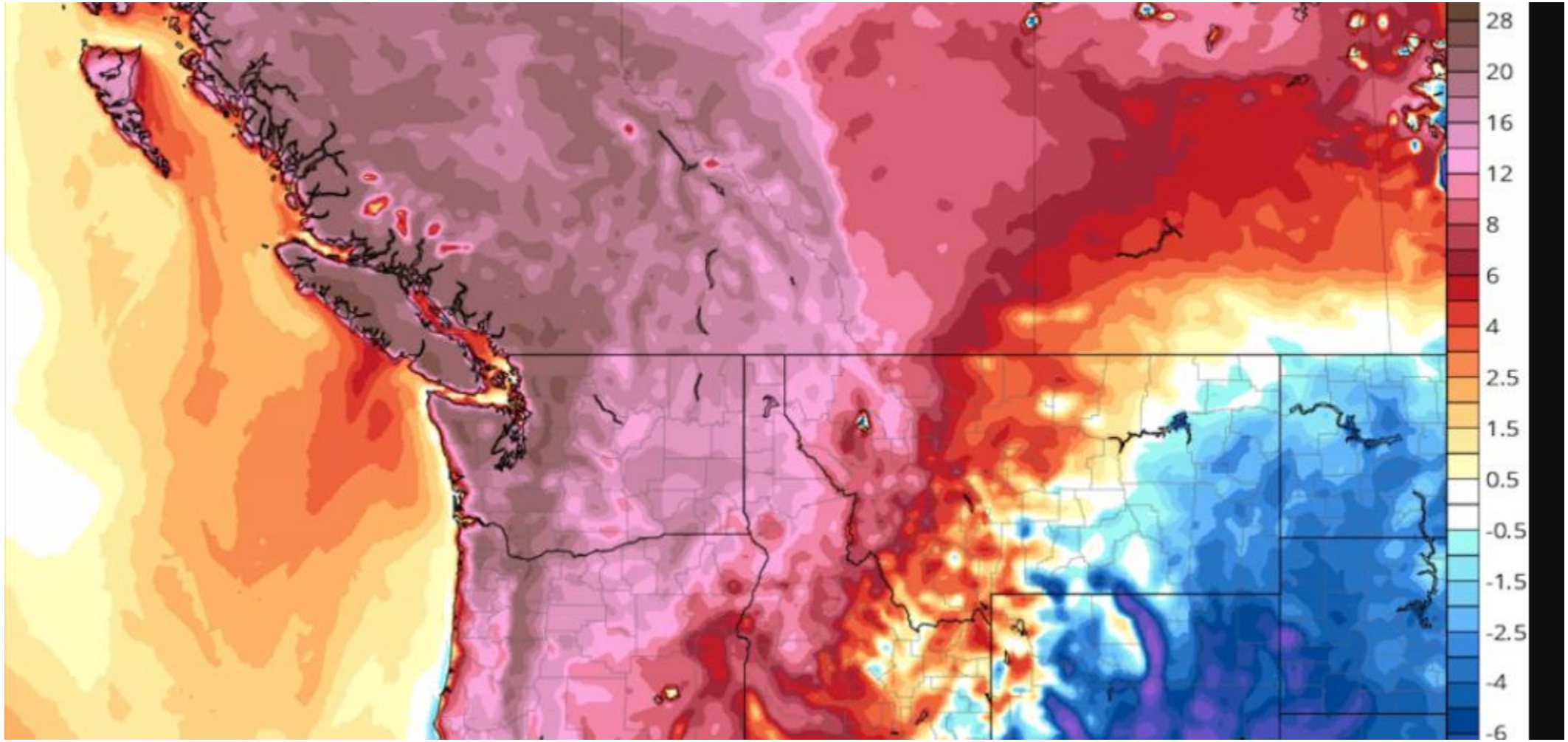
**Environmental
restoration**



**Transportation
planning**



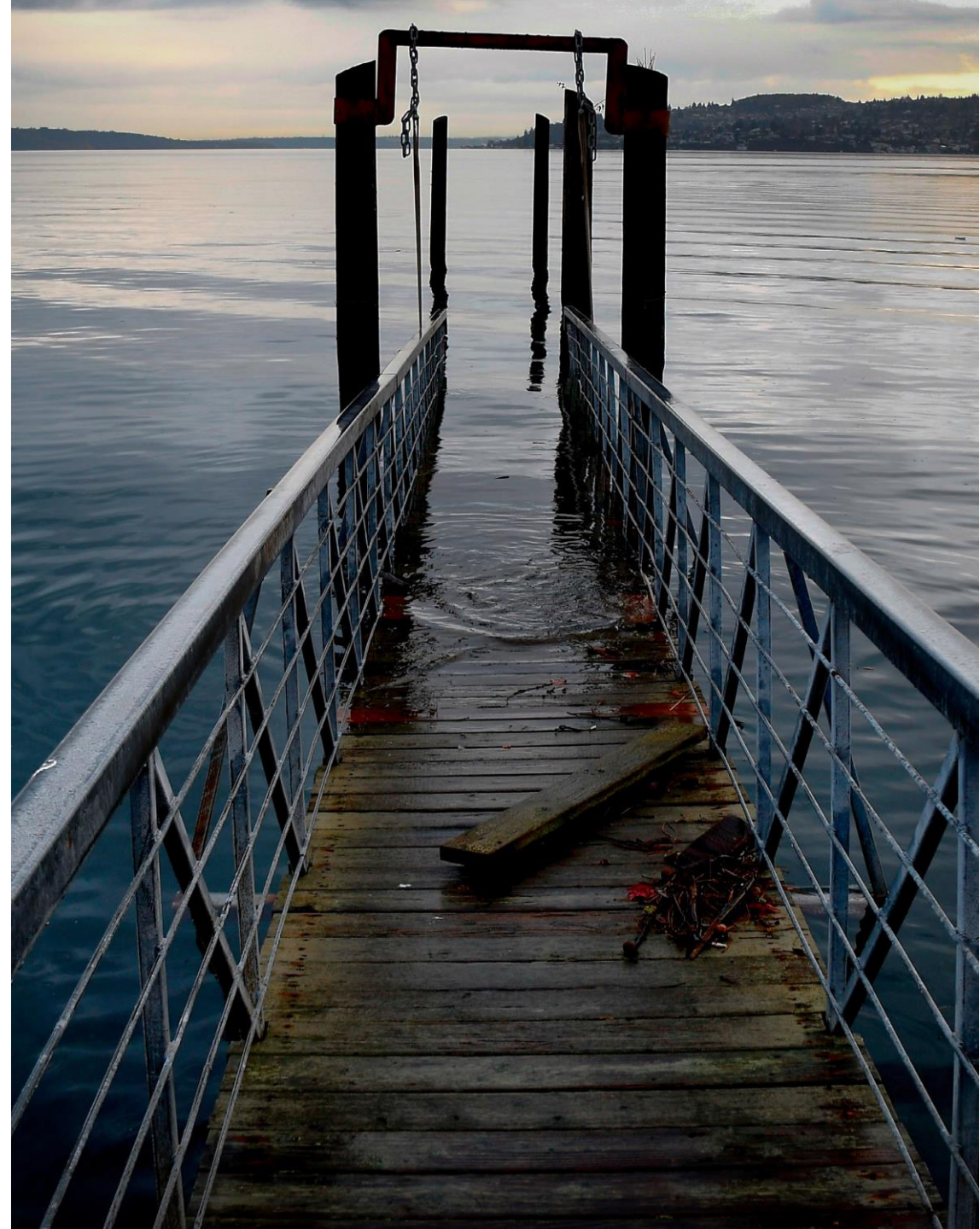
**Utilities and
energy planning**

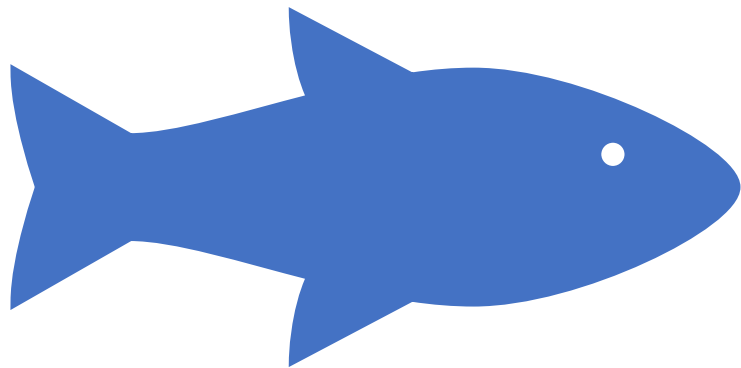


Plan for a different future

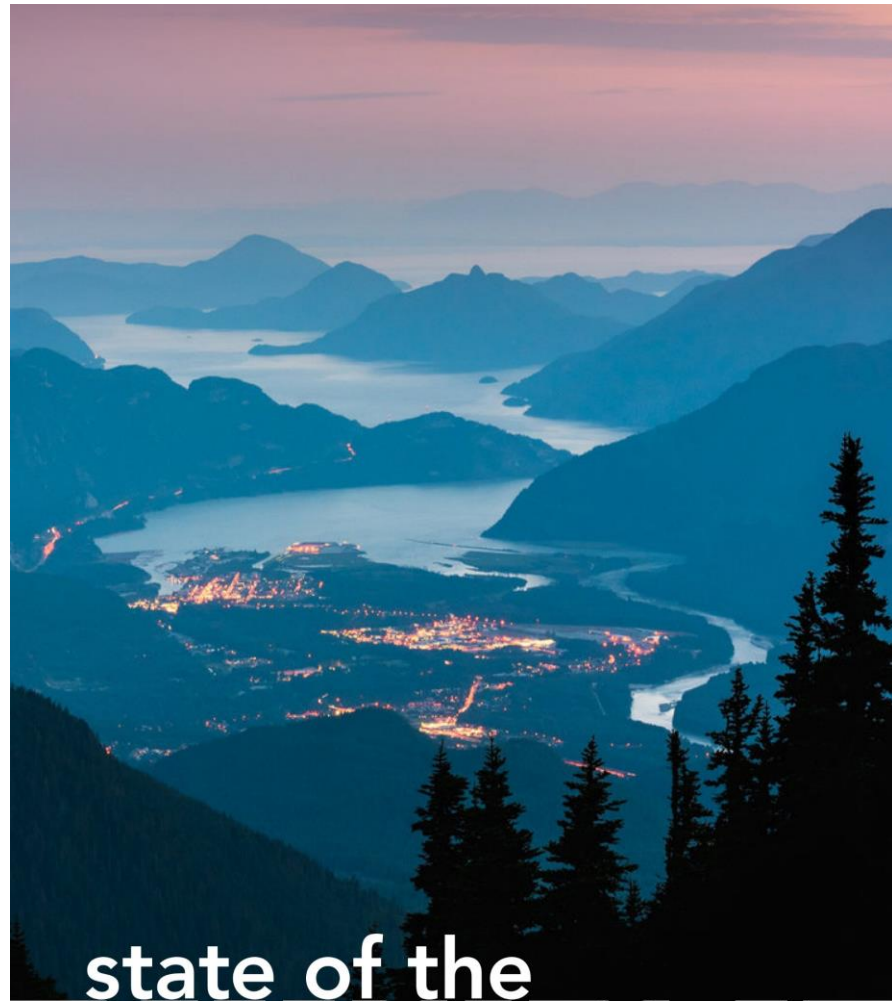
Climate impacts are here - climate adaptation and mitigation need to be incorporated into everything we do

King Tide in Tacoma, WA
Photo: Ryan Dicks via MyCoast





- Acknowledge and advocate for the Salish Sea as one ecosystem in your work, in your conversations.
- Think big, think across disciplines and borders. Push for collaboration.
- Prepare for a different future, be solutions oriented and be part of the solution.



state of the
SALISH SEA

Many thanks to Kathryn Sobocinski and Natalie Baloy for their work and conversations related to salish sea and where we go from here.

Salish Sea Institute

@wwusalishsea on FB and Twitter

www.edu/Salishsea