


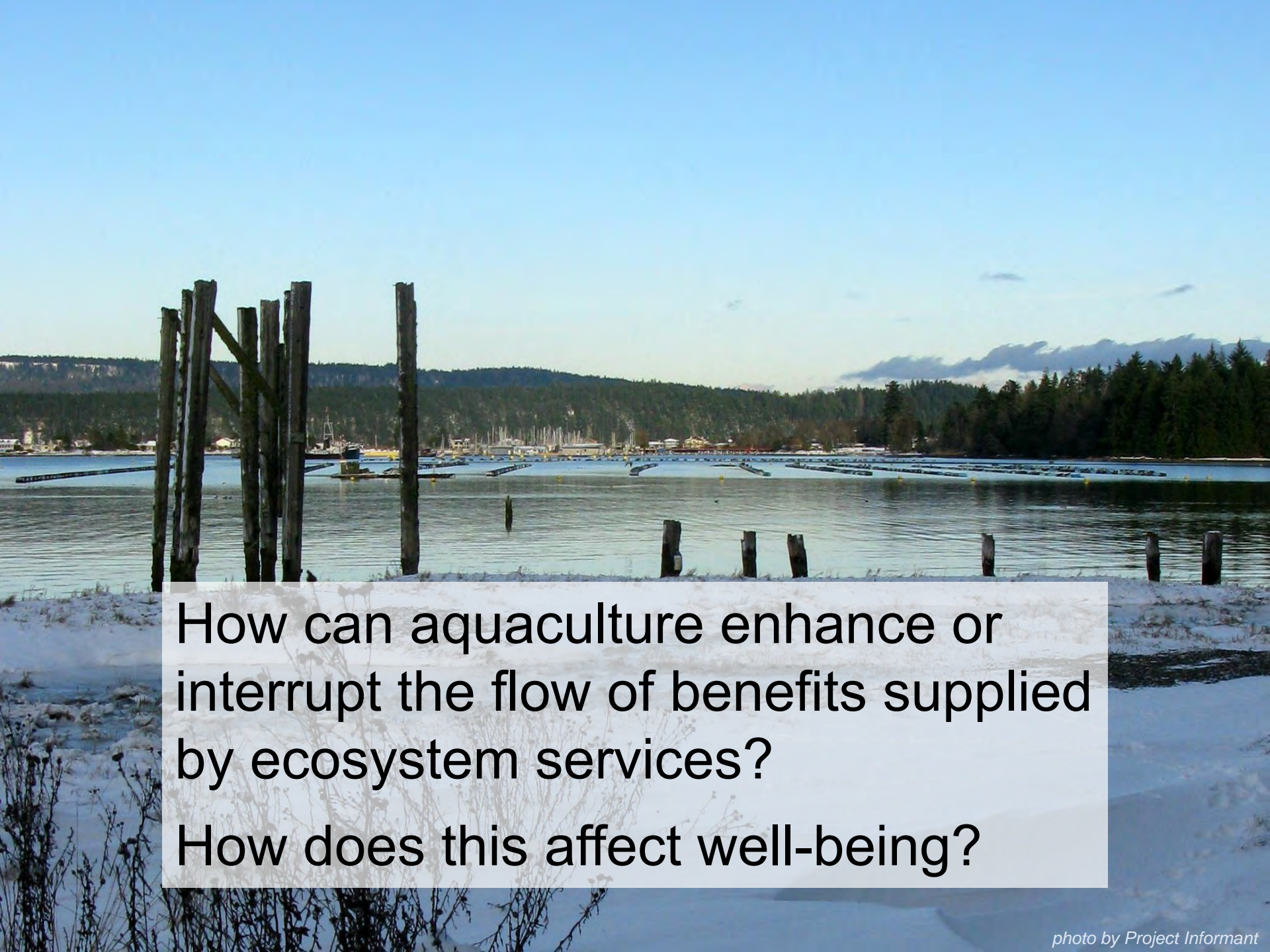
Social values of marine ecosystem services: Insights from multi-dimensional subjective well-being



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Aquaculture & Ecosystem Services



How can aquaculture enhance or interrupt the flow of benefits supplied by ecosystem services?
How does this affect well-being?

Well-being is “a state of being with others, which arises where human needs are met, where one can act meaningfully to pursue one’s goals, and where one can enjoy a satisfactory quality of life”. (McGregor 2008)



after Armitage et al. 2012

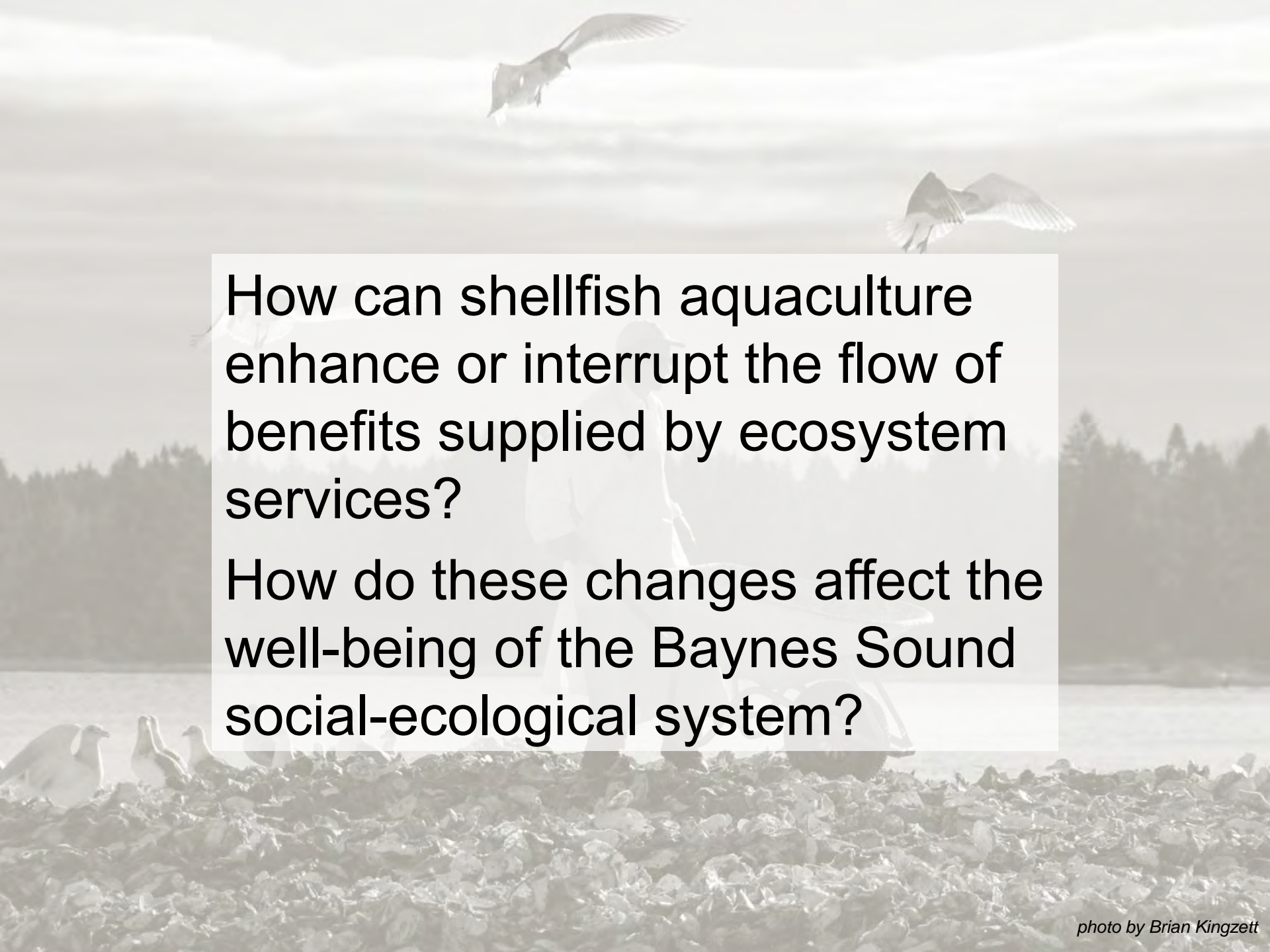
A photograph of a sunset over a large body of water. The sky transitions from a deep blue at the top to a bright orange near the horizon. The water in the foreground is dark blue with gentle ripples, reflecting the orange light from the sunset. In the distance, a range of dark mountains is silhouetted against the bright orange sky.

Well-being is defined in specific contexts.

Well-being engages with the heterogeneity among stakeholders to inform decision-making.



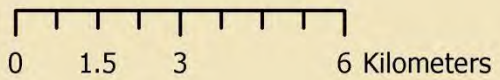
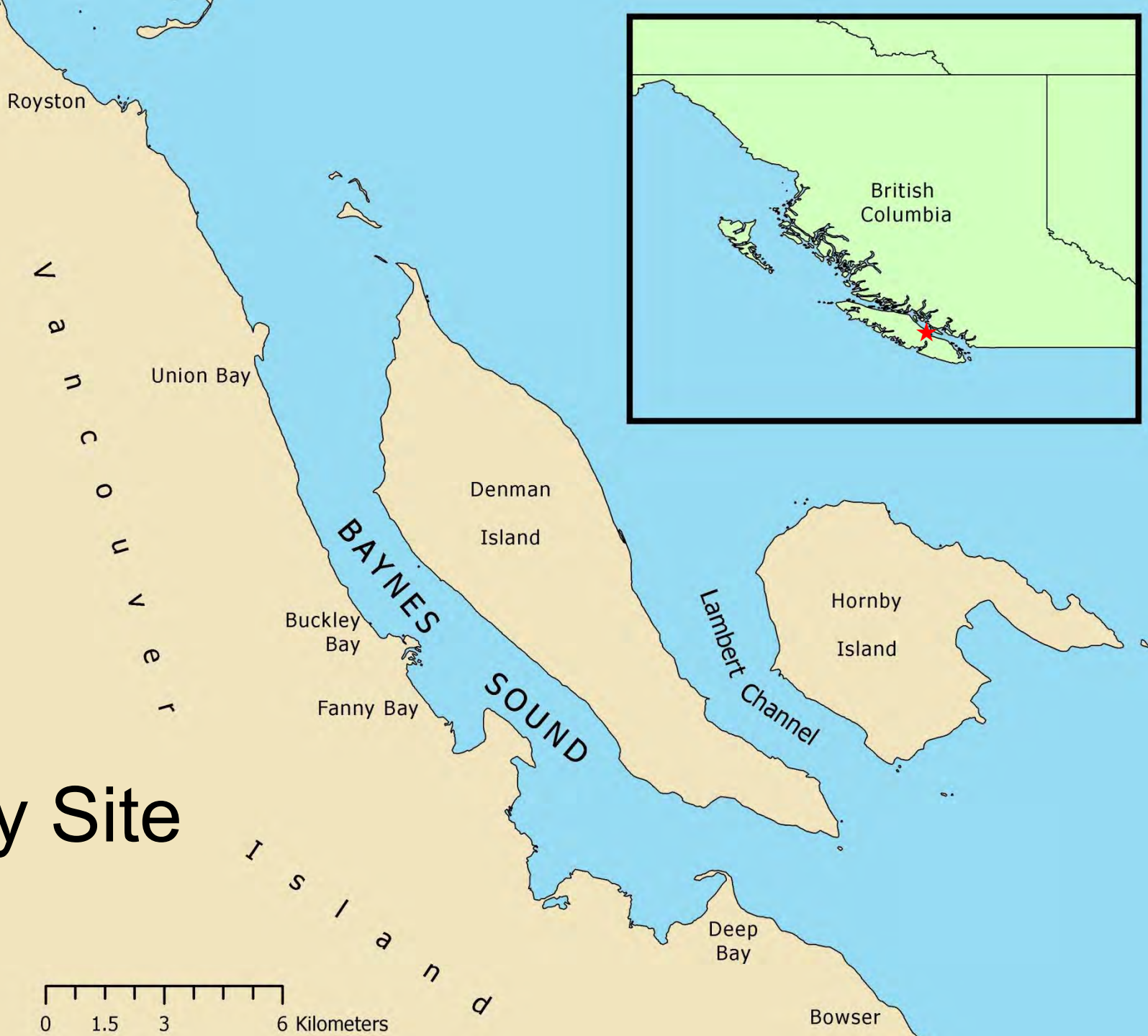
photo by Brian Kingzett

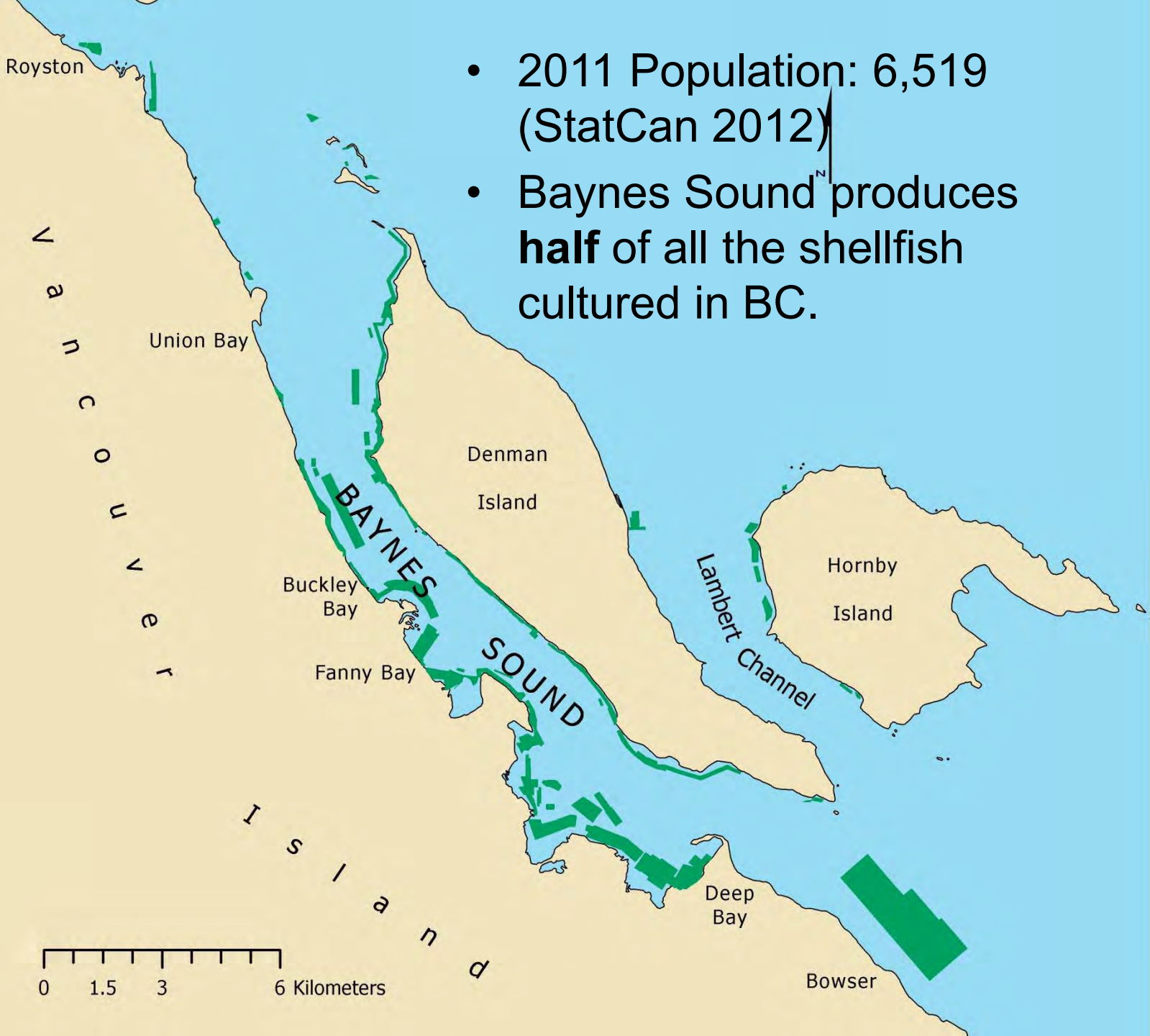


How can shellfish aquaculture enhance or interrupt the flow of benefits supplied by ecosystem services?

How do these changes affect the well-being of the Baynes Sound social-ecological system?

Study Site





- 2011 Population: 6,519 (StatCan 2012)
- Baynes Sound^N produces **half** of all the shellfish cultured in BC.



photo by Project Informant



photo by Project Informant

photo by Project Informant

Methods

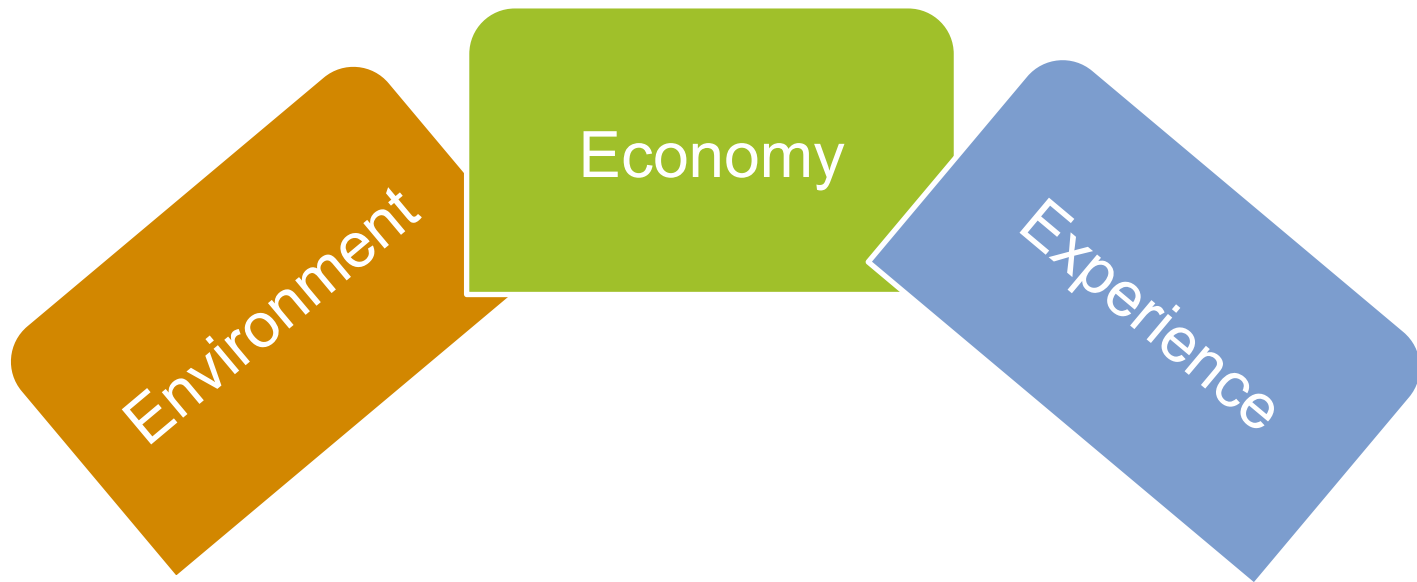


Mixed Methods

- Semi-structured interviews
- Photovoice
- Household mail survey

Results

Shellfish aquaculture affects the flow of ecosystem services in multiple dimensions.



The perceived effects of these changes on well-being are variable.

Biodiversity

Filtration

Watch-dog



Environment

Beach modification

Destruction of predators

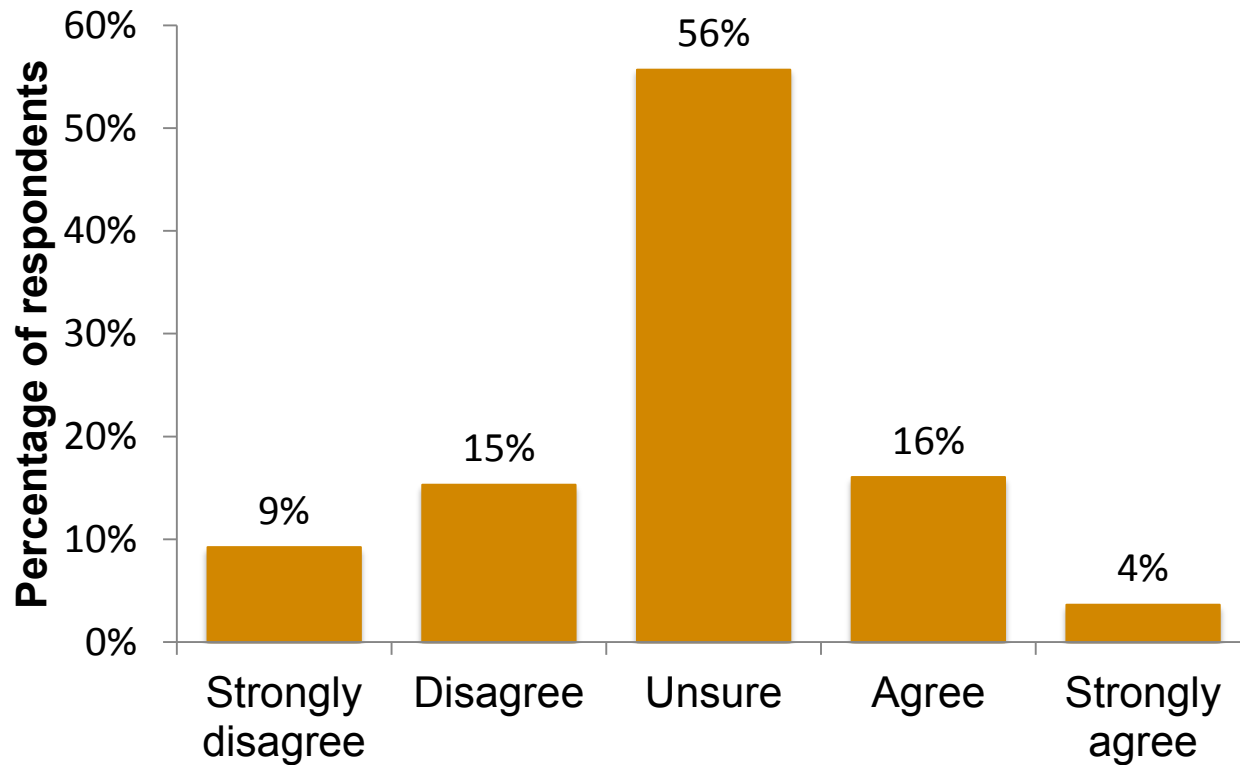
Bottom changes?

Species interactions?

Plastic pollution?

Carrying capacity?

The shellfish growing on farms clean the waters of Baynes Sound.

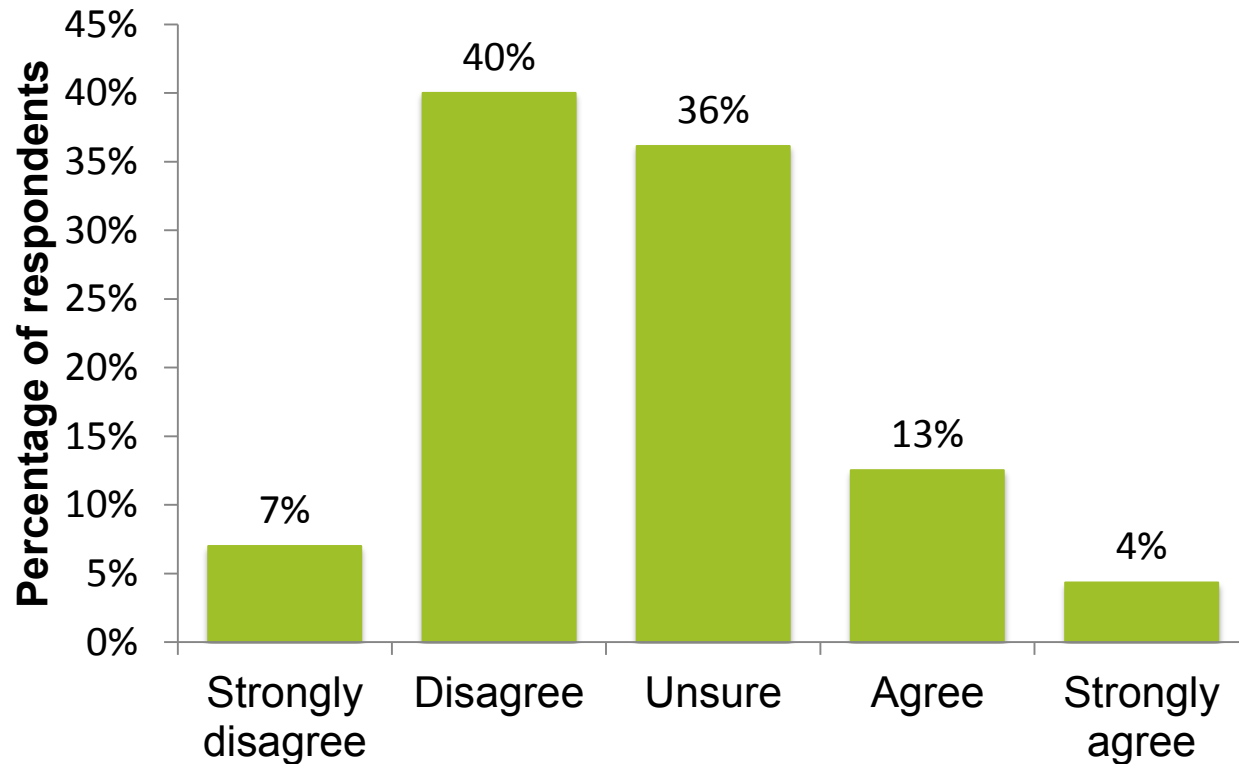


Jobs
Tax-base



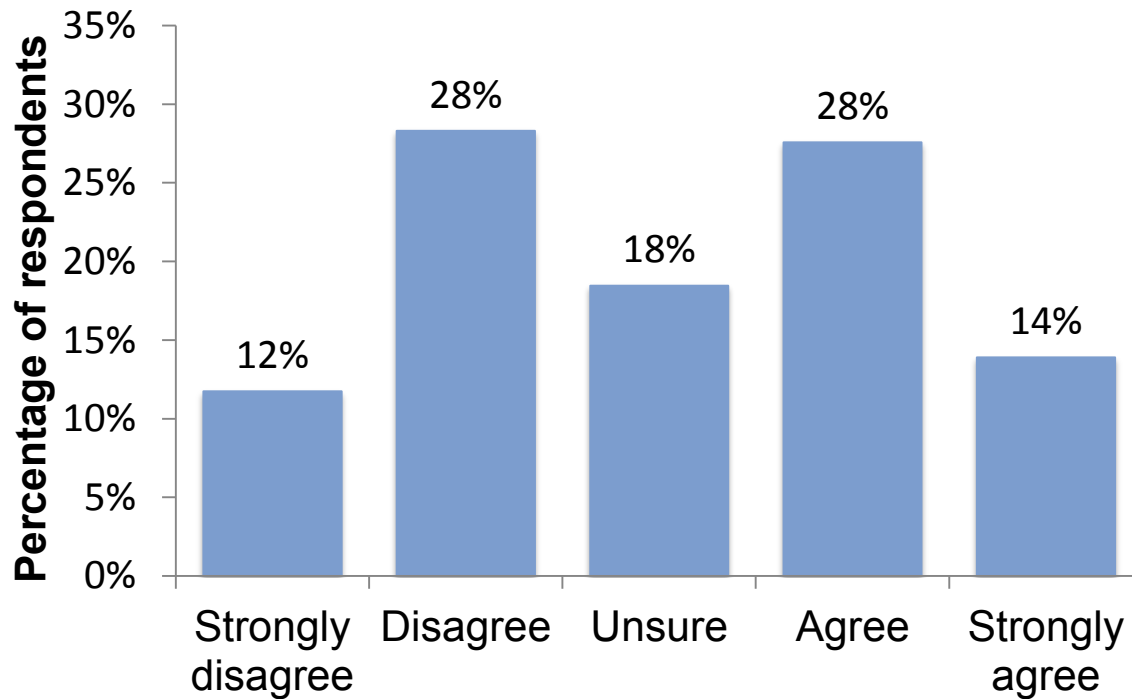
Job quality
Local workers
Non-local ownership

I don't think local jobs in shellfish aquaculture are filled by local people.

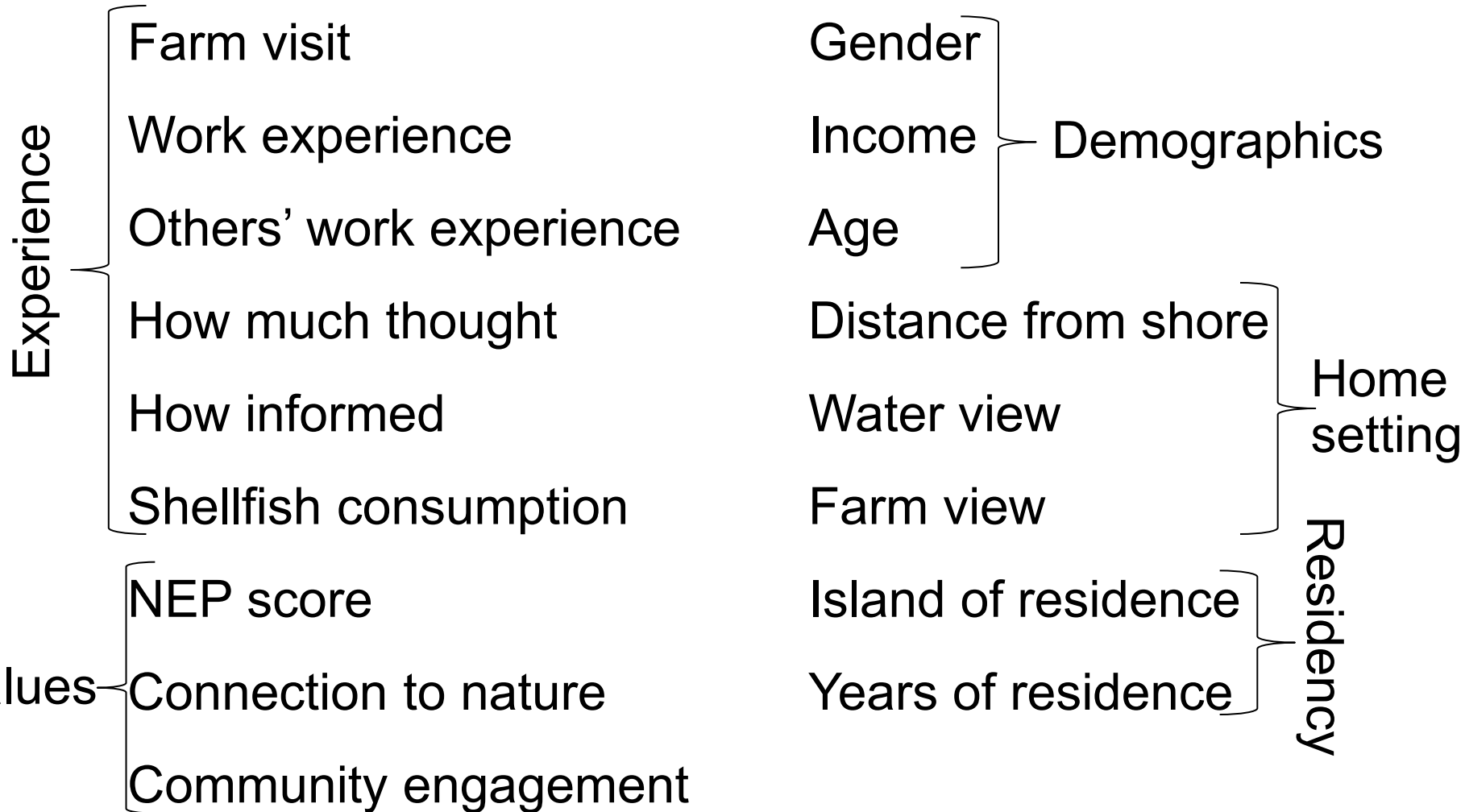




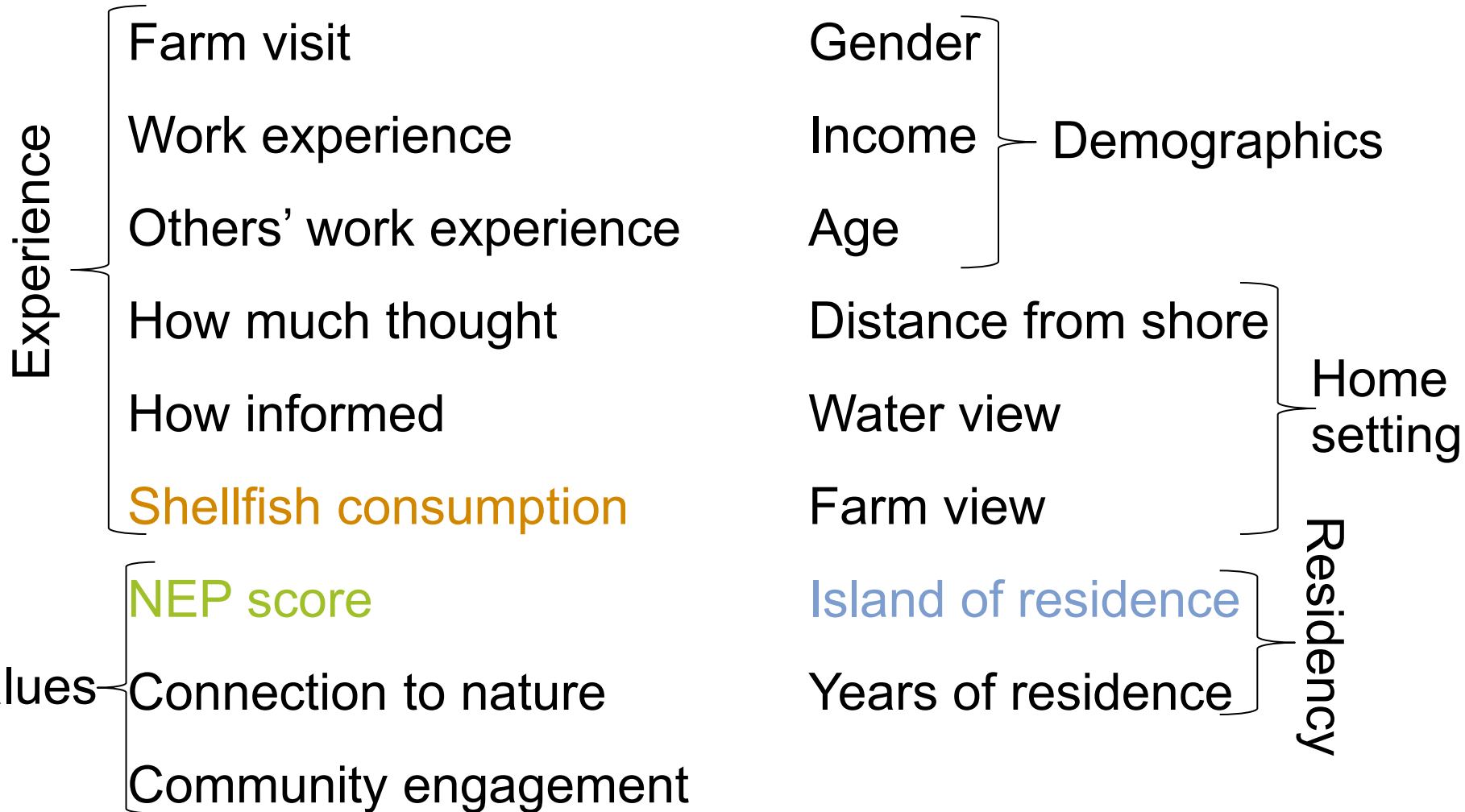
Shellfish farming spoils the beauty of Baynes Sound.



What influences the variability of values?




What influences the variability of values?




Implications



A faded background photograph of a rocky shoreline. In the foreground, there are large, dark rocks. A wooden boat is beached on the shore. In the middle ground, there is a body of water reflecting the sky. In the background, there is a dense forest of evergreen trees under a cloudy sky.

Changes in the flow of ecosystem services have several domains or **dimensions** of effect on social well-being: environment, economy, and experience.

A coastal landscape featuring a rocky beach in the foreground, a small boat on the water, and a forest in the background. The scene is overlaid with text.

Changes in the flow of ecosystem services have several domains or **dimensions** of effect on social well-being: environment, economy, and experience.

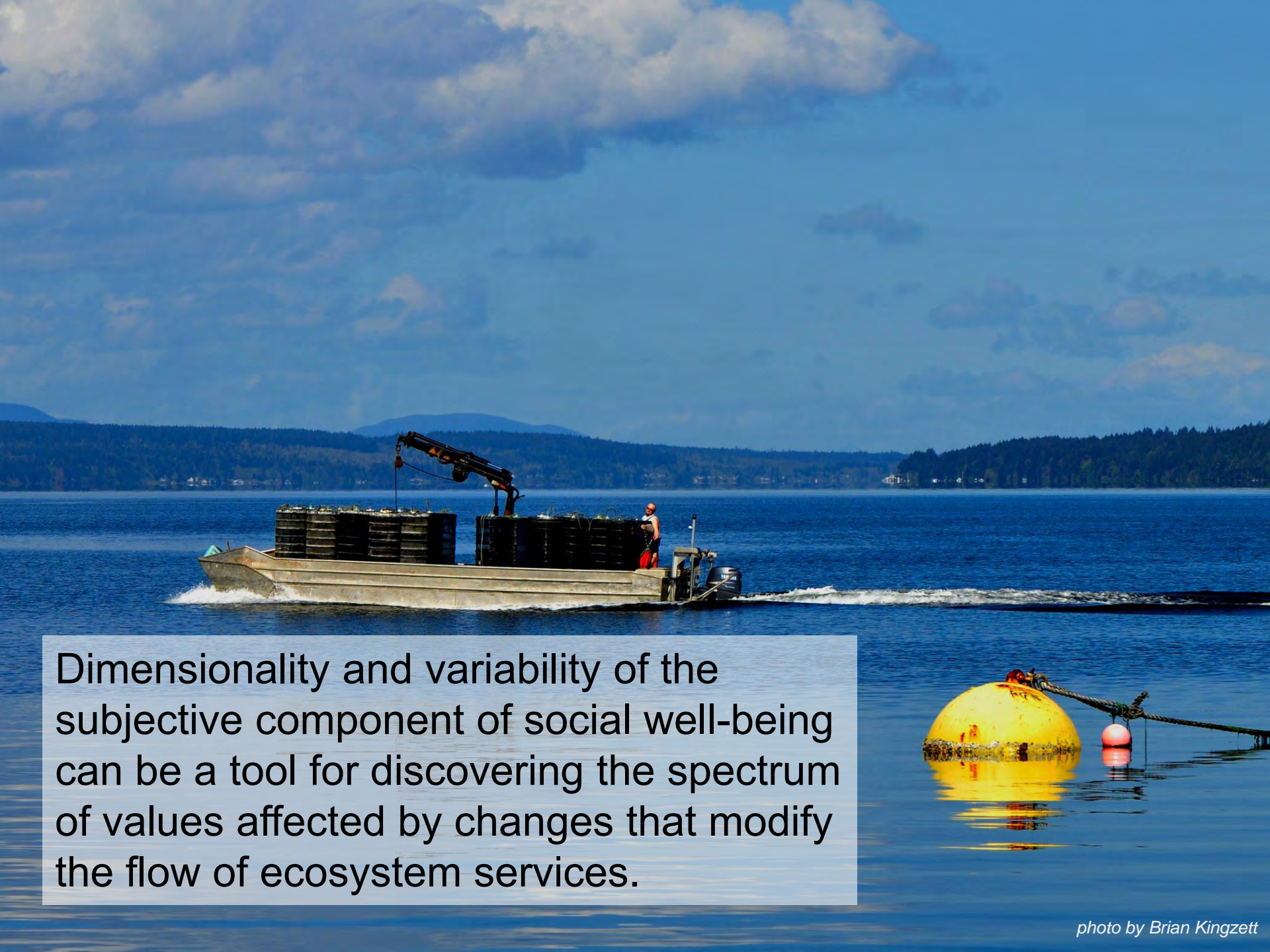
Perceptions about what matters about these effects on well-being are **variable**.

A coastal landscape with a rocky shore, a small pond, and a forest in the background. The scene is overcast and somewhat desaturated. In the foreground, there are large, dark rocks along the water's edge. A small, calm pond reflects the sky and the surrounding trees. In the middle ground, there are some wooden structures or debris near the water. The background is a dense forest of evergreen trees under a grey, overcast sky.

Changes in the flow of ecosystem services have several domains or **dimensions** of effect on social well-being: environment, economy, and experience.

Perceptions about what matters about the effects of these changes are **variable**.

Changes or artifacts like aquaculture that modify the delivery of ecosystem services are experienced and **valued** differently.

A photograph of a small motorboat on a large body of water. The boat is carrying several stacks of black barrels. A person is visible on the boat. In the foreground, there is a large yellow buoy and a smaller red buoy. The background shows a forested shoreline and mountains under a blue sky with scattered clouds.

Dimensionality and variability of the subjective component of social well-being can be a tool for discovering the spectrum of values affected by changes that modify the flow of ecosystem services.

Acknowledgments

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