


ACHIEVING FOOD SECURITY, ADEQUATE INCOMES, LIVELIHOODS AND RESILIENCE IN COASTAL COMMUNITIES:

Infrastructure for full spectrum sustainability in the
21st century

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We acknowledge that the lands on which we are situated are in the traditional territories of diverse Indigenous groups and acknowledge with respect their diverse cultures and histories. We also acknowledge that for generations, Indigenous Peoples have lived in reciprocal relationships with the land and oceans.

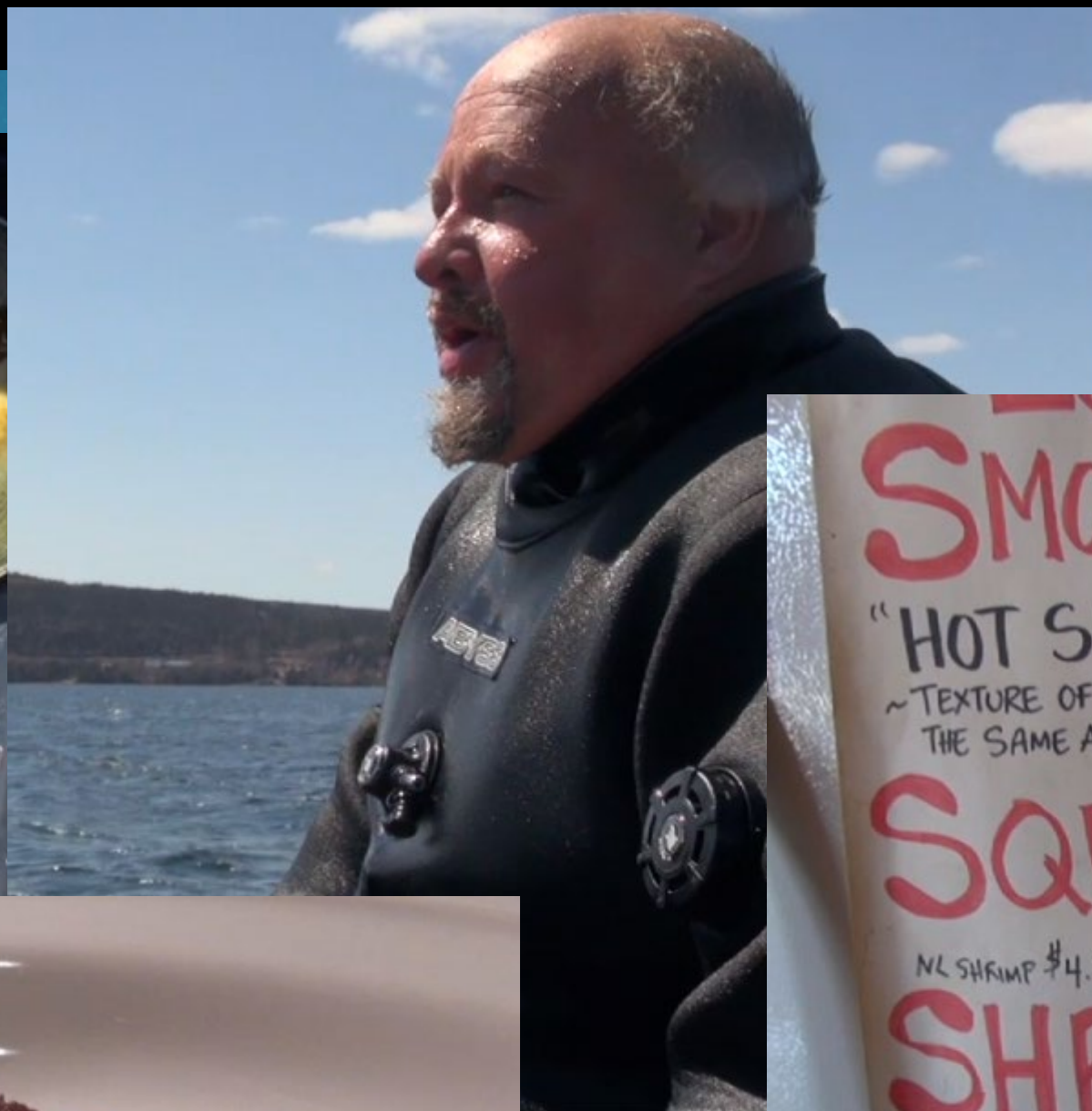
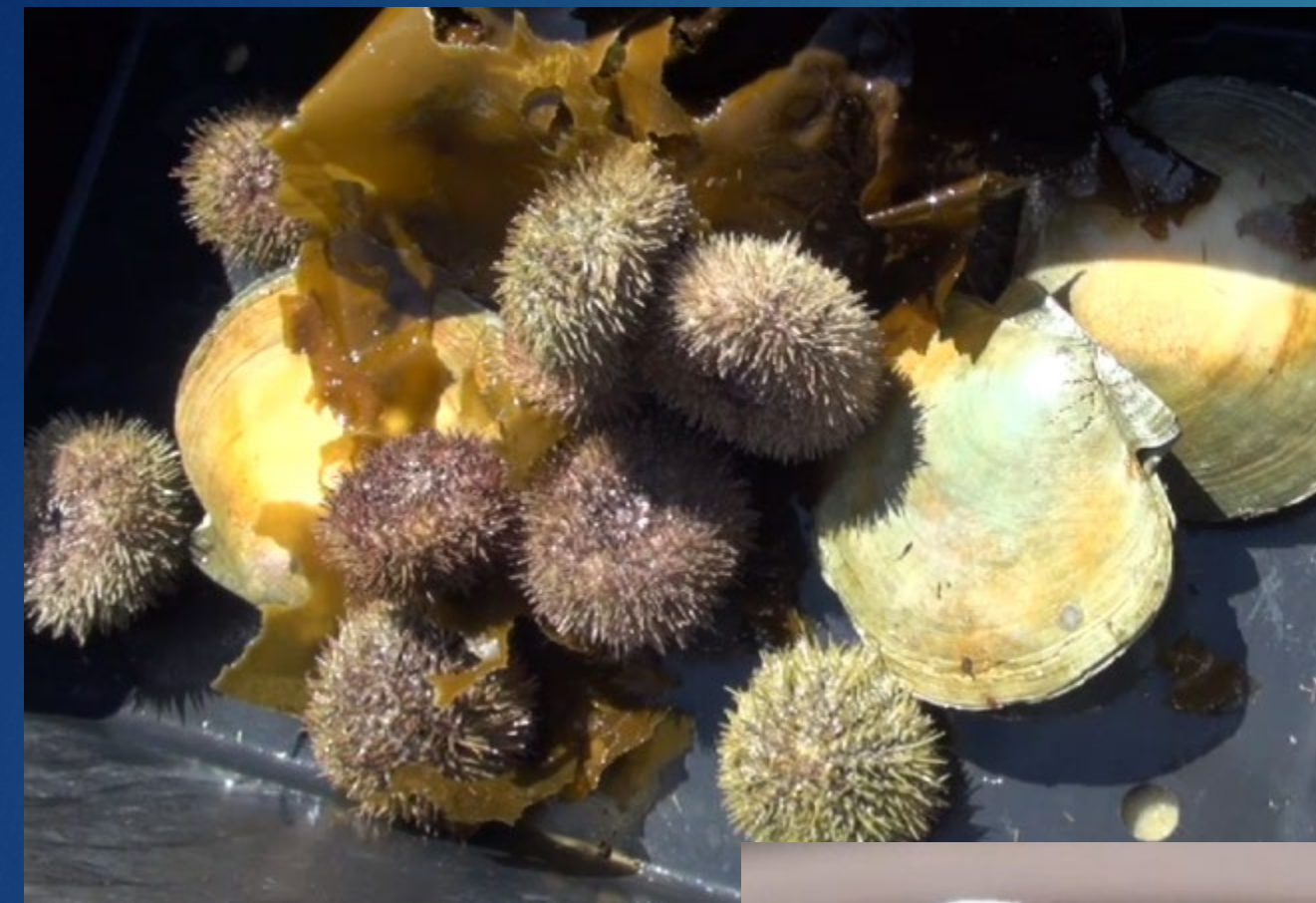
Overview/key messages

- ▶ no simple, linear relationship between abundance in the ocean and improved food security, incomes/livelihoods and community resilience
- ▶ dealing with complex social-ecological systems associated with high levels of uncertainty and institutional and other inertias
- ▶ the real opportunity is through design and implementation of a full spectrum sustainability approach to marine and coastal management:
 - ▶ ecological, economic, social/cultural, health and institutional dimensions
 - ▶ critical assessment of infrastructure requirements for this in the short and longer terms in context of climate and other changes?

Achieving Food Security Requires Abundance+

- ▶ Global food systems produce ‘Stuffed and Starved’ populations (Patel 2007)
- ▶ Canada ranks fifth in exports of agricultural and agri-food products globally
- ▶ > 5 million Canadians live in food insecure households (Smart Prosperity Institute (SPI) 2021; Tarasuk et al. 2022)
- ▶ Rural and northern communities in Canada (including in Atlantic Canada) are disproportionately vulnerable to food insecurity (SPI 2021; Tarasuk et al. 2022)
- ▶ Understanding fisheries, particularly small-scale fisheries, is essential to understanding and improving food security (Loring et al. n.d.)

The 100 Mile Seafood Diet



SMOKED SALMON 15 / LB	
"HOT SMOKE" ~TEXTURE OF FISH IS THE SAME AS COOKED FISH.	"COLD SMOKE" ~TEXTURE IS THE SAME AS RAW FISH (CAN SLICE THIN)
SQUID	~ CLEANED ~ \$ 4.99 / LB
	~ NOT-CLEANED ~ \$ 3.99 / LB
	~ CRISPY COATED ~ \$ 6.00 / BAG
SHRIMP	RAW SHRIMP 9.95 / LB Large
	COOKED SHRIMP 10.95 / LB Large
	NL Coldwater Shrimp 9.99 / LB Shell OFF
	NL Coldwater Shrimp 5.00 / LB Shell ON
LG. SCALLOPS	\$ 15.95 / LB LARGE
CHOWDER MIX	\$ 6.00 / BAG
TURRANT	

Opportunities for improving food security

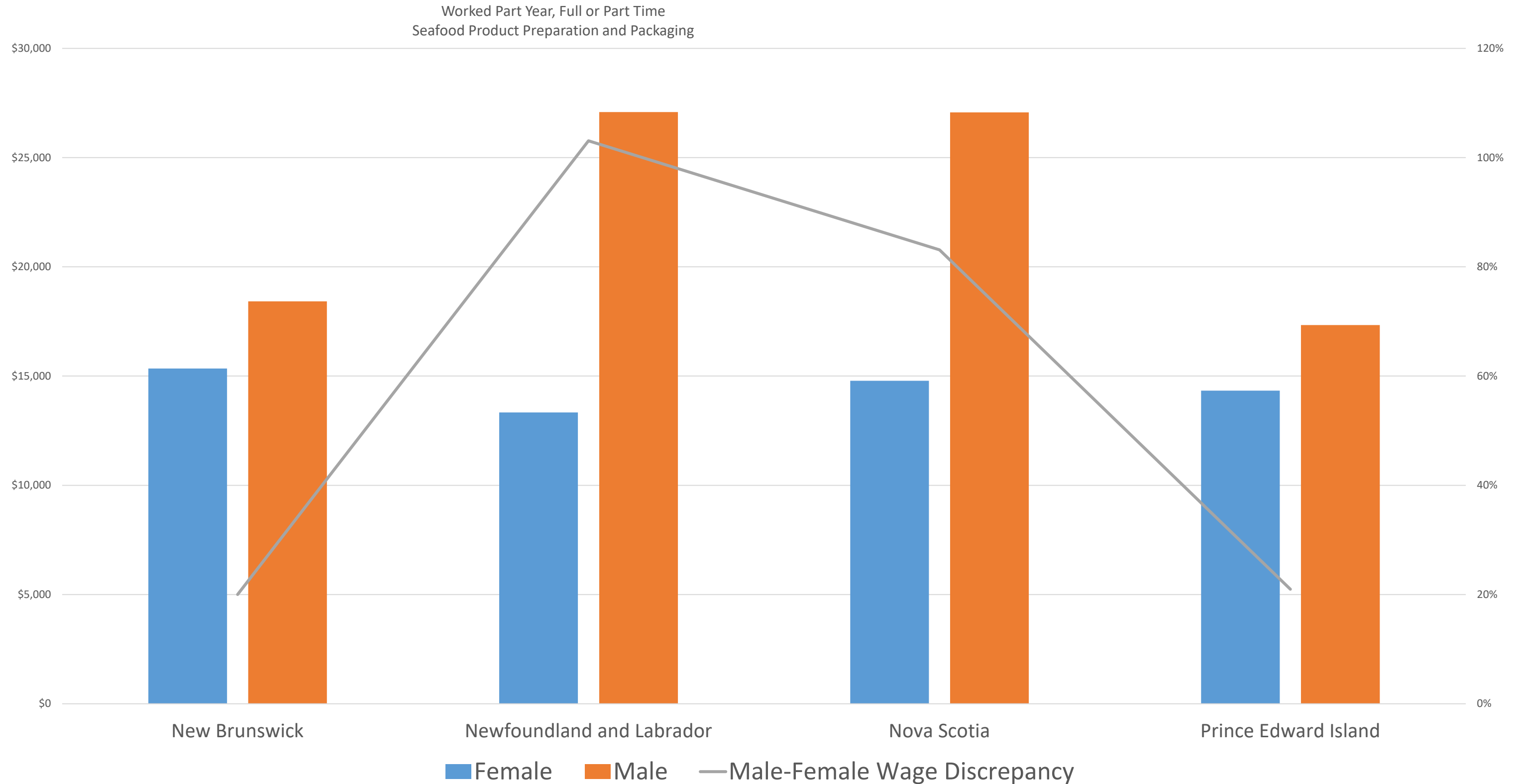
1. Use a food systems approach by exploring relationships across the value chain (from fish harvesters to processors, retailers and eaters)
2. Attend to social, cultural, and symbolic relations + governance and power dynamics associated with diverse fisheries and their implications for food (in)security and for future options (Lowitt et al. 2020).
3. Document and find ways to promote seafood accessibility, diverse food sourcing and consumption strategies (Lowitt 2014)
4. Replace linear with circular economy approaches to reduce pollution and waste, diversify production, maximize nutrient and food benefits (SPI, 2021)

Incomes and Livelihoods



Photo Credits: Kristen Lowitt and Pam Hall

Average Income by Province & Gender with Wage Discrepancy



Source: 2016 Census

In 2007, there were more than 125 fish processing plants in Newfoundland and Labrador
 Since 1979 approximately 500 women have worked at Icewater Seafoods

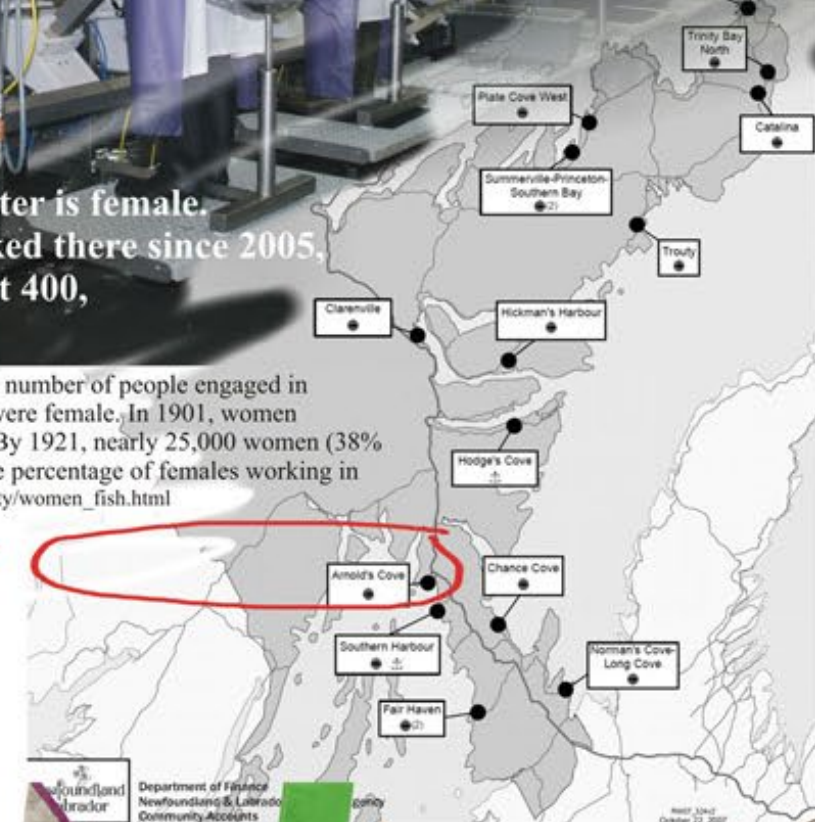


CUT
 TRIM
 CLEAN
 PACK
 WASH
 SHARPEN
 OPEN
 CLOSE
 FILLET
 INSPECT
 FEED
 SMOKE
 CLEAN
 GRADE
 TALLY
 WEIGH
 COUNT
 SPREAD
 ACCOUNT
 PAYROLL
 RECEPTION
 OPERATE MACHINES
 FILE
 ANSWER PHONES
 CALCULATE
 CONTROL QUALITY
 TRAIN NEW TRIMMERS
 STACK



About 65% of the workforce at Icewater is female.
 Approximately 230 women have worked there since 2005,
 though from 1982-92 there were about 400,
 and from 1997-2004, there were 460.

According to the Newfoundland Census of 1891, of the total number of people engaged in catching and curing fish in Newfoundland, 18,000, or 33% were female. In 1901, women comprised 34% of fishery workers and in 1911 it was 35%. By 1921, nearly 25,000 women (38% of the total), worked in the fishery. In some communities, the percentage of females working in the fishery was even higher. From: http://www.heritage.nf.ca/society/women_fish.html



Icewater Seafoods is in Arnold's Cove, Newfoundland.
 The plant opened in 1979 and has processed 10-12 million pounds of seafood every year since then.

73 women have worked over 2 million hours at Icewater in the last 30 years. (2,062,310 hours)

This represents an average of about 28,250 hours per woman since the plant opened in 1979.
 If all the 500 women who have worked there since then put in about the same average,
 that would amount to more than 14 million hours of women's labour (14,124,410 hours)



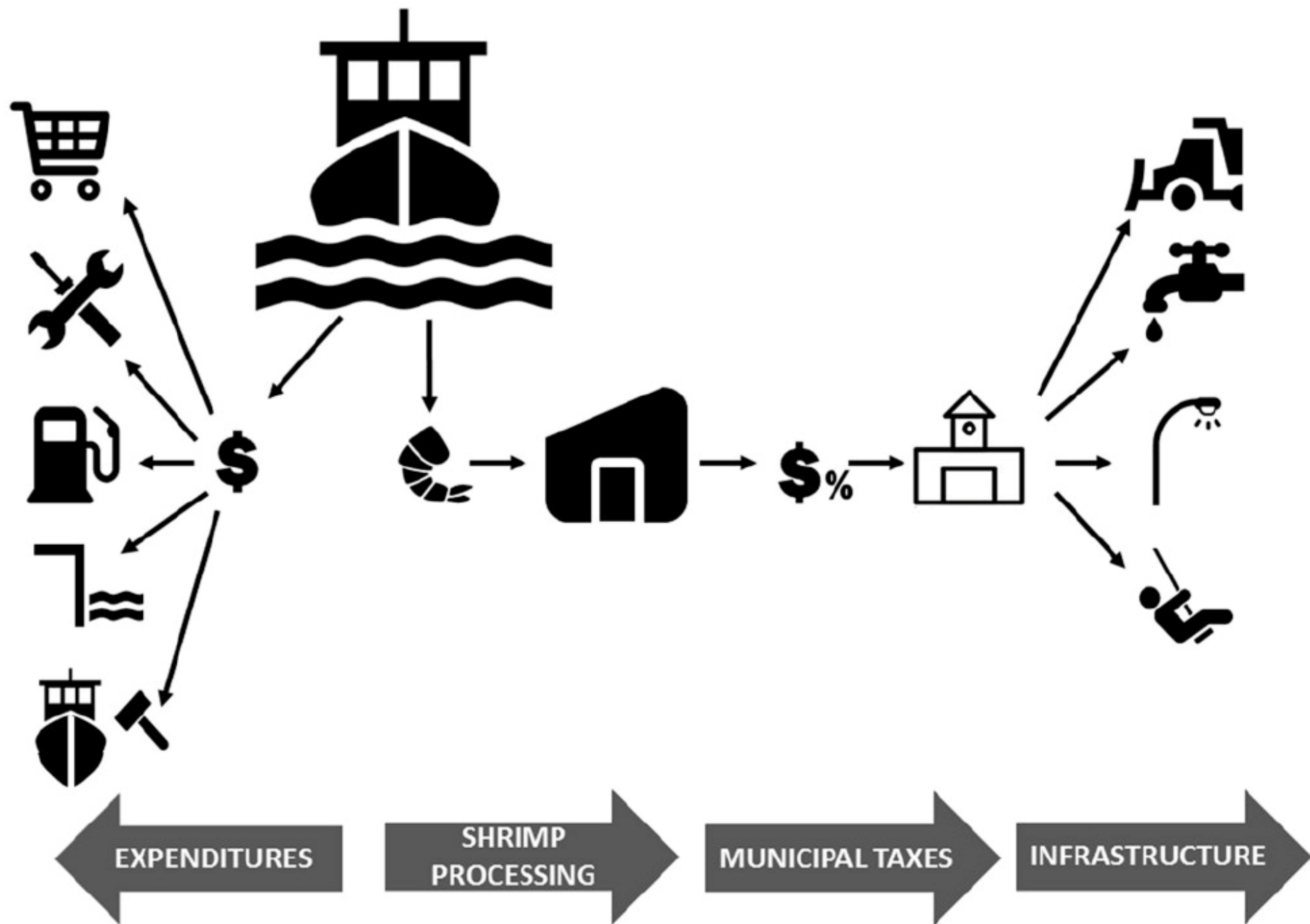
UNPAID WORK IN
 In Newfoundland and Labrador in 1996, 21 per cent of women over the age of 15 reported 30 or more hours of unpaid housework a week

In one year 73 women performed over 110,000 hours of unpaid work at home.
 That same year they worked about 98,600 hours at Icewater Seafoods.
 On average they began to work for pay at 17 years old.

CLEAN
 COOK
 IRON
 WASH
 DUST
 POLISH
 SWEEP
 VACUUM
 PAINT
 MOW GRASS
 BABYSIT
 SEW
 SHOP
 MEND
 GARDEN
 WASH
 BAKE
 NURSE
 REFEREE
 TEACH
 CHAUFFEUR
 PLAN
 PET CARE
 CHILDCARE
 PARENT CARE



Community resilience



Coastal communities are largely excluded from discussions/investigations around fisheries management

Real and potential contributions of fisheries and marine and coastal resource extraction/processing to community resilience are rarely quantified in Canada.

Opportunities:

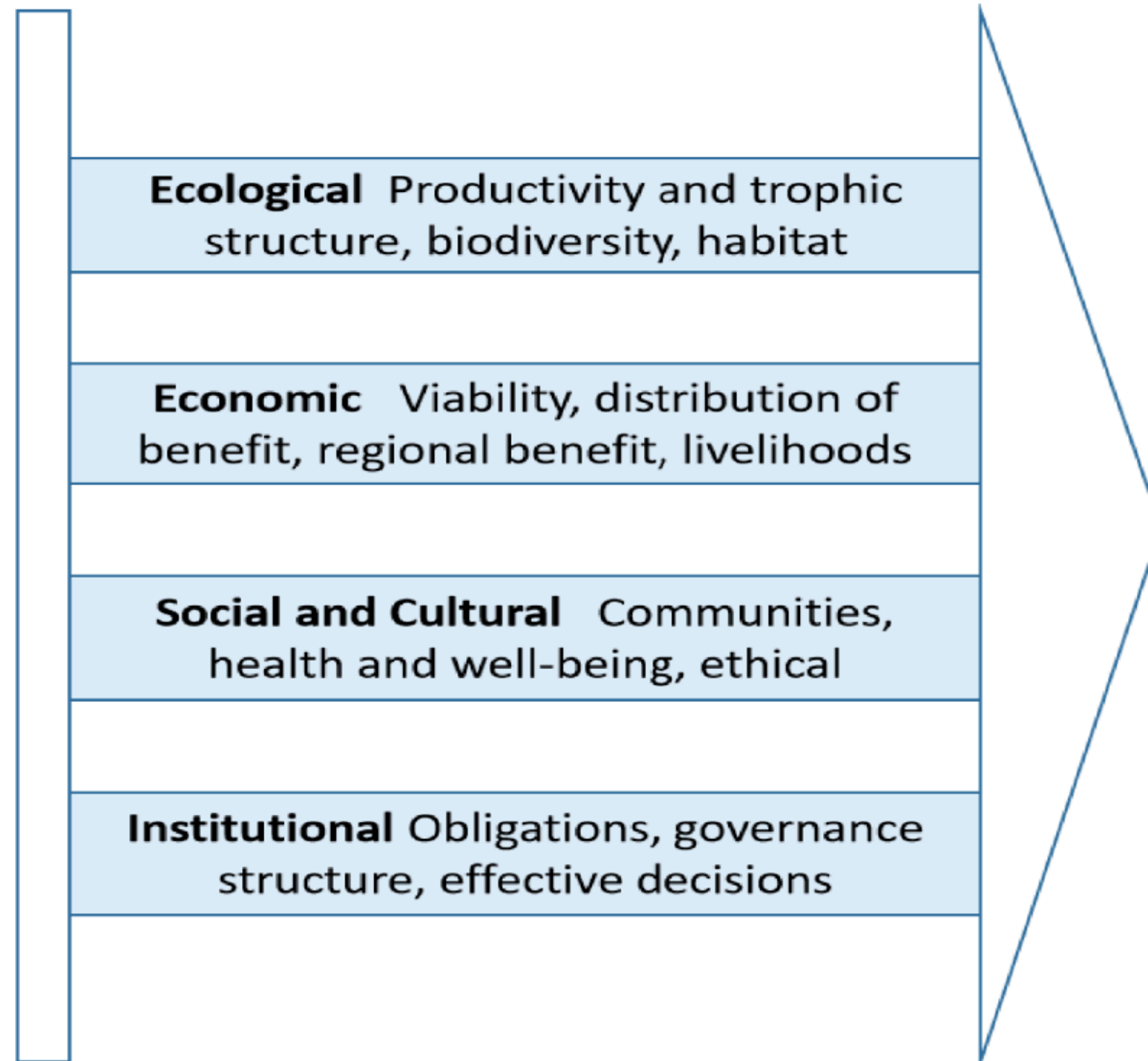
a) Identify ways to enhance incomes and livelihood opportunities in coastal communities by linking these to community resources/infrastructure development and food security

b) Develop linkages between diverse forms of seafood harvesting and processing, conservation activities and cultural practices and other types of initiatives (i.e. fisheries-tourism synergies; education; social inclusion) (Neis et al. 2014)

Full-spectrum sustainability: an alternative to fisheries management panaceas

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Full-Spectrum Sustainability



Infrastructure design for Full Scale Sustainability



Design credit: Dr. Kim Cullen

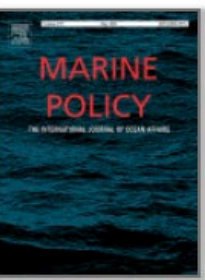
- ▶ There are diverse infrastructure needs across the sustainability spectrum (Foley et. al. 2021; Foley et al. 2022)
- ▶ Proactive, long-term thinking, foresight and planning based on equity and inclusion are required (Kelly et. al. 2022)



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Full length article

Foresighting future oceans: Considerations and opportunities

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Thank You



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<https://t14116823.p.clickup-attachments.com/t14116823/9cdbc48-0724-4cfb-b5cb-dc7b203114a3/Circular%20Food%20Solutions%20in%20Canada%20-%20A%20Coast%20to%20Coast%20Landscape%20Scan%20Final%5B81%5D.pdf?view=open>

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