



Assessing the environmental footprint of the Bristol Bay sockeye fishery

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The Guardian

Stop eating fish. It's the only way to save the life in our seas

George Monbiot

Unhindered by regulation, driven by greed, the fishing industry is the greatest threat to our oceans. We must take action



WoDEF - World Day for the End of Fishing

March 28, 2020



Bangkok (Thailand)



Bielefeld (Germany)



Bielefeld (Germany)



Bogota (Colombia)



Fribourg (Switzerland)



Paris (France)



Paris (France)



Paris (France)



Santiago (Chili)



Stuttgart (Germany)



Stuttgart (Germany)



Valencia (Spain)

Plant based fish



**GOOD
CATCH**

PLANT MADE
CHEF MASTERED

MENU ≡

**PLANT-BASED TUNA.
IT'S NOW A THING.**

[SHOP AMAZON NOW!](#)

IT'S TUNA REINVENTED

The 100% Plant-Based Seafood Alternative by Good Catch



REAL SEAFOOD
TASTE



HIGH IN
PROTEIN



OMEGA-3 FATTY
ACIDS



VEGAN



LEGUME BLEND

Vegan Smoked Salmon

Last Updated: Jun 21, 2019 Published: Dec 11, 2017 By: Iosune 34 Comments

[Recipe](#) ▾[Print](#) ▾

Vegan smoked salmon, made with natural ingredients. It's low in fat and the texture is on point. We served it on crackers with vegan cream cheese.



Salmon too!

www.sustainablefisheries-uw.org



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Plant-based seafood startups launch in U.S. & U.K

What are the concerns?

Concern	BB Sockeye	Vegan alternatives
Stock health/management	Excellent	Never done
Bycatch / biodiversity	Almost none	Rain forest loss
Greenhouse gas	?	?
Nutrients release	?	Fertilizer
Animal welfare	Fish are killed	Lots of animals killed
Human health	High nutritional value	Lower nutritional value



Available at participating restaurants in St. Louis. TM & © 2019 Burger King Corporation.
Impossible is a trademark of Impossible Foods Inc. Used under license.

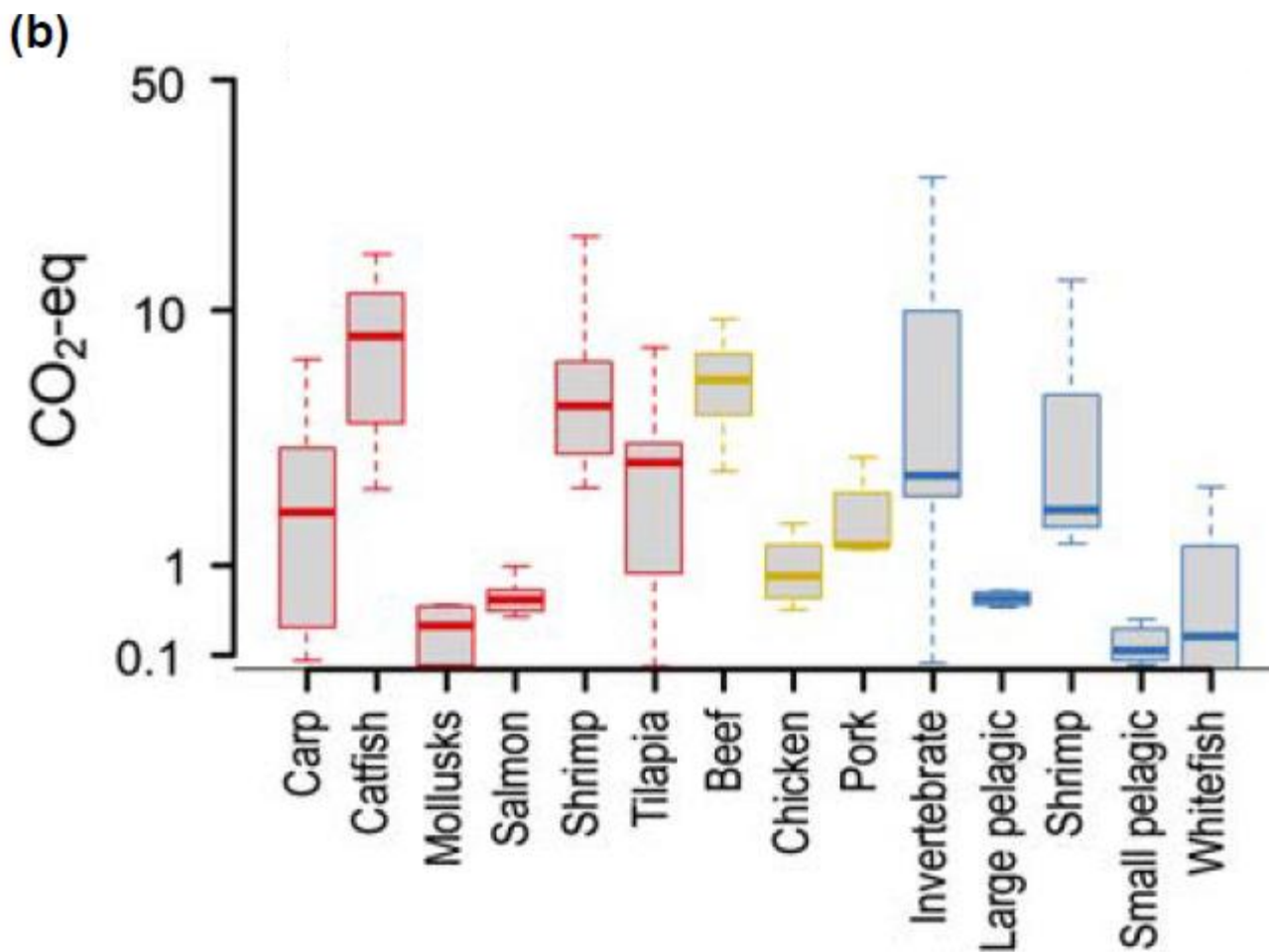
IMPACT CATEGORY	UNIT	IMPOSSIBLE™ BURGER	BEEF BURGER	DIFFERENCE
Aquatic Eutrophication Potential	g PO4-eq	1.3	15.1	-92%
Global Warming Potential	kg CO2-eq	3.5	30.6	-89%
Land Occupation*	m2.y	2.5	62.0	-96%
Water Consumption	liters	106.8	850.1	-87%

How does a sockeye sandwich compare?

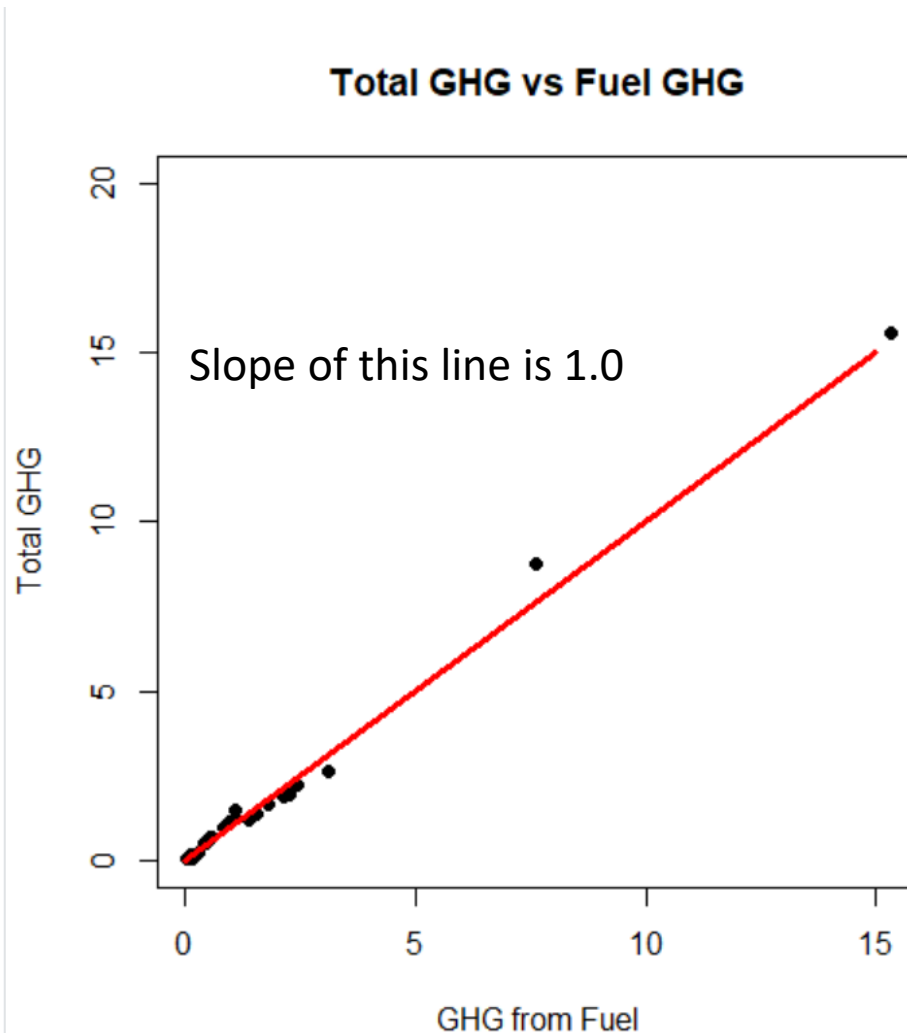


The environmental cost of animal source foods

Ray Hilborn^{1*}, Jeannette Banobi¹, Stephen J Hall², Teresa Pucylowski³, and Timothy E Walsworth¹



For fisheries capture, carbon footprint comes almost exclusively from fuel use



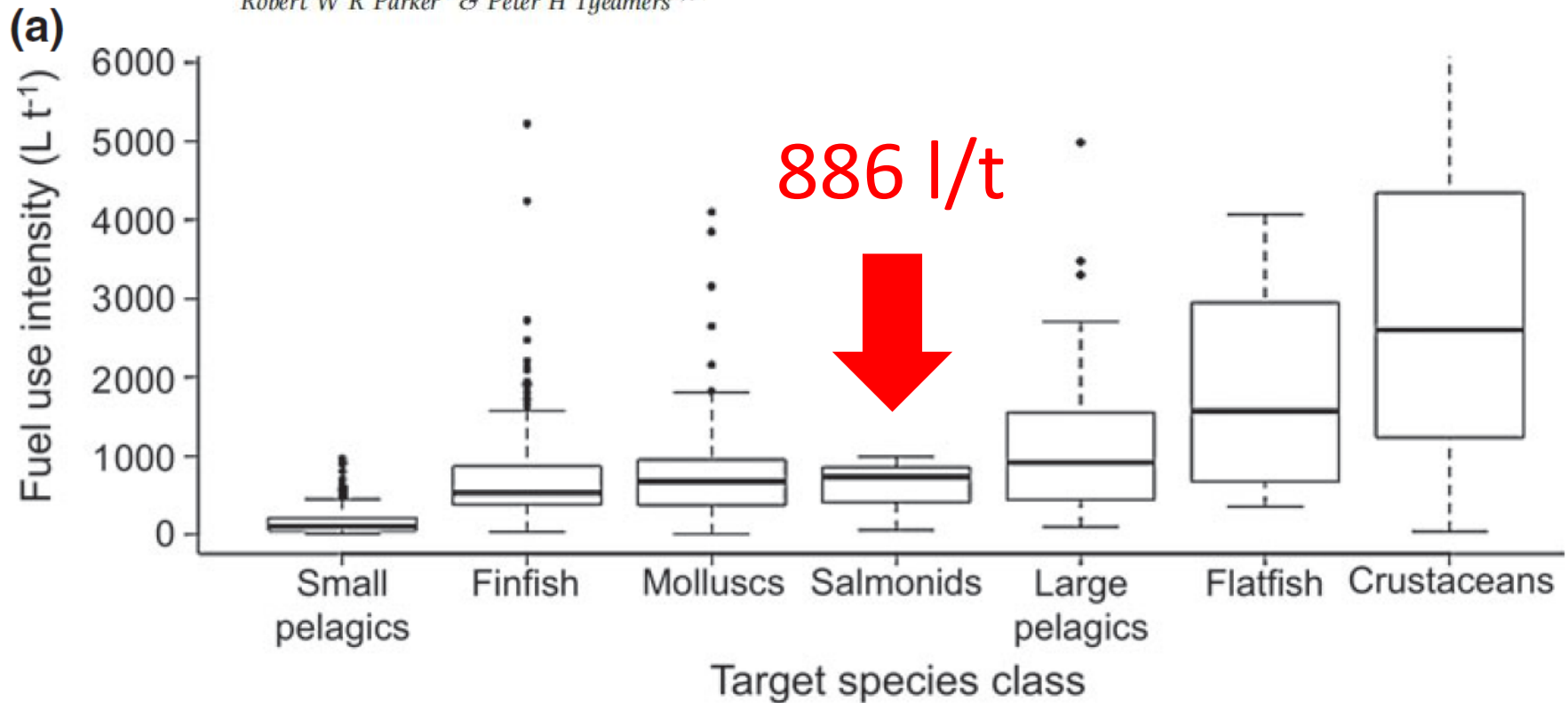
FISH and FISHERIES



FISH and FISHERIES, 2015, 16, 684–696

Fuel consumption of global fishing fleets: current understanding and knowledge gaps

Robert W R Parker¹ & Peter H Tyedmers^{2,3}

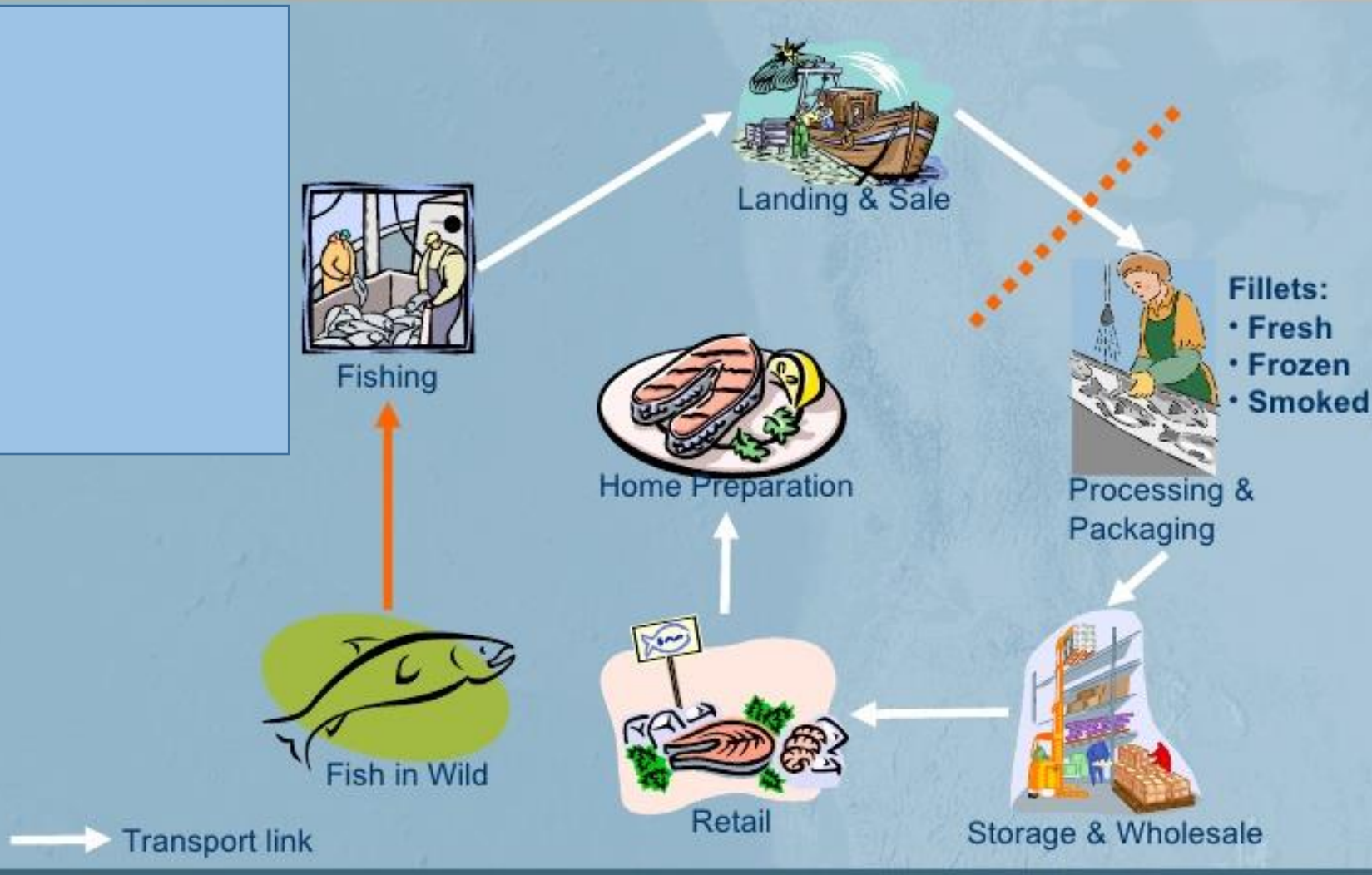


Fuel use for Bristol Bay average liters per ton

	BB drift
harvest	60
harvest and tender	121
tender	75
Processing	120

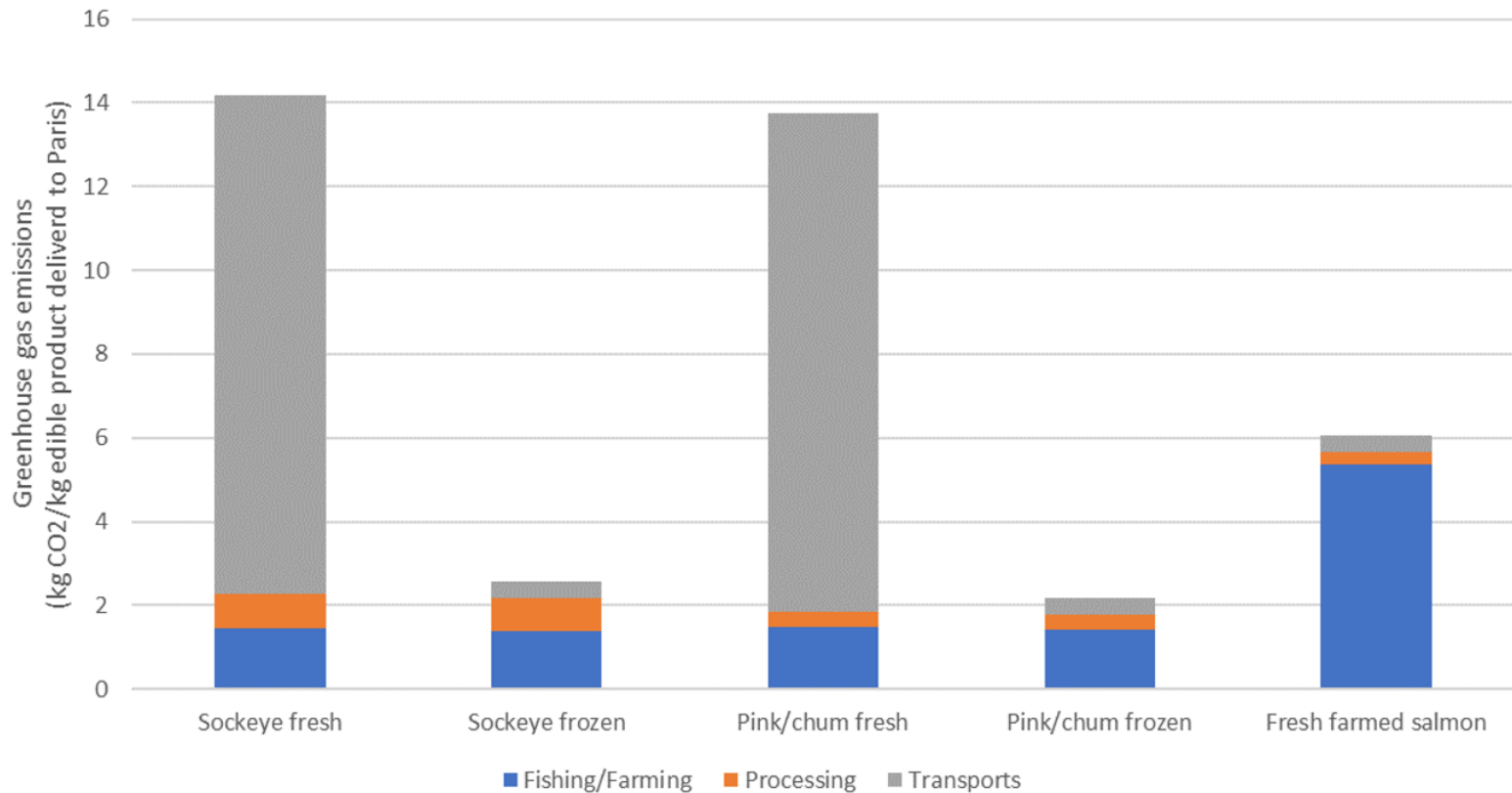
120-135 l per ton – much much less than
886 l/ton

LCA of Salmon Fishing



<https://www.slideshare.net/ecotrust/lifecycle-assessment-of-salmon-fisheries-and-aquaculture-in-the-northeast-pacific>

Alaska salmon vs Norwegian farmed salmon delivered to Paris





3.5 KG CO₂ per kg
product

2.0 KG CO₂ per kg
product

Next steps

- COVID has slowed things down – everyone has had a lot on their minds
- Major unknown in capture CO₂ is refrigerant use – proving to be very difficult
- Some details of processing - packaging etc.

The image features a classic 'bullseye' pattern of concentric circles. The outermost ring is black, followed by a red ring, then a black ring, and so on, creating a tunnel-like effect. In the center, the text 'That's all Folks!' is written in a white, elegant cursive font. The text is positioned diagonally across the center of the pattern.

That's all Folks!

GHG per kg of finished kg of sockeye

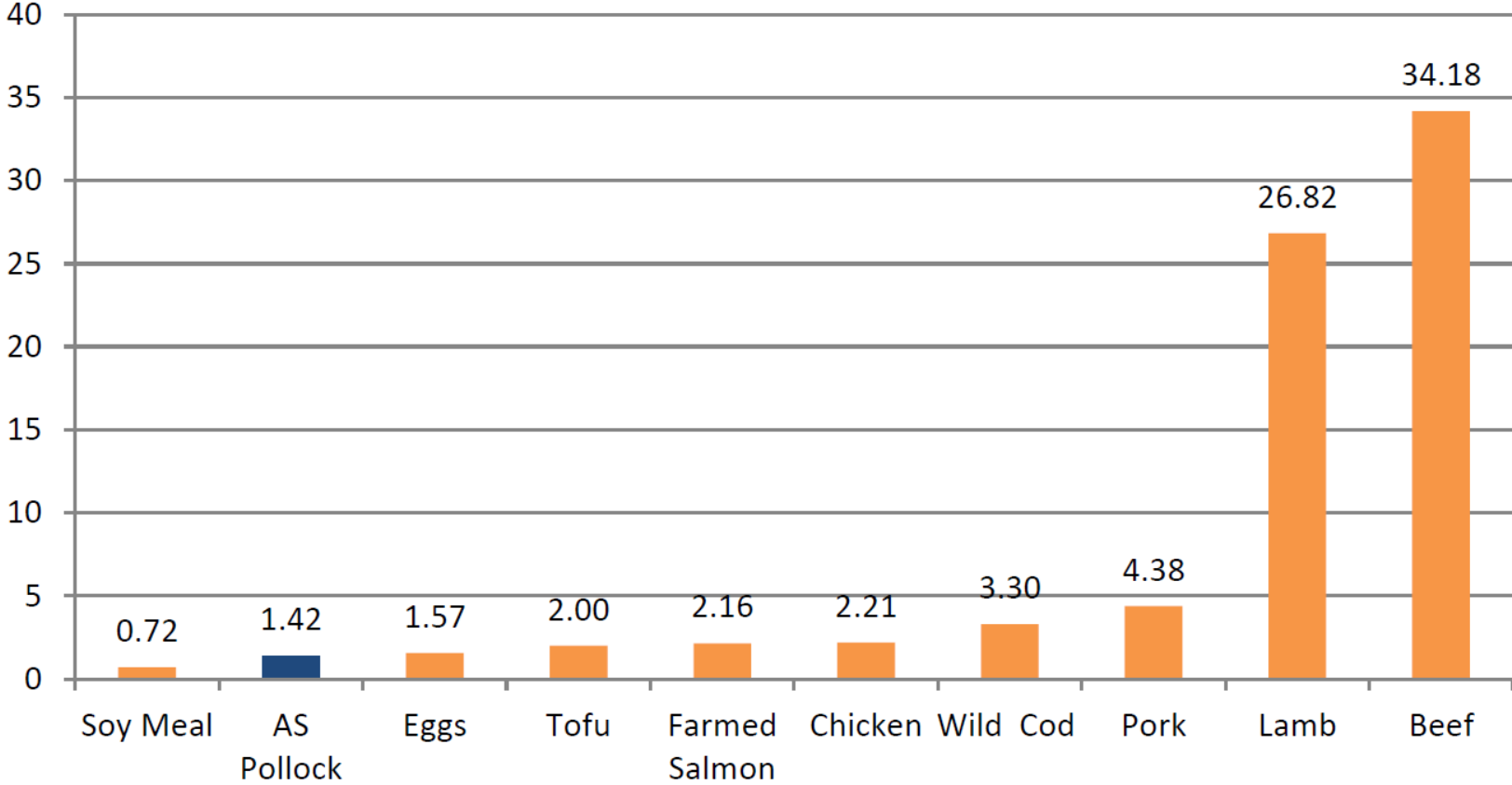
	PWS Purse seine	BB drift
harvest	0.35	0.32
harvest and tender	-	0.65
tender	0.34	0.40
processing	0.28	0.64
Total	0.97	1.32

Diesel fuel produces 2.68 kg of CO₂ per liter burned

- GHG costs of exploration and extraction
- GHG costs of refining
- GHG cost of transport
- GHG released by burning

American Seafoods LCA of pollock

Product Comparison: Yield Numbers Applied
(Converted Carcass Weight to Edible Weight)



From Zach Koehn's thesis

Nutrient Richness Index

