

ECONOMICS OF PROTECTED SPECIES

The value of eco-labels through revealed consumer preferences for seafood in San Diego County

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World Wildlife Fund

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**Southwest
Fisheries
Science
Center**

Overview

1. Intro: Eco-labels as market-based policy Instruments
 2. Design & Methods: Study Goals and Data
 3. Results: Availability, Price, Trophic Level, Ecolabels
 4. A Closer Look: Dolphin Safe Tuna
-

Eco-labels as market-based policy instruments



Monterey Bay Aquarium
Seafood Watch



Non
GMO



BPA
Free



Sustainably
Caught



Mercury
Tested



Additive
Free



Dolphin
Safe



Gluten
Free



Certified
Paleo



Lean
Protein



More
Omega 3s

Study Goals

Part One: Describe and quantify the consumer market landscape for

fish in San

Can ecolabels address both
the information externality
and the ecosystem externality?

Part Two: consumer

preferences to measure the value of ecolabels on bycatch
mitigation and environmental protection?

Study Design: stratified random sample, panel & cross-section data

Stratified random sample of survey locations

72 locations selected from a total of 256 across San Diego County, divided into 4 strata

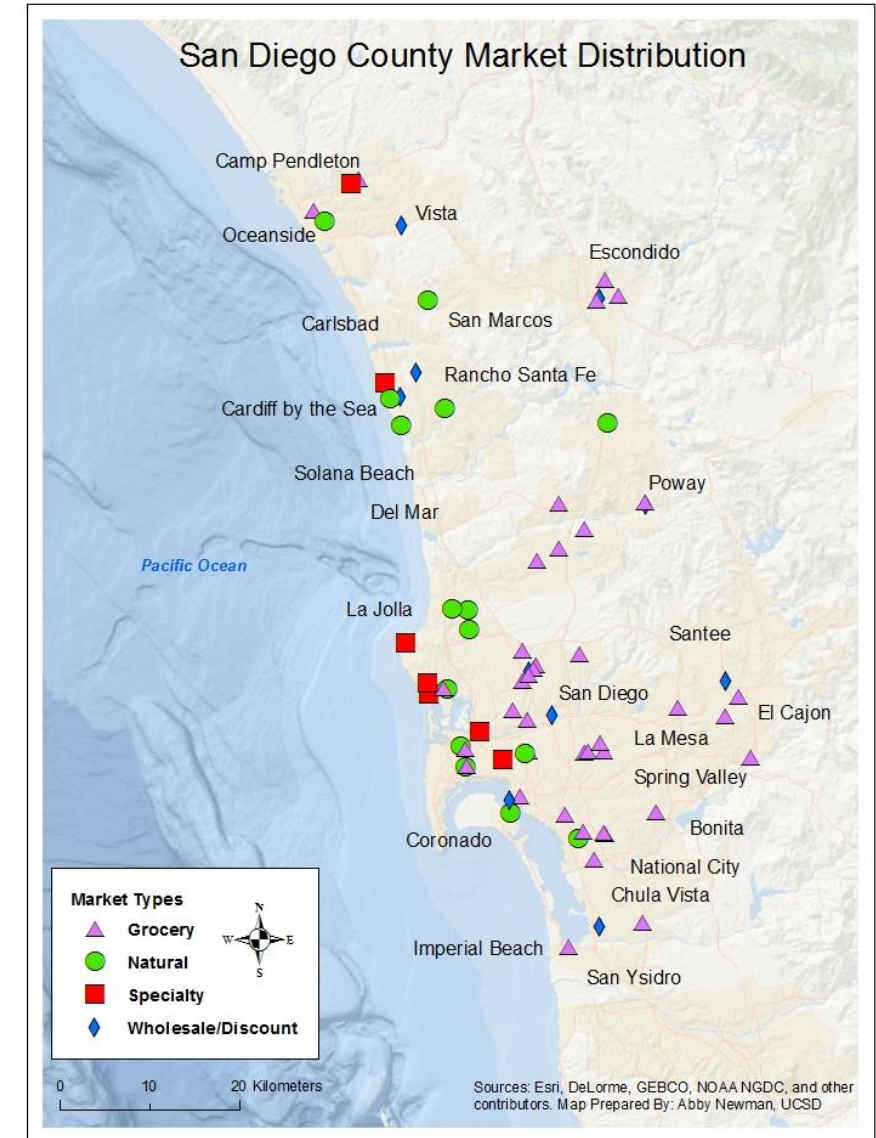
Panel Data: Six bimonthly visits from Sept 2015 – Aug 2016

Data recorded for all non-frozen seafood products and all frozen shrimp products:

- Species name*
- Price
- Production method
- Condition at sale
- Country of harvest
- All additional labeling: Keywords, eco-labels, etc.

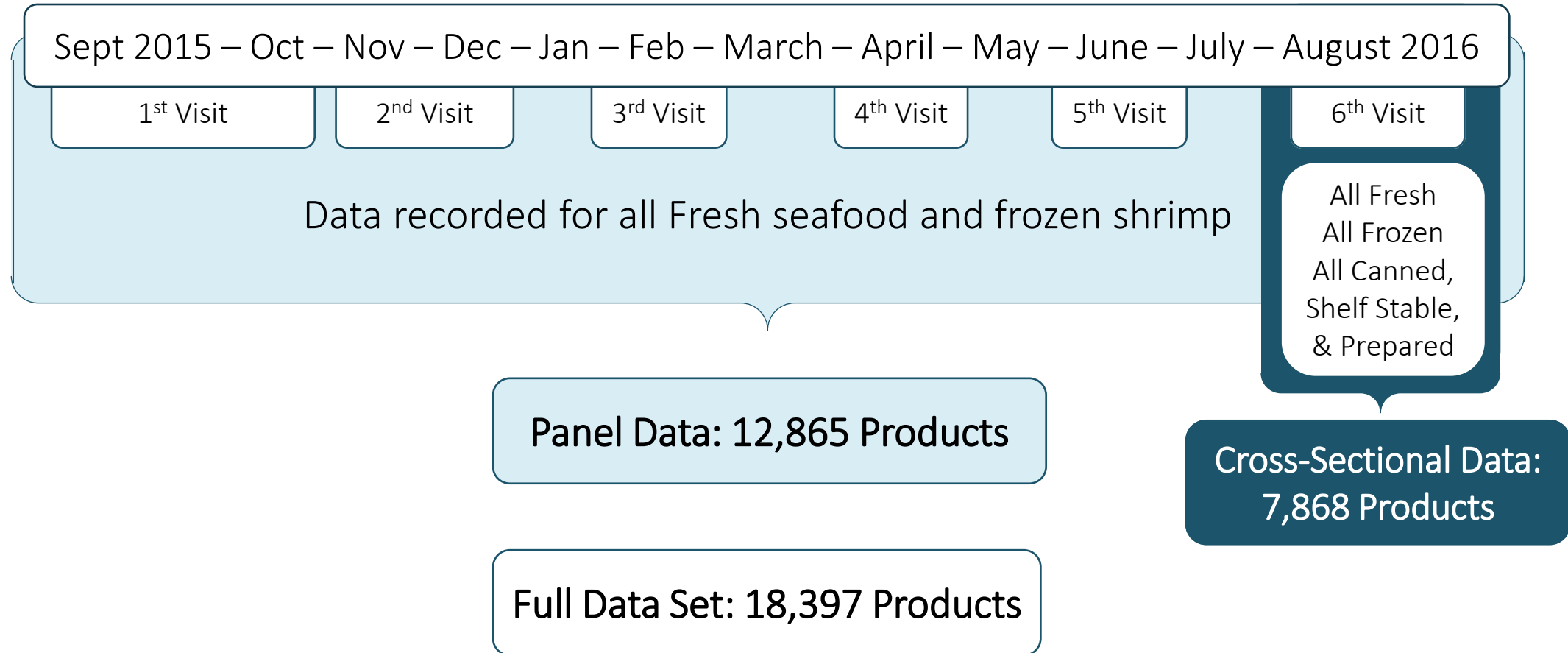
Cross-sectional Data: August 2016

Data recorded for ALL seafood products in each market, including Frozen, Canned, Prepared, Shelf Stable, and other refrigerated products.



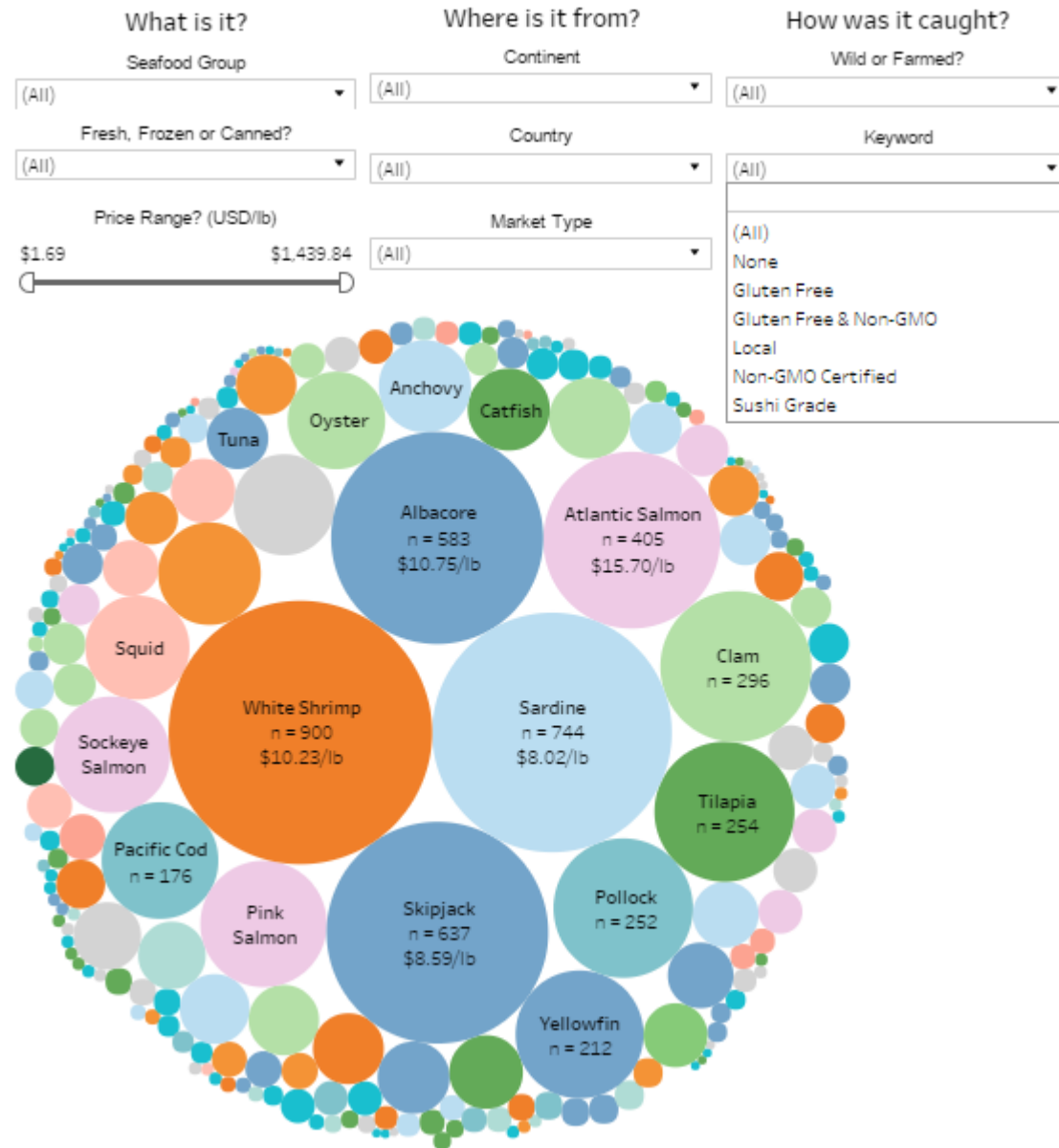
*Species identified to highest level of certainty with trophic level data after the survey period using Fishbase and Sea Around Us.
Map prepared by Abby Newman, Scripps Institution of Oceanography

Data Set: Panel and cross-sectional data



Results: Cross Section

Interactive Graphic



Number of observations by common name. Hover to see common name, number of observations, and average price. Use the filters above to view different portions of the data.

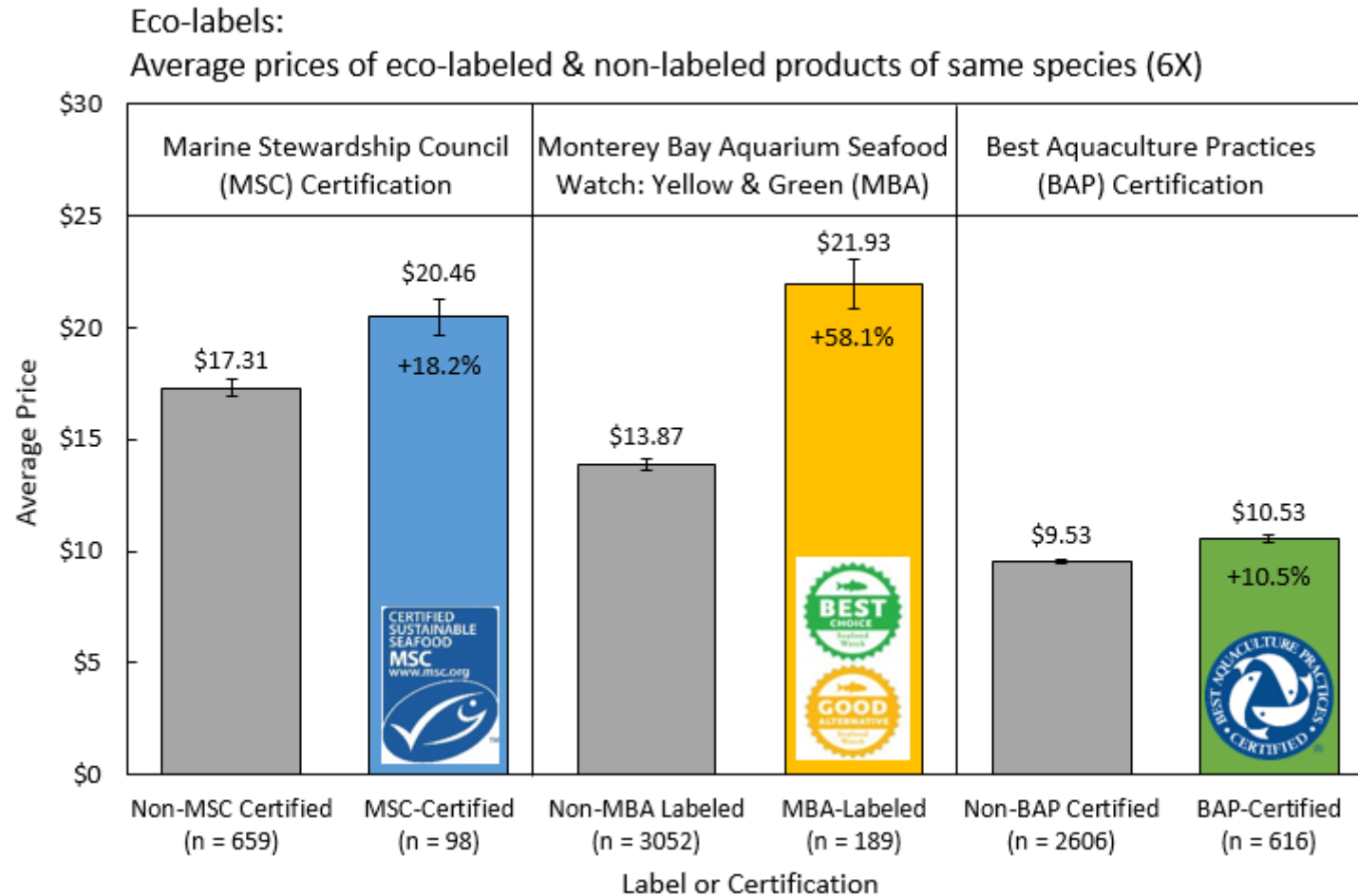
Results: Panel

Interactive Graphic



Plot of average of price by trophic level of fresh seafood products in San Diego county markets. Hover to see the common name, average price, and number of observations for each point. Use filters at top to see different parts of the data.

Results: Price Premiums for Ecolabelled products



Number of species:

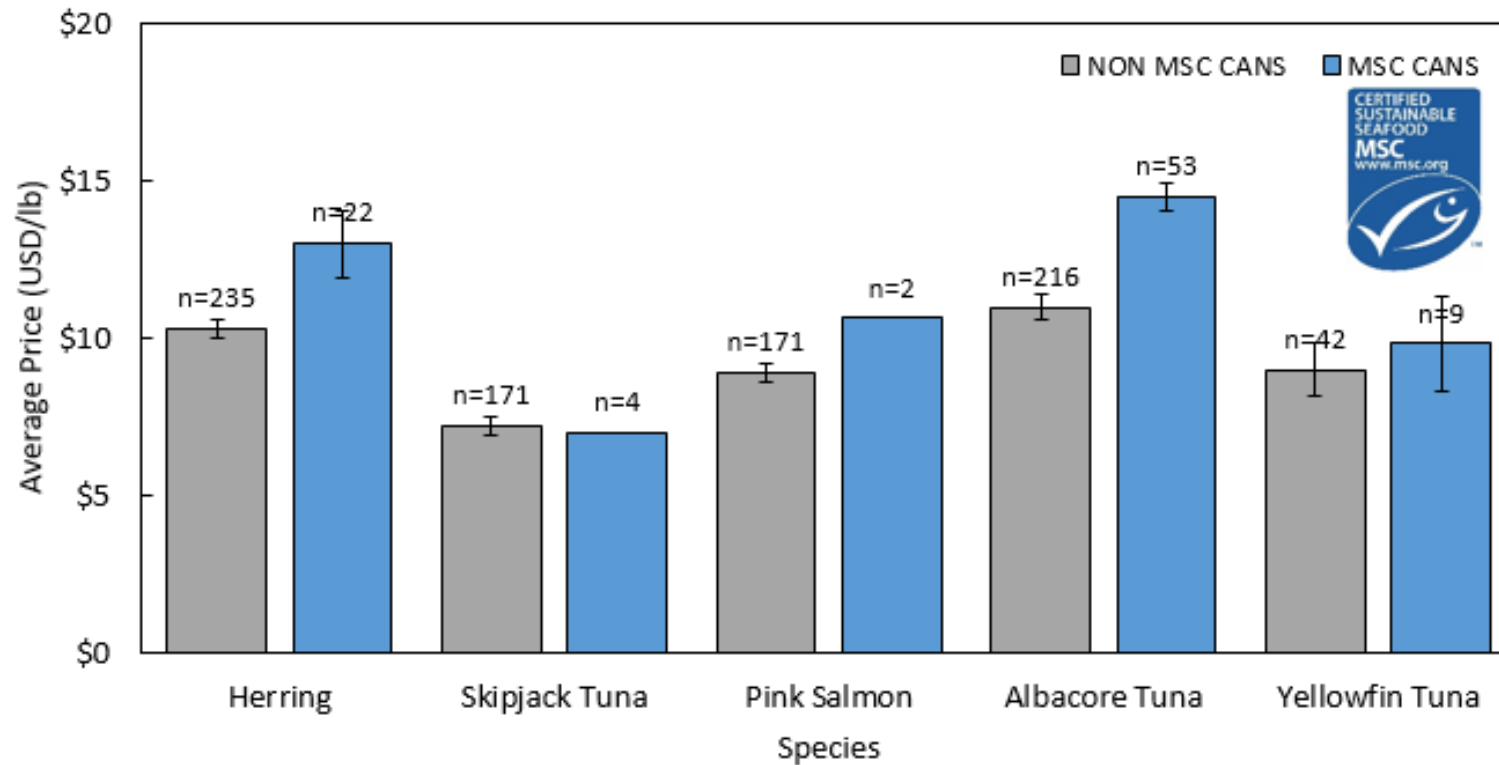
MSC = 8

MBA = 27

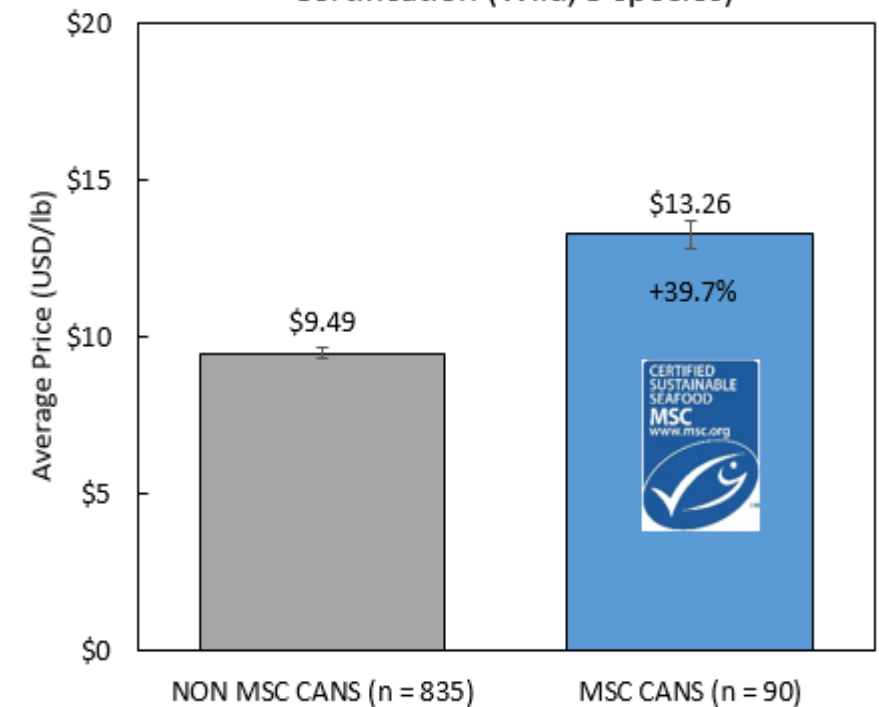
BAP = 3

Results: MSC Certified Seafood Species

CANNED: Marine Stewardship Council (MSC) Certification
(Wild, 5 species, MSC N = 90, NON MSC N = 835)

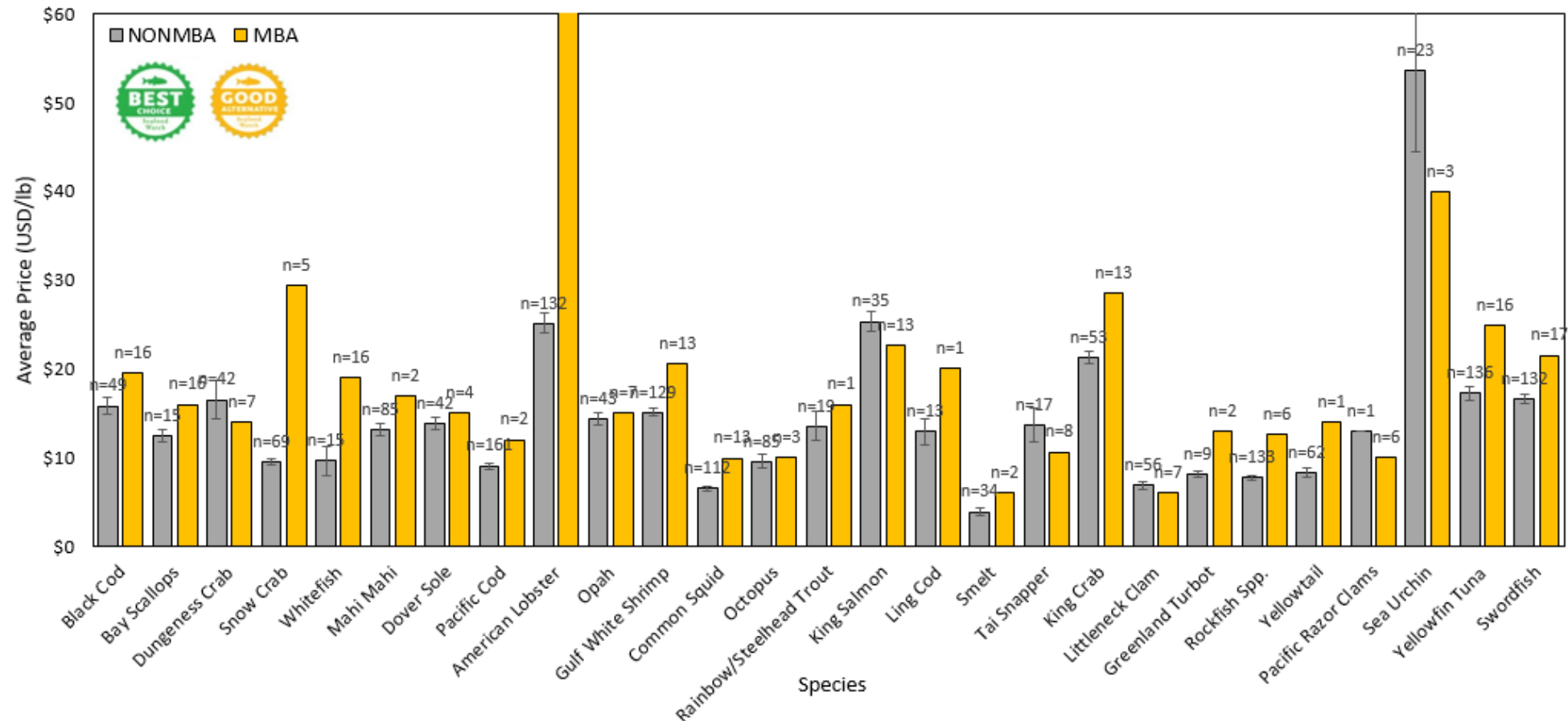


CANNED: Marine Stewardship Council (MSC) Certification (Wild, 5 species)



Results: Monterey Bay Aquarium Seafood Watch Yellow and Green Rating @ Whole Foods Markets

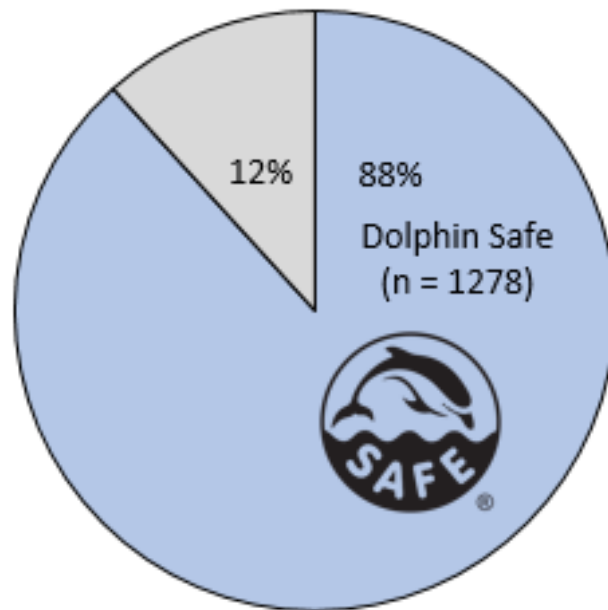
Monterey Bay Seafood Watch (MBA) Yellow & Green Rated Species
(Wild, Non-Frozen, 27 species, MBA N = 185, NON MBA N = 1702)



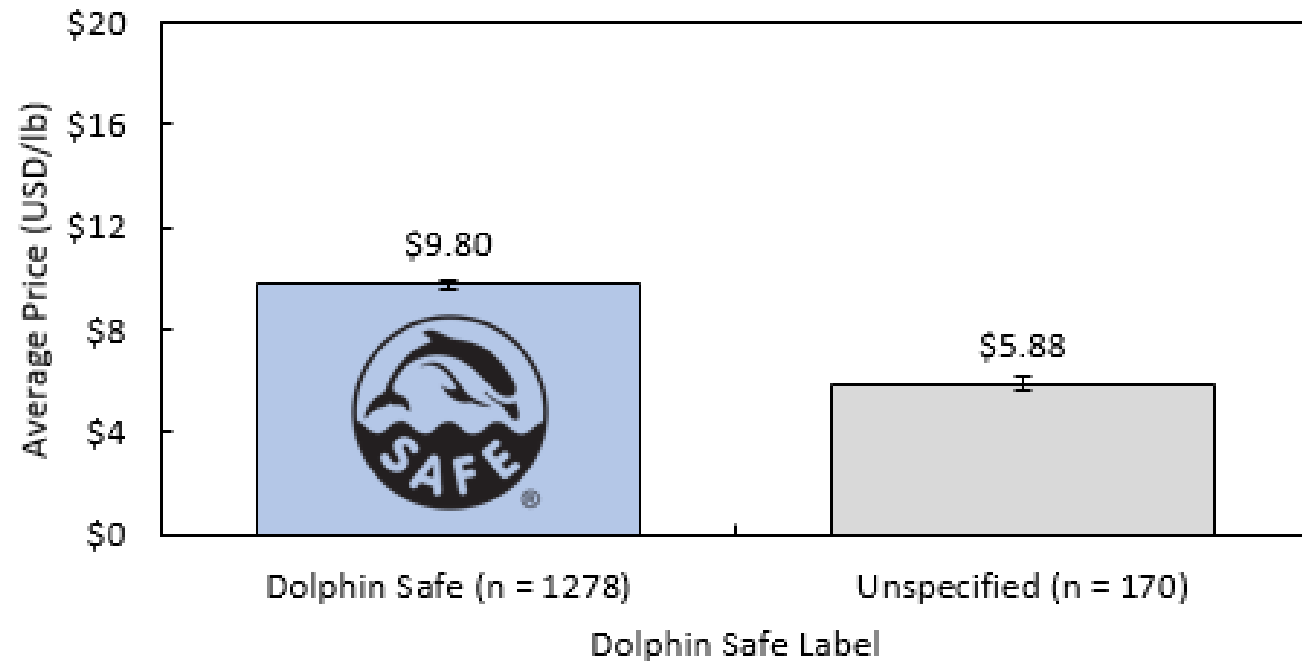
A Closer Look: Dolphin Safe Tuna



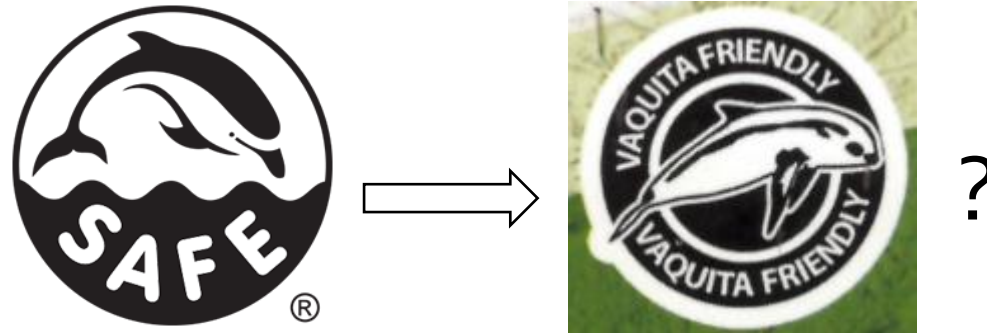
Dolphin Safe Label (n = 1448)



Canned Tuna: Dolphin Safe Label (n = 1448)



Conclusions & Challenges



Conclusions & Challenges

How can we best apply this set of market data to measure the value of ecolabels to bycatch mitigation for protected species?

In Theory: One policy instrument per externality, unless the externalities are closely linked enough.

In Practice: Is an ecolabel enough to address both the bycatch and the information externalities?

SUPPLEMENTARY INFORMATION



Existing Eco-label Frameworks:

Benefit	Marine Stewardship Council	Monterey Bay Aquarium Seafood Watch	Dolphin Safe	Fair Trade
Market Access	Yes	Yes	Yes	Yes
Price Premium	Yes	Yes	Yes	Yes
Measurable Impact for Protected Species?	No	No	Yes	No

Fair Trade Model: Premiums for Impact

PRICE AND PREMIUM DATABASE

Product with special Price or Premium terms are identified by an asterisk (*) in the "Special Price Terms" column. For an explanation of special Price and Premium terms, see the "Special Price Terms" column.

Product

Skipjack tuna (Ka

Region/Country

World-wide ▾

☐ Include World

Search

PACIFIC BLUE SHRIMP (LITOPENAEUS STYLIROSTRIS)

Product▲	Product Form	Product Characteristic	Quality	Country/Region	Inco Term Level	Special Price Terms	Unit	Quantity	Currency	Fair Trade Minimum Price	Fair Trade Premium	Relevant Market Price	Effective Date
Pacific blue shrimp (Litopenaeus stylirostris)	Frozen			Mexico	EXW				USD	Commercial price	6% of ex-vessel price		08/15/2015

SKIPJACK TUNA (KATSUWONUS PELAMIS)

Product▲	Product Form	Product Characteristic	Quality	Country/Region	Inco Term Level	Special Price Terms	Unit	Quantity	Currency	Fair Trade Minimum Price	Fair Trade Premium	Relevant Market Price	Effective Date
Skipjack tuna (Katsuwonus pelamis)	Canned			Islamic Republic of Maldives	EXW				USD	Commercial price	3% of ex-vessel price		01/15/2016



A Closer Look: Swordfish

Swordfish: Domestic vs. Imported (n = 199)

Average Price (USD/lb)

Average Price (USD/lb)

Average Price (USD/lb)

Average Price (USD/lb)

Swordfish: Gear Type (n = 199)

Swordfish: Catch Location

Swordfish: Product

Swordfish

Average Price (USD/lb)

MBA Green @ WF
(n = 17)

MSC (n = 3)

All Others (n = 179)

Eco-Label

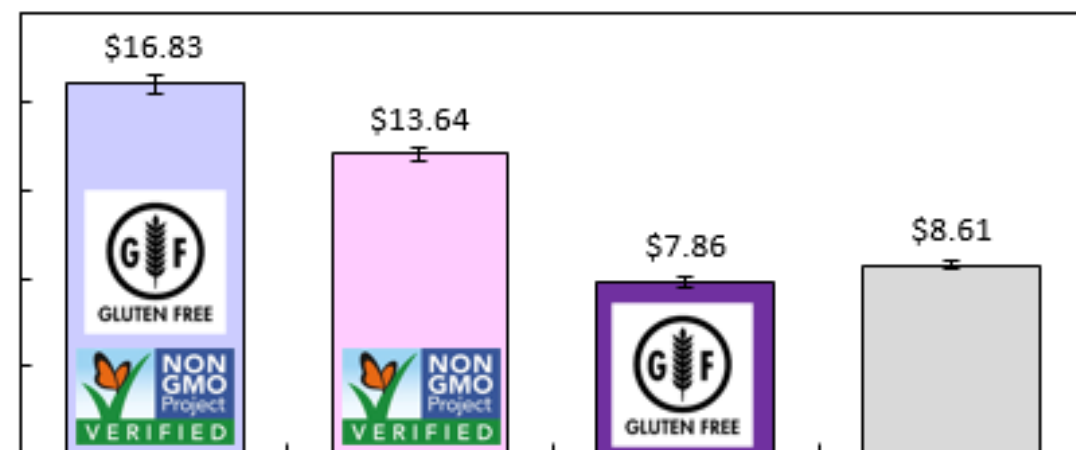
\$21.52

Swordfish: Product

ations on

Canned Tuna: Label Type (n = 1448)

Average Price (USD/lb)



Gluten Free &
Non-GMO
(n = 114)

Non-GMO
Certified (n = 59)

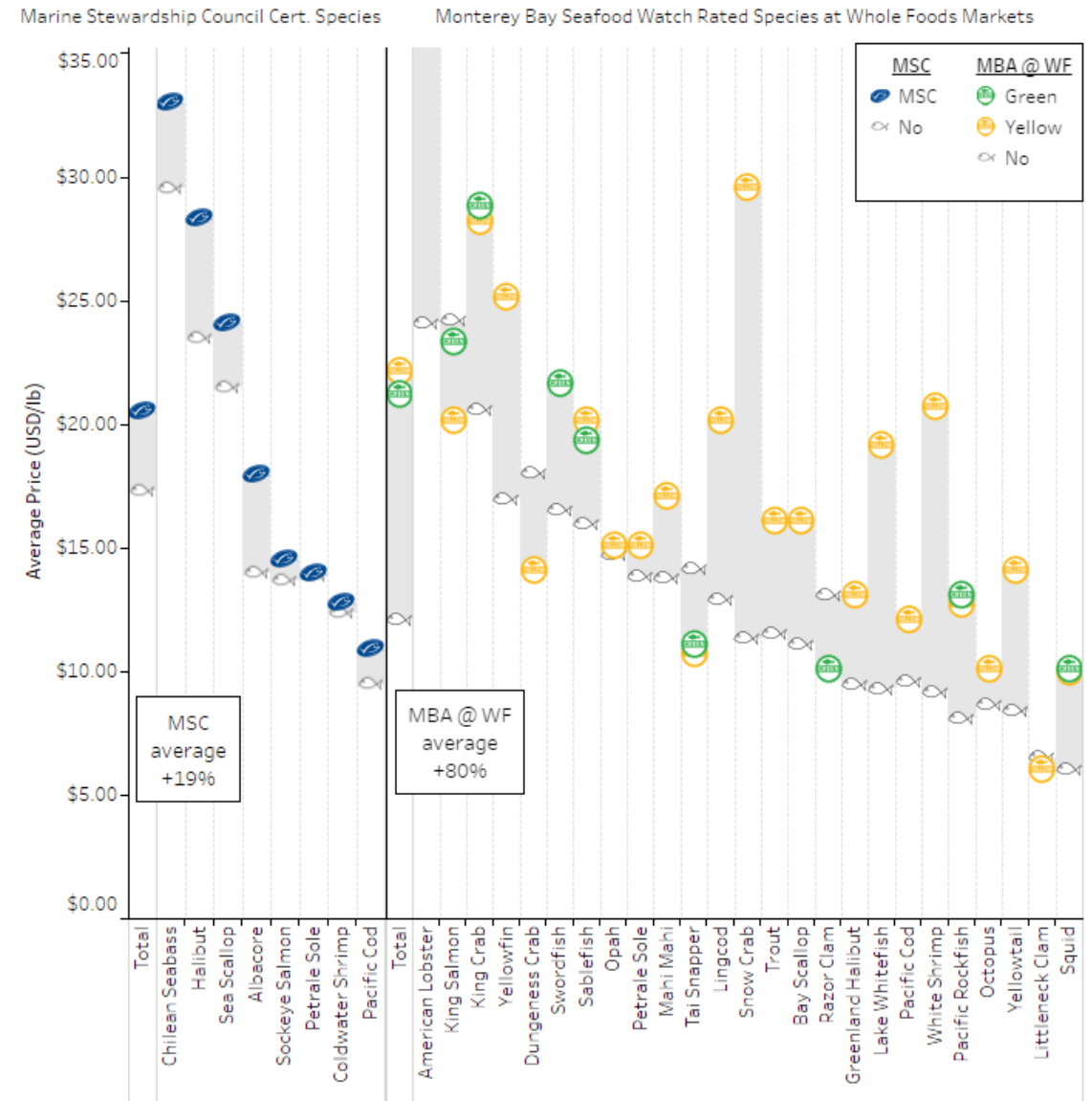
Gluten Free
(n = 242)

Neither (n = 1033)

Label Type

Price Premiums & Market Access:

[Interactive Graphic](#)



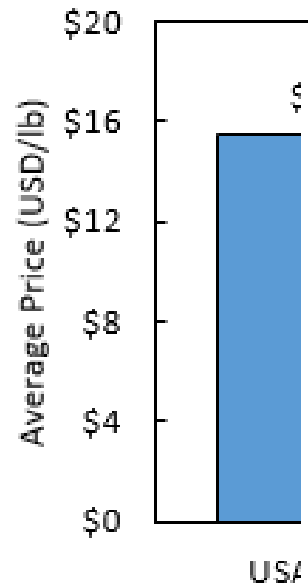
Average prices of products with and without either the Marine Stewardship Council eco-label or the Monterey Bay Aquarium Seafood Watch (MBA) Yellow or Green Rating. The MBA labels were observed only at Whole Foods markets, and do not correspond to the Seafood Watch Rating filters on the other tabs in this story. Hover to see common name, average price, and number of observations.



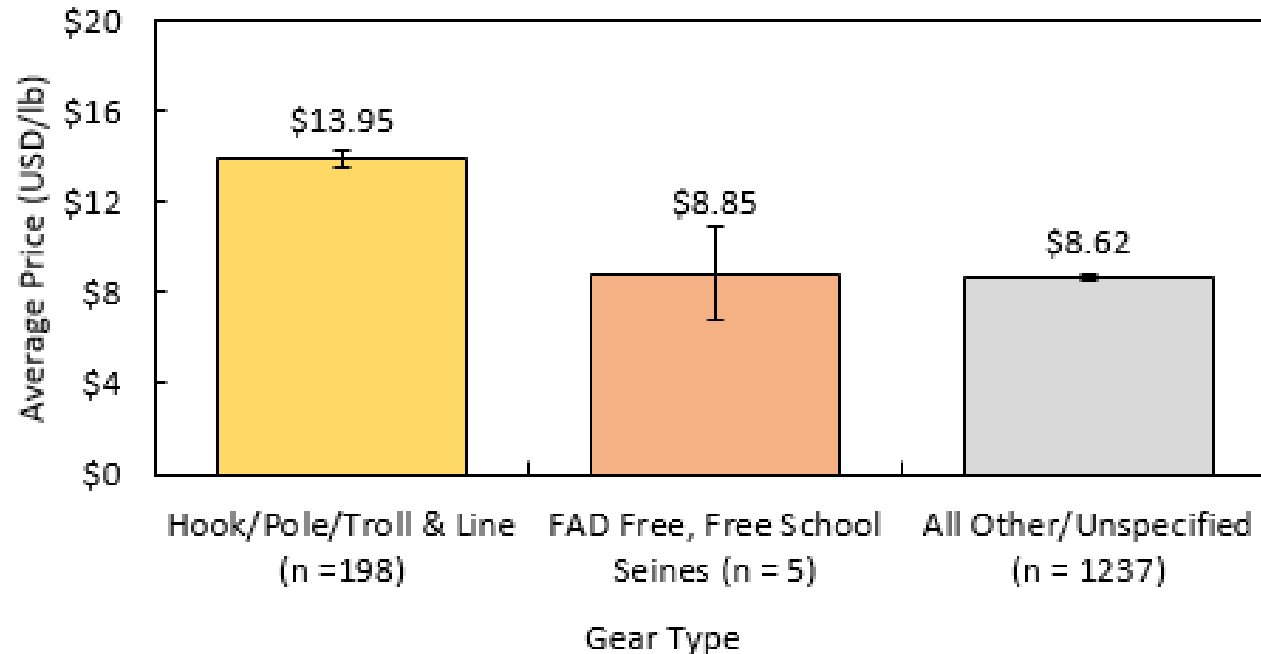
A Closer Look: Dolphin Safe Tuna

Dolphin Safe Label (n = 1448)

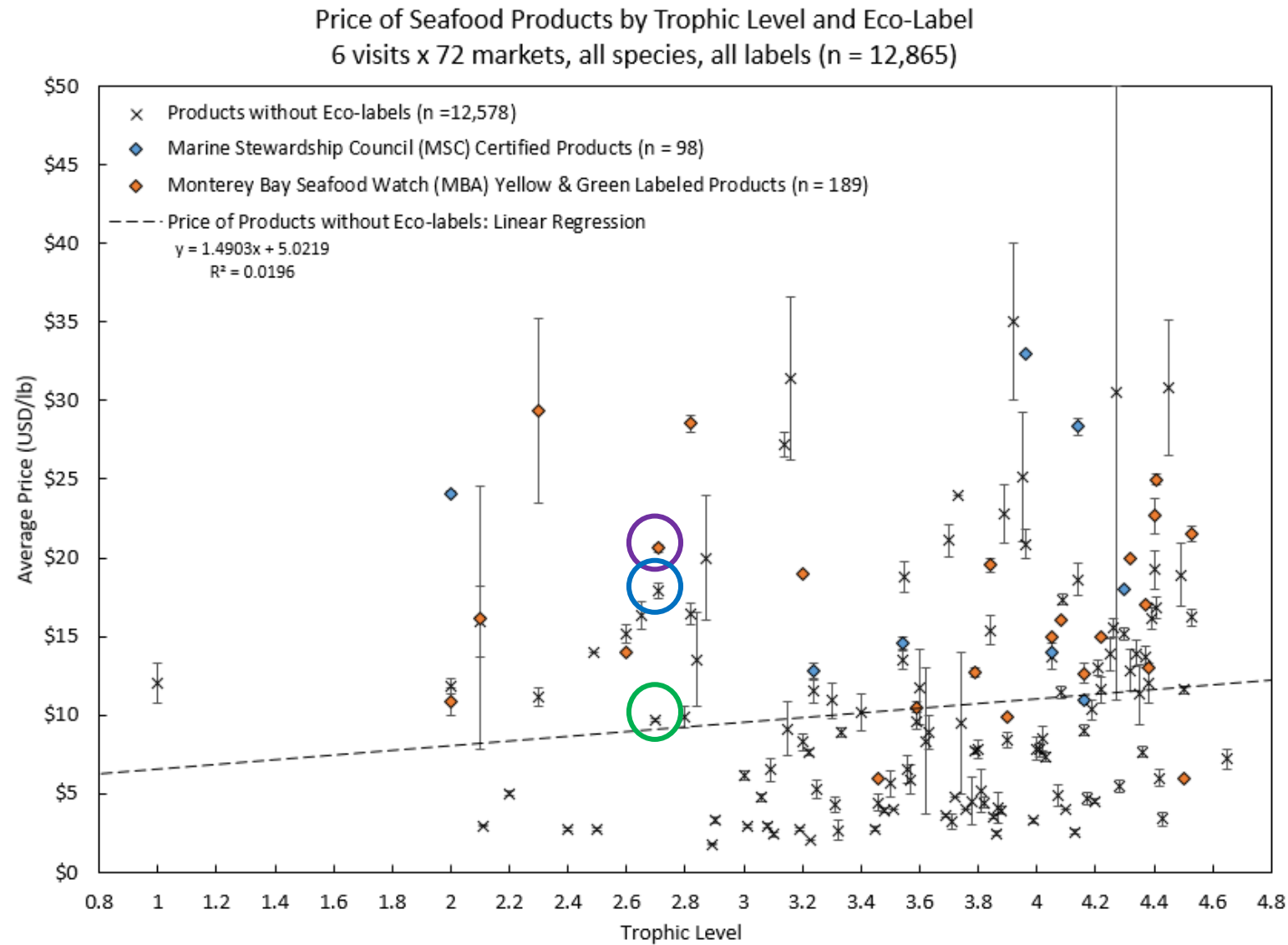
Canned Tuna: Country of Origin (n = 1448)

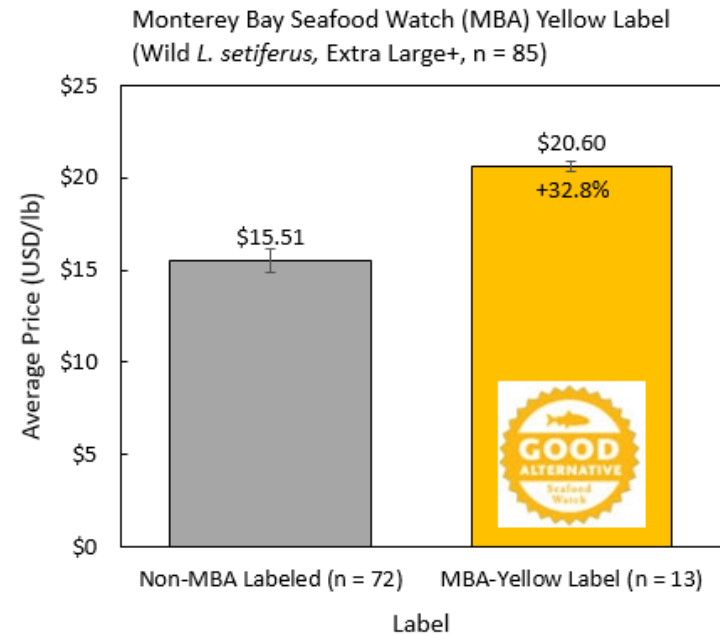


Canned Tuna: Gear Type (n = 1448)



Do eco-labeled products carry a price premium?





Eco-labels carry a price premium

MSC:

– Coldwater ‘Oregon Bay’ shrimp: Wild, Cooked, Tail off, Tiny
MBA Seafood Watch Yellow Rating:

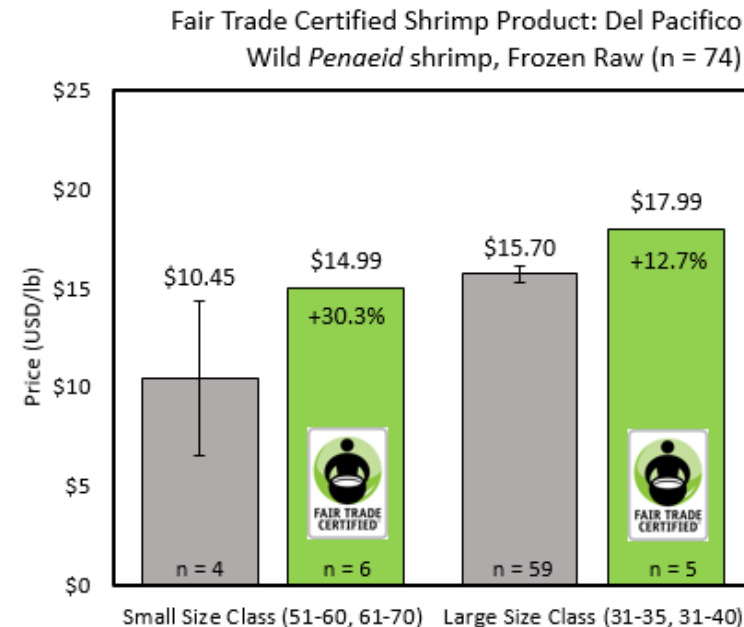
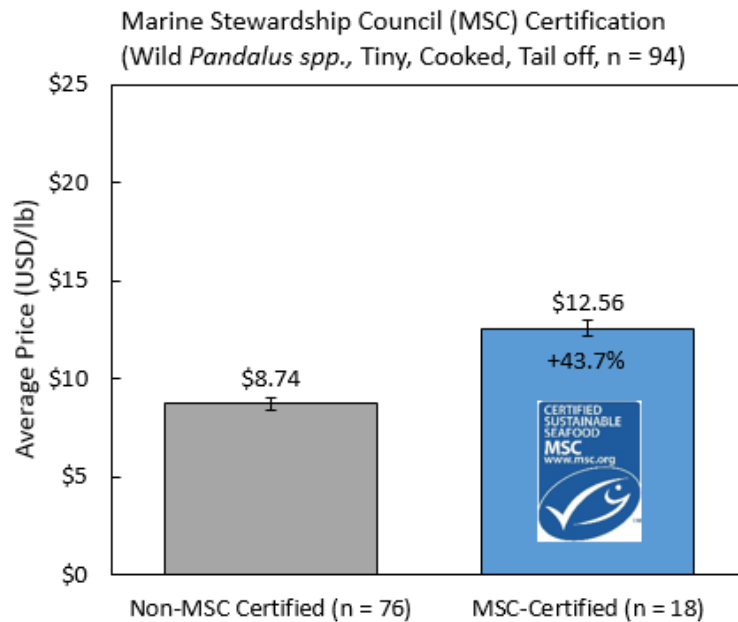
– White Gulf Shrimp: Wild, Previously Frozen, Extra Large +
Fair Trade

– Sinaloa whiteleg shrimp, Wild (suripera)

BAP Aquaculture Certification:

– Whiteleg shrimp: Farmed, Frozen, all size classes

– Giant tiger prawns: Farmed, Frozen, Extra Jumbo +



Wild Blue Shrimp Value Chain:
Grade #1, U10, 2016
(Prices in USD/lb)

Retail: \$29.95
↑
Foodservice: \$14.75
↑
Ex-Warehouse: \$12.25
↑
Processor: \$10.65
↑
Ex-Vessel: \$8.06

