

Are People Willing to Pay for Eco-Labeled Wild Seafood? An Overview

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Abstract

In the last two decades, eco-labeled seafood has been becoming an instrument of sustainability directed towards consumers, addressing a market-based incentive for better management of fisheries. In this context, several studies across the countries have been conducted about how much consumers are willing to pay for fish caught by certifiably sustainable fishing activities. In this direction, the aim of this study was to systematize the available information about the willingness-to-pay (WTP) more for eco-labeled wild seafood. Therefore, only papers published on ISI journals were searched on “Web of Knowledge” and “SciVerse Scopus” platforms, using the combinations of the following key words: seafood, ecolabel, willingness, WTP and premium. The results were organized considering the following variables: taxa, species’ family, English name of the species, survey’s country, data collection, brand and the WTP. A worldwide increasing interest on ecolabel seafood emerged clearly, empathizing the progressive affirmation of an eco-centrism vision, mainly in the developed countries.

Keywords: Eco-label, Willingness to pay, Seafood

1. Introduction

The increase of consumers’ awareness for environmental-friendly foodstuffs is closely connected with the potential identification of several management strategies oriented to the sustainable exploitation of natural resources. The label is a useful tool to inform consumers about their attributes, such as food’s origin, nutritional value and ingredients, orienting the choice during the purchasing process. In particular, the environmental friendly seafood products are recognized through the presence of eco-labels, holding different concepts based on three key principles, all of which are consistent with the Food and Agriculture Organization of the United Nations’ Code of Conduct: (a) fish stocks must be sustainable; (b) environmental impact must be minimized; and (c) management practice must be effective (Food and Agriculture Organization of the United Nations, 1995). In this sense, the purchase of eco-labeled seafood, which is sold at a higher price than non-branded one, is beginning to be considered as an instrument of sustainability directed towards consumers, addressing a market-based incentive for a better management of fisheries. Different surveys carried out in many countries, including Europe, are showing that the consumers are increasing

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their awareness for environmental concerns, favoring sustainable consumption practice and the purchase of eco-friendly products (World Business Council for Sustainable Development, 2008; European Commission, 2009). This phenomenon seemed more evident in China, Australia, Sweden and the USA, considering their specific market characteristics (World Business Council for Sustainable Development, 2008). The companies, basing on these aspects, look to market competitive eco-friendly products (Nguyen et al., 2010), thus transforming the environmental challenge into economic opportunity (Brécard et al., 2012).

In the same time, it is important to consider that consumer willingness may not directly translated into sustainable consumer behavior (World Business Council for Sustainable Development, 2008; Clonan et al., 2011), because there is a scarce or poor relationship between this and quantifiable perceptions of environmental information on the label, rather than intrinsic environmental concerns (Nguyen et al., 2010; Brécard et al., 2012). Indeed, the meaning of eco-labels has often been ambiguous to consumers (Brécard et al., 2012; Pérez-Ramírez et al., 2015), frequently associate to health and food safety concerns motivating the purchase of “ecologically friendly” food (Nguyen et al., 2010; Brécard et al., 2012; Gutierrez & Thornton, 2014).

Different studies focused also on specific functions of eco-label regarding to seafood demand (Jaffry et al., 2004; Johnston and Roheim, 2006; Whitmarsh and Wattage, 2006; Salladarré et al., 2010), showing how different factors influence the consumption of eco-labeled seafood, such as the fish consumption’s level, the nature of the fish and that consumers’ preferences might well vary among species (Wessells et al., 1999; Johnston & Roheim, 2006).

In addition, the socio-demographic profile of environmentally friendly consumers can also vary by location, as exemplified in reports conducted in countries and regions such as the USA, China, Europe, UK and so on (Wessells et al., 1999; Johnston et al., 2001; Jaffry et al., 2004; Johnston & Roheim, 2006; Whitmarsh & Wattage, 2006; Brécard et al., 2009; Salladarré et al., 2010; Xu et al., 2012; Salladarré et al., 2013; Salladarré et al., 2015; McClenachan et al., 2016).

In this framework, the decision-making process is a very intricate process for different aspects, and consequently it is very complex to explain the concept of Willingness-To-Pay (WTP) with respect to price premium and eco-labeled seafood products. The WTP, also called consumers’ reservation price, is defined for a private good as the price at which consumers develop indifference about whether to buy the product (Olesen et al., 2010). There could also be a difference between the consumer’s WTP for a given product or an identical product either with or without the attribute, respectively. Considering the seafood product, several studies across the countries have been conducted about how much consumers are willing to pay for fish caught by certifiably sustainable fishing activities. These studies achieved different results, showing for example that the marketability of an eco-labeled seafood product is understood to depend on the consumer’s ability to pay a premium (Wessells et al., 1999; Johnston et al., 2001; Jaffry et al., 2004; Johnston & Roheim, 2006; 14 Salladarré et al., 2010; Salladarré et al., 2015), and the WTP is often connected to the quality assurance of eco-labeled fish product (Wessells & Anderson, 1995; Jaffry et al., 2004). Different studies have also engaged relevant/useful topics such as price integration, price transmission to industry,

market reaction to uncertainty, product substitution and demand patterns, demographic aspects of demand and price flexibility as a response to the supply concept (Lent, 1984; Cheng & Capps, 1988; Squires et al., 1989; Brooks & Anderson, 1991; Nyankori, 1991; Jaffry et al., 1999). Few studies were carried out to verify if the premium price for certified seafood could be a sufficient incentive able to improve sustainable management of fishery stock, showing how the producer is not the main benefactor, even if he bears most of the costs of shifting to more sustainable production techniques (Gudmundsson and Wessells, 2000; United Nations Environment Programme, 2005; Roheim et al., 2011; Blomquist et al., 2015).

In this complex contest, the aim of this study was to systematize the available information about the willingness-to-pay (WTP) for eco-labeled wild seafood, without distinction between fresh and processed, through a systematic review.

2. Material and Methods

A systematic review based on common themes from literature was carried out in the present investigation. The research question was identified basing on the following framing process: the literature evidenced different factors influencing the consumption of eco-labeled seafood, and some of these are common to all studies, such as the seafood taxa, the fish's species, the social, economics and demographic characteristics of the country, and the quantifiable perceptions of environmental information on the label. These factors, together with the personal intrinsic motivation, influence in a complex way the consumers' awareness for eco-labeled seafood and then their WTP. The research question was to relate in a systematic ways these factors with WTP for eco-labeled wild seafood, without distinction between fresh and processed.

The selection criteria were identified in systematic, explicit, and transparent way, to identify specific case studies that examined the WTP for eco-labeled wild seafood.

Data were collected through the electronic databases “*Web of Knowledge*” and “*SciVerse Scopus*”, using the following keywords' combination:

1. “*seafood AND ecolabel AND willingness*”;
2. “*seafood AND eco-label AND willingness*”;
3. “*seafood AND ecolabel AND WTP*”;
4. “*seafood AND eco-label AND WTP*”
5. “*seafood AND ecolabel AND premium*”;
6. “*seafood AND eco-label AND premium*”.

A synthesis of research is reported in table 1.

Table 1. Numbers of papers found, considering the electronic databases adopted

Keywords' combination	Database	
	"Web of Knowledge" Number of papers	"SciVerse Scopus" Number of papers
"seafood AND ecolabel AND willingness"	24	23
"seafood AND eco-label AND willingness"	16	116
"seafood AND ecolabel AND WTP"	6	6
"seafood AND eco-label AND WTP"	4	17
"seafood AND ecolabel AND premium"	17	112
"seafood AND eco-label AND premium"	9	34
Total	76	308

The papers found in both database were compared; considering the common papers and the replicates coming out through the association between the keywords "*willingness*" and "*WTP*", the number of papers decreased from 384 to 145.

After identifying this initial sample of studies, different inclusion and exclusion criteria were applied. In particular, the literature search considered only ISI journals, the surveys on eco-labeled wild seafood and those with a clear indication of the premium price respect to the initial price. Finally, only twenty-one papers were selected for the systematic review.

The data were organized considering the following variables: taxa, species' family, English name of the species, survey's country, data collection, brand and the WTP's percentage variation.

3. Results

The case study data are reported in appendix.

Overall, the observations were organized in 3 taxa: crustacean (15%), teleost (76%), and seafood (9% - not defined species). A total of 10 family's species were identified, considering that only roughly was possible to classify the seafood at species' level.

The studies were carried out worldwide, interesting the United States (42%), different countries of Europe (46%), Japan (9%) and China (3%). The observations were collected (not tabulated), through the following data collection methods: interview (A=face to face; B=on line; C=by mail; D= by phone), data scanner and price observation. Considering the crustaceans, the data were collected only by interview (mostly carried out on line, representing the 90.3%), as well as for seafood without species' indication (only face to face). Otherwise, the price observation (55.4%) was the data collection method more used for the teleosts, following by the data scanner (30.1%) and the interview (A=2.7%; B=7.1%; C=1.7%; D=2.9%).

Considering the crustaceans, the WTP was investigated on 3 eco-labelled species (Dungeness Crab, Lobster and Shrimp), ranging from 15 to 37%, with the higher premium prices for Lobster (37%) and Shrimp (27%) in USA.

The studies regarding the generic taxa seafood showed strong difference related to the country and to the sampling place, although the data collection method was the same.

Indeed, in China the WTP for eco-labelled seafood was only 7% against 62% (eco-labelled seafood) and 80% (MSC seafood) in USA.

In the case of teleosts, the WTP was investigated for 10 species (Flounder, Swordfish, Cod, Haddock, Pollock, Monkfish, Salmon, Tuna, Sole and Seabream), taking into account different eco-labels (“MSC”, eco “Birds eyes”, “Turtle safe”, and not specified brand, defined “eco-label” and “eco-friendly”).

The WTP’s percentage variation for eco-labelled Flounder (41%) and Swordfish (31%) was investigated only in USA in one study, while for eco-labelled Cod it was investigated in different countries of Europe, varying between 10 to 24%, and in USA, from 20 to 27%.

The WTP for eco-labelled Haddock was investigated in UK, ranging between 10 to 36%, registering the higher value for eco “Birds eyes” haddock than MSC one.

For the eco-labelled Pollock, any difference in WTP was registered between a generic eco-label (13% in France) and MSC (14% in UK), while heterogeneous values were recorded for Monkfish (6-15% in France).

The WTP for eco-labelled salmon showed a wide range, from 4% (MSC salmon in Germany) to 50% (eco-labelled salmon in USA); the higher variation was registered in USA (from 22 to 50%), than in Japan (from 20 to 37%, comparing MSC salmon with a generic eco-labelled one). The WTP for eco-labelled Tuna ranged from 24 (eco-labelled tuna in Japan) to 103% (eco-friendly canned tuna in USA); some differences were related to the brand, and the “eco-friendly” canned tuna registered the higher value, compared to the “turtle safe” (ranged from 31 to 63% in USA) and the eco-labelled ones.

The WTP variation for eco-labelled Sole (10%) and Seabream (32%) was investigated only in Europe, and in only one study for each species.

4. Discussion

According to our research question, the results emphasize as the WTP varied between the taxa, obviously among the species, as well as by countries and in function of the brand. The consumers’ awareness for environmental concerns, as known, is influenced by social and demographics’ structure of investigated population, but also by cultural heritage and economic conditions, all intrinsic factors able to affect the consumers’ WTP.

In this context, historic target species like lobster, shrimp, cod, salmon and tuna registered as eco-labelled higher WTP in USA, together with eco-labelled Flounder and Swordfish recorded exclusively in USA. This country is showing an increasing consumers’ awareness for environmental concerns, highlighting an increasing attention to sustainable consumption practice. An example is the high value of WTP registered for the generic taxa seafood with eco-labelled brands, recorded in a study carried out in restaurants.

The brand influenced the WTP for eco-labelled teleosts (from 4 to 20% for MSC; from 31 to 63% for “Turtle safe”; 36% for eco “birds eyes” and 103% for “eco friendly”), although the common label MSC showed a WTP in line with that registered for not specified eco-labels. Brands like eco “Birds eyes”, “Turtle safe”, and “eco-friendly” showed higher values of WTP, confirming that probably the intrinsic perceptions, related

to the commercial brands, represents different levels of guarantee. However, a worldwide increasing interest on ecolabel seafood emerged clearly, empathizing the progressive affirmation of an eco-centrism vision, mainly in the developed countries. This was a first step towards implementation of the systematic review in detecting WTP for eco-labeled wild seafood. Further investigations are required to integrate the current results.

References

- Blomquist, J., Bartolino, V., Waldo, S. (2015). Price Premiums for Providing Eco-labelled Seafood: Evidence from MSC-certified Cod in Sweden. *Journal of Agricultural Economics*, 66, 690–704.
- Brécard, D., Hlaimi, B., Lucas, S., Perraudau, Y., Salladarré, F. (2009). Determinants of demand for green products: An application to eco-label demand for fish in Europe. *Ecological Economics*, 69, 115–125.
- Brécard, D., Lucas, S., Pichot, N., Salladarré, F. (2012). Consumer Preferences for Eco. Health and Fair Trade Labels. An Application to Seafood Product in France. *Journal of Agricultural & Food Industrial Organization*, 10(1), 1-27.
- Brooks, P.M., Anderson, J.L. (1991). Effects of retail pricing, seasonality and advertising on fresh seafood sales. *Journal of Business & Economic Statistics*, 1, 55-68.
- Cheng, H., Capps, O. (1988). Demand analysis of fresh and frozen finfish and shell fish in the United States. *American Journal of Agricultural Economics*, 70, 533-542.
- Clonan, A., Holdsworth, M., Swift, J.A., Leibovici, D., Wilson, P. (2011). The dilemma of healthy eating and environmental sustainability: the case of fish. *Public Health Nutrition*, 15(2), 277–284.
- European Commission (2009): *Flash Eurobarometer 256 (Europeans' attitudes towards the issue of sustainable consumption and production)*. Brussels, Belgium: The GALLUP Organisation.
- Food and Agriculture Organization of the United Nations. (1995). *Code of Conduct for Responsible Fisheries*. Rome, Italy.
- Gudmundsson, E., Wessells, C. (2000). Eco-labelling seafood for sustainable production: implications for fisheries management. *Marine Resource Economics*, 15, 97–113.
- Gutierrez, A., Thornton, T.F. (2014). Can Consumers Understand Sustainability through Seafood Eco-Labels? A U.S. and UK Case Study. *Sustainability*, 6, 8195-8217.
- Jaffry, S., Pascoe, S., Robinson, K. (1999). Long-run price flexibilities for high valued UK fish species: a cointegration systems approach. *Applied Economics*, 31, 473-481.
- Jaffry, S., Pickering, H., Ghulam, Y., Whitmarsh, D., Wattage, P. (2004). Consumer choices for quality and sustainability labeled seafood products in the UK. *Food Policy*, 29, 215–228.
- Johnston, R.J., Wessells, C.R., Donath, H., Asche, F. (2001). Measuring Consumer Preferences for Ecolabeled Seafood: An International Comparison. *Journal of agricultural and resource economics*, 26(1), 20-39.
- Johnston, R.J., Roheim, C.A. (2006). A battle of taste and environmental convictions for ecolabeled seafood: a contingent ranking experiment. *Journal of agricultural and resource economics*, 31(2), 283-300.
- Lent, R.J. (1984). *Uncertainty, market disequilibrium and the firm's decision-process: applications to the Pacific salmon market* (PhD Dissertation, Oregon State University, Corvallis, Oregon). Retrieved from <http://hdl.handle.net/1957/20179>
- McClenachan, L., Dissanayake, S.T.M., Chen, X. (2016). Fair trade fish: consumer support for broader seafood sustainability. *Fish and Fisheries*, 17, 825–838. <http://dx.doi.org/10.1111/faf.12148>
- Nguyen, L.Q., Du, Q., Friedrichs, Y.V. (2010). *Effectiveness of Eco-label? A study of Swedish University Students' Choice on Ecological Food* (Master Thesis, Umeå School of Business, Umeå, Sweden). Retrieved from <http://www.diva-portal.org/smash/get/diva2:327644/FULLTEXT01.pdf>
- Nyankori, J. (1991). Price transmission in the catfish industry with specific emphasis on the role of processing cooperatives. *Southern Journal of Agricultural Economics*, 28, 247-252.
- Pérez-Ramírez, M., Almendarez-Hernández, M., Avilés-Polanco, G., Beltrán-Morales, L.F. (2015). Consumer Acceptance of Eco-Labeled Fish: A Mexican Case Study. *Sustainability*, 7, 4625-4642.
- Roheim, C.A., Asche, F., Santos, J.I. (2011). The elusive price premium for ecolabeled products: Evidence from seafood in the UK market. *Journal of Agricultural Economics*, 62, 655–668.

- Salladarré, F., Guillotreau, P., Perraudeau, Y., Montfort M.C. (2010). The demand for seafood eco-labels in France. *Journal of Agricultural & Food Industrial Organization*, 8(1), article 10.
- Salladarré, F., Guillotreau, P., Lesage, C.M., Ollivier, P. (2013). Les preferences des consommateurs pour un ecolabel: Le cas des produits de la mer en France. *Review of agricultural and environmental studies*, 94, 339-362.
- Salladarré, F., Brécard, D., Lucas, S., Ollivier, P. (2015). Are French consumers ready to pay a premium for eco-labeled seafood products? A contingent valuation estimation with heterogeneous anchoring. *Agricultural Economics*, 47, 247-258.
- Squires, D., Herrick, S., Hastie, J. (1989). Integration of Japanese and United States sablefish markets. *Fishery bulletin (Wasb. D. C.)*, 87, 341-351.
- United Nations Environment Programme. (2005). *The Trade and Environmental Effects of Ecolabels: Assessment and Response*. Geneva, Switzerland: Tom Rotherham
- World Business Council for Sustainable Development. (2008). *WBCSD, Sustainable Consumption: Facts and Trends*. Geneva, Washington DC, Brussels.
- Wessells, C.R., Anderson, J.G. (1995). Consumer willingness to pay for seafood safety assurances. *Journal of Consumer Affairs*, 29(1), 85-107.
- Wessells, C.R., Johnston, R.J., Donath, H. (1999). Assessing consumer preferences for ecolabeled seafood: the influence of species, certifier and household attributes. *American Journal of Agricultural Economics*, 81, 1084-1089.
- Xu, P., Zeng, Y., Fong, Q., Lone, T., Liu, Y. (2012). Chinese consumers' willingness to pay for green- and eco-labeled seafood. *Food Control*, 28, 74-82.
- Olesen, I., Alfnes, F., Røra, M.B., Kolstad, K. (2010). Eliciting consumers' willingness to pay for organic and welfare-labelled salmon in a non-hypothetical choice experiment. *Livestock Science*, 127(2-3), 218-226.

Appendix

Full reference	Taxa	Species' family	Species' English name	Survey's country	Data collection	Brand	WTP $\Delta\%$
Fonner, R., Sylvia, G. (2015). Willingness to Pay for Multiple Seafood Labels in a Niche Market. <i>Marine Resource Economics</i> , 30(1), 51-70.	Crustaceans	Canceridae	Dungeness Crab	USA	Interview A (9.7%) B (90.3%)	Eco-label	27
Salladarré, F., Brécard, D., Lucas, S. and Ollivier, P. (2016). Are French consumers ready to pay a premium for eco-labeled seafood products? A contingent valuation estimation with heterogeneous anchoring. <i>Agricultural Economics</i> , 47, 247-258.	Crustaceans	Palinuridae	Lobster	France			15
Goyert, W., Sagarin, R., Annala, J. (2010). The promise and pitfalls of Marine Stewardship Council certification: Maine lobster as a case study. <i>Marine Policy</i> , 34(5), 1103-1109.	Crustaceans	Palinuridae	Lobster	USA			37
Johnston, R.J., Wessells, C.R., Donath, H., Asche, F. (2001). Measuring consumer preferences for ecolabeled seafood: An international comparison. <i>Journal of Agricultural and Resource Economics</i> , 26(1), 20-39	Crustaceans	Penaeoidea	Shrimp	Norway			22
Johnston, R.J., Wessells, C.R., Donath, H., Asche, F. (2001). Measuring consumer preferences for ecolabeled seafood: An international comparison. <i>Journal of Agricultural and Resource Economics</i> , 26(1), 20-39	Crustaceans	Penaeoidea	Shrimp	USA			27
Xu, P., Zeng, Y., Fong, Q., Lone, T., Liu, Y. (2012). Chinese consumers' willingness to pay for green- and eco-labeled seafood. <i>Food Control</i> , 28(1), 74-82.	Seafood	-	-	China	Interview A (100%)	Eco-label	7
McClenachan, L., Dissanayake, S. T. M., Chen, X. (2016). Fair trade fish: consumer support for	Seafood	-	-	USA		Eco-label	62

Full reference	Taxa	Species' family	Species' English name	Survey's country	Data collection	Brand	WTP $\Delta\%$
broader seafood sustainability. <i>Fish and Fisheries</i> , 17, 825–838.							
McClenachan, L., Dissanayake, S. T. M., Chen, X. (2016). Fair trade fish: consumer support for broader seafood sustainability. <i>Fish and Fisheries</i> , 17, 825–838.	Seafood	-	-	USA		MSC	80
Johnston, R.J., Roheim, C.A. (2006). A battle of taste and environmental convictions for ecolabeled seafood: A contingent ranking experiment. <i>Journal of Agricultural and Resource Economics</i> , 31(2), 283-300	Teleost	Pleuronectidae	Flounder	USA		Eco-label	41
Johnston, R.J., Roheim, C.A. (2006). A battle of taste and environmental convictions for ecolabeled seafood: A contingent ranking experiment. <i>Journal of Agricultural and Resource Economics</i> , 31(2), 283-301	Teleost	Xiphiidae	Swordfish	USA		Eco-label	31
Rickertsen, K., Alfnes, F., Combris, P., Enderli, G., Issanchou, S., Shogren, J.F. (2017). French Consumers' Attitudes and Preferences toward Wild and Farmed Fish. <i>Marine Resource Economics</i> 32(1), 59-81.	Teleost	Gadidae	Cod	France		Eco-label	24
Johnston, R.J., Wessells, C.R., Donath, H., Asche, F. (2001). Measuring consumer preferences for ecolabeled seafood: An international comparison. <i>Journal of Agricultural and Resource Economics</i> , 26(1), 20-39	Teleost	Gadidae	Cod	Norway		Eco-label	22
Blomquist, J., Bartolino, V. and Waldo, S. (2015). Price Premiums for Providing Eco-labelled Seafood: Evidence from MSC-certified Cod in Sweden. <i>Journal of Agricultural Economics</i> , 66, 690–704.	Teleost	Gadidae	Cod	Sweden		Eco-label	10
Johnston, R.J., Roheim, C.A. (2006). A battle of taste and environmental convictions for ecolabeled seafood: A contingent ranking experiment. <i>Journal of Agricultural and Resource Economics</i> , 31(2), 283-300	Teleost	Gadidae	Cod	USA	Data-scanner (30.1%)	Eco-label	20
Johnston, R.J., Wessells, C.R., Donath, H., Asche, F. (2001). Measuring consumer preferences for ecolabeled seafood: An international comparison. <i>Journal of Agricultural and Resource Economics</i> , 26(1), 20-39	Teleost	Gadidae	Cod	USA	Interview A (2.7%) B (7.1%) C (1.7%) D (2.9%)	Eco-label	27
Sogn-Grundvåg, G., Larsen, T.A., Young, J. A. (2013). The value of line-caught and other attributes: An exploration of price premiums for chilled fish in UK supermarkets. <i>Marine Policy</i> , 38, 41-44.	Teleost	Gadidae	Haddock	UK	Price observation (55.4%)	MSC	10
Sogn-Grundvåg, G., Larsen, T. A., Young, J. A. (2014). Product Differentiation with Credence Attributes and Private Labels: The Case of Whitefish in UK Supermarkets. <i>Journal of Agricultural Economics</i> , 65, 368–382.	Teleost	Gadidae	Haddock	UK		MSC	13
Sogn-Grundvåg, G., Larsen, T. A., Young, J. A. (2014). Product Differentiation with Credence Attributes and Private Labels: The Case of Whitefish in UK Supermarkets. <i>Journal of Agricultural Economics</i> , 65, 368–382.	Teleost	Gadidae	Haddock	UK		Birds_ eye eco	36
Erwann, C. (2009). Eco-labelling: A new deal for a more durable fishery management?. <i>Ocean & Coastal Management</i> , 52, (5), 2009, 250-257.	Teleost	Gadidae	Pollock	France		Eco-label	13
Roheim, C. A., Asche, F. and Santos, J. I. (2011). The Elusive Price Premium for Ecolabelled Products: Evidence from Seafood in the UK Market. <i>Journal of Agricultural Economics</i> , 62, 655–668.	Teleost	Gadidae	Pollock	UK		MSC	14
Salladarré, F., Brécard, D., Lucas, S. and Ollivier, P. (2016). Are French consumers ready to pay a premium for eco-labeled seafood products? A contingent valuation estimation with heterogeneous anchoring. <i>Agricultural Economics</i> , 47, 247–258.	Teleost	Lophiidae	Monkfish	France		Eco-label	6

Full reference	Taxa	Species' family	Species' English name	Survey's country	Data collection	Brand	WTP $\Delta\%$	
Rickertsen, K., Alfnes, F., Combris, P., Enderli, G., Issanchou, S., Shogren, J.F. (2017). French Consumers' Attitudes and Preferences toward Wild and Farmed Fish. <i>Marine Resource Economics</i> 32(1), 59-81.	Teleost	Lophiidae	Monkfish	France		Eco-label	15	
Fonner, R., Sylvia, G. (2015). Willingness to Pay for Multiple Seafood Labels in a Niche Market. <i>Marine Resource Economics</i> , 30(1), 51-70.	Teleost	Salmonidae	Salmon	USA		Eco-label	22	
Bronnmann, J., Asche, F. (2016). The Value of Product Attributes, Brands and Private Labels: An Analysis of Frozen Seafood in Germany. <i>Journal of Agricultural Economics</i> , 67, 231-244.	Teleost	Salmonidae	Salmon	Germany		MSC	4	
Uchida, H., Onozaka, Y., Morita, T., Managi, S. (2014). Demand for ecolabeled seafood in the Japanese market: A conjoint analysis of the impact of information and interaction with other labels. <i>Food Policy</i> , 44, 68-76.	Teleost	Salmonidae	Salmon	Japan		Eco-label	37	
Uchida, H., Roheim, C. A., Wakamatsu, H. and Anderson, C. M. (2014). Do Japanese consumers care about sustainable fisheries? Evidence from an auction of ecolabelled seafood. <i>Australian Journal of Agricultural and Resource Economics</i> , 58, 263-280.	Teleost	Salmonidae	Salmon	Japan		MSC	20	
Johnston, R.J., Roheim, C.A. (2006). A battle of taste and environmental convictions for ecolabeled seafood: A contingent ranking experiment. <i>Journal of Agricultural and Resource Economics</i> , 31(2), 283-300	Teleost	Salmonidae	Salmon	USA		Eco-label	50	
Masahiko Ariji. (2010). Conjoint analysis of consumer preference for bluefin tuna. <i>Fisheries Science</i> , 76(6), 1023-1028.	Teleost	Scombridae	Tuna	Japan		Eco-label	24	
Sun, C-H.J., Chiang, F-S., Owens, M., Squires, D. (2017). Will American consumers pay more for eco-friendly labeled canned tuna? Estimating US consumer demand for canned tuna varieties using scanner data. <i>Marine Policy</i> , 79, 62-69.	Teleost	Scombridae	Tuna (Canned)	USA		Data-scanner (30.1%) Interview A (2.7%) B (7.1%) C (1.7%) D (2.9%)	Eco-friendly	103
Davidson, K., Pan, M., Hu, W., Poerwanto, D. (2012). Consumers' willingness to pay for aquaculture fish products vs. wild-caught seafood - a case study in hawaii. <i>Aquaculture Economics & Management</i> , 16(2).	Teleost	Scombridae	Tuna	USA		Price observation (55.4%)	Turtle safe	31
Zhou, G., Hu, W., Huang, W. (2016). Are consumers Willing to pay more for sustainable products? A study of eco-labeled tuna steak. <i>Sustainability</i> , 8(5), 494.	Teleost	Scombridae	Tuna	USA			Turtle safe	63
Salladarré, F., Brécard, D., Lucas, S. and Ollivier, P. (2016). Are French consumers ready to pay a premium for eco-labeled seafood products? A contingent valuation estimation with heterogeneous anchoring. <i>Agricultural Economics</i> , 47, 247-258.	Teleost	Soleidae	Sole	France		Eco-label	10	
Fernández-Polanco, J., Mueller Loose, S., Luna, I. (2013). Are retailers' preferences for seafood attributes predictive for consumer wants? Results from a choice experiment for seabream (<i>Sparus aurata</i>). <i>Aquaculture Economics & Management</i> , 17(2)	Teleost	Sparidae	Seabream	Spain		Eco-label	32	