The Business of Sustainable Seafood: Social Entrepreneurship in Action
Teresa Ish, BS Environmental Studies and Marine Biology, 2000

MSc, Ocean Sciences, 2003
Global Demand for Seafood is Increasing

World capture fisheries and aquaculture production

Million tonnes

- China
- World excluding China
U.S. Seafood Consumption

U.S. consumption below world average (~18 lbs) at 15.8 pounds per capita

Most popular U.S. seafood items: shrimp, pollock, salmon, tuna

84 % of the seafood consumed in the U.S. is imported half of which is produced by aquaculture
The Rise of Aquaculture

The fastest growing sector of global food production.

The demand for fish will continue to rise with:
• Population growth
• Increasing incomes
• Improved diets

Developing countries are the largest producers of farmed seafood.
The Rise of Aquaculture

Figure 3. Growth in seafood supply from wild fisheries has stagnated; aquaculture is taking the lead. Growth in global seafood supply has outpaced the world’s population growth since 1950. Since wild fishery landings hit a plateau in the 1990s, a boom in aquaculture has supported the increase in global seafood supply (FAO FishStat, 2009; U.S. Census Bureau, 2009). These numbers do not include illegal fishery landings, which may account for another 11 to 26 million tons.
There are problems with our current fishing methods and intensity.

How do we change these trends?

Many groups have targeted consumers, giving them pocket cards or placing eco labels on packages to help them make good choices.

Is it working?
The Monterey Bay Aquarium has tried to guide people to make sustainable seafood choices.

**Why Do Your Seafood Choices Matter?**
Worldwide, the demand for seafood is increasing. Yet many populations of the large fish we enjoy eating are overfished and, in the U.S., we import over 80% of our seafood to meet the demand. Destructive fishing and fish farming practices only add to the problem.

By purchasing fish caught or farmed using environmentally friendly practices, you're supporting healthy, abundant oceans.

**You Can Make a Difference**
Support ocean-friendly seafood in three easy steps:
1. Purchase seafood from the green list (or, if unavailable, the yellow list). Or look for the Marine Stewardship Council blue eco-label in stores and restaurants.
2. When you buy seafood, ask where your seafood comes from and whether it was farmed or wild-caught.
3. Tell your friends about Seafood Watch. The more people that ask for ocean-friendly seafood, the better.

**Learn More**
Our recommendations are researched by Monterey Bay Aquarium scientists. For more information about your favorite seafoods, including items not listed here, visit www.seafoodwatch.org.

Pocket guides are updated twice yearly. Get current information on your mobile device, our website or by adding our free app to your iPhone.

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**BEST CHOICES**
- Albacore (US farmed)
- Arctic Char (farmed)
- Barramundi (US farmed)
- Catfish (US farmed)
- Clams, Mussels, Oysters (farmed)
- Cod: Pacific (US bottom longline)
- Crab: Dungeness
- Halibut: Pacific (US)
- Lobster: Spiny (US)
- Rockfish: Black CA, OR, WA, hook & line
- Sablefish: Black Cod (Alaska, BC)
- Salmon: (Alaska wild)
- Sardines: Pacific (US)
- Scallops (farmed off-bottom)
- Shrimp: Pink (OR)
- Striped Bass (farmed or wild)
- Tilapia (US farmed)
- Trout: Rainbow (US farmed)
- Tuna: Albacore including canned white tuna (troll/pole, US and BC)
- Tuna: Skipjack including canned light tuna (troll/pole)
- White Seabass

**GOOD ALTERNATIVES**
- Basa/Pangasius/Swai (farmed)
- Caviar, Sturgeon (US farmed)
- Clams, Oysters (wild)
- Cod: Pacific (US longline)
- Crab: King (US), Snow
- Flounders, Sardines, Soles (Pacific)
- Halibut: California
- Lobster: American/Maine
- Mahi Mahi/Dolphinfish (US)
- Pollack: Alaska
- Rockfish (Alaska or BC, hook & line)
- Sablefish/Black Cod (CA, OR, WA)
- Salmon (wild, WA* and north of Cape Falcon, OR)
- Scallops (Sea)
- Shrimp (US, Canada)
- Spot Prawn (US)
- Squid
- Swordfish (US*)
- Tilapia (Central & South America farmed)
- Tuna: Bigeye, Yellowfin (troll/pole)
- Tuna: Canned white/Albacore (troll/pole except US and BC)

**AVOID**
- Caviar, Sturgeon (imported wild)
- Chilean Seabass/Toothfish
- Cod: Atlantic and imported Pacific
- Cobia (imported farmed)
- Crab: King (imported)
- Dogfish (US*)
- Lobster: Spiny (Brazil)
- Mahi Mahi/Dolphinfish (imported)
- Marin: Blue, Striped
- Monkfish
- Orange Roughy
- Rockfish (bait)
- Rockfish (troll/longline)
- Salmon (farmed, including Atlantic)
- Sharks
- Shrimp (imported)
- Swordfish (imported)
- Tilapia (Asia farmed)
- Tuna: Albacore, Bigeye, Yellowfin (longline)
- Tuna: Bluefin & Tongol
- Tuna: Canned (except troll/pole)

**Support Ocean-Friendly Seafood**
Best Choices are abundant, well-managed and caught or farmed in environmentally friendly ways.

Good Alternatives are an option, but there are concerns with how they're caught or farmed—or with the health of their habitat due to other human impacts.

Avoid for now as these items are overfished or caught in ways that harm other marine life or the environment.

- Key:
  - BC: British Columbia
  - CA: California
  - OR: Oregon
  - WA: Washington

- Limit consumption due to concerns about mercury or other contaminants. Visit www.savingseaweed.org for more information.

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**FishWise**

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- Catfish (US farmed)
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- Halibut: California
- Lobster: American/Maine
- Mahi Mahi/Dolphinfish (US)
- Pollack: Alaska
- Rockfish (Alaska or BC, hook & line)
- Sablefish/Black Cod (Alaska, BC)
- Salmon: (Alaska wild)
- Sardines: Pacific (US)
- Scallops (farmed off-bottom)
- Shrimp: Pink (OR)
- Striped Bass (farmed or wild)
- Tilapia (US farmed)
- Trout: Rainbow (US farmed)
- Tuna: Albacore including canned white tuna (troll/pole, US and BC)
- Tuna: Skipjack including canned light tuna (troll/pole)
- White Seabass

**Costa Rica**

- Albacore (US longline)
- Cod: Pacific (US)
- Crab: Dungeness
- Halibut: California
- Lobster: Spiny (Brazil)
- Mahi Mahi/Dolphinfish (US)
- Pollack: Alaska
- Rockfish (Alaska or BC, hook & line)
- Tuna: Albacore, Bigeye, Yellowfin (longline)

**Mexico**

- Albacore (US farmed)
- Arctic Char (farmed)
- Barramundi (US farmed)
- Catfish (US farmed)
- Clams, Mussels, Oysters (farmed)
- Cod: Pacific (US bottom longline)
- Crab: Dungeness
- Halibut: California
- Lobster: Spiny (Brazil)
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Nearly 4.9 million households are using some sort of reference for their seafood purchases.
Does It Work? Consumer Survey Results

Please tell us which of the following types of fish are better or worse choices from a sustainability perspective.

- **Salmon, Farmed**: 34% Best choice, 9% Good choice, 36% Poor choice, 21% Not sure
- **Alaska Salmon, Wild**: 38% Best choice, 18% Good choice, 27% Poor choice, 17% Not sure
- **Albacore Tuna**: 39% Best choice, 16% Good choice, 30% Poor choice, 15% Not sure
- **Cod, Pacific**: 43% Best choice, 11% Good choice, 33% Poor choice, 13% Not sure
- **Halibut, Pacific**: 45% Best choice, 11% Good choice, 30% Poor choice, 13% Not sure
- **Cod, Atlantic**: 42% Best choice, 13% Good choice, 33% Poor choice, 8% Not sure
- **Orange Roughy**: 52% Best choice, 17% Good choice, 24% Poor choice, 7% Not sure
- **Grouper**: 52% Best choice, 17% Good choice, 24% Poor choice, 7% Not sure
- **Chilean Sea Bass**: 51% Best choice, 21% Good choice, 21% Poor choice, 9% Not sure
Seafood Consumers

The sustainability message is getting out, but what is sticking with consumers?

1,053 consumers surveyed nationally
Consumer Survey

When deciding what fresh seafood items to purchase from the supermarket or other store, how important are each of the following?

Results from the Perishables Group
Consumer Survey

When deciding what fresh seafood items to purchase from the supermarket or other store, which of the following is *most* important to you?

![Bar chart showing results from the Perishables Group. Food safety is the most important factor, followed by price, type of fish or seafood, and health-nutrition. Other factors are less important.]
Consumer Survey

If ‘sustainable seafood’ is defined as fish that is caught in a way that does not risk the species’ future or oceans, or farmed fish that is farmed in a way that does not harm the environment, which of the following statements best describes you?
When shopping for seafood at a market, I am willing to pay more for seafood that has been certified as healthy and sustainable.

- Unaware: 63
- Aware: 70
- Adopter: 73

A scalar variable indicates a level of agreement with a proposition.
Would you ever change brands or service providers because of an organization’s association with a good cause?

Yes  93.4

No    6.6

A scalar variable indicates a level of agreement with a proposition.
If the consumers aren’t demanding sustainable products, how else can/will the industry change?
What is Sustainable Seafood?

*Sustainable seafood* comes from sources, whether fished or farmed, that can maintain or increase production in the long-term without jeopardizing the structure or function of affected ecosystems.

Factors to evaluate:

- Species
- Ecology
- Management
- Resource Use
- Social Issues
Determining Sustainability

• Monterey Bay Aquarium Rankings:
  – Inherent Vulnerability
    • r, age at 1st maturity, k, max age, fecundity
  – Status of Wild Stocks
    • Management status, abundance relative to MSY, level of uncertainty, fishing mortality, long-term trend, skewness of age/size distribution
  – Nature of Bycatch
    • Quantity, consequence of bycatch, overall trends
  – Habitat Effects
    • Effect on biogenic habitat, resilience of habitat, scale
  – Management Effectiveness
    • Stock assessments are used, quota at appropriate level
Determining Sustainability

• Marine Stewardship Council:
  – A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.
  – Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.
  – The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.
Sustainability Rankings and Pioneering with New Leaf

Green – Best Choice

Yellow – Good Alternative

Red - Unsustainable
The FishWise Garage
The FishWise Garage

Also visit the FishWise desk in BE 160! Free tours!!
FishWise Elevator Spiel

FishWise promotes the health and recovery of ocean ecosystems by providing innovative market-based tools to the seafood industry to support sustainability through environmentally responsible business practices.
What is FishWise?

• FishWise is a non-profit sustainable seafood consultancy dedicated advancing leadership in sustainable seafood

• Partner with industry to affect change on the water

• Member of Conservation Alliance for Seafood Solutions
Seafood Supply Chain

Graphic from Magera and Beaton, 2009
Who We Work With

Producers

Assess sustainability of their products
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Establish improvement programs to document progress towards certification or rankings
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Facilitate market access through FishWise distributor and retail partners
Who We Work With

Distributors

Develop marketing strategies to capitalize on sustainability initiatives
Who We Work With

Distributors

Develop marketing strategies to capitalize on sustainability initiatives

Produce assessments with resulting recommendations
Who We Work With

Distributors

Develop marketing strategies to capitalize on sustainability initiatives

Produce assessments with resulting recommendations

Access to sustainably minded businesses
Who We Work With

Retailers

Comprehensive seafood policy development and implementation
Who We Work With

Retailers

Comprehensive seafood policy development and implementation

Sourcing support to increase number of sustainable seafood offerings
Who We Work With

Retailers

Comprehensive seafood policy development and implementation

Sourcing support to increase number of sustainable seafood offerings

Develop staff training modules and promotional materials
FishWise Educates Seafood Staff and Customers

- Outreach Materials
- Staff Reference Materials
- Staff Training
- On-call Support Anytime
- Advertising & Promotional Assistance
- Website & Newsletter Copy Writing
Sustainable Choices and Responsible Business Practices

• Informed customer decisions drive our market based approach to conservation

• Knowledgeable consumers buy more seafood
FishWise Results

- Seafood sales have increased as much as 20% using the FW program
- Improved consumer confidence and trust
- Increased purchasing of sustainable options (smaller change in unsustainable options)
Sustainable Seafood NGOs

Greenpeace work has led to many retailers partnering with NGOs for help on their sustainable seafood policies.

Percent of total sales (of top 20 U.S. retailers) partnered with NGOs

Oct 2009

Apr 2010

- Partnered with NGO
- Not Partnered
Safeway’s Sustainability Goal

• By 2015, all seafood will be sustainable and traceable, or in a credible time-bound improvement project
Another Important Result: The Greenpeace Scorecard

Greenpeace has ranked the top 20 retailers in the U.S. according to their sustainable seafood policies and purchasing for several years.

This allows for public pressure to be put directly on the companies, regardless of consumer demand at the seafood cases.
What Can You Do?

• Purchase only sustainable seafood
  – Monterey Bay Aquarium’s pocket card or phone app

• Ask about seafood sustainability at restaurants and retailers
  – Create the demand

• Reward those companies with a sustainable seafood policy in place with your business
  – Pay a premium for sustainable product