

The future of Wild Fisheries in an Aquaculture world

Does the rise of Aquaculture
challenge the value of capture
fisheries

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New Zealand Seafood Industry Conference
Wellington, June 8, 2011



Introduction

- Publisher of Seafood.com News – mostly widely read industry news service in N. America
- Following Seafood Commodity markets since 1994
- 33 years in the seafood industry, including participating as price setting arbitrator and/or market price analyst for the past 12 years:
 - Alaska crab fisheries
 - Canadian crab fisheries
 - Canadian shrimp fishery
 - Canadian Lobster Fishery
 - Alaska pollock fishery
- Write extensively about seafood global trade and production issues
- Some private consulting as time permits

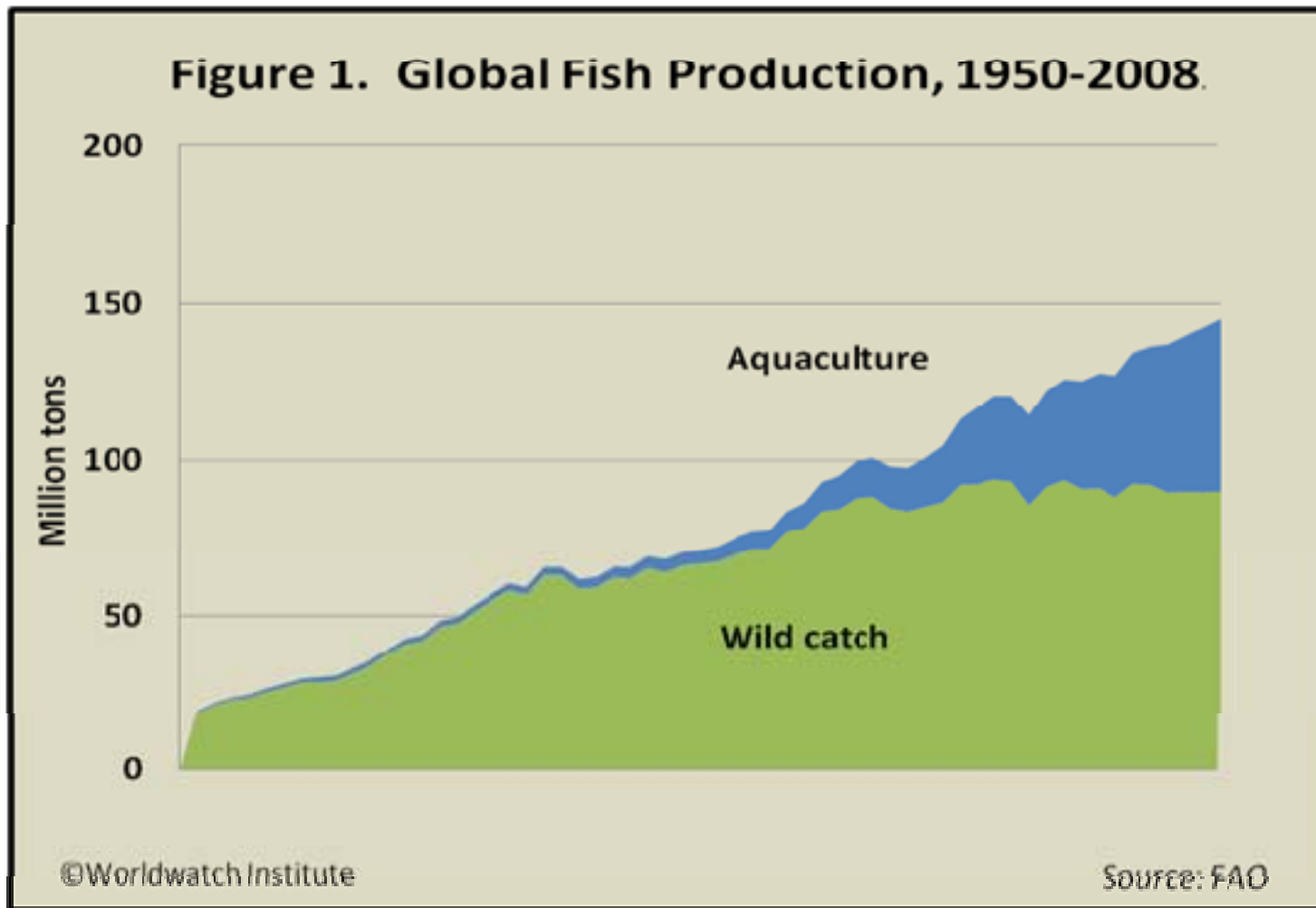


Theme for today

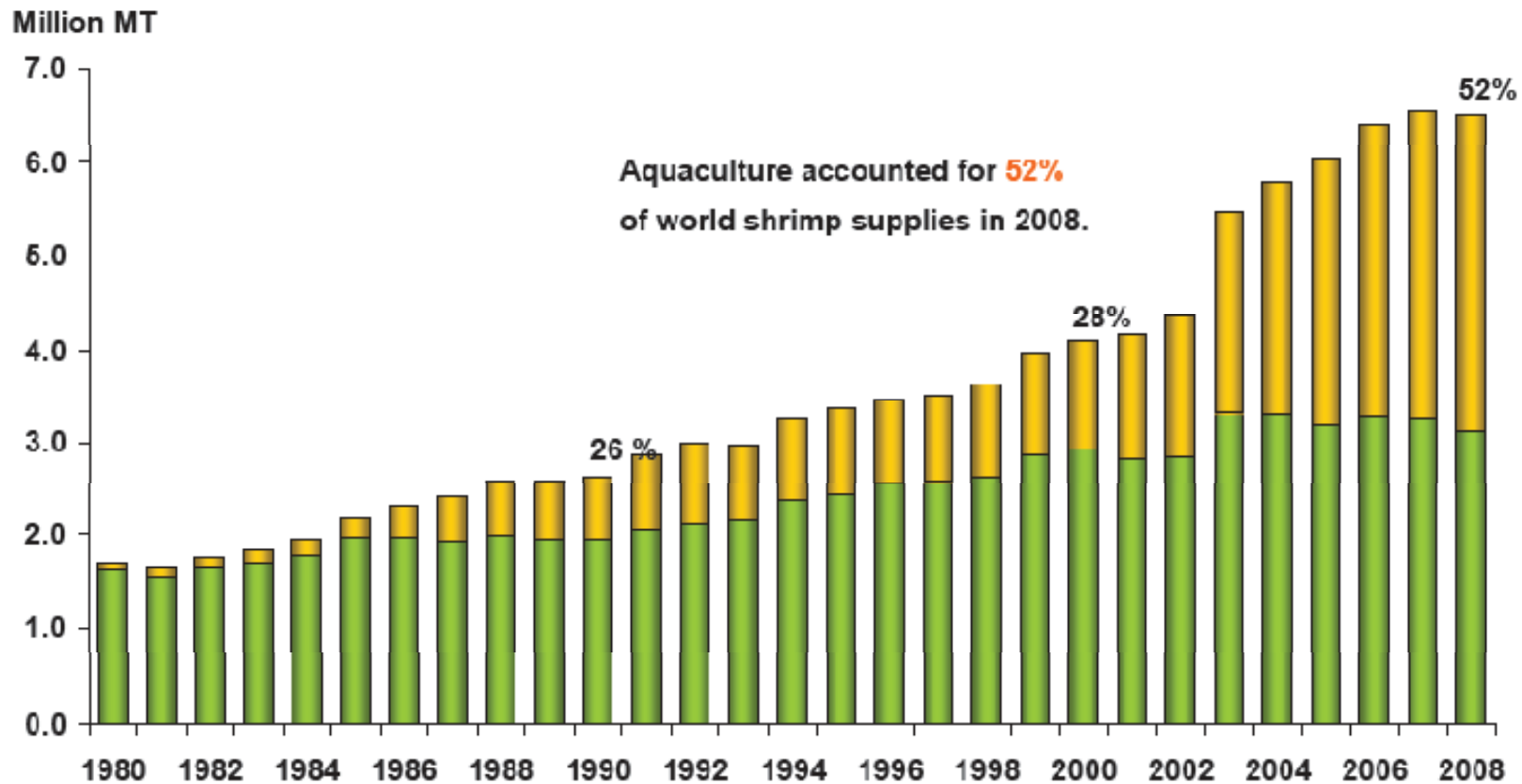
- Aquaculture is becoming the dominant source of seafood supply
- Aquaculture has greater opportunity to lower production costs than do capture fisheries
- Both aquaculture and wild capture fisheries have been rocked by price volatility in the past 2-3 years
- Can aquaculture better meet customer needs than capture fisheries? If so, does that marginalize companies dependent on capture fisheries.



Growth of Aquaculture



Farming now accounts for majority of global shrimp



Source: Jim Anderson, GAA

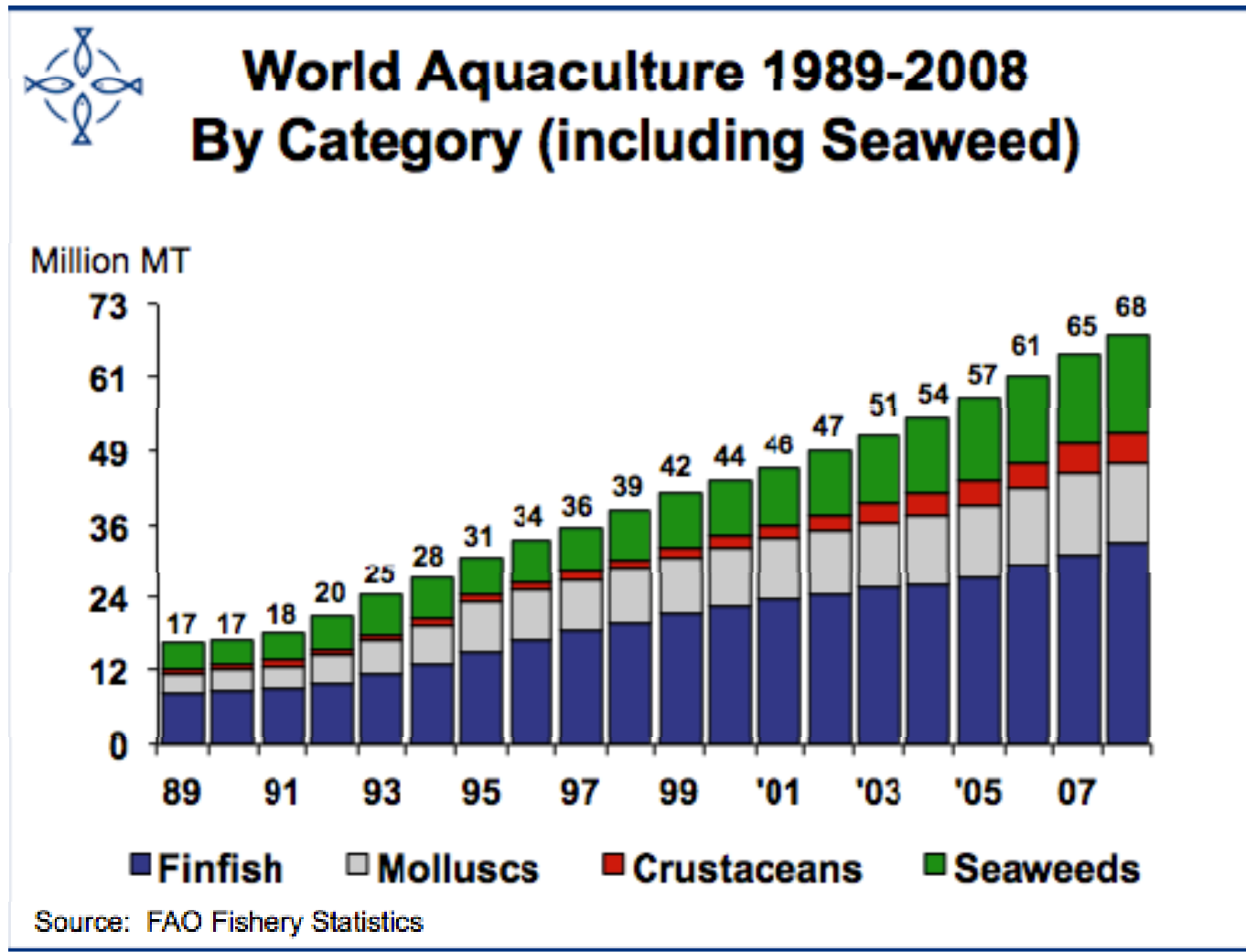


This is rapidly happening with other species as well

- Whitefish (ak pollock, cod, hoki, hake, pangasius & tilapia): 1.2 million tons fillets; 451,000 tons blocks (excluding surimi)
 - 59% fillets now farmed (GF forum)
 - 43% for all block and fillet production
- Salmon – 2.7 million tons in 2010; 70% farmed
- Shellfish: scallops, oysters, mussels, clams all have significant and growing aquaculture production



Finfish make up largest category



Courtesy of
Todd Clark
Groundfish
Forum



We already live in an aquaculture world

- Some random recent headlines from our news service:
 - Brazil's aquaculture sector growing at 20% rate
 - Vietnam Aquaculture output increased to 2.8 million tons in 2010; has grown at 27% per yr
 - New Zealand fast-tracking aquaculture development
 - Aquaculture development beginning to take hold in Africa
- And we have not yet mentioned China: the biggest aquaculture producer and consumer of all

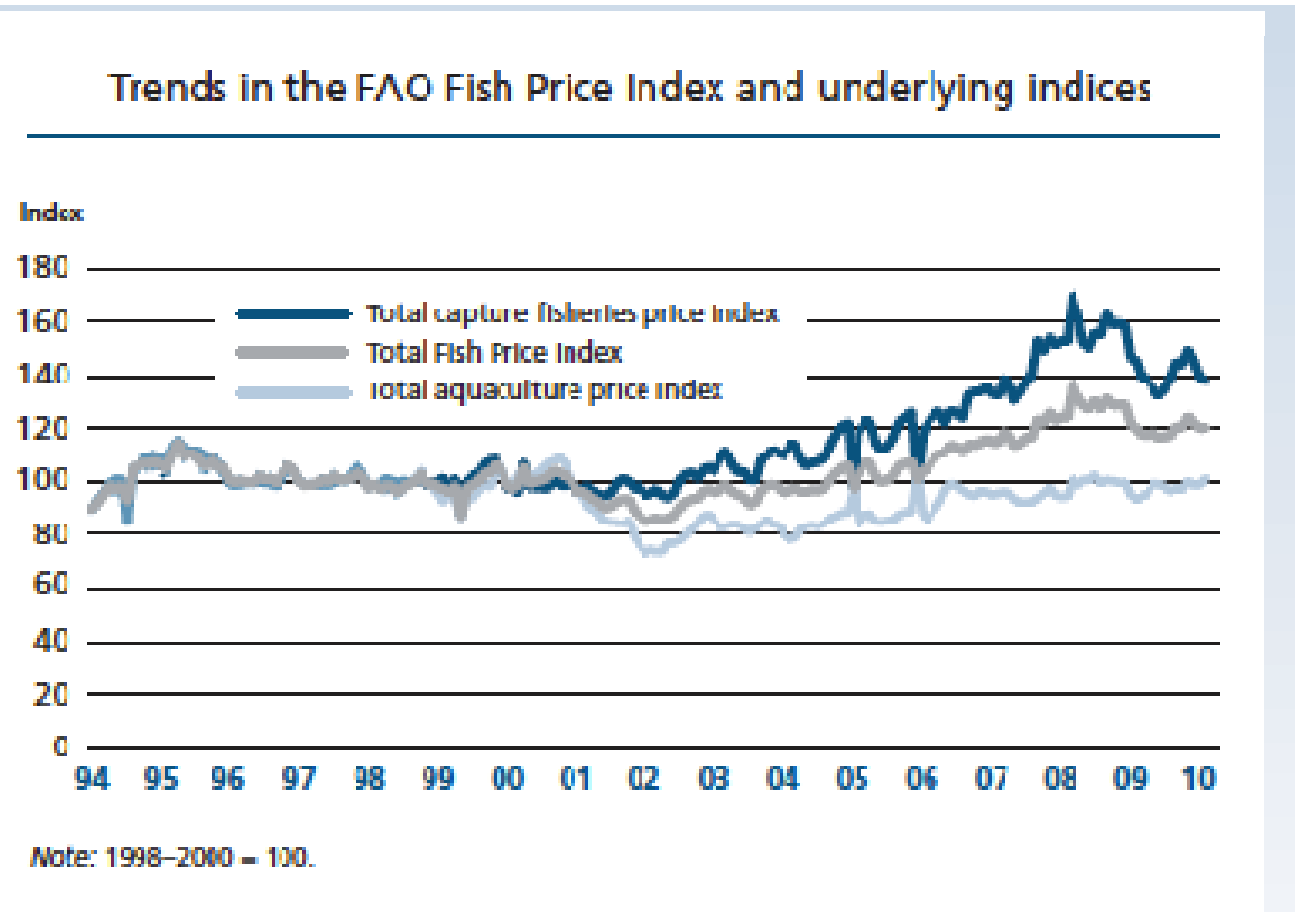


Global rise in seafood demand is strengthening

- Health message
- Sustainability message
- Emergence of new groups of buyers
 - China
 - Brazil
 - SE Asia



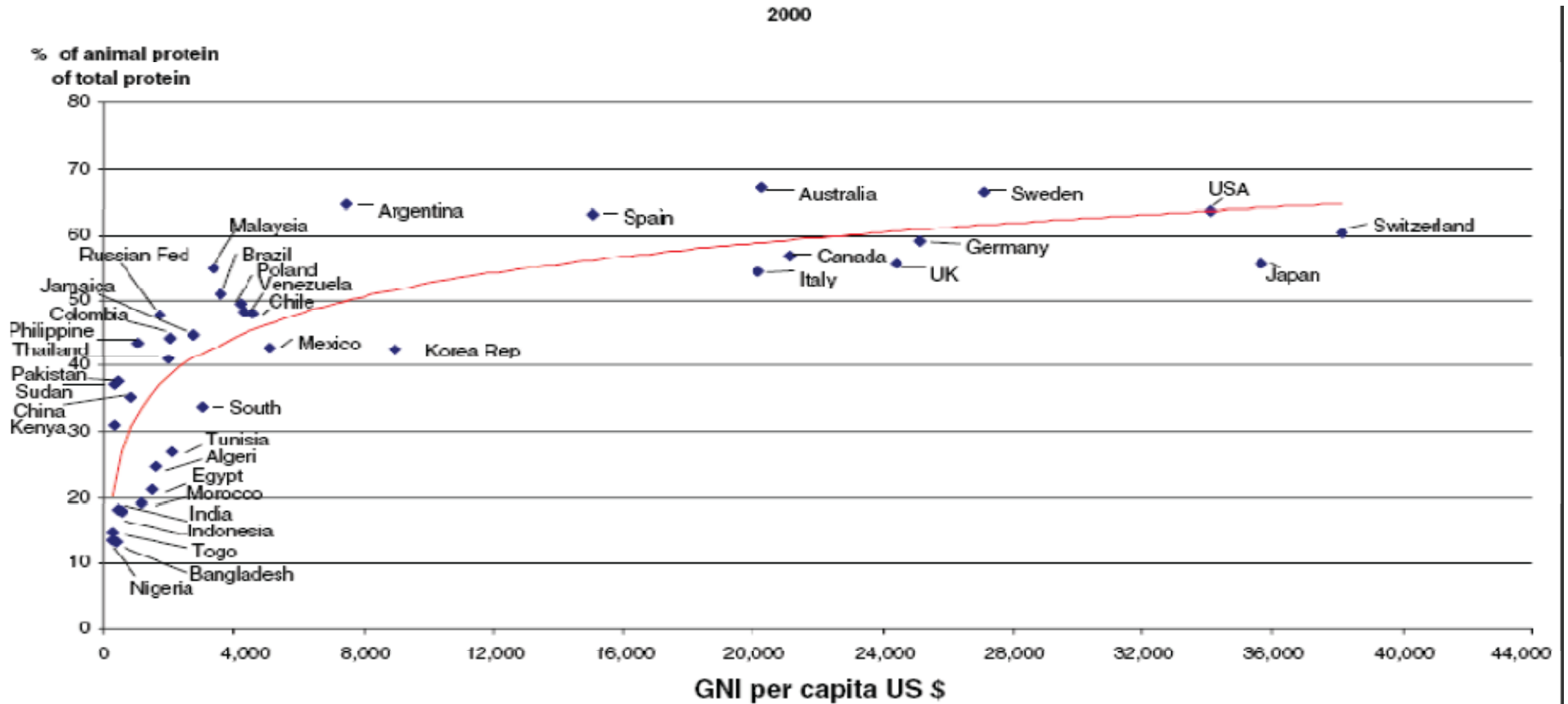
Capture fish prices are increasing, while overall aquaculture is not



FAO 2010 status of fisheries report



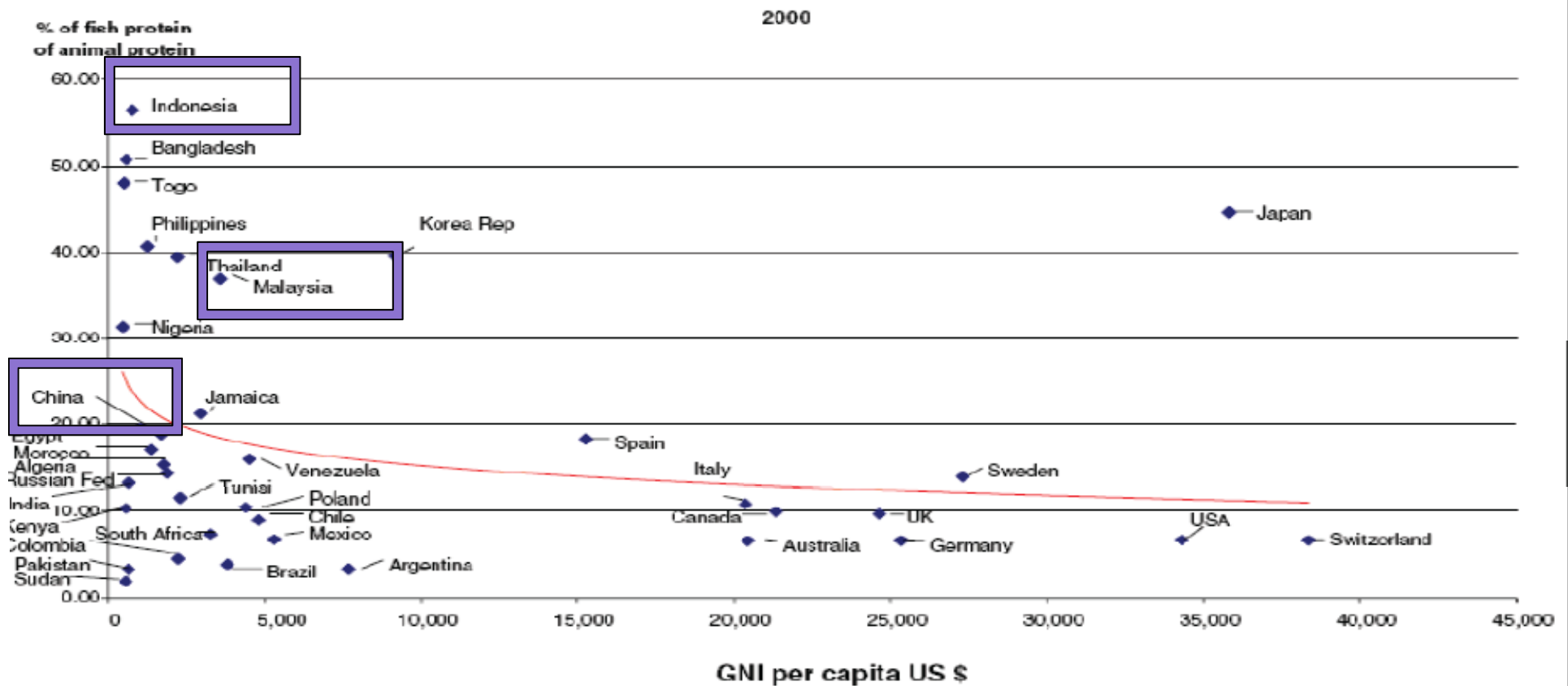
As incomes rise, protein consumption rises



Dr. Albert Zulfack, World Bank



More important is that some fast rising income countries culturally are heavy fish consumers

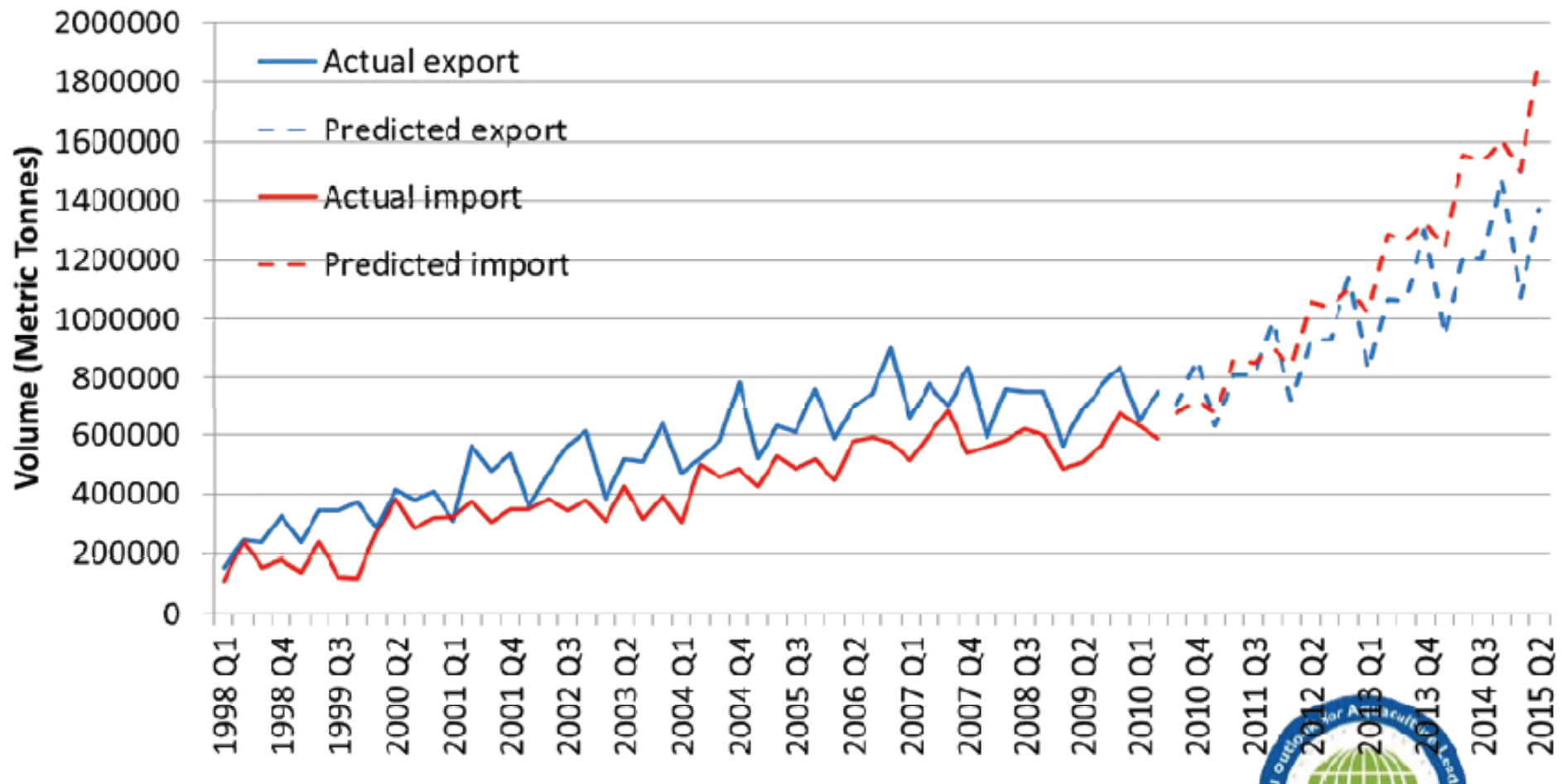


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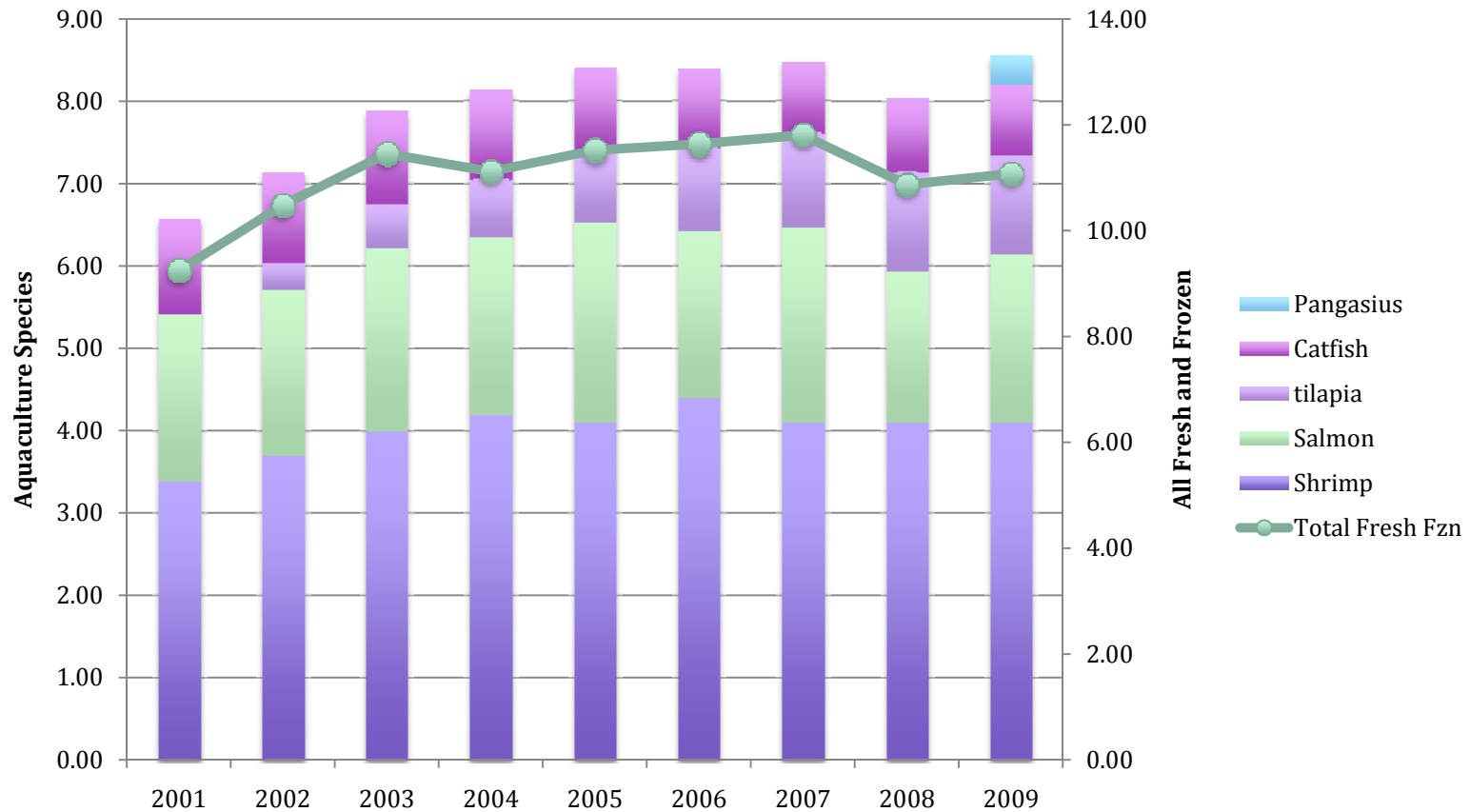
Ragnar Tveteras:

Model forecast: China should become net seafood importer from 2011



Aquaculture species have dominated growth of U.S. seafood Consumption

Growth of US Sfd Consumption (Pounds per Capita)



Europe: growth also coming from aquaculture

- Mussels
- Sea Bream
- Salmon
- Sea Bass
- Shrimp
- Pangasius



Some major species are still exclusively wild capture

- Tuna: most important on a global scale
- Crab: important for US and Japan
- Lobster
- Squid

Except for tuna (ranchered bluefin, Clean Seas), little progress is being made to culture these species



Aquaculture success stories:

- Shrimp: Thailand
- Salmon: Norway, Chile
- Pangasius: Vietnam
- Tilapia: Taiwan, China
- Barramundi: Australia
 - What Defines Success
 - Production growth
 - Dominant supply position
 - Penetration into new markets



Key “benefits” over wild fisheries

- Production stability
- Product uniformity
- Ability to increase output



Buyers like aquaculture products for 3 reasons:

- Uniformity and predictability of size
- Greater availability over the year
- Greater price stability and more opportunity for long term contracts



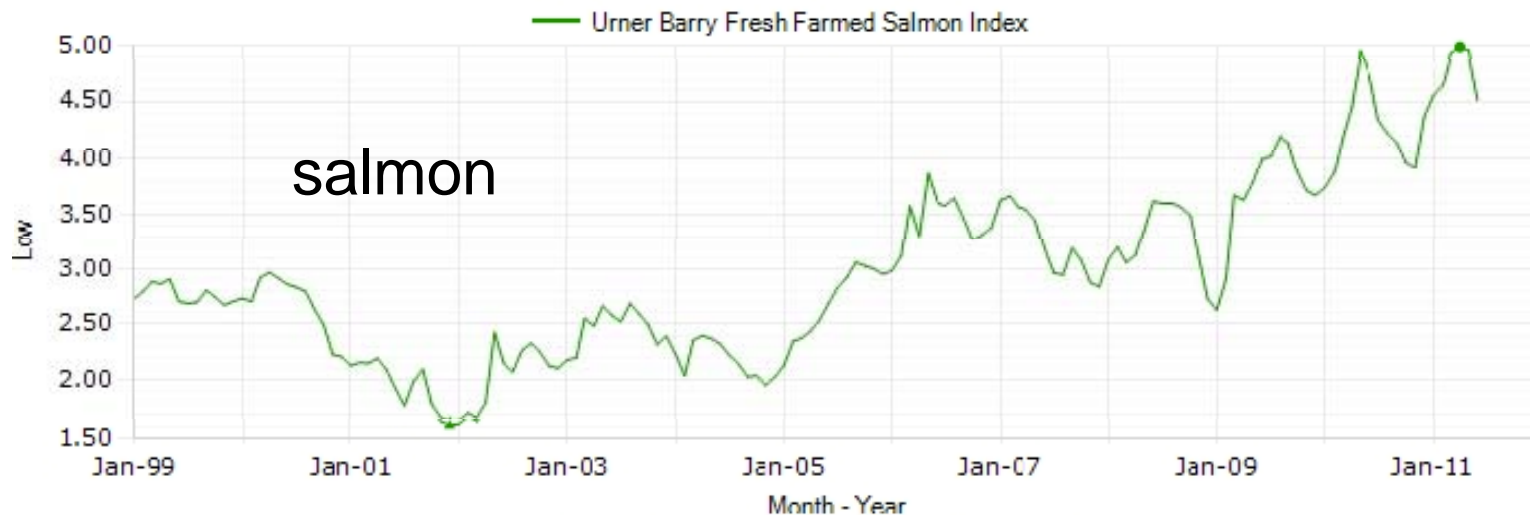
But is this true?

Not in 2008 to 2011

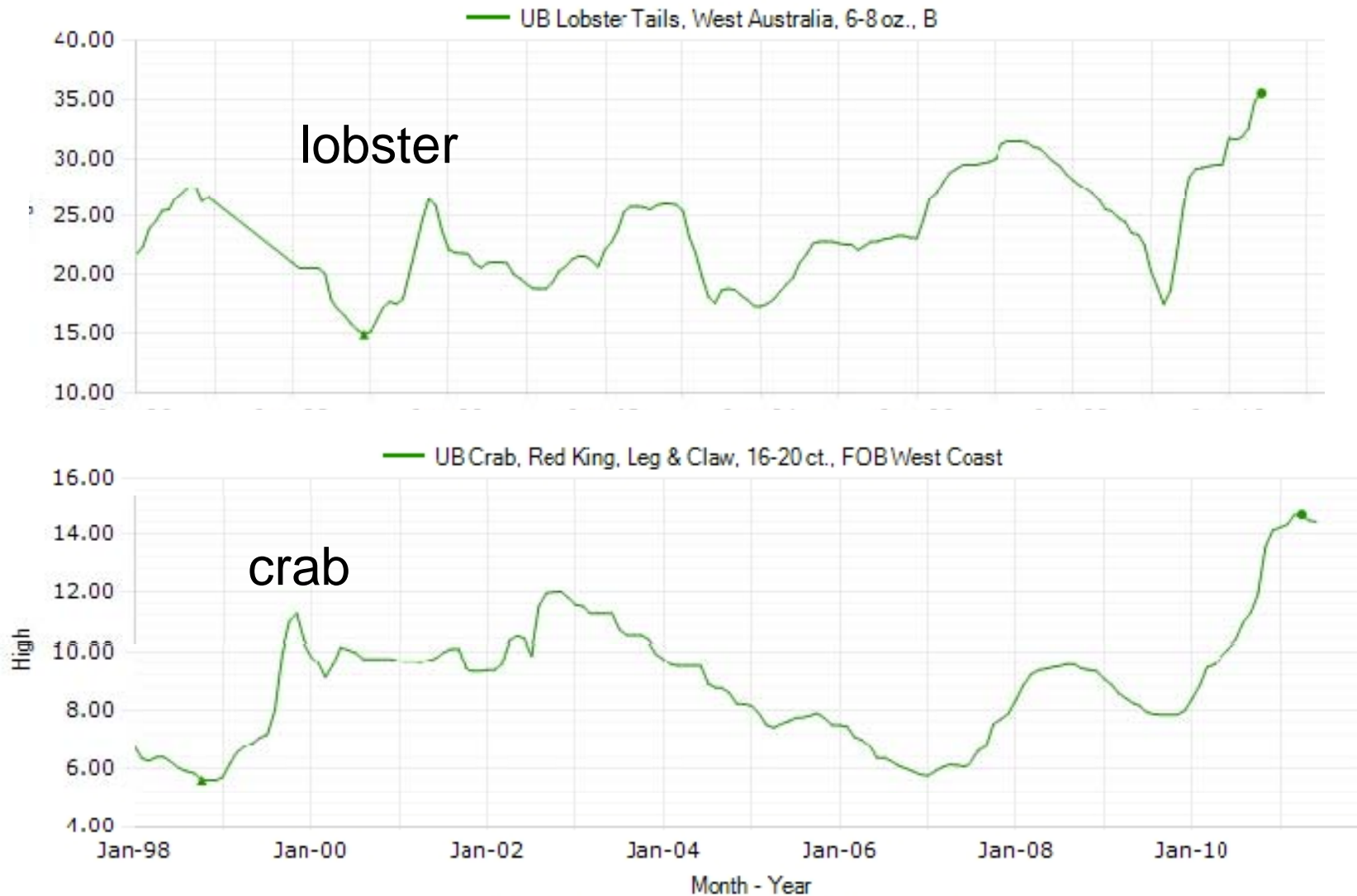
- Shrimp, salmon, pangasius, and tilapia all experienced
 - Supply fluctuations
 - Price volatility
 - Variations in product uniformity



2008 through 2010 was a period of unprecedented price increases



Shrimp, salmon, lobster, crab and many other species saw these increases



Supply was key driver

- Aquaculture supply can be as volatile as wild caught fish –
- Salmon- production collapse in Chile leads to massive price increases
- Shrimp: failures in Vietnam, increased purchases from China, Gulf oil spill, all increased shrimp prices



For wild fisheries supply is also key

- King crab driven by loss of illegal Russian production
- Lobster surge based on supply failures; leading Asian buyers to seek new sources
- Surge in Alaska pollock landings bought down white fish prices
- Skipjack tuna prices fluctuating wildly



Aquaculture product uniformity collapsed also

- Some necessary shrimp sizes became short due to lack of longer growing seasons
- Smaller salmon were pre-harvested in Chile to keep ahead of disease



Structure of global seafood buying is changing

- Retailers have more power as they consolidate, account for a higher portion of seafood sales in some markets.
- Retailers driving the sustainability bus
- Foodservice was hit harder in recession, is slower to recover
- Retailers gaining economic power in emerging markets as well



Retailers more opportunistic about seafood purchases

- Retailers tend to be price sensitive, sell product on volume, and lose interest when prices are too high.
- Only committed to a very few products- salmon, shrimp, and in Europe whitefish
- Foodservice takes about nine months to react to price and supply changes-they feel more trapped if product is on the menu



Presumed advantages of stability in aquaculture may not exist

- What does exist is the ability to increase production
 - India to become a major white shrimp producer, rivaling Vietnam
 - Chile is solving its salmon production problems; Cermaq back at 2008 levels
 - High prices spur production, investment, and lead to increased supplies



Increased production is the key advantage

- Trend of more seafood consumption favors both wild caught and aquaculture
- But managing supply puts a premium on transparency and vertical integration
- Seafood producers should embrace aquaculture and invest in it as a tool to improve their ability to manage supply for their customers.



Consolidation and vertical integration

- Big buyers make it necessary for seafood companies to consolidate and vertically integrate to protect their margins
- Supply volatility will not disappear; so companies must manage it
 - Diversity of sourcing, including aquaculture investments
 - Vertical integration, so buyers are shielded to some extent from price fluctuations



Seafood producing regions that marginalize aquaculture will be less attractive

- Alaska companies have had to purchase aquaculture assets abroad.
- BC “salmon wars” have stunted that province’s most valuable export.
- New Zealand has embarked on an expansion of aquaculture



Seafood's future is to expand production so as not to become an 'expendable' niche product

- In global food industry, niche products can be dispensed with – they don't fit into the scale needed for retailers, and they are subject to fads
- Our industry relies on niche high end products to promote romance, desirability of seafood; and there are some truly high end markets (bluefin tuna, lobster)
- But we rely on supplies of manufacturing raw material -hoki, pollock, salmon, shrimp - to keep products in the global food chain via ready meals (Findus, Birdseye), and in fast food like McDonalds.



The danger for wild fisheries seen as niche product is they can be replaced

- Supply issues: (blue crab industry lost in the U.S.)
- Vulnerable to substitution (black cod for toothfish, American lobster for NZ, Australian lobster)
- Easy to lose markets..if your customers can sell something else, they will



Aquaculture has tools to keep lowering costs

- Global aquaculture production has doubled while fishmeal and oil usage has remained flat.
- Biosecurity, vaccines drastically cut antibiotic use
- Genetic breeding (the old fashioned way by selectivity) produces huge gains.
- Long term, aquaculture will see GMO



Capture fisheries have strengths also

- Most critical: Science based, gov't enforced fisheries management
- Hillborn believes that application of best practices of fish management can lead to increase in wild harvests
- Quota management and rationalization is key to efficiency and profitability
- Not all capture fisheries lend themselves to rationalization



A Way forward

- Embrace aquaculture on the country regulatory level
- Embrace it on a company level
- Protect customers from volatility by sourcing in multiple areas
- Protect margins by vertical integration



Vertically integrated and diverse companies have advantages

- CP – 50% feed mkt share; 15% of Thailand's shrimp output
- A few large Vietnamese companies export most pangasius
- A favored Chinese company – ZF – exports most Chinese shrimp to US
- Salmon has Marine Harvest, Cermaq
- Pacific Andes buying into European distribution



They can better manage price volatility

- Better able to manage variations in costs in supply chain
- More ability to transition customers to appropriate level products
- Better visibility on supply issues
- Long term rise in pricing is a key problem for traditional markets



Quota management and/or control key for capture fish co's

- Secure access to quota gives equal levels of transparency and control as aquaculture companies.
- Customers ultimately want their suppliers to exercise control – and the most successful seafood companies will mediate those events that make a buyer think seafood is out of control.
- Fisheries where control is lacking will be most hurt by market reaction to price volatility



Good fisheries management can give capture fisheries an equal shot at meeting customer demand

- Our original question was whether the rise of aquaculture marginalizes capture fisheries, which provide less and less of the total seafood supply.
- I think the answer is they don't. Improvements in fisheries science and management, as Ray Hilborn says, can in fact eliminate overfishing and the uncertainty that has been a hallmark of capture fisheries.
- Sustainability is a criteria applicable to both capture fisheries and aquaculture and over time it will reduce volatility and keep seafood a significant part of the global food system.



Thank You

Feel free to follow up with discussions via email:

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