Global Shrimp Production
WORLD CONGRESS ON GLOBAL FISHERIES PRODUCTION

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Vigo

October 1, 2018
Background

- 40 Years in Seafood Industry
- Crab, shrimp, lobster and cod market analyst since 1997
- Preseason price and market outlooks on shrimp, crab, lobster and cod – Maritimes, Newfoundland, Alaska, US West Coast
- Price arbitrator for Alaska crab Fisheries 2005-2017
- Co-Founder of NFI’s Global Seafood Market Conference
- Shrimp, Crab, Lobster Analyst for NFI
- Publisher of Seafood.com News
Overview of Global Shrimp Trade

- Dominated by Farmed Shrimp
- Small Number of Major Producing Countries
- Wild Shrimp, including coldwater prawns represent about 23% of Global Trade
- Most Wild Shrimp Harvest Tracked by FAO does not enter the Global Shrimp Trade
Aquaculture now dominates global shrimp production

Overview of Global Shrimp Production
Overview of Global Shrimp Trade

Global Shrimp Trade by Type of Production

- Cold water
- Other
- Aquaculture

2016
- Coldwater 5.3%
- Wild Caught 17.4%
- Aquaculture 77.3%

FAO trade and production databases
Small number of countries/species dominate each sector

- **Aquaculture**
  - 7 Countries Represented 90% of Global Aquaculture Production in 2016
  - China: 32%
  - Indonesia: 16%
  - Viet Nam: 16%
  - Ecuador: 11%
  - India: 13%
  - Mexico: 3%
  - Thailand: 9%

- **Wild Caught Species**
  - Wild Caught Shrimp
  - Paste Shrimp and Small Shrimp & Unidentified: 51%
  - Peneaus Shrimp (Monodon, Vanamei etc): 24%
  - Cold Water Shrimp: 9%
  - Argentine Red Shrimp: 5%
  - Other Harvested Shrimp: 11%

FAO trade and production databases
Coldwater, Argentine, and Penaeid Species Dominate Trade

**Coldwater Species 90%**
- Canada: 38%
- Greenland: 31%
- United States of America: 9%
- Netherlands: 6%
- Russian Federation: 6%
- Denmark: 3%

2016 production: Coldwater 308.143

**Penaeid Species: 91%**
- India: 26%
- China: 22%
- Indonesia: 15%
- Mexico: 12%
- United States of America: 12%
- Peru: 4%
- Austral: 3%
- Brazil: 2%
- Thailand: 4%
- United States of America: 12%

2016 production: Argentina red: 178.000  Wild: 854.000
Trade in Non-Aquaculture Frozen Shrimp

Major Wild Shrimp Exporters

- Madagascar
- Venezuela, Bolivarian Republic of
- Nicaragua
- Mexico
- Honduras
- Australia
- Panama
- Guatemala
- Philippines
- Pakistan
- Guyana
- Others
- Argentina

Argentina

Others
Argentine Shrimp had Record landings in 2017

2018 landings will be less, but still near 200,000 t
Mexico wild shrimp catches stable

Mexico Wild and Aquaculture Shrimp

Wild  Aquaculture

Metric Tons

2012  2013  2014  2015  2016  2017 est
Central American & Caribbean

Wild Capture is stable

Much smaller than Aquaculture

Significant sea bob fishery in Guyana and Suriname
Asian Wild shrimp

China Wild Capture

- Paste Shrimp
- Southern Shrimp
- Karuma & Tiger Prawn
- Fresh water

Indonesia

- Banana Prawn
- Tiger Prawn
- Other Wild

Graphs show the production of different types of wild shrimp from 2012 to 2016.
US landings of wild Gulf shrimp don’t enter international trade

US Domestic Gulf Landings

Metric Tons

Coldwater shrimp

Global P. borealis landings have stabilized with increases in Greenland and Barents Sea
US Pandalus jordani catches recovering

Seafood Datasearch Estimates and ICWPF
Interaction between shrimp and cod stocks major driver of cold water shrimp

Dr. Carsten Hvingel
Head of Research Section
Benthic Resources and Processes
Institute of Marine Research, Norway
Wild Shrimp Summary

- Argentina continues to be the most important single producer of wild shrimp
- 2018 Landings will be down due to weather, strikes, but still around 200,000
- Catches are stable in the Caribbean and in Asia
- Wild shrimp production outside of a few species does not compete directly with aquaculture
Wild shrimp catches will be slightly higher in 2017, may fall in 2018

- **Non-Competing:**
  - Paste shrimp
  - Small shrimp
  - Locally landed and consumed shrimp
- **Competing:**
  - Large prawns (Karuma, Banana Prawn, Tiger Prawns)
  - Argentine Shrimp
  - Mexico, Caribbean wild shrimp

- Together these account for the majority of wild caught shrimp
- No major changes in outlook
History of Farmed Shrimp

- Shrimp is subject to commodity cycles
- Global Demand for Shrimp is Growing
- Expansion is Driven by New Areas Coming Under Cultivation
  - Technology
  - Better Genetic Breeding
  - Quality Brood Stock
  - Favorable shrimp Prices
- Contractions are Driven by
  - Disease Outbreaks in Major Production Areas
  - Low Prices Discouraging Farmers
Global farmed shrimp production recovered in 2017 and 2018

Farmed Shrimp Production by Major Producer

- China
- Indonesia
- Vietnam
- Thailand
- India
- Ecuador
- Mexico
- Bangladesh
- Brazil
- Other Americas
- Other Asia

NFI Global Seafood Market Conference 2018
NFI Shrimp Panel Predicted over 6% growth in 2018

Production Expectations by Country

Overall Panel Global Shrimp Production Expectations

NFI Global Seafood Market Conference 2018
2018 has confirmed expectations

- India growth less than expected
- Ecuador growth is more than expected
- Vietnam has also improved production
- China disease problems have not lessened
- Indonesia is very stable
- Thailand has improved efficiency
- GOAL Conference expects 6% growth to continue in 2019 and 2020
India: Production mostly growth through new areas and ponds

2018: strong first quarter issues developing in the second half

Other states beyond Andhra Pradesh are increasing production

(with co-operation from Robins McIntosh)
Ecuador: Production Increase through technical/efficiency gains-

Higher Pond Survivals
Lower FCR
Higher Pond Yields
Shorter Cycles

Low density
Can improve from .5 t/hectare to 1.0 or 2.0 with two crops Per year

Ecuador has higher potential than India

(with co-operation from Robins McIntosh)
China: Some success but continued disease problems

Some farms in China adopting better technology and biological controls

(with co-operation from Robins McIntosh)
Thailand production: Production Increase through technical/efficiency gains

45,000 Ha
14 T/ha/yr

10,000 Ha
34 T/ha/yr

(with co-operation from Robins McIntosh)
Vietnam: Production Increases with new cost efficient systems

With co-operation from Robins McIntosh
Black tiger: for the “poor farmer”

Earthen Ponds
Low RPM aeration
Less (No) EHP
Less APHNS

With co-operation from Robins McIntosh
Summary of trends to “pond efficiency”

- Smaller Ponds: 1000-4000M²
- Central Sumps for continuous removal of wastes
- Higher water exchanges
- Higher aeration
- Depth: more reducing depth than increasing depth
- Temperature stabilization: shade cloth
- Use of settling, treatment, fish for recycle of exchange water
- Use of Ground water when available (no need disinfectants, etc)
- Liners: reduced pond down time, cleanup ease
- Nurseries: faster growth in pond; more cycles per year
- Diets formulated for the higher growth potentials

With co-operation from Robins McIntosh
Why we expect farmed shrimp production to increase

- EMS forced major changes in shrimp aquaculture
  - Led to cleaner ponds; cleaner brood stock, and cleaner water
  - These changes supported technical and genetic improvements
  - Makes industry more resilient in face of new diseases
Price is a major driver for aquaculture

- Shrimp is priced by size
- New techniques lead to larger size shrimp with better growth rates
- This improves the profitability for farmers who invest and grow larger shrimp.
- Commodity cycles bigger factor than disease in production growth at this point
There is a new shrimp disease emerging: SHIV
(Shrimp hemocyte iridescent virus)

- Produces heavy mortality early in cycle like EMS; farmers may not distinguish
- Can be detected in broodstock
- Found initially in China, with some reports in Vietnam
- Indian shrimp production facing ordinary diseases, not SHIV

No shrimp diseases have been eradicated whether white spot, EMS, or Taura. Instead farmers have adopted better biosecurity and production methods. This makes the commercial aquaculture industry more resilient.
Outlook for 2019

- Price is likely to emerge as major factor in growth of shrimp production in 2019.
- Global demand for shrimp remains very high, with prices rising with volume reduction, as with Argentine shrimp this year.
- Major risk for farmed shrimp is decline in Indian production in 2019 after peak growth.
- More stability in other growing areas should offset this.
- Changes in China domestic production also a factor for Ecuador.
Thank you