Fish Production Estimates & Trends 2012-2013

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Ragnar Tveteras
Scope of Analysis

• Focus on internationally traded species:
  • Typically imported to USA, Europe & Japan.

• Production forecasts for 2012 for all chosen species:
  • But for some species only major producer countries/regions.

• Global production forecast for 2013 almost all species.
Finfish Species Included in Analysis

• Tilapia
• Salmon & Trout
  • Atlantic salmon
  • Coho salmon
  • Trout
• Catfish
  • Pangasius
  • Channel catfish

• Seabass & Bream
• Flatfishes
  • Flounders
  • Halibut
  • Turbot
• Barramundi
• Cobia
• Atlantic cod
• Bluefin tuna
Mussel Species Included in Analysis

- Mediterranean - *Mytilus galloprovincialis*
- Blue mussel - *Mytilus edulis*
- Cholga mussel - *Aulacomya ater*
- Green mussel - *Perna viridis*
Tilapia
Tilapia
Global Aquaculture Production

Sources: 1990-2010: FAO; 2011-2014: Kevin Fitzsimmons; Prices US import frozen fillet: NMFS.
Note: Prices are January-December averages, except for 2012 (January-August average)
Tilapia Production by Country

Average of estimates from several sources.
Tilapia Production Estimates For China

2013

2012

2011

Anonymous2

Kevin Fitzsimmons

Liping Liu
Tilapia Production Estimates For Egypt

2011

2012

2013

0 200000 400000 600000 800000

Anonymous1
Anonymous2
Anonymous3
Kevin Fitzsimmons

Global Outlook for Aquaculture Leadership
BANGKOK 2012
Tilapia

U.S. Import Volume & Real Import Price for Frozen Fillets

Source: Fisheries Statistics Division of the National Marine Fisheries Service (NMFS) CALIBRI
Salmonids
Atlantic & Coho Salmon & Rainbow Trout Total Production

Metric tonnes

- Large rainbow trout
- Coho salmon
- Atlantic salmon

Sources: FAO, Kontali
Atlantic Salmon
Production and EU15 real import price fresh gutted from Norway

Farmed Atlantic Salmon Production

Metric Tonnes (WFE)

- Norway
- Chile
- UK
- Canada
- Faroe Islands
- Australia
- Ireland
- USA

Source: Kontali
Coho Salmon
Total Production and Real Export Price on Chilean Coho Frozen Round

Sources: FAO, Kontali NSEC
Coho Salmon
Farmed Production

Metric Tonnes

Source: Kontali
Rainbow Trout
Total Ocean Farmed Production and Chilean frozen USD/kg (blue) and Norwegian fresh EUR/kg (red) real export prices

Sources: FAO, Kontali, NSEC. Note: Prices are annual averages except 2012 (January-August average).
Rainbow Trout Production

Source: Kontali
Pangasius
Pangasius
Production in selected countries

Sources: Kontali
Pangasius
Production by country

Sources: Kontali
Pangasius, Vietnam
Estimates From Two Sources

<table>
<thead>
<tr>
<th>Year</th>
<th>Kontali</th>
<th>Anonymous1</th>
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<td>1100</td>
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<tr>
<td>2014</td>
<td>800</td>
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</table>

Production in 1000 MT
Pangasius
Production in Vietnam

Sources: FAO (1997-2009), Kontali and VASEP (2010), Kontali and anonymous (2012-2013)
**Pangasius**

Vietnam Export Volume & Average Price

Export volume (1000 Metric tonnes)

Source: FAO, Vietnam Association of Seafood Exporters & Producers (VASEP)
**Pangasius**

Relationship between production and export estimates

![Graph showing the relationship between production and export volume of Pangasius in 1000 Metric tonnes from 2001 to 2011. The bars represent production, while the line graph shows the export volume ratio. The sources are Vietnam Association of Seafood Exporters & Producers (VASEP), Kontali, FAO/Globefish, Anonymous.](image)

Sources: Vietnam Association of Seafood Exporters & Producers (VASEP), Kontali, FAO/Globefish, Anonymous.
Channel Catfish
Total Global Production and Real Price U.S.

Sources: FAO, Kontali, USDA/NASS (prices). Note: Prices 1986-2011 are annual averages, price in 2012 is Jan.-Sep. average.
Channel Catfish
Production by Country

Source: FAO, Kontali
Channel Catfish
U.S. Production and Real Price

Production (Metric tonnes) vs. Real price of live catfish (USD per kg)

Sources: FAO, Kontali, USDA/NASS
Seabass & Sea Bream
Mediterranean Production

Production in metric tonnes

Source: FEAP, Kontali (2006-2013)
Seabass & Sea Bream
European Production & Real Italian Import Price

Source: FEAP, Kontali, Eurostat
Sea Bream
Seabream
Production in Mediterranean Countries

<table>
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<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>France</td>
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<td>Others</td>
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</table>

Source: Kontali
Seabass Production in Mediterranean Countries

![Graph showing seabass production in Mediterranean countries with data for Greece, Turkey, Spain, Italy, France, and Others for years 2010, 2011, 2012, and 2013. The graph indicates that Greece has the highest production, followed by Turkey and Spain.](image-url)

Source: Kontali
Flatfishes
Olive Flounder
Production and real farmgate price

Production in metric tonnes

Real price (USD/kg)

Sources: FAO (1993-2009), Dr. Sungchul C. Bai (2010-2013)
Turbot
Production in selected countries

Sources: FAO, Kontali.
Turbot
Production in selected countries excl. China

Sources: FAO, Kontali, and anonymous source for Chile
Atlantic Halibut Production

Barramundi
Barramundi
Total Production and Real Price Australia until 2010

Source: FAO
Barramundi
Total production by major producing countries

Source: FAO
Barramundi
Production forecasts for selected countries

Sources: FAO (2002-2010) and anonymous sources (2011-2013)
Cobia
Cobia
Major Producing Countries until 2010

Source: FAO
Cobia
Major Producing Countries until 2011

Farmed Cobia Estimates for Taiwan and Colombia

Atlantic Cod
### Atlantic Cod

**Total Farmed Production and Norwegian Export Price**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (metric tonnes)</th>
<th>Real price in Euro per kg</th>
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<tbody>
<tr>
<td>2001</td>
<td>25,000</td>
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<tr>
<td>2002</td>
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<td>8.0</td>
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<td>2003</td>
<td>15,000</td>
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<tr>
<td>2004</td>
<td>10,000</td>
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<tr>
<td>2013</td>
<td>50.0</td>
<td>8.0</td>
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</tbody>
</table>

**Sources:** Norwegian Directorate of Fisheries (1989-2004), Kontali (2005-2013), Norwegian Seafood Export Council (Prices). Note: Prices 2001-11 are annual averages, price in 2012 is Jan-Aug average.
Atlantic Cod
Farmed Production by Country

Source: FAO (-2004) and Kontali (2005-2013)
Tunas
Bluefin Tuna
Total Production and US real import price fresh

Sources: Production - Apostolos Tzoumas; import price- NMFS.
Note: Prices 2002-2011 are annual averages, price in 2012 is January-August average.
Bluefin Tuna Production by Region

- **Japan (Northern Pacific Bluefin Tuna)**
- **Mexico (Northern Pacific Bluefin Tuna)**
- **Mediterranean (Northern Atlantic Bluefin Tuna)**
- **Australia (Southern Bluefin Tuna)**

Production in metric tonnes

Source: Apostolos Tzoumas
Summary
Production of Surveyed Species
2002-2012

- Atlantic cod
- Barramundi (IN and TW)
- Turbot
- Olive flounder; Korea Rep.
- Coho salmon
- European Sea Bass & Bream
- Rainbow trout
- Channel Catfish
- Pangasius, Vietnam
- Atlantic salmon
- Tilapia
Production of Surveyed Species 2002-2013

- Atlantic cod
- Barramundi (IN and TW)
- Turbot
- Olive flounder; Korea Rep.
- Coho salmon
- European Sea Bass&Bream
- Rainbow trout
- Channel Catfish
- Pangasius, Vietnam
- Atlantic salmon
- Tilapia
Did They Double In A Decade? Yes!
Percentage Growth 2002-2012

- ALL SPECIES: 136.6%
- Atlantic cod: 709.7%
- Barramundi (IN and TW): 268.7%
- Turbot: 147.8%
- Olive flounder; Korea Rep.: 114.2%
- Coho salmon: 50.0%
- European Sea Bass&Bream: 127.3%
- Rainbow trout: 59.1%
- Channel Catfish: 43.5%
- Pangasius, Vietnam: 701.9%
- Atlantic salmon: 80.9%
- Tilapia: 163.2%

Percent
Cumulative Change in Production
2002-2012

- Atlantic cod
- Barramundi (IN and TW)
- Turbot
- Olive flounder; Korea Rep.
- European Sea Bass&Bream
- Channel Catfish
- Pangasius, Vietnam
- Rainbow trout
- Coho salmon
- Atlantic salmon
- Tilapia

Change in production (metric tonnes)

- 2002-2003
- 2003-2004
- 2004-2005
- 2005-2006
- 2006-2007
- 2007-2008
- 2008-2009
- 2009-2010
- 2010-2011
- 2011-2012
Annual Percent Growth Rates
2009-2012

<table>
<thead>
<tr>
<th>Fish</th>
<th>2010-2011</th>
<th>2011-2012</th>
<th>2012-2013</th>
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<tbody>
<tr>
<td>Atlantic cod</td>
<td>-25.3</td>
<td>3.0</td>
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<tr>
<td>Barramundi (IN and TW)</td>
<td>-2.9</td>
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<td>-0.3</td>
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<td>Olive flounder; Korea Rep.</td>
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<td>European Sea Bass&amp;Bream</td>
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<td>8.3</td>
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<td>Channel Catfish</td>
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<td>Pangasius, Vietnam</td>
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<td>Rainbow trout</td>
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<td>Coho salmon</td>
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<tr>
<td>Atlantic salmon</td>
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<td>Tilapia</td>
<td>3.9</td>
<td>10.1</td>
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Percent
### Average Annual Percentage Growth

(«Double in a decade» requires 7.2% annual growth)

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<th>Percent Growth</th>
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Thank You!