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Dear Reader,

South America is undoubtedly an important player in the world’s seafood arena. Not only does approximately 46% of the global fish meal production originate in the region, it also has large groundfish resources and important aquaculture production.

We invite you to examine the following pages as an introduction to the seafood industry in South America, with a special focus on Chile and Peru, undisputedly the region's most important seafood players.

As always, we urge you to contact us should you wish to comment on the content or are interested in getting to know more.

Glitnir Seafood Team
Main Findings

- South America caught 14% of the global catch in 2003.
- Seafood consumption is growing but still low at an average of 8.6 kg per capita compared to the global average of 16.3 kg (2002), but varies greatly among the different countries.
- Aquaculture is continuing to grow, with Chile as the region’s leader, with hopes in the other countries.
- Chile is a world top player in salmon farming and an overall cost leader.
- Chile is the world’s no. 2 producer of fish meal and fish oil (2004 exports of USD 335m).
- Chilean legal framework and business environment is attractive for foreign investment.
- Peru is the world leader in fish meal and fish oil production.
- The Peruvian implementation of an ITQ system for anchovy, is under debate, and would strengthen this leadership.
- The pelagic fisheries are still very fragmented in Peru with room for consolidation.
The Seafood Industry in South America
S-America is an extensive fishing area

- S-America: Two of the world’s Top 10 fishing nations and four of the Top 30.
- The catch of S-American countries totalled 12.8m tonnes in 2003, or 14% of the total world catch, a large part of that catch are low-value pelagic species. The population of S-America is around 350 million, or almost 6% of the world population.
- Peru is the world’s 2nd largest fishing nation, measured in tonnes, based on the 2003 world catch. The main species are anchovies, sardines and jack mackerel. Peru’s average catch for fish meal production was around 7.6m tonnes in the last 15 years, with wide fluctuations.

- Chile also catches large amounts of pelagic species. The Chilean catch was 3.6m tonnes in 2003. The predominant species is Chilean jack mackerel.
- Brazil has 8,500 kilometres of coastline and the government has big plans developing the country into a major supplier of marine products. Fisheries activity constitutes only a small part of the GDP, about 0.4 percent.
- For Argentina and Uruguay, the Argentinean hake (Merluccius Hubbsi) is the most important species, having recovered in recent years after some years of over-fishing.

### S-America’s Biggest fisheries countries in 2003

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Capture in Million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peru</td>
<td>2</td>
<td>6,1</td>
</tr>
<tr>
<td>Chile</td>
<td>6</td>
<td>3,6</td>
</tr>
<tr>
<td>Argentina</td>
<td>22</td>
<td>0,9</td>
</tr>
<tr>
<td>Brazil</td>
<td>25</td>
<td>0,8</td>
</tr>
<tr>
<td>Venezuela</td>
<td>33</td>
<td>0,5</td>
</tr>
<tr>
<td><strong>S-America total</strong></td>
<td></td>
<td><strong>12,8</strong></td>
</tr>
</tbody>
</table>

Source: FAO; (rank global fisheries)
Seafood consumption in S-America below world average

- Consumption of seafood products in S-America is low with 8.6 kg/capita compared to the world average of 16.3 kg, but it has increased gradually over recent years.
- Seafood percentage of overall animal protein consumption gives a similar picture, where seafood represents 11.3% in S-America and the world’s average is 29.3%.
- However, in the two largest fishing nations Peru and Chile, consumptions was closer to the world average consumption.
- Even though seafood consumption in S-America’s most populous countries, Brazil (173m habitants) and Columbia (43m habitants), is rather low, the general market for marine products e.g. in Brazil is very big due to the large population.

### Fish and Seafood Consumption

<table>
<thead>
<tr>
<th>Region</th>
<th>Fish and Seafood Consumption</th>
<th>kg. per capita 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td></td>
<td>16.3</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td>66.3</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>25.6</td>
</tr>
<tr>
<td>EU (15)</td>
<td></td>
<td>26.3</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td>22.3</td>
</tr>
<tr>
<td>N-America</td>
<td></td>
<td>21.8</td>
</tr>
<tr>
<td>Central America</td>
<td></td>
<td>9.3</td>
</tr>
<tr>
<td>S-America</td>
<td></td>
<td>8.6</td>
</tr>
</tbody>
</table>

Source: FAO

### Seafood Consumption in South America

<table>
<thead>
<tr>
<th>Country</th>
<th>kg. per capita 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peru</td>
<td>21.0</td>
</tr>
<tr>
<td>Chile</td>
<td>12.9</td>
</tr>
<tr>
<td>Argentina</td>
<td>10.0</td>
</tr>
<tr>
<td>Colombia</td>
<td>4.5</td>
</tr>
<tr>
<td>Uruguay</td>
<td>8.3</td>
</tr>
<tr>
<td>Brazil</td>
<td>6.2</td>
</tr>
<tr>
<td>Ecuador</td>
<td>4.7</td>
</tr>
<tr>
<td>S-America</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Source: FAO

### Seafood as part of Animal Protein Consumption

<table>
<thead>
<tr>
<th>Region</th>
<th>Seafood as part of Animal Protein Consumption</th>
<th>in % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td></td>
<td>29.3</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td>60.2</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>32.8</td>
</tr>
<tr>
<td>EU (15)</td>
<td></td>
<td>22.3</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td>17.0</td>
</tr>
<tr>
<td>N-America</td>
<td></td>
<td>15.2</td>
</tr>
<tr>
<td>Central America</td>
<td></td>
<td>15.5</td>
</tr>
<tr>
<td>S-America</td>
<td></td>
<td>11.3</td>
</tr>
</tbody>
</table>

Source: FAO
Export of marine products for human consumption

- Countries in S-America export much more of seafood than they import.
- In 2001, the export of marine products for human consumption (fish meal and fish oil excluded) totalled 2.7m tonnes while imports amounted to 0.6m tonnes. In addition, 12.2m tonnes of fish meal and fish oil were produced.
- S-America’s largest exporters of wild fish for exports are Chile and Argentina.

<table>
<thead>
<tr>
<th>Fish and fishery products, thousand tonnes</th>
<th>Export</th>
<th>Import</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>1,075</td>
<td>28</td>
</tr>
<tr>
<td>Argentina</td>
<td>696</td>
<td>66</td>
</tr>
<tr>
<td>Equador</td>
<td>335</td>
<td>4</td>
</tr>
<tr>
<td>Peru</td>
<td>247</td>
<td>35</td>
</tr>
<tr>
<td>Colombia</td>
<td>98</td>
<td>85</td>
</tr>
<tr>
<td>Brazil</td>
<td>76</td>
<td>306</td>
</tr>
<tr>
<td><strong>S-America total</strong></td>
<td><strong>2,749</strong></td>
<td><strong>609</strong></td>
</tr>
</tbody>
</table>

Source: FAO
Chile and Peru: World leaders in fish meal production

- Peru and Chile are the biggest fish meal and fish oil producers.
- In 2005, Peru is estimated to produce 32% of fish meal world production and Chile 14%.
- In 2003, fish meal production in Peru and Chile fell considerably due to the effects of the El Nino phenomenon.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Peru</td>
<td>1,844</td>
<td>1,941</td>
<td>1,251</td>
<td>1,983</td>
<td>2,000</td>
</tr>
<tr>
<td>Chile</td>
<td>699</td>
<td>839</td>
<td>664</td>
<td>935</td>
<td>900</td>
</tr>
<tr>
<td>Denmark</td>
<td>299</td>
<td>311</td>
<td>246</td>
<td>259</td>
<td>225</td>
</tr>
<tr>
<td>Iceland</td>
<td>284</td>
<td>304</td>
<td>279</td>
<td>204</td>
<td>185</td>
</tr>
<tr>
<td>Norway</td>
<td>216</td>
<td>241</td>
<td>212</td>
<td>212</td>
<td>125</td>
</tr>
<tr>
<td>World</td>
<td>6,244</td>
<td>6,429</td>
<td>5,402</td>
<td>6,400</td>
<td>6,250</td>
</tr>
</tbody>
</table>

Source: IFFO/ Estimates 2005 Kontali Analyse
Argentina and Uruguay

- The fish resource management system in Uruguay is an “Olympic race” system, closed to new entrants for most species, including hake, the most important.
- Historically, Argentina was also governed by a licence system, but a law introducing an ITQ system was passed in 1999. This system has to date not been implemented. In recent years a quota allocation with 3-6 months’ validity has been in force, seen as the first step towards a full ITQ system.
- The Common Fishing Zone between Uruguay and Argentina has a TAC of 100,000 tonnes of Argentinean hake, 35% currently being for the Uruguayans, 55% for the Argentineans and the remaining 10% is for allocation as required.
- For 2005, the Argentinean hake TAC in Argentinean waters is 380,000 tonnes, of which 270,000 tonnes is allocated to the fresh fish trawling fleet and 70,000 to the frozen-at-sea trawling fleet.

<table>
<thead>
<tr>
<th>Year</th>
<th>Argent.Hake</th>
<th>Squid</th>
<th>Hoki</th>
<th>Prawns</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>249,444</td>
<td>230,272</td>
<td>111,836</td>
<td>78,842</td>
<td>207,514</td>
<td>877,908</td>
</tr>
<tr>
<td>2002</td>
<td>358,819</td>
<td>177,314</td>
<td>98,722</td>
<td>51,410</td>
<td>196,729</td>
<td>882,994</td>
</tr>
<tr>
<td>2003</td>
<td>334,098</td>
<td>140,938</td>
<td>97,773</td>
<td>52,896</td>
<td>213,804</td>
<td>839,509</td>
</tr>
<tr>
<td>2004</td>
<td>416,739</td>
<td>76,485</td>
<td>116,944</td>
<td>27,127</td>
<td>235,805</td>
<td>873,100</td>
</tr>
</tbody>
</table>

Source: FAO
Aquaculture is an emerging industry

- Aquaculture has grown fast in some S-American countries in recent years.
- In 2003, Chile was the eighth largest country of aquaculture by volume in the world. The most important species is salmon, accounting for around 72% of aquaculture production. Chile is now the second largest salmon producer in the world, after Norway.
- Aquaculture is the most important seafood sector in Brazil, involving an exploited area of about 40 thousand hectares, with tilapia and carp being the most important species.
- From 2000-2002 the annual production of aquaculture grew 18% in Chile and Brazil, among the highest growth in the world.
- Aquaculture production in other S-American countries is significantly less, but there are strong expectations.

<table>
<thead>
<tr>
<th>Aquaculture production in 2003</th>
<th>thousand tonnes</th>
<th>million USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>633</td>
<td>2,194</td>
</tr>
<tr>
<td>Brazil</td>
<td>278</td>
<td>979</td>
</tr>
<tr>
<td>Ecuador</td>
<td>67</td>
<td>297</td>
</tr>
<tr>
<td>Venezuela</td>
<td>16</td>
<td>51</td>
</tr>
<tr>
<td>Peru</td>
<td>14</td>
<td>81</td>
</tr>
</tbody>
</table>

Source: FAO
The Chilean Seafood Industry
Chile – An Overview

- **Size/ Population:** 757,000 km²/15.4 million
- **Political Structure:** Republic, Presidential Democracy, after a 17-year dictatorship a freely elected president was inaugurated in 1990. Presidential elections (2nd round) in January 2006.
- **Economy:**
  - **Currency:** Chilean Peso (CLP), 1 USD = 539 CLP (Dec. 2005)
  - **GDP:** USD 94.1 billion (2004), USD 6.120/ capita, strong growth expected
  - **Major trading partners:** US, Japan, Brazil, Germany, Argentina
  - **Major Exports (2004):** Copper (46.4%), salmon & trout (4.0%), molybden concentrates (3.9%), wood pulp (3.9%), fresh fruits (3.0%), wine (2.7%), lumber (2.0%), methanol (1.6%) and fish meal (1.1%).
- **Unemployment:** 8-10%
- **Seafood Consumption:** 12.9kg (per capita/ year)
- **Free Trade:** Chile is an extremely open economy, with Free Trade Agreements with the USA, EU, China, Korea and many others
The Seafood Industry in Chile

• **GDP Fisheries (2003):** USD 1.95bn (2.97% of GDP)
  - **Main Species:** Jack mackerel, anchovy, sardine, hake, hoki
• **Salmon Farming:**
  - The salmon industry represents 72% of total Chilean aquaculture (2004)
  - Very concentrated, 11 players producing 80% (2003)
  - Focus on frozen and value-added products
• **Exports (2004):** Total value USD 2.58bn (8.1% of total exports)

**Seafood Exports in million USD**

- **Salmon & Trout:** 1,469 million USD (56%)
- **Fish Meal:** 335 million USD (13%)
- **Other:** 775 million USD (30%)

**Seafood Exports Destinations**

- **Japan:** 27% (source: Subpesca Chile)
- **U.S.:** 30% (source: Subpesca Chile)
- **Spain:** 6% (source: Subpesca Chile)
- **Other:** 37% (source: Subpesca Chile)

- **Anchovy (Peruvian)**
- **Atlantic Salmon**
- **Rainbow Trout**
- **Jack Mackerel**
- **Sardine (Spanish)**
- **Sardine (Common)**
Chile’s fishing zones, quotas and companies (2005)

Jack mackerel, sardines, anchovy
- **Regions III-X**
  - **Quota:** 2,000,000t
  - **Main products:** Fish Meal, canned fish, surimi, frozen
  - **Main firms:** Alimentos Marinos, El Golfo, Itata, San José, SPK, Camanchaca, Pacific Fisheries

Hake
- **Regions: X-XII**
  - **Quota:** 31,000t
  - **Main firms:** Friosur, PescaChile, Emdepes

Sardines & anchovies
- **Regions I-II**
  - **Quota:** 1,300,000t
  - **Main firms:** Corpescas, Camanchaca

Gayi, southern blue whiting
- **Regions: IV, V-X**
  - **Quota:** 71,200t (Gayi), 30,000t (Blue Whiting)
  - **Main products:** Fresh & frozen whole, fresh & frozen fillets
  - **Main firms** (Gayi): El Golfo, Bio Bio, Pacifico Sur

Hoki
- **Regions: V-X, XI-XII**
  - **Quota:** 154,000t
  - **Main firms:** Alimentos Marinos, El Golf, Itata, San José, Bio Bio, SPK, Camanchaca, Pacific Fisheries, Food Corp, Landes.
Fishing industry regulation

- **General**
  - Approximately 95% of the industrial fisheries in Chile are fully exploited, this regime is managed by a TAC level system and closed to new entrants.
  - Two types of ITQ are used for this regime:

  **A) Auctions**
  - Public auction of 5% of the TAC at the time - for 10 years - until 50% of the TAC is sold. These ITQs are transferable. The other 50% are operated with authorisations.

  **B) TAC by Vessel Operator**
  - This system is in place until 2012, set for 10 years in 2002.
  - The TAC was decided by taking into account:
    » The fishing history of each operator per species (50%) and
    » The fishing licence of each operator (50%).
    » The latter is transferable when an operator transfers the fishing licence to another.

- **Limitations**
  - No upper limit on quota holdings. Vessels operating under Chilean flag must be under at least 51% Chilean ownership.
Fish resources and quotas

- The catch quota for the Southern hake (gayi) was cut by 50% in 2005, due to a drop in catches during the previous year.

- The reason for this reduction has not been clear, the most argued one being the increased presence of “giant squid” in Chilean waters, although others blame overfishing or the existence of large by-catch.

- Chile's most important resources; jack mackerel, sardine and anchovy; have remained stable.

- Sonapesca, the National Fisheries Association, has warned that overfishing by foreign fleets just outside the EEZ needs to be carefully monitored.

- They believe these fleets caught more than 120,000t of jack mackerel in 2003, and that this figure could easily reach 300,000t or more if no action is taken.
Aquaculture in Chile

- In total there are 17 farmed species and 2,500 authorized farms employing up to 40,000 people, directly and indirectly.

- In 2004, 72% of exported farmed products were salmon and 21% were trout.

- Approximately 80% of the salmon farming is located in the 10th region, the remaining 20% in the 11th region. The future growth of the industry also lies in that region, as almost 90% of the capacity of the 10th region is already being utilised.

- In addition to the Atlantic salmon, the Pacific salmon (coho) and rainbow trout are the main farmed species. However, almost all of the growth has come from Atlantic salmon, which represented 57% of Chile’s farmed fish exports in 2004.

- Increased farming efforts are being put into other species; e.g. scallops, mussels and abalone, although most of it still on a small scale.

- Hake could become an important farmed species in the future, but some regulatory work has yet to be finalised. Since hake is also an important wild resource in Chile, the matter may prove difficult to solve to the satisfaction of all parties involved.

<table>
<thead>
<tr>
<th>Chile Aquaculture in % of Total Export Value 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic Salmon</td>
</tr>
<tr>
<td>Rainbow Trout</td>
</tr>
<tr>
<td>Coho Salmon</td>
</tr>
<tr>
<td>Mussels</td>
</tr>
<tr>
<td>Seaweed</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Source: Subpesca Chile
Chilean salmon farmers – focused on the market

• Chile has been forced to “leave the waste at home” due to long distances to main markets, and has therefore focused on value-added products, such as portions, smoked and marinated products.

• The Chilean aquaculture industry is becoming very concentrated - with 11 farmers producing 80% of the total production in 2003 - thus being able to respond faster to negative changes in demand with reduced supply.

• Due to the above – focus on value-added products and size - the Chilean salmon farmers have been able to sell directly to the large retail chains, which is one of major reasons for the success of Chilean salmon in Europe.

• Coho salmon and rainbow trout are sold almost solely as frozen, Japan being by far the most important market.

• The Atlantic salmon is sold frozen (USA 37%, Japan 15%, Germany 14%) and fresh (USA 90%, Brazil 8%) in equal parts (2004).
World’s second largest farmed salmon producer

- This year, Chilean salmon farming companies are estimated to produce 383,000t of Atlantic salmon. This means that production has increased by 129% since the year 2000.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>422.000</td>
<td>411.000</td>
<td>445.000</td>
<td>508.000</td>
<td>537.000</td>
<td>569.000</td>
<td>580.000</td>
</tr>
<tr>
<td>Chile</td>
<td><strong>166.800</strong></td>
<td><strong>244.800</strong></td>
<td><strong>268.242</strong></td>
<td><strong>281.000</strong></td>
<td><strong>346.000</strong></td>
<td><strong>383.000</strong></td>
<td><strong>415.000</strong></td>
</tr>
<tr>
<td>Canada</td>
<td>78.800</td>
<td>99.300</td>
<td>112.000</td>
<td>92.000</td>
<td>89.000</td>
<td>103.000</td>
<td>115.000</td>
</tr>
<tr>
<td>UK</td>
<td>120.000</td>
<td>131.000</td>
<td>140.000</td>
<td>162.000</td>
<td>137.000</td>
<td>121.000</td>
<td>125.000</td>
</tr>
<tr>
<td>Faroe Isl.</td>
<td>30.000</td>
<td>41.000</td>
<td>42.000</td>
<td>47.000</td>
<td>37.000</td>
<td>16.000</td>
<td>6.500</td>
</tr>
<tr>
<td>Others</td>
<td>55.700</td>
<td>59.200</td>
<td>52.000</td>
<td>54.800</td>
<td>47.000</td>
<td>45.000</td>
<td>46.500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>873.300</strong></td>
<td><strong>986.300</strong></td>
<td><strong>1.059.242</strong></td>
<td><strong>1.144.800</strong></td>
<td><strong>1.193.000</strong></td>
<td><strong>1.237.000</strong></td>
<td><strong>1.288.000</strong></td>
</tr>
</tbody>
</table>

Source: Kontali Analyse

- The most important markets for Chilean salmon have been the USA and Japan but this year exports to Europe have increased extensively.
- Market conditions have been favourable this year, with excess demand and high prices.
- In 2005, Chile will produce approx. 105,000t of coho salmon and 130,000t of rainbow trout.
Salmon farming – cost structures compared

- The favourable business environment for companies, is one of Chile's main advantages concerning aquaculture production.
- In 2004, when examining the main cost items in the largest salmon producing countries, Norway and Chile, it appears that the production cost in Chile is significantly lower (-17%). In 2003, the difference was even greater with around -30%.

<table>
<thead>
<tr>
<th>Cost elements</th>
<th>Norway</th>
<th>Chile</th>
<th>% chng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smolt</td>
<td>1,8</td>
<td>1,32</td>
<td>-27%</td>
</tr>
<tr>
<td>Fish feed</td>
<td>8,53</td>
<td>7,19</td>
<td>-16%</td>
</tr>
<tr>
<td>Wages</td>
<td>1,15</td>
<td>0,46</td>
<td>-60%</td>
</tr>
<tr>
<td>Other operating cost</td>
<td>2,72</td>
<td>2,24</td>
<td>-18%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>0,55</td>
<td>1,19</td>
<td>116%</td>
</tr>
<tr>
<td>Gutting loss</td>
<td>1,64</td>
<td>1,39</td>
<td>-15%</td>
</tr>
<tr>
<td>Wellboat/ harvest cost</td>
<td>2,9</td>
<td>2,24</td>
<td>-23%</td>
</tr>
<tr>
<td><strong>2004 FOB cost gutted/ packaged fish</strong></td>
<td><strong>19,29</strong></td>
<td><strong>16,03</strong></td>
<td><strong>-17%</strong></td>
</tr>
<tr>
<td><strong>2003 cost levels</strong></td>
<td><strong>22,31</strong></td>
<td><strong>15,61</strong></td>
<td><strong>-30%</strong></td>
</tr>
</tbody>
</table>

Source: Kontali Analyse
The Chilean Seafood Industry: Opportunities & Challenges

Opportunities

• A world cost leader in salmon production, with high growth potential.

• Strong market focus, flexibility and favourable Free Trade Agreements will help in marketing Chilean seafood abroad.

• Proximity to the world’s strongest pelagic resources, giving access to fish meal and fish oil for salmon feed.

• Focused and capable management is starting to look for investments outside of Chile.

• Opportunities for foreign investors due to open economy.

Challenges

• Growth in salmon farming will mostly have to come from the 11th region, where labour is scarce and infrastructure is insufficient.

• Chile is already importing fish oil for production of fish feed. With current growth outlook this will become a scarce resource.

• The quota law is still provisional, not giving the fishing companies the stability they need to make long-term projections and investments.
The Peruvian Seafood Industry
Peru – An Overview

- **Size/ Population:** 1,285 million km² / 27.93 million

- **Political Structure:** Constitutional (Presidential) Republic
  - President both chief of state and head of government
  - Elections during first half of 2006

- **Economy:**
  - **Currency:** Peru Nuevos Soles (PEN), 1 USD = 3.56 PEN (Dec. 2005)
  - **GDP:** USD 68.6 billion (2004), USD 2,460/capita
  - **Major trading partners:** US, China, UK, Chile, Japan
  - **Major Exports:** Gold, copper, fish meal, zinc
  - **Free Trade Agreements etc.:** MERCOSUR, EU, US, APEC
  - **Unemployment:** ~ 10% (Lima), widespread underemployment

- **Seafood Consumption:** 21.0 kg/capita
The Seafood Industry in Peru

- **GDP Fisheries (2004):** Approx. USD 1.37 billion (~2% of total GDP)
  - Main species: Pelagic (anchovies, sardines, jack mackerel), demersal (hake)

- **Industry:** Extremely spread, top 10 companies represent about 50% of all exports, rest spreads between over 400 companies

- **Marine Fish Landings (2004):** Around 8 million tonnes, no. 2 worldwide
  - Small pelagic 6-11 million t/year (of which about 90% is anchovy), demersal fisheries 100-180,000t

- **Main production:** fish meal 1,983 million t, fish oil 0.2 million t, hake 7,709t

- **Exports (2004):** USD 1,103.7 million (vs. import ~ USD24 million)
  - fish meal Exports: China 35%, Japan 22%, Turkey 10%
  - Fish oil Exports: Chile buys 40% of Peru’s fish oil
  - Other (canned, frozen, cured and other prod.): ~20% of total fisheries exports
  - Hake: 7,709t/USD 11m, main product frozen fillet blocks (Germany, France, Poland, US)

- **El Niño phenomenon:** Occurs every 2-7 years, in 1998 cost to the fishing industry of USD 1 billion in lost revenues.
Peru Fishery Zones & Quota

**Peruvian hake**

- **Landings (2004):** 37,356 tonnes
- **Quotas 2005:** 40,000t
- **Export value (2004):** USD 11 million
- **Region:** Between Northern borders of Peru and south parallel 7° latitude

**Inland fisheries**

- **Region:** Mainly freshwater, Amazonas, Lake Tititaca
- **Main Species:** regional species (Amazonian)
- **Production:** 20,000t (for domestic consumption)

**Aquaculture**

- **Region:** Mainly inland ponds, small marine farms
- **Species (quant.):** trout (50%), scallops (40%), crayfish (8%), tilapia (2%)
- **Production:** 14,000t (inland and marine aquaculture)

**Pelagic**

- **Region:** Anchovy (within 100 miles of the coast), sardine (within 200 miles), horse mackerel (100/200 miles and in the high seas)
- **Species:** Anchovies, sardines, horse mackerel
- **Landings/ Production:** ~ 7.6 million t/2.2 million t (fish meal & fish oil)
Fishing Regulations

- General Fishing Law establishes, that the government has to promote the sustainable development of the sector through environmental preservation and resources sustainability
  - Fishing quotas and seasons
  - Extraction methods
  - Definition of minimum fish sizes
- Licenses, concessions or authorizations are given according to the stage of the exploitation of the species.
- Global Quotas are established to limit total capture.
- Expansion of the anchovy fishing fleet is not allowed, only its replacement with the same hold capacity.
- Fishing Ban Seasons are imposed to allow the species to reproduce.
Capture for fish meal and fish oil

- An improvement in fishing regulations and compliance (ban seasons and global quotas) has raised the average capture of fish for fish meal and fish oil to about 7.6 million tonnes over the last 15 years, although with considerable variations.
- Since September 2002, only anchovy can be used in fish meal. Sardines, mackerel and horse mackerel are reserved for direct human consumption.

Fish capture for use in fish meal and fish oil (Millions of tonnes)

*Source: Produce, APOYO Consultoría*

*Estimated*.
Control of Fishing Capacity

- Expansion of the industrial fleet is prohibited (ships may only be replaced).
- However, the informal wooden fleet, known as “Vikinga”, has increased from 82 ships in 1999 to 600 ships in 2004, with overall capacity having risen by 17% in that period. This fleet frequently fishes illegally for fish meal production.
Productivity in fish meal production

- Fish meal production efficiency in Peru has improved in recent years. Currently, the industry requires approximately 4.5 tonnes of fish to produce one tonne of fish meal.

Source: Produce, APOYO Consultoría
Peruvian Aquaculture Industry

• **Production (2003):** 13,818t, value USD 80 million
  - Mainly for domestic consumption

• **Species (2003):**
  - Freshwater (25%): trout (91%), tilapia (4%)
  - Marine (75%): scallops (73%), shrimp (27%)

• **Export values:** shrimp USD 9.7m, scallops USD 8.97m, trout USD 1.6m

• **Governmental Promotion:**
  - Attention focusing on farmed crayfish, aquaculture promotion law
  - Development partners: FAO, the UK, Galician regional government in Spain

Source: FAO

![Graph showing quantity in tons and value in million USD from 1990 to 2003.](source: FAO)
The Peruvian Seafood Industry: Opportunities & Challenges

**Opportunities**

- An Individual Transferable Quota system, now being debated in Peru, would add considerable value to all stakeholders, cutting down extra capacity and place increased focus on quality of production as has been shown in other countries.

- Aquaculture is still small scale in Peru, but the government seems focused on setting the stage for foreign investment and structured legislation.

- As the pelagic industry is fragmented there is room for consolidation.

**Challenges**

- Political instability has kept foreign investors away.

- Lack of investment has resulted in some plants and vessels not operating efficiently.

- Small boat owners do not share the government’s view in regards to the ITQ system.

- So far no adequate control of the small “Vikinga” vessels.

- The marine border with Chile is still being disputed by the two nations.
Introduction to Glitnir

- Home markets are Iceland and Norway
- Focus on niche segments worldwide

  Seafood Industry, Sustainable Energy & Shipping - Offshore Supply Vessels

- Strong focus on the seafood industry since 1904
- Today 10% of the bank’s loan portfolio is in the seafood industry
- Credit ratings:
  A1 / P-1 (Moody’s), A / F1 (Fitch) and A-/A-2 (Standard and Poor’s)

Our Services include:

Credit facilities
- Term loan facilities
- Working capital facilities
- Syndicated loans
- Vessel financing
- Bridge loans

Capital Markets
- Bond issuances
- FX dealings
- Forward contracts
- Options

Mergers & acquisitions
- Financial advisory
- Acquisitions
- Disposals
- Minority investments
- MBOs / LBOs / MBIs
- Private Placements
- Strategic reviews

Other services
- Risk management advisory
- Equity participation
Glitnir’s international platform

**United Kingdom**

**London Branch**
- Corporate Banking
- Corporate Finance
- Centre of Excellence
  - Food industry
- Structured Finance
- Loan Syndication

**Luxembourg**

**Glitnir Luxembourg**
- Corporate Banking
- Financial Institutions
- Centre of Excellence
  - Real Estate
- Private Banking

**Denmark**

**Copenhagen Branch**
- Leveraged Finance
- Corporate Finance

**Norway**

**BNbank**
- Corporate and retail mortgage

**Glitnir Bank**
- Full service bank, trad. indust.
- Centre of Excellence
  - Shipping/ Offshore supply vessels
- Subsidiaries:
  - Glitnir Factoring

**Glitnir Securities**
- Union Group (approv. pending)

**Iceland**

**Headquarters**
- Corporate Banking
- Centres of Excellence
  - Global seafood
- Sustainable energy
- International core customers
- Structured Finance
- Capital Markets
- Corporate Finance

**Canada**

**Glitnir Canada**
- Representative Office Halifax
  - Opened April 2006

**China**

**Glitnir China**
- Representative Office Shanghai
  - Opening Fall 2006
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