



### Chile Mandates Wastewater Treatment for Seafood Processors

(Reprinted from FISH FARMING INTERNATIONAL magazine)

Since 1992, Chilean regulators have mandated that all new seafood processors install a wastewater treatment system as a condition to operate a seafood processing facility. In the city of Puerto Montt alone, more than fifteen fish processors have installed such systems and the remaining plants have until 2005 to install theirs, or risk having their permit to operate revoked. The leading supplier of these wastewater treatment systems is Beckart Environmental, Inc., a company based in the United States. Beckart has localized its support with a joint venture in South America, Beckart Tecnologia Ambiental. The company provides cost-effective, turnkey systems, technical support, and can even manage the entire operation of the system. In the firm's experience with fish processing, chemical costs are reported to be approximately \$5.00 USD per ton of salmon processed (7-8 tons of water). One ton of salmon is worth approximately \$5,000 USD, so treatment cost is negligible.

Beckart has expanded into the European market as well, with support headquarters in the United Kingdom. UK staff have been closely monitoring developments in Europe, and have been focusing on the particular needs of area processors as the new standards unfold. The typical plant in Chile is raising its fish in pens set along Pacific Ocean shallows, often adjacent to its processing plant. There is typically no end-of-pipe treatment (municipality) and Chilean environmentalists recognized that the only viable means of protecting their waterways was to strictly enforce discharge standards.

The standards are implemented as follows:

1. In protected ocean areas:

- \* FOG: 20 mg/l
- \* BOD: 60 mg/l
- \* TKN: 50 mg/l
- \* TSS: 100 mg/l

2. In non-protected ocean areas -

- \* FOG: 100 mg/l
- \* TSS: 300 mg/l



*At Patagonia Salmon Farms in Puerto Montt, Chile, workers remove the dry filter cake from a Beckart Environmental Hy-Pack Filter Press at the end stage of the wastewater treatment process.*

While initially met with resistance, these standards have been accepted by industry and treatment prior to discharge is now the norm. As one seafood plant owner states, "The government is simply protecting us from ourselves. We make our living from the sea and protecting it will only assure the quality of our fish."

When the regulations first went into effect in Chile, seafood processors voiced their opinions loudly. They were sure they would all be forced out of business, and in fact, some have. However, never doubt the ingenuity of business people and their ability to not only survive, but also thrive. In Puerto Monte, the larger fisheries discovered they could operate a wastewater treatment system and still make a fair profit. The smaller ones learned that they could merge with other fisheries and the economies of scale have paid for the treatment systems many times over. The trend that has developed in Chile is likely to spread around the world. Chilean seafood processors now make two products: quality fish and clean water.