



News Release  
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## Report: Salmon Farming Threatens Chile's Patagonian Lakes

### *Better salmon production practices would benefit industry and environment*

**WASHINGTON** – A new WWF study released today finds that farmed salmon in Chile's unique Patagonian lakes has doubled in the last decade, contaminating them with nutrient pollution, invasive species, disease, and harmful chemicals. The study also notes that cleaner, better production technologies are now widely used throughout the salmon industry worldwide and urges the Chilean industry to move salmon smolt production out of freshwater ecosystems to closed-containment recirculation systems on land. This move would reduce environmental pressures and increase Chile's competitiveness in the global salmon trade. The majority of salmon consumed in the U.S. is farmed, and the bulk of it comes from Chile.

"These lakes are a global treasure and pollution from salmon farming is completely avoidable," said David Tecklin, WWF representative in Chile. "Every day, more consumers and major buyers become aware of the sources of their food. After decades of exponential growth, Chile has become the world's second largest producer of farmed salmon but the industry must rapidly improve its environmental practices if it expects to survive in the global marketplace."

Over the last 25 years, in an effort to replicate salmon's natural lifecycle, the salmon industry has used Chile's freshwater lakes to produce salmon "smolt" (large juvenile fish) which are later transported to marine sites to mature. Smolt production has become – along with urban sewage – the most significant point source of pollution for Chile's unique and pristine freshwater ecosystems.

The study found that total smolt production in Chile's freshwater systems has increased exponentially over the last several years. In 1998, 91 million smolt were produced in Chile's freshwater ecosystems. In 2005, approximately 293 million smolt were produced.

In order to sustain these production levels while maintaining the ecological integrity of Chile's freshwater systems, especially lakes, production must move to land-based systems, according to the report. Such systems are widely used in other salmon producing countries and have been adopted by some companies in Chile. The state-of-the-art technology is based on closed-containment recirculation systems. A complete transition from lakes to this type of facility is estimated to require an investment of approximately \$43 million – which represents only 2 percent of the value of Chile's total salmon exports in 2006.

"Closed-containment recirculation systems will minimize the negative environmental impacts of the freshwater stages of salmon production, and will also result in faster salmon growth rates, lower mortality rates, and will reduce the need for chemicals to control disease," said Jorge Leon, WWF



consultant and co-author of the report: *Salmon Farming in the Lakes of Southern Chile - Valdivian Ecoregion: History, Tendencies, and Environmental Impacts*. “Chile has become a world leader in salmon production, providing both a challenge and a great opportunity to demonstrate environmental leadership. Transitioning smolt production out of lakes is one very important first step in this process”

“This study is part of a global effort WWF has with the salmon industry, other NGOs, governments, scientists, and other stakeholders to identify key impacts of salmon farming and to develop performance-based standards,” said Jason Clay, Vice-President of Markets and Agriculture at WWF. “The implementation of these standards will result in better zoning for salmon operations, fewer salmon ‘escapes’ into waterways, a healthier environment, and reduced antibiotic and chemical use. Together, these measures will ensure that salmon remains a safe source of protein for human consumption.”

The salmon industry in Chile provides an estimated 45,000 jobs, and salmon has become one of the country’s major exports after copper and timber. Over the last fifteen years, total salmon production has increased ten fold, reaching a total of 378,000 tons worth \$2.2 billion in 2006.

“Adopting better practices in the salmon farming industry will be a win-win situation for all: consumers looking for healthy products derived from good environmental and social practices; salmon producers and people whose jobs depend on this sector; and Chilean society as a whole as it restores and conserves unique freshwater and marine ecosystems,” added Tecklin

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*For more than 45 years, WWF has been protecting the future of nature. The largest multinational conservation organization in the world, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally. WWF's unique way of working combines global reach with a foundation in science, involves action at every level, from local to global, and ensures the delivery of innovative solutions that meet the needs of both people and nature.*