

Executive summary

Chile is a major player in the world fishing scene. In 2006, it ranked fifth in the world in terms of production from capture fisheries, seventh with respect to aquaculture production (dominated in Chile by salmon and trout farming), and was the seventh largest exporter of fish and seafood. In the Chilean wild fisheries, the most abundant species are the pelagic species (jack mackerel, sardine, anchovy and “caballa” mackerel) and which are fished primarily by a modern industrial fleet. There is also a large artisanal fleet that has exclusive access rights to waters five miles from the coastline, providing employment and food for many coastal communities.

In 2007, Chile’s fisheries and aquaculture production totaled 5.1 million tonnes, of which 82% came from wild fisheries. Aquaculture production was 904 000 tonnes in 2007, having grown at a rate of 9% a year over the previous decade. Chile exported 1.4 million tonnes of fish products in 2007 valued at USD 3.7 billion. Aquaculture exports accounted for 38% of the volume of total exports, but 65% of the value of exports.

The policy framework governing the Chilean fisheries and aquaculture sector has evolved considerably over the last fifty years. Governance of the industrial, artisanal and aquaculture industries has followed different paths of policy development and the current management regime reflects the particular challenges and policy pressures confronting each segment of the sector. This has been a lengthy and at times traumatic process, with issues of overinvestment, sharp declines in catch levels, disputes among stakeholders, fleet downsizing, and aquaculture diseases. The process of policy evolution continues with a range of initiatives designed to meet the current policy challenges.

Institutional framework

The institutional structure governing the fisheries and aquaculture sector centers around three key organisations, with a number of other institutions providing additional research and enforcement support (such as the Navy). These three organizations have a degree of operational independence while performing a crucial and interlinked function within the broad institutional

framework. First, the Undersecretariat of Fisheries (*Subsecretariat de Pesca*, or SSP) provides the policy settings and regulatory framework for the domestic management of the sector, as well as providing policy direction and input into international fisheries issues. It is nested within the Ministry of Economy and is based in Valparaiso. The mission of the Undersecretariat is to promote the sustainable development of the fisheries and aquaculture activity, defining policies and applying regulations that increase the social and economic benefits of the sector, in order to ensure the wellbeing of the present and future generations of the country.

Second, the management and enforcement of fisheries and aquaculture laws and regulations is undertaken by SERNAPESCA (*Servicio Nacional de Pesca*, or the National Fisheries Service). SERNAPESCA is also nested within the Ministry of Economy, but reports directly to the Minister of Economy rather than to the Undersecretary of Fisheries. SERNAPESCA's mission is to contribute to the sustainable development and the competitiveness of the domestic fisheries and aquaculture sectors by enforcing the compliance of fisheries, aquaculture, health and environmental regulations that govern the activity and officially ensure the safety of exported fisheries products. It is also based in Valparaiso.

Third, the research arm of the institutional framework is the Fisheries Development Institute (*Instituto de Fomento Pesquero*, or IFOP). This is a non-profit organisation created in 1964 under a joint agreement between the Chilean government, the FAO, and the UN Development Program. It is the primary source of scientific advice to the SSP on fisheries and aquaculture management issues, including the stock assessment and setting of total allowable catch levels for the wild fisheries, and the environmental and health aspects of aquaculture production. The mission of IFOP is to be the provider of scientific and technical advice for the regulation of fisheries and aquaculture and the conservation of hydrobiological resources and their ecosystems. It draws a proportion of its funds from SSP but also has to compete for funding from a range of public funding sources. Just as for the first two organisations, IFOP is based in Valparaiso.

Industrial fisheries management policy

The management regime for Chile's industrial fisheries industry has evolved from one based on open access to one based on total allowable catches and the use of market based instruments to allocate and trade quotas in most of the industrial fisheries. Different regimes are in place for fisheries that are over-exploited, under recovery or under development. Under the Maximum Catch Limit per Firm (MCLF) system, individual quota shares are allocated to firms and the quotas are tradable with the sale of the vessel

to which the quota is attached. This has provided a flexible operating environment for the industrial fishing sector, with firms able to self-adapt capacity and catching patterns to maximize profits. Landings in the industrial fisheries have largely stabilized and the economic performance of the fishing fleet is reported to have improved (although hard data on costs and earnings of the industrial fleet are not available).

There has been a substantial decline in capacity in the sector since the introduction of the MCLF, with reductions of between 43-97% in the number of vessels used in the fisheries to which the MCLF is applied. Fishing seasons have been extended, facilitating a more efficient use of on-shore processing facilities, and employees have more stable and better quality jobs. The government is also moving towards a multi-annual, rather than annual, management regime for the fisheries, as well as exploring the options for shifting to a multi-species and ecosystem approach to fisheries management rather than the single species management at present.

There remain a number of issues confronting the government in the future management of the industrial fishing sector. First, while there is 100% VMS coverage in the industrial fleet and the number of violations that have been prosecuted by the service has declined from 150-200 a year in the late 1990s to three-four a year now, there remains a need to further improve the monitoring and surveillance of catches. This is recognized by the government and an extra 250 staff will be recruited into SERNAPESCA in 2009, accompanied by a 22% increase in the budget.

Second, the MCLF was introduced with a time limit of 2012, generating a degree of uncertainty amongst the industry over the future value of their access rights. This undermines the effectiveness of the scheme to some extent and is likely to compromise the incentives for long term conservation of the resource base.

Third, Chile is becoming an increasingly important player in international fisheries in the South Pacific, particularly for jack mackerel. Adapting current management schemes to the new realities of high seas fishing, beyond the EEZ, and continuing to actively pursue the development and implementation of cooperative international agreements to sustainably manage and exploit these fisheries, is a major challenge.

Artisanal fisheries management

The artisanal fisheries, as in many other countries, present a greater management challenge due to the sheer numbers of fishers involved, the difficulties in enforcing regulations at a local level in a country with a very long coastline and many landing sites, and the high dependence on the

artisanal fishing industry by coastal communities with limited alternatives for food and income. Until recently, these fisheries had been traditionally managed under an open access system. While progress has been made towards a more restrictive entry regime with the introduction of the National Register of Artisanal Fishermen, the artisanal sector remains a regulated open access system, with a degree of control over the numbers of fishers, but less effective control over the effort that can be deployed in the sector.

Through effective political negotiation, the artisanal fisher organisations have obtained exclusive access rights over a five mile zone adjacent to the Chilean coastline, and have negotiated important shares of different fisheries that straddle this zone through the Artisanal Extraction System (AES). The AES has provided a higher degree of stability for artisanal fishers over access to resources, although the strength of the access right is open to question as it is very short term. However, the combination of regulated open access and exclusive access for the artisanal sector to the five mile zone has resulted in the heavy exploitation of a number of coastal fisheries. Further efforts are underway to develop policies to manage and control the artisanal sector, recognizing that this is a difficult and challenging policy problem that will require a broad range of policy tools to be brought to bear in a coherent package, include policies regarding social welfare, education, regional development and infrastructure, as well as fisheries management policies. Current studies by the SSP on the feasibility of extending the VMS system to cover vessels 12-18m in length will be important in moving towards more effective monitoring and control of the larger vessels within the artisanal fleet.

The introduction of an area-based cooperative, co-management scheme in the form of the Management Areas for the Exploitation of Benthic Resources (MAEBR) system has been an innovative development in the artisanal sector. Ten years after the introduction of the MAEBRs, the artisanal sector is still coming to terms with the system and the potential advantages, with the uptake varying considerably around the country depending on the local resource base and the strength of local fishers' organizations. Only in the case of 'loco' has there been a major use of MAEBRs. The recent decision to allow aquaculture activities within MAEBRs will help to make the scheme more flexible and attractive to coastal communities. However, a long term solution to the sustainable exploitation of benthic resources along the coastline employing this system will require further investment in capacity building and education on decentralized management concepts and practice within the coastal communities, coupled with regulatory and monitoring regimes that provide the appropriate incentives, accountability and sanctions.

Aquaculture policy

The aquaculture industry is likely to continue to be a major source of growth for the Chilean fisheries and aquaculture sector in the future. The aquaculture sector is managed through a system of site concessions that are transferable and negotiable, with owners paying annual license fees for the sites. There is in place a system of environmental regulations governing operational aspects such as carrying capacities of sites, effluents, escapements, zoning, and so on. SERNAPESCA is responsible for managing and enforcing regulations governing aquaculture.

In general, aquaculture policy to date has been driven by a pro-growth agenda and the resulting policy and management framework has largely developed in a reactive rather than a proactive manner. As the aquaculture boom progressed, the demand for sites and expanded facilities was very high and it can be argued that the pace of growth outstripped ability of the regulatory systems to effectively manage, monitor and control the sanitary and environmental impacts of the dynamic aquaculture industry. The outbreak of disease (ISA, Caligus sealice and SRS) in 2008 is having a major impact on the profitability and short-term prospects of many companies in the industry, and has brought into stark focus issues regarding site concessions, zoning, oversight of fish health, egg importation, transfer of live fish around the country, among other issues. The rapid growth also outstripped the capacity of the industry itself to organize and manage its operations effectively, and a strong industry focus on environmental management has only emerged in the last five years or so with the active development and implementation of voluntary industry codes of practice.

Considerable resources are now being devoted by the government and industry to addressing the disease issue in Chilean aquaculture and a number of policy initiatives indicate that Chile is shifting to a more proactive management mode for the industry. The development of the National Aquaculture Policy (NAP) in 2003 was a useful first step in articulating a new model for aquaculture. However, the disease crisis has been the catalyst that is likely to drive deeper governance and institutional changes in the industry. The establishment of the Salmon Round Table in April 2008 signalled the beginning of a major policy response to the salmon health issue. Chaired by a former Undersecretary of Fisheries and reporting direct to the President, the Salmon Round Table is examining a wide range of ambitious initiatives to strengthen aquaculture policy framework and institutions. A broad range of policy measures is being addressed, including regulations on egg importation, zoning of aquaculture operations (proximity between farms, stocking densities, etc.), improvements to laws governing aquaculture concessions, and measures to encourage operators and agencies to work together to improve coordination of environmental health. Public

discussion on the results and proposals of the Salmon Round Table are expected to take place in 2009-2010.

Financial support programs

One of the distinguishing features of Chile's fisheries and aquaculture policy framework is the lack of extensive government programs providing direct financial payments to the sector. Financial support to the sector consists primarily of general services transfers covering expenditures on management, research and enforcement services. Preliminary estimates of government financial transfers (GFTs) for 2007 indicate that Chilean government spent around CLP 33.5 billion (equivalent to USD 40 million) on general services in that year. These transfers are for services provided by the SERNAPESCA and IFOP. Chile provides a small amount of direct payments to support artisanal fishers (providing social aid, retraining and conversion of displaced fishers), totaling CLP 12.8 million in 2007. No cost-reducing transfers are provided to companies or individual fishers. In the case of capacity reduction, Chile relies on market mechanisms and the MCLF fisheries management regime to achieve fleet rationalization and does not employ vessel decommissioning subsidies.

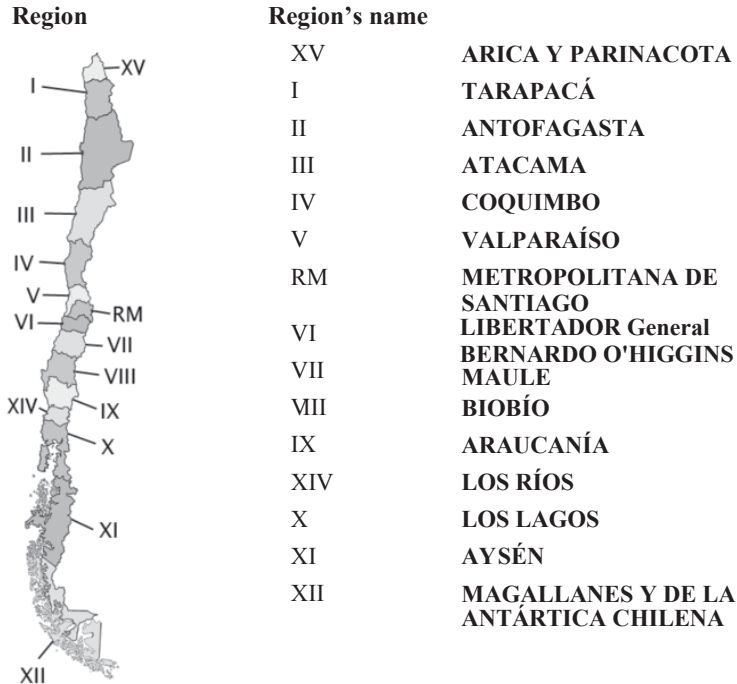
International co-operation

Chile is an active member in many of the international forums and agreements governing fisheries and the oceans. Indeed, Chile was in the vanguard of the movement to extend the EEZ out to 200 nautical miles, being one of the original signatories of the 1952 Declaration of Santiago on Maritime Zone (*Declaración de Santiago sobre Zona Marítima*) in which Chile, Peru and Ecuador proclaimed their exclusive sovereignty and jurisdiction over the waters 200 miles from their coastlines. Chile has ratified most of the major treaties and conventions that relate to international fisheries and oceans policy and governance. The notable exception is the UN Fish Stocks Agreement (UNFSA or the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and High Migratory Fish Stocks). The UNFSA is the implementing framework for the operation of regional fisheries management organisations (RFMOs) and the management of international fisheries, and Chile is yet to sign or ratify this agreement.

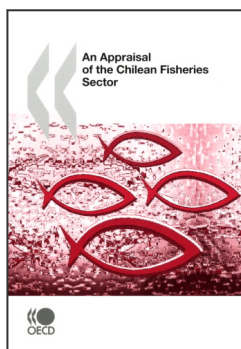
Chile is also participating in an initiative with Australia and New Zealand to form a new RFMO (the South Pacific RFMO, or SPRFMO) aimed at managing unregulated fishing effort in areas adjacent to the

Chilean EEZ and in the South Pacific, where Chilean interests are mainly focused on the straddling jack mackerel fishery. Negotiations began in 2006 and there are now over 20 states, as well as IGOs and NGOs, engaged in the process. The SPRFMO has yet to come into force.

Chart 1. Map of Chile and its Regions



Up to recently, Chile had only 13 Regions, from the first to the 12th, plus a Metropolitan Region. As from 2007, the first was split into first and 15th and the 10th was split into the 10th and 14th.



From:
An Appraisal of the Chilean Fisheries Sector

Access the complete publication at:
<https://doi.org/10.1787/9789264073951-en>

Please cite this chapter as:

OECD (2009), "Executive summary", in *An Appraisal of the Chilean Fisheries Sector*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264073951-1-en>

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