

HARVESTING COOPERATIVES



Chile's Area-based Cooperatives

Chile, on the Pacific side of South America, enjoys one of the most productive upwelling ecosystems in the world (the Greater Humboldt Current Marine Ecosystem) along much of its 2,500+ mile coastline. Around 2% of the labor force, or over 120,000 people, are employed in the fishing industry including artisanal and industrial fishermen and aquaculturists. The artisanal sector comprises about 45% of the country's fishing industry and it is estimated that the artisanal fisheries directly and indirectly support over 400,000 people.¹

Chile has a well-developed system of area-based cooperatives, known as Territorial User Rights Fisheries (TURFs) or Management and Exploitation Areas for Benthic Resources (MEABRs). The system was primarily developed to manage "loco" (*Concholepas concholepas*), Chile's most economically important benthic artisanal resource. Loco may only be fished by members of the area-based cooperatives and exclusive access of over 100,000 hectares² has been granted to groups of artisanal fishermen (called guild associations, unions or cooperatives). All other species found in the TURF, except those declared as fully exploited, can be extracted by cooperative members if the species are included in the fishery management plan developed by their cooperative.³ At least 63 species including molluscs, algae, crustaceans, finfish and other invertebrates are landed under the Chilean area-based cooperative system.

History

In the mid 1970s the popularity of loco increased in world markets and Chilean fishermen increased pressure on the stocks. Shortly thereafter stocks began to rapidly decline. From 1981-1992, managers tried traditional management approaches to prevent further decline, including season limits and catch limits, with little success. Catch limits were continually exceeded by large amounts and seasons became shorter and shorter. In 1990, managers implemented a total closure on the loco fishery for two years.

In 1991, the General Fishing Law was implemented and required any fisherman targeting loco to be in Chile's TURF system. The area-based cooperatives are voluntary and granted by the government to a group of fishermen upon review and approval of their application. It is intended that this system will, among other things, contribute to resource conservation, help sustain the artisanal economy and promote participatory management. The ban on loco fishing outside of these cooperatives provides a strong incentive for fishermen to join an existing one or band together to form one and apply for official recognition.

Performance

More than 10 years after implementation, the catch share program is meeting many of its goals. Landings have increased as much as five-fold, the mean size of individual organisms has increased, catch per unit effort is up, and some cooperatives have established no takes areas within their TURFs to enhance spawning.

Fishermen are making significantly more money than if the fishery-wide closure had persisted and





some associations have combined into larger cooperatives to improve market access and power. For example, in central Chile fifteen fishing associations (representing 1170 artisanal fisherman) created the PACIFICOOP to form strategic alliances with exporters and generate higher prices for their resource. In Southern Chile, five fishing groups (representing approximately 700 artisanal fishers) created a private company, TERPESCAR, which has gained rights to administer landing ports, generating further income. And some cooperatives near wealthier urban areas have created “live” fish markets dive tourism operations.⁴ Cooperatives that are not as well coordinated can still experience market gluts that lower prices.

Managers are continually assessing and adjusting the program to improve performance. Some cooperatives have altered the environment to enhance revenues by systematically removing predators,⁵ seeding the TURF with target species taken from other locations, and intentionally leaving species that loco prey upon within the system.⁶ The government has responded by clarifying that resources may only be brought into the exclusive access area once, during its formation,⁷ and issuing a Regulatory Decree stating that predators should not be removed so as “not [to] inflict negative impacts on environment”.

Key Design Features

The Chilean system was deliberately designed to provide secure exclusive access of specified areas to adjacent groups of fishermen. Only cooperatives, unions, or guild associations can apply for exclusive access to an area. Fishermen who want to fish loco must join one of these fishing organizations. As of 2006, approximately 42,000 out of the 55,000 registered artisanal fishermen were organized into about 680 fishing organizations 320 of these organizations (representing 17,000 fishermen) were granted, or are in the process of being granted a TURF. The cooperatives range in size from 25 to nearly 900⁸ people and on average each group has exclusive access to 100 hectares.

Each cooperative must adhere to several performance regulations: they must contract a yearly independent scientific assessment of the area being fished and the species intended for extraction and they must adhere to a scientifically determined catch limit for loco determined during this assessment. The cooperatives decide how to manage their TURF, including its members, and how to allocate fishing effort while staying within the catch limit. For example, some groups may decide to evenly distribute the allotment of loco between its members, effectively creating individual quotas within their cooperative, while others might allow all fishermen to fish loco over time as they please until the catch limit is reached, and pay members a price proportional to the size and quality of the product they harvest.



Sources

- ¹ Gallardo Fernández, G.L. (2008). From Seascapes of Extinction to Seascapes of Confidence, Territorial Use Rights in Fisheries in Chile: El Quisco and Puerto Oscuro. From: http://books.google.com/books?id=k7HKouAHPgC&printsec=frontcover&dq=of+Extinction+to+Seascapes+of+Confidence,+Territorial+Use+Rights+in+Fisheries+in+Chile&source=bl&ots=J_J_cmtSAm&sig=E9TKsn6gVlyuX7gi_NgLuVTY-UI&hl=en&ei=uGuNS_-8CoKYsgPisOnLAW&sa=X&oi=book_result&ct=result&resnum=3&ved=0CA0Q6AEwAg#v=onepage&q=&f=false
- ² Castilla, J.C., and Gelcich, S. (2008). Management of the loco (*Concholepas concholepas*) as a driver for self-governance of small-scale benthic fisheries in Chile. In Case studies on fisheries self-governance. FAO Fisheries Technical Paper 504, edited by R. Townsend, R. Shotton and H. Uchida.
- ³ Castilla, J.C. and Fernandez, M. (1998). Small Scale Benthic Fisheries in Chile: On Co-Management and Sustainable Use of Benthic Invertebrates. Ecological Applications, The Ecological Society of America, vol 8:1.
- ⁴ Cancino, J.P., Uchida, H., and Wilen, J.E. (2007). TURFs and ITQs: Coordinated vs. Decentralized Decision Making. Marine Resource Economics 22(4): 391-406.
- ⁵ Castilla, J.C. and Fernandez, M. (1998). Small Scale Benthic Fisheries in Chile: On Co-Management and Sustainable Use of Benthic Invertebrates. Ecological Applications, The Ecological Society of America, vol 8:1.
- ⁶ Castilla, J.C., and Gelcich, S. (2006). Scaling Up Marine Management: The Role of Marine Protected Areas, Chile: Experience with Management and Exploitation Areas for 45 Coastal Fisheries as Building Blocks for Large-Scale Marine Management. World Bank Report No. 36635 – GLB.
- ⁷ Castilla, J.C., and Gelcich, S. (2006). Scaling Up Marine Management: The Role of Marine Protected Areas, Chile: Experience with Management and Exploitation Areas for 45 Coastal Fisheries as Building Blocks for Large-Scale Marine Management. World Bank Report No. 36635 – GLB.
- ⁸ Cancino, J.P., Uchida, H., and Wilen, J.E. (2007). TURFs and ITQs: Coordinated vs. Decentralized Decision Making. Marine Resource Economics 22(4): 391-406.