# ADCPs Contribute to Improving Chileâ€™s Aquaculture Industry

Between the early 1990s and 2007 Chile's aquaculture really took off, and by 2006 the country was producing 38 percent of the world's salmon. Nowadays, the country produces 1.4m-1.5m tons of salmon a year, putting it on a par with the world's biggest producer, Norway. But there is still significant potential for Chile to run its aquaculture operations more efficiently and profitably. A study by Mariscope Ingenieria SPA found that using Doppler technology and real-time data could reduce food loss by up to 20%.

Measuring waves and currents helps with issues such as calculating the most effective location of the cages' moorings, the shape of those cages, and the position of floating barges. It also helps fish farmers economize on fish fodder. Typically, fishmeal is unnecessarily wasted during the feeding process, as currents draw the pellets through the cages' netting. As an example, constant measuring giving real-time data can be supplied via Nortek's Aquadopp current profiler and the Autonomous Online System (AOS), in addition to other sensors (for oxygen, salinity and temperature)

Data from these systems inform when and from what position food can best be released, and where and when to position the cameras which reveal when the fish finished feeding.

## Oceanographic Data Supporting Decisions

Christian Haag, managing director of oceanographic service provider Mariscope Ingenieria SPA in Chile, and also representing Doppler technology provider Nortek in the Chilean market, explains that at the moment, many aquaculture sites in Chile still rely on spot measurements, meaning that they really don't have enough reliable data to make informed decisions, and guesswork comes into play.

The contrast between efficiency levels in Norway and Chile's aquaculture can partly be put down to the widespread use of top-of-the-range technology. In Norway, many fish farmers have installed permanent measurement systems that supply constant, real-time data and allow for much more informed decisions to be made.

Nortek has supplied approximately 300 AOS (or Realfish) systems to Norway's fish farming sites. The Nortek AOS system offers online access data on oxygen, salinity and temperature, as well as ocean currents and wave data from any coastal location.

It does not require significant engineering resources and once deployed, the system will be up and running in a matter of minutes. It transmits data collected via satellite to a software developed specifically for the aquaculture industry.

This system generates daily reports so that fish farms can document that they operate according to standards set out by governmental organizations, or non-governmental organizations such as the Aquaculture Stewardship Council (ASC).