

Salmones Multiexport - Puerto Fonck Hatchery

Recirculating Aquaculture Facility

Project Scale:

60 tonnes of Atlantic Salmon fry per year.

Where:

Puerto Montt, Chile, South America

When:

Design was executed in early 2005 and the hatchery began operation in October of that same year.

Project Description:

Following up on the successful, CIDA funded design of a demonstration Recirculating Aquaculture System (RAS) in Chile, PR Aqua was contracted to provide aquaculture specialist design services for a full scale commercial facility at Puerto Fonck Hatchery. This system was to be promoted as the centerpiece for recirculation systems in Chile and lavish attention to detail was applied throughout.

Services Provided:

Aquaculture specialty design services for culture and water treatment systems, coordination with an international design team of architects and engineers, and system commissioning services.

Project Features:

The Puerto Fonck Hatchery project consisted of complete decommissioning of existing flow-through hatchery facilities and construction of a new hatchery building complete with high-rate recirculation culture systems. The new facilities allow for a significant increase in production with a limited ground water resource.

The facility extensively applies recirculation technology in both incubation and fry rearing systems to allow for heating of culture water to accelerate production. Incubation systems incorporate sand filters and foam fractionation for removal of particulate, aeration for balancing of dissolved gases, and UV sterilization for pathogen control. The fry rearing system has a total volume of 875 m³ which is provided in two equal culture modules, each with an independent water treatment systems designed to recirculate up to 98% of the total flow of 1200 m³/hr. The treatment systems incorporate many of the same elements as other PR Aqua designed facilities. At the heart of the filtration system are two 4.1 m diameter fluidized bed biofilters used to prevent the accumulation of ammonia. The system also features a combination of low head and pressurized oxygen supplementation systems provided with oxygen by an on-site generation systems. UV sterilization is used in combination with full-flow ozonation to provide protection from pathogens and superior water quality.



Challenges and Solutions:

The most challenging aspect of this project was coordination of the design internationally with both the client and the other consultants on the project. PR Aqua overcame this challenge through continuous communication with our local Chilean representative, bi-weekly updates to the client on project status and design coordination issues, and site visits to Chile at critical milestones during the design, construction, and commissioning phases of the project.

Results:

The Puerto Fonck Hatchery, PR Aqua's most recent large scale salmonid project, has completed its first full production run and has earned its place as the centerpiece of recirc systems in Chile.