

THE DEVELOPMENT OF SALMON HATCHERIES IN NEWFOUNDLAND AND LABRADOR



Stephenville Hatchery

The Newfoundland and Labrador salmonid aquaculture industry continues to experience significant growth and expansion. From 2007 to 2011, production increased from 4,857 to 14,264 metric tonnes, with a corresponding increase in value from \$30 million to \$111 million or 270 percent. This phenomenal growth is attributed, in large part, to the significant investment in aquaculture by both government and industry. The establishment of hatcheries within the province is a major

aspect of ensuring that this growth is maintained and accomplished in a biosecure and sustainable manner. The salmonid sector has tremendous potential for growth in many regions of the province.

Biosecurity and sustainability are crucial elements in the development of the aquaculture industry. Newfoundland and Labrador-raised smolt greatly enhances the biosecurity of the industry. In the past, industry relied on smolt transfers from outside the province, largely from Nova Scotia and New Brunswick. This practice increased biosecurity risk by increasing the risk of pathogen transfer and resultant stress associated with transport. Hatcheries based within the province will decrease such biosecurity risks and will result in healthier and more robust smolt that can be transferred at times that meet the needs of the Newfoundland and Labrador industry. The salmonid industry will have more control over fish size, stocking times and the health status of the fish, while at the same time reducing the economic impact of fish importation.

The Department of Fisheries and Aquaculture has long recognized the province's potential to develop its fresh water resources for in-province smolt production. In 2005, the province commissioned a study to identify locations that might be suitable for hatchery development. Twelve sites were identified, many on the province's west coast, where groundwater is abundant. The 2005 study has been beneficial for those wishing to develop hatcheries in the province and has assisted at least one company in identifying a final location for the hatchery in Stephenville.

New Hatchery Developments

Cold Ocean Salmon Inc. began farming fish in this province in 2006 and subsequently purchased farm sites and the salmon hatchery in Daniel's Harbour. In late 2009, recognizing the benefits of producing smolts within the province, Cold Ocean Salmon started a major expansion to its hatchery in Daniel's Harbour. Prior to the expansion, the hatchery was capable of producing 500,000, 50 gram smolts on an annual basis. Smolts were transferred directly from the hatchery to marine cage sites on the south coast. The main building in Daniel's Harbour consisted of a hatchery, nursery room and smolt area that housed twelve 5-meter tanks. The expansion added an additional smolt area that houses three 10-meter tanks and has the capability for water recirculation and water treatment.



smolts

The company also added a second facility in Swanger Cove in the Bay d'Espoir area. This new facility is a salmon nursery and allows the company to produce approximately 2.5 to 3 million fish in Daniel's Harbour. The fish are then transferred as fry to the nursery facility in Swanger Cove. The construction of the Swanger Cove facility began in the spring of 2010 and the first fry transfer from Daniel's Harbour occurred in 2011. The nursery is a recirculation facility and consists of a prefabricated steel building with two 1,600m³, 92 percent recirculation units. Each module consists of eight 200m³ fiberglass tanks. The Swanger Cove nursery has a maximum capacity of three million smolt. The Daniel's Harbour and Swanger Cove facilities employ 11 and 13 staff respectively at maximum production.

Northern Harvest Sea Farms began farming fish in the province in 2008. The company identified the need for a large-scale salmon hatchery and nursery facility in order to secure a supply of fish for its operations in the province. The Stephenville area, on the west coast, was identified as the best location for this expansion. The company began construction on the 95,000 square foot facility in late 2010. The facility consists of three buildings, one hatchery/fry building (35,000 square feet) and two smolt buildings (30,000 square feet each) and is expected to produce 4.8 million smolt annually. The hatchery received its first eggs in mid-November 2011. The fry portions of the building and the two smolt buildings are currently under construction but are due for completion by the end of June 2012. Future plans include a fourth building which will house an in-province broodstock program.



eggs

alevin

fry