IMPACT OF FENCED SCALLOP (*PECTEN MAXIMUS*) SEA RANCHING ON THE BENTHIC FAUNA.

Øivind Strand*, Tore Strohmeier, Helge Botnen and Per Johannessen.
Institute of Marine Research
PBox 1870 Nordnes
5817 Bergen Norway
oivind.strand@imr.no

Sea ranching of the great scallop (*Pecten maximus*) in Norway is done by releases of hatchery-reared spat to the seabed. The seabed area is bordered by fences to prevent access by predatory crabs (*Cancer pagurus*). A fence (50 cm high) of solid aluminium plates mounted on a concrete foot is sufficiently efficient to obtain high scallop survival. The new Act on Sea Ranching in Norway aims to contribute to a sustainable development of the sea ranching industry, and has stimulated the interest in the development and expansion of scallop enterprises in Norway. The Act sets specific conditions on environmental issues as genetics, disease control, and ecological effects. Using fences on the seabed to prevent a target predator access to the area may also obstruct other mobile fauna. This construction combined with high scallop density within the farmed area may influence the benthic fauna assemblage. It is also questioned whether increased biodeposition of organic matter by the farmed scallops may affect the benthic environment. The present study will evaluate how the benthic fauna in a fenced scallop sea ranching area was changed after a full seabed production cycle of *Pecten maximus*.

The investigation was conducted in a scallop farm in Toskasundet, western Norway, fenced (40 x 50 m) in 2000 with 18,000 scallops. In 2004 survival was 80% and scallop densities were estimated as 8-20 individuals m^{-2}. In October 2004, June 2005, and October 2005, benthic macro fauna were sampled by grab hauls, ejection pump, trap net and diving from the farmed area and compared with reference stations. Results are presented from these first investigations.