

BALLAN WRASSE *Labrus bergylta* PREDATION ON SCALLOP SPAT *Pecten maximus*

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Sea ranching of the great scallop (*Pecten maximus*) has been identified as having a high potential for future aquaculture in Norway. Until recently the edible crab (*Cancer pagurus*) and starfish (*Asterias rubens*) has been the major predators, causing great losses of released scallops. In order to reduce these losses a functional fence was designed to protect scallop sea ranches. The fence has improved the survival rate greatly.

The scallops are hatchery-reared and sold on to farmers at a size of 15-20 mm for on-growing. For protection against predation, the spat are grown in cages for the first 1-2 years before being seeded out onto the bottom. During this intermediate cage cultivation, the spat attain a size of 50 mm.

To reduce costs and avoid labour intensive cleaning associated with the intermediate culture, farmers are now seeding smaller spat into the fenced sea ranches.

During the summer of 2002 Helland Skjell AS, Norway, performed preliminary studies where spat (30-40 mm) were seeded from intermediate culture to bottom culture in a fenced site. Ballan wrasse (*Labrus bergylta*) were attracted to the area and the fish were observed to nab and eat on the spat. Studies on food preference for ballan wrasse performed in Ireland and France show a large variety of foraged species in stomach content where two other bivalves, mussel (*Mytilus edulis*) and *Chlamys* spp, are important prey.

The objective of this study is to find the maximum scallop size that the ballan wrasse can eat. This will provide information on the minimum spat size that can be released into fenced sea bed avoiding heavy predation from ballan wrasse.

In experimental tanks (1m³) the wrasse is given scallops in a size range of 15-35 mm, and foraged scallops are calculated after one week. Preliminary results indicate that the ballan wrasse do not eat scallop larger than 30 mm.

The first experiment is performed without bottom sediment. These results will be compared with an identical experiment including sediment. A third aim for the study is to determine whether there are differences in survival success when the scallops are given time to recess in sediment before ballan wrasse is introduced into the tank, compared with a situation where spat are seeded in a tank with wrasse already present.

Results from these experiments will be presented.