

**The role of extraction strategy on the recovery of biological communities in two French sites of marine aggregate extraction in the eastern Channel. Management implications for sustainability.**

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In their review of indicators for Sea-floor Integrity (descriptor 6) under the European Marine Strategy Framework Directive, a secure and rapid recovery from perturbation is a fundamental condition to conclude that impacts of uses are sustainable. Few studies have addressed the consequences of long-term dredging operations; there is thus limited information directly applicable to the impacts of commercial dredging operations where the life-time of a typical production licence is at least 15 years.

In 2004, a multidisciplinary research programme (SIEGMA) began in two sites of the eastern Channel, following the ICES Rec. 9 “Increase the knowledge on the restoration process”.

- two sites off Dieppe informed on the recovery rate of both long-term intensive and short-term extensive dredging events, in a local environment of moderate to strong tidal currents and sand transport;

- a new experimental site in Baie de Seine tested the role of different lengths and intensities of extraction on the recovery rate of both benthic and demersal fish communities.

It was possible to confirm the roles of extraction intensity and length of the dredging period, but also that of local hydrodynamics, to influence the rate of recovery of biological communities. Management considerations are discussed to ensure that sound aggregate extraction practices are in place to minimise the effects of aggregate dredging over licensed areas and prevent any long-term deleterious effect of dredging activity.

**Keywords:** aggregate extraction; benthos and demersal fish recovery; impact, recovery & extraction strategy.

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