

Figure 4. Mussel buoys with backbone rope and attached mussel growing lines.



Figure 5. Underwater view of mussel growing lines.



2.3 EXPANSION OF THE GREENSHELL® MUSSEL INDUSTRY

Green-lipped mussel cultivation began in the 1970s and has expanded massively since that time. The value of Greenshell® Mussel exports grew by 708% during the 12-year period 1988 to 2000, achieving an average annual growth of nearly 18%. In the year 2000, the Greenshell® Mussel industry exported 28 069 tonne of processed mussels worth NZ\$170 million. Productivity was calculated to be 9.85 tonne ha⁻¹yr⁻¹, or \$NZ59,649 ha⁻¹yr⁻¹; this is 200 times the productivity of protein from land-based farming (Lupi 2001).

During the 1990s the success of the burgeoning Greenshell® Mussel industry brought massive growth in demand for sheltered inshore areas to be used for mussel cultivation. By the year 2000, there were 605 mussel farms, encompassing 2850 ha of coastal waters, used for long-line cultivation of green-lipped mussels in New Zealand (Jeffs et al. 1999; Lupi 2001). Most farms were in the Marlborough Sounds, Tasman Bay, and the Firth of Thames, but there were small numbers in Northland, Golden Bay, and Stewart Island (see Fig. 1). In 2002, the government imposed a moratorium on aquaculture proposals. There were mussel farms, or proposals for mussel farms, along most of the coast in the Marlborough Sounds available for aquaculture in the proposed resource management plan for the area, as well as proposals for large (>50 ha) farms in the open water in middle of several bays in the outer Marlborough Sounds (Fig. 6A). There were also proposals for large mussel cultivation or spat catching farms in open water in Golden Bay, Tasman Bay, the Firth of Thames and around Bank's Peninsula (Figs 6B-E). More recently the aquaculture industry has promoted mussel cultivation for most embayments on the east coast of Northland (Andrew Riddell, Department of Conservation, Whangarei, pers. comm.).

In recent years, it has been recognised that there were limits to the availability of suitable sheltered inshore areas. This recognition, together with concern over reduced mussel productivity, caused by phyto-plankton depletion in sheltered waters with high densities of farms, led the mussel industry to develop methods that allow large mussel farms to be placed in exposed offshore waters in Pegasus Bay, Clifford Bay and Cloudy Bay, Hawke Bay, and the Bay of Plenty (Figs 6F-I).



-  Existing areas
-  Proposed areas

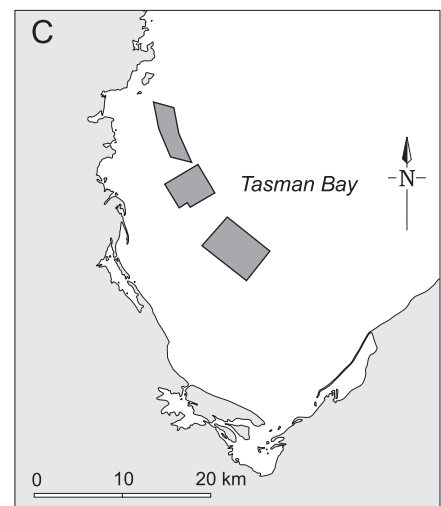
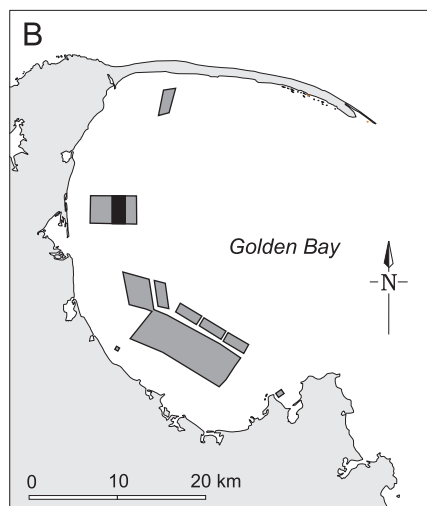


Figure 6. Maps of existing mussel cultivation and spat catching farms and areas proposed for mussel cultivation or spat collection. Based on data collected from regional councils during 2002.

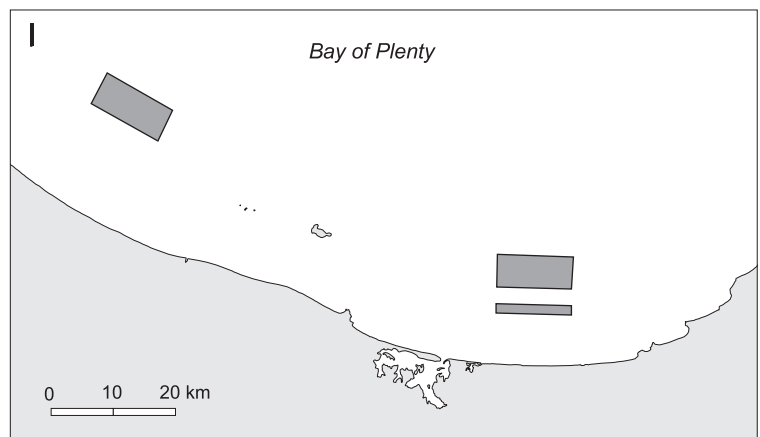
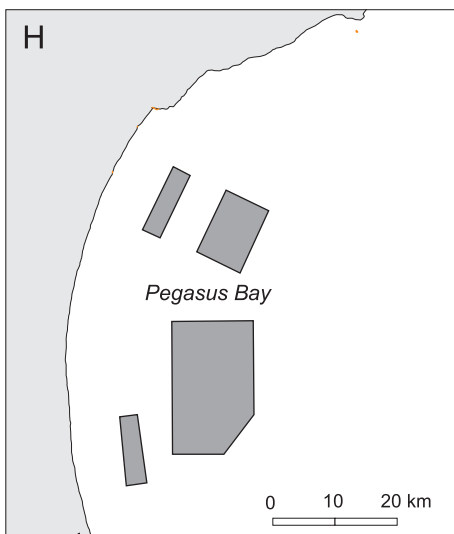
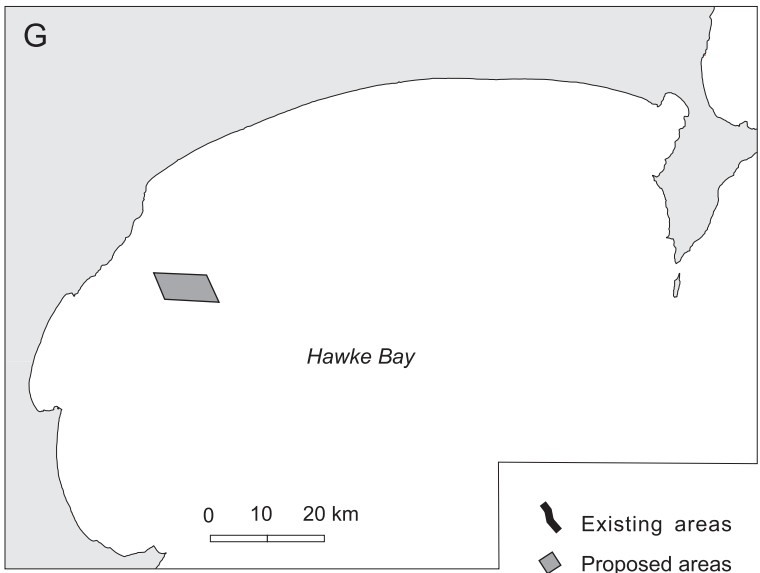
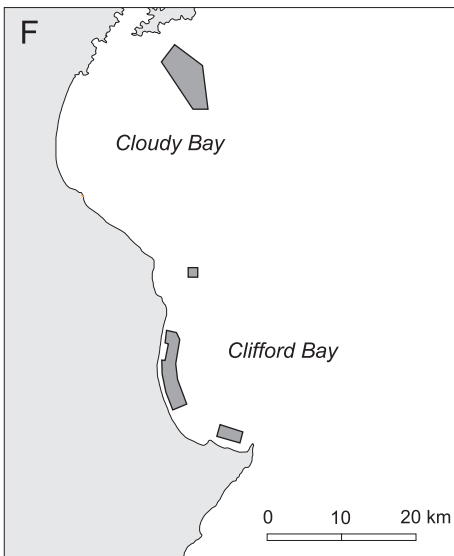
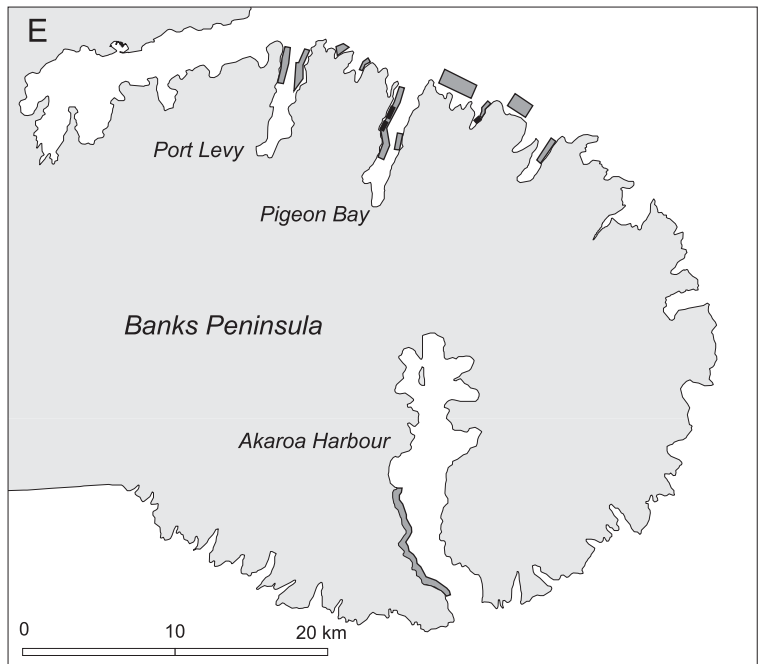
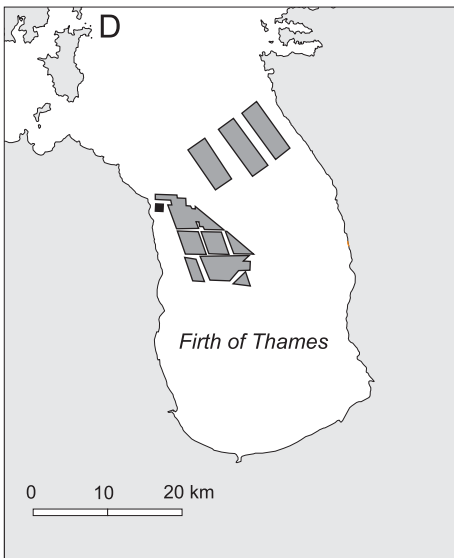


Figure 6. *Continued.*

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