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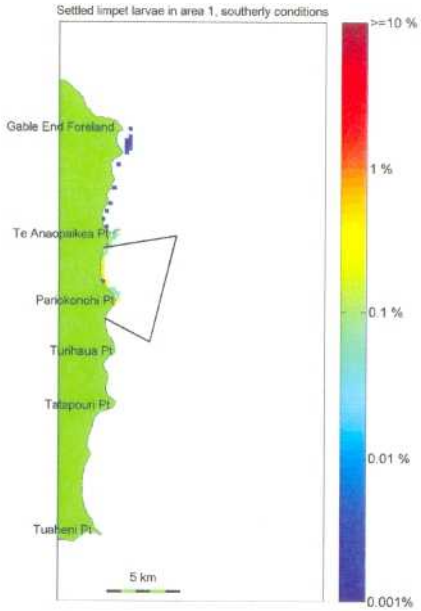
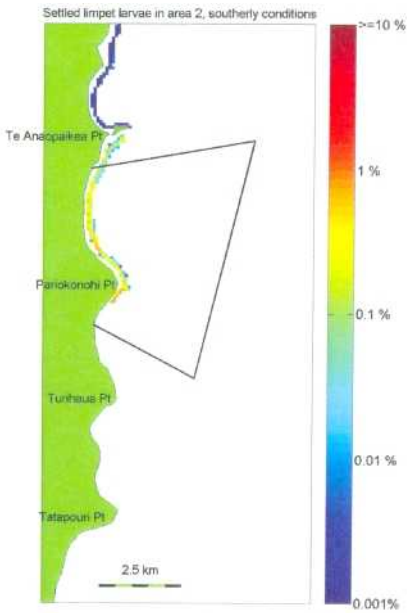
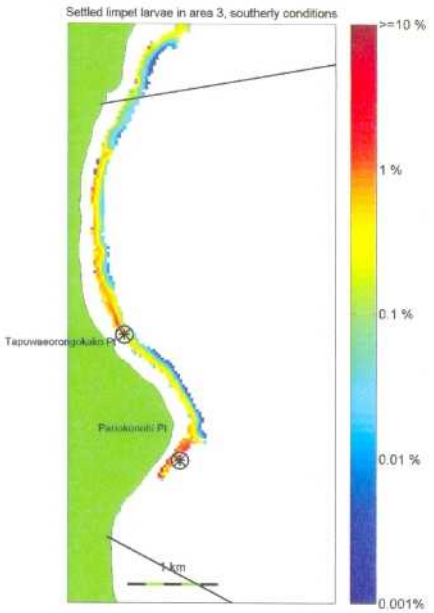
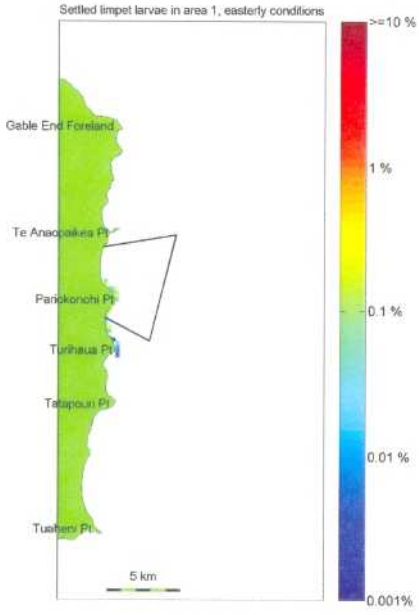
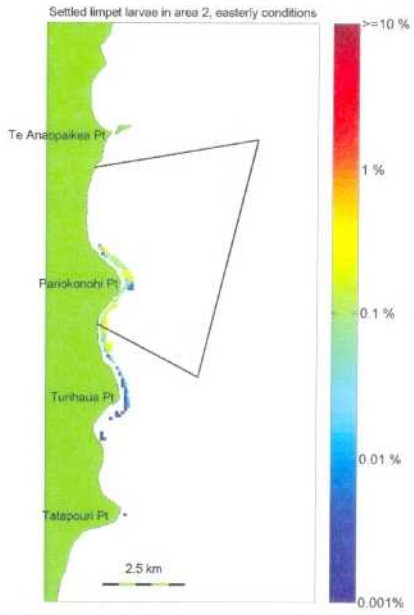


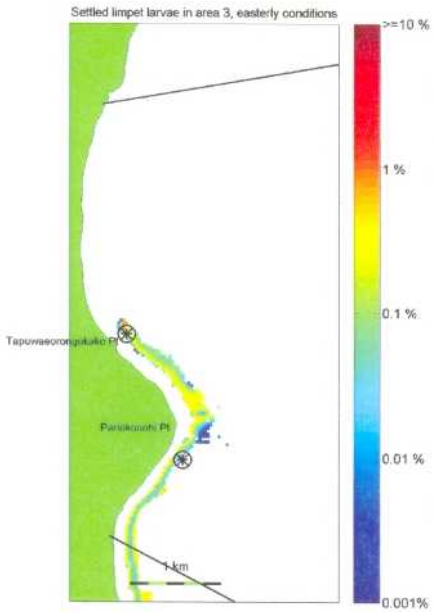




Settled limpet larvae percentage during southerly storm conditions. Larval transport to the northeast occurs in the prevailing currents. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide. Larvae released at Pariokonohi Point are swept northeast to reach Gable End Foreland, but in considerably lower numbers then kina or paua. There is an obvious drop in larval numbers past Whangara Island, as many larvae are transported offshore and away from suitable recruitment habitat.

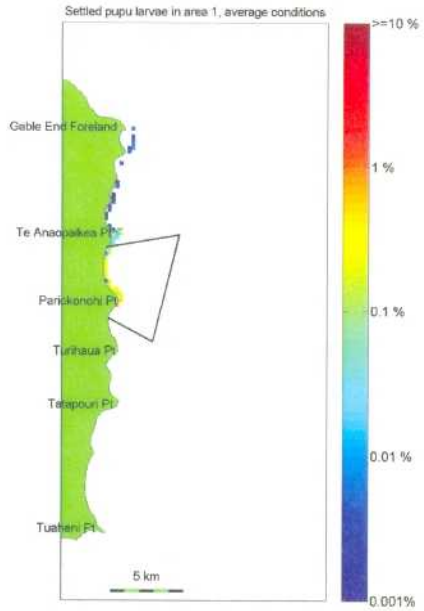


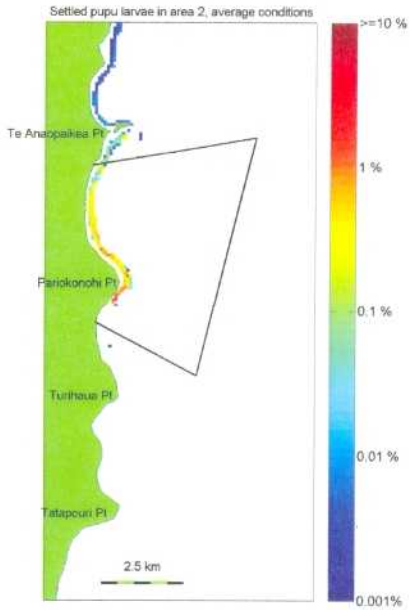


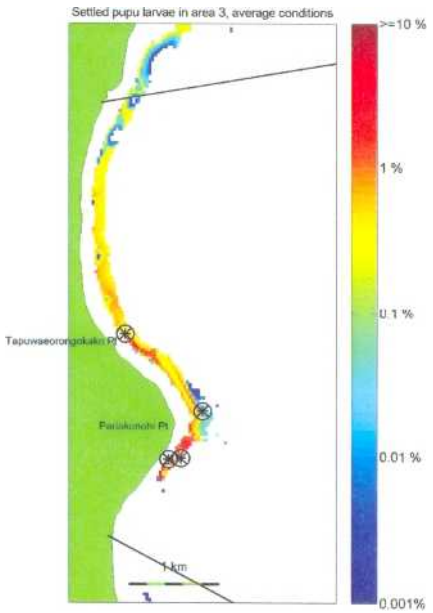


Settled limpet larvae percentage during easterly storm conditions. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide. Larvae released at Pariokonohi Point are swept southwest to reach Turihaua Point and slightly beyond.

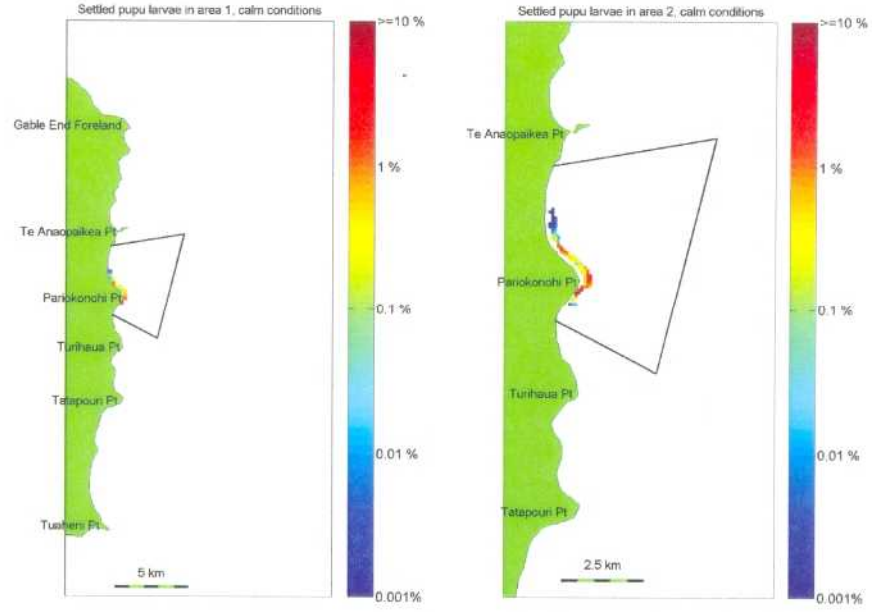
7.6 Pupu

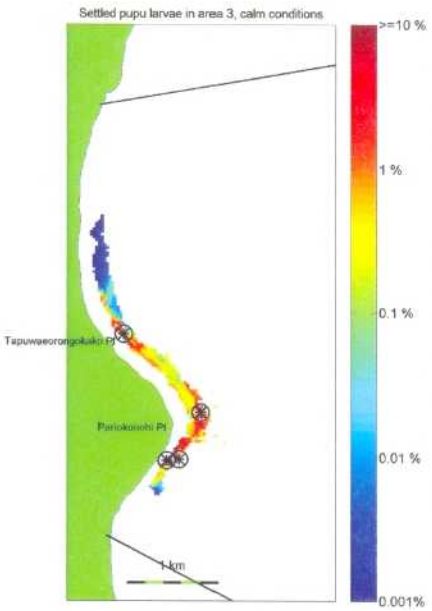




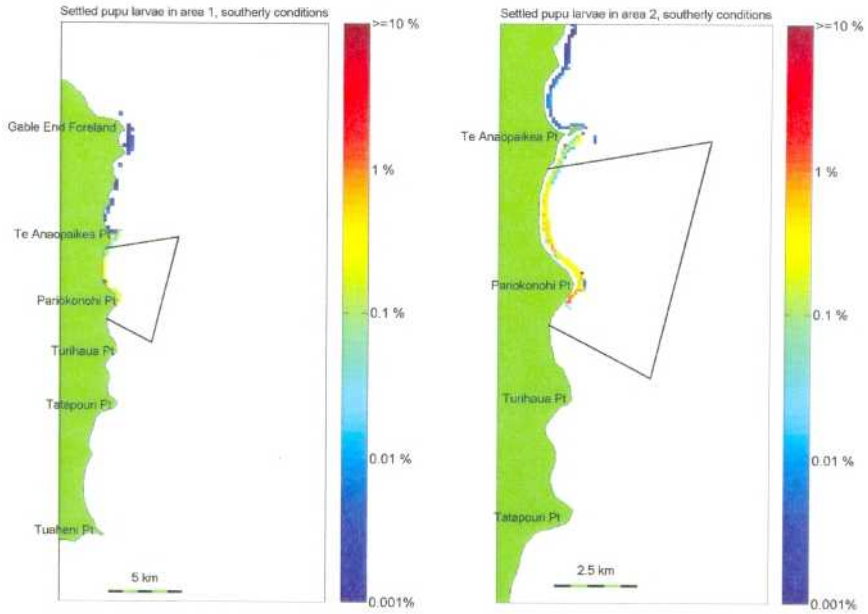


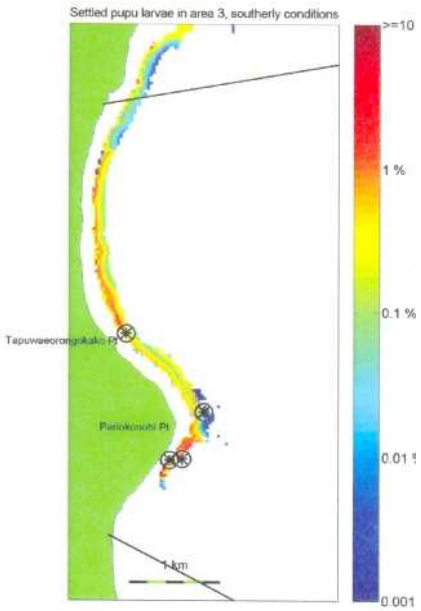
Settled pupu larvae percentage during average conditions. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide. The dispersal pattern is similar to limpets, under the same hydrodynamic conditions, because the specified larval settling rates and recruitment depths were the same. Larvae released at Pariokonohi Point are swept northeast to reach Gable End Foreland, but in considerably lower numbers then kina or paua. There is an obvious drop in larval numbers past Whangara Island, as many larvae are transported offshore and away from suitable recruitment habitat.



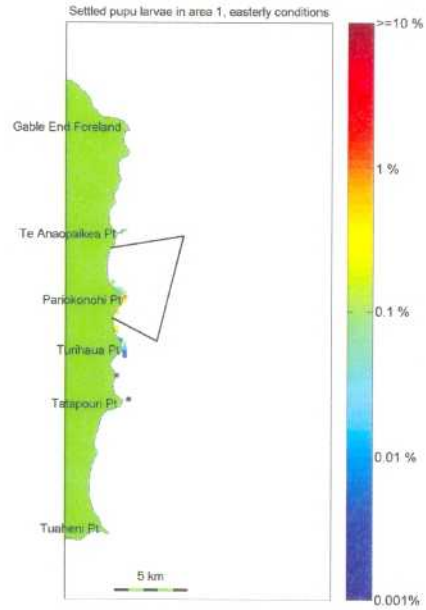


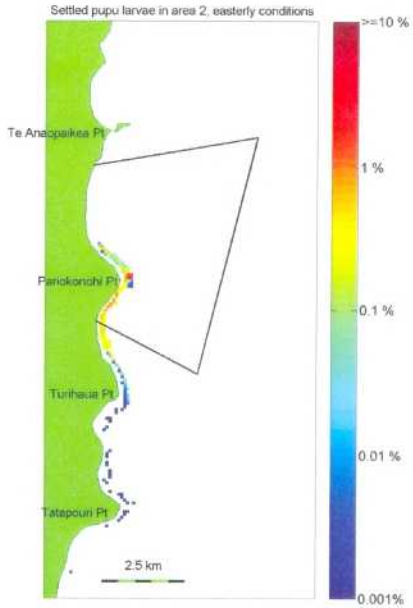
Settled pupu larvae percentage during calm conditions. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide and is restricted to within 2 km or less of the release sites.

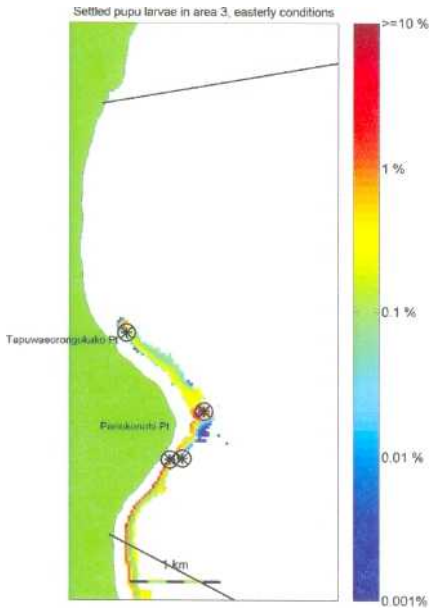




Settled pupu larvae percentage during southerly storm conditions. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide. The dispersal pattern is similar to limpets, under the same hydrodynamic conditions, because the specified larval settling rates and recruitment depths were the same. Larvae released at Pariokonohi Point are swept northeast to reach Gable End Foreland, but in considerably lower numbers then kina or paua. There is an obvious drop in larval numbers past Whangara Island, as many larvae are transported offshore and away from suitable recruitment habitat.







Settled pupu larvae percentage during easterly storm conditions. *Larval supply* is mapped out to the specified recruitment depth of 2 m below low tide. Larvae released at Pariokonohi Point are swept southwest to reach Tatapouri Point and slightly beyond. Pupu larvae dispersed further than limpet larvae under easterly storm conditions, despite limpets having a longer larval duration. This is because pupu had a release site on the southern side of Pariokonohi Point but limpets did not. Larvae released to the north of Pariokonohi point tended to be swept offshore and large numbers lost, while those released to the south stayed closer to suitable recruitment habitat depths.

8. Appendix 2 - illustration of dispersal with and without wave radiation stress

An instantaneous larval release was undertaken over a corrugated coastline bathymetry grid, incorporating alternating headlands and embayments (Figure 15). The release point is marked by the black dot in Figure 15. Two simulations were run using an alongshore tidal current of amplitude 0.75 m s^{-1} and period 12.42 hours. The second simulation also included forcing by wave radiation stresses from a 3 m-high wave approaching from the southwest. Figure 16 and Figure 17 show the larval dispersal pattern after 2.9-days for the no-waves and waves simulations respectively. It can be seen that the presence of waves causes significantly more alongshore dispersion.

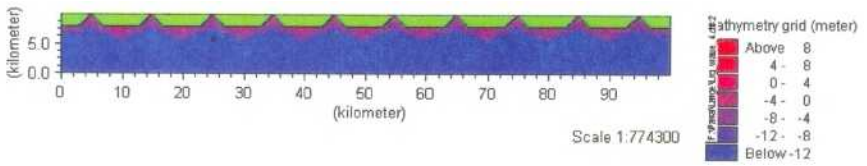


Figure 15. Hypothetical corrugated coastline bathymetry, incorporating alternating headlands and embayments.

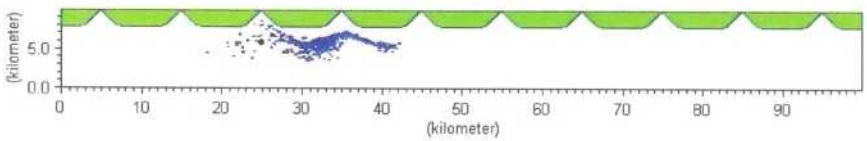


Figure 16. Larval dispersion by tidal currents.

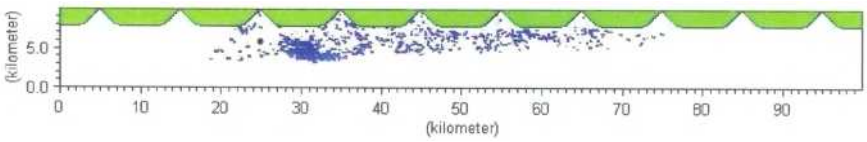


Figure 17. Larval dispersion by tidal currents and waves.