



Demonstration of the onshore transport of larval invertebrates by the shoreward movement of an upwelling front

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ABSTRACT: Upwelling winds off North Carolina set up upwelling fronts. As the wind forcing relaxed following such a coastal upwelling event, we observed the upwelling front move onshore. The low-density surface water moved shoreward over the upwelled water, forming a convergence zone at the front. This shoreward-moving front concentrated and transported larvae. Larval sergestid shrimp, spionid polychaete larvae, and the veligers of *Odostomia* sp. and *Bittium* sp. were concentrated on the seaward side of the moving convergence. Blue crab megalopae were concentrated at the surface immediately seaward of the front. These data demonstrate that a relaxing upwelling front can transport high concentrations of larvae shoreward over the inner shelf. This may be an important mechanism promoting the shoreward migration of larval invertebrates and fish.

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