Development of an Air-Bubble Curtain for Catching Maine Sardines [1]

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Abstract

Conventional methods of catching Maine Sardines (small Atlantic herring) rely upon migrations of schools of the fish into shallow-water coves where they can be caught alive with stop seines or weirs (traps). The schools often stop short of or swim past such areas. A system of guiding and driving herring schools from deep to shallow water, using a curtain of air bubbles, has been developed by the U. S. Bureau of Commercial Fisheries. Air-bubble curtain gear consists primarily of (1) an air compressing unit including engine, compressor, air receiver and aftercooler; and (2) an air discharge unit constructed of flexible plastic pipe that is perforated with 1/64-inch holes at 1-foot spacings, and weighted with lead to make it sink. Compressed air at 50 to 80 p.s.i. pressure is discharged through the 1/64-inch holes setting up a "curtain" of small air bubbles rising from the sea bottom to the surface. Herring schools resist passing through the bubble curtain and can be guided along it and driven before it to the shallow-water seining or trapping sites.

[1] This paper is scheduled for early publication in *Commercial Fisheries Review*.