

Use of Fish Corrals in the Seine Fishery of the Virgin Islands

CECIL A. JENNINGS

Introduction

Although selected aspects of the commercial fishery in the Virgin Islands have been documented since the early 1930's (Fiedler and Jarvis, 1932; Idyll and Randall, 1959; Hess, 1961; Swingle et al. 1970; Brownell, 1971; Brownell and Rainey, 1971; Sylvester and Dammann, 1972, and Olsen et al., 1978), fish corrals and their use have not been described. This account, based on personal observations made during 1985-86, summarizes commercial fishing methods in the Virgin Islands (U.S. and British), documents the use of fish corrals, and serves as an introduction to the methodologies of this harvesting technique. Interviews of commercial fishermen about how and when fish corrals are used provided information not available from direct observation. Local common names for gear type and fish species are shown in parentheses.

Commercial Gear Type

Commercial fishermen in the Virgin Islands use a variety of fishing methods, including fish traps, beach seines, and handlines (i.e., hook and line fished without a rod). Fish traps (fish pots) constitute the primary gear; handlines and beach seines are used less frequently. Fish traps are used to harvest reef fish from areas with rock or coral bottom and

associated grass flats at depths to 200 m (100 fathoms). Handlines are used primarily to harvest yellowtail snapper (yellowtail), *Ocyurus chrysurus*, during their lunar aggregations, and groupers, *Epinephelus* spp., during their spawning aggregations. Handlines are also used to harvest reef fishes, usually in conjunction with setting and recovering fish traps. Cast nets and beach seines (31-64 cm stretch mesh) of varying lengths (120-200 m) and depths (6-10 m) are used to harvest migrating schools of coastal pelagic species. Cast nets and small beach seines are used to harvest small baitfishes, including dusky anchovies (white fry), *Anchoa lyolepis*; dwarf herring (blue fry), *Jenkinsia lamprotaenia*; and false pilchard (sprat), *Harengula* spp. Larger beach seines are used to harvest migrating schools of larger, highly marketable species, such as little tunny (bonito), *Euthynnus alletteratus*; bar jack (carang), *Caranx ruber*; bigeye scad (jacks), *Selar crumenophthalmus*; and mackerels, *Scomberomorus* spp. Beach seining is usually carried out with two or more boats; one boat carries the net (netboat), and one or more boats herd the school toward shallow grass flats for encirclement. After the school has been circled, both ends of the seine are dragged onshore until the bag of the seine is in shallow water and the fish are easily removed. Fish corrals (crawls) are used in conjunction with large beach seines.

Fish Corrals

Fish corrals can be temporary or permanent. In their simplest form, they are nothing more than an enclosure made

with a haul seine with both ends firmly anchored on a beach (Fig. 1). The bag of the seine remains in shallow water and serves as a pen or corral which holds the fish as long as is necessary. Corrals of this kind are temporary and are most frequently used. Permanent corrals are made of poultry wire and anchored with sticks or reinforcing steel bars (Fig. 2). They typically have gates that facilitate herding the fish into the enclosure. Permanent corrals are rare and are found only in areas that are frequented by important target species.

Corrals are used when seining crews (netmen) catch more fish than their small (<10 m) fishing vessels can carry and when the catch exceeds market demands¹. The market demand is usually low when many seine crews make large catches (1-2 metric tons) within a few days. Corralled fish are usually moved to market within a few days. Those held longer than a few days are fed a variety of food, including fish strips and baitfish. Migrating schools of dusky anchovies and dwarf herring, when available, provide excellent forage for the corralled fish. The size of these fish allows them to be herded directly through the mesh into the corral. Successful feeding of corralled fish allows them to be kept indefinitely¹.

Fish corrals provide a cost-effective method for commercial seine fishermen in the Virgin Islands to handle large catches that would otherwise be lost. Corrals allow fishermen to exploit other

Cecil A. Jennings is with the U.S. Fish and Wildlife Service, Florida Cooperative Fish and Wildlife Service, Department of Fisheries and Aquaculture, University of Florida, Gainesville, FL 32611. Current address: U.S. Fish and Wildlife Service, National Fishery Research Center, P.O. Box 818, La Crosse, WI 54602.

¹Joseph LaPlace, Government of the Virgin Islands, Division of Fish and Wildlife, 101 Estate Nazareth, St. Thomas, VI 00802. Personal commun.

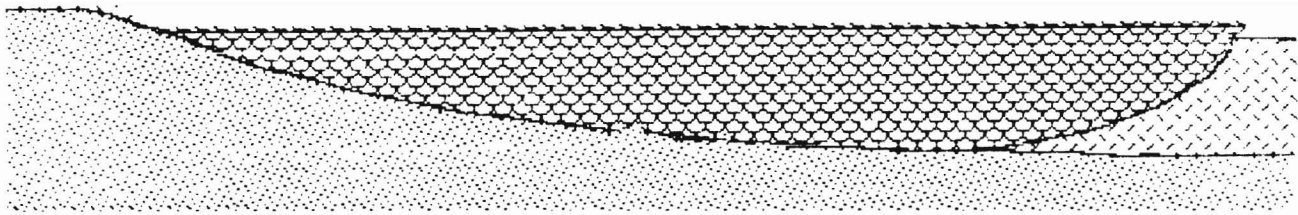


Figure 1.—A temporary fish corral with a beach seine anchored to the shore serving as the corral.

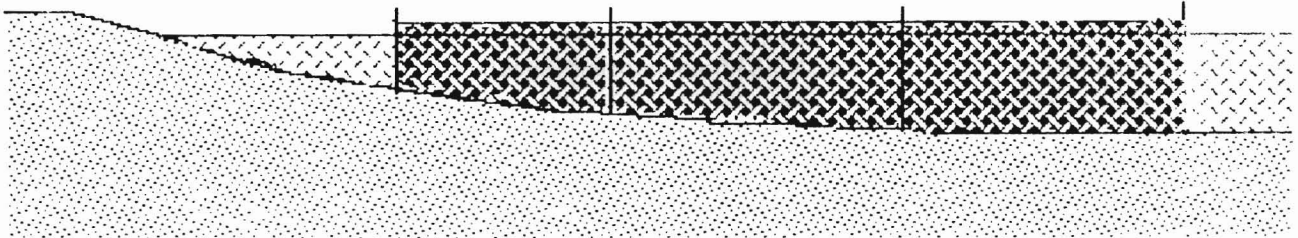


Figure 2.—A permanent corral with wire mesh supported with reinforcing steel bars (or wood) serving as the corral.

markets (i.e., at neighboring islands) when local market demands are low or to transport part of a large catch without losing the entire catch.

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