FISHERIES DIVERSIFICATION PROGRAM

Project Summary: FDP 413                      2002

Catamaran Fishing Vessel

Background

In the Newfoundland and Labrador inshore fishery, there is a large sector of fishers that are restricted to vessels less than 35 feet in length. The conventional vessel design historically used in this sector has been a single-hull-type vessel. However, with the development of new inshore fisheries, i.e., snow crab, shrimp beam trawling, sea urchin diving, whelk potting, cod potting, and aquaculture farming (cod grow-out), the need for new vessel designs for the inshore sector has been apparent. Fishers have made every attempt to make conventional design usable in a multi-species fishery. What has resulted is a vessel with a very low length/beam ratio; that is a vessel with a wide beam for its length. This has resulted in these vessels being inefficient in terms of speed and an unsuitable working platform.
Small catamaran fishing vessels, under 35 feet, had been becoming more popular among European fishers, and after extensive research, it was felt that the catamaran design would offer Newfoundland and Labrador fishers many advantages as compared to current conventional designs.

**Introduction**

In July of 2001, a working group consisting of representatives from the Department of Fisheries and Aquaculture, the Department of Fisheries and Oceans, and Mr. Earl Johnson, a fisher from North Harbour, was formed to have a first-hand look at catamaran boatbuilding in the United Kingdom. The group made personal contact with builders and arranged fishing trials on recently built vessels.

Based on their analyses of South Boats Ltd., a builder of catamarans in East Cowes, Isle of Wight, UK, it was the opinion of the working group that catamarans are suitable for utilization in the Newfoundland and Labrador inshore fishery. However, it is acknowledged that in certain conditions, such as operating in ice, catamaran vessels may not be suitable.

The objective of this project was to purchase, import and outfit a 34-foot11-inch catamaran fishing vessel for the province’s under-35-foot, inshore fleet sector. Mr. Earl Johnson, part of the working group, with assistance from the Fisheries Diversification Program, purchased the catamaran.

**Methodology**

The vessel was built and outfitted as follows:

<table>
<thead>
<tr>
<th>Vessel’s Name:</th>
<th>Eastern Point</th>
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<tbody>
<tr>
<td>Builder:</td>
<td>South Boats Ltd.</td>
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<tr>
<td></td>
<td>East Cowes, Isle of Wight</td>
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<tr>
<td>Length:</td>
<td>34 feet 10 inches</td>
</tr>
<tr>
<td>Beam:</td>
<td>16 feet 6 inches</td>
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<tr>
<td>Draught:</td>
<td>36 inches</td>
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<tr>
<td>Displacement:</td>
<td>8 tonnes</td>
</tr>
<tr>
<td>Top Speed:</td>
<td>23 knots</td>
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<tr>
<td>Cruising Speed:</td>
<td>18 knots</td>
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</tbody>
</table>

**Engines:**
The "Eastern Point" is powered by twin 225-horsepower John Deere engines, coupled to twin Disc 5050A 1.8:1 reduction gearboxes.
Engines drive conventional clements 1.75" stainless steel shafts and bronze propellers. Engines are keel cooled with Fermstrum keel coolers and a specially designed, dry exhaust system.

Speed:

Top speed is 23 knots with a continuous loaded cruising speed of 18 knots with fuel consumption of less than 41 litres per hour.

Fishholds:

Two insulated fishholds are fitted, one in each hull with four foot square sealed and self-draining, lock-down hatches. The holds have a level floor and are fitted with manual and electric evacuation pumps. Each hold is around 14 feet long x 5 feet wide x 3 feet deep.

Results

The "Eastern Point" will be fished in 2003, and therefore, results are not yet available. However, based on research carried out prior to this project being undertaken, some advantages of catamaran technology are:

- Exceptional following and head sea characteristics, unlike a monohull which has a tendency to broach to one side or the other in a following sea.

- Increased speed with low horsepower giving outstanding fuel economy for high speeds. A 35-foot catamaran with twin 200-horsepower can travel over 20 knots. A conventional monohull with 300 or 400 horsepower might reach 8 knots. This increase in speed gives the fisher tremendous versatility and more time at sea.

- Large, stable working platform, approximately 40 percent larger than that found on a single hull of equivalent length. Excellent for handling large pots, etc.
- The double hull design aids in less rolling motion. The catamaran does not roll side-to-side like a single conventional single-hull design. This makes it an ideal working platform less motion, the safer it is.

- As a result of having twin engines, the catamaran is considered to be more dependable and can travel at twice the speed of a conventional design.

**Some disadvantages are:**

- Catamarans may not be suitable for use in ice as pieces of ice can become wedged between the two hulls.

- Catamarans cost approximately 30 percent more to build in comparison to single-hull design of the same length; however, there is the added safety of a second engine and very large working deck, not usually found on local, inshore boats.

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**Conclusion**

This project has identified a great opportunity for the import of new technology for the Newfoundland and Labrador inshore fishing fleet and the small-boat building industry. The speed of this vessel will allow fishers to reduce the steaming time to and from the fishing grounds by 50 percent, thereby increasing daily fishing time and allowing additional free time. Most importantly, catamarans are safer because of less rolling motion, twin engines and a large, stable working platform.