BLUEPRINTS

UNC Sea Grant

UNC-SG-BP-83-2

Recreational Shrimping: Nets, Doors and Power

Shrimping today has become a multi-million dollar industry in North Carolina. Each year hundreds of commercial fishermen from North Carolina and other states drag our waters in pursuit of this valuable and delicious seafood product. And, shrimp trawls also capture marketable quantities of fish and crabs.

In the last seven years, thousands of part-time, recreational fishermen have taken up shrimping. They have attached shrimp trawls to their pleasure boats. These shrimpers must purchase a commercial fishing license, just as the full-time commercial shrimpers do. But usually recreational fishermen only drag for shrimp a couple of weekends or evenings to fill their freezers with shrimp, fish and crabs.

Many of these recreational shrimpers have questions about what size net to use, what size otter boards or doors are best for their particular nets, or what horsepower yields the greatest catch at the lowest fuel cost. Also, some recreational shrimpers try to pull or tow nets with outboard motors too small for the job. Improper gear produces very little or no shrimp at all.

Sea Grant marine advisory agents spend many days each summer trying to help recreational shrimpers with their gear. A three-year Sea Grant survey made of the most productive commercial shrimpers in North Carolina has provided some guidelines for both commercial and recreational shrimpers.

Nets

There are basically three major shrimp net or trawl designs in North Carolina: the flat net, the balloon net and the semi-balloon net. Each design requires different flotations and numbers of corks.

The flat net is composed of four panels: top, bottom and two sides. The net sweeps along the bottom in a two- to four-foot vertical span. Because of this, most flat nets will have six to 10 small, three-inch corks or floats evenly spaced along the top line or head rope.

The balloon net is designed not only to fish the bottom, but also to fish the water column 10 to 15 feet above the bottom. This type of net is used most of the time to harvest white shrimp, which often come to the surface. For this reason, larger floats are attached to the top line. Fishermen use as many as 10 to 12 ten-inch floats so the net will fish higher in the water.

The semi-balloon net was created to reap the benefits of both the flat and the balloon shrimp nets. The semi-balloon net opens wider than the other two nets. It fishes higher in the water column than the flat net, but not as high as the balloon net. Some fishermen attach only one 10-inch float in the middle of the top line of the semi-balloon net. Others attach six to eight smaller floats along the top line. The semi-balloon net is the most widely used net in North Carolina. (It should be noted that the flotation used on these nets may vary, but the most productive fishermen use the flotation configurations mentioned.)

Matching horsepower to net size

The following table depicts the optimum production and maximum fuel efficiency, matching horsepower to the net size for all three nets.

Table I

These pairings are recommended for the greatest catch at the lowest fuel cost. However, smaller doors will permit the towing of larger nets and large motors may tow small nets.

Motor Size	Recommended Net Size
25 to 50 hp	12 ft. to 16 ft.
55 to 75 hp	12 ft. to 20 ft.
85 to 125 hp	12 ft. to 25 ft.
135 to 200 hp	12 ft. to 32 ft.
205 to 275 hp	12 ft. to 40 ft.
280 hp and up	12 ft. to 50 ft.

As seen in Table I, larger motors may efficiently tow smaller nets. In using nets 25 feet or larger, it is usually necessary to install a

mast, a winch, or a block and tackle because of the weight of the catch. A person can only lift a limited amount of shrimp aboard a boat alone. And a 25-foot shrimp net can quickly take on several hundred pounds of weight.

But many recreational shrimpers do not want to install commercial gear on their pleasure boats. Then it is best to tow a smaller net, despite having the horsepower available to pull a larger net.

Although smaller engines may tow larger nets than Table I indicates, doing so requires them to run at full throttle, which not only burns more gas, but also puts a strain on the engine. Engine efficiency is higher when no more than one-half to three-fourth throttle produces three knots while towing the net.

Net-to-door ratios

The ottor boards or doors serve to spread the shrimp net by building water pressure as the boat moves forward. Long tows by commercial shrimpers capture more weight, which restricts the net opening and requires larger doors. Recreational shrimpers usually tow their nets from thirty minutes to one hour. This prevents excessive weight build-up in the net. For these reasons, the door lengths and door widths for commercial boats should be reduced by one-third for the recreational shrimper. For example, a 20-foot commercial boat should have 4' x 24" doors. For recreational shrimping, 32" x 16" net is sufficient.

Table 2 is a list of commonly used shrimp doors or boards used with different size nets. Door sizes vary in different areas and will vary if towing time is extended or shortened (larger doors for extended tows; smaller doors for shortened tows). But the following sizes prove to work for one- to two-hour tows by commercial boats and for thirty-minute to one-hour tows for recreational boats.

Table II

Net Size	Commercial Door Length	Commercial Door Width
20 ft.	4 ft.	24 in.
25 ft.	5 ft.	26 in.
28 ft.	5½ ft.	28 in.
30 ft.	6 ft.	30 in.
32 ft.	6½ ft.	32 in.
40 ft.	7 ft.	34 in.
45 ft.	7½ ft.	36 in.
50 ft.	8 ft.	40 in.

Net Size	Recreational Door Length	Recreational Door Width
20 ft.	2 ft. 8 in.	16 in.
25 ft.	3 ft. 4 in.	17 in.
28 ft.	3 ft. 8 in.	19 in.
30 ft.	4 ft.	20 in.
32 ft.	4 ft. 4 in.	21 in.
40 ft.	4 ft. 8 in.	23 in.
45 ft.	5 ft.	24 in.
50 ft.	5 ft. 4 in.	27 in.

Smaller doors (up to 5 ft.) are built with ¾" plywood and ¼" irons. Larger doors (5½ ft. or larger) are usually constructed with 1" x 6" or 1" x 8" salt- or pressure-treated lumber and ⅜" to ½" irons.

Although shrimping involves more than motor size, door size and net size, most recreational shrimpers purchase their nets ready-to-tow. For this reason, boat rigging, net construction, door construction and tickler chains are not discussed here. Tables I and II provide the necessary information to purchase the net your motor will handle. If you need additional information regarding any phase of shrimping in North Carolina, contact your local Sea Grant marine advisory agent.

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