A GUIDE TO RECREATIONAL

SHRIMPING

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A GUIDE TO RECREATIONAL

SHRIMPING

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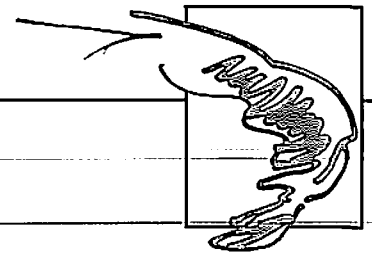

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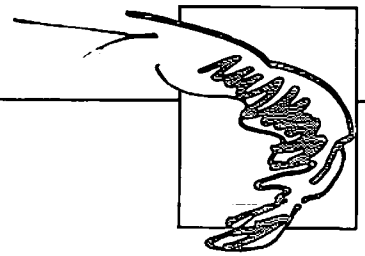


Introduction

Shrimping produces more income than any other fishery in North Carolina and in the United States. In 1983, over 250 million pounds of shrimp, valued at $503 million, were landed nationwide. According to N.C. Division of Marine Fisheries statistics, North Carolina fishermen landed 7.1 million pounds of this crustacean, valued at $16.4 million.

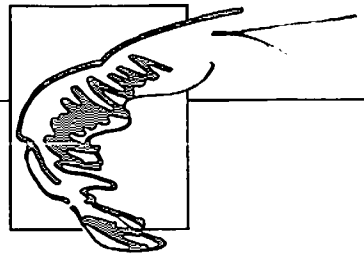
Commercial fishermen from North Carolina and neighboring states tow bottom trawl nets in rivers, sounds, inlets and offshore to harvest this valuable commodity. From mid-April until late December, shrimp boats are seen, day or night, rain or shine, trawling for shrimp. Most northeastern Tar Heel shrimpers trawl exclusively in North Carolina. However, a small percentage of the state's southern fleet work all along the Atlantic and Gulf Coasts to extend the season. Therefore, shrimp landings by state fishermen are larger than figures indicate.

Over the years, commercial shrimpers have taken friends and relatives on occasional trips. Sometimes these people would work, but often they just observed. In the 1960s, some of these observers who owned boats began to purchase small shrimp trawls. These part-time shrimpers towed their small nets in nearby sounds mornings, evenings or Saturdays to net shrimp, hard crabs, soft crabs and fish. Often sufficient catches could be harvested, cleaned, packaged and frozen to supply one or more families for an entire year. In addition, these people discovered that shrimping occasionally, by choice, was fun. Thus recreational shrimping began.

What began with a few part-time recreational shrimpers, soon exploded to include many more. Recreational shrimping spread through waterfront communities and even inland to people who took their boats to the coast. And people just moving to coastal North Carolina used their boats to fish and to shrimp.

In 1984, hundreds of the state's small boaters rigged their vessels for shrimping. But many folks did not have the advantage of first observing a commercial shrimper. They did not know how to match nets with otter boards or horsepower with net sizes. Because of their lack of knowledge and experience, numerous part-time shrimpers came to the UNC Sea Grant Marine Advisory Service offices for help.

The following information will provide beginners with the basic skills necessary to legally harvest shrimp. You can learn how to prevent damage to nets, gear, props, engines and boats and how to cull and store your catch.



Shrimp Biology and Habits

A biological knowledge of shrimp is not necessary, but an understanding of their behavior can increase your ability to locate and harvest the crustaceans. Along the south Atlantic coast, fishermen harvest *Penaeus aztecus* (brown shrimp), *Penaeus duorarum* (pink, spotted or night shrimp) and *Penaeus setiferus* (white shrimp). These species are good to eat and are harvested primarily with trawls. Most recreational shrimpers refer to all species as just "shrimp."

Although the life cycles of brown, pink and white shrimp are similar, their growth seasons differ. This affects when they can be harvested, their size at various times of the year, and the time of day when trawling is most productive. White shrimp are abundant in mud- or clay-bottom brackish marshes that are connected by inlets to shallow offshore waters of high salinity. Along the south Atlantic coast, white shrimp distribution is limited to a narrow belt eight to 10 miles offshore (less than 10 fathoms). The juveniles inhabit brackish water and are found occasionally in water that is almost fresh. Figure 1 illustrates the life cycle of white shrimp. The cycle is the same for brown and pink shrimp, but the season differs and spawning overlaps.

Most recreational shrimping takes place in the estuaries. Shrimp grow large enough there to harvest. These calmer waters are more suitable for small pleasure boats. Larger commercial shrimping boats follow the shrimp into the ocean because they can withstand offshore winds and sudden weather changes. But the smaller boat has its advantages too. It can tow in shallow nearshore waters and between shoals for access to migrating shrimp.

The following biological and environmental factors are important to the recreational shrimper :

1. Brown, pink and white shrimp forage and move along the bottoms of estuaries.
2. Brown shrimp are harvested in North Carolina from late June to October in estuarine waters.
3. White shrimp are plentiful from August through November in North Carolina estuaries.
4. The catch of pink shrimp may overlap with white shrimp in North Carolina during September. Because of a higher tolerance for cold, pink shrimp overwinter in estuarine waters and may be caught again in the spring.
5. Brown and white shrimp live in shallow, low salinity (prefer 10 ppt and above) water when young and move to high salinity, deep water upon maturing.
6. Pink shrimp prefer sandy bottoms, grass beds and salinity levels above 20 ppt.
7. All species return as adults to the ocean to spawn.

In addition to the preceding scientific

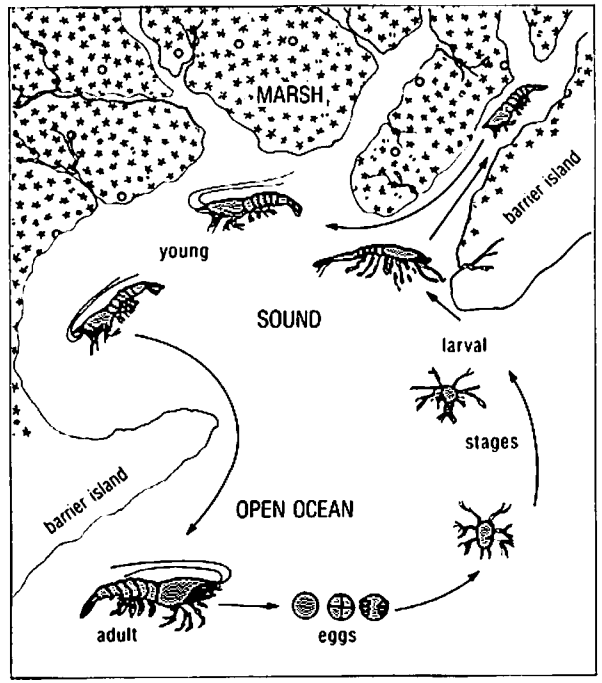
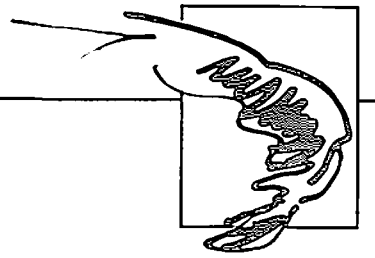


Figure 1. This diagram presents the life cycle of white shrimp.



information, experienced shrimpers offer the following information about shrimp behavior.

1. Generally, you will catch more brown shrimp if you tow early in the morning (an hour before sunrise until 9 a.m.) and in the evening (an hour before until one hour after sunset). Although different areas of the coast may vary, usually the tow made during sunrise is the best tow of day. The second best tow of the day is during sunset.
2. If it is windy and skies are cloudy, harvesting brown shrimp is productive all day.
3. Usually only large commercial vessels trawl for brown shrimp at night in deeper estuarine waters.
4. The same rules of harvest (1 and 2) apply to white shrimp, despite their later time of abundance. White shrimp are not caught successfully at night.
5. Because white shrimp can jump out of shallow water, gear modification using extra flotation provides better catches.
6. Although a few pink shrimp are netted during the day while trawling for brown shrimp late in the summer or white shrimp in the fall, most of these species are caught after dark. Thus, they are often referred to as night shrimp.

For additional biological information regarding growth, recognition and migrations of brown, white and pink penaeid shrimp, consult the additional readings section in the back of this booklet. For your purposes, the preceding information is sufficient to improve your shrimping.

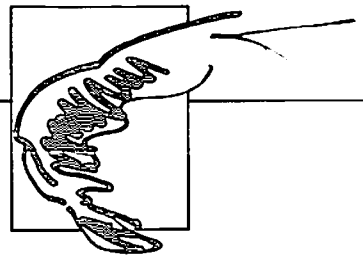
Licenses and Regulations

Compliance with the North Carolina fisheries regulations is a must. Failure to do so can result in citations; fines; confiscation of catch, gear and boat; and even imprisonment. Each state offers a free publication with detailed regulations and restrictions. Regulations may vary from state to state. It is the responsibility of each recreational shrimper to know the state regulations.

Trawling for shrimp in North Carolina requires a commercial fishing license that must be purchased annually. A boat registration certificate or proof of ownership must be presented to obtain the license. Presently the fees in North Carolina are the same for full-time and part-time fishermen. Although subject to change, as of February 1986, license charges for small pleasure craft (25 feet or less) were less than $50. This license allows you to legally harvest shrimp, hard crabs, peeler crabs, soft crabs and certain species and sizes of fish (some fish are restricted as to size, quantity, etc.) while trawling for shrimp. Trawling specifically for fish, however, is illegal in estuarine waters in North Carolina.

Before purchasing a shrimp net make sure it meets the required legal minimum mesh size of 1½ inches. Commercial net makers comply with this requirement, but nets made by individuals may not meet legal requirements. Check before you buy. There is no limit on the overall size of the net in this state, but the horsepower of small boats will determine what size net can be efficiently towed. (See "Selecting a Trawl Net").

It is also important to know when and where you can legally shrimp. Presently in estuarine waters, you may tow your net during the open season any time except one hour after sunset on Saturday until one hour before sunset on Sunday. The secretary of the N.C. Department of Natural Resources and Community Development, acting upon the advice of the director of the N.C. Division of Marine Fisheries, may open or close



the shrimp season by proclamation. In addition, all regulated primary nursery areas are closed to shrimping. These closed areas are usually marked by "No Trawling" signs.

Because the mesh size of a shrimp net is regulated, there is no size limit for the catch. Very small shrimp should pass through the webbing. Since shrimp usually do not survive the ordeal of being netted, you may keep all of the shrimp you capture. If you are netting mostly small shrimp, either move to a different location or wait a week to improve the quality and size of your catch.

The preceding information only provides some of the regulatory requirements for shrimping in North Carolina. Carefully read the sections on "Trawl Nets" and "Shrimp and Shrimping" in the current *North Carolina Fisheries Regulations for Coastal Waters*. For a copy of the regulations, write the N.C. Division of Marine Fisheries, P.O. Box 769, Morehead City, NC 28557. If you intend to shrimp in another state, become familiar with that state's regulations.

Types of Shrimp Trawls

Several different types of trawl nets are used to harvest shrimp. Select the net that will work best in the area where you will shrimp. The type of shrimp targeted—white, brown or pink—can also influence your net selection. Commercial shrimpers tend to use the same net configuration for brown and pink shrimp but modify their nets (use more flotation on the top line) to harvest white shrimp. Recreational shrimpers should probably select only one type of net because of the cost. Besides, the gear modifications needed to tow for all three species of shrimp are simple to make. These changes will be explained later.

Figure 2 illustrates the components of a typical shrimp net. Many commercial nets also have a line, called a lazyline, attached to the back of the net. This line allows the shrimper to lift the catch aboard by hand or by electrical, mechanical or hydraulic winch without bringing the doors or body of the net into the boat. Although the lazyline is shown in figure 2, most recreational shrimp nets do not have one. The safety line and float are also optional.

Every shrimp net has three main parts—the body, the wings and the tailbag. The body of the net makes up the bulk of the webbing. It swallows the catch as the net is towed along the bottom. The wings, or side panels, (also called jibs or corners) herd the shrimp into the body. The tailbag, or cod, accumulates the catch. Although the tailbag is open in figure 2, it is tied shut when towing. The tailbag is made of thicker and stronger webbing to support the weight of the catch.

Along the upper mouth of the net is the headrope. It has flotation devices to open the net vertically in the water. Across the lower mouth is a weighted footrope that holds the net on the bottom. The body and wings are sewn to the headrope and footrope. Extensions of the headrope and footrope, which are attached to the doors, or otter boards, are called the leglines. The headrope leglines are tied to the top of the doors; the footrope leglines, to the bottom of the doors. The doors and net are attached to the boat by trawl bridles, or towlines, that pull the net assembly through the water.

As the boat moves forward, water pressure spreads the doors and net. A tickler chain, attached to the bottom of each door, stretches across the mouth of the net ahead of the footrope but behind the headrope. The tickler chain sweeps shrimp off the bottom and prevents damage to the net. Shrimp captured by the net wings and body are forced into the tailbag by pressure. Regardless of which type of trawl is selected, all of the

preceding component parts, except the lazyline and safety line, are required for successful shrimping.

According to the National Marine Fisheries Service, the most popular trawls in the Southeast have been the flat trawl, the balloon (two-seamed trawl), and the semiballoon (four-seamed) trawl. Recently the jib and super X-3 trawl were introduced. Comparisons of the different trawls indicate that when optimum speed is needed, the super X-3, jib and balloon trawls perform best. When vertical height is required, the flat trawl is better than the semiballoon, balloon, jib and super X-3 (in that order). By adding more webbing and a third towline to some nets, the cobra and mongoose trawls were designed. Additional webbing and a center towline improved the spreading characteristics of all the trawl designs tested.

You don't need an extensive or technical knowledge of shrimp trawls to enjoy shrimping. Simply ask local commercial and recreational fishermen what type of net design they use. The preceding net design discussion should help you understand the shrimper's recommendation.

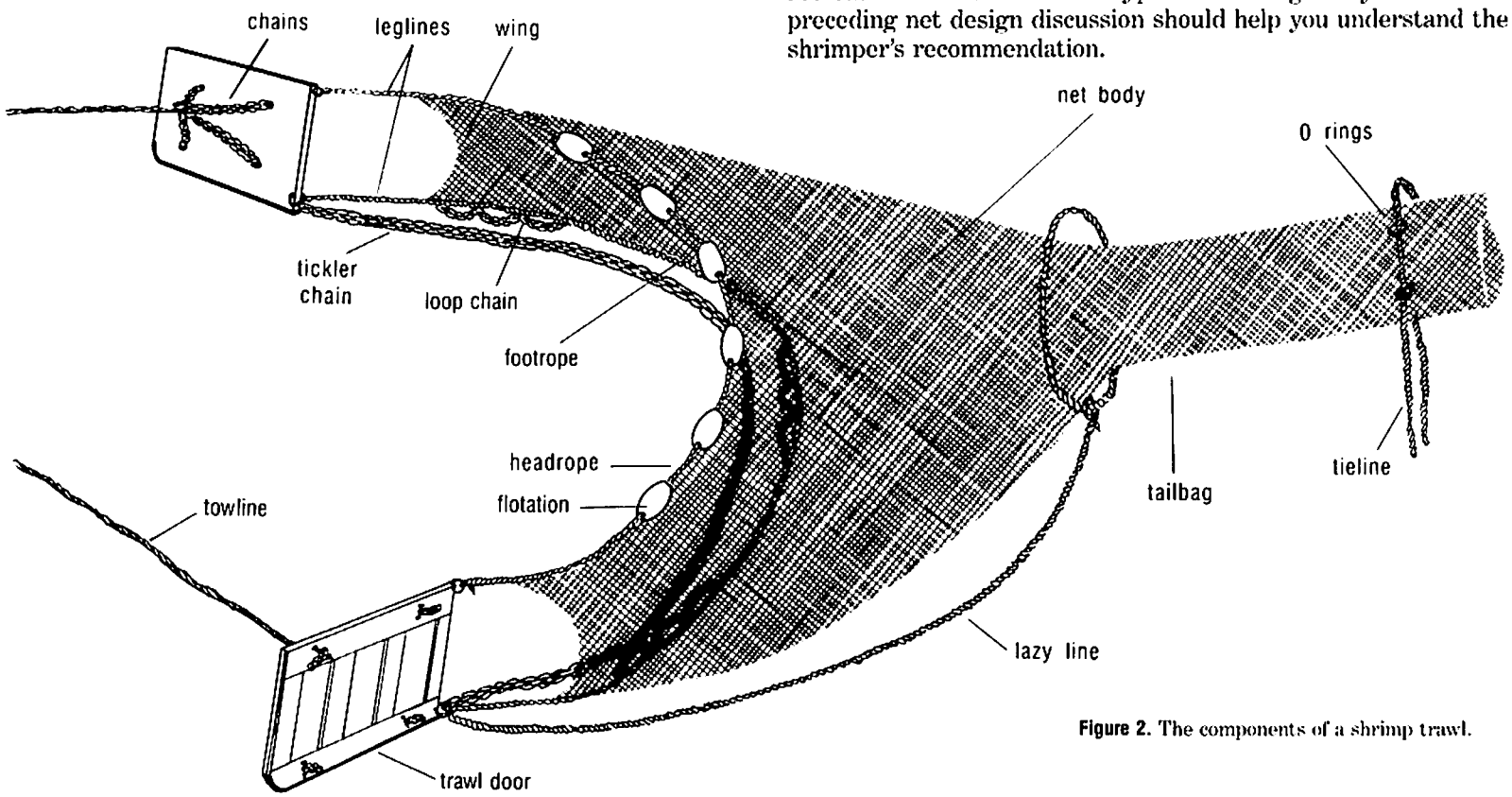
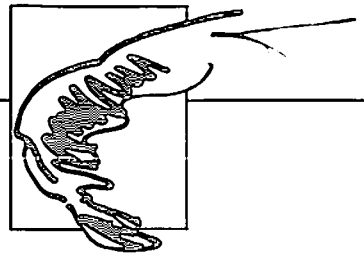


Figure 2. The components of a shrimp trawl.



Selecting a Trawl Net

Before you purchase a shrimp trawl, consider the size of your vessel, its horsepower, the net's cost, your physical strength, and your willingness to modify your boat. Also consider which type of net fishermen in your area recommend.

Shrimp trawls may range from 12 to 150 feet wide. You must determine how large a net your boat can handle. Most recreational shrimp trawls are less than 32 feet wide. But your engine's horsepower may further restrict the size net you can pull. In some instances, very small boats, if overpowered, may not have sufficient space to handle more than a small trawl.

TABLE I

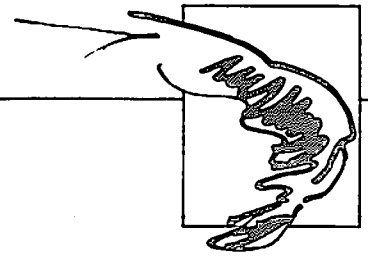
Motor Size	Recommended Net Size
25 to 50 hp	12 ft. to 16 ft.
55 to 75 hp	12 ft. to 20 ft.
85 to 125 hp	12 ft. to 25 ft.
135 to 200 hp	12 ft. to 32 ft.
205 to 275 hp	12 ft. to 40 ft.
2580 hp and up	12 ft. to 50 ft.

For the greatest catch at the lowest fuel cost, use Table I to match motor size to net size. However, small doors will allow you to tow larger nets, and larger motors may be used to tow small nets.

It should be noted that very small boats with large engines could capsize from the weight of a large net with a large catch. For safety's sake, if your boat is very small, select a trawl smaller than Table I recommends.

Physical strength must also be considered in selecting a shrimp trawl. A person can only lift a limited amount of weight aboard a boat alone. A 25-foot shrimp net catches shrimp, crabs, fish and trash on the bottom. It can quickly accumulate several hundred pounds of weight. For large nets, it may take several people to pull in the catch. To reduce accumulated weight, tow larger nets for a shorter time. If you don't mind adding gear to your pleasure craft, install a mast with a winch or a block and tackle to lift the weight of larger nets. But keep in mind that a larger net generally costs more than a smaller net ($200 or more, fully rigged) unless it is bought used. Table I only provides a guide for matching net size to horsepower. You must decide (1) if your craft is safe for a larger net, (2) if you are strong enough for a larger net, (3) if you are willing to add gear to your boat to lift the catch of a larger net, and (4) if you are willing to pay the higher price of a larger net.

In conclusion, if the answer to questions 1 through 4 above is yes, choose the maximum net size. If the answer is no, select a smaller trawl. Only the quantity of seafood harvested is affected by the trawl size; the enjoyment remains constant.



Rigging the Trawl Net

After selecting the type and size of trawl you need, purchase your selection. Next, decide what size doors are best for your net. Most new shrimp trawls do not include the doors and bridles. Often the tickler chain is not included, the footrope is not properly weighted, and other minor modifications that improve shrimping have not been done.

The doors spread the shrimp net by building water pressure as the boat moves forward. Long tows by commercial shrimpers capture more weight in the trawl, which restricts the net opening and requires larger doors. Recreational shrimpers usually tow their nets from 30 minutes to one hour. This prevents excessive weight in the net and allows the recreational shrimper to reduce the lengths and widths used for commercial doors by one-third. For example, the doors for a 20-foot commercial net should measure 4 feet by 24 inches. For recreational shrimping, 32-by-16 inch doors are sufficient.

Table II matches net size to door length and width for commercial and recreational vessels. Door sizes will vary in different areas and for extended or shortened towing times (larger doors for long tows, smaller doors for shorter tows). The door sizes in Table II work for one- or two-hour tows by commercial boats and for 30-minute to one-hour tows by recreational boats.

Because doors are not difficult to construct, many recreational shrimpers build their own. Smaller doors (up to 5 feet) are built with ¾-inch plywood and ⅛- to ¼-inch irons. Larger doors (more than 5 feet) are usually constructed with 1-by-6 inch or 1-by-8 inch salt- or pressure-treated lumber and ⅜- to ½-inch irons.

TABLE II

Net Size	Commercial Door Length	Commercial Door Width	Recreational Door Length	Recreational Door Width
20 ft.	4 ft.	24 in.	2 ft. 8 in.	16 in.
25 ft.	5 ft.	26 in.	3 ft. 4 in.	17 in.
28 ft.	5½ ft.	28 in.	3 ft. 8 in.	19 in.
30 ft.	6 ft.	30 in.	4 ft.	20 in.
36 ft.	6½ ft.	32 in.	4 ft. 4 in.	21 in.
40 ft.	7 ft.	34 in.	4 ft. 8 in.	23 in.
45 ft.	7½ ft.	36 in.	5 ft.	24 in.
50 ft.	8 ft.	40 in.	5 ft. 4 in.	27 in.

A typical shrimp door is constructed with ¾-inch plywood and reinforced with 1-by-6 inch salt-treated lumber and ¼-inch irons (see figure 3). The reinforcing lumber prevents the plywood from warping when waterlogged or when pressure is applied during towing. The iron bolted to the bottom of the door is a ¼-inch flat iron 1 to 2 inches wide. The flat iron prevents chafing of the bottom of the door and adds weight to stabilize the door when towing. (Note: Sink all nail heads attaching the braces and bolts on the side opposite the reinforcing lumber. This keeps the inside of the door smooth, preventing damage to the boat.)

Two doors will be needed. The first door will have a rounded bottom left corner and will attach to the left side of the net. The second door will have a rounded bottom right corner and will attach to the right side of the net. The front (so-called because it is the forward section during towing) of each door is curved to prevent it from digging into the sound floor.

When both doors are finished, four holes ¾ inch in diameter must be drilled in each door. Place these as shown in figure 4. Although shrimpers along the coast may vary the placement of these holes, their locations in figure 4 have proven successful for commercial and recreational shrimpers. Alternative formulas may move the front and back holes forward 1 to 2 inches.

The doors spread the net as it is towed. A chain

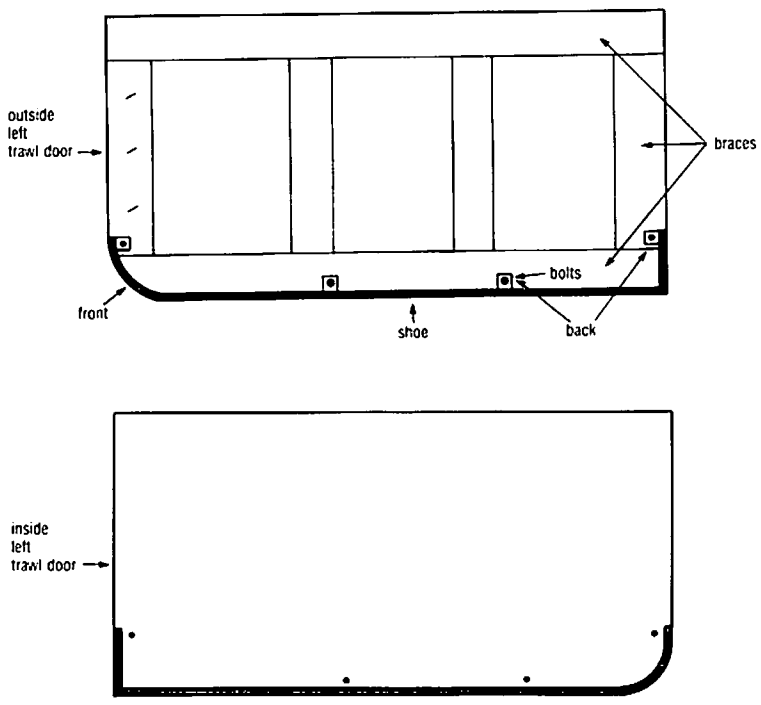


Figure 3. Lumber braces reinforce the top, bottom and length of the outside of the door. The iron or shoe is bolted to the door flush with the inside (the unbraced side) of the door.

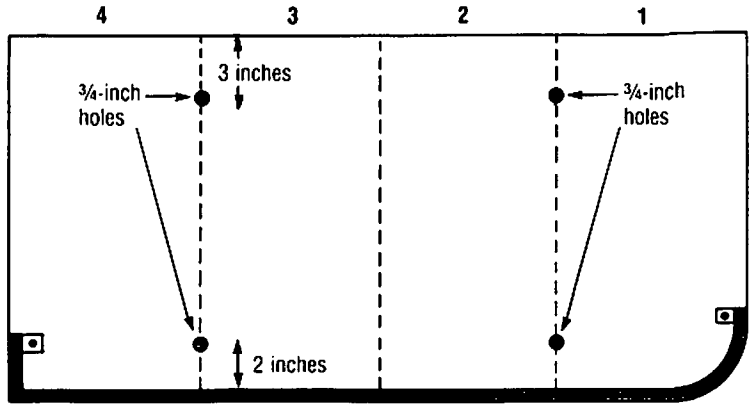


Figure 4. Draw lines that divide the inside of the door into four equal sections. Number the sections 1, 2, 3, and 4. Section 1 should always be the section that includes the front or rounded section of the door. Drill two holes 3 inches from the top of the door along the lines that divide sections 1 and 2 and sections 3 and 4. Drill two more holes 2 inches from the bottom along the same lines. This formula works for all door sizes.

(preferably ¼-inch galvanized link chain) is pulled through the drilled holes (see figure 4). The chain tilts the door just enough to hold the door's edge flush to the sound floor. The length of these chains determines the door's angle and the horizontal spread of the net. In most cases, two single lengths of chain form two V's in each door (see figure 5). Four separate lengths of chain may achieve the same configuration, but this requires the joining of the ends with galvanized shackles or U-bolts. Shrimpers in various areas may use different formulas to establish the length of these chains. But the method used in figure 5 has proven successful for all sizes of doors.

To stabilize a chain, turn the door over and place a large nail or metal rod through the link of chain that produces the desired V length on the other side. Staple the nail or rod to the door (see figure 6). Four or five extra chain links should be allowed for adjustments. Secure all of the chain ends on both doors. (Note: Because chain links vary in thickness and width, sometimes the chains do not align perfectly. If this happens, set

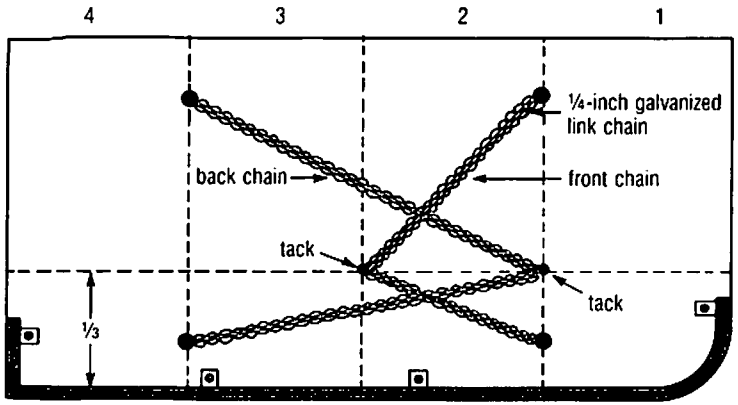


Figure 5. Measure one-third of the way up from the bottom of the inside door; draw a line the length of the door. Insert one chain through the front holes and another chain through the back holes. The front chain should "V" at the intersection of the horizontal line and the line that divides sections 2 and 3. The back chain should "V" at the intersection of the horizontal line and the line that divides sections 1 and 2. Drive a roofing tack at these two key intersection points. (Do not tack down the chains.) Later, if the chains break, rust or pull loose, remeasuring will not be required.

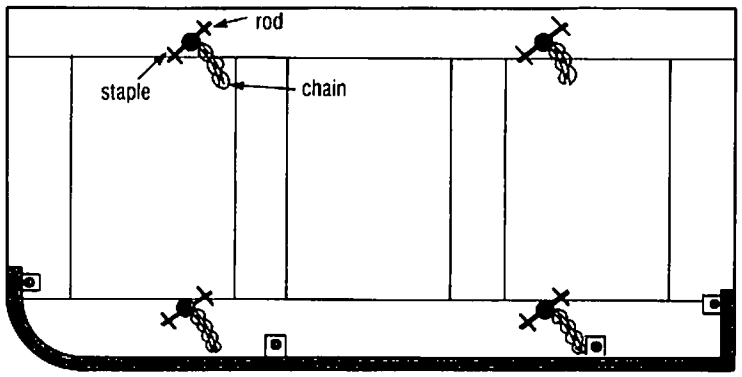


Figure 6. Set the chain lengths on the outside of the door with a large nail or metal rod. Staple the nail or rod to the door.

the chains to V as close as possible to the roofing tack).

Turn the door over and attach a shackle to the apex of the front and back chains. See figure 7. The door is now "hung," or chained, for towing. Repeat the procedure for the other door. Next drill the holes for the leglines. See figure 7 for instructions.

To attach the tickler chain, some shrimpers drill a hole in the bottom corner of the back of each door. See figure 8. Others will weld a large chain link to the iron or shoe at the same location. Either method works well. The tickler chain is then either shackled to the welded link or to itself after being placed through the hole.

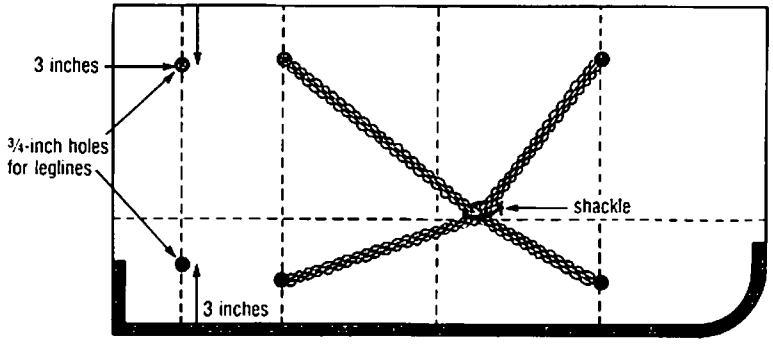
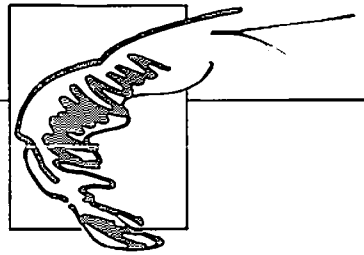


Figure 7. On the inside of the door, shackle the front and back chains at their apex. Next, measure 3 inches from the back of the door, and draw a line the height of the door. Along the line, measure 3 inches from the top and bottom of the door. At these spots, drill a ¾-inch hole for the leglines.



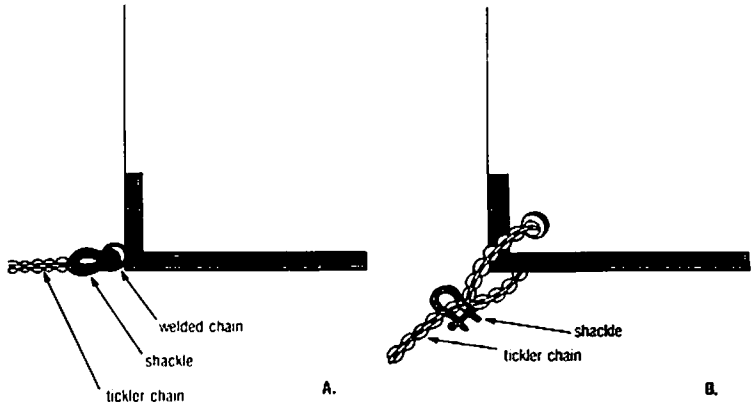


Figure 8. In view A, a chain link has been welded to the shoe of the door. The tickler chain is then shackled to the link. In view B, a hole has been drilled in the back corner of the door. The tickler chain is looped through the hole and shackled to itself.

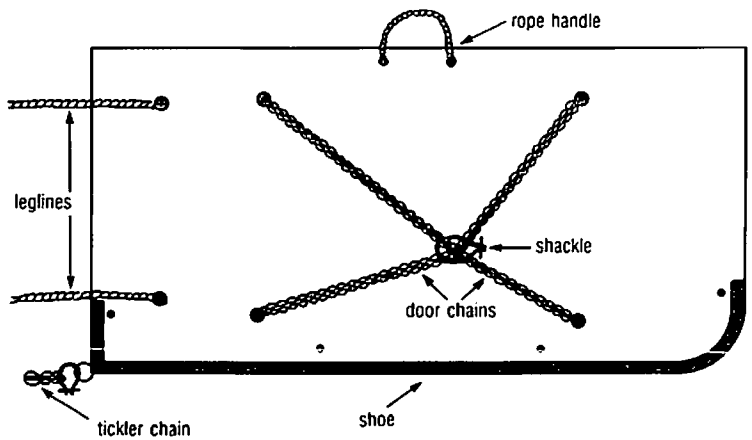


Figure 9. Attach a rope handle to the inside door at the top.

It is helpful, but not necessary, to add a rope handle to each door (see figure 9) to make managing the doors easier. The handle also can be placed over a cleat on the boat's side, making it possible to leave the doors in the water when hauling in the net.

Building and outfitting a door is not difficult. Figures 3 through 9 can be completed in two to three hours.

A few additions to your net will improve its efficiency. The footrope must be weighted correctly. Excessive weight on this line can cause the net to dig into the bottom, creating a strain on your boat motor and net. But if too little weight is applied, the net will rise off the bottom and allow shrimp to escape under it. Sew or tie galvanized chain along the footrope at the wings and in the center to weight the trawl to the bottom. In most estuarine shrimping areas, ⅛- to ¼-inch chain will do the job. Attach three lengths of chain totaling one-half the length of the headrope. For example, a 20-foot net would have three 3⅓-foot chains tied or sewn to the footrope. Space the chains as shown in figure 10.

Do not attach the chain parallel to the footrope. It will cause excessive digging by the trawl, chafing of the footrope and webbing, and more frequent snags. Sew or tie the chain to the footrope in a scallop pattern (see figure 10). Some store-bought trawls will have net leads already added to the footrope. Although leads work fine, they must be attached as the net is being made. Chains, on the other hand, can be attached any time, and adjustments or replacements are much easier. To increase your blue crab harvest, attach chain along the entire footrope. But be prepared for the extra trash your net will scoop from the bottom.

Flotation devices are needed on the headrope to lift the net while shrimping. But shrimpers do not agree on how many floats or corks are required. Some say that one large float attached to the center of the headrope is sufficient. Others use

three floats equally spaced along the headrope, and still others prefer five to seven equally spaced smaller corks. For brown and pink shrimp, all of these flotation configurations are successful, but most recreational shrimpers will use five to seven smaller corks (five corks for nets 20 feet and under and seven corks for larger nets).

To catch white shrimp, which have tremendous jumping ability, add more flotation devices to the headrope. Some shrimpers tie plastic milk jugs to their headropes for extra vertical spread. The excess flotation should be removed when towing for pink or brown shrimp.

The back portion of the shrimp trawl, which accumulates the catch, is called the bunt, cod end or tailbag. It is made of heavier webbing. The tailbag is tied shut during towing with a rope placed 8 to 10 inches from the end of the bag. This line is included on most recreational shrimp trawls, and it is tied to the webbing. To close the net, the line is wrapped around the tailbag one or more times and tied off. But almost every new shrimper will pull in his net one day to find the tailbag has pulled through the tie rope. To prevent this, sew three or four small net rings, or "0" rings, to the tailbag. Space the rings evenly around the net, 8 to 10 inches from the end. The rope is

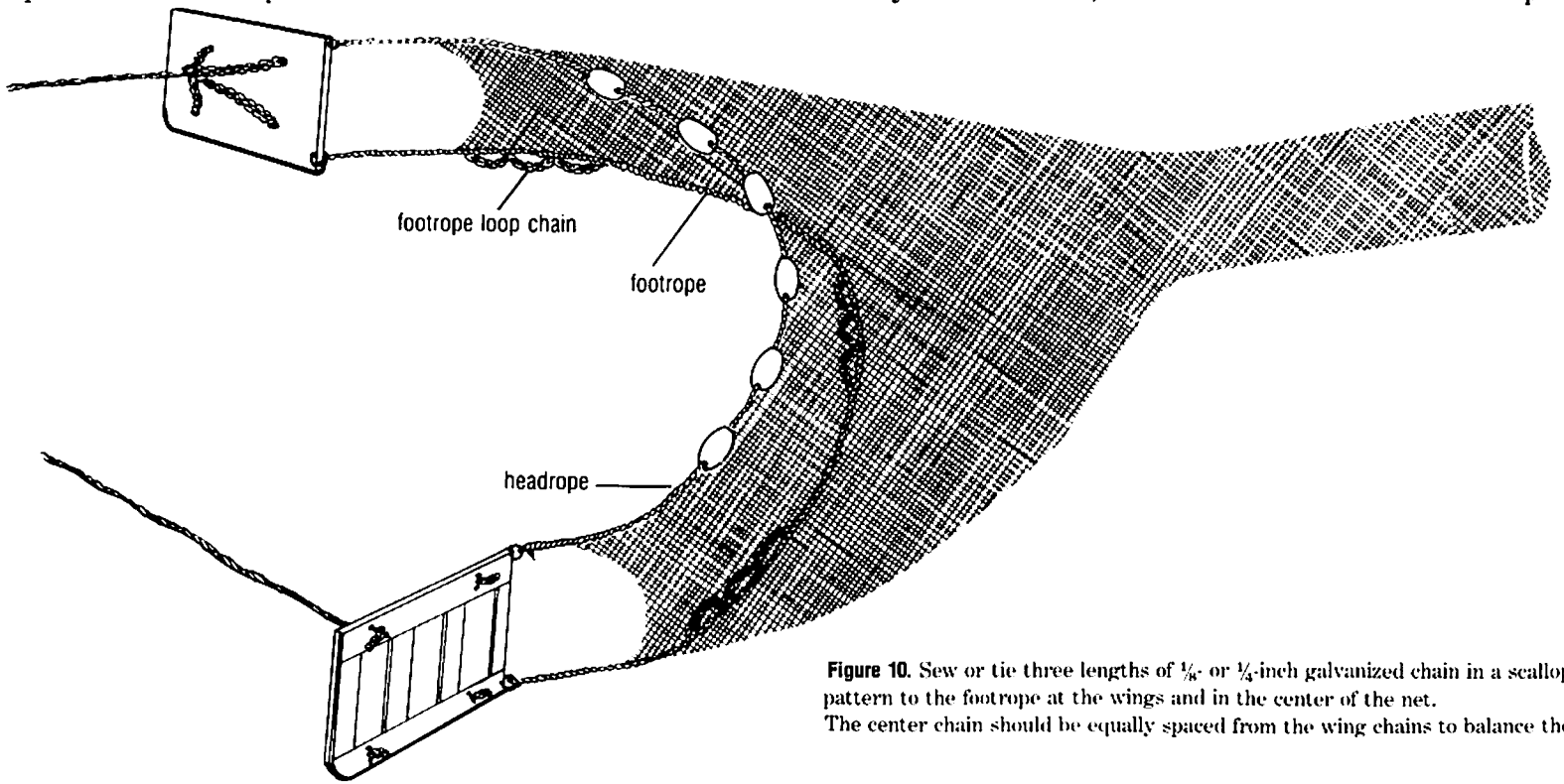


Figure 10. Sew or tie three lengths of ⅛- or ¼-inch galvanized chain in a scallop pattern to the footrope at the wings and in the center of the net. The center chain should be equally spaced from the wing chains to balance the net.

then inserted through the net rings and tied, making it impossible for the net to slip out. See figure 11.

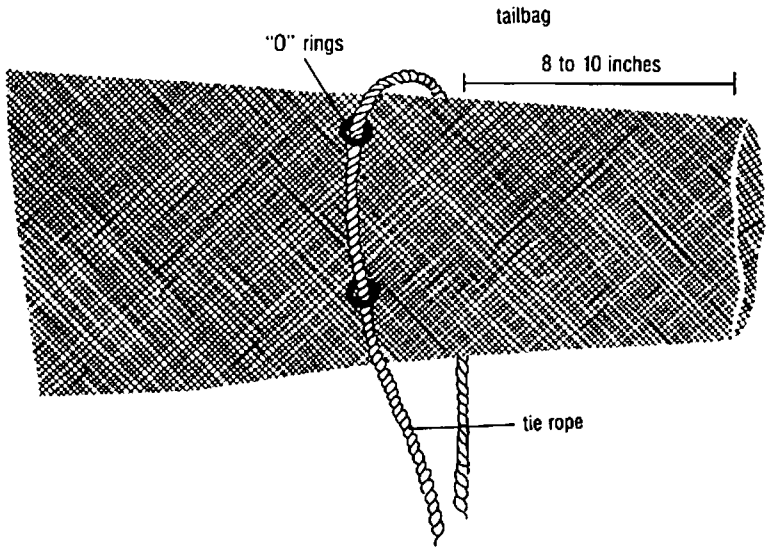


Figure 11. Sew or tie three or four net rings, or "O" rings, 10 inches from the end of the tailbag. These rings should be equally spaced around the net. Insert the tie line through the rings.

As a precautionary measure, attach a 20- to 30-foot line, (length will depend on the water depth where you shrimp) to the end of the tailbag. At the rope's other end, attach a float, cork or plastic milk jug. See figure 12. This flotation device helps other shrimpers see the end of your net and prevents them from overrunning your gear. In addition, if your net snags on the bottom, this line can be helpful. By retrieving the float, line, and tailbag and pulling the net backwards, you usually can free your net. Spending a few dollars on this optional safety line and float may save your entire trawl.

Now it's time to put your net and doors together. Tie the top and bottom leglines through the holes drilled for them in the doors. Make sure the distance from the door to the beginning of the net webbing is the same for each legline. Failure to do so will result in unequal pressure on the doors during towing, adversely affecting your catch.

Next, stretch ⅛- to ¼-inch galvanized chain (the tickler chain) across the mouth of the trawl. Attach it through the holes drilled in the doors or to the welded chain links. See figure 8.

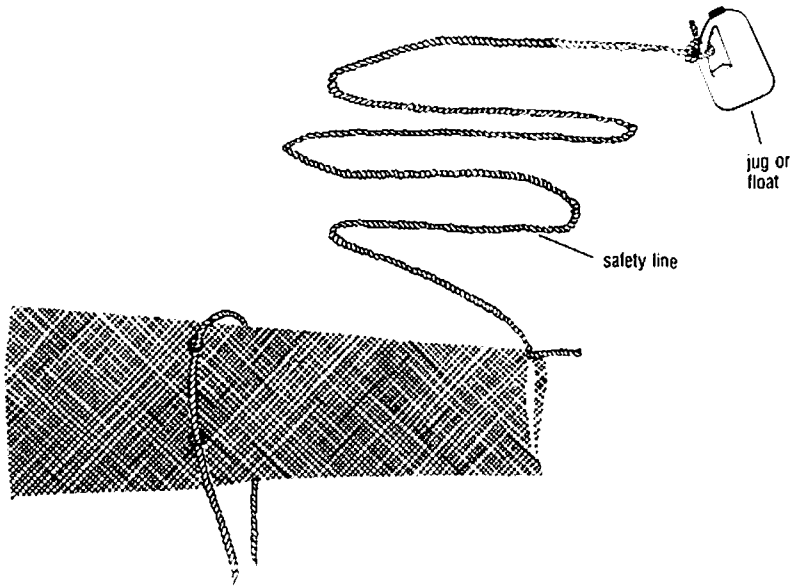


Figure 12. Attach a 20- to 30-foot safety line and flotation device to the end of the tailbag.

The length of this chain is important. If it is too long, it will tow behind the footrope and not "jump" the shrimp off the bottom. A long chain also can cause damage to the footrope and net webbing because they will have no protection from bottom obstructions. If the tickler chain is too short, the horizontal spread of the trawl is restricted and less shrimp will be caught.

For successful shrimping, the tickler chain must tow ahead of the footrope. To achieve this with 30-foot and smaller trawls, spread the doors and mouth of the net on the ground until the headrope and footrope are taut. Attach the tickler chain to one door, and stretch the free end of the chain across the front of the net parallel to the footrope. Now pull the chain until it is about 15 inches in front of the footrope in the center of the net. See figure 13. Cut the chain to the proper length and attach it to the other door. Allow four or five extra chain lengths at each end of the tickler chain for adjustment.

Some shrimpers in northeastern North Carolina determine the length of the tickler chain another way. They measure the headrope, footrope and leglines from door to door. From the length of the footrope, they subtract 1 inch for each foot of

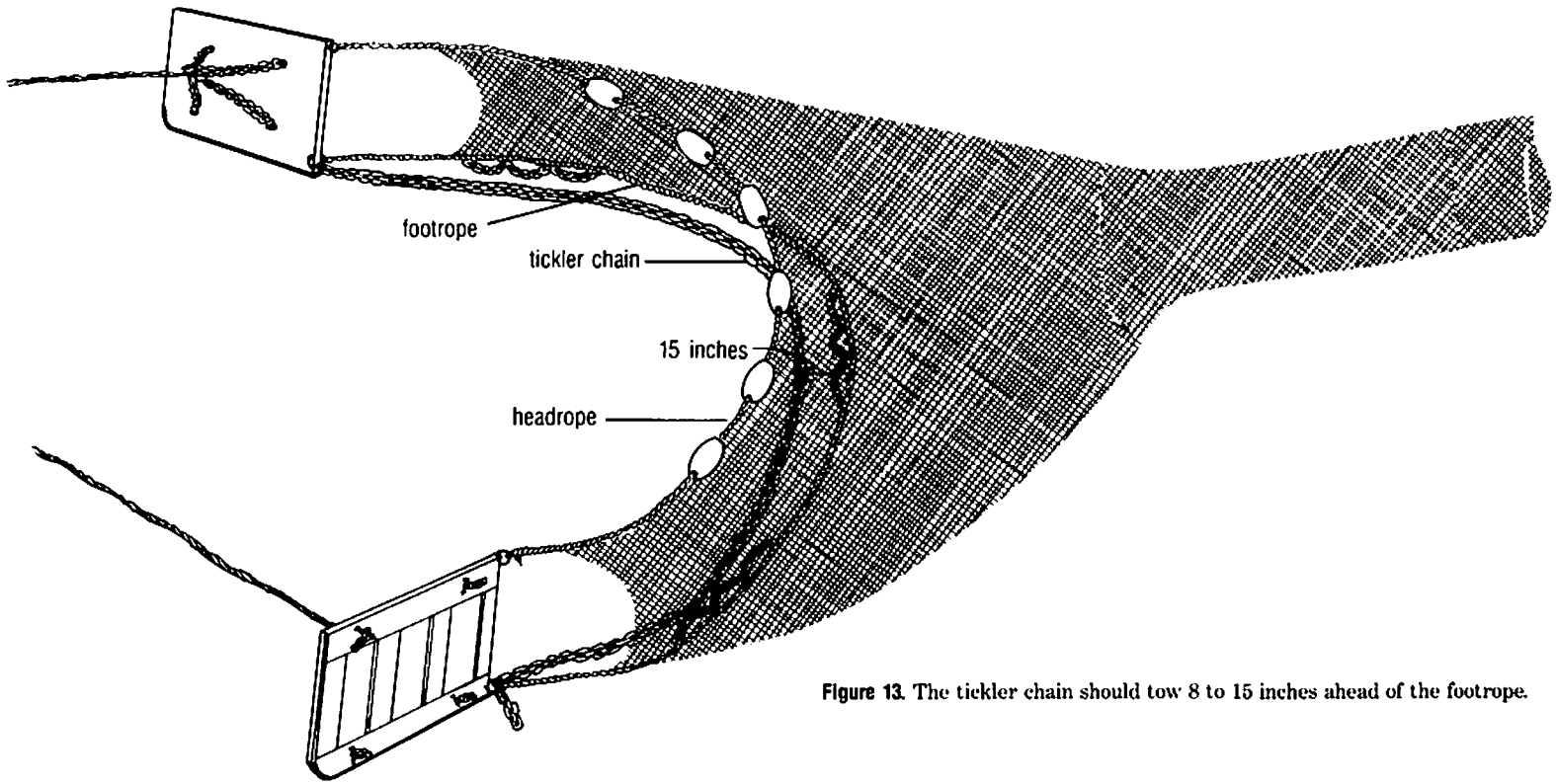


Figure 13. The tickler chain should tow 8 to 15 inches ahead of the footrope.

headrope. The difference is the length of the tickler chain. Example: A trawl with a 30-foot footrope and a 24-foot headrope would have a 28-foot tickler chain. (One inch for each of the 24 feet equals 24 inches. Thirty feet minus 24 inches (2 feet) equals 28 feet). Other shrimpers subtract 18 to 24 inches from the length of the footrope (including leglines) to determine the tickler chain's length. I recommend spreading smaller nets out to make sure the tickler chain is 15 inches ahead of the footrope in the center.

Once the net and doors are assembled, attach a trawl bridle to the chains of each door. This bridle attaches the net assembly to the boat and tows your trawl. Most recreational trawls will use ½- to ⅝-inch rope bridles. Although ¼- and ⅜-inch lines have sufficient strength, these smaller sizes are hard on the hands when retrieving the trawl.

The length of the trawl bridle is important. The net size and the average water depth where you will tow dictate the bridle lengths. For waters deeper than 25 feet, cut the trawl bridles at least five times longer than your deepest towing depth. Charts are available to provide water depth information. In waters less than 25 feet deep, individual trawl bridles should measure at least 100 feet. Remember towlines should be the same length to ensure equal pressure on each door.

Use a shackle or snap swivel to attach the towlines to the doors. The shackle can be attached to the shackle that holds the door chains together. Thread the bridle through the shackle and knot it. If the trawl becomes snarled, untangling is easier if the bridles can be unshackled from the doors. Tie the bridles' other ends together with a single slip knot. Another shackle is placed in the loop of the knot to attach the lines to the boat. This shackle allows you to easily attach the trawl configuration to or remove it from your boat.

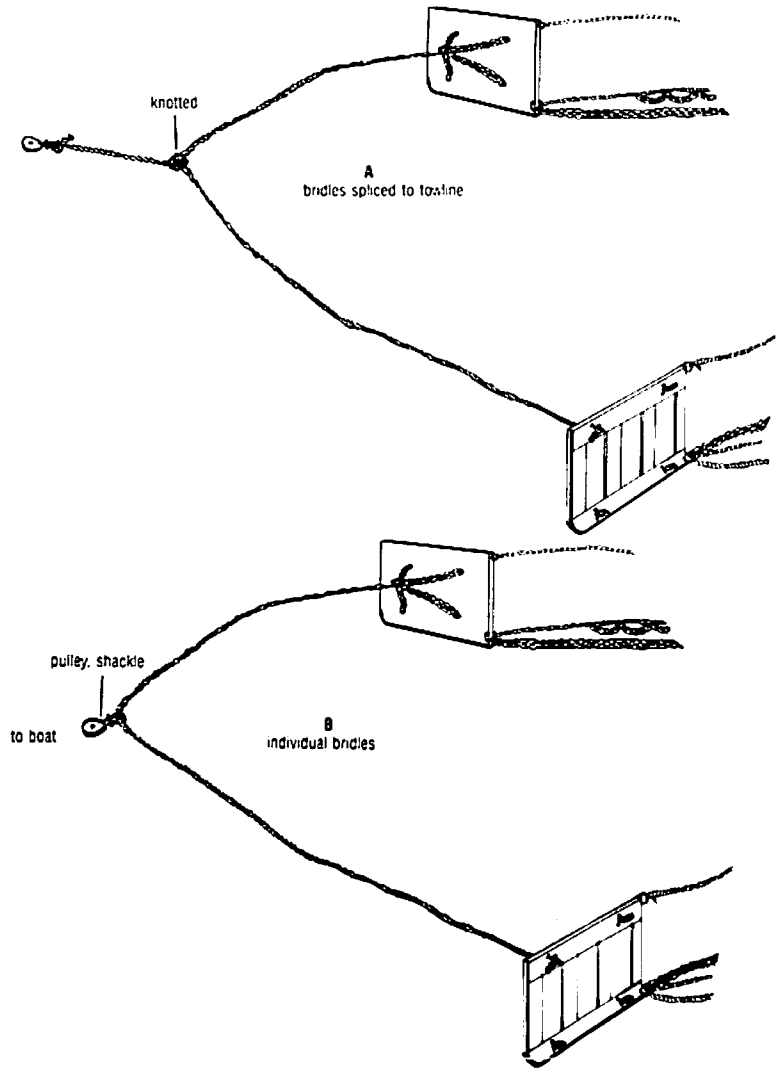


Figure 14. Two types of bridles are used to tow nets. In figure 14-A two tow lines are tied to a single line that is attached to the stern of the boat. In figure 14-B, each tow line is brought to the stern of the boat.

Preparing the Boat for Trawling

After rigging the trawl, many recreational shrimpers think they can shackle the net to the boat, throw it overboard and start catching shrimp. This is not the case. There are other considerations to keep in mind: the attachment of bridle lines to the boat, the need for mechanical lifting devices, provisions for releasing and culling the catch, and more.

Be careful if you attach the bridle lines forward of the stern. Unless the bridles are secured at the stern, you or a passenger may be hurt or swept overboard by swinging lines during turns. Although tying the bridle down at the stern protects you, it hampers the steering of your boat. If you have a mast on your boat, secure the bridles above your head to eliminate safety hazards and maintain maneuverability.

Many recreational shrimpers avoid the danger of swinging bridles by attaching their trawl to ski rings at the stern of their boat. Some will also tie the bridles to cleats on the washboards near the stern. Although both methods provide safety, steering is hampered.

The following alternative provides safety and maneuverability without using a mast. Attach a piece of rope to a cleat or ski ring along the left stern. This rope should reach around the outboard motor to the cleat or ski ring on the other side without touching the motor. In the case of an inboard or inboard-outboard engine, this rope should be long enough to form a "U" around the stern but short enough to keep from dropping into your wheel or prop. Attach a metal pulley with an eye to this rope before it is tied to the cleat. Insert the bridle shackle in the eye of the pulley. See figure 15. This method keeps your bridles and net outside of the boat, and the pulley provides maneuverability as it moves along the rope.

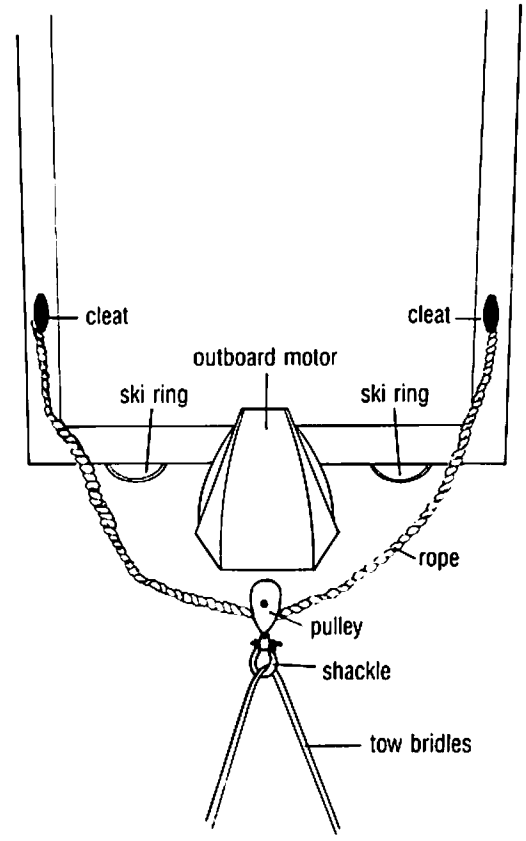
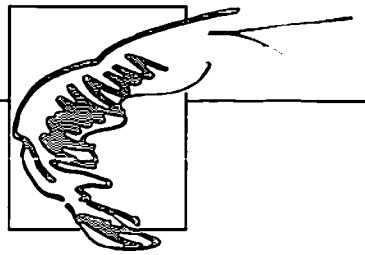


Figure 15. The bridles are attached with a shackle to a pulley. The pulley slides along a rope that encircles the stern beyond the outboard motor. This rope can be attached to the boat at the ski rings or side cleats.



To keep fish, crabs, shrimp, jellyfish, mud and trash off the bottom of your boat, build a cull box in which to release your catch. Separate the seafood you want to keep from the incidental catches you want to discard. Your boat design, tow times and net size will determine the box's size and design. For boats with sufficient stern space, the cull box can sit on the stern with no leg supports. Or the cull box may extend the width of the boat and rest on the washboard. Some cull boxes are supported on one side by the washboard and on the other by two legs. Still others are free standing. See figure 16. The longer you tow and the larger your net, the larger the cull box should be.

Whichever box design you choose, the following suggestions should be incorporated:

1. Use strong, lightweight materials (plywood) to build the box.
2. Reinforce the corners to prevent separation when full.
3. Make the sides at least 8 to 10 inches high to keep blue crabs from crawling out.
4. At least one end should be a sliding, hinged or removable door that will enable you to push unwanted catches overboard.
5. Drill small holes or cut small notches in the bottom of the door to allow water to run out.
6. Look at the cull boxes of shrimpers with comparable nets for an estimation of the box size you will need.

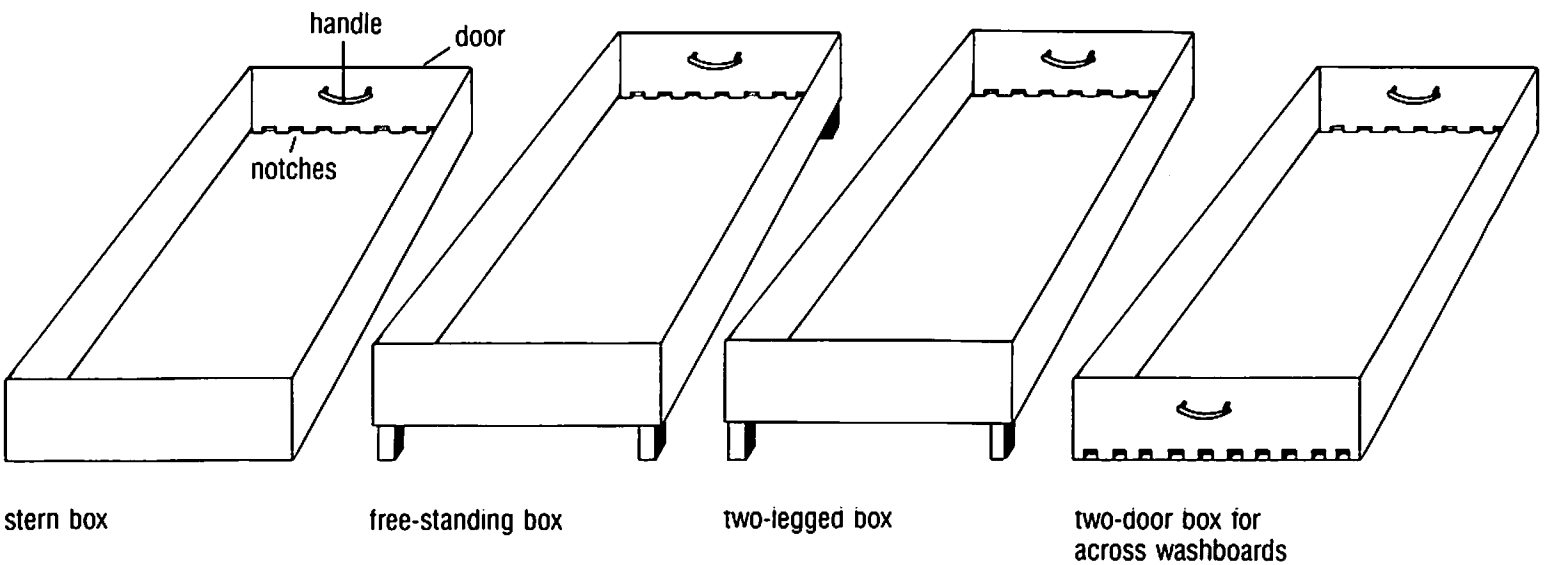


Figure 16. Choose the type of cull box that best fits your boat.

The size of your catches will vary. Sometimes they may be minimal; other times the net may brim with fish, crabs and shrimp. It's these large catches that cause shrimpers to add a mechanical lifting device—a block and tackle, a boom or a mast—to even small pleasure boats. Frequently they install a mast of 1½- to 2-inch galvanized pipe with a trailer winch. The mast is optional, but its addition can save aching muscles and extend towing times.

Figure 17 shows a typical mast used by recreational shrimpers. Although welding may be used in construction, the mast can be constructed using only pipe, fittings and bolts.

The parts needed to build the mast—threaded pipe, two "Y" fittings, a 90-degree elbow, two nuts and bolts, an eye bolt and a trailer winch—can be purchased at a hardware store. The rope or cable and a hook are also readily available. The mast can be built using only a drill and two pipe wrenches and should be bolted to the boat in a location near the cull box. The mast described here is one of many designs, but it is easy to construct and works satisfactorily.

Many pleasure boats 16 or more feet long have a portable platform, or fantail, attached to the stern. Although optional, the fantail is very functional. The net and doors can be stored on the platform, leaving more room inside the boat. Also additional working room is provided for you by the platform when setting or pulling in the net. The fantail will reduce net entanglement in the prop and will lessen cleanup of the boat. But fantails are not recommended for boats less than 16 feet long because the weight of the platform, gear and a person in the stern may result in the boat taking on water.

If building a fantail, consider the following:

1. Build the platform of light materials (plywood) strong enough to support you and the gear.
2. Make the platform portable rather than permanent.

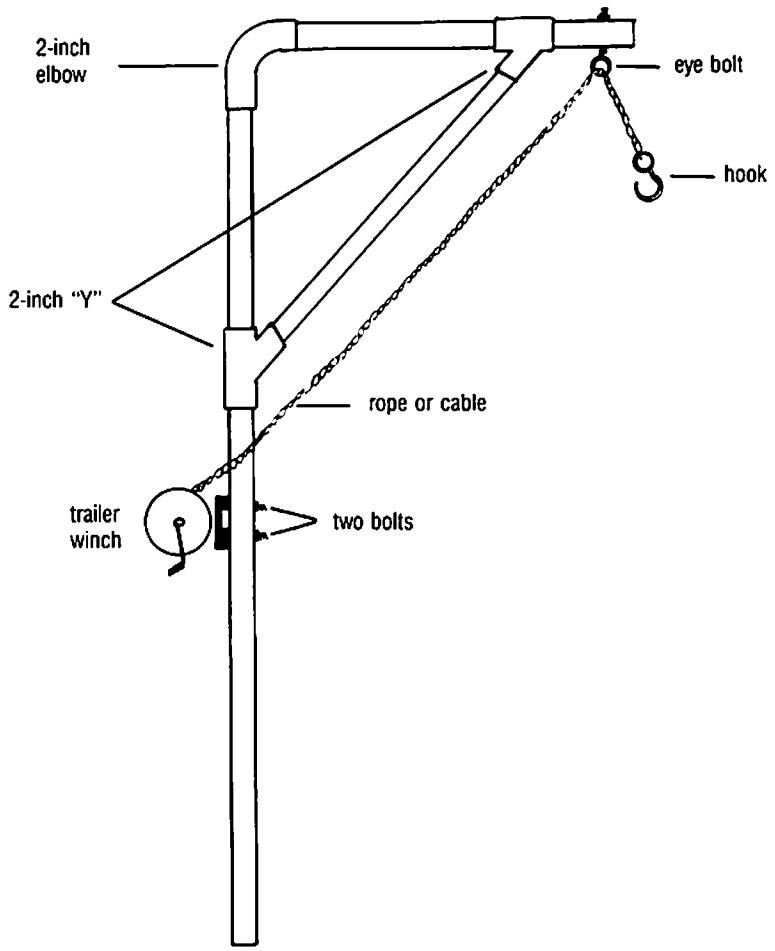


Figure 17. A simple, functional mast can be constructed with parts pictured above.

3. Extend the platform 2 to 3 feet beyond your prop.
4. Provide a cut-out around the outboard motor to permit the engine to move when turning.

Most fantails extend across the stern. Some are bolted with support braces; others, only bolted. Round the outside corners of the fantail to prevent the net from snagging. Figure 18 illustrates one fantail design for an outboard engine and one for an inboard or inboard-outboard motor. The fantail must be designed to fit your boat.

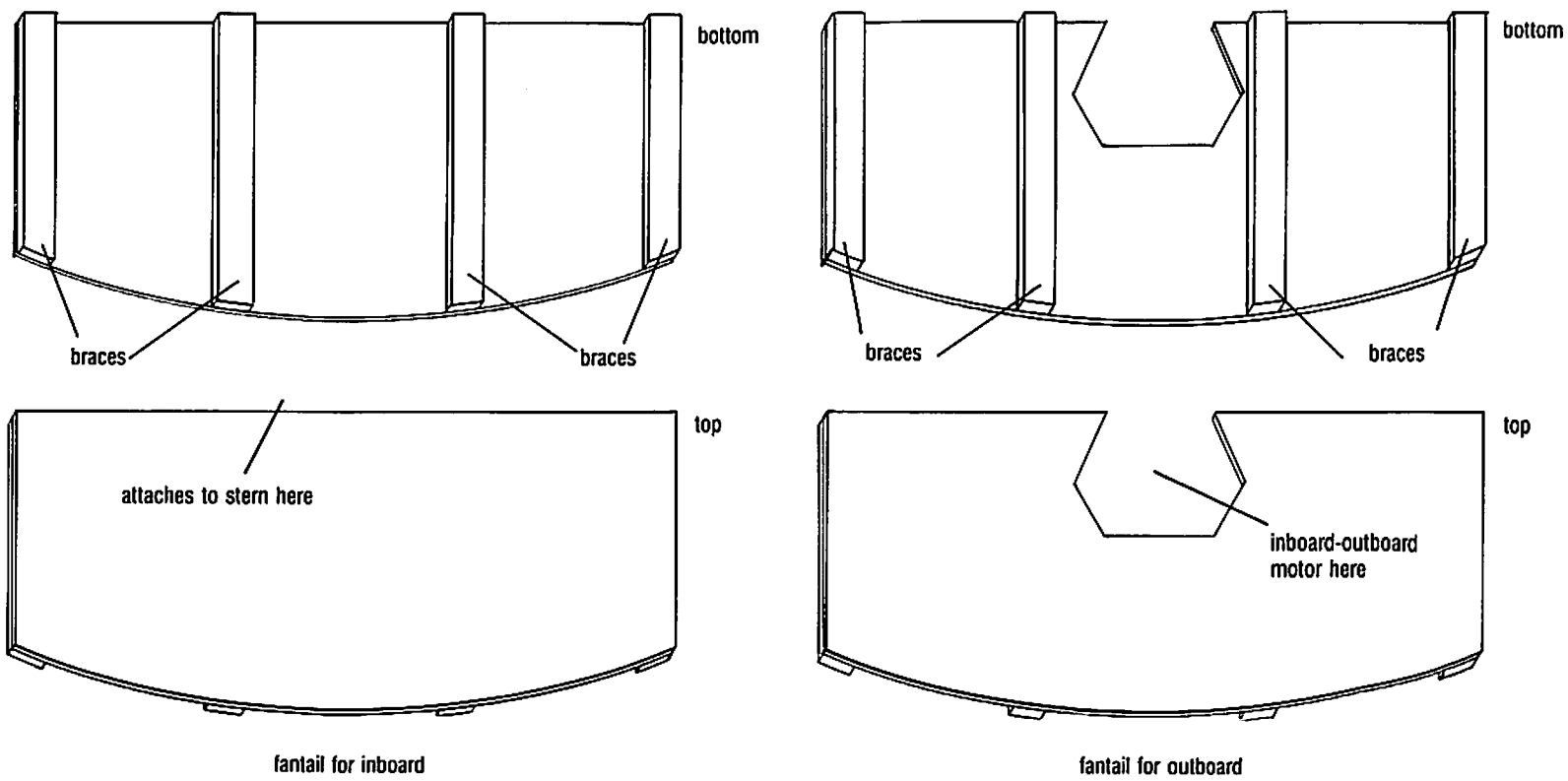
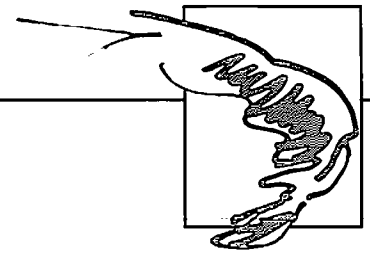


Figure 18. The design at left can be used for boats with an inboard motor; the design at right, for boats with outboard motors.



Setting and Towing The Shrimp Trawl

Acquiring your license, rigging your net, building a fantail and installing a mast can be done in one day. Now you're ready for the water. The following steps can make your first trip more enjoyable.

1. Learn from other shrimpers which areas are legal and most productive.
2. Place the trawl configuration neatly within your boat or on top of the fantail. If the gear is stored neatly, setting the gear will be easier. Coil the bridles and cover them with one of the doors. Then coil the net and tickler chain, and cover with the other door.
3. If you plan to shrimp near your docking location, hang the doors on cleats on the sides of the boat. The leglines will permit the bridles, net and tickler chain (in that order) to be stored inside the boat or on the fantail. Reduce your speed to prevent damage to your boat from the doors.
4. If you plan to shrimp some distance from your docking location, place the doors within your boat or on top of the fantail. You can now run your boat at higher speeds.
5. Use common sense regarding wind and sea conditions.
6. Although the sunrise tow is usually the best, I recommend that your first tow be made in daylight. Any problems that may occur with the trawl might be magnified in the dark.

Upon reaching the shrimping grounds, observe the paths of other shrimpers. Select a path out of the way, and turn your boat with the wind. The wind will help to push the boat and prop away from the net as it is being set. Put your engine in neutral, and tie the tailbag. Although many types of knots may be used, two- or three-looped slip knots work best. The weight of a full tailbag will tighten other knots. With a looped slip knot, you can easily untie the bag by pulling the extended ends of the knot. Be sure the tailbag is tightly closed to prevent loss of shrimp. See figure 19.

Working at the stern, drop the tickler chain into the water. It will sink out of the way. Make sure the tickler chain is free of tangles that could restrict the spreading of the doors and net. Throw over the safety line and its flotation. Next, drop in the tailbag and slowly feed the rest of the net overboard as the wind and waves push the boat away from the trawl.

If there is no wind or wave action, slowly propel the boat forward to let out the net. Make sure the net is kept away from the prop once the engine is started. The water pressure will quickly pull the net out of the boat. As the leglines tighten on the doors, place the engine in neutral and drop the doors overboard. Failure to use neutral will make it harder to lift each door from the cleat. If the doors are in your boat, failure to use neutral may jam the doors in the stern or flip them. After the

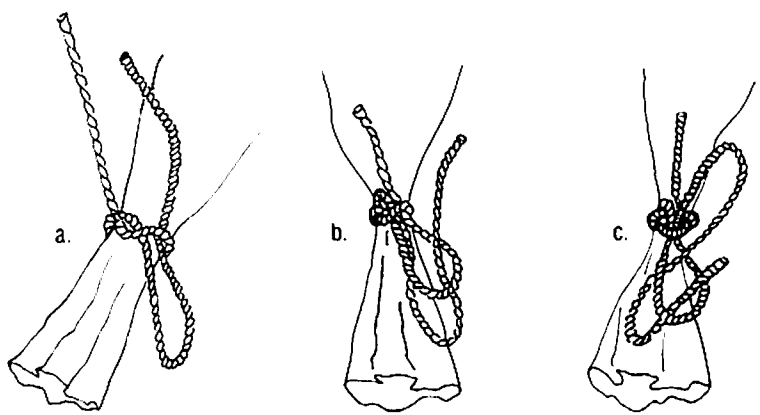
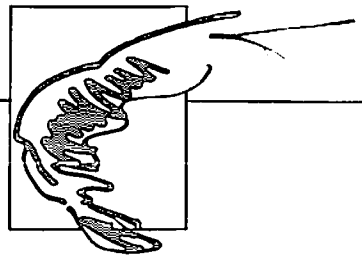


Figure 19. The method used for tying a three-loop slip knot.



doors are in the water, slowly propel the boat forward until the bridles become taut.

Advance the throttle until the trawl is moving along the bottom at a rate of 2½ to 3 knots or at the rate of other boats trawling in the area. If the bridles spread apart as you reach trawling speed, you are shrimping. If the bridles fail to spread, the trawl is fouled. It should be retrieved and corrected. Don't tow too fast. The net will lift off the bottom, reducing your catch. Towing too slowly may result in insufficient horizontal spread of the trawl and less shrimp.

Because shrimp trawls are towed behind the boat, it is more practical to set the net from the stern. However, some shrimpers, who have small boats, nets and doors, set the trawl from the side or bow. If you choose to work from the side, wind action is needed to set the net and doors. Place the gear in the water in the same order. Bow sets require wind action or reverse throttle, and the order of gear entry into the water is the same except for the bridles. After the safety line, net, doors and 20 to 30 feet of the bridles are in the water, the boat must be turned 180 degrees before releasing the remaining line. I recommend setting the trawl from the stern.

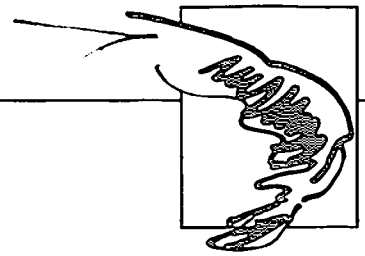
Most recreational shrimpers tow their trawl 30 to 45 minutes. Because the doors spread the net to a width greater than that of the boat, allow extra clearance for stakes, channel markers, obstructions, other boats and the shore. Otherwise, a door may snag and abort the tow. When towing near other shrimpers, be conscious of their trawls, which may trail several hundred feet behind their boats. Courtesy is a must. Failure to be courteous and careful can result in damage to someone's net, damage or entanglement of your prop, and loss of shrimping time for two boats. The safety line makes the end of a shrimp trawl clearly visible. But not all shrimpers mark the end of their trawl. Exercise prudent judgement. When approaching another shrimper, slow down until clearance is assured; then resume towing speed.

Numerous problems may occur during towing. Some require immediate attention; others require no action at all. Normally during towing, the net and doors are out of sight under the water. The float on the safety line is visible, and the bridles form an ever-widening "V" as they extend from the boat to the doors. Watching these towlines will provide insight into problems that can occur as you shrimp.

Should the towlines converge, three possible problems exist. As long as the boat is moving forward, the net probably has caught more weight than the doors can handle. It could be a large quantity of shrimp, but most likely it will be crab pots, logs, rocks, mud, grass, fish, crabs or a combination of these. The net must be pulled into the boat and the catch released. See "Hauling Back."

If the boat stops when the towlines converge, your net is caught, or hung, on a bottom obstruction. Continuing to tow may free the trawl, or increasing your throttle may pull the net through the obstruction. But these actions may damage your gear. Instead, retrieve the trawl. Normally, the tickler chain will hang first and prevent net damage. Disengage the motor and pull the bridles until you reach the doors and mouth of the net. Retrieve the tickler chain, and free your gear. Or, put the boat in reverse, and pull up the slack in the towlines. Switch the boat to forward about 20 feet in front of the doors to prevent overrunning the net. When backward momentum ceases, place your motor in neutral. With extreme hangs, go to the float on the safety line, retrieve the tailbag and pull the gear backwards. (Every trawl gets hung. Just one stubborn hang makes the safety line and float worth the investment.) After freeing your net, haul it in, release the catch, check for damage and make repairs if necessary. Avoid the obstruction when you place the net back in the water.

Finally, making very sharp turns while towing can cause the towlines to come together. When this happens, widen your turn. If you act in time, the bridles will separate. If not, the doors



will cross and the trawl will foul. Untangle the trawl before continuing.

If the trawl doors surface, except in very shallow water, one or more of the bottom chains has pulled free or broken. If you are near the end of the tow, bring the trawl aboard, release the catch and make the repairs. But early in the tow, the net may be left in the water while you bring in and repair the faulty door. Make sure the wind action or your engine keeps the boat away from the net during repairs.

Should the tension from either towline relax, then one of the bridles has broken or pulled loose from the door. Retrieve the trawl immediately, using the remaining bridle, to make repairs.

On rare occasions, the trawl and bridles will break from your boat. If the lines float or a safety flotation device is attached to the front of the bridles (optional), swing the boat around, pick up the lines, reattach them to your boat, and continue shrimping. If not, pull up the safety line attached to the tailbag, retrieve the net, reattach the bridles and reset the net. If the lines sink and no safety lines exist, you must snag the bridles or net. A grappling hook on a line or an anchor can be dragged across your towing path to snag the net. Once you find the net, retrieve it, make sure it is not tangled, reattach the bridles, reset the trawl and continue shrimping. If you cannot find or snag the trawl, mark the area with a weight tied to a line with a float. Then have another shrimper trawl in your area for your lost net. The loss of an entire trawl is rare.

A few other hints may help the first-time recreational shrimper. You may glance back at your bridles to find that they are being pulled straight down. This occurs when your trawl is towed in deep water. Don't be alarmed. In fact, observing the angle of the towlines can help you find the deeper channels where shrimp are more abundant. If the bridles are high in the water and visible for some distance, you are towing in shallow water. Without a depth finder, watching the bridles can help you gauge water depth.

Occasionally, nets that have a vertical opening greater than the height of the doors will become visible when towing. This usually means that you are towing in shallow water. Nothing is wrong. In extremely shallow water, the net and doors may become visible.

The estuarine bottom is littered with obstructions of all shapes and sizes. Because of this, you may feel your net and boat jerk occasionally during towing. If the bridles do not converge and the boat continues to move forward, chances are your net has bumped something on the bottom. You may have even made a large catch—a log or rock. Just continue shrimping. If you know your catch is a crab pot (a pot will not usually cause the bridles to come together), stop towing, haul in the net and remove the pot.

Hauling Back

Now comes the moment for which you have waited—bringing in the catch. Use the following procedures until you become familiar with the action of your trawl in the water. Turn your boat until you have the wind at your back. Make sure that your course is unobstructed for a few hundred yards ahead and that you are not in the path of other shrimpers. Put your engine in neutral. Many shrimpers in small boats will pull the bridles until they reach the doors. When there is little wind and wave action, this works fine. But using the boat's reverse gear makes the process easier. If you have a large boat or it is windy, the strain on the bridles is increased and reverse must be used. By using reverse, you push the boat to the net. Consequently, be careful not to overrun the net. By keeping the wind at your back, the wave action helps prevent this. If the boat's momentum is not stopped by the waves, shift into forward about 20 feet from the doors to stop it. Then shift to neutral.

Retrieving the doors is easier if two people help. Each person lifts one door and places the loop over a cleat on the boat's side

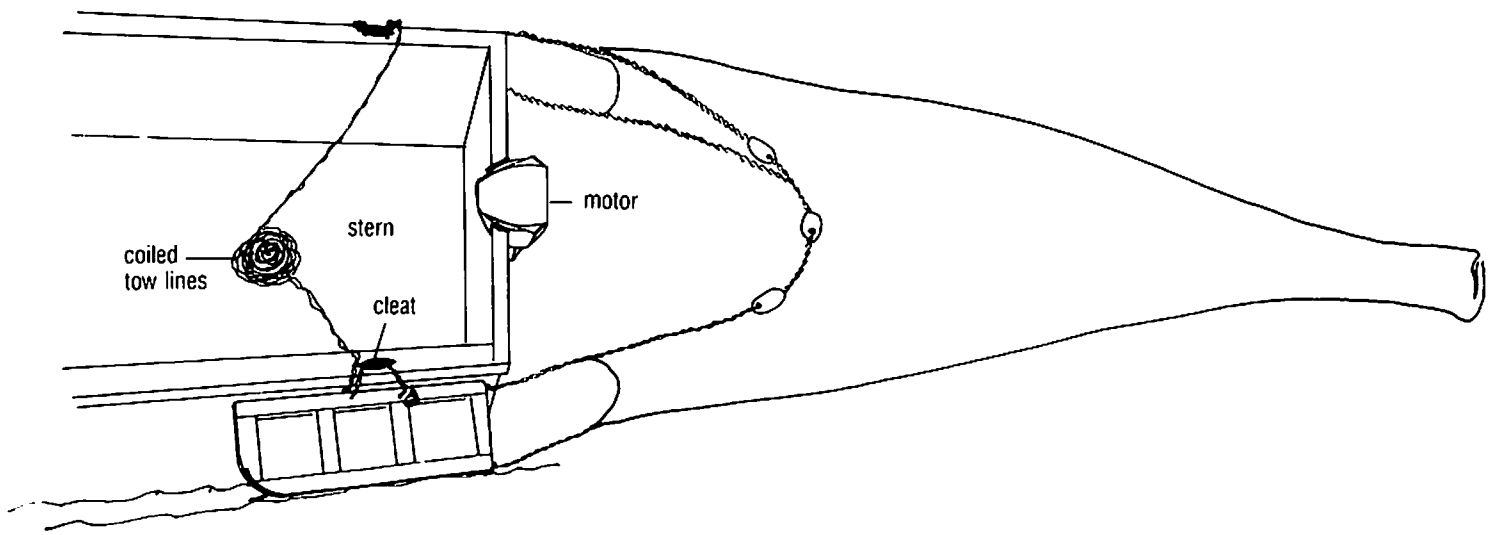
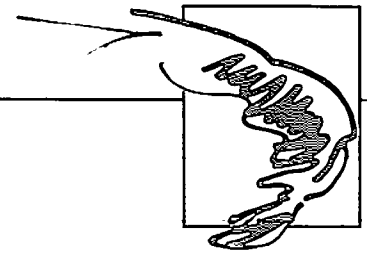


Figure 20. To wash back the net, tow it through the water for a few minutes after the doors are cleated to the side.



near the stern. The lone shrimper must lift one door, hang it on a cleat and do likewise with the one on the other side. If the doors do not have loops, lift them into the boat.

At this point, many recreational shrimpers will pull the tickler chain into the boat—an unnecessary step. The tickler chain sinks away from the trawl and needs retrieving only when shrimping is done for the day or when moving to another area.

Many new shrimpers will pull the net into their boat or onto the fantail, leaving some of the catch in the body. You will then have to work hard to shake the catch into the tailbag where it can be retrieved. This "shaking down" can be accomplished by "washing back" the net. To wash back the net, tow it through the water for a few minutes after the doors are removed. The forward movement of the boat forces the catch into the tailbag. See figure 20. If the doors are inside your boat instead of hanging on a cleat, be careful that washing back does not pull them overboard.

Because recreational shrimpers do not use a lazyline, the entire net is pulled into the boat or on top of the fantail after wash back. Again, two people, one on each side of the net, will make retrieving it easier. Each person should grab the top legline and pull the net toward the boat. When the webbing of the wing is reached, pull it until the bottom legline is in hand. Pull the trawl into the boat, using the headrope and footrope simultaneously. After the headrope and footrope are aboard, pull the net webbing until the tailbag is reached. If objects or marine life are still in the body of the net, vigorously shake them into the tailbag. It is not necessary to shake everything into the tailbag or to remove all gilled fish until the last tow. Succeeding tows will wash out or wash back these things. Be careful not to pull the net into your prop or to overrun the net.

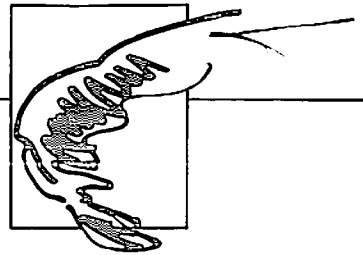
If you are shrimping alone, pull the top legline of one side of the net until you reach the webbing of the wing. Pull the webbing until you reach the headrope and footrope. Move these ropes and net to the middle of the stern and hold them in place with your foot until you can repeat the process for the other side. Pull the headrope and footrope from both sides (four lines) until they are aboard. Then pull the webbing of the net, shaking remaining objects into the tailbag.

Once the tailbag is reached, bring your catch aboard. If the tailbag is light, lift it from the water and place it into the cull box. If the bag is heavy and you do not have a mast, it may take two or more people to lift it from the water. If you have a mast, wrap the end of the line from the winch around the bag and place the hook over the same line. Cranking the winch will tighten the line around the bag and lift the catch. Swing the bag over the cull box and lower it.

With the tailbag in the cull box, pull alternately on the ends of the slip knot. When the knot is loose, lift the tailbag by hand or winch to release the catch and free the net. Retie the tailbag and reset the trawl. Cull the catch while you are towing.

Sometimes you may catch more than you can lift into your boat, even with a mast. If this happens, "cut," or divide, the tailbag into sections with a rope. Cutting will force the bulk of weight forward in the net while allowing a manageable portion to be lifted and released. Retie the tailbag and shake another portion of the catch to the end. Repeat the process until all of the catch is aboard. Or move your boat to shallow water or back the boat's stern to shore. You can then get out of the boat and remove the catch in small portions. Heavy catches may indicate a need for shorter towing times.

With experience, a recreational shrimper will learn to haul back with, against or across the wind and waves. The boat's motor is used to prevent entanglement of the net and to eliminate strain on the bridles. Learn the action of your boat and net. But extra caution is always better than cutting the net from your prop.



Culling and Storing the Catch

With your catch safely aboard, it is time to cull the edible seafood from the inedible. You will net shrimp, blue crabs, large fish, small fish and other sea life. Because some of your catch may put up a fight, I recommend arming yourself with at least one thick rubber glove, a stick and sunglasses. The heavy glove will help you remove angry blue crabs without damage to your hands from their pinching claws. The stick is used for those stubborn crabs that will not let go of gloves or nets. Sunglasses will protect your eyes from pieces of jellyfish or stinging nettles airborne by flipping fish.

Cull the catch while you're trawling. After the last tow of the day, cull on the water with the motor off to save gas or on the way to dock. To speed your culling:

1. Remove large objects such as clumps of grass, lumps of mud, or small logs first. This makes getting to the seafood easier. If you intend to tow in the same area, store these trash items on your boat to prevent catching them again.
2. Have a large bucket or open cooler for storing large crabs. Do not put water in this container. After culling, put the crabs in a shady spot and cover them with a damp burlap bag.
3. Have separate buckets or containers for shrimp, fish and soft crabs. This prevents damage to your seafood by the crabs. Later place in separate coolers.
4. If possible, move the catch away from the door or doors of the cull box. Open the door and rake out unwanted items as you cull. This will reduce culling time.

After culling is complete, you will have a container with hard crabs and other containers with shrimp, fish and soft crabs. If the hard crabs fill their container within 4 or 5 inches of the top, they will crawl out. You can use another container or cover the existing one to trap the crabs. The shrimp, fish and soft crabs will stay fresher longer if they are washed before they are iced. Place them back in the box and rinse them well.

You should have plenty of crushed ice. In your cooler, alternately add a layer of ice and a layer of seafood, beginning and ending with the ice. The amount of the ice you will need is directly proportional to the amount of seafood you catch. Also, better insulated coolers will keep your catch iced longer. Seafood that is well taken care of on the boat will taste better at the table. On hot summer days, seafood that is not properly iced can spoil before you get home.

Some recreational shrimpers behead, or "head," the shrimp on the boat to eliminate mess and clean up at home and to reduce the number of times the crustaceans are handled. You can head shrimp during or after culling. The heads are thrown overboard, and the tails are washed and placed in the coolers.

I recommend heading your shrimp on the water. The discarded heads will become food for other marine animals, the tails of the shrimp will not absorb iodine from the heads, and your garbage cans will smell much better. Also if time permits, incidental catches of edible fish can be cleaned on the boat.

Since you may catch more seafood than you can eat fresh, the following freezing suggestions will ensure quality and taste:

1. Separate your shrimp, fish and crabs before freezing. This prevents mixed flavors.
2. To freeze crabs, first cook and clean them. Separate the claws from the body. Place the bodies, whole or halved, in freezer bags. Place the claws in another freezer bag. Freeze for up to six months.
3. To freeze shrimp, purchase inexpensive plastic freezer containers with lids. These containers should be large enough to store an average serving for your family. This prevents shortages or waste at mealtime. Once thawed, seafood cannot be frozen again. Fill the plastic containers with shrimp and cover with water (allow room for expansion when water

freezes). Top with a lid and seal. This eliminates freezer burn and maintains texture and taste for six months.

5. Fish are best frozen in a lemon gelatin glaze, but can be frozen in water. For further details on freezing fish, write the NCSU Seafood Laboratory, P.O. Drawer 1137, Morehead City, NC 28557.

Improving Trawl Efficiency

Most of the time, your trawl will function efficiently. But you may find other comparable trawls producing better than your trawl. If this occurs sporadically, make no adjustments. If it becomes a frequent occurrence, review your trawl configuration for adjustments.

Two sets of doors may be built identically but function differently when towed. Nets of the same size and style may not exert the same force on the doors, and the same size bridles may have different elasticities. In addition, chain links in the doors or tickler chain may foul and reduce the catch of one net and not another.

Examine the trawl for fouled chains. Correct any obvious tangles in lines, chains or webbing. These simple adjustments may return your trawl to peak efficiency. If not, look at the metal shoes on the bottom of each door. Properly functioning trawl doors will shine the metal shoe of the door as it scrapes across the bottom. The bottom surface of the shoe should be shiny along most of the width and at least three-fourths of the length. See figure 21. If the shoe is shiny and catches are low, your problem may be undersized or oversized doors. Refer to recommended door sizes in "Rigging the Trawl Net." The following abnormal conditions indicate problems with the door shoes.

1. Nosing: a shining of only the front third or less of the door shoe.
2. Heeling: a shining of only the back half or less of the door shoe.
3. Overtilt: A shining of only the back edge of the door shoe.
4. Undertile: A shining of only the front edge of the door shoe.

All of the preceding conditions can be corrected. If nosing occurs, the back of the door is rising off the bottom. Several of the following changes may be necessary to adjust the door's position. Take up one or two links from the front bottom chain of the door. You may also lengthen the bottom legline or shorten the top legline of the net as much as 10 inches. Either of these changes will push the door's heel down and raise the nose. Finally, adding additional weight on the back of the door will force the heel down and the nose up.

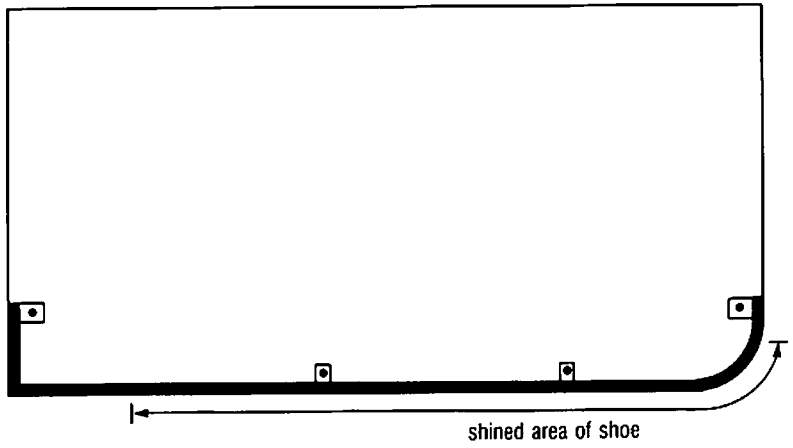
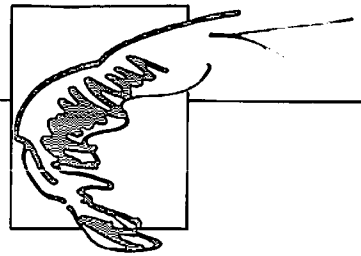


Figure 21. The bottom surface of the shoe should be shiny along most of the width and at least three-fourths of the length.



Heeling doors are easily forced off the bottom by obstructions or uneven surfaces. Sometimes the doors and net will not return to the bottom for several hundred feet, and your catch is reduced. If heeling occurs, lengthen the front bottom chain of the doors one or two links. You may also lengthen the top legline or shorten the bottom legline as much as 10 inches. Either method reduces the pull on the back of the door.

Overtilt causes the door to lean back, creating instability and reducing horizontal spread of the trawl. Taking up one or more chain links from the front and back top chains of the doors will correct this condition. Undertilt causes the door to lean forward, forcing the doors and net off the bottom and reducing the catch. To correct undertilt, lengthen the front and back top chains on the door one or more links.

It is unlikely that only one adjustment will solve your door problem. Finding the solution will be a trial-and-error process until the doors function properly. And continued shrimping may require readjustments as the season progresses. Sometimes one towing bridle stretches more than the other or door chains lengthen. Corrosion reduces the thickness of the chain links and lengthens the chains. To maintain optimum trawling efficiency, check the trawl configuration every few weeks, especially at the beginning of every season.

Storing the Trawl

Recreational shrimp trawls should last several years if properly maintained. Where and how you store your net will affect its life. Most modern nets are constructed of nylon, and all are dipped in a preservative to add stiffness to the webbing and to prolong the life of the net. Regardless of the base material, a net's worst enemies are sunlight and rodents. The sun speeds up the deterioration process. Therefore, all shrimp trawls should be stored in a covered container and placed in a utility building out of direct sunlight.

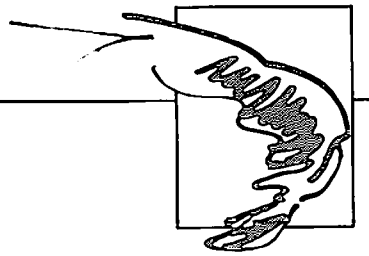
I recommend untying the trawl from the doors so the net can be stored in a large garbage can. This will keep out rodents that will be attracted to the fishy smell of the net. Even if there is nothing in the net for the rodents to eat, they will gnaw on the webbing.

The towing bridles will also last longer if they are stored out of direct sunlight. Many recreational shrimpers coil the bridles and sandwich them between the doors. This works well except when door chains are heavily corroded. The corrosion will weaken the bridles, making them more susceptible to breaking the next season.

Finally, keep your net and bridles away from extreme heat that may melt the webbing and other materials used for headropes, footropes, bridles and flotation. Age and use will cause your net to lose firmness. If this occurs, your net should be retreated/dipped to increase its life and efficiency.

Additional Information

For additional information about shrimping, contact the UNC Sea Grant Marine Advisory Service agent nearest you. They are: Wayne Wescott, N.C. Marine Resources Center at Roanoke Island, P.O. Box 699, Manteo, N.C. 27954 (919/473-3937); Bob Hines, N.C. Marine Resources Center at Bogue Banks, P.O. Box 896, Atlantic Beach, N.C. 28512 (919/247-4007); and Jim Bahen. N.C. Marine Resources Center at Ft. Fisher, P.O. Box 130, Kure Beach, N.C. 28449 (919/458-5498).



Shrimping Terminology

bag
The end of the shrimp trawl where the catch is accumulated. Also called cod end and tailbag.

boards
Slang for the doors that spread the net.

bridle
The line or cable attached to the trawl door that connects the shrimp trawl to the boat.

bugs
Slang term for shrimp.

bunt
The end of the shrimp trawl where the catch is accumulated. Also called bag, cod end and tailbag.

chains
The chain, cable or rope of the doors. The arrangement of the chains determines the effectiveness of the trawl doors and the effectiveness of the shrimp trawl.

cod end
The end of the shrimp trawl where the catch is accumulated.

cull box
Usually a rectangular wooden box with one or more doors used to sort the catch.

culling
The process of sorting through the catch. Edible seafood is retained while inedibles or undesirables are discarded.

cutting
The process of using a rope to cut down or reduce the portions of an overloaded tailbag in order to get the catch aboard the boat.

doors
A commonly used term for the otter boards used to spread the net.

fantail
A permanent or removable platform at the stern of a boat.

floats
The floats or corks attached to a trawl for buoyancy.

flotation
The quantity of floats or corks attached to the headrope. Increasing flotation increases the vertical spread of a trawl.

footrope
The bottom rope or cable across the front of a trawl net.

hang
An obstruction under the water that snags the net.

haul back
The process of pulling a trawl or tailbag into the boat.

headrope
The top rope or cable across the front of a trawl net.

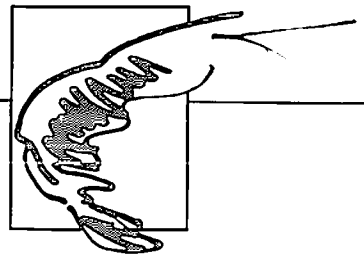
heeling
An incorrectly chained door digging hard at the back.

hung
A condition in which a net is caught on an obstruction on the bottom and can no longer move.

lazyline
A rope or cable extended from one of the otter boards to the extreme upper portion of the tailbag. The lazyline is used to retrieve the tailbag and its contents while the remainder of the trawl net stays in the water.

leglines
The extensions of the footropes and headropes on both sides of the trawl net. The leglines are attached to the trawl doors.

net rings
Circular metal rings, called "O" rings, used to hold line uniformly around net webbing. These rings can hold the tie line to the tailbag.



nosing
A condition that occurs when the front of the door is digging too hard.

overtilt
The condition that occurs when trawl door leans backward.

set
The process of placing the trawl net, doors and bridles into the water. May also refer to the complete placement and retrieval of the trawl configuration in the water.

shackle
A metal or plastic device shaped like a "U" with a removable bolt threaded into the open end. They are used to connect two or more lines, cables, chains or shackles.

shakedown
The process of shaking the webbing of a trawl to move the catch from the body of a trawl net into the tailbag.

snag
Any obstruction on the bottom that will inhibit the towing of a trawl. Also known as a hang.

snap swivel
A metal or plastic device with an eye on one end and a snap on the other. Snap swivels are often used to rapidly attach or remove a line.

tailbag
The portion of the net where the catch is accumulated.

tie line
A short length of rope tied 8 to 10 inches from the end of the tailbag. The tie line secures the catch in the tailbag when towing and releases the catch at the conclusion of a tow.

tow
The process of setting and retrieving the net and its catch.

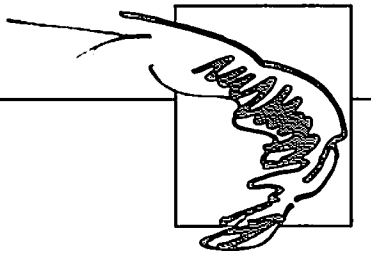
towlines
The lines used to pull a trawl through the water.

undertilt
When a trawl door incorrectly leans forward at the top.

warps
The lines used to pull a trawl through the water.

wash back
The process of using water pressure from the forward movement of a boat to force the catch from the wings and body of a trawl net into the tailbag.

wings
The webbing of a trawl net that attaches to the leglines.



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