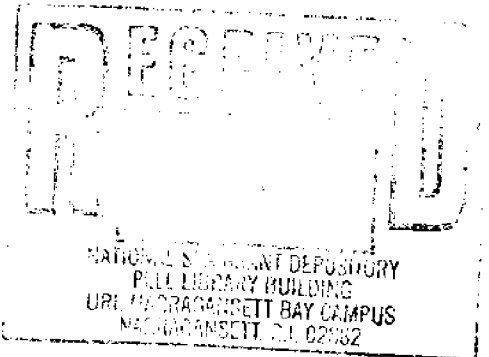


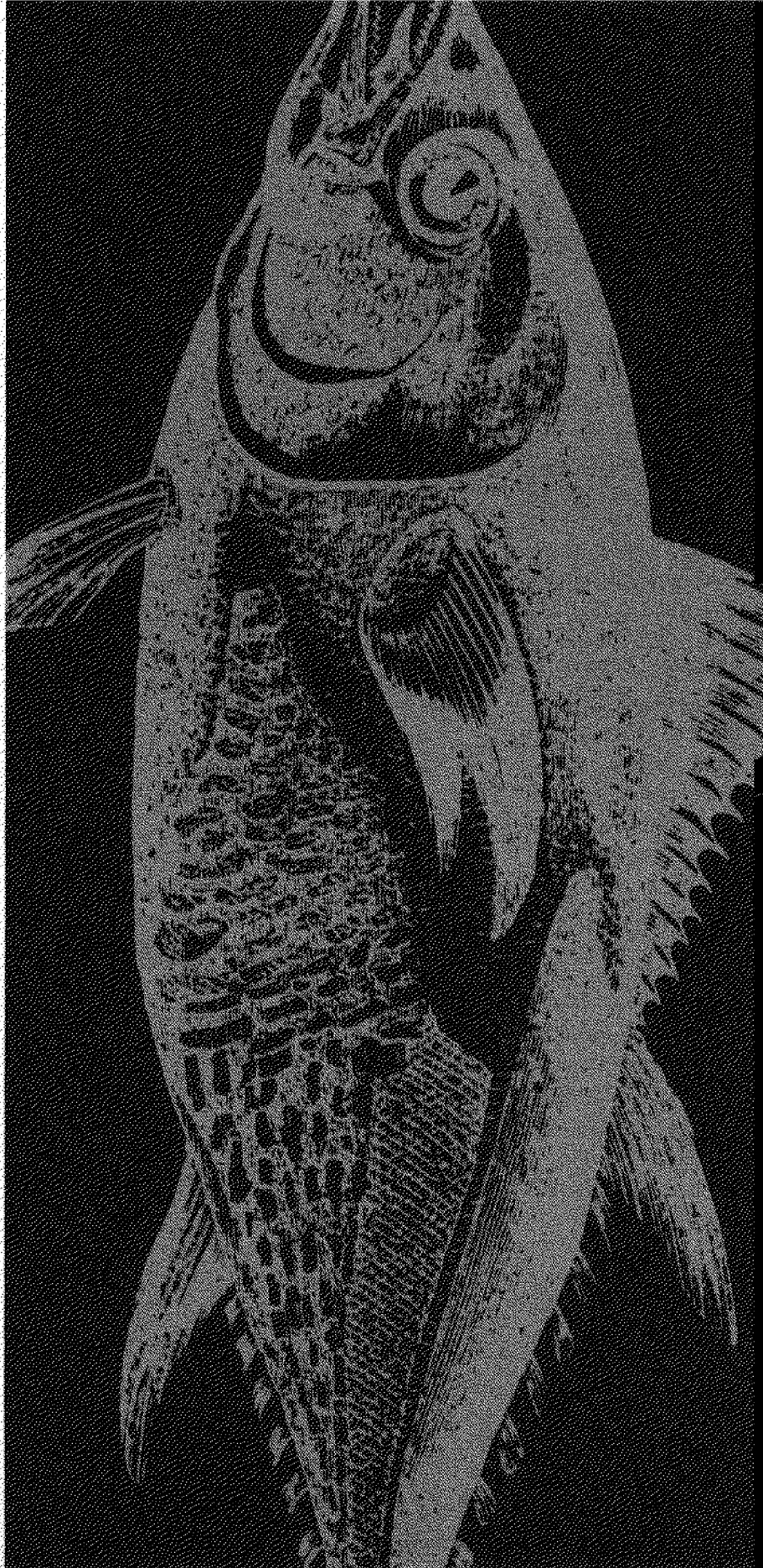
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THE WANCHESE GREEN STICK TUNA RIG

A Guide for
Commercial and
Recreational Use

Written by Wayne Wescott





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Written by Wayne Wescott

Edited by Carla Burgess

North Carolina Sea Grant

INTRODUCTION: A NEW WAY TO CATCH TUNA

North Carolina's coastal waters harbor an abundant supply of fish and shellfish. Commercial fishermen and recreational anglers probe inshore sounds, coastal waters and the deep sea for hundreds of species. Among the most popular ocean catches are tunas. These deep-sea animals are highly sought for pastime and for profit. Several tuna species, including yellowfin, bluefin and bigeye, inhabit offshore waters of the Gulf Stream and the continental shelf. Consistent catches off the coast of North Carolina have been recorded for more than a century. Except for bluefins, whose harvest is strictly regulated by law, tuna landings have been on the increase. Recreational and commercial fishing for tuna is a multimillion-dollar industry in the Tar Heel State.

Historically, Carolina fishermen caught tuna using hand lines. Later, they began tuna fishing with handheld rods and reels. Today, they've expanded their methods to include long lines (multiple hooks) and manual, electric and hydraulic rods and reels. Always alert for new and better ways to land fish, seasoned watermen have recently adopted another approach to catching tuna. *

Using a novel gear called the "Green Stick," Outer Banks fishermen are tripling productivity. Some have even reported a catch ratio as high as 10-to-1 over conventional gear. The green stick has been around in other parts of the world for years. Originally developed in Japan, the technology made its U.S. debut in Hawaii during the 1980s. By that time, an estimated 35,000 Japanese watermen were fishing the green stick. A modified version of the fishing technique has caught on in North Carolina.

The configuration of the gear varies, but the basic approach is the same. A 35- to 45-foot fiberglass pole is mounted inside a boat. A 500-foot line (the main line) that originates from a spool at the stern is

hoisted by a tether rope (the green stick rope) at the top of the pole. A cotton breakaway connects the tether rope to the main line. A floating decoy called a "shava," or bird, is attached to the end of the main line. When the boat moves forward, the top of the main line is stretched taut. Several baited strands hang from the main line and dangle just above the water, causing the attached lures and bait to skip across the surface when the boat is fishing. Meanwhile, the bird jumps, bobs and splashes, creating added commotion. By all reports, tuna will leap to take the bait even when they're not "feeding" on traditional gear in the same vicinity. When the tuna strike, the main line breaks away from the tether and may be reeled in using the spool. The green stick rig has also been modified for sportfishing so that multiple anglers can fish individual lines hoisted by the green stick's main line.

The term green stick refers to a commercial brand of gear developed in Japan. The color of the original pole was olive green. Although other brands — including sticks in orange, black and blue — were also developed in Japan, the name green stick has stuck as a generic nickname. Regardless of the brand or color, all green stick poles are currently available only from Japan. But in North Carolina, particularly in the port of Wanchese, the other components of the rig have been substantially modified. Professional fishermen who ply the waters off the Outer Banks are well-known for the ability to adapt an idea or piece of gear to their particular fishing environment.

This publication describes the original green stick gear and explains what watermen in this region have done to modify and improve the green stick rig for local fishing. With text and illustrations, it explains in detail how to construct and operate the rig in either commercial or recreational applications. •

THE EVOLUTION OF THE GREEN STICK IN NORTH CAROLINA

What began as a personal investigation by a lifelong fisherman sparked a small revolution in tuna fishing along North Carolina's Outer Banks. Charles Midgett, who lives in the village of Wanchese at the southern tip of Roanoke Island, already had a half-century of professional fishing know-how under his belt when he heard about the green stick in the mid-1980s. He'd been a sport angler all his life and a charter boat captain and commercial fisherman for 50 years. Midgett asked Sea Grant to help find information about the green stick, and in 1985, he went to Hawaii to see it in action.

After seeing how the gear fished, Midgett started working on his own rig. He made several versions of the pole and "shava," or bird. The bird was easy to duplicate, and he even improved it. But he wasn't able to construct the 35-foot pole so that it fished properly. The homemade pole lacked the necessary whip action, bent during fishing or failed in other ways. Finally in 1994, Midgett located an original green stick and installed it on his son Chuck's commercial fishing boat. It was late in the tuna season, and the Midgetts only got to experiment on a few trips. But the rig performed so well that when the 1995 season opened, Chuck Midgett began trolling for yellowfin tuna with the green stick rig. To tune the

main line precisely, he tailed his commercial rig in a small boat, measuring the exact length of each leader while the gear was being towed along. He used five leaders with hooks on the main line. Midgett also fished conventional gear under the green stick. He caught tuna with both the green stick and conventional reels. But his yellowfin catch averaged three times greater with the green stick rig. Besides that, tuna often struck the artificial squid lures dangling from the green stick rig while ignoring the bait being trolled by Midgett's rods and reels.

Because North Carolina commercial and recreational tuna fishermen often work close together in offshore waters, the success of the green stick was no secret. Many offshore fishermen witnessed the commotion created by the dancing, suspended lures and splashing bird and the subsequent tuna strikes. They also observed incidences when schools of tuna would not respond to traditional trolling, casting or jigging, yet chased a nearby green stick rig aggressively. By the end of the 1995 season, 11 other fishermen joined Chuck Midgett in using the new experimental gear. Some of the captains reported green stick landings of 15-to-1 over traditional fishing techniques. In the spring of 1996, 25 to 30 commercial and recreational fishermen were geared up to use the green stick. •

COMMERCIAL GREEN STICK FISHING

The Japanese Commercial Green Stick Rig

The Japanese Tokuda Green Stick rig is used primarily to catch tuna. The original commercial fishing rig consists of a 34- to 42-foot stick or pole, several hundred feet of line, five to seven hooks with artificial lures, and a bird, or "shava," at the end of the main line. When the boat is moving, the shava keeps the line from going slack. The vertical pole keeps the main line clear of the water. Several leaders of varying lengths hang down from the main line at regularly spaced intervals. Each leader is measured so that the lures and hooks brush across the top of, but not in, the water.

The gear was designed so that the main line breaks away from the green stick rope when one or more tuna are hooked. Originally, the main line with fish attached was retrieved by hand. With the fish on board, the main line was set again and reattached to the green stick rope to continue fishing. When the day's fishing was done, the leaders, hooks, lures and shava were detached from the main line as it was retrieved by hand. The main line was disconnected from the green stick rope and wound onto a large spool aboard the boat.

Today, the Japanese rig is much the same. Regardless of the brand or color, the poles are most always referred to as "the green stick." The poles are still made only in Japan. They may be as long as 45 feet now. The main line is now made of monofilament, and multiple styles of hooks and lures are available. In most cases, mechanical devices replace components once operated by hand. In the United States, the shava is referred to as a bird.

The Stick

The green stick is a large facsimile of a break-down fiberglass fishing pole used by recreational anglers. The fiberglass stick consists of three or four sections, depending on the brand and total length. The shorter sticks have three parts; the longer have four parts.

Each section fits tightly into the top of the other. The joints are then taped for additional strength. The main line is fastened directly to a stainless steel eye at the top of the green stick (*Figure 1*).

The new models of the larger stick are designed like a telescope, the top retracting completely into the lower section. When these sticks are extended, the second and third sections are held in place by a nut and bolt. The top or fourth section is still taped. The telescoping type of stick is easier to lower, which is handy when traveling underneath bridges or to and from the fishing grounds. The original type of stick is still available, however.

The stick is usually mounted on the deck of the boat and braced to the top of the cabin. On at least one North Carolina boat, the captain has mounted the green stick on top of the cabin, which adds height and allows more baits to be suspended. The pole weighs less than 100 pounds. Because every fisherman has different ideas and boat designs differ, the installation of the pole may vary. No matter where the stick is placed, it should have sufficient braces or mounting to handle 200 to 300 pounds of resistance. This should accommodate the burden of the pole; the whip action of the pole in rough seas; the weight of the main line, hooks and bird; about 100 pounds of drag when trolling; and the strike force of fish before the main line separates from the green stick rope. When the stick is properly installed, it acts as a stationary, vertical, flexible "uprigger" for tuna fishing.

A heavy-duty electric or hydraulic motor with a large high-sided spool to house the main line must be mounted in the working area of the stern of the boat. The spool must be free-spin to set the main line and have sufficient power to retrieve several tuna and the gear. Placement of the spool is not illustrated because every boat is different. However, the spool must be located for conveniently setting and retrieving the fishing gear and tuna.

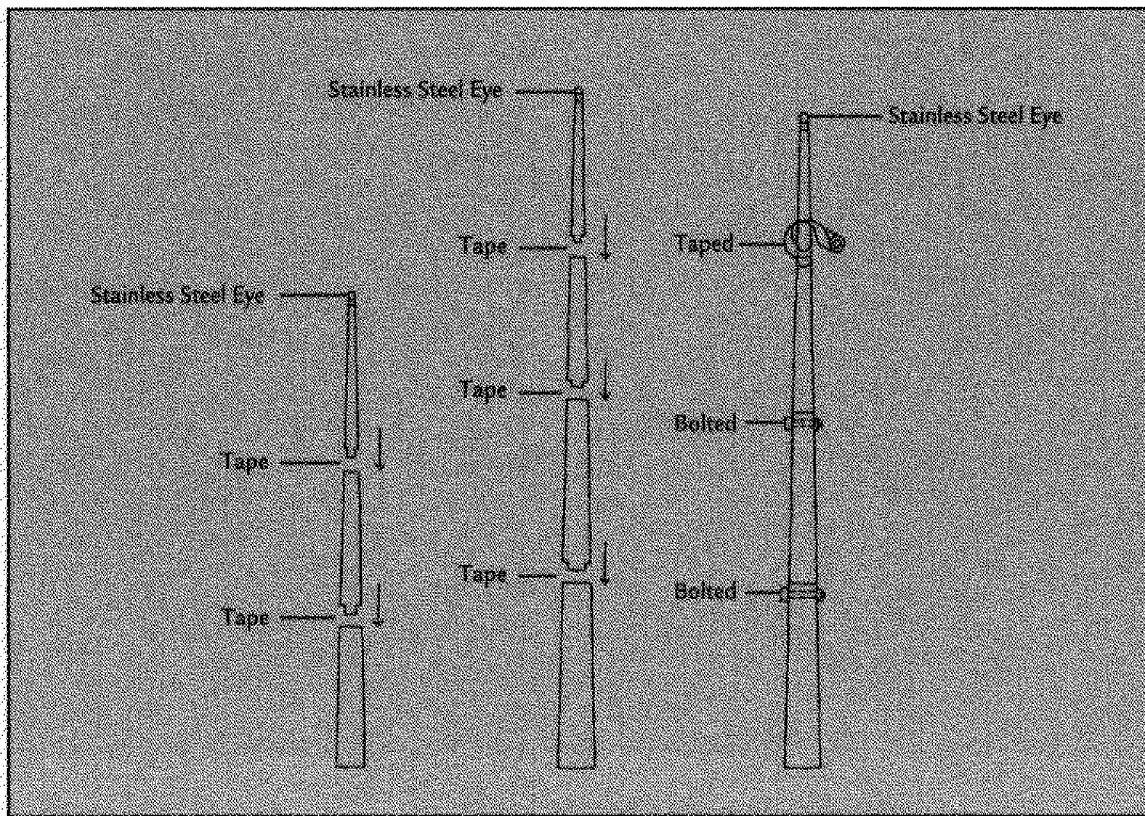


FIGURE 1. GREEN STICK TUNA POLES

The above drawing illustrates the designs of the original green stick and other brands of the tuna pole. The sticks are all made of fiberglass and are approximately 35 to 45 feet in length. Smaller sticks have three sections and the larger have four. All of the poles come with a stainless steel eye at the top for attaching the green stick rope. Each joint is taped for additional strength. Some of the newer large models, such as the one on the far right, are designed like a telescope. Each section slides into the next section. The poles are bolted at the first two larger joints and taped at the last joint.

Rigging

In the configuration of the Japanese commercial rig, the main line must include at least 700 feet of 800- to 1000-pound test line (approximately 500 feet to the bird and extra on the spool). The leaders and hooks must also be strong enough to handle several hundred pounds of fighting tuna. For the down line or leader, a minimum of 400-pound test line is recommended.

As the gear is retrieved, the down lines and the bird are removed so that all of the main line can be stored on the spool. They are reattached in proper sequence when the gear is reset for fishing. *Figure 2* illustrates the gear in use and the approximate span of the configuration at a trolling speed of 6 to 12 knots.

Because of sea conditions and behavior of the fish in a particular area, speeds vary. The length of the main line may vary according to the size of the stick and boat. The distance between the five down lines on the main line may also differ.

Bird(s)

The green stick rig's caboose is the "shava," or bird. The bird is a 3- to 4-foot sled (usually 44 inches) attached to the end of the main line. It is made of 4-by-6 lumber with tapered ends and three wooden crosspieces or "wings." A connector loop or eye is attached to both ends. The bird is weighted with lead to balance it upright in the water. Because the slats

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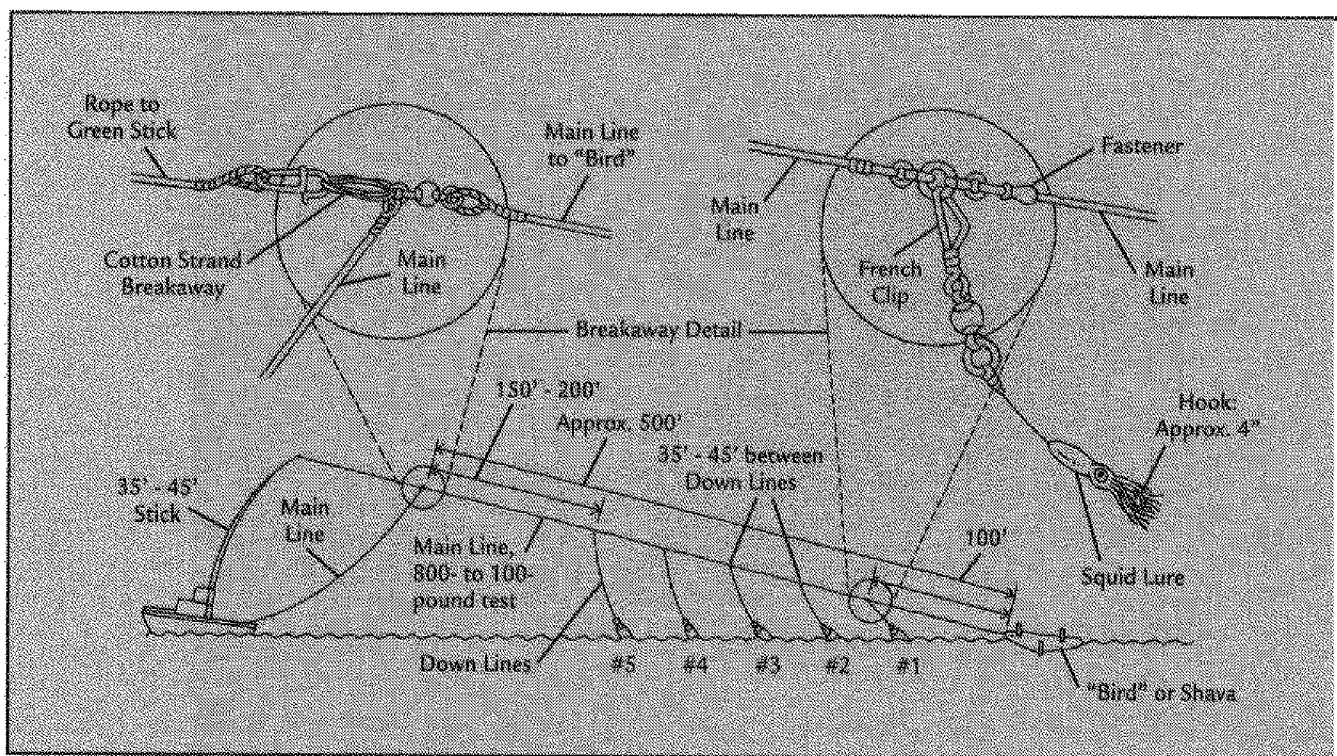


FIGURE 2. JAPANESE COMMERCIAL RIG

The green stick gear shown above is used in Japan and Hawaii, and by a few tuna fishermen in North Carolina. The main line strength, down line locations, lures and the length of the pole may vary somewhat from boat to boat. Generally, the rig above is representative, with the possible addition of a second bird to keep the line taut in rough water.

of wood that govern the action of the sled are called wings, fishermen began referring to the entire apparatus as a bird.

The bird has several purposes, all of which contribute to the efficiency of the green stick rig. Fishermen disagree on which function is most critical to successful fishing; in reality, the effects are probably cumulative. The most obvious reason for attaching the bird is to place a strain on the main line and keep it taut; the bird adds at least 75 pounds of drag. With the line properly stretched, each of the leaders will fish at the proper height. Second, the up-and-down movement of the bird creates commotion in the water that attracts tuna. Third, many fishermen believe that the motion of the bird behind the hooks and lures mimics a real bird or large fish in pursuit. In what appears to be a competitive maneuver, tuna may take the bait to

prevent something else from eating it. Local anecdotes support this theory. Passive schools of tuna in the vicinity of conventional trolling gear have been observed aggressively attacking the green stick bait trolled through the same area. Finally, because of its lateral wings, the bobbing bird tugs at the green stick. The resulting flex or bend in the stick produces a "jigging" action that attracts fish.

Under normal fishing conditions, fishermen usually attach a single bird to the main line. But in rough seas, fishermen in Hawaii sometimes add a second bird for ballast. When the rig is trolling in rough water, a lone bird may bounce high in the air as it crests waves. This can cause slack in the main line and allow the lures to drop underwater. An additional bird trailing a few feet behind the first helps maintain a more constant drag on the main line in rough seas.

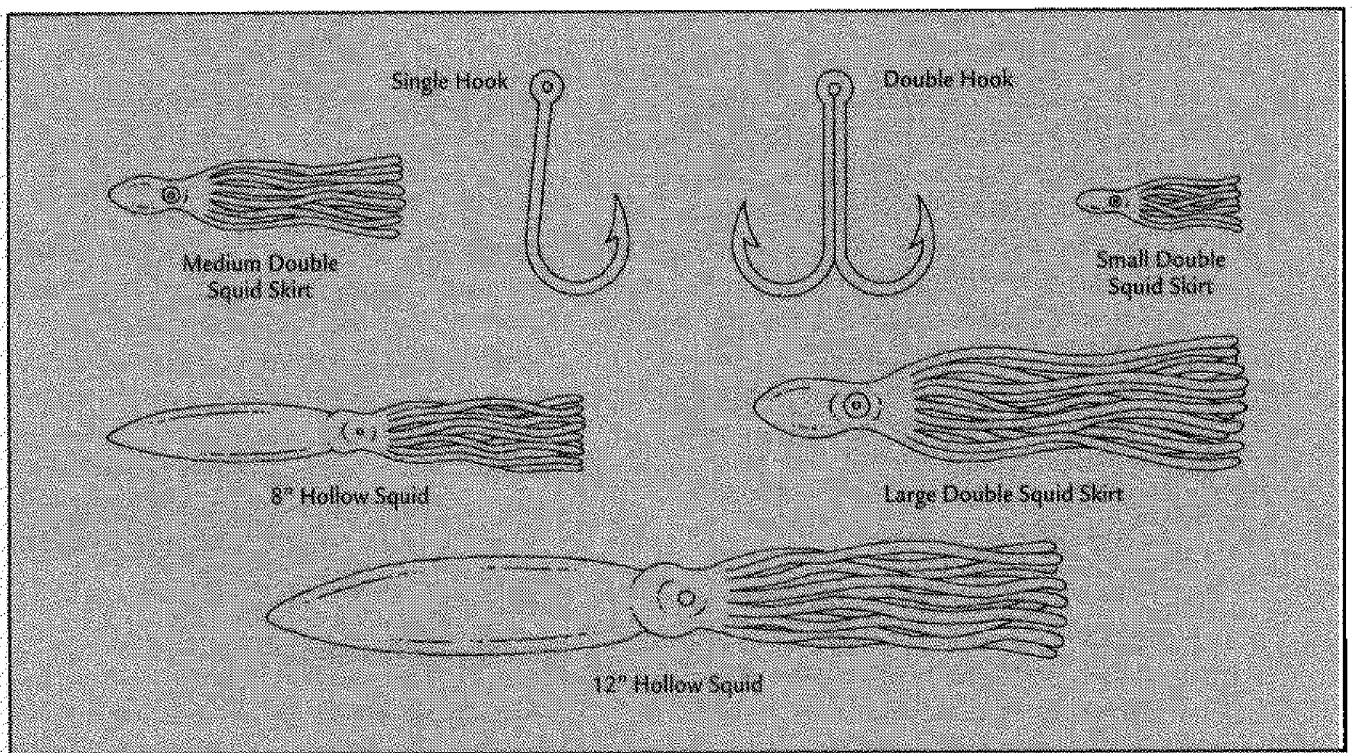


FIGURE 3. BAIT (HOOKS AND LURES)

Hooks are typically 4 inches or longer. They should be high-quality tempered stainless steel to prevent loss of fish. The lures may vary from squid skirts that are 3 to 6 inches long to hollow squids 6 to 18 inches and up. As always, use tackle that has proven successful in a particular area.

Bait (Hooks and Lures)

Weather, sea conditions and type of tuna sought should be considered when choosing a bait. Cloud cover, wave action, water color and time of day are all determining factors. To select the best type of hook and lure, investigate what combinations have worked well in conventional fishing in the area. Proper hook size will vary depending on the size of tuna you're after. Typical hook sizes are No. 9 or larger (approximately 4 inches or longer). Hook styles vary, including circular single shank, regular single shank, double hook or even triple-strength stainless steel. The lures may vary from squid skirts of 3 to 6 inches to hollow squids from 6 to 18 inches or larger (Figure 3). Many colors are available, but green, white and purple have been successful off North Carolina. It also appears that lures with fluorescent specks of silver or gold attract tuna better than solid colors. The speckled artificial lures may look more like live squid.

Down Lines (Leaders)

The down lines, or leaders, are usually at least 400-pound test monofilament. A few fishermen may use lighter test line for the leaders. But because some tuna may weigh several hundred pounds and exert additional pull when fighting, stronger leaders will prevent the line from breaking. The original configuration has carefully spaced leaders, precisely measured so that each lure only brushes the surface of the water or hangs just short of the water. Because the main line descends diagonally from the stick down to the bird in the water, every point along the main line is a different distance to the surface. For this reason, each hook will be attached to a leader of different length. For optimum results, each leader must be measured precisely. The extra time required to perfectly position the lures will pay off in overall fishing success. •

THE WANCHESE COMMERCIAL GREEN STICK RIG

The success of the green stick rig in catching yellow-fin tuna has motivated many North Carolina fishermen to adopt this new technique. They've also made substantial modifications to improve local fishing of the green stick. Wanchese fishermen have changed the way the green stick rope hooks to the main line, added a retrieval line to secure the green stick rope, segmented the down lines so that baits may be swapped more easily, redesigned the bird, and added a short line and float behind the bird for stability and better visibility (*Figure 4*).

Long Line Clip

On North Carolina boats, fishermen attach the green stick rope to the main line with a long line clip. The Japanese rig has a different kind of connector called a French clip, which is similar to a snap swivel or coastlock snap. The long line clip provides a couple of advantages over the French clip, mostly ease of use. First, the rope from the pole is measured so that it extends from the pole to the washboard and fastens near the stern. This is an easy access point from which to attach the main line and green stick rope before fishing and after a striking tuna causes main line breakaway. Because the line breaks away often, the long line clip makes reconnection faster. Second, the green stick rope should be short enough so that when it is fastened near the stern, it puts tension on the pole and causes a slight bend. This allows the pole to be more stable when the boat is not fishing. The long line clip is an easier way to clip and unclip the rope in place, out of the way but ready when needed (*Figure 5*).

Retrieval Line

Most of the tuna fishing boats in the Wanchese area have a tall radio antenna, radar, outriggers or other gear mounted on top of their boat. In the Japanese configuration of the green stick rig, when the main line breaks away, the green stick rope may recoil and tangle with other equipment. The rope may be time-consuming to retrieve and reattach when the main line is set again. To provide more control, local fishermen

clip a retrieval line to the green stick rope behind the main line connection. When striking fish cause the main line to disconnect, the green stick rope is still harnessed to the retrieval line. The retrieval line is carefully measured so that it is short enough to prevent entanglement but long enough to allow proper fishing of the main line. For easy access, the retrieval line fastens to the washboard near the stern of the boat. This secondary line can also be used to pull down the green stick rope by hand when a manual disconnect is necessary; sometimes hooked fish are too small to cause an automatic breakaway. The retrieval line may also be used to pull down the main line and green stick rope at the end of the day (*Figure 6*).

Down Lines (Leaders)

The traditional Japanese rig has five one-piece down lines, or leaders, attached to the main line by a French clip. A separate hook and lure is tied at the bottom of each leader. The length of each leader varies by several feet because of their descending positions on the diagonally oriented main line. As with any hook-and-line fishery, spare leaders and baits are required in case of breakage or in case fishermen want to try different kinds of baits at different times. Japanese and U.S. fishermen working in Hawaii have to make several spare leader and hook replacements of five different sizes. These leaders are not interchangeable among positions on the main line. For example, a down line measured for the number two position will not hang at the proper length if placed in the number four slot.

To make replacement of parts easier, many North Carolina fishermen using the green stick gear have divided the down line into two parts. The top part is connected to the main line by a long line clip instead of a French clip. The bottom part is, in effect, an interchangeable leader (*Figure 7B*). To accomplish this, fishermen cut an equal length of line — a few feet, for example — from each down line and attach a midpoint clip. Next, they make a second leader that is exactly the same length as the amount of line that was severed and place a connector loop at the top. A hook and lure

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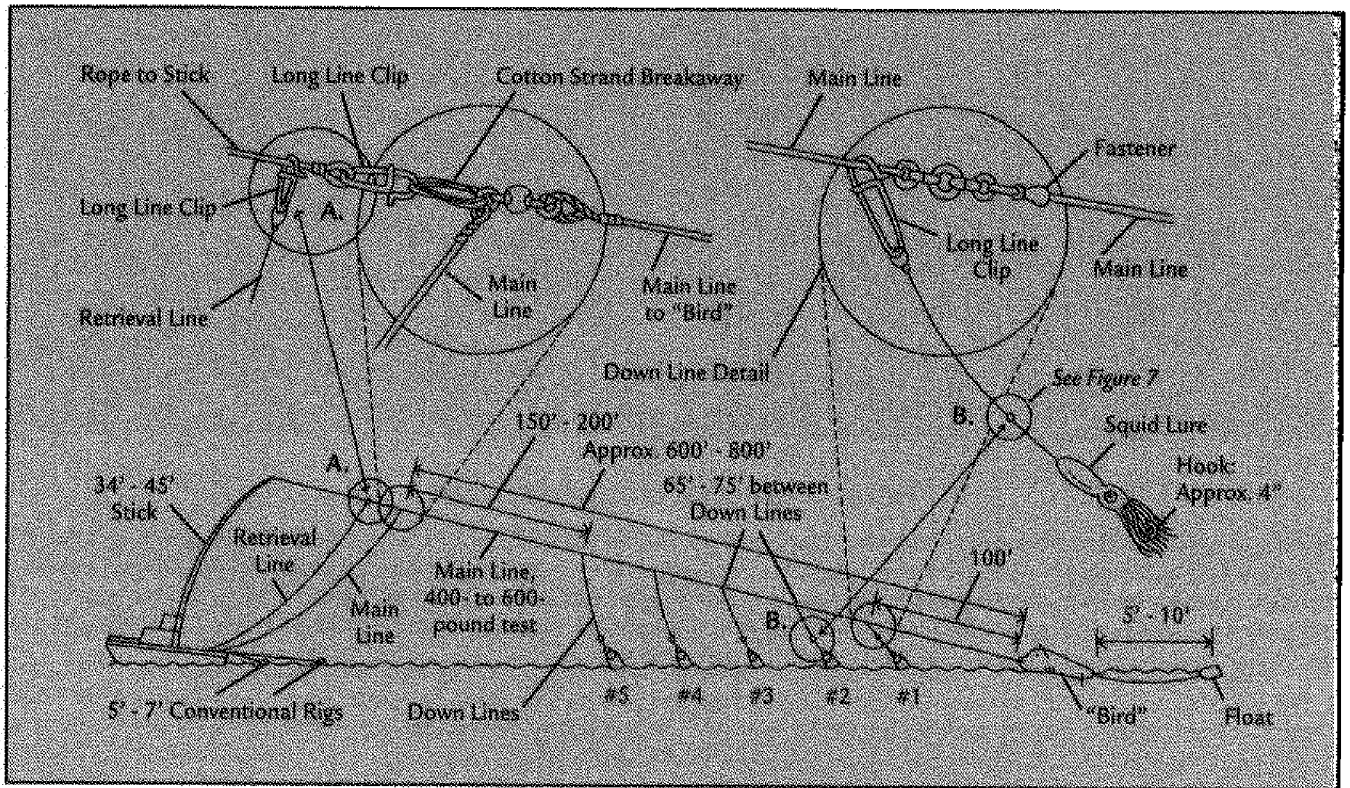


FIGURE 4. WANCHESE COMMERCIAL RIG

The Wanchese commercial green stick rig differs in several ways from the Japanese configuration. As seen above, the main line is 400- to 600-pound test instead of 800- to 1000-pound, a retrieval line has been added to the green stick rope, the down lines are farther apart to prevent tangling, the down lines and retrieval line attach with a long line clip instead of a French clip, the down lines may be two pieces, the bird design is different, a float tows behind the bird, and the overall length of the main line is longer. In addition, the Wanchese tuna boats tow five to seven baits on the main line and five to seven conventional lines simultaneously. Both the Japanese and Wanchese rigs work. Minor differences are not shown in this drawing.

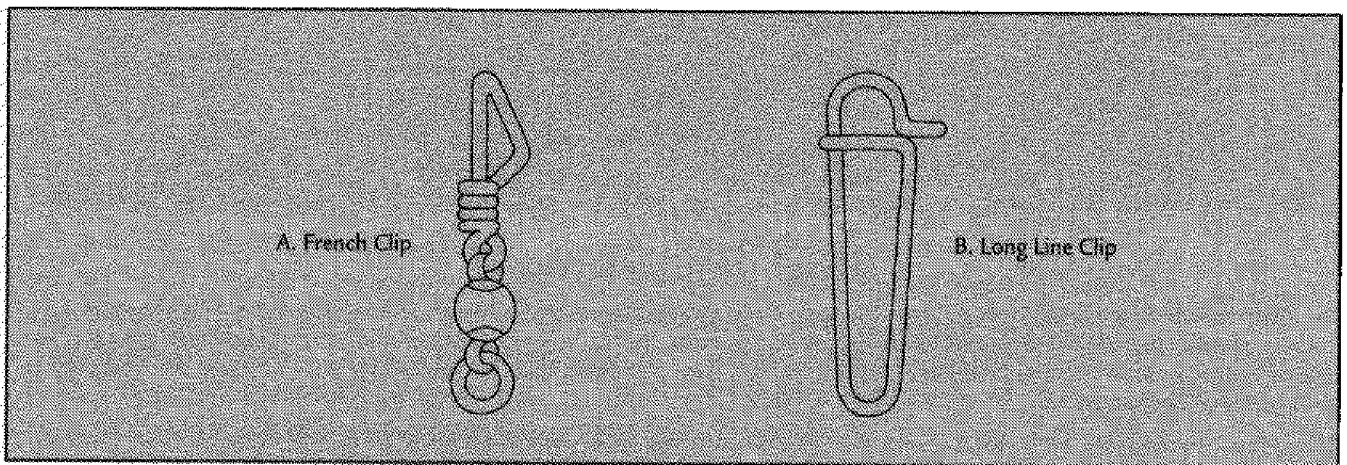


FIGURE 5. CLIPS

The Japanese and some Americans use a "French" clip to attach the green stick rope to the main line and to secure the down lines. The North Carolina fishermen generally prefer the "Long Line" clip because they believe it works better, easier and faster.

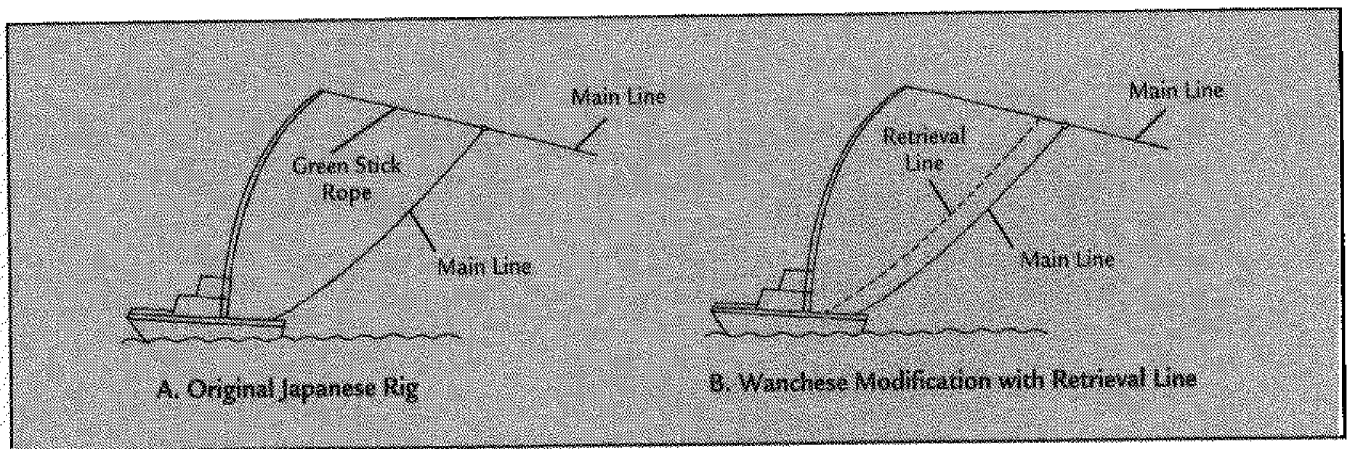


FIGURE 6. RETRIEVAL LINE MODIFICATION

On the original Japanese rig, the main line is attached to a French clip on the green stick rope by several strands of cotton thread. This connector breaks away when a fish strikes, releasing the main line from the green stick. After breaking away, the green stick rope recoils. Wanchese fishermen have added a retrieval line that prevents the recoiling green stick rope from tangling with the pole or other rigging. This permits faster and easier setting of the gear after landing fish. The retrieval line can also be used if small fish are caught that do not break away the main line or at the end of the fishing day for manual disconnection.

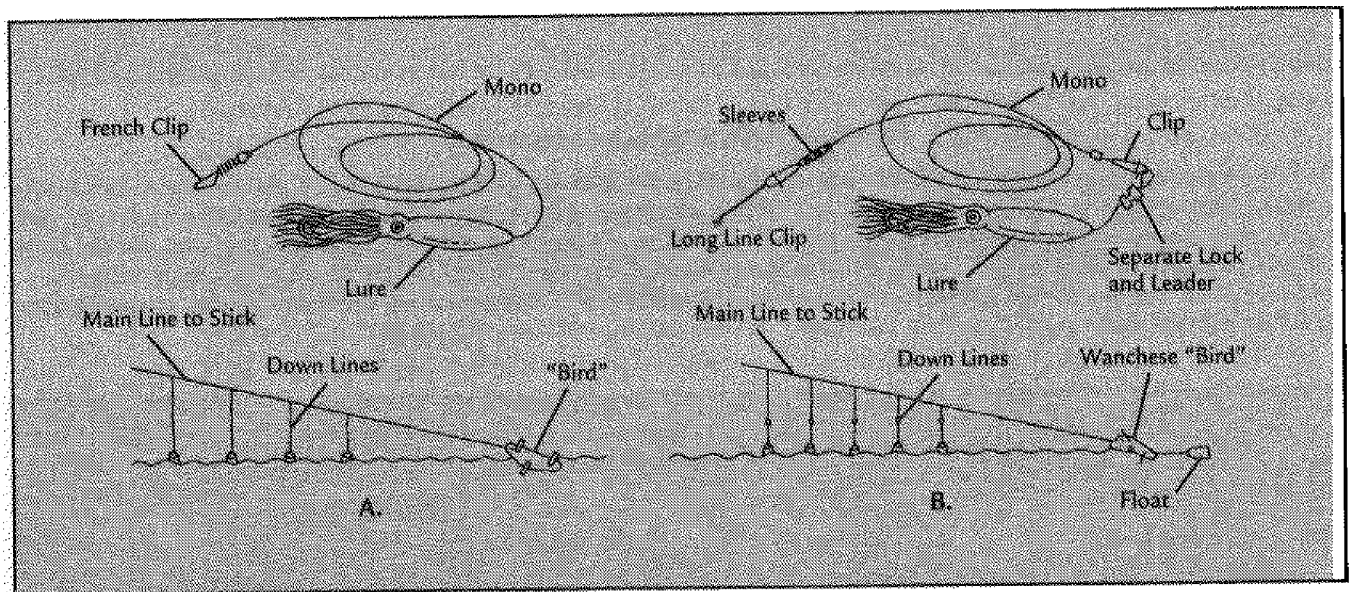


FIGURE 7. DOWN LINES (LEADERS)

The Japanese down lines above (A) are one complete piece. Each is precisely measured for the lure to barely brush the top of the water. It is recommended that at least three complete sets of five or more down lines be on board. Extras of each size are a good idea: one set of each rigged for small, medium and large tuna and extras for breakage. If the tuna size is unknown, start with a mix of bait sizes and after the first catch, switch all baits accordingly.

Some of the Wanchese fleet use a two-piece down line (B). After determining the exact length of the five to seven down lines, they shorten each a few feet. This permits all of the second pieces with a short leader, lure and hook to be the exact same length. As a result, only one set of spare down lines is required and only a couple of rigs for small, medium or large tuna are required. All of the baits are interchangeable with this method. Wanchese fishermen also believe this makes changing baits easier. The black sleeves shown above (B) identify the location of each down line on the main line. Three sleeves shown above indicate down line position three. Each down line is identified in this manner (according to proper location) to prevent incorrect placement and thus improper fishing of the gear.

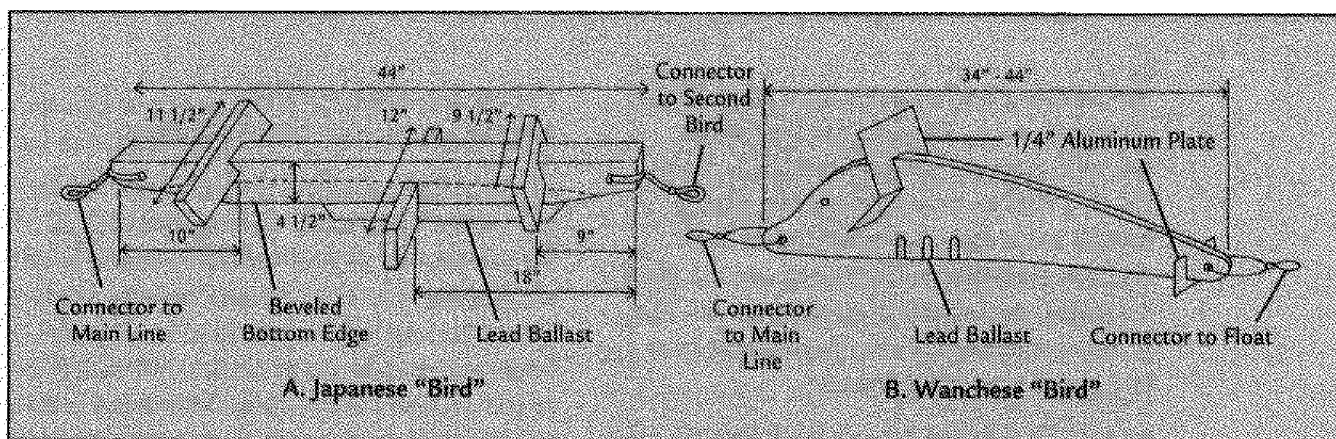


FIGURE 8. BIRDS

The Japanese Bird shown above (A) is made of 4" x 6" lumber with wings of 1" x 6" lumber. The overall length is 44" with both the front and back ends tapered. A lead ballast on the bottom balances the bird in the water and adds extra weight. If ordered from Japan, the birds are painted orange, weigh 15 to 16 pounds and cost about \$150. A hole is drilled through the front and back for attaching the main line and a second bird if needed.

The Charles Midgett or "Wanchese" bird shown above (B) resembles a porpoise. It is made of two pieces of 2" x 6" lumber glassed for longer life. It has only two wings made of 1/4" aluminum plate. The design of the wing in front causes the bird to move up and down in the water much like a porpoise. Instead of a lead plate, holes are drilled and filled with hot lead for ballast and proper angle in the water. Wanchese birds come in a variety of colors. A hole is drilled in the front and back for attaching the main line and float, respectively.

are then attached beneath this auxiliary leader and the two down lines joined. With this modification, any short leader and hook will fit on any down line, making bait changes easier. Also, fewer spares are required.

Bird

The "body" of the bird used in Japan and Hawaii is made from a piece of 4-by-6 lumber. The three sets of wooden wings are made of 1-by-6 lumber. Two of the wings are located on top of the body, fore and aft. The third wing is underneath, just behind the midpoint of the body. Each end of the body is tapered with a place to attach the main line to the front and a bird or two to the rear. This workable design is used by a few North Carolina fishermen (Figure 8A). But most of the North Carolina tuna boats equipped with a green stick use one of the birds designed locally by Charles Midgett (Figure 8B). His design resembles a dolphin or porpoise in shape. These local birds are made by gluing together two 2-by-6 inch boards, shaping them, and then coating them with resin or fiberglass. In place of the three wooden wings are two aluminum ones. The front wing is angled at the bottom to make the bird dive downward and at the top to make it resurface. The back wing helps

place the necessary drag on the main line and steadies the bird. The materials used to build Midgett's bird last longer and are less likely to break. The bird is a little shorter and weighs less than the Japanese bird.

Float

North Carolina green stick fishermen add a 5- to 10-foot line behind the bird and attach a 6- to 12-inch foam or poly float. The float increases the drag on the main line and helps hold the down lines and baits in the proper position, even in rough seas. This eliminates any need for a second bird. Fishermen can save \$150 or more by substituting a float for a bird. Second, if the main line should break, the float will keep the gear buoyant and visible. Because boats fish closely for tuna, a passing boat may inadvertently sever another's main line. If one or more fish are on, the main line would not be visible. Again, the float permits easy retrieval of the cut main line. Finally, the float gives other boats a point of reference and may prevent a collision with the main line.

All of the modifications to the green stick gear made by Wanchese fishermen are illustrated in Figure 4. •

HOW TO FISH THE WANCHESE GREEN STICK

The following instructions are based on the fishing techniques used by Wanchese and Outer Banks fishermen and apply to the rig modified for North Carolina. Because these watermen may work in daylight and in dark, commercial tuna boats are equipped with lights for running and working. When not fishing, the main line is stored on its spool. The primary down lines; leaders with hooks and lures; bird; and float are stored separately.

Each down line should be premarked with one or more black sleeves; the number of sleeves corresponds with the leader's position on the main line. For example, the down line marked with two black sleeves should be hooked in the number two position on the main line. While en route to the grounds, pair the shorter leaders with the desired lures and clip them to the numbered down lines. Then, place the assembled two-piece down lines in ascending order (one to five or greater) in the working area at the stern of the boat.

To begin fishing, clip the float to the back of the bird and the main line to the front of the bird. With the main line spool set for free spin, the boat should be moved slowly forward. Drop the float into the water, then the bird, then the main line. As the main line is unspooled, clip the down lines to their designated positions on the main line. After all down lines are attached, continue releasing the main line from the spool to the designated stop at which the baits are perfectly positioned; the baits should barely brush the top of the water. (This point should have been predetermined and marked for reference on the main line.) Now place the engine in neutral, unhook the green stick rope from its place on the washboard and discontinue free spool of the main line. Next, attach the main line to the green stick rope with the breakaway connector. Then clip the retrieval line to the green stick line just behind the breakaway. Engage the engine and move the boat forward. The drag of the lines, bird and float will raise the green stick gear to fishing position. Increase throttle to trolling speed.

Fishing Conventional Gear and the Green Stick Simultaneously

North Carolina commercial fishermen often fish the green stick simultaneously with conventional gear. Because there are no green stick down lines or hooks within at least 200 feet of the stern when the gear is set, conventional lines may be fished immediately behind the boat without interference. With both types of gear combined, 10 to 15 baits can be fished at the same time. If a tuna is caught on conventional gear, the fish can be landed without disengaging the green stick gear. If a tuna strikes the green stick rig, the conventional rigs should be reeled in before retrieving the fish on the main line.

Once the vessel has reached trolling speed, usually 6 to 12 knots, and the green stick rig is fishing, the conventional gear is set in the traditional manner. When tuna are caught on the green stick, the main line will break away from the green stick rope. Engage the main line spool to reel in the fish. If the tuna are on the down lines nearest the boat, remove the fish and down line in order (if more than one fish is caught) and then reset the main line with all down lines and the conventional lines. If empty down lines appear before or between fish, remove them so that the exposed hooks won't pose a danger while you're removing fish from other leaders. Once all the tuna are landed, replace the removed down lines in order while resetting the main line. If tuna strike on both gear, retrieve the conventional gear first. Be sure to handle, bleed and ice the tuna immediately to preserve the catch properly and to ensure the best market price.

When the fishing day is over, retrieve and stow the conventional gear first. Next, remove the breakaway by pulling the main line down with the retrieval line and engage spool to retrieve the main line. Remove the down lines one at a time as they approach the boat. Disconnect the bird and float. Then wind the main line completely on the spool. If the baits fished satisfactorily and the lures and hooks aren't damaged, you may leave the two-piece down lines connected to each other. Stow the down lines, bird and float. Disconnect and store the retrieval line. Clip the green stick rope to its attachment location on the washboard. •

THE RECREATIONAL GREEN STICK RIG

Fishermen in Japan and Hawaii have already demonstrated the green stick's success aboard sportfishing and charter boats. When properly rigged, the green stick conforms to all the requirements and rules of the International Game Fish Association (IGFA). Citation and record fish will be accepted and recorded. However, the green stick is not intended for small sportfishing boats, although it has been used on boats as short as 20 feet. Because of the size of the stick and the associated gear, prime candidates for its use are deep-sea sportfishing boats in the 30-foot or greater class and charter fleet boats. In addition to

improving catches, the green stick gear adds an aesthetic benefit to recreational angling. Tuna may leap 10 or more feet out of the water to attack the suspended lures.

The gear configuration for recreational fishing is similar to the commercial rig. There is a stick, a rope, a main line with a spool or reel to house the line, a bird, and possibly a float to ease retrieval of the gear should the main line break. The stick elevates the main line above the water, and the bird dragging behind keeps the line taut. The trolling technique is

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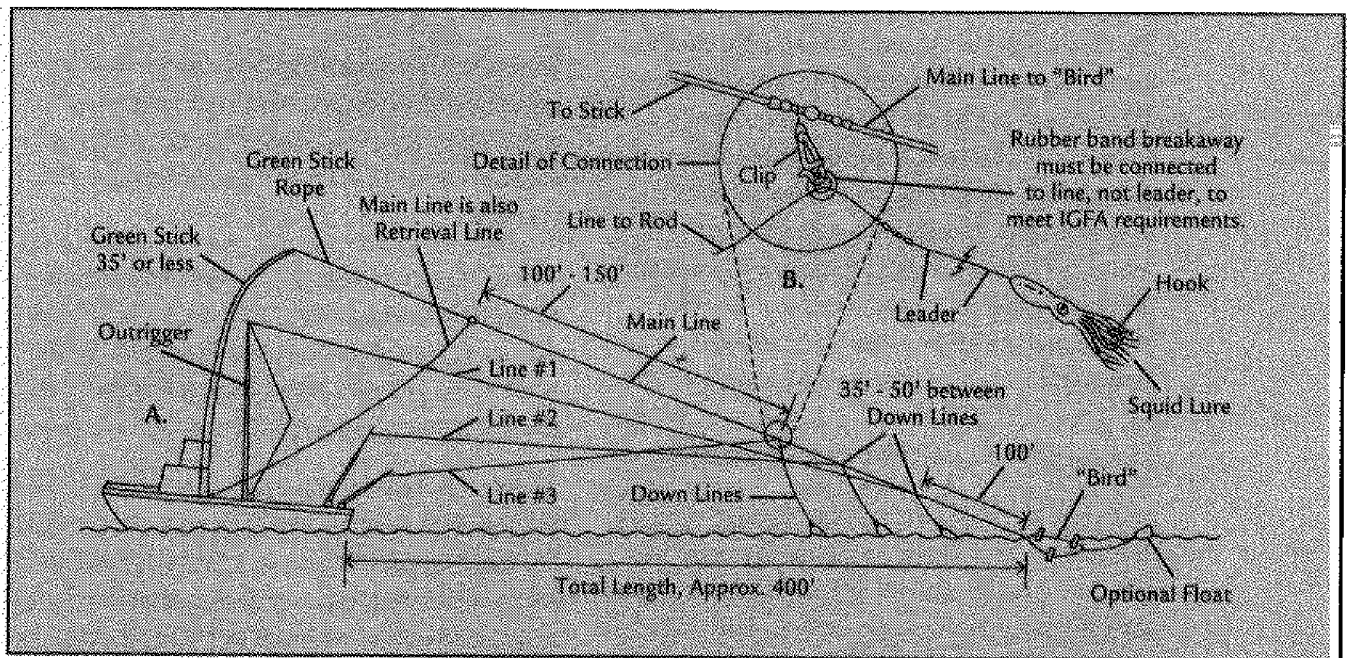


FIGURE 9. RECREATIONAL RIG

The illustration above depicts tuna fishing using rods and reels with the lines attached to the main line of the green stick. Although only three rods are fishing, a fourth rod could be fished on a second outrigger not shown above. Most boats will have two outriggers if any. Each fishing line must be correctly measured so that the lures brush the top of the water. Once the correct length of each down line is determined at its proper position on the main line, any line can be attached to any fishing position on the main line as long as the length is correctly measured for that position. The down lines are attached to the main line with a rubber band, which must be affixed to the line from the rod, not the leader, to conform to the International Game Fish Association requirements. Additional rods may be fished inside the first green stick down line. There is no breakaway where the green stick rope attaches to the main line, only a clip. The clip is attached to the washboard to steady the pole when not fishing. When it has been set, the main line is placed in the clip to lift the gear for fishing as you begin trolling. The float is optional for marking the end of the line; if for some reason (extended use) the main line should break, it makes retrieval easier. A above shows the complete rig fishing. B above shows the connection to the main line with a rubber band. Instead of the clip shown in B, some fishermen use a three-way swivel: one to the stick, one to the bird and one attaching the down lines with the rubber band. Other fishermen prefer a crimped sleeve or an eye or loop crimp. The green stick gear will work on any size or type of boat that is large enough to handle the gear, carry fuel for a whole day and fish safely when offshore.

the same as in commercial fishing of the rig, but the down lines originate from rods and reels and are bound to the main line with a rubber band (Figure 9). As with the commercial rig, the lures brush the top of the water when fishing. When a tuna is caught on the recreational rig, the line from the rod and reel breaks away from the main line and the angler manning that rod and reel fights that fish. Fish are landed with the individual rod and reel, not by retrieval of the main line. The recreational green stick pole is usually smaller, 32 to 35 feet. Some brands of the stick may even be 27 feet or shorter. The main line is of much lighter test weight (usually 200- to 250-pound) because the tuna caught are actually retrieved on the rod-and-reel rigging. The main line must be only strong enough to tow the bird and float. No permanent down lines attach to the main line. Usually, three to four fishing lines are attached to the main line with a rubber band that breaks free if a tuna strikes. If desired, sport anglers may fish additional lines conventionally by gripping extra poles or placing them in holders. As with the commercial rig, the lines fishing from the green stick are far enough away from the boat to allow other lines to fish near the stern. The fishing lines use the same hooks and lures as commercial down lines, but the leaders are shorter.

How to Fish the Recreational Green Stick

Make sure the green stick is firmly mounted. Attach a rope to the pole and hook a long line clip to the free end. This long line clip will be hooked directly to the main line since the breakaway initiates from each rod-and-reel connection in recreational rigging. A separate retrieval line is also unnecessary since the main line doesn't break away.

Determine the proper fishing position of each bait and mark the fishing pole line at the point where it should be hooked to the main line by the rubber band. As with commercial rigging, all the gear should be rigged and tested before setting sail for the fishing grounds so it will fish properly.

At the fishing grounds, bring the poles that are to be fished to the stern of the boat. Select the desired baits

and place on each individual line. Set the housing for the main line to free spool and pull out the line. Clip it to the front of the bird. (Optional: A float with 5 to 10 feet of line may be attached to the back of the bird.) Place the engine in neutral, and drop the bird and float into the water. Accelerate slowly and the main line will begin to set. As the clips, swivels or eyes appear that mark where each line from each rod should be attached, attach the lines respectively with a rubber band. After all lines are set on the main line, keep letting the spool unwind until the clip appears that designates full extension of the gear. Then attach the main line to the clip on the green stick rope and accelerate to trolling speed. The main line will become taut and raise the lures to their proper position at the surface.

Some recreational boats and most charter boats are equipped with outriggers. Many of these boats will attach one or more of the lines from the rods going to the main line to the clothespin on the outrigger. This is optional.

When striking tuna take one or more of the lures, the rubber band breaks and the fisherman holding that rod and reel fights and lands the fish. For the catch to be accepted by IGFA, the rubber band must be positioned above the leader prior to breakaway.

After taking the bait, tuna usually dive deep. Therefore, the other lines connected to the green stick main line can continue to fish. If you are fishing other handheld rods or rods in holders, these lines should be retrieved first to avoid entanglement. After landing the tuna, the main line must be retrieved to reattach the lines that landed fish. The main line and any other lines must then be reset to their proper fishing positions. Any rods being fished conventionally can be used to land fish while the green stick is operating. If tuna are not released, they should be bled and iced immediately.

When the day's fishing is over, first retrieve and stow the conventional rods and reels. Then bring in the main line. Shift the engine into neutral and the main line will slacken. Now it can be manually disconnected from the green stick rope. Clip the green stick rope to the

washboard and retrieve the main line. As the main line is brought in, each angler should wind in the slack for his or her pole. As the rubber bands are reached, disconnect them by hand. Finally, manually remove the bird and the float, if one is being used. Completely wind the main line onto the spool, store the bird and float, and stow the rods.

The green stick recreational rig can provide excitement and quicker and more efficient fulfillment of bag/catch limits. The cumulative elements of the rig all contribute to successful fishing: The stick holds the main line high, and its reflexive action whips and jigs the baits; the main line holds the down lines above the water and tows the bird; and the bird keeps the main line taut, helps give the stick its action,

keeps the baits suspended correctly and creates commotion in the water. However, some recreational boats in other parts of the world rely on isolated principles of the green stick rig. They suspend baits on a high line held taut with the assistance of a bird. But instead of using a pole or green stick, they run the main line from a flying bridge or a tuna tower. These variations on the green stick have also caught tuna more successfully than standard methods. At least one local charter boat captain plans to use a heavy-duty fishing rod attached to his flying bridge like a green stick.

The green-stick style of tuna fishing has already proven highly effective. As tuna fishermen experiment, other variations are sure to emerge. •

CONCLUSION

The green stick fishing gear is user-friendly. Fishermen who have never seen the green stick find the concept easy to understand and adapt to their boat. Once the gear has been properly rigged and the down lines positioned correctly, there is little need for re-rigging and tuning. It is necessary only to replace worn-out parts.

Commercial fishermen find that tuna caught on the green stick offer little resistance. The tuna is subjected to the pull of the main line from one direction, the pull of the bird, and the pull from other hooked fish as well. Because the tuna may be landed quickly

with minimal fight, the fish is less stressed and the meat may be of better quality.

The recreational fisherman has all of the fun associated with fighting the fish and often the opportunity, seldom afforded with other gear, to see the fish leap out of the water in a spectacular display. Some days fishermen cannot find tuna; on these days, no gear can help. But there are other times when the fish are present although not feeding. The green stick can stimulate strikes when conventional gear doesn't. Charter boats may catch more tuna and can book more parties when the word of their success with the green stick spreads. •

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13

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