

Fish-On! - 5 - Lake Trout

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Fish-On! Chapter 5 Lake Trout (*Salvelinus namaycush*) Brought to you courtesy of... TV Ontario© 1985, TV Ontario and The Ontario Educational Communications Authority, all rights reserved

Mackinaw, salmon trout, gray trout, Great Lakes char, togue: these are some of the local names given to the lake trout. Some even refer to it as landlocked salmon even though the term actually applies to the landlocked variety of the Atlantic salmon. With so many names, it's obvious that the fish enjoys great popularity. And no wonder. It strikes hard and puts up considerable resistance. It can sometimes reach trophy-size proportions. When a fish has matured on a good diet, its meat can be excellent. And it's an elusive fish, teasing the skills of even the most accomplished angler. Although local regulations may shorten the fishing season slightly, the lake trout is under constant pressure from the angling enthusiast. In ever-increasing numbers and with more sophisticated equipment and techniques, fishermen are catching greater quantities of fish with every passing year. Can the lake trout sustain this kind of pressure indefinitely? Even with the greatest controls, this situation can become dangerous to the survival of the species unless we lend a helping hand. For example, all of us can take extra care when playing a fish so as to lessen the possibility of internal damage to a fish you wish to release. What then is it about this fish, or *namaycush*, as the Indians called the "dweller of the deep," that entices so many throngs of anglers, making it almost impossible to restock sufficient numbers to meet demand?
{mospagebreak title=The Fish - Size, Shape and Color}THE FISH

The lake trout belongs to the same group of fishes as the brook trout: the chars. It is possible to get trophy-size specimens of this species, as these two records show: a whopping 102-pound monster taken from Lake Athabasca in 1961 and a more "manageable" 65-pound lunker taken in Great Bear Lake in 1970. They are carnivorous, but when their regular food is not available, they will feed on plankton. However, their growth will be retarded as a result. Size, Shape and Colour To distinguish the chars from trout (steelhead, Kamloops, brown) biologists look in the fish's mouth: the bone in the centre of the roof of the mouth, called the vomer, has a small patch of teeth. The scales of the fish are in general smaller than those of the trout and the body is more elongated. Young lake trout have a slender, streamlined body, the overall length being four to five times greater than the body depth. These proportions change slightly in older fish as they grow more in girth than they do in length. For example, a sampling from Great Slave Lake taken in 1954 showed a ten-year-old fish measuring 22.9 inches and weighing 5.3 pounds but the 20-year-old fish measured 36.5 inches and weighed 21.6 pounds. The head of the lake trout is large, deep, and broad. The mouth is also large, extending back beyond rather small eyes. Unlike the Arctic char and brook trout, the lake trout has a very slight overbite. Teeth develop on the upper and lower jaw, on the tongue, and on the vomer. The fin structure of the species is similar to that of the Arctic char and brook trout, having more or less the same shape and number of rays. However, the most prominent feature is the very deeply forked caudal fin. No other member of the char family exhibits this unmistakable trademark. Coloration of the lake trout varies dramatically from lake to lake, depending on such things as water clarity and bottom structure. For example, the tea-stained waters of the Muskokas produce considerably darker fish than those which inhabit the blue waters of the Finger Lakes or Lake Simcoe. In general, however, the lake trout may be grayish, greenish, brownish, or blackish. It has dark worm-like markings (vermiculation) on its side and back on an iridescent background color. The belly is whitish. The whole body is amply covered with light spots which are more intense than those of other chars and are more evident on younger fish. The lower fin is trimmed along its leading edge with creams and whites.

Very young trout display distinctive bands of color that run vertically along the sides of the fish. Known as parr marks, these bands may number anywhere from seven to 12. It's very difficult to distinguish young lake trout from young brook trout of similar ages.
{mospagebreak title=The Fish - Requirements&heading=Introduction} To survive the lake trout requires a proper environment with suitable depth, temperature, and oxygen, and enough forage fish to grow to a good size. They prefer lakes with a depth greater than 50 feet, ideally closer to 100 feet deep, and can sometimes be found in depths up to 600 feet in the summer. They need cold water of about 50° F. (10° C). Oxygen is important but oxygen produced through plant life can be detrimental. Lakes with extreme weed growth can damage lake trout reproduction during the winter stagnation period. As with all other fish, the growth rate is largely dependent on the availability of forage fish. It is not uncommon for lake trout to attain weights in excess of 40 pounds. However, the average fish is less than ten pounds. One of the most probable reasons for this is that the fish's environment does not contain an adequate food supply. Although lake trout vary their diets, eating everything from plankton to freshwater sponges, there are one or two staples in a particular lake that contribute to the growth of good-sized fish. Crustaceans, insects, whitefish, smelt, sculpins, shiners, sticklebacks, suckers, perch, the ling, trout perch, alewife, and ciscoes make up the lake trout's menu. Of these species, however, the whitefish is the one most closely associated with the lake trout. Those lakes that contain only smaller food fish such as the emerald shiner generally produce smaller fish.
{mospagebreak title=Habitat - Distribution}HABITAT

The lake trout is native to the northern part of North America. They may be found inhabiting shallow lakes and even

rivers, provided that oxygen levels and water temperatures are to their liking. These fish also live in the very deep lakes of the north, but generally reside near the surface for a great percentage of their lives since deeper waters are excessively cold. An example is Great Bear Lake in the Northwest Territories where fishing in this lake is limited to the top 30 feet throughout the summer months.

Distribution Lake trout are cold-water fish that require rock or boulder shoals for spawning and adjacent cold water for the fry. These are important factors determining their distribution. Lake trout occur naturally in deep cool lakes of the uppermost portions of North America. Lying almost entirely within that area affected by the Pleiocene Glacier, their range covers countless thousands of square miles. The southern limits of this range dip to as low as the state of Montana in the west and south to New York and the New England states in the east. Virtually all of Canada lies within this range, with the notable exception of Newfoundland and portions of British Columbia. The northern limits extend well into the Arctic to the southernmost coastal islands and west to include most of Alaska. Although lake trout traveled the ocean waters to establish themselves on the coastal islands, there is no evidence to suggest that they crossed the Bering Straits in an attempt to reach Asia. It is thought that predatory sea lamprey discouraged this journey as well as the attempts made to the Queen Charlottes, Vancouver Island, and Newfoundland.

Thermal Stratification Most lake trout seem to have a preference for water of 50° F. (10° C), however some subspecies tolerate colder temperatures. Although lake trout occasionally venture into waters of higher temperature, they do so for only short periods of time. Water has the remarkable ability to become most dense at a temperature of 39.2° F. (4° C). Water of different densities has difficulty mixing, setting up barriers or layers of water instead. Temperature moderation takes place over a long period of time, protecting fish in the southern limits from excessively high temperatures. This same feature also protects the fish in the northern shallow lakes from freezing into a block of ice. As you can see from the diagram, the most dense mass of water remains at the bottom of the lake while the colder, less dense water floats above, followed by a layer of ice. If it were not for this unique feature, freezing would take place from bottom to top, probably killing off the lake's inhabitants. This layering of water into definite temperature zones is called thermal stratification. (Figure 5-1.) In the southern limits of their range, lake trout inhabit deep cold lakes with a generous supply of oxygen and the ability to stratify. In these lakes water segregates into three distinct zones: the epilimnion -- a highly oxygenated warm-water zone found at the surface; the hypolimnion -- a very cold and poorly oxygenated zone found at the bottom; and the thermocline -- the zone which lies in between. This middle zone is an area of rapid temperature change, in most cases over half a degree Fahrenheit per foot of water depth. It is adequately supplied with oxygen, and of the three stratas offers more of the necessary requirements for the survival of the lake trout. During the warm summer months, lake trout are found in abundance either at, or near, this thermal layer of water.

Water Types The oligotrophic lake, which produces oxygen through surface circulation, is ideally suited to the lake trout and its special needs. These lakes are extremely deep and offer very little shallow water for vegetation to establish and as a result have an abundance of oxygen deep within the hypolimnion. The oligotrophic lake is one of three types of lakes, classified by their physical aging process. Lakes are either young (oligotrophic), middle aged (mesotrophic), or old (eutrophic). A complete description of these types, along with illustrations, can be found in Unit 1 on page 7. Although lake trout prefer the ideal conditions usually found in most oligotrophic lakes, they are tolerant of and many can be found in the middle-aged meso lakes, provided these lakes can stratify. As already noted, optimum trout lakes should be around 100 feet deep with rocky reefs for spawning. Shallower lakes, unless they are fed by cool springs, do not have sufficient volume of cold water for trout populations. Although some trout enter the mouths of streams along the shores of Lake Superior, they do not travel upstream very far.

Management Fish management branches take periodic creel census and fish samples to determine such things as rate of growth, lake populations, aging, state of health, diet, and fish movements. As well, water quality sampling is done to maintain constant checks of oxygen levels, the pH level, and pollutant factors. When biologists determine that fishing pressure is responsible for stock depletion, they shorten fishing seasons and reduce daily quotas. If stocking is required, large healthy fish are caught to be used as parents of the planted stock. But there is one threat to the lake trout that management people haven't found a reliable solution for -- the deadly lamprey. Mature lake trout inhabiting inland lakes have very few predators. Even in those lakes where lake trout coexist with northern pike as the dominant species, their predation is limited. Since the opening of the Welland Canal, however, the lake trout has practically disappeared in parts of the Great Lakes. The lamprey, originally from the ocean, moved steadily inland via the new waterway and began to decimate the populations with their parasitic nature. Lamprey attach themselves to their prey and feed on their flesh and blood. Only the odd lake trout can escape the lamprey's grasp but the majority eventually die with the lamprey still in place. Although lamprey control measures have come too late to save the Great Lakes trout from nearly total annihilation, their plight has prompted further investigations which revealed declining fish populations in many of our popular inland lakes.

SEASONAL CHANGES

Lake trout may live upwards of 30 years, however, age determination is difficult beyond their eighth year and records to date are incomplete because tagging information is in its early stages. They reach sexual maturity in their sixth or seventh year and they may live to spawn again.

Spawning Generally, spawning occurs in October, however, lake trout have been known to spawn as early as September and as late as November in the extreme limits of their range. Water depth for spawning may vary from as little as one foot to as much as 100 feet, but most spawning takes place in less than 40 feet of water.

The ideal bottom structure for redds is a rocky reef or a shoal with plenty of space between rocks to provide the fertilized eggs with protection during incubation. Males and females congregate over spawning beds after dark for the ritual.

Fertilized eggs fall into the cracks and crevices between rocks and boulders. Incubation may take as much as four or five months, after which the young lake trout head for deeper water and the safety it provides. It is assumed that small lake trout exist almost entirely on plankton and lesser aquatic life for the first year of their life until they are able to forage for smaller fish.

Seasonal Changes - Movements Movements

Movement patterns of the lake trout are varied. Winter will find these fish foraging through all depths of the thermal inversion for herring or ciscoes. At break-up, lake trout seek out spawning smelt and alewives in very shallow waters until warming weather forces them to cooler water. During these warmer months of summer lake trout are virtually trapped beneath the thermocline which deepens with every day of summer. As fall approaches, the sexual drives prompt fish to move to shallower water where the annual spawning ritual will take place. In the spring when the lake trout frequent shallow water, their diet consists mainly of aquatic insects and shore-dwelling fish. Later, they subsist on higher-protein fish such as the whitefish and cisco found in deeper waters. The alewife and smelt, wherever they are found, are important food items in their diet. Tagged trout have been found to travel over an area of about 30 miles, but records show that some may travel up to 200 miles. These movements are dictated in large measure by the need for cool water as well as by the patterns of their prey.

Equipment - Casting Rigs Equipment The spring run is very short for lake trout. Immediately after ice-out, the fish will be found near the surface and very aggressive, making it a pleasure to use a fly rod or baitcasting equipment. Most spring fishing, however, is done by the conventional trolling method but never rule out fan casting off rocky points and shoals. In early spring and late fall the fish put up a good fight when you use light tackle. As the water warms up the fish seek cooler depths and anglers have to switch to special deep-water tackle. Large lustrous spoons or minnow bait are both effective. With the development of surf-casting spinning gear, anglers can now cast at river mouths in some areas such as the north shore of Lake Superior.

Casting Rigs When fishing shallow waters, casting is a nice change of pace from trolling. It requires simpler equipment and the experienced troller will carry a casting rig for those times when trolling rigs are not bringing any luck. Using a seven- to-eight-foot medium-action graphite rod and a good quality spinning reel, spooled with a premium quality six- or eight-pound-test monofilament, enables you to cast greater distances with less arm fatigue, while the lighter line will present your bait more naturally. Effective tackle includes spinner baits in gold or silver, sinking minnow baits three to five inches in blue silvers, black silvers, and golds, slender silver and gold spoons, and the short, fat minnow baits known as crank baits, again in colors similar to the other lures mentioned. On bright sunny days when trout seek protection from light intensity in deeper water adjacent to rocky shoals, you can take advantage of the newer deep-diving crank baits that have been appearing on tackle store shelves. Constructed with or without the internal rattle which can actually be heard or felt by the fish, these lures are killers when worked off the edge of a shoal and retrieved down to the deeper water beside it.

Equipment - Trolling Rigs Trolling Rigs Generally, springtime or shallow-water trout fishing can be done quite nicely with your standard walleye trolling rig, remembering of course the line factor. Several disappointing experiences were all that I needed to know why the trout were winning and I was losing. When I was running approximately 120 feet of line and a small floating minnow bait in the three- to five-inch range in conjunction with a single number five splitshot placed four to five feet ahead, I was consistently hitting fish but I was losing them just as consistently. What I began to realize was that this nice, soft monofilament that was so perfectly suited for casting had too much stretch to allow the lure to slip through the jaws of the trout and set the hook. If by some strange event you find that you are hooked on lake trout, you might want to make the decision to acquire a longer, stiffer rod, perhaps to use it in conjunction with similar techniques for other species. You can purchase one of the many very good brands on the market today or you can construct it yourself. Readily available rod-building materials can be acquired from many of the well-stocked tackle shops and custom rod-building suppliers. As spring moves closer to summer, anglers must use different equipment and techniques. But first they've got to establish the depth at which to fish. In the absence of special charts of the area and sophisticated depth finders, an angler can obtain valuable clues by knowing the location of the lake trout's prey. Here's a table of the most common baitfish and their temperature requirements:

Alewife	53°-55° F. (12°-13° C)
Ciscoe	52°-56° F. (11°-13° C)
Smelt	49°-51° F. (9°-10° C)
Lake chubb	45°-50° F. (7°-10° C)
Sculpin	45°-50° F. (7°-10° C)

Knowing will also help you to determine how best to simulate a particular prey in your choice of lure size, shape, color, and action.

Equipment - Planer Boards Planer Boards

Do-it-yourselfers might want to try their hand at constructing the planer board, or side planer, to help them with their surface trolling (see Figure 5-4). The planer board is an effective tool for catching shy fish in shallow waters. Attached with extra strong Dacron line, the planer board can be positioned well to the side of your boat to travel parallel to it. Rigged with a line-releasing mechanism such as those used on downriggers, the Dacron line can be attached directly to the planer board. When the board is set out it will nose away from the boat to whatever distance you desire, taking the fishing line and trailing the lure with it (see Figure 5-5). After the planer board is set into position, the line from boat to board is adjusted to allow sufficient slack to prevent a premature release. As the fish strikes, the fishing line will be pulled free of the board and will drop back behind it where it can be played without interference. Set up in this manner with a permanently mounted release mechanism, the planer board will have to be wound back in in order to reset your line, which is very time consuming. Newer techniques using large snaps and rubber-tipped alligator clips can eliminate this windup procedure and get your lines back into action almost instantly.

Equipment - Planer Boards Wire Line Rigs A typical set-up for deep-water wire line fishing should include a short, stiff rod that has plenty of flexibility throughout its length, a single- or multiple-action quality reel, capable of fast retrieval, a lead core line or monel, and terminal tackle with a silver or gold flashy spoon such as William's

whitefish or wobbler. Because sense of feel is very important in this type of fishing, I prefer monel line which, because of its nature, can transmit the slightest touch of bottom rather than absorb it as other lines do. Line weight and diameter are as varied as monofilaments, ranging from as low as ten pound-test to as much as 60 pound-test, providing the angler with an adequate selection. Although line preferences vary almost as widely as their selection, the average line weight does not exceed 20 pounds and a great number of fishermen use even lighter ones to present bait more naturally. When choosing lures for wire lining, keep in mind that good lake trout lures should have a noticeable movement during the jigging caused by proper boat control -- there's a definite snap of the lure. It is the backward fluttering movement and the subsequent straightening of the lure by the forward movement that causes this snap.

Nearly all wire liners prefer to use spoons and wobblers as terminal tackle, but there are those who troll live or dead bait in combination with a large lake trout harness known as a Christmas tree. With numerous spinner blades in golds, silver, and copper, steadily increasing in sizes from two to four inches, these rigs measuring up to six feet in length and terminated with a live or dead minnow become very unwieldy as well as downright tiring after long hours of constant pressure from these large spinning blades. {mospagebreak title=Equipment - Planer Boards}Downriggers

Only since the downrigger made its debut about 15 years ago have anglers been able to fish areas with uneven bottom surfaces in deep water with any degree of success. Contrary to the beliefs of many, the downrigger is not a gigantic fishing rod, although it must certainly look like one to the novice. How often have I been asked, jokingly and in all seriousness, if I was going to fish for tuna with "the largest fishing rod"? The downrigger is simply a mechanical aid to allow fishermen access to very deep water with standard fishing gear. (Figure 5-6.) The basic design of the downrigger incorporates the use of a very stiff rod (or arm), either two or four or six feet in length, with pulleys, a substantial reel (pulley-shaped reel) to hold as much as 300 feet of 150-pound-test braided stainless wire, and a mounting device to attach it to the decking of a boat, which may swivel from side to side or swing up and down. Terminal equipment includes the use of a very heavy weight, seven and a half to 12 pounds, in either a ball or a fish shape and, most important, a release mechanism with which to fasten your standard fishing line. Release devices differ quite noticeably between manufacturers and should be chosen to suit an appropriate need. The more up-to-date downriggers may employ electric motors to wind line up or down, and some of the very expensive models have temperature probes built into the weight, with an LED readout incorporated into the downrigger body or mounted on the deck. Although it would be nice to own the Cadillac of the fleet, it will accomplish no more than the lower priced models and the money saved will leave you additional funds to purchase a better rod and reel or perhaps some new lures. Standard equipment is all that is required for fishing for lake trout. Although there are certain advantages between alternative rigs, minor faults can be omitted with a few adjustments. Ideally an eight-foot medium action graphite rod with a quality level wind reel spooled with premium six- to ten-pound-test monofilament is all that is needed, however, almost any rod will do. Most certainly, the spinning reel can be employed, provided you are careful not to allow line twist when you are lowering the rig into the water. Terminal tackle used with downriggers is extensive and one should keep in mind that when rigged there is no way of manipulating them to enhance their attractiveness to the fish, so choose them for their activity. Lures that do not provide their own action are poor fish-getters, no matter how good they look on the shelf. Floating minnow baits, either solid or jointed, flutter light spoons, or banana baits like the flatfish are a few of the very effective trout lures. {mospagebreak title=Equipment - Jigging Rigs}Jigging Rigs Where weight and compactness are essential, vertical jigging is ideal. You can accomplish this with a small lightweight fly reel and a short two foot fiberglass rod or, for that matter, a line wrapped end to end over a paint stick. While the use of a motor is helpful but not essential in smaller lakes, many anglers prefer using a canoe. Regardless of the type of craft from which you are fishing, vertical jigging can be done very nicely with your standard spinning outfit, consisting of a six- to seven-foot fiberglass or graphite rod in combination with a medium-size spinning reel loaded with low-stretch six- to ten-pound-test monofilament. A reasonably stiff rod is beneficial for setting hooks and feeling soft strikes. It also allows a better feel of the lure and its action. A supple, low-stretch line is very important as it allows coilless descent, keeping you more in contact with your lure and adding to its ability to set hooks firmly with little stretch. The jigs themselves come in a number of shapes, sizes, and colors. Some require the addition of live baits, others are simply used by themselves. There are those with hair bodies that puff in a pulsating action when jigged, and those that swim, dipping and diving in a circular motion when manipulated. Smaller spoons similar to those used on wire lines are effective, as well as floating minnow baits used with a heavy sinker placed 18 to 24 inches ahead. All of these baits can be effective if you take into consideration the type of food on which the trout in the area are feeding. You would match your bait in size, color, and action to the trout's prey. {mospagebreak title=Equipment - Ice Fishing Rigs}Ice Fishing Rigs During the winter, some areas permit the use of two fishing lines for ice fishing. In this case it is wise to keep two or three lightweight rigs with you at all times. Designed to be used with live bait, there are several forms of tip-ups from which to choose. Balancing types with free-running spools, flag-waving types that rest over the hole, and spring-loaded pop-up varieties that actually sit right in the water are only a few of the many kinds of equipment that are available. Lightweight and compact rigs are good choices since ice fishing often demands lots of moving around to locate fish. Line weights should not be less than ten pound-test as the sharp edges of the fishing hole can cause considerable damage to the line. You may, however, wish to use lighter leader material to aid in a more natural movement of the live bait, but take care when it is exposed to the sharp edges of the hole during the play. Terminal rigs using live baits can be singles, doubles, or triples. Double and triple lead-offs require the use of a sinker or weight at the very bottom with six- to 12-inch lead-offs spaced a couple of feet apart directly above. Single rigs may have the hook and minnow below with the sinker above, however, these too can be rigged like the others. Ideally, hooks should be short shanked, small, and allow the minnow freedom to move naturally. {mospagebreak title=Technique - General}TECHNIQUE General For shallow-water fishing, as is the case in spring, an angler has the choice of trolling or

casting. For deep-water fishing, an angler has several options, among them wire line fishing, vertical jigging, or using a downrigger with deep-water tackle. These three very popular deep water techniques have their own unique advantages but they all produce consistently. Except for the times when you choose to cast from shoals or reefs the angler will have to use some sort of craft. Fishing for lake trout demands special techniques of boat control to get the lure to a pocket of fish and to manipulate it so it will appeal to them. Temperature requirements of the lake trout were described earlier as well as the fact that the fish were bottom oriented because of these requirements. Oxygen produced by wind action and water stratification into different temperature zones were also discussed. But it is also important to remember that some lakes have a rollover characteristic in summer months as a result of continued wind pressure in a particular direction. When this happens fish disperse throughout the entire lake. The lake will ultimately retain its composure but it can sometimes take many days. Fishing can be very poor when a rollover takes place but if you are aware of the conditions you can still take fish. In any case, checking water temperature should be a constant activity when fishing under any conditions. Proven most useful for wire line and downrigger methods, the graph recorder in combination with jigging is lethal. Although hydrographic maps can provide some necessary information to get you started, they are often too general and in lakes with very irregular bottoms are not explicit enough to use by themselves. The hydrographic map exhibits only a plan view of a lake bottom with interpolated contours that provide limited information, yet when used in conjunction with a graph recorder to provide the profile information, the two become an invaluable aid with which to locate feeding fish.

The other clue to successful fishing, whatever technique you are using, is attracting fish with the appropriate lure, as mentioned previously. Find out which of the forage fish will be found in the area you are going to fish and choose your lures appropriately (see Figure 00). Sculpins, for instance, are small and dark and generally do not venture away from the bottom, so you should use a smaller, darker pattern and keep the manipulation of the jig very close to bottom. Similarly, in other lakes the forage fish may be cisco, limiting your selection to the larger, more flashy, baits manipulated more actively at greater distances from bottom.

{mospagebreak title=Technique - Trolling}Trolling When lake trout are in a very aggressive mood, as they are in early spring, but are spooked by the sight of an oncoming boat, they will almost always move laterally away from the boat. On these occasions the bait will usually be taken sideways rather than from the rear, which is often the case on days when the fishing is slow. When a strike occurs laterally the fish simply may be holding the lure between their powerful toothy jaws, and will not have so much as a nick from attached hooks. Unless the lure can be moved through the jaws quickly, the trout will let it go. Keeping hooks razor sharp and using a hard low-stretch monofilament and an eight- to nine-foot medium-heavy-action graphite rod will handle most of these situations adequately. As is usually the case in shallow water trolling for most species, fish and to shy away from the boat and, consequently, are forced well away from the terminal tackle. Lengthening the amount of line from boat to lure and trolling in a zigzag fashion can remedy this situation when lake trout display this bashful behavior. Keep in mind that this additional line, because of the stretch factor of monofilaments, will make setting the hook difficult. When fishing two rods from smaller boats, line tangling often occurs. The use of longer rods when set or held properly allows for greater separation at their tips and, therefore, greater separation at the lures where tangling can take place. Also, longer, stiffer rods allow you to take up more line more quickly when fish strike, and their extra backbone enables you to slip the lure and set the hook.

Planer boards offer obvious benefits: your lures will remain away from the boat's path and in the area where the fish are likely to be since they're spooked away from the boat; you can cover a much wider surface area; you can run more lines without risk of too many tangles; you can fish in the shallowest of waters without fear of scaring the fish by the passage of your boat; and because the board is less obtrusive to the fish, less line lead will be required resulting in few fish lost because of stretch problems. If you use a board planer, you'll need rod holders, a minor inconvenience for some anglers. The biggest disadvantage, however, is that you might get your planer ripped off by other boats in congested areas.

{mospagebreak title=Technique - Casting}Casting If you prefer the simpler approach or have given up on trolling for the time being, try casting. Some very good action can be produced by casting to the edges of deeper water from a boat positioned adjacent to rocky points or shoals. Drop a sinking Rapala off the edge of a bouldery point, allow it to sink to bottom and rest for a second, then retrieve slowly, letting it bump into and swim over this rocky bottom to simulate a feeding shiner or sculpin. If hang-ups on or between rocks occur, don't panic; try to dislodge your lure from your present location rather than disturbing feeding trout by moving your boat to the lure. Continued wiggling of the lure will often free it. If this fails, move your boat closer but with the knowledge that this will be the end of fishing in the area for some time. The fish will probably be spooked and disappear quickly.

Occasionally on slightly brighter days in spring, the light-sensitive lake trout will head for the deeper water adjacent to rocky shoals in an attempt to reduce light intensity. Using deep-diving crank baits and a fairly fast retrieve will nearly always result in a hit. To the lake trout this lure action resembles a fleeing minnow and inevitably their natural instinct will be to strike.

{mospagebreak title=Technique - Wire Line Fishing}Wire Line Fishing It is hard to say just how and why long-line deep trolling came into existence, but it has evolved into one of the most popular methods for taking lake trout in deep water. The old-timers referred to this type of line as a hand line or sand line, appropriate terms since no rod or reel were used in earlier days and the line and lure wound up generally being dragged over a sandy bottom. Today anglers use rods and reels but most expert wire line anglers still prefer to catch the fish by hand and then wind it in with rod and reel. For the beginner it's a frustrating method because of possible hang-ups at bottom. The object of the exercise, however, is to get a lure as close to bottom as possible. If hand-ups occur, correcting the problem can be very time consuming. You've got to rewind all of your line, unhook your lure, and then, once again, let out line just to get back to

where you started. So if you're new to this technique, choose water with sandy or gravel bottom. A sonar, of the graph recorder type, can illustrate the bottom structure and what to expect. When you become more experienced in this technique, your sense of feel will do the job of warning about tricky areas. If there are several novice anglers in the same area, they can help each other out by taking turns using each other's line to get the feel of different bottoms and lure responses. Steel line is stiff and tends to loosen into great coils when the tension is taken off the spool. You should always keep your thumb against the spool to prevent this. Getting your line into action takes only as long as the time required for your lure to sink to bottom. With your motor in gear and at trolling speed, start to let line out. At first you will have to strip line until there is enough water pressure against it to allow it to actually pull itself from the reel. When the pressure is sufficient to do this, speed up the boat and continue to release your line until you've reached the desired footage. When using monel line which is not color coded, only experience can teach you to know exactly how much line you have out. However, it is not the amount of line that is the critical factor here, but rather it is knowing at what depth your lure is traveling and that too can only be known through experience—that sense of feel mentioned earlier. Satisfied that you have sufficient line out, you may now slow the speed of the boat to trolling speed and begin to work the lure in a jigging fashion to attract lake trout. Jigging of the lure can be accomplished by grasping the wire line in your hand (wear a glove or wrap tape around your fingers) or by actually holding rod and reel, whichever feels more comfortable and whichever will produce the most natural rhythm for you. As the lure is jigged, pull it forward as much as three to four feet and then allow it to flutter until the slack is gone, at which time pull it forward again. Repeat these motions continuously until a fish strikes. A lure which can produce a snap caused by the backward and forward movement of your craft is probably the best indicator of problems. If, for instance, the bottom should take a very slight rise in the area you're approaching and your lure has been running close to bottom until now, you will very shortly experience an upset in the rhythmical snapping of the lure. The fluttering action will be eliminated and you reduce your chances of catching fish. Of course, when this happens, you should take up sufficient line to re-establish the rhythm. Similarly, you should from time to time let out more line to feel out deepening bottoms. The most successful wire line angler is the one who can keep the lure active in a natural manner and in the proper location. Lake trout are contained between the thermocline and bottom in summer but as the season progresses this layer of water will become thinner, forcing the fish to virtually crawl along the bottom. It is, therefore, very important to keep your lure working as close as possible to bottom. When jigging with rod and reel, don't fatigue the line at the rod tip as continued back and forth movements will cause the line to break there. You can eliminate line fatigue by winding in a little line every now and then to ensure that the bending does not always occur in the same place. Lake trout generally hit the lure on the drop-back, and the forward motion of the jigging is powerful enough to firmly set the hooks. It probably won't be necessary to use a powerful secondary set. Keep the boat moving slowly with constant pressure on the rod to eliminate the problem of a heavy steel line settling on bottom if the boat is stopped too quickly. Pressure should be sufficient to maintain a good flex on the rod, allowing no slack line to slip a loosened hook. Retrieving the line should be continuous, except for those times when the fish is running from side to side or away from you. Always be prepared for very fast retrieval in the event the fish runs straight toward you. You'll avoid dangerous amounts of slack line.

Playing a lake trout in deep waters on steel line is thought by some anglers to be less exciting in terms of action than playing other fish with monofilament lines of much shorter length. This misconception comes from the fact that a fish appears more energetic when attempting to escape the angler using a shorter line. The spunk of a lake trout is not so visible when it's fighting 90 feet below and 500 feet behind you. {mospagebreak title=Technique - Downrigging}Downrigging Where the wire line method is ideally suited for work over regular bottoms, the downrigger method is more suitable in confined areas with highly irregular bottoms. The versatility of the downrigger has given anglers a uniquely different but very effective method of deep-water trolling under conditions that were once considered practically impossible. By itself the downrigger is hard to beat but couple it with a graph recorder and you have a combination that is unbeatable. Running ledges, drop-offs, side slopes, and encircling deep-water humps could only be conquered by the most skilled of wire liners, yet this combination of rigger and sonar makes fishing child's play for even the beginner. With downrigger and sonar in operation it's easy to maintain vital clearance between lure and bottom. Fishing in some lakes may require additional equipment such as a temperature probe, a device worth having even though it's an additional expense. Lures can be placed as close as two or three feet from the downrigger weight when fish are very aggressive or as much as 100 feet when they are spooky and not so aggressive. However, 20 to 40 feet is all that is required in most cases. When using a spinning reel in conjunction with a downrigger, line twist can be eliminated by unlocking the anti-reverse mechanism, thus allowing the reel to run backwards, stripping line as the downrigger weight and lure descend.

There are many ways of using downriggers. One way is to pay attention to the lure and if you sense fish by the snap of the lure, allow a little time for the fish to play. Then wind the downrigger as fast as possible towards the surface. Another method is to simply break the line free of the downrigger, letting the movement of the boat swing it up and away from the device. If a fish is spotted over the edge of drop-offs, simply free-wheel the downrigger weight and lure past the area to trigger a response. A favorite trick in lakes with silty or sandy bottoms is to shorten the lead between lure and weight and to drag the weight and lure along the bottom. The effect simulates an injured minnow and the debris raised by the downrigger enhances the realism. Thankfully these tactical manoeuvres are not always required for they can be very arm weary. On those more relaxed days when the lake trout are cooperative, choosing the right color or action of bait may be all that is necessary. {mospagebreak title=Technique - Vertical Jigging}Vertical Jigging Less popular than wire line fishing or downrigging, yet very effective, the vertical jigging method is perhaps the least expensive. But because it requires only the barest necessities, jig fishing is gaining in popularity. When a suitable location has been found, positioning the boat

is all it takes. Generally unrestrained, the boat is allowed to drift slightly, however, if winds create too much movement, the boat may have to be anchored. Anchoring should be done cautiously to prevent lodging of the weight between crags and crevices in heavy rock structure. In areas where anchoring is impossible you may be required to run your motor in reverse in an on-and-off manner just to hold your position against a strong wind. Casting heavy jigs with the wind and jiggling back towards the boat is another method to compensate for wind problems and is very effective in keeping your jig on bottom. In most lakes, lake trout relate to drop-offs, ledges, and side slopes rather than to the flat bottom areas of the lake. Jiggling in and around these highly productive structures can be very rewarding when lake trout are actively feeding. Rhythmic up and down jiggling, occasionally allowing the lure to touch bottom along side slopes, and letting the jig descend unrestricted, bumping and fluttering its way down, is a dynamite method. As well, simply lowering your jig to the bottom and winding it quickly to the surface often results in a strike, generally long before the fish gets to the surface. Rhythmic and sporadic jiggling close to bottom which simulates the movements of an injured minnow will frequently result in fast action. With time and patient practice, these skills will be rewarded with lake trout action that you never thought possible.

Lake trout most often hit jigged baits when they are on the drop and sometimes take you by surprise when you raise your rod tip in the upward jiggling motion. Late detection of a strike places your rod in an upward position with no place left to go. To salvage the strike, wind down as fast as possible and strike as quickly to prevent the loss of the fish. Because lake trout hit this way, I have found the use of a high-speed spinning reel very helpful in taking up line quickly when such surprises occur. A supple low-stretch line will ensure a good hook set. {mospagebreak title=Technique - Ice Fishing} Ice Fishing With the onset of winter and lakes in a state of roll-over, lake trout will disperse to roam freely. Recently replenished oxygen supplies will support the fish now and in the ice-over months to follow. Lightly schooled and unrestrained, lake trout become increasingly harder to locate and catch. That is not to suggest that lake trout are totally inactive but fantastic fishing is not as common as fishing the other seasons. If you don't want to go to the expense of winter equipment, seek out commercial hut operators. However, there are limitless waters to fish in many areas without the need of touching the more commercialized bodies. The successful anglers will move often, sometimes only a few feet, to check out different depths, but more often greater distances need to be covered in order to follow or cut off foraging fish as they make their way around shoals and shorelines. Snowmobiles, cross-country skis, or snowshoes will help you to save your time and energy for cutting new holes. You'll need a sharp auger or chisel for this job and these are available in almost all tackle shops. A word of caution here—eliminate sprained and broken ankles (yours and others) by placing some form of warning sign such as a tree branch at a recently cut hole. On days when activity is slow you may try rigging your minnow so it is placed upside down. When it attempts to right itself it will create unusual amounts of activity and attract attention. When fishing is good you can set two separate lines, relax, and warm your hands around a hot cup of coffee while watching for the slightest movement from either line. On days when extra attraction is required, the angler may set only one line and jig spoons from the other. Tipping jigs with dead or live bait adds even more appeal. I have, on numerous occasions, experienced very good action at one location using a jig and dead minnow while not ten feet from this location I had three lively minnows at the same depth attached to another rig. If you have to work hard to entice the fish into striking, a hydrographic map is an invaluable aid in locating shoals and deep shoreline structure, locations that are most productive throughout the winter months.

Remember, however, that winter angling offers few daylight hours. You should be mindful of your location on strange lakes and the time required to get off them safely. {mospagebreak title=Sportsmanship} SPORTSMANSHIP Before setting out for a lake trout, consider this: it's an extremely fragile species, as are many other members of the Salmonidae family. Lake trout fishing has been deteriorating quickly partly due to the fishing pressures exerted on it and partly to a number of human errors. At one time lake trout were a viable commercial resource. The Great Lakes, for example, boasted yearly catches in excess of 7.5 million pounds. Today, this fishery is all but extinct as a result of the parasitic lamprey, pollution, and over-harvesting. In fact, most inland lakes don't produce more than 0.5 pounds per acre per year. Few fisheries show as low a yield as this species. Fishery biologists are constantly trying to meet the demands of this fishery. Restocking efforts are increasing on both sides of the border. Even hybrids, such as the splake—a cross between brook and lake trout, are being introduced to make up for the dwindling resource. Humans have manipulated the trout species so much that one wonders where it will all end. You hear stories of fishermen actually following hatchery trucks to fish the pools where they are released. Why don't these so-called anglers buy them right off the truck and stop boasting of how they matched wits against a great game fish? If the lake trout were more like the crappie or the yellow perch, it could probably withstand these pressures. But its biology is such that it contributes to its own tenuous position in the aquatic environment. It grows very slowly, reaching spawning maturity at six to eight years old. Too many immature lake trout kills by angling may mean drastic depletion of future stocks. When they do reach breeding time, the lake trout's spawning requirements are stringent. In cases where water is fluctuated for power or other human needs, lake trout are forced to spawn in areas dangerous to the survival of their eggs. And the fish is vulnerable to nitrogen narcosis, a condition similar to the one experienced by divers. When lake trout are taken in very deep water and forced to the surface with rod and reel, they are exposed to changing pressures that can create internal problems. Expanding gases in its air sac are created by rapid decompression during its forced ascent to the surface and, in this bloated state, it will be unable to descend until these gases are expelled. You will notice this problem when your released trout appears to be having difficulty descending. Gentle playing of the fish can in most cases eliminate this undesirable side effect and allow you to release it. Leave a fish in the water if you're releasing it and remove the hook gently with the aid of locking surgical forceps.

These words of caution are not meant to discourage you from fishing for lake trout. By no means! It's a thrill that all of us should experience at some time. But that experience should be based on an understanding of the precarious, as well as challenging, nature of the species.