BOAT Pennsylvania

The Keystone State's Official Boating Magazine

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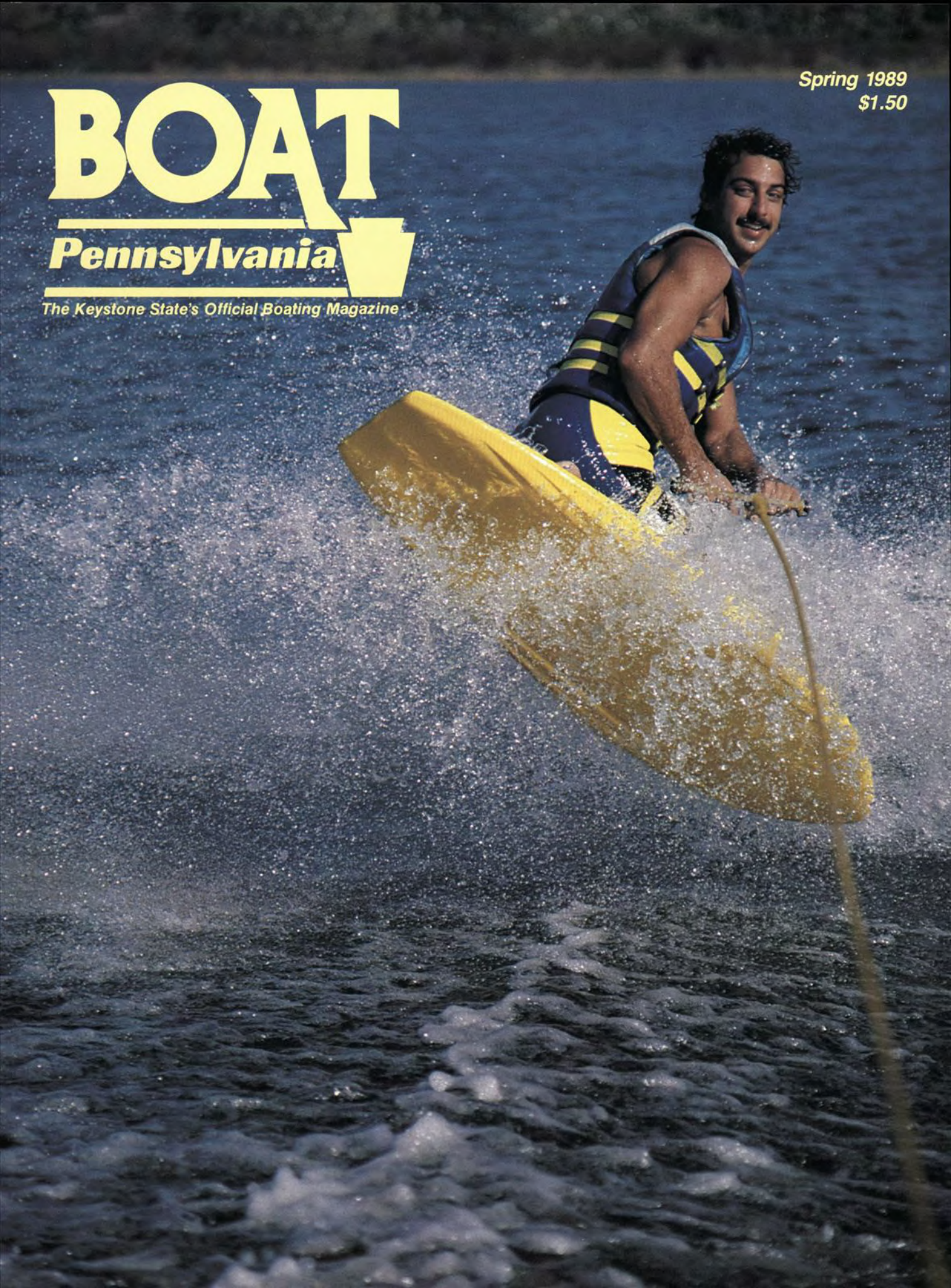

VIEWPOINT

Mandatory Education

Every once in a while the question of mandatory education comes up. Proponents have argued that mandatory education will result in safer and more courteous boaters. Education helps, but unless attitude change is part of the educational process, little will be accomplished.

Most mandatory education proposals seem to target the 12- to 16-year-old operator. There are many reasons for this. Youth are a captive audience and this makes it easy to get them into a class. Youth can be told to go to a class. Parents and law makers can say "Look what I've done to make the waters safe." Unfortunately, the statistics do not suggest that this age group is the major problem. They know that if their father catches them clowning around, they will lose the privilege to operate the boat. Most kids know this and act accordingly. Our experience has been that if people begin to boat when they are young and are taught proper values and respect, they grow up to be responsible adult boaters. Mandatory education for youth usually does not address this adequately.

Our surrounding states, however, apparently think differently. New York has had a mandatory education requirement for its youth for several years. Last year, Maryland began a progressive system in which all motorboat operators born after January 1, 1972, must complete a boating safety education class. During the first year, the law affected only 16-year-old operators. Each year the age goes up one year. Eventually all boaters will have to carry a Boating safety certificate to operate a motorboat on Maryland waters.

In 1989, New Jersey will require youth between the ages of 12 through 16 to have a certificate of boating education prior to operating a motorboat.

What does this mean for Pennsylvania residents? With New York and Maryland the answer is clear. If your sons or daughters want to operate a motorboat in these states, they must complete a course of instruction. New Jersey law is a little more difficult to call because of the joint water of the Delaware River. The New Jersey attorney general has ruled that all youthful boat operators must have a certificate in their possession regardless of where they live or register their boat. This includes all portions of the Delaware River east of the centerline, which is the recognized border of the two states. New Jersey's enforcement officers will exercise good judgment in enforcing the provisions of this law in questionable situations. They will also enforce the law if it is apparent that the operator of a boat intended to be in New Jersey waters. If your children could intentionally or accidentally operate a powerboat in New Jersey waters, they should obtain a boating safety certificate.

There are several options for obtaining the necessary certification. All U.S. Coast Guard Auxiliary and Power Squadron courses will be accepted. These courses are taught across the state, usually in the winter and spring. Call toll-free, 1-800-AUX-USCG for the course information.

Both New Jersey and Maryland will accept the Pennsylvania Boating and Water Safety program taught in many school districts. This hands-on course is taught in 17 districts during the school year as part of their aquatic education programs. 22 youth camps teach the program during the summer months as part of water safety programs. This course is not as widely distributed as it should be because of the volunteer nature of boating education in Pennsylvania. Its use is spreading, however, as a result of the need for certification in our surrounding states. Last year over 2,300 students were certified in Pennsylvania's program. To obtain a mandatory education certificate, a student successfully completing Pennsylvania's course simply has to forward a copy of the course certificate to the appropriate state.

The Pennsylvania Fish Commission has not supported mandatory boating safety education as the appropriate method of reaching its goals of safe boating. Pennsylvania has one of the best voluntary safety education programs in the country. Even though it reaches only a small portion of the estimated 2.5 million boaters in Pennsylvania, it has been successful. The Commission is working toward expanding the program to all school districts so that anyone who wants more training can get it easily. For more information on this program and to help get boating education in your schools, call 717-657-4540. Safe boating education is something we have to do together.

John Simmons
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The cover

This issue's front cover, courtesy of the American Water Ski Association, shows the fun and excitement of kneeboarding. For practical information on water skiing, see page 10. If you trailer a boat, don't miss the details in the article on page 16, and if you're a paddler, see how your etiquette measures up with the information of page 13. If sailing is your thing, you might want to cover yourself with the project on page 8, and for a look at a unique navy, turn to page 4.

The Schuylkill Navy

by Bill and Bert Schill

Not a fleet of supercarriers or steel-clad battleships but a flotilla of lightweight boats, called shells, that can be carried by hand and easily launched, make up the Schuylkill Navy.

In the 1800s several rowing clubs around the country were engaged in this sport, but as individual units. In 1858, the Schuylkill Navy of Philadelphia was organized to promote amateurism on the Schuylkill River and bring the clubs together.

Formally incorporated in 1882, the officers elected annually in December were commodore, vice commodore, secretary, treasurer and log keeper. The office of custodian was added in later years.

Each club has a senior and junior delegate who form the Naval Board in which the government of the Navy is vested.

In the Navy's bylaws, Article IX, Definition of an Amateur, lists in part: " . . . who rows for pleasure or recreation only and during his leisure hours; who does not abandon or neglect his usual business of occupation for the purpose of training."

The Schuylkill Navy is one of the largest and most influential local associations among amateur oarsmen in the country and foremost among the rowing organizations of America in rowing achievements.

Bill and Bert Schill

Bill and Bert Schill

Home of the Schuylkill Navy is located on the east bank of the Schuylkill River off Kelly Drive, in Fairmount Park, a short stroll from the Philadelphia Art Museum.

When the clubs were first formed they built small frame buildings along the river. Over the years, as the sport grew and more members were added, they were given permission to erect larger quarters with the provision that the new buildings had to be neat, attractive in appearance and enhance the appearance of the shore along the river.

This historic stretch of riverbank, known as Boat House Row, consists of brick or stone buildings owned by the individual rowing clubs: Fairmount Rowing Association, Undine Barge, Malta, University Barge Club, Bachelors, Vesper, Penn Athletic Club, Philadelphia Girls Rowing Club and Crescent Boat Club.

A famous landmark in Philadelphia, the houses are outlined by small, white lights that create a striking scene at night.

In 1859 the first regatta was held. There has been a regatta every year since, excluding 1861-4 during the Civil War.

In 1872, fourteen boats composed an escort for the funeral of General George W. Meade.

A regatta was held on the Schuylkill as part of the Centennial Exposition in 1876. Other organizations from around the United States and foreign nations joined in this celebration.

In 1978, the commissioners of Fairmount Park requested the Navy to stage a demonstration in honor of a visit to Philadelphia of President Rutherford B. Hayes.

Another regatta was held in 1882 to celebrate the Bicentennial and in 1936, the delegates to the Democratic National Convention were entertained by a presentation, "The Schuylkill Navy on Parade."

While many regattas have been held as part of celebrations, the Navy has an illustrious rowing record. Events have been won in England, Belgium, France and in various Olympiads from 1900 on, with oarsmen taking part in the recent competition in Korea.

Rowing garb has altered drastically since the early days of the Navy. For special occasions the oarsmen wore white navy blouses with wide turned-down collars, flapping sailor pants of white canvas, blue pea jackets with brass buttons, fancy col-

Shells are assembled and last-minute adjustments are made before launching. These boats have undergone dramatic changes over the years, from heavy vessels with stationary seats to lightweight shells with wheeled seats. Weighing no more than about 32 pounds, the wood is as thick as a piece of cardboard, and many shells are now made of fiberglass. Seats used to be staggered so that the rower pulling the starboard oar sat on the port side, and vice-versa. Today, oarsmen sit in a row behind one another.

Bill and Bert Schill

ored waistcoats, or belts of satin or silk, broad-brimmed sailor hats with fluttering ribbons showing the club's colors and highly polished pumps—a vast difference from the comfortable trunks and T-shirts of today.

The boats have also undergone a dramatic change, from heavy vessels with stationary seats to lightweight shells with wheeled seats. Weighing no more than 32 pounds, the wood is no thicker than a piece of cardboard. Many shells are now made of fiberglass.

The oarsman in the early vessels sewed leather on chamois to the seat of his trunks and heavily greased it to allow him to slide. In 1876 a sliding seat on a runner in a groove was introduced. It has a flange on the bottom to keep it from jumping out of the groove and even though it had to be heavily greased, it sometimes stuck.

The seats were staggered so that the rower pulling a starboard oar sat on the port side and vice-versa. This seating arrangement has changed over the years with the present oarsmen sitting in a row behind one another.

The 2,000-meter Schuylkill River course is wide enough for six lanes during a competition, but on any early morning, and late afternoons, the river draws rowers of all ages, from teens to men in their eighties. Women have also been part of the rowing scene for many years and there is a broad spectrum of occupations represented from high school athletes to blue-collar and white-collar workers, as well as many of the professions.

From the crack of dawn, in rain or snow, whether the temperature is boiling or freezing, inexperienced and the more skilled oarsmen are out rowing. The only time no one rows is when the river is frozen.

There have been many illustrious names connected with the founding, building up and encouraging rowing on the Schuylkill River, but there are two names that have brought enormous pride and honor to the Navy. Joseph W. Burk, of the Penn A.C., lost only the 1936 Olympic trial singles and one other during his career as an oarsman. He had 46 victories in single shells in four years, was the American national and the Canadian champion, won the Diamond Sculls in England in 1938 and 1939 and was awarded the Philadelphia Gold Cup when he won the National Association of Amateur Oarsmen Championship in 1940.

Burk was such a great national figure that he was voted the James E. Sullivan Award as the country's outstanding amateur athlete.

John B. Kelly, Sr., a prominent businessman in Philadelphia, was considered an oarsman whose record was unequaled. He started rowing in 1909, stroking a junior four-oared gig to victory in the Schuylkill Navy Regatta, and ended it by winning in a senior eight-oared shell race in the Middle States Regatta in 1925.

Throughout his rowing career he won innumerable victories in singles, doubles, pairs, fours and eights, including the 1920 Olympics at Brussels, Belgium, in both single sculls and double sculls with Paul Costello. He repeated the victory in the 1924 Olympics at Paris in double sculls, again with Costello.

His record was considered second to none when he "hung up his oars" in 1925 with only the trophy for the diamond sculls eluding him. However, his son, Jack, Jr., brother of the former Princess Grace of Monaco, won this coveted prize in 1947.

Kelly, Sr., devoted his life to the sport of rowing as an exercise to build physical fitness and to develop character in young men. He was the first oarsman to be selected for the "Hall of Fame" in 1960.

The Navy branched out to include high school rowing, and it sponsors several high schools at various regattas. From the ranks of the younger oarsmen the traditions of the Navy are being carried on.

The regattas held on the Schuylkill draw entrants from around the country and thousands of spectators who cheer their favorites on. There is ample parking and a grandstand has been erected at the finish line, but most viewers just sit along the bank and enjoy the competition.

The shells are launched at Boat House Row and at the Canoe House farther up the river where spectators can watch the shells being assembled and chat with the participants to learn more about the sport and racing techniques.

With the Navy's proud tradition continuing, amateur athletes are encouraged to row for pleasure, take part in many competitions and work toward gaining a position on a team that might bring the Navy, and the country, additional honor with Olympic Gold.

The Schuylkill Navy has certainly fulfilled its original goal of promoting the amateur sport of rowing.

A quad (top photo) is about to be launched. A single shell (above) can be launched by one oarsman. The 2,000-meter Schuylkill River course is wide enough for six lanes during a competition, but on any early morning, and late afternoons, the river draws rowers of all ages, from teens to men in their eighties. Women have also been part of the rowing scene for many years and there is a broad spectrum of occupations represented, from high school athletes to blue-collar and white-collar workers.

Bill and Bert Schill

A Super, Simple Sailing Awning

by Karen Sides

It was one of those mercilessly hot, deadly calm summer days when the sun beat down on us, frying our brains and burning our skin. We found ourselves unmindfully reciting passages from *The Rime of the Ancient Mariner* regarding shrinking boards and slimy seas as we stared over the side, watching bits of flotsam to ensure we were still moving.

It became abundantly clear that we needed a real *sailing* awning, not just one of those things one drapes all over the boat when anchored. We set about designing "an ideal awning" that would not only provide shade but would also withstand the gusts of a squall, be quick to put up and take down, and allow one to stay safely inside the lifelines when going forward. Ideally, it should also provide some protection from rain, be tall enough to stand up under, and store easily and compactly on deck or below. It definitely had to be simple to make and inexpensive.

The awning we devised certainly is simple and costs very little. It consists of two lengths of PVC pipe, four T-joints, fabric and eight grommets. The only tool required is a saw.

Versatility depicts this sailing awning. You can leave it up most of the time, and it should withstand a sudden squall. It can be taken down and lashed securely in seconds, and it can be taken apart at the coupling and stored in a compact package below.

The final product makes the cockpit look somewhat like a covered wagon, with the PVC pipes forming an arc, which is covered with material. The PVC pipe supports for the awning rest on the lifelines; light lines attached to the four corners and the center front and back of the awning hold it in place.

We usually attach the forward center line to the mast and the aft one to the backstay using a clip. We can attach the aft one to the rudderpost if we're going to be tacking often, otherwise we just unhook and rehook it when we come about. The four corner lines are attached to stanchions or whatever is convenient.

With a little ingenuity the basic design can be adapted to almost any boat with a lifeline. The actual placement of the awning supports will vary on each boat, but for the best support it is a good idea to place them near a stanchion. For an awning longer than eight feet it may be advisable to place an additional support in the center to avoid sagging.

We leave our super simple sailing awning up most of the time, so we've had an opportunity to test it in a variety of conditions over the past several years. It just seems to bend with the wind and we feel reassured knowing that it will withstand a sudden squall. However, it can be taken down and lashed to the top of the doghouse in seconds or, given a little extra time, it can be taken apart at the coupling and stored in a compact package below. It's also inexpensive enough that should we ever get into any real trouble, we would cut it loose and throw it over the side.

Best of all, in a simple and inexpensive way, it provides cooling shade so there's no more burned skin or fried brains.

Awning

Step 1. Measure the desired length of awning. Add one foot for a five-inch sleeve along the fore and aft edges plus one inch to turn under for the seam. The width will usually be limited by the available width of the material used.

Step 2. Cut two pieces of any suitable material, such as Vivatex or Sunbrella, to these specifications.

Step 3. Lay the pieces side by side along the center edge. Overlap the center line edges by one inch and sew them together.

Karen Sides

Step 4. Fold under and sew a 3/8-inch hem along the port and starboard edges.

Step 5. Fold under a six-inch sleeve allowance on the forward edge but *do not sew yet*.

Step 6. Punch a grommet hole through *both* thicknesses at the center seam about 3/4-inch from the folded edge so that the tie-down line can go around the PVC pipe for adding pulling strength. Then make a mark in each corner 3/4-inch from the folded edge and 3/4-inch from each side. Punch a grommet hole through a *single* thickness where marked. The material from the fold will show through the hole in the top layer of material. *Do not* cut through the second layer or you will have two holes on each side.

Step 7. Unfold the sleeve allowance and put a grommet in each of the four holes (two at the center and one at each side).

Step 8. Refold the sleeve allowance, turning under one inch on the raw edge, and sew. Repeat steps 5 through 8 for the after edge.

Awning support

Step 1. Cut in half a 20-foot piece of 1/2-inch diameter thick-walled PVC pipe.

Step 2. Push the two pieces together using the *built-in* coupling in one end of the pipe.

Step 3. Get a rough estimate of the finished length of the support by bending this pipe in an arc from the port to the starboard lifeline at the point where the forward edge of the awning will be. (You will fit it exactly later, so better too long than too short at this point.) Cut the PVC pipe roughly to the desired length. Repeat for the aft awning support.

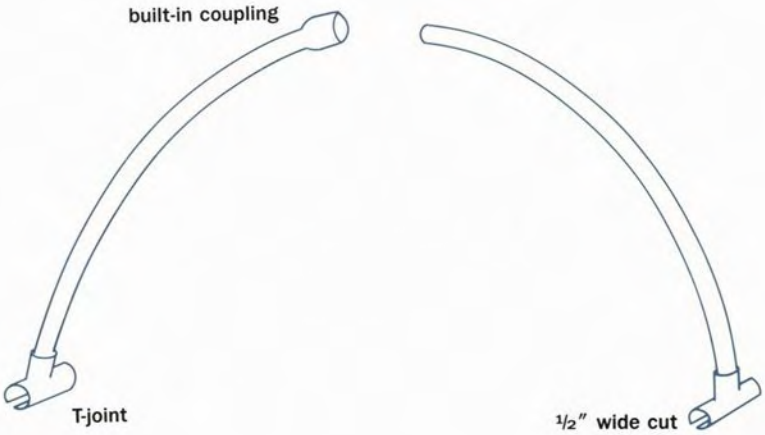
Step 4. Cut a 1/2-inch wide piece out of the long edge of each of four T-joints for 1/2-inch PVC pipe.

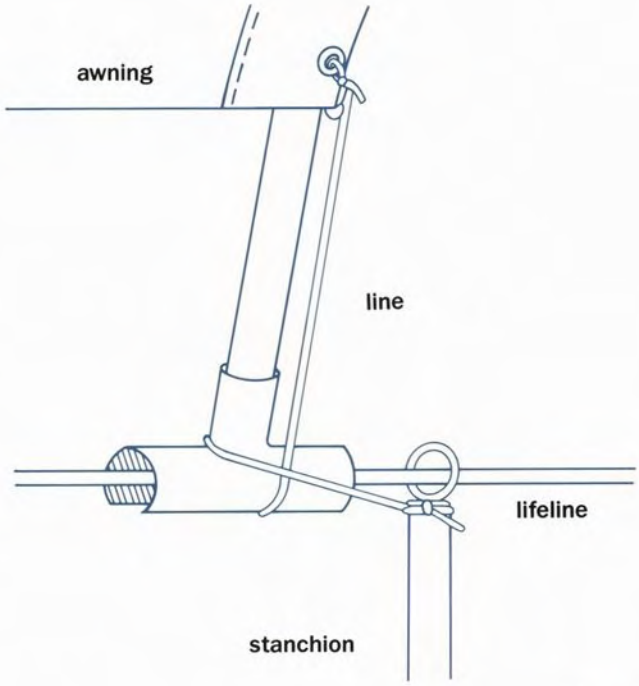
Step 5. Push the awning supports through the sleeves in the awning and attach a light line long enough to reach the stanchions to each of the corner grommets. The center lines should go around the PVC pipe for added pulling strength.

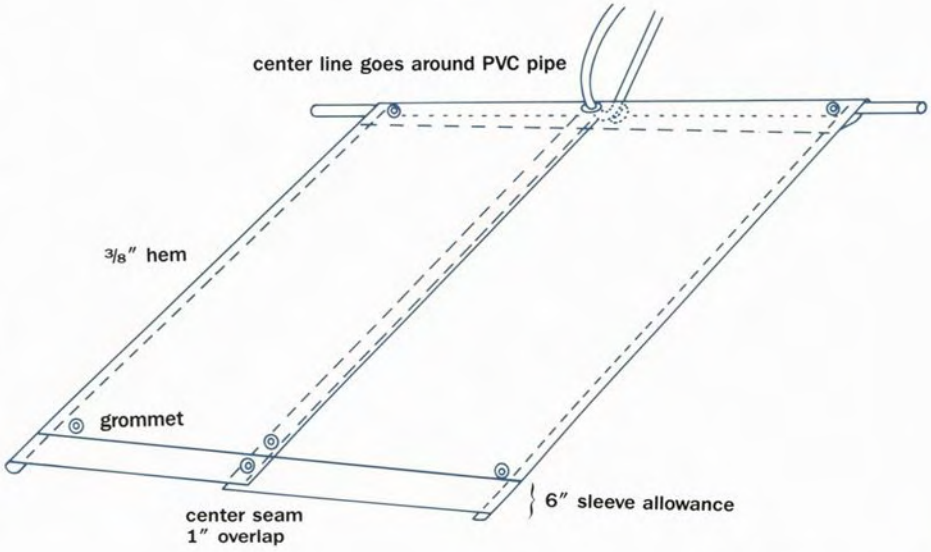
Step 6. Slip the T-joints on the ends of the supports.

Step 7. Fit the awning on the boat. Carefully measure and cut the ends of each side of the awning supports until you get the fit you want.

Attach the four corner lines to the stanchions. Make sure the top clears the boom so that you avoid the possibility of wearing a hole in the awning or the furled sail.







illustrations—Reprographics

The Hows and Whys of

by John M. Cornish II

Beginning water skiers often experience the same difficulties and problems with their first encounters with water skiing. From these experiences the same questions echo across our waterways.

What are some of these questions and what are the answers to these questions? Here are seven of the most common questions asked by beginning water skiers along with information that can help answer them.

The answers to these questions come from my personal and practical experience as an AWSA Certified Level I water ski instructor and ski school operator. I hope that some of these ideas will help every skier to enjoy and further succeed in the quest of water skiing.

Water Skiing

1. How do I control the awkward water skis?

I must first offer a suggestion to skiers that can change their way of thinking and their approach to the problem of controlling the skis. Do not try to control the skis, but instead control your legs or body position, which will in turn control the skis. The body and the skis should be a single unit. A skier who can relax in the water and maintain good body control has more natural buoyancy and stability, which results in less of a need to control the skis.

When a skier attempts to swim about or push and pull the skis, he finds that he normally has little success and becomes tired and frustrated. The skier must learn to be patient and allow the skis to react, rather than to wrestle with the buoyant implements. Skis have a great amount of surface area that create resistance in the water, much like a sea anchor. They do not move rapidly and will actually drag a skier in one direction or another.

Simple rules to follow:

Do not swim with the skis. Let the boat bring the rope and equipment to you. Sit comfortably in the water and wait, keeping your position ready for the start. If you must swim, do not use your legs. Just slowly and consistently paddle with the hands.

Relax and allow the body to float in an upright sitting position. This position allows the skier's natural buoyancy to hold the body in the ready position to begin skiing.

If the skis surface behind the skier and push the skier's face to the water, don't fight or swim. Do not panic because your face is being forced into the water. Relax, gain your composure, freeze the body position with the skis on the surface and the knees bent. Now, just roll over and you'll find yourself in a position ready for skiing. Remember just to rotate the entire body with the skis to the sitting position.

Use the tow rope handle to your benefit. Keep your hands on the handle and use it as a tool or lever that can assist in moving you and the skis without fatiguing the body.

Relaxation lessens muscle tension and over-reacting to situations both in the water and moving through the water on the skis. You will experience a smoother and more controlled skiing .

2. Am I strong enough to water ski?

Beginning water skiing does not take extra amounts of strength if proper technique is used. Anyone who can pull himself out of an easy chair or couch has enough strength to water ski. The skier should learn to use the boat's power to pull him from the water.

Being patient and learning not to hurry in the attempt to get to the surface of the water is very important. The key is not to try to pull yourself or muscle your way out of the water. Let the boat do the work to pull you up. Let your arms "lock-out," stay in a slight crouched position and slowly let yourself rise out of the water.

3. Why do I always fall backwards when I'm getting up on skis?

This question can partially be answered with the information from question 2. Normally when a skier falls backwards the problem develops when the skier pulls on the rope. The action of pulling in on the rope or bending the arms is a reaction to the surge that is felt when the skier breaks out of the water onto the surface. The pull of the skier is usually a sudden and forceful motion that causes the skis to skate forward, leaving the skier's body sitting back or behind and falling to the water on the posterior.

Skiers learn to keep their hips and weight over their feet with their knees bent. Experience eventually will allow a skier to pull or bend the arms at will with no adverse results. As described in answer 2, the beginning skier must be patient, wait for the boat to pull him out of the water, lock the arms and slowly surface with the hips centered over the feet.

Yamaha Outboards

4. Why do I fall forward over the front of the skis?

The answer relates again to the previously presented information. Falling forward is a common problem that is usually caused by the skier having stiff legs and a forward body position. Beginning skiers usually have a problem controlling body position. As they are instructed to keep their arms stiff and straight, they also stiffen their legs when they should remain slightly bent. The skier is told to allow the boat to pull him out of the water, but he typically over-adjusts and allows the head and shoulders to be pulled forward. The stiff arms and legs and forward body position result in a flop in the water on the front of the skis.

The skier must keep the arms straight but keep the knees bent with the hips centered over the feet. As the boat pulls you out of the water, just follow, or resist, the pull to slowly reach the surface and continue down the lake.

5. Why do I fall off to the side?

This is a more difficult question to answer without being able to see the skier's position and movements. There are several common problems that cause beginning skiers to fall to one side. Relaxed skiers have an advantage because they can float level and get off to a better start. They will probably apply equal weight or pressure on both skis with the proper start. Falling to one side or the other usually means that the skier is placing more weight on one ski, which pushes it under the water or drives it off in one direction. Consequently, a fall off to the side is the result.

The important factor is to keep the body weight balanced equally on both skis. This assists in keeping the skier from turning or flexing the ankles, which also causes the skis to take off in one particular direction.

The skier can learn to ride the skis when they veer off in one direction. The immediate reaction is to lean away from the skis, which results in a fall to that side. If the skier rides with the skis, he can surface and ski away outside the wake. This is another problem of overcompensation due to poor body position.

6. What makes the skis split or cross?

A skier should think about keeping the skis about shoulder width apart. This is a very comfortable and natural position. When skiers attempt to move the skis apart or together, they push and pull with their legs and turn their ankles. Once they have the ankles turned or the skis off a level position, the skis either split or cross, both resulting in a fall.

Standing flat and steady on the skis is important. If the skier can control the legs, he can also control the skis. The skier can use the buoyancy of the skis to keep them in position as an extension of the body. This is key to alleviate problems.

7. How do I relax?

Throughout this piece reference is made to the water skier being able to relax. The question "How do I relax?" is followed with phrases such as "when I'm sinking in the water," "with my face in the water," "with water splashing in my face," "with the skis going all over the place," and so on.

The watery surroundings are very different. They may even seem hostile. But the surroundings are safe if you follow the laws. A skier is required to wear a PFD or personal flotation device. This device must be U.S. Coast Guard approved. The skier has to learn to depend on the PFD and float. Once you gain confidence in the PFD, you overcome the fears, the surroundings are tamed, the water is no longer a factor and you can concentrate on body position. With all this gained, the skis are not the problem you thought they were.

The previous answers to the seven questions along with the additional suggestions are the basics to beginning water skiing. Beginning water skiing is relatively easy and should be attainable by most individuals. Following instructions and body control are the foundation of building success in water skiing.

There are other factors that enter into the successful process of water skiing. The skill of the driver, the immediate force of the boat, the equipment and the water conditions are just a few of these factors. As in any other undertaking, the driving force must be desire. An individual without desire has a much more difficult time accomplishing any task. But desire breeds success.

Ethics of Group Canoeing

by Cliff Jacobson

A bright summer morning on any Pennsylvania river. A crowd of canoers, led by one or two self-appointed "leaders," prepares for the annual downstream float. The day may begin at a state park boat landing, a private riverside dock, or a "U-rent 'em here" canoe livery. No matter. Results are the same—mass confusion everywhere. Already it's 9:30 a.m. "Weren't we supposed to shuttle at 9? What! You say the shuttle's gone? I didn't hear any announcement. How'm I gonna get my car to Shawnee?"

"No sweat, friend," comes the ready answer. "Somebody'll bring you back!"

Between the mix of uncertainty and lack of communication, there is misunderstanding of the day's events.

"They say we'll be done by four. Better be! Got a hair appointment at five. We shoulda left an hour ago. No way will we make it by four. Where is Robertson (the leader), anyway?"

Finally, the shuttle is complete and the pack moves to the river's edge. Left behind are soft drink cans, candy wrappers, styrofoam cups and occasionally, a life vest, paddle or other honestly useful item.

Once on the river, the fun begins. The kids and young adults have their radios whose notes and rhythms they unselfishly share, even with those who are not their friends. And some of the adults have beer. Lots of beer. Invariably, you can get one free for the asking. In the scene are whiny kids and barking dogs. But these over-indulged passengers have no say in what's going on.

It is impossible to maintain control over a group that's spread out on the waterway. Spell out the exact nature of the cruise before you set out. Actively discourage from attending those who cannot or will not stay with the group.

Fifteen minutes into the trip, someone lights up a cigarette, while another opens a beer. A half-mile downstream both can and butt are innocently—and with much laughter—tossed into the gathering flow. A nearby paddler catches the drinker in the act and politely suggests an alternative to littering.

"Aw, it'll sink to the bottom," comes the reply. "You'll never find it!"

Later, a banana peel and apple core are heaved into the woods under the guise that they are "biodegradable." Don't you worry, nature'll take care of it!

Round the bend is a gentle rapid, no big deal—just get into the "chute." But for the drinkers it's already a four-beer day and their judgment shows it. Almost immediately there's a capsize. It's a small drop and everyone is rescued without incident. But wait. Where's the beer? "You mean we lost the whole case? You gotta be kidding!"

Round the bend is a quiet pool, and one of the canoes peels off to fish. In the heat of expectation, a pole is brought back too far when the cast is released, and seconds later an innocent onlooker has a treble hook in the flesh. The "leader" pulls alongside to assess the damage. "Sorry, there's no first-aid kit on board. Maybe we could wrap it with a handkerchief till we reach the take-out."

A noon lunch is planned, but the undulating mass doesn't reach the appointed spot until after two. It was the late start, you know. When the drag canoe finally arrives, the lead canoe has already returned to the river. They build a hasty fire, wolf down some charred hot dogs and beat a hasty retreat back to the canoe. On the run, one partner guiltily spreads sand over the determined flames. Now, only smoke remains. Is the fire *really* out? We'll never know. They never looked back!

Around three o'clock, a persistent head wind develops and the canoes spread out still farther. The gap widens as the moms and dads and dogs and kids in their "pusher" aluminum and Royalex canoes fall behind. With knowing smiles, Robertson and friends push ahead in their lithe Kevlar cruisers. Good lesson here: Now you slugs will discover what "efficient" canoeing is all about!

The elitists reach the take-out at 4:06, just as planned. But it's near sunset when the last boats come in. Sorry guys, the last

Joe Workosky

The problem is that most groups don't have a "leader." Too often the one who plays the part is well-meaning but inexperienced and disorganized. Show me a group with a good leader and I'll show you ethical behavior on a river and smoothly run trips.

car's been shuttled. But there is a bus at nine!

Right now, you're probably shaking your head in disbelief, and thinking, "Not bad, Cliff, considering you made it all up." Quite honestly, I didn't. Not one word. I have, however, changed the names and places to protect the guilty. We canoeists like to think we've got a handle on "outdoor courtesy and the proper way." Let me tell you, friends, it just isn't so. You'll find plenty of pigs among the ranks of those who paddle canoes.

Environmental neglect is more often a matter of insensitivity than illegality. Because the group "leader" is one to set the tone here, let's talk first about the leader.

The leader

The problem is that most groups don't have one. Too often, the one who plays the part is well-meaning but inexperienced and disorganized. Show me a group with a good leader and I'll show you ethical behavior on a river.

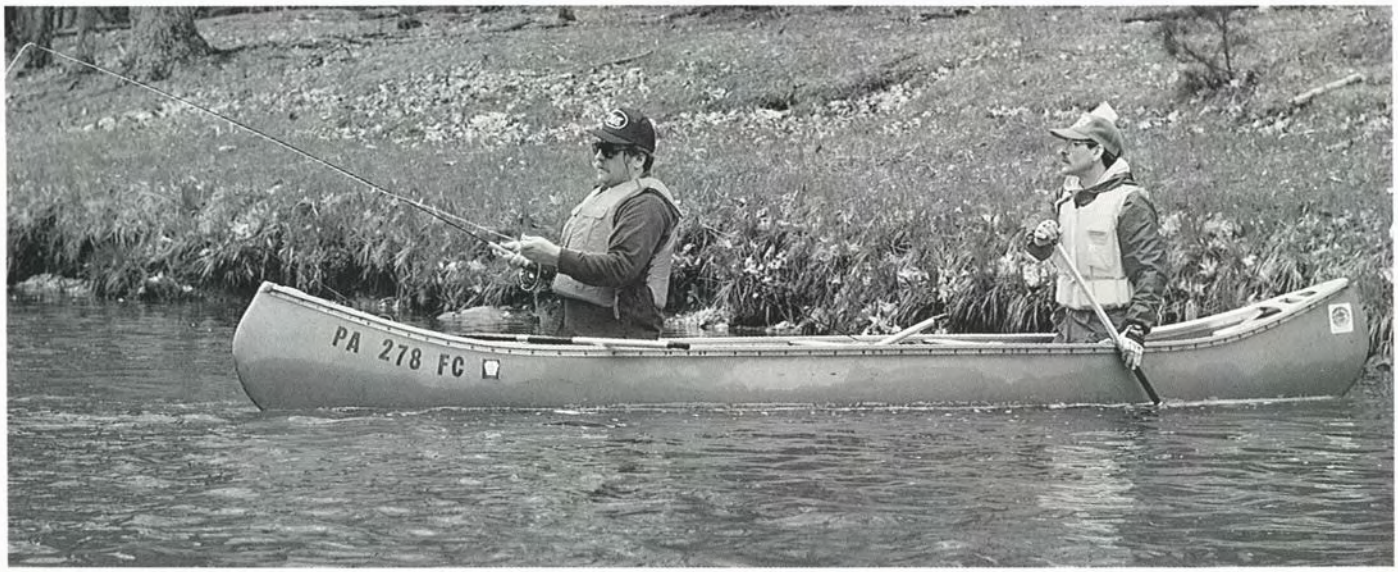
Leadership, per se, is a complex process, one that cannot be addressed in an article of this length. However, these are the basic tenets:

- The leader leads. No one passes the leader. Ever!
- The most experienced canoeist (next to the leader) paddles "drag." The drag canoe never passes anyone.
- There should be one experienced leader and one capable drag paddler for every half-dozen canoes.
- Lunch and rest stops are timed for the arrival of the drag—not the lead—canoe. The end-of-trip shuttle does not commence until the last canoe touches shore.
- *At least* lead and drag canoes should have whistles, which are blown only in emergencies.
- Each canoe keeps visual contact with the canoe behind it, not ahead of it. Rationale: It's easy to drop back and take up the slack; it's not so easy to push ahead and catch a fast team.
- Emergency equipment (first-aid kit, fire-starters, etc.) should be carried in both lead and drag canoes. If only one set of emergency gear is carried, put it in the drag boat.
- In the event of a capsize, the first responsibility of nearby canoes is to pick up the swimmers. Only after the canoeists are rescued should their canoe and equipment be salvaged.
- The group leader should make the nature of the trip (slow-paced, fast cruise, intermediate whitewater, etc.) *perfectly clear* before the wheels roll to the put-in.
- Everyone who joins a float group should have received a list of essential equipment and "do's and don'ts" *in advance of the trip*. Remember that most folks canoe because they like the outdoors as much as the paddling experience. If their actions despoil the environment and the fun of floaters, it's because they don't know any better. They have never been shown the proper way by their group leader.

Paddlers

Here's a partial listing of what I expect from paddlers who follow me downriver.

- **No radios.** Period! I've come for the sight and sounds of the river, not to listen to someone's private bandstand. I'm pretty mouthy about suggesting that radios be left in the car or turned off on the river. Those who refuse to comply are left out of future trip plans.
- **Equipment.** For years I packed extra rain clothes and wool shirts on my canoe trips to save some bozo from the misfortunes of the river or the weather. I don't do that anymore. Instead, I tell my groups what is expected *before* they arrive at the put-in.



Those who don't have the essential items (a PFD, plus a wool or pile shirt and rain gear are the bare minimum) don't go on my trips. And they shouldn't go on yours. If your leader does not supply you with a list, use this one for starters.

_____ Life jacket
_____ Two-piece rain suit. Avoid ponchos that dribble through, and cheap plastic outfits that tear.
_____ Wool or pile shirt.
_____ Light nylon wind shell.
_____ Change of clothes from nose to toes.
_____ Brimmed hat and sunglasses.
_____ Knife and matches.
_____ Small flashlight (it's surprising how many trips begin in blazing sunlight and finish in unplanned darkness).

• *Wear your life jacket!* This does not mean "have it available." This universal club requirement applies to flatwater beginner routes as well as intimidating whitewater runs. Take off your PFD on a well-run club outing and you'll hear about it!

• **Shuttle.** Everyone wants his car at the bottom end so he can get home quickly. Unfortunately, the realities of river canoeing require that a few drivers go the extra miles for the group. Logistically, a van or Chevy Suburban-type vehicle with lots of people-hauling space is most efficient. If you own one of these vehicles, please volunteer to stick around until the drag boat comes in, and taxi folks back to their vehicles.

• **Beer.** Alcoholic beverages are actively discouraged by every canoe club I know. It's okay to have a beer with lunch, providing you carry out the can. However, continuous sipping as you drift downriver is out of place on a group float.

• **Garbage.** Included here are beverage cans, paper products and biodegradable items like apple cores and orange peels. You brought 'em in, you pack 'em out! Granted, biodegradable products do decay, but in the meantime they are an eyesore that breeds bacteria. If thrown into a waterway, they use up precious dissolved oxygen as they are consumed by multiplying microorganisms. That's also littering, and it's illegal.

Always bring a strong plastic trash bag on every canoe trip you take. Tie it to a canoe thwart where it will be visible to other floaters. This is a non-intimidating way to educate your friends.

• **Human waste.** Please answer the call of nature *at least* 100 feet from water. Dig a small hole (four inches is plenty deep) with your shoe. Afterwards, *burn* the toilet paper and cover the hole with dirt. Human waste will decompose in a matter of days; toilet paper requires two seasons or more.

• **Cruising speed.** Of all the river ethics, this one inflames the most wounds. Invariably, there is always a fast team who wants to show off and an inexperienced one who lags behind—a scenario that can produce a chain of canoes several miles long. It is impossible to maintain control over a fleet that's spread out. If a boat capsizes or someone gets hurt, there may be no help available.

So spell out the exact nature of the cruise before you set out. And actively discourage from attending those who cannot or will not keep up.

• **Smoking.** I'm a reformed smoker, and admittedly that's the worst kind. Fact is, very few canoeists smoke, and those who do are very courteous about it. If you smoke while paddling, ethics demand that you field-strip your cigarettes and carry out the butts. If you puff away at a shore stop, either field-strip the smokes, burn the remains in a campfire, or bury them. Your friends will appreciate this thoughtfulness.

• **Rowdy behavior.** Mostly you see this in teen groups led by incompetent adults. Everyone is out for a good time, much to the detriment of the river and other floaters. It is ethical to call inconsiderate practices to the attention of the group. But use tact. The clown you're talking to might just be capable of learning new behavior.

Don't play dodge-'em with your canoe. If you want to see fur fly, crash into (indeed, just nick!) someone's $1,400 Kevlar canoe with a rental boomaluminum. Boy, do you have a surprise coming.

• **Packing your gear.** Everything should be placed in packsacks or a rigid container of some sort. An ice chest, with lid taped down, makes a fine safe for food and clothing. Discreet bundles are easily salvaged in a capsize. Loose jackets, beverage cans and the like will be lost to the river.

I could go on, of course, perhaps for pages. But these are the basic concerns—all of which may be summarized by two simple cliches: "Take only pictures, leave only footprints." And respect the rights and concerns of others. What could be easier?

Towing Heavy

Used to be a time when anyone wouldn't hesitate hooking up a big boat to the family sedan or truck and towing it anywhere. Used to be when you could reel in a limit of fish in an hour and Coke was a nickel. Used-to-be's sure are fun to think about—sometimes—but they don't make a lot of sense if you want a $20,000-plus boat and trailer that needs to be towed with a $20,000 vehicle that gets five miles per gallon. Somehow, today, a big boat makes sense, but that big, gas-guzzling tow vehicle, with fuel costing $1 a gallon or more, doesn't seem right. Used to be when gas was 25 cents a gallon and a big car was $2,000, and it didn't matter.

I go through the same mental exercise

Trailer Boats Magazine

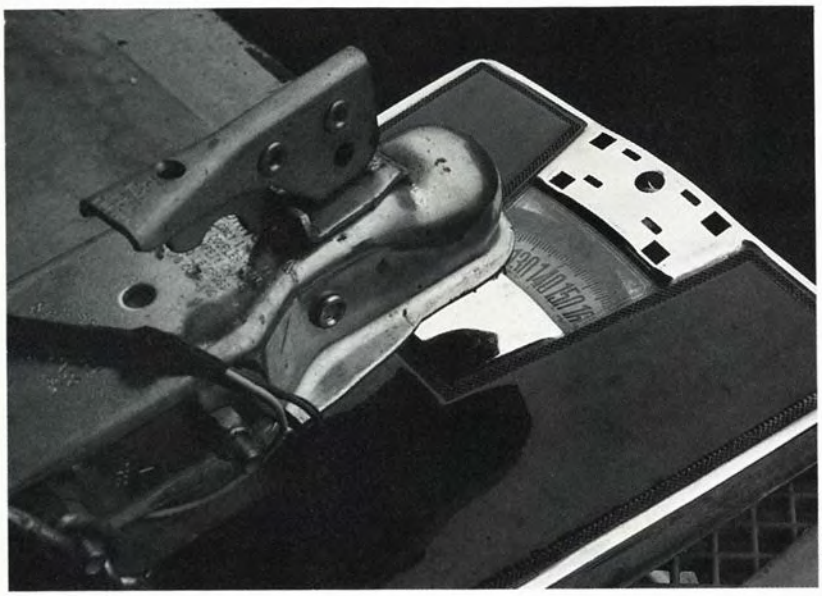
If you want a big boat, you need a big tow vehicle. A big boat in Pennsylvania is one with a towed weight greater than 3,000 pounds. These requirements may discourage you, but a little restraint is much better than a lot of grief.

Boats

by Bob Kovacik

whenever I look at a new camera, a new fishing rod or spend $8 for a steak for one. I don't really need any of them, but I want them. And it's the same with a boat. If you want a big boat, you need a big tow vehicle, and you have to accept that. If you're limited by a small budget, you'd better think small.

First, let's clarify a "big boat." A big boat in Pennsylvania is considered to be one that has a towed weight in excess of 3,000 pounds. Most Pennsylvania boats are small runabouts or fishing boats, usually in the 12- to 16-foot range, simply because they're more practical for most of our small lakes and waterways. But when you want to upgrade to 20 feet or larger, it's a whole lot different, from a towing standpoint, anyway.



Art Michaels

To determine your trailer's correct tongue weight, place a board on a scale and weigh the trailer tongue on a bathroom scale. Be sure that the scale is the same height as the hitch ball. Towing heavy boats requires a tongue weight of 10 to 15 percent of the towed weight. If you're unsure about this procedure, or if you'd like to double check the tongue weight, your dealer can help. Remember to load your boat fully when you ascertain the tongue weight.

Art Michaels

Here I'll outline your requirements, and maybe even discourage your "wants" a bit. But a little discouragement is much better than a lot of grief.

As you upgrade to a larger size, be aware of Pennsylvania's towing laws. When you're towing 3,000 pounds or more, trailer brakes are required and the boat/trailer combination can't be wider than eight feet or longer than 60 feet (which includes tow-vehicle length, too), without a special permit.

What constitutes a 3,000-pound towed load? It doesn't mean a 3,000-pound boat, that's for sure. If you look at a boatbuilder's brochure that shows a 3,000-pound dry weight for the boat, it often doesn't include an engine, and *never* includes the weight of fuel, options and trailer.

As a *very* general rule of thumb, a 2,000-pound boat will mean a towed load of 3,500 pounds, a 5,000-pound boat will mean a towed load of 8,000 pounds and a 7,000-pound boat will mean a towed load in excess of 10,000 pounds, which very few tow vehicles can handle.

Chances are, though, your "big" boat will be in the 3,000- to 5,000-pound range, which is up to about 24 feet in boat length.

Once you're much over 3,000 pounds of towed weight, you may have to forget about towing with an automobile. No matter what you may have learned years ago about automobiles, they're no longer built to handle much towed weight. Ford Motor Company offers the Ford Crown Victoria, Mercury Grand Marquis and Lincoln Town Car. General Motors has the Chevrolet Caprice, Cadillac Brougham and assorted large station wagons with tow ratings up to 5,000 pounds. That's it; there's nothing else. By the time you load any of those cars with passengers and fill the trunk, you'll be lucky to tow 4,000 pounds, if that. You need a truck.

Maybe you don't like the idea of a

truck, or of a second vehicle just for towing. In that case, you're overstepping your expectations. A car, even a small truck, may not be able to meet your needs, especially when your non-towing requirement may be fuel economy.

Getting tow-vehicle information is difficult. Dealers try, but many dealers don't tow, so they must rely on factory literature. If factory towing literature says the vehicle is capable of handling 5,000 pounds, the dealer will tell you that. However, there's a lot of small print at the bottom of that "5,000-pound tow limit" that you should be aware of.

Trailering guides—or at least towing requirements—are available through dealers. Some are printed in owner's manuals, but more complete booklets are offered by manufacturers. Some manufacturers that offer complete towing guides are Buick, Chevrolet, Chrysler, Ford, GMC, Nissan, Oldsmobile and Toyota. One source that is always helpful is *Trailer Boats* magazine, which prints a new model-year towing guide every March.

Trailering guides, or at least towing requirements, are available through dealers. More complete booklets on towing are offered by Buick, Chevrolet, Chrysler, Ford, GMC, Nissan, Oldsmobile and Toyota.

It is important to understand some of the towing verbage in these publications. Here are the more important ones:

- **Axle ratio.** This is expressed in numbers such as 2:1, 3:1 or 4:1. The higher the number, the easier it will be to tow a heavy load. The smaller the number, the more difficult, or impractical, it will be.
- **Gross combined weight rating (GCWR).** This is a rating used primarily with light trucks. And to me it's the most important rating that an automotive manufacturer offers for towing. The GCWR is the weight of the tow vehicle, the boat and trailer, and all fuel, passengers, options, equipment that is carried in both. You will find GCWR listed in most truck manufacturer's towing guides. They are based on engine size and axle ratio.
- **Weight-distributing hitch.** A special frame-mounted hitch with bars that attach to the trailer. These bars, called spring bars or weight-distributing bars, can be adjusted to distribute the tongue weight to the front wheels of the tow vehicle and to the trailer wheels. More on that later.

Once you decide that your weight can only be handled by a truck, the decision on which truck becomes critical. How many passengers will be carried? Will I need two or four doors? How about extra storage space inside the vehicle? And can I get away with a smaller truck that gives me better fuel economy when I'm not towing?

You can't always base your towing decision on the tow ratings a manufacturer offers. Those tow ratings are usually based on an empty truck with only the driver aboard, which is why the GCWR suddenly becomes important.

I do many towing tests each year, and I find some of the so-called tow ratings to be optimistic. As a general rule, here are my recommendations.

- **Under 3,500 pounds.** Most trucks, depending on tow ratings, GCWR, and when properly equipped with the recommended towing equipment, can handle this load.
- **3,500 to 5,000 pounds.** Trucks in the 1/2-ton to 3/4-ton category with 5.0-liter (305 cubic inches) or larger V-8 engines.
- **5,000 to 7,000 pounds.** Trucks in the 3/4-ton to 1-ton category with larger diesel or gasoline engines, 5.7-liter (350 cubic inches) or larger.
- **7,000 pounds and more.** Trucks in the heavy duty 3/4-ton or 1-ton category with either turbodiesel or gasoline engines 7.4-liter (454 cubic inches) or larger.

Some smaller engines can tow more than the recommendations I show, but these are guidelines that I like to work with and that have proven successful for me. Once again, be aware of the GCWR that the manufacturer shows for a particular model.

If you're not familiar with the terms 1/2-ton, 3/4-ton and 1-ton trucks, it refers to the capacity of the chassis. Though these terms are seldom used by truck manufacturers today, they are still common layman's terms.

Basically, a 1/2-ton model is very light-duty with car-like driving qualities. It can't handle a heavy load satisfactorily. A 3/4-ton has a beefier frame, axles, suspension, wheels, etc. It gives a rougher ride, but is designed to handle a reasonably heavy load. A 1-ton is very truck-like and rough-riding. But if you have an exceptionally heavy load to handle, it will handle

Chances are the dealer will not have the proper tow vehicle you need in stock. Follow the manufacturer's recommendations and requirements in the towing guide, not the dealer's. For this reason, order the required equipment when you order a tow vehicle.

the load better and have fewer structural failures from that load than a lighter-duty truck.

Transmission

One other aspect that's important when towing is the transmission you use. When you look through a manufacturer's towing guide, you will find that the builder almost always specifies an automatic transmission for the heaviest towed weight. That is usually because the clutch (especially on 1/2-ton models) is not strong enough. Until you get into the heavy-duty 3/4-ton or 1-ton models, clutches can be suspect, especially on steep launch ramps with a heavy load.

Two other considerations you might have are for the use of a limited-slip differential or four-wheel drive.

A limited-slip differential allows both driving wheels to turn at the same time. How many times have you seen a vehicle get stuck in the mud or snow simply because only one driving wheel was turning? This can be especially critical on a slippery launch ramp. A limited-slip differential can relieve that. However, a limited-slip differential can be noisier than a conventional differential, and because of the greater number of moving parts inside, it may require more frequent maintenance.

Four-wheel drive is a great addition, especially on tough launch ramps and in the winter. It allows all four wheels to drive the vehicle, and it's usually the front wheels that are on drier pavement at the launch ramp. Yet, four-wheel drive is expensive, requires more maintenance and may lower the tow rating of your vehicle.

If the ramps you frequent are always in good condition, chances are you don't need either of these systems. But it's worth considering if your conditions are tough.

Hitches

For heavier towing, you'll want a frame-mounted hitch. Some truck step-bumper hitches are rated for up to 7,000 pounds (4,000 pounds by automotive manufacturers). However, you'd better be sure the step-bumper hitch is strong enough if you plan to use one. Not all have adequate bracing, which can result in trailer sway and bent or broken bumpers. Besides, you can't adjust hitch ball height very much with a step-bumper hitch, and hitch ball height is critical for proper towing. With a frame-mounted hitch, the hitch ball assembly can be made to fit your towed load.

Just about every American truck manufacturer recommends a weight-distributing hitch when towing more than 2,000 pounds. It's not always necessary for loads less than 3,000 pounds, but it definitely must be considered when towing more than 3,000 pounds.

A weight-distributing hitch evenly distributes tongue weight over the front and rear axles of the tow vehicle and the trailer axle(s). If a weight-distributing hitch is not used, the tongue weight of the trailer lifts the front steering wheels of the tow vehicle. This results in sloppy steering, a thumping bounce at the back of the tow vehicle, and sway at the back of the vehicle and at the trailer. Suspension aids may help some, but the most successful counteraction is the use of a weight-distributing hitch.

When a weight-distributing system is used with surge brakes, you may need a pole tongue adapter, surge-brake adapter or both, depending on the configuration of the trailer and brake system.

A pole-tongue adapter is necessary when the trailer tongue—usually a long, straight tongue—will not allow the spring bars to be connected. This adapter mounts on the trailer tongue and extends outward on each side to accommodate the brackets needed for spring-bar attachment.

When using an Atwood surge-brake actuator (usually found on trailers of 5,000-pound loads or lighter), you can use a weight-distributing system as long as the spring-bar chains are hung perpendicular to the trailer frame. However, for a heavy duty surge-brake actuator, such as a Dico, the trailer brakes will not operate properly, so a special adapter is required. The adapter is available from Dico, or many hitch installers and trailer manufacturers offer it as an accessory or will custom-make one for you.

Sway controls

Sway controls are often required by automotive manufacturers when towing more than 2,000 pounds. They may not always be necessary, but they may be worth at least a consideration.

A sway control attaches to the hitch ball assembly and to the trailer frame. Its purpose is to reduce trailer sway caused by winds, passing trucks or many other reasons. Generally, a sway control operates by friction to resist pivotal movement at the hitch ball. It also increases turning radius. However, sway controls and surge brakes are not compatible. There is only one manufacturer I know of (Bleiler, Inc., of Mequon, Wisconsin) that makes one that works with surge brakes.

Towing packages

Certain tow-vehicle options are required by manufacturers, as you'll see in their towing guides. The best way to get this equipment is to order it from the manufacturer when you order a tow vehicle. Order a tow vehicle? That's right, order a tow vehicle.

Chances are a dealer will not have the proper vehicle you need in stock. He may try to sell you one and tell you that it works just as well, but it doesn't. Follow the manufacturer's recommendations and requirements in the towing guide, not the dealer's.

If you order the proper towing package and axle ratio, it is cheaper than having it installed later, plus it will be under warranty. The more critical items you'll find in a towing package include a complete and heavy duty cooling system, larger wheels and tires, and beefier suspension components aimed at making your vehicle more durable when towing. Some towing packages even include a hitch and trailer wiring harness.

There's a lot more to heavy duty trailer towing than what's outlined here, but it should give a headstart toward choosing what's necessary for your particular needs.

Don't forget—if you want a big boat, you need a big tow vehicle. If you want a small tow vehicle, tow a small boat.

Jersey Reg May Affect Pennsylvania Boaters

If you're between the ages of 13 and 16 and wish to operate a motorboat in New Jersey waters this year, especially the concurrent waters of the Delaware River, you should know about a new regulation adopted in that state.

New Jersey now requires that all motorboat operators between the ages of 13 and 16 complete a certified safe boating course. The regulation is enforced no matter which state your boat may be registered in. Fines for not being certified range from $100 to $500.

Any safe boating course approved by the National Association of State Boating Law Administrators (NASBLA) is acceptable for certification. This means that all Coast Guard Auxiliary and U.S. Power Squadrons courses are accepted. The Fish Commission's Boating and Water Safety Course and classroom courses using the Pennsylvania Basic Boating text also meet New Jersey's requirements.

When you complete one of the approved courses, send a copy of the certificate to the New Jersey State Police, Marine Enforcement Bureau, Box 7068, West Trenton, NJ 08628-0068. New Jersey will in turn issue the required Boating Safety Certificate.

New Finance Promotion

Designed to make financing marine accessories as easy as financing boats, Captain's Credit has been jointly announced by the National Marine Bankers Association (NMBA) and the National Association of Marine Products and Services (NAMPS). The finance promotion was created in response to the desire of lenders to make it easy for marine loan customers to apply for additional credit and of marine accessory manufacturers to make their products more affordable.

Captain's Credit is the title of a promotional brochure combined with a universal credit application. The pamphlet suggests that boat buyers think ahead in terms of adding marine accessories. If the accessory is bought before all other paperwork is completed, most lenders will include it with the financing of the boat. Then the cost of a major accessory purchase becomes a manageable monthly payment by amortization over the boat loan life.

For example, adding $1,000 worth of accessories to a boat loan with a 15-year term and carrying a 14 percent simple interest rate increases the monthly payment by $13.49.

Alternatively, if the boat financing is completed, the brochure explains that marine lenders can structure a personal line of credit, home equity loan or refinancing to make the subsequent addition of a major marine accessory affordable. In filling out the integral application, the borrower details assets that will likely include a boat. Lenders view boat owners, who represent greater asset ownership, as preferred customers often worthy of further credit consideration.

Captain's Credit brochures are available at participating marine lenders and retailers. Individuals may request a copy by sending a stamped (25-cent) self-addressed, business-sized envelope to *Captain's Credit,* NMMA Public Relations, 401 North Michigan Avenue, Chicago, IL 60611.

Prop Pointers

Cars have the driver's seat on the left-hand side (except for places like England), so why do powerboats have the seat on the right side?

There is a practical reason. When observed from behind a boat, the engine propeller turns clockwise when the boat is under way. The prop is said to have a right-hand rotation. Water resists the clockwise motion of the propeller, so it causes the boat to roll slightly in the opposite direction—down on the left side. To offset this slight imbalance, the operator's seat is placed on the right (starboard) side.

How many blades should a propeller have? Propeller technology, like much of life, represents a compromise. A single-blade propeller theoretically is the most efficient, but the vibration would be intolerable. Adding blades reduces both efficiency (which is bad) and vibration (which is good). So most props have three blades—a reasonable compromise between efficiency and vibration.

What's the advantage of having a thin-bladed prop or one with thicker blades? There is only so much power available from the engine, so blades should be as thin as practical. That's because it takes more power to push a thick blade through the water than a thin one. Does this mean that a boater should buy the thinnest blade he can find? Not necessarily. The thinner the blade, the more likely it will break (when compared to a thicker prop of the same design and material).

Booming Business

Another boating season has begun and with it we've had another increase in the number of boat registrations. Pennsylvania is riding the crest of the wave of this booming recreational activity.

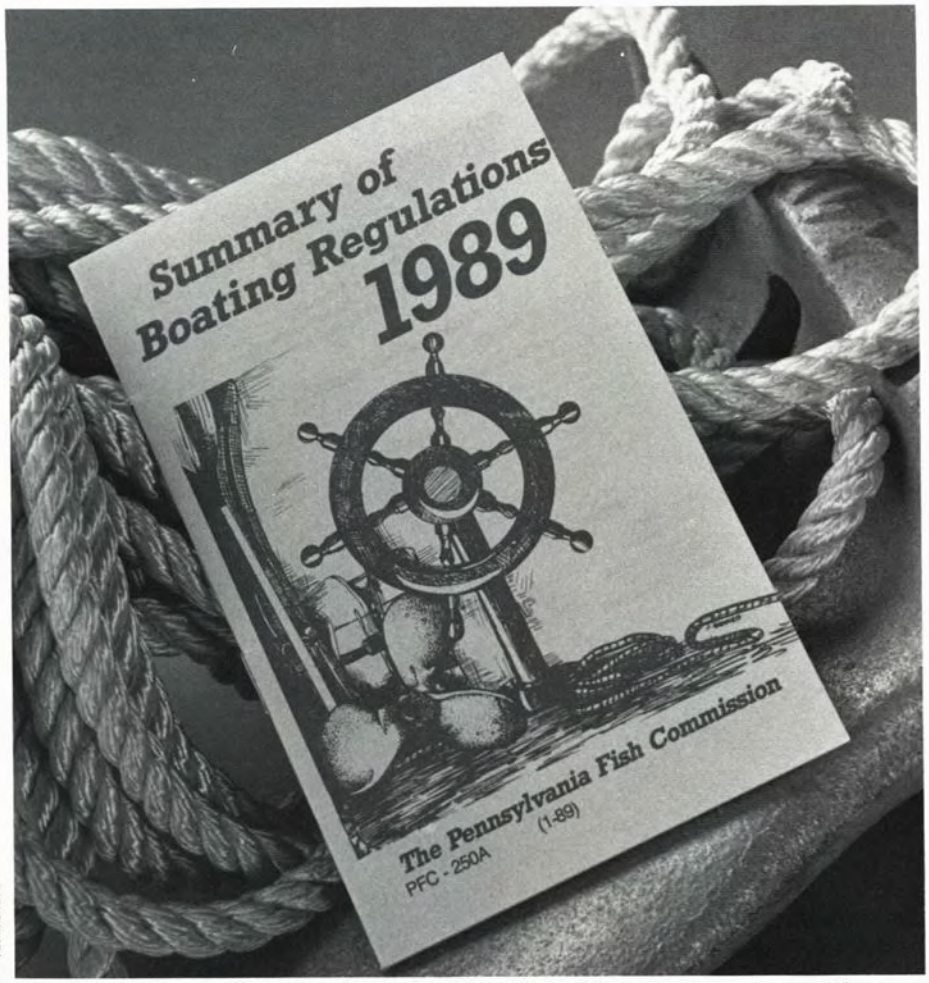
Since 1977, boat registrations in Pennsylvania have increased from 167,528 to 265,710. Between 1987 and 1988, registrations increased by more than five percent. Most of the boats registered (160,765) fell in the Class A category (boats less than 16 feet). Class 1 (boats 16 feet to less than 26 feet) had 86,199 registered; Class 2 (boats 26 feet to less than 40 feet) had 3,018 registered; and Class 3 (boats over 40 feet) had 248 registered. There were also 15,480 boats registered as dealer, jobber or manufacturer boats.

Allegheny County still leads the way with the most boats registered (27,988), followed by Bucks County (11,638) and Luzerne County (10,088). In January 1989, more than 272,000 renewal notices were mailed to the boating public. From January through April, some 243,000 (90 percent) of these renewals were processed. Last season, more than 29,700 first-time registered boats were added to the registration system.—*Andrew Mutch*

Subscription Rate Rises

Increased production costs are the cause of a *Boat PA* subscription price hike that will take effect on July 1, 1989. The yearly subscription price will go from $4 to $6.

Now would be an excellent time to renew or extend your subscription to save money before the new rates take effect. Use the card stapled into the middle of this issue!



Art Michaels

The 1989 Summary of Boating Regulations *is mailed with each new and renewed boat registration. If you'd like an additional copy, it is available by writing to: Boating, Pennsylvania Fish Commission, P.O. Box 1673, Harrisburg, PA 17105-1673.*

On-the-Water Assistance

Boat owners needing non-emergency assistance can get quick help from trained volunteers and need not wait for expensive commercial providers if they know the rules and become familiar with Coast Guard procedures.

A volunteer Coast Guard Auxiliary vessel may be dispatched if no commercial firm can arrive on the scene within one hour of a call for help, notes Richard Schwartz, president of BOAT/U.S., an association of 275,000 boat owners.

A recreational boat owner calling the Coast Guard for help in a non-life-threatening situation will first be asked if there is someone specific or a friend whom the boater wants contacted. If not, a marine assistance radio broadcast (MARB) will be issued, inviting commercial firms or any good samaritan to respond.

If no commercial firm responds to the Coast Guard's broadcast within 10 minutes saying that he can get to the disabled boat *within one hour or less,* the Coast Guard can dispatch an Auxiliary vessel to provide assistance or tow the disabled vessel to the nearest safe harbor.

In addition to helping boaters in need, the Coast Guard Auxiliary, a trained force of some 30,000 citizens, has taught hundreds of thousands of boaters important boating skills over the past 50 years. The Auxiliary is funded directly by marine fuels taxes paid by recreational boaters and not by federal government general revenues.

Sailing Instruction

More than 450 sailing schools are listed in a telephone directory accessible by calling the toll-free number (800) 447-4700. Callers give the location of where they want to take lessons and are referred to the school nearest home. Schools have been categorized by type of sailing taught—boardsailing, basic sailing, and advanced sailing—and those that are certified by the American Sailing Association are also identified. The hotline is sponsored by the National Sailing Industry Association (NSIA).

Personal Watercraft Booklet

Fun with Safety on Your Personal Watercraft is a colorful, information-packed 16-page introduction to personal watercraft. It's available from the Personal Watercraft Industry Association (PWIA) of the National Marine Manufacturers Association (NMMA). The publication covers riding tips, equipment hints, safety suggestions and boating rules of the road. The booklet is available for $1 postpaid from: PWIA/NMMA, 401 N. Michigan Avenue, Chicago, IL 60611.

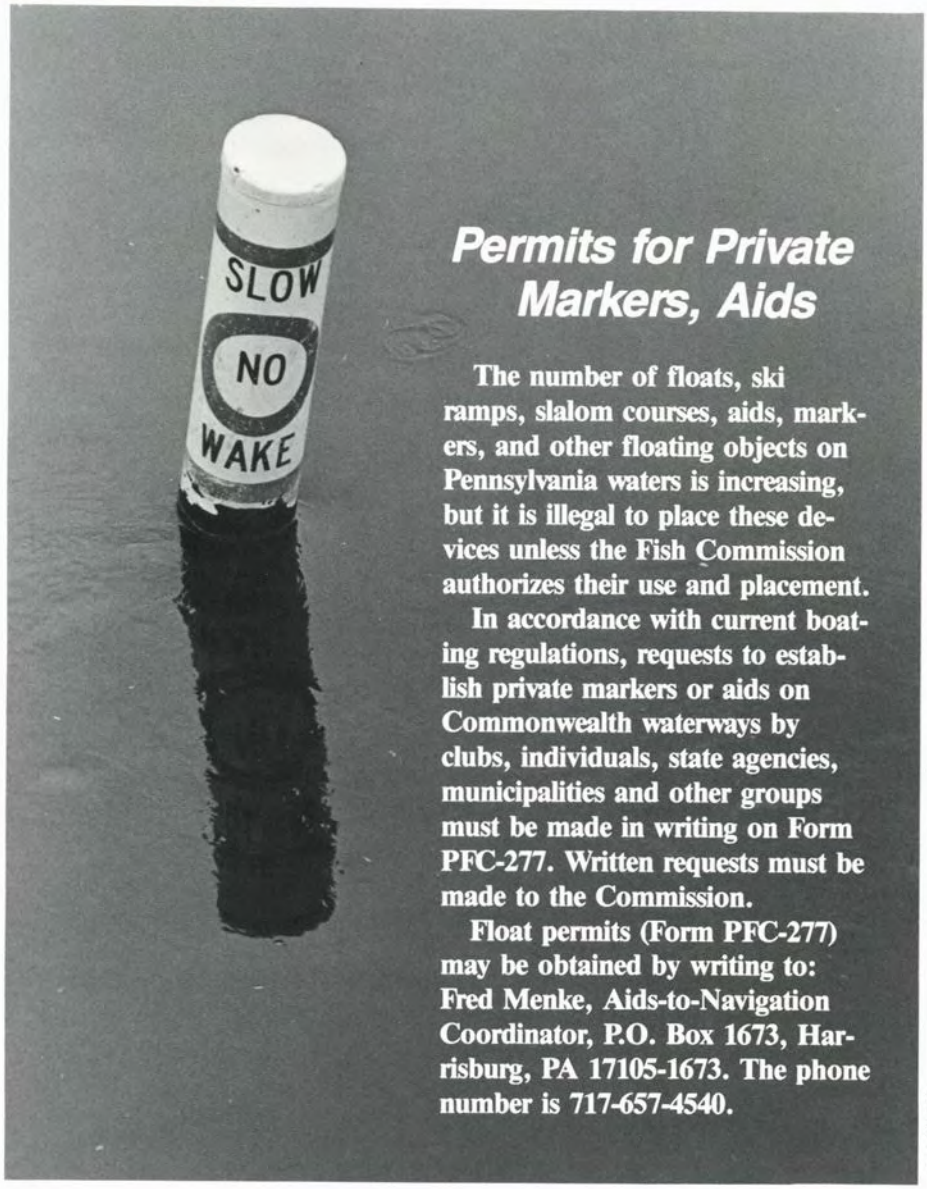
USCG Auxiliary Opens Toll-Free Number in Harrisburg

Information is available concerning locations and times for public education classes and free courtesy marine examinations (CME) throughout the area by way of a new toll-free phone number.

U.S. Coast Guard Auxiliary public education classes are held at various locations and times throughout the state and surrounding area. The classes are taught by qualified auxiliarists and cover the basic information all boaters should learn.

The CME is a check of a boat's state and federal safety requirements plus additional items of safety required by the Auxiliary. Vessels passing the examination are awarded the Coast Guard Auxiliary Seal of Safety.

The toll-free number for finding out the location and times of classes and free CMEs in the Commonwealth and surrounding area is 1-800-AUX-USCG.



Art Michaels

Permits for Private Markers, Aids

The number of floats, ski ramps, slalom courses, aids, markers, and other floating objects on Pennsylvania waters is increasing, but it is illegal to place these devices unless the Fish Commission authorizes their use and placement.

In accordance with current boating regulations, requests to establish private markers or aids on Commonwealth waterways by clubs, individuals, state agencies, municipalities and other groups must be made in writing on Form PFC-277. Written requests must be made to the Commission.

Float permits (Form PFC-277) may be obtained by writing to: Fred Menke, Aids-to-Navigation Coordinator, P.O. Box 1673, Harrisburg, PA 17105-1673. The phone number is 717-657-4540.

Attention: Boater-Poets

Boat Pennsylvania would like to see
Readers send in sublime poetry.
The rhyme scheme shouldn't stray
From AABBA.
We'd like limericks. On this let's agree.

The subjects of these could be boating,
Paddling, or sailboats high-floating.
Any similar topic you write
Would surely be all right.
But send no more than two for our voting.

We'll print the best ones, not the worst.
And remember—we can't be coerced
Into using limericks late
Of our firm cutoff date.
The deadline is July the first.

Send reader contributions to: The Editor, *Boat Pennsylvania,* P.O. Box 1673, Harrisburg, PA 17105-1673. We can't pay contributors for these poems, but we'll include the name of the contributor with each limerick we publish. Remember: Limericks only, please.

KIDS PAGE!

by Cheryl Kimerline

Stuck in the Mud

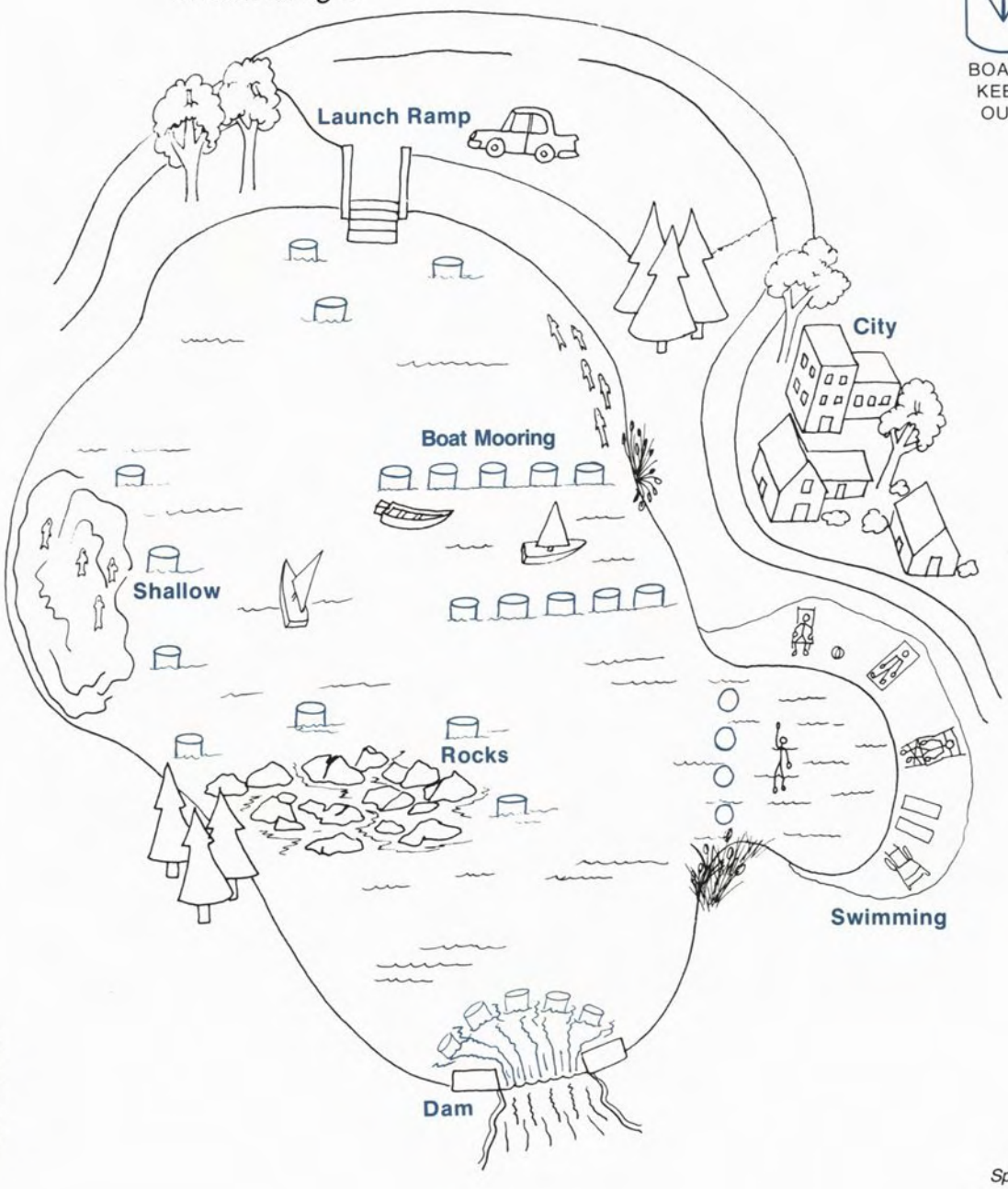
Running aground or getting stuck in shallow water is a common problem that happens to boaters. Careful navigation can prevent many groundings. Checking maps and charts to locate shallow water is a good idea.

Knowing buoys and what their sizes, shapes and colors stand for can prevent an accident.

Buoys are the traffic signs of the waterways. Listed below are some of the common inland buoys that are found in Pennsylvania. These buoys are usually white with orange lettering and designs.

Shown below are examples of the different inland water traffic signs:

Label the buoys below in the map using the kinds of buoys shown at right.



BOATS KEEP OUT

DANGER

CONTROLLED AREA (no wake zone, speed zone, ski zone, etc.)

INFORMATION (Example: gas dock one mile)

graphics by Rose Boegli

Are You Chart

by Art Michaels

If you fish and boat on Lake Erie or on the tidal portion of the Delaware River, I bet you have piles of navigation charts stuffed away somewhere aboard your boat. That's good, because navigation charts are just about the most important tool you own to navigate these waters safely.

But do you take these vital safety items and fishing tools for granted? How much do you really know about navigation charts and about using them? Are you getting the most from your navigation charts? Take this true/false test and find out. Circle your choices for each statement and then check the answers.

1. The National Ocean Service (NOS) in the National Oceanic & Atmospheric Administration (NOAA) is the U.S. governmental agency responsible for creating and revising our nautical charts. True/False.

2. All navigation charts are updated once in two years. True/False.

3. Only the U.S. Coast Guard is permitted to inform NOS of chart additions, corrections and changes. True/False.

4. Navigation charts are available for about 75 percent of the entire U.S. coastline. True/False.

5. Bathymetric maps, also published by NOAA/NOS, are excellent fishing tools. True/False.

6. A navigation chart is a better tool than loran C for safe inshore navigation. True/False.

7. Most navigation charts are in short supply and are difficult to get. True/False.

8. There is no single publication available that explains every symbol and abbreviation found on navigation charts. True/False.

9. NOAA/NOS maintains no set standards for chart accuracy, and all navigation charts are accurate only to within 147 feet in any lateral direction. True/False.

Art Michaels

Answers

1. True. NOAA is part of the Department of Commerce. The National Ocean Service (NOS) is one of four NOAA branches, including the National Marine Fisheries Service, the Office of Satellite Operations and the National Weather Service.

In NOS is the Office of Charting and Geodetic Services. In this office are the National Geodetic Survey Division, the Aeronautical Charting Division, and our focus, the Nautical Chart Division.

The Nautical Chart Division is tiny compared to other U.S. government mapping agencies. Both the U.S. Geological Survey and the Defense Mapping Agency employ about 3,000 to 4,000 people. The Nautical Chart Division employs only about 300 people.

2. False. Charts are updated when they accumulate enough changes to warrant updating. The agency updated about 400 charts annually before the 1980s. Budget and personnel cuts began in the early 1980s and forced the agency to trim the number of charts scheduled for revision.

The agency maintains a suite of about 1,000 navigation charts. Each year only about 10 new charts are created. These are primarily geared for the safety needs of the Department of Defense. For instance, when a new Naval base is established, the Navy needs a new chart of the harbor.

3. False. Our U.S. nautical charts are accurate and dependable for two reasons. First, the people who make them are conscientious, dedicated and professional. Second, the National Ocean Service's Cooperative Charting Program is unbelievably successful.

In this program, groups whose members are regularly on the water report chart changes, additions and corrections directly to NOS. These groups include the U.S. Power Squadrons, Coast Guard Auxiliary, the Canadian government, and the Lake Carriers Association. In addition, NOS regularly communicates with the U.S. Army Corps of Engineers and the Coast Guard itself to identify anything that would change a navigation chart.

Critical changes, that is, safety information that could sink a boat if it weren't corrected, appears every week in the Coast Guard's Local Notices to Mariners. This information is so important to revising and updating navigation charts that it's handled by a separate section of agency cartographers who oversee all critical changes.

If you look closely at a nautical chart, you'll see on every one an item that explains where corrections and changes can be sent. Along these lines, NOS receives many chart changes, corrections and additions from individual anglers and boaters like you and me. Each of these suggestions is carefully reviewed by NOS.

4. False. The priorities of NOAA/NOS are the nation's defense, and for a long time that most often has meant first meeting the needs of the Defense Department. Because the safety of our ships is so vital, the entire U.S. coast is charted,

Art Michaels


Smart?

along with the Great Lakes, Hawaii, Alaska, Guam, Samoan Islands, Puerto Rico and the Virgin Islands.

The need to chart all our waters first became evident nearly 200 years ago. Around 1800, the U.S. Coast Survey was created when Congress passed legislation authorizing a survey of the coast. At that time, "the coast" was mostly the East Coast. Our westward push spawned the idea of surveying the land, so with this charge, the agency's name became the U.S. Coast and Geodetic Survey.

Increasing commercial and defense requirements eventually led to charting all our coastlines and the Great Lakes.

As bigger ships required deeper water for commerce, the agency charted deeper water along our coastlines and in the Great Lakes. During the 1930s, 1940s and 1950s, the development and refinement of the echo sounder let the agency adopt this method of deep-water surveying as standard. The U.S. Congress authorizes NOAA/NOS to chart U.S. territorial waters to 200 miles offshore.

Some of our most modern nautical charts are actually updated versions of original charts made decades ago.

5. True. A bathymetric map gives you a different view of the bottom than does a navigation chart. Nautical charts provide numbers of depth soundings with an occasional contour line. "Bathys" show the bottom contour in different colors. They also provide information on the composition of the bottom, and they let you see the size and shape of specific underwater structure much more clearly than nautical charts.

That's why they can be used for fishing so effectively. Structure is more easily distinguished on bathys, and you can order them with loran C overlays so that you can more easily find specific spots. Contact: NOS, Distribution Branch (N/CG33), Riverdale, MD 20737. The phone number is 301-436-6990. Ask for Catalog 5.

6. True. National Ocean Service nautical chartmakers don't put loran lines on most inshore charts because loran C doesn't meet Coast Guard standards for accuracy in many inshore waters. Land masses, buildings, antennas and other structures interfere with loran C signals, creating false readings.

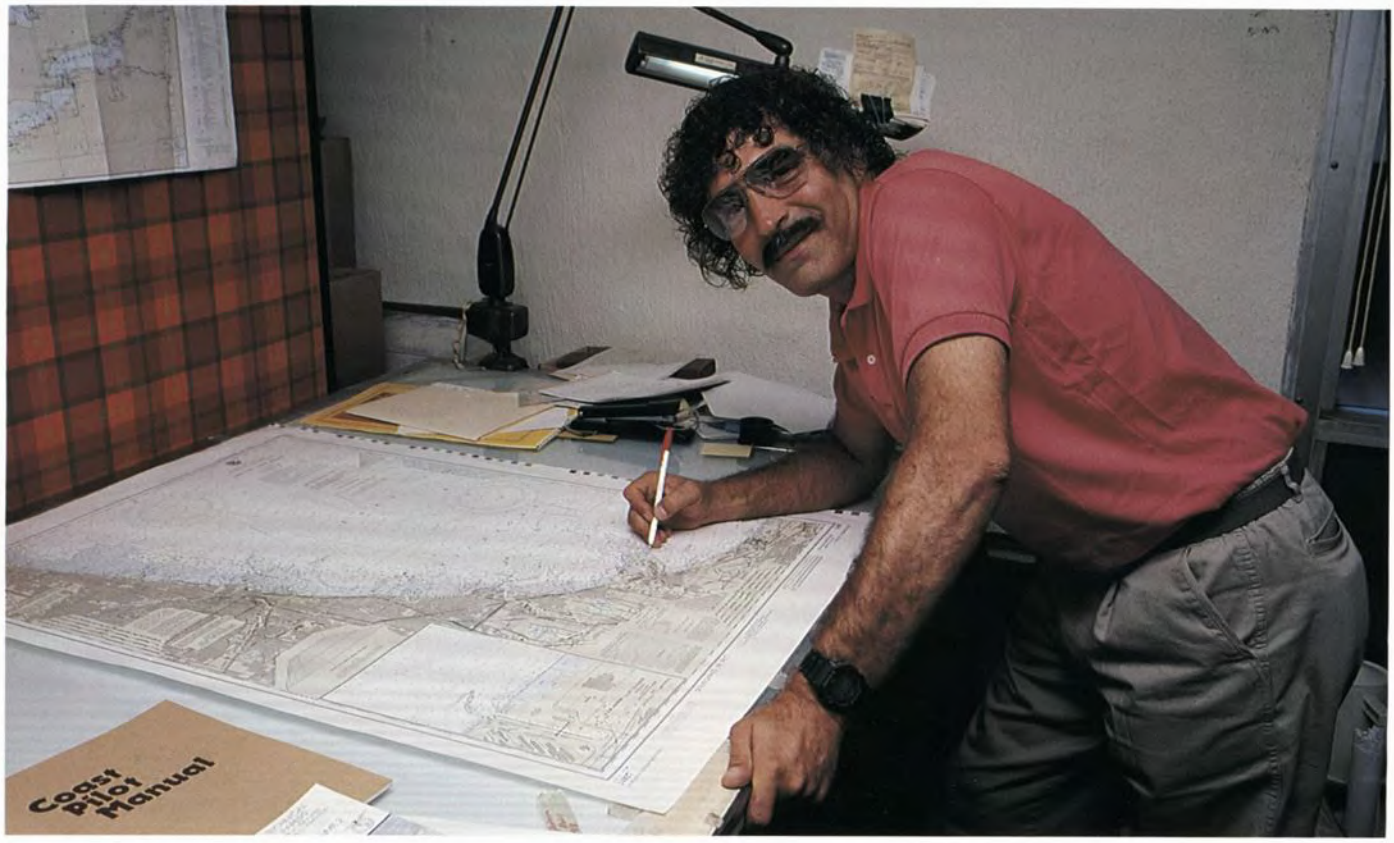
Furthermore, at night, in fog, and whenever visibility is poor, you're better off proceeding slowly in unfamiliar waters and letting the chart guide you from one navigation aid to the next. Following your loran C could put you aground or cause a collision with fixed objects.

7. False. The National Ocean Service lists its navigation charts in four free catalogs. Catalog 1 includes the Atlantic and Gulf coasts, Puerto Rico and the Virgin Islands. Catalog 2 includes the Pacific Coast, Hawaii, Guam and Samoan Islands. Catalog 3 is Alaska. Catalog 4 includes the Great Lakes and adjacent waterways. Each catalog includes prices and complete ordering information. Be sure to tell NOS which catalog you want. Use the NOS address and phone number above.

In addition, catalogs list authorized agents that sell NOS nautical charts and other NOS publications.

8. False. The 52-page book *Nautical Chart Symbols and Abbreviations* is chart no. 1. It identifies and describes all symbols and abbreviations used in nautical charts so that you can understand and interpret navigation charts. You can order it as you'd order any other chart.

NOS cartographer Dick Davis (below) scans a Great Lakes nautical chart. NOAA/NOS maintains strict standards of accuracy because that quality is the most important requirement of a good nautical chart. All the cartographers, survey crews and pilots are the heart of NOAA/NOS's guiding principle of accuracy.



Art Michaels

9. False. NOAA/NOS maintains strict standards of accuracy because that quality is the most important requirement of a good nautical chart. Thus, the agency goes to great lengths to ensure the accuracy of nautical charts.

New charts and revisions of old ones begin with determining or redetermining exact known land positions. From this information the hydrographers identify what can't be seen under water.

Every chart correction, change and addition must be confirmed. One way the agency accomplishes this monumental task involves NOAA's Hydrographic Survey Field Offices. The West Coast unit is based at the Pacific Marine Center in Seattle. The East Coast unit is based at the Atlantic Marine Center in Norfolk. Both units serve the Great Lakes.

Five survey ships and 10 others make up the fleet at each center, with smaller craft assigned for inshore survey work.

In addition, the agency's coastal mapping people fly aircraft over survey locations because aerial photographs are most useful in confirming chart revisions and changes. Thus, photogrammetry is a vital part of nautical chartmaking.

All the survey crews, ships, planes, equipment, cartographers and other checks and doublechecks are the heart of NOAA/NOS's guiding principle of accuracy.

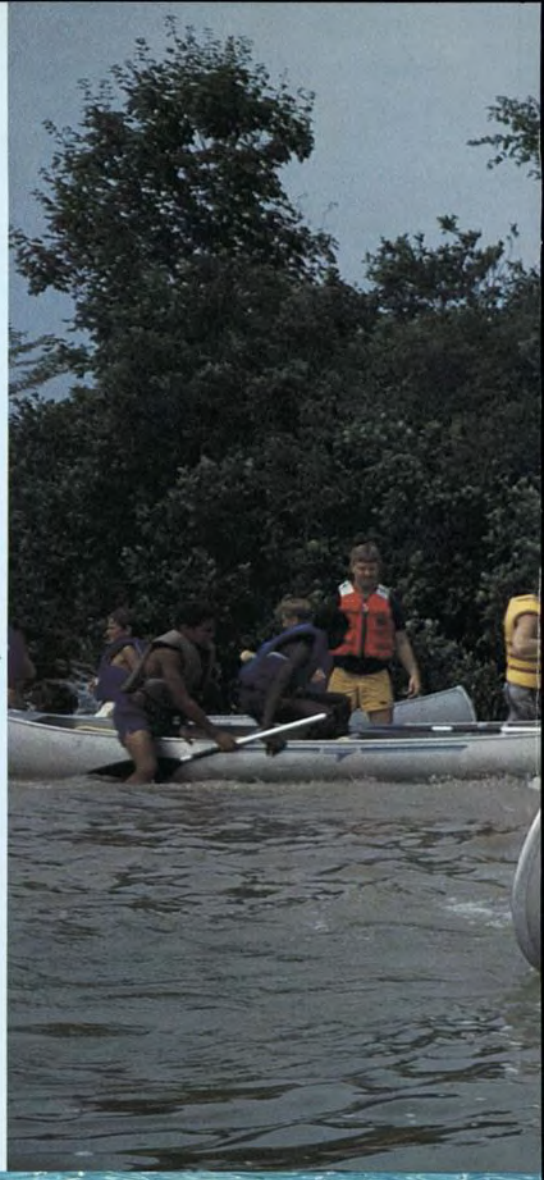
NOS has specific accuracy standards that vary with the scale of a chart. For instance, charts with a scale of 1:20,000 are accurate within 55 feet. Charts scaled at 1:40,000 are accurate within 66 feet, and charts with a scale of 1:80,000 are accurate within 133 feet.

NOS chartmakers don't put loran lines on most inshore charts because loran C doesn't meet Coast Guard standards for accuracy in many inshore waters.

Computerized chartmaking (left) is the next biggest change for NOS chartmakers. Cartographers can maintain better accuracy this way, and it could increase the agency's output. Of the suite of 1,000 nautical charts, less than 10 percent are currently maintained on computer. In Presque Isle Inlet (above), a sailboat heads east into Lake Erie. Lake Erie and Presque Isle Bay nautical charts appear in Catalog 4. Contact: NOS, Distribution Branch (N/CG33), Riverdale, MD 20737. The phone number is (301) 436-6990.

Boating Opportunities for City Youth

by Cheryl Kimerline



Cheryl Kimerline

Heidi Hornberger

Summer is a fun time for children to get out and enjoy the out-of-doors. It is an opportunity for them to practice sporting skills, study nature, be with friends and work that first summer job. What opportunities does a child growing up in a large city have to look forward to? Fortunately, many schools and city parks and recreation departments are teaching a variety of recreational programs aimed at keeping today's youth off the streets and introducing them to exciting new sports, hobbies and activities.

Cheryl Kimerline

Heidi Hornberger

Students often are nonswimmers with no boating experience (above and left), so they are hesitant to be on or near the water. Pool time focuses on getting students used to floating and swimming in PFDs. After a short time, youngsters often start to feel comfortable in the water.

An example is a fitness camp just initiated last summer by the Fairmount Park Commission in Philadelphia. A boating and water safety awareness course was just one of the programs offered at the camp. Rudolph Ollivierre, day camp director and recreation supervisor for the Fairmount Park Commission, says that the program was successful and next year's programs will be expanded to include a wider variety of offerings such as bicycling, roller skating and skateboarding.

Ollivierre is an aquatic instructor with the American Red Cross and became a Boating and Water Safety Awareness Instructor in 1986 when he attended an instructor's workshop sponsored by the Fish Commission.

The boating and water safety awareness program taught by Ollivierre includes time in the classroom and in the swimming pool, and the program is followed by a canoeing trip on Marsh Creek Lake. The main topics Ollivierre taught included personal flotation devices; swimming, accident facts and natural flotation; small-boat safety; river boating; basic rescue; hypothermia and alcohol. His students were nonswimmers with no boating experience, so they were hesitant to be on or around the water.

The time spent in the pool focused on getting the students used to floating and swimming in personal flotation devices. After a short time, the youngsters started to feel comfortable in

The program is so successful that it will be expanded to include a wider variety of offerings such a bicycling, rollerskating and skateboarding.

Cheryl Kimerline

the water. The next step in the sequence was to get in tippy canoes and go out on Marsh Creek Lake. Still intimidated, it took the students a while to get up enough nerve to crawl into the canoes. However, they were soon scattered across the lake, practicing canoeing strokes. It was hard to get them rounded up and back into shore. These hands-on learning experiences were invaluable.

Youth programs like these have joint purposes: To allow young people to develop and let them have fun. Providing young people with safe, fun recreational activities is the goal.

Youth programs such as these have joint purposes: to allow the young people to develop and allow them to have fun. The youth have a chance to develop in three ways: physically, psychologically and socially. Physically they learn to develop good health habits, learn physical skills and improve their physical conditions. Psychologically they learn to control their emotions and increase their feelings of self-worth. Socially they learn to cooperate and work with others.

Don't we owe today's youth the chance to get out and experience some of the good opportunities life has to offer? Youth today face so many problems and peer pressures, and drugs, suicide, runaways and theft, so it is important for us to provide safe, fun recreational opportunities for our youth.

If you you are interested in becoming a Boating and Water Safety Awareness Instructor, contact Cheryl Kimerline, Bureau of Boating, P.O. Box 1673, Harrisburg, PA 17105-1673.

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Mailing address ..... Box 88, Sweet Valley, PA 18656
Location ..... On Harris Pond, Sweet Valley, PA
Southeast, Robert J. Perry, Manager 717-626-0228
Mailing address ..... Box 6, Elm, PA 17521
Location ..... On Speedwell Forge Lake
Northcentral, Paul F. Swanson, Manager 717-726-6056
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