

TRAINING MANUAL FOR MICHIGAN 4-H

OUTDOOR ADVENTURE CHALLENGE



Section: CANOEING



CANOEING SECTION CONTENTS

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June 13, 2008

TO: 4-H Outdoor Adventure Challenge Instructors, Trainees and Leaders

FROM: Terry Umlor, Instructor;
Jim Harper, State 4-H Outdoor Adventure Challenge Coordinator
and County Extension Director, Kalkaska County

RE: BEGINNING CANOEING TRAINING
Date of trip: July 18-20, 2008

This trip will take place on the Manistee River. Friday night we will camp at Terry Umlor's. Please arrive by 6:00 p.m. so you can talk to the instructors before the youth arrive at 8:00 p.m. You will have an opportunity to be part of a Outdoor Adventure Challenge trip. You will receive canoeing instruction and see how this set of adults organizes a trip. Please come prepared with a game to use with the youth. If you need help, contact Jim Harper for ideas.

You will need to bring water. A camp chair is also nice, if you use a 10 gallon plastic pail for your belongings, it makes a nice seat. Bring your own PFD. It will be much more comfortable than the ones we have for the youth. We will camp both nights at Terry's so you will only need a container for dry clothes and your lunch in the canoe. Be sure to bring a water bottle and sun screen and bug spray. A more detailed gear list follows.

I will be sending information on Advanced Canoeing with the week-long series information. You may go on both, but should go to beginning first unless you are an experienced canoer. You are required to go on one of the two weekends for certification. You also need to read the canoeing information I gave you for your notebook.

Please let Terry know by July 1 if you are attending and if you are bringing a canoe. Call him at "Springfield Construction" at (231) 263-5300. Leave a message if you're unable to talk to him directly.

Be sure and bring **Leader Certification Record and Health Form card**
 Personal Data Sheet

For directions for any Outdoor Adventure Challenge training, we recommend you use Mapquest. You can Google Mapquest on your computer and get a detailed map of the area of the training and/or directions to and from the training. Mapquest web address is: <http://www.mapquest.com>. If all you need are written directions, here they are:

DIRECTIONS: Take 131 to Manton. Go west on M-42 (blinker light) six miles to No. 31 Rd. (It's paved) Go north on 31 Rd 5 ½ miles. The road makes a turn west for ½ mile and continues north as 29 ½ Rd. You will cross Baxter Street Bridge and come to a stop sign in a couple miles. Turn east on the paved road for ½ mile and turn south on the dirt road. Follow it to Terry's house. At a fork in the road, stay left. Questions, or lost: call Terry at 231-263-5300.

attachment: gear list

May 30, 2008

TO: 4-H Outdoor Adventure Challenge Trainees, Instructors, and Leaders

FROM: Terry Umlor, Instructor;
Jim Harper, State 4-H Outdoor Adventure Challenge Coordinator and
County Extension Director, Kankaska County

RE: Advanced Canoeing Training: July 4-6, 2008, at Paint River, Iron Co. in U.P.

Please let Terry know by June 20th if you are attending and if you are bringing a canoe. Call him at "Springfield Construction" at (231) 263-5300. Leave a message if you're unable to talk to him directly.

Be sure and bring **Leader Certification Record and Health Form card**
 Personal Data Sheet

For directions for any Outdoor Adventure Challenge training, we recommend you use Mapquest. You can Google Mapquest on your computer and get a detailed map of the area of the training and/or directions to and from the training. Mapquest web address is: <http://www.mapquest.com>. If all you need are written directions, here they are:

Camping: We will camp at the Upper Hemlocks rapids. We will put in the Hemlock Creek off the Bates-Amasu Rd.(Co Rd. 643) North off US 2 about 12 miles east of Crystal Falls We will have a 4-H Sign marking the spot. We will have shuttle transportation from where we put in to where we take out at the Bates-Amasu Bridge.

Canoeing Instruction will start at 5:00 p.m. Friday night (5 hours from bridge)

Canoeing: From the Upper Hemlock to the Bates-Amasa Bridge.

PLEASE READ THIS LETTER CAREFULLY FOR DETAILS. READ THE CANOEING MATERIALS IN YOUR TRAINING MANUAL AND BE FAMILIAR WITH BASIC CANOEING TECHNIQUES, & PADDLE STROKES.

Here's the agenda: (Note all times are given in Eastern Time, even though we cross over into Central Time.)

July 4th: Friday

Meet at Upper Hemlock rapids before **5:00 p.m.** We will expect that you will have arrived, set up your campsite and have a full tummy by 7:00 p.m. so that we can begin the instruction for the weekend. Canoeing with groups, canoe camping, safety issues and basic tandem paddling techniques will be covered. Bring a notebook (paper), pencil, PFD(personal floatation device - it should be a vest type and a crotch strap is strongly recommended), and a canoe paddle to "class" with you. We will also decide exactly how we will be splitting the group for Saturday and Sunday. This will be done to facilitate instruction and safety on the river.

CARS WILL BE DRIVEN TO THE BATES-AMASU BRIDGE ON FRIDAY NIGHT BEFORE YOU GET ON THE RIVER. BE PREPARED TO BECOME SELF-CONTAINED SO THAT YOU CAN HAVE YOUR CAR AT THE TAKE-OUT SITE ON SUNDAY.

July 5th: Saturday

Breakfast and pack up lunch and some dry clothes.

8:00 a.m. On the River. We will be on the river all day. You will be needing your food, water and dry change of clothes with you. Unless you plan to boil or filter river water, bring water from home. Do not plan to drink the river water or brush your teeth in it. It should be okay for washing and swimming.

There are otter, muskrats, beavers, deer, maybe moose, and a variety of birds including many eagles. Keep a sharp eye and maybe bring a guide book and binoculars. Lyme disease ticks have been seen in the area. Wear full coverage clothing, use DEET insect repellent or other good tick repellent.

In the evening and overnight we will be deep in the bush, camping on "virgin" sites, not organized campgrounds. NO pit toilets or showers! We will camp at the Upper Hemlock Rapids.

July 6th: Sunday

Up and downstream early! We will be on the water no later than **8:00 a.m.** and try to be on the road for home no later than 4:00 p.m. Hopefully it will be earlier than that. However, what time we leave for home will depend on a great number of things, like - how far we get Saturday, what time we get on the water Sunday, traveling speed, the conditions of the rapids, the height of the water, etc. Most of these things we can not change. The only one we can affect is the time we get on the water. So we will plan for early, so the group can get home early.

Other details to attend to —Plan to be self-sustained.

You should plan on canoeing with a partner. So the group will only need one canoe per every two people.

Bring your own PFD (vest type and a crotch strap is preferred), paddles (2 per person is preferred, but no less than 3 per canoe), and canoe. Royalex, flat-bottomed, river canoes are preferred. Acceptable substitutes are made of aluminum without keels. Royalex is a butal rubber compound material that is slippery on rocks and safer, with less likelihood of damage. Old Town, Mad River and Blue Hole are some of the manufacturers of these types of canoes.

Bring 30-50 feet of rope to use for lining the canoe and rope for hanging your food at night. The river area is bear country. The rope needs to be strong and about 3/8 inch in diameter.

Food & Water: Plan to filter or boil water for cooking and drinking. Bring several water containers.

You will need food for 2 dinners, 2 breakfasts, 2 lunches, and snacks for the entire time. This can be a very strenuous weekend, so bring enough food. Hot drinks should be part of your plan. Gator Ade is nice to have. Buy the powdered and mix with Tang, it is good like that.

Clothing: The weather is likely to be cold, hot, dry, wet. You get the idea - anything is possible. Snow is not that rare in June in the U.P. Night-time temperatures are likely to be in the 40's or possibly 30's and previously dropped below the 20's before. It is common for it to be windy. **BRING CLOTHING TO ACCOMMODATE ANY WEATHER!** Don't forget the sun hat and cold weather hat, gloves and warm footwear.

Plan to wear sun protection lotions and cover yourself with clothes and hats. Plan to avoid Lyme Ticks, black flies and mosquitoes by wearing covering clothing, socks, and insect repellent with DEET in it. But beware of too much bug dope. It could make you sick.

Long pants are better than shorts. They add protection as you are up to your hips in the rocky water. Bring a swim suit, towel; we will swim through a rapids with our clothes and PDF's and we will practice some canoe rescues...plan to get wet!

Helmets: The training program has helmets you will be able to use while canoeing. If you would like to bring your own helmet, feel free to bring a whitewater canoeing helmet, climbing, caving, or hockey helmet. Biking helmets are not acceptable. If you want to purchase a helmet before the weekend they are available at many sporting goods stores, the cost will be around \$40.

Footwear: We will be wading in the water. You should wear hiking boots, sturdy tennis shoes or sturdy aqua shoes with wool socks for warmth. The rocks are sharp, rugged and tough. Softees are not the best gear to wear. Dry shoes for camp night are a nice touch.

Packing: Pack all your gear in double plastic bags! Look for the kind without any sewn seams! Plan to pack your gear inside a protective over-bag, after the double plastic bags. We suggest you use your backpack or an old army duffel as the over-bag. Plastic bags alone will allow the river or rain in, guaranteed! They tend to rip on every little branch you hit or sharp spots in the canoe. Bring extra bags for packing gear on Sunday morning. Duct tape works well to seal the bags, and holes in your canoe too. Your sleeping bag should be protected to the "n-th" degree. You need it for a safe night's sleep. There is NOTHING worse than a wet sleeping bag!

If you own a canoe dry bag use it, but if you don't they are not too expensive. Don't buy one. They offer some protection, but many people who own one still pack their gear in plastic inside the bag.

Some words of advice: We suggest you do not depend on another person to prepare for you. Part of becoming a Outdoor Adventure Challenge leader is taking care of yourself so you can take care of others. One of the things that trainers are evaluated on to become certified is preparation. So plan well. This trip can be a tough one. If you have any questions at all give one of the instructors a call. We are here to help you!

The canoe trip is demanding of you -- being in shape will help. We will be paddling for two days; lining canoes down rugged, sharp, rocky shorelines, through brush; wading in water; and in and out of the canoes for two days. Walking is good exercise and can help you prepare. Try carrying a pack part of the time. Or, taping some weight on a canoe paddle and practicing your strokes for 30 minutes every night.

This trip will be more "traditional" in instructional style than the Orientation weekend -- instructors give you instructions on what to do. This is due to the nature of the skills needed for safety. We expect that those of you who have more experience with canoeing will be open to new learning as well as offering correct instructional help to novices. Instructors model what you should be doing for your club's students as you proceed through the training cycle. Canoeing ranks high risk and the instruction will be "tighter" as a result. You will be required to stay with the group you are assigned to, and to follow all rules established for group safety. This includes wearing your helmet and PFD fully fastened at all times while on the water, on the shores, lining the rapids and any other time near or on the water. Expedition behavior is needed -- this means deferring your personal wants in favor of the needs of the group. We will all have to practice this to make this weekend safe and fun.

If you have questions, please feel free to give the canoe specialty instructor a call: Terry Umlor, Instructor 231-263-5300

attachment: gear list

GEAR LIST FOR CANOEING
(for both beginning and advanced canoeing)

GEAR:

We will have a stove that everyone can use for breakfast.

- *Tent with ground cover
- *Sleeping bag and pad
- Matches in waterproof container
- Lighter
- Plate, cup, spoon, fork
- (1) Small pot for cooking
- Small container of liquid soap
- Flashlight w/extra batteries
- (2) 20 – 30 oz. water bottles
- Small pocket knife or multi-tool
- Compass
- Nylon Cord (30-50 ft)
- Whistle
- Duct tape (small amount wrapped around a pencil)
- Emergency blanket
- (2) Large garbage bags
- Personal size package of baby wipes

CLOTHING:

- Warm hat and gloves
- Cap
- Hiking boots or running shoes
- (3 pr.) Wool or synthetic socks
- (3 pr.) underwear
- (2 pr.) long underwear shirt & pants
- (2) Fleece vest or jacket or light wool sweater
- Rain poncho or rain coat
- (2 pr.) Pants synthetic (NO JEANS OR COTTON SWEAT PANTS)
- Long sleeve shirt synthetic
- Short sleeve shirt or t-shirt
- Bathing suit or shorts
- Water shoes, or old tennis shoes & LIFE JACKET

PERSONAL ITEMS:

- Lip balm
- Toothpaste & toothbrush
- Band aids
- Personal medications
- Wash cloth/ small towel
- Toilet paper

FOOD:

- Trail snacks (nuts, jerky, granola, etc.)
- 2 breakfasts
- 2 lunches
- 2 dinners

The weather could be rainy, cold, snowy, sunny, breezy, frosty, hot... you get the idea. Bring layers of clothing that can be taken off and put on so you can stay comfortable no matter what.

Bring a warm sleeping bag; expect the nights to be cold.

You might want to bring extra gloves in case yours get wet when we are canoeing.

Emergency Numbers:

Joe's Cell: 810-602-5382

Theresa's Cell: 586-260-1474

Terry's House: 231-263-5300

* These items can be borrowed or shared

Paddling Pointers – for Both Beginning and Advanced Canoeing

Which paddle should you use? Experienced canoeists say to use whatever paddle length feels most comfortable. For beginning canoeists, a paddle of the proper size should reach from shoe level to about four inches below your shoulders. But, remember, it's the feel of the paddle that's most important. Since you may be paddling all day, use the one that feels most natural in your hands. Always carry an extra paddle, and do not use a paddle to pole the canoe over rocks or shallows. A cracked paddle may break when you need it most. Be sure the spare is placed so that it may be quickly reached if needed.

In all strokes, the paddle should be held with the palm of the upper hand *over* the top of the grip. The lower hand should be held far enough down on the shaft to assure a powerful stroke. The blade angle and direction of the stroke are very important in proper execution of each paddle stroke. Keep the paddle close to the side of the canoe.

Easy, energy conserving paddling is a matter of balance and coordination and position in the canoe. Nearly all this comes with practice, but bad habits can develop and tire you easily. Learning the basic strokes is not difficult, but only through practice can you become a skillful canoeist, able to handle difficult situations with confidence.

When you watch experienced paddlers maneuver a canoe up to a dock or down challenging rapids, you will notice they often combine power and turning strokes into one smooth motion. Practice the strokes in their pure forms first. After you get a feel for the canoe and the paddle, you will find yourself automatically combining strokes.

Paddles

There is a wide variety of paddle designs, construction materials and prices. A strong, well-balanced, light paddle will be expensive but will be a dependable partner for many years. Length, blade width, and grip shape depend on the type of canoeing you plan to do, your size, your strength, and your personal preference. Before you buy your own paddle, try as many different types as possible.

There are some *general* guidelines to consider when purchasing a paddle:

- Standard length is up to the chin; however, you may want it shorter or longer. Try different lengths.
- The blade width generally varies from six to eight inches. Wider blades are used in whitewater, longer, narrower blades for lake travel.
- Pear-shaped grips on lake paddles fit comfortably in the palm of your hand while T-grips offer more blade control in whitewater.

Parts of the Stroke

- The *plant* is the starting point of a stroke.
- The *power* or propulsion phase is the application of force, through the paddle, against the water. This results in movement of the canoe.
- The *recovery* phase involves the return of the paddle blade to a plant position. Recoveries involve feathering the blade above the water or slicing the blade through the water.
- The *powerface* is the side of the paddle blade which pushes against the water during the forward stroke.
- The *backface* is the opposite side or back of the blade. During the backstroke, the backface is pushing the water.

Now that you are familiar with paddling terminology, we will introduce you to the strokes used in canoeing today. If you are learning strokes for the first time, read through the entire description of the stroke. Then grab your paddle and practice the stroke. Take your time and concentrate on technique, not

on speed. Practicing in a canoe is best, but kneeling on the side of a swimming pool or a dock will also work. If you have a video camera, have someone film you. Then, with book in hand, watch your video in slow motion and critique your paddling strokes.

Strokes

The Forward Stroke: Within the last decade, the forward stroke has taken on a new look. There has been a shift from “arm” paddling which utilizes smaller, weaker muscles, to “torso” paddling. The torso style of paddling encourages you to use the stronger and larger muscles of your back, abdomen, and upper body. Even though this technique may seem awkward at first, it will save you from sore arm muscles on those long paddling days.

Start on your ride side. Slightly rotate your upper body by moving your right shoulder forward. Keeping both arms nearly straight and plant your paddle in the water well ahead of your knees. With your paddle shaft nearly vertical, uncoil your upper body by driving your left shoulder forward. Keep your arms straight and make your shoulders and stomach muscles do the work. As soon as the paddle reaches your hips, the recovery phase begins. Slice your blade out of the water and feather it a few inches above the surface of the water back to the plant position.

The Back Stroke: The back stroke is used to propel your canoe backward or to decrease forward speed when approaching obstacles such as rocks, moose, or shore.

Plant your paddle in the water next to your hips. With both hands out over the gunwale, use the backface to push water towards the front of the canoe. Throughout the power phase of the stroke, keep your paddle parallel to the keel line of the canoe. Once the paddle reaches your knees, slice the blade out of the water at a ninety-degree angle to the keel. Rotate the thumb of your top hand forward and feather the blade back to the plant position.

Key Points:

- Keep your paddle vertical and not diagonal across your chest during the power phase. Your paddle must travel on a line parallel to the center line of your canoe.
- Keep your torso straight, except for a slight forward lean at the start of the stroke. Excessive forward movement of the upper body will cause the canoe to bob up and down, decreasing your forward momentum.
- Feather your blade on the recovery phase to reduce wind resistance. There is no need to raise the paddle high above the surface of the water. Relax through the recovery phase.
- Seventy-five percent of the power in the forward stroke occurs within the first seven inches following the plant. Once the paddle passes your hips there is little forward force applied.

The J-Stroke: Staying on Course

The stern person’s stroke causes the canoe to veer off course because he or she sits further from the middle of the canoe. A stern position paddling on the right will cause the canoe to veer left and vice versa. The most elementary stroke used to compensate for this flight deviation is a stern rudder. But as simple as it is, the rudder creates excessive drag and makes paddling in unison difficult. Using a J-stroke will keep the canoe tracking straight without affecting forward speed.

The J-stroke is a forward stroke with a turning stroke added at the end. At the end of each forward stroke, turn the thumb of the top hand down towards the water to turn your blade perpendicular to the water. Give a quick outward hook to provide the corrective push-away force.

Key Points:

- When you start the J-stroke, make sure both your hands are over the gunwale. If the paddle is slightly across your chest your corrective stroke will be ineffective.
- If your blade is lifting water instead of pushing water, cock the thumb of your top hand further. Your thumb must point to the water to ensure your paddle blade is perpendicular to the surface of the water.

The J-stroke, one of the most versatile strokes for controlling direction, is primarily used to push the canoe straight ahead when two people are aboard. If alone in the canoe, the J-stroke will push the canoe forward in a straight line without shifting your paddle from side to side. Most experienced canoeists find, however, that the J-stroke requires a lot of energy, and is quite tiring if one has to paddle a long time. Therefore, most canoeists use a variation of the J-stroke called the Pitch stroke.

The Pitch stroke is really a shortened J-stroke, one that uses less flair at the tail end. The difference is that the J-stroke causes the canoe to slightly zig-zag along its forward course, whereas the Pitch stroke follows a straighter course that requires less effort. The secret of the Pitch stroke lies in wrist action. As the paddle is drawn to the rear, the wrist rolls gradually forcing the water outward, away from the stern. If still more turn is needed, simply continue to twist the blade out farther. This now becomes a J-stroke.

The Backwater stroke is used to reverse direction, to stop the canoe, and/or to hold it in a stationary position. This stroke is useful at landings, in backing out of tight places, and in checking speed in rough water.

The Draw stroke is used for steering the canoe. This stroke pulls the canoe sideways by forcing water under the keel. Often this stroke pulls the canoe sideways by forcing water under the keel. Often this stroke is used when the canoe is not moving forward as in moving closer to a dock, but it may also serve as the opposite of the J-stroke: that is, the J-stroke pushes the stern away from the paddle; the Draw stroke pulls it toward the paddle.

The Skulling Draw serves as a guiding stroke to steady a canoe in rapid water or high waves. It's simply a squared off figure-eight. Capable of holding the canoe in tight control, this stroke can ease you through very rough water. The novice should practice this particular stroke in quiet water, however, before attempting to use it in wild rapids and spillways.

Turning Strokes: Draw, Pry and Sweep Strokes

The Draw: The Draw stroke pulls the canoe towards your paddle. When bow and stern paddlers draw simultaneously (on opposite sides) the canoe spins in a circle.

Start the draw by reach out with a vertical paddle and plant the blade with the powerface towards you. Extend your top hand as far out as possible to maintain a vertical paddle. Pull your paddle towards the canoe. Just before your paddle reaches the canoe, turn the thumb of the top hand away from the canoe and slice the paddle blade out of the water. Return to the plant position.

Key Points:

- For a more powerful draw, extend your reach by leaning way out. The draw stroke has a balancing effect on the canoe which allows you to lean out without tipping over. Try it — it works.
- To gain maximum turning efficiency, perform the draw stroke farthest from the canoe's pivot point. The bow person should finish the stroke at the knee while the stern person should finish the stroke just behind himself or herself.

The Cross Draw: The Cross Draw is performed by the bow paddler to pull the canoe to his or her *off* side. Your off side is the opposite side of the canoe to the one you are paddling on. *Without changing the position of your hands on the paddle*, rotate your upper torso and lift the paddle over and across the bow. Plant the paddle at a forty-five-degree angle to the keel line. Your top hand will be shoulder level and your lower arm will be extended. The power in the cross draw comes when you use your entire torso, not your arms, to pull the paddle to the bow. Keep elbows close to body to prevent shoulder dislocation.

The Pry: The Pry pushes the canoe away from your paddle. When done properly, a pry is a quick and powerful stroke.

The Pry involves slicing your paddle under the canoe, doing a quick pry off the side of the canoe, and finishing with an underwater recovery. Start by stretching your top arm out over the water with your thumb pointing towards the stern. Slice the blade under the canoe. Keep your blade deep and your bottom hand just above the gunwale. Pull your top arm towards your nose so the paddle shaft pries off the bilge of the canoe. Stop when your paddle is vertical. Rotate your top hand thumb away from you and slice the blade under the canoe.

Key Points:

- Keep your bottom hand above the gunwale or you may catch your thumb between the paddle and the canoe.
- Keep your top hand well-extended over the water at the start.
- If you are rocking the canoe, you are pulling your top hand too far across your chest. This causes your paddle to lift water, forcing the gunwale down.
- As with the draw, maximum turning efficiency will occur when the stroke is performed farthest from the pivot point.

Sweeps

Sweep strokes are turning strokes in which the paddle “sweeps” the surface of the water in an arch. Sweeps are used in the bow and stern. Although sweeps are not as powerful as the draw and pry, they provide more stability and are useful in shallow water.

The stern forward sweep is used by the stern person to keep the canoe on a straight course. While the J-stroke swings the canoe to your paddling side, the stern forward sweep pushes the canoe away from your paddling side. Begin by extending your paddle out at a forty-five-degree angle and sweep in an arc ending well behind you.

The stern reverse sweep pushes the stern away from your paddling side. Start the stern reverse sweep with your paddle as far back and as close to the stern as possible. Push the water in an arc using the backface of your paddle. Stop the sweep when your paddle is at right angles to the canoe. The most effective part of the stern reverse sweep is the first twelve inches of push-away closest to the stern.

The bow forward sweep will push the bow away from your paddling side. It is good for shallow water and meandering creeks. Plant your paddle as far forward and as close to the bow as possible. Using the powerface of the blade, push the water in an arc. Stop the sweep when the paddle is at right angles to the canoe.

Key Points:

- The most effective part of sweep strokes is the push or pull which occurs in the first twelve inches closest to the canoe.
- Keep your top hand low so your paddle is nearly horizontal.

- Recover by feathering your blade.

Braces

Low and high braces are used to prevent a canoe from tipping over and to stabilize a canoe when turning in whitewater. Determining exactly how far you can lean on a brace is best practiced in warm water, close to shore.

Use the low brace when the canoe suddenly tips towards your paddling side. Reach out over the water, with your knuckles down. Using the backface, apply a hard and quick downward thrust on the surface of the water. The key points in the low brace are: using a flat blade, a quick slap-push off the water, and both hands over the water.

The high brace can be used when the canoe tips *away* from your paddling side. This stroke feels as if you're grabbing the water with your paddle to pull yourself upright. It is basically the same as a stationary draw stroke done quickly. The high brace works because of the same righting effect that applies to the draw stroke.