Recreational Canoeing Association of British Columbia

Disclaimer

While every effort has been made in this Instruction Manual to accurately reflect the policies of the Recreational Canoeing Association of British Columbia (RCABC), in the event of a conflict, policies of the RCABC as determined by its Constitution, and Membership through Annual General Meetings or Executive shall prevail.

Policy on Harassment

(adopted April 1997)

The policy of the Recreational Canoeing Association of British Columbia is to not tolerate any discrimination or harassment on the basis of race, sex, colour, religious or political affiliation, national or ethnic origin, mental or physical disability, sexual orientation, citizenship, creed, civil offences, martial or family status.

To ignore discrimination or harassment is to condone the acts of the harasser and further penalise the victim.

Harassment is defined as any unwelcome action, whether verbal or physical, on a single or repeated basis, which humiliates, insults or degrades. It includes jokes or remarks which denigrate persons on the basis of their sex, disability, or any of the aforementioned categories. Such acts may be subtle or overt, but they are always offensive and demeaning. Unwelcomed means any action which the harasser knows, or ought to reasonably know, is not desired by the victim.

Discrimination and harassment are expressions of power or perceived power and superiority. It is intended that this policy will send a clear message to harassers that their actions will not be tolerated.

Implementation

At the commencement of every Instructor or General Membership meeting or Certified Instructor Course, the Recreational Canoeing Association of British Columbia's Policy on Harassment will be read. The policy will be included in the Instructor Manual and other Association Documents as appropriate. Instructors and Executive Members will promote a harassment free environment.

RCA of B.C Instruction Manual

3rd Edition

Revised — October 2000

New in this edition
Clarification on Certification Policies

Acknowledgements

This manual represents an enormous effort by many RCA of BC members. The list of individual contributors is far too long to include here but we would like to acknowledge some of the organizations that made the production possible.

The Association of Neighbourhood Houses & Sasamat Outdoor Centre contributed administrative support to the project as well as desktop publishing equipment.

Capilano Community College provided access to their printing services.

The Wilderness First Aid and Safety Association of B.C. contributed the sections on hypothermia and hyperthermia.

Employment and Immigration Canada funded the inputting of the data on the word processor.

The Instructors and club members of the RCA of B.C. contributed and analysed the technical information on paddling techniques and strokes.

Nola Johnston provided the illustrations

The sport of recreational canoeing is constantly evolving. Even as this second printing goes into production we are aware that some of the technical descriptions of strokes are due for updating. With this in mind we are inviting members to submit comments and suggestions to the RCA Instructor Co-ordinator so they can be included in future editions.

To provide easier reading we have not used the “he/she” and “his/her” references to paddlers. In the original third edition we referred to all paddlers as in the plural form(they, them, etc.). In an attempt to be both socially and grammatically correct we have now alternated between genders when required to refer to paddlers in the singular. All references to male or female paddlers are meant to include both sexes.

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Editor

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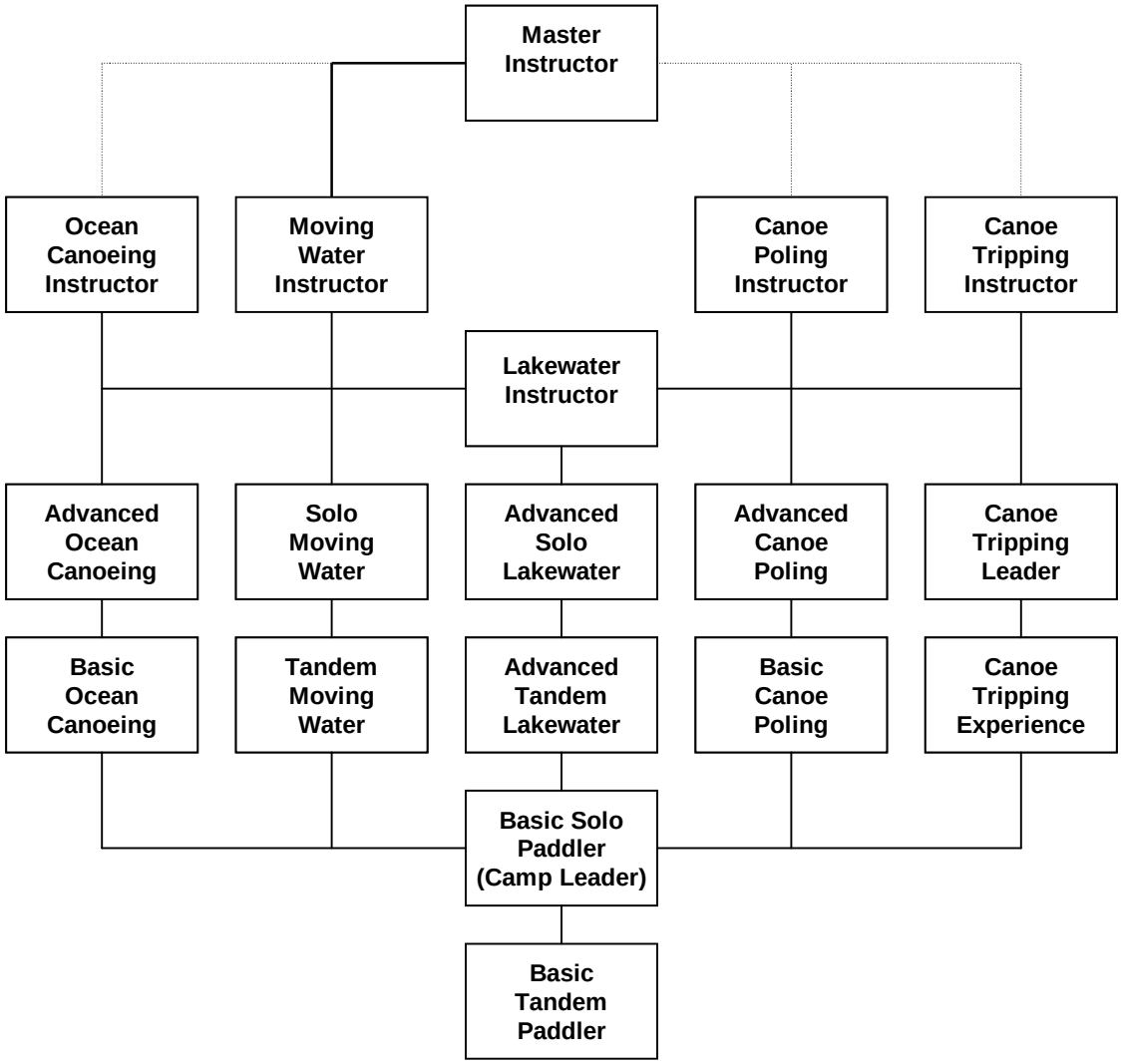


CERTIFICATION POLICIES

PREREQUISITES

It should be noted that some form of flexibility concerning paddling certificates, as they relate to prerequisites, is required. This problem will be left to the discretion of the Instructor giving the course. However, considering the implications associated with Movingwater it is strongly advised that no flexibility be allowed concerning prerequisites. A Movingwater Paddler Level III, or its equivalent, is therefore a prerequisite before attempting to take the Movingwater, Canoe Poling or Ocean Canoeing Instructor courses.

APPROVAL

Notice of Instructor Level Courses must be given in writing to the Executive, through the Instructor Coordinator, before commencement of the course..

INSTRUCTORS

Only current Instructor/Instructor Candidate Members may attend Instructor Courses, Exams, Recertifications or Clinics.

RCABC Membership

(Constitution Excerpt)

6. An applicant for membership is granted it upon:
   - 6.1 paying the prescribed membership fee;
   - 6.2 agreeing to abide by and comply with the Constitution and By-laws of the Association; and
   - 6.3 producing such documents and statements as may be required.

7. A person shall cease to be a member of the Association:
   - 7.1 by delivering his/her resignation in writing to the secretary of the society or by mailing or delivering it to the address of the society;
   - 7.2 on his/her death or, in the case of a corporation, on dissolution;
   - 7.3 on being expelled; or
   - 7.4 on having been a member not in good standing for 12 consecutive months as specified below in 8.2

8. Membership terminate:
   - 8.1 annually on March 31 and are renewable on payment of the current year's fees;
   - 8.2 after members in good standing in previous year have been given 30 days grace following the termination date; then they shall cease to be in good standing and, automatically, cease to be a member;

DURATION

The Lakewater Paddler Progression consists of four levels, which a Lakewater Instructor is qualified to teach. Each level is approximately 8-10 hours in length. Movingwater, Poling, Tripping and Ocean Canoeing courses each consist of two sixteen hour modules. They can only be taught by an Instructor certified in those areas.

FLEXIBILITY

This format is designed so that it can be as flexible as possible, but consistent in content as it relates to each level. Content from level to level throughout the province **must** remain the same to ensure proper sequence, complete coverage of material and quality.

RATIOS

To provide good quality instruction and reasonable attention to individual students, the following ratios have been established for RCABC sanctioned Paddler/Instructor courses:

Lakewater, Tripping, Ocean Canoeing and Poling	9:1
Movingwater (Tandem)	7:1
Movingwater (Solo)	6:1

BASIC LAKEWATER PADDLER LEVELS

	Basic Tandem Paddler (1)	Basic Solo Paddler (2)
Prerequisite	None	Basic Tandem Paddler (RCA)
Theory	Parts of the Canoe Paddle-types, parts & selection PFDs-types & fit Safety procedures & equipment Canoe clothing (re: Hypothermia) Transporting canoes on a vehicle Waterproofing and storing gear Lake & Ocean Paddling	Solo positions, stance & trim Leaning the canoe Environmental ethics Access concerns
Skills	**Tandem** Launch Embark/Disembark (shore **or** dock) Paddling positions & trim Multiple carries (2 & 4 person) Change ends in deep water	**Solo** Launch Embark/Disembark (shore **and** dock) Paddling positions & trim Solo carries
Strokes	**Tandem (Bow & Stern)** Forward Reverse Draw (underwater recovery) Pry Sweeps (forward & reverse) "J" Stroke (bow optional)	**Solo** Forward Forward & reverse "J" Stroke Reverse Sweeps (forward & reverse) Draw (underwater recovery) Pry Forward & reverse "C" Stroke
Rec. Reading	Basic Canoeing 1977 edition of Canoeing (by American Red Cross)	Path of the Paddle by Bill Mason
Manoeuvres	**Tandem** Paddle 30 metres in a straight line Basic turns & sideslip	**Solo** Paddle 30 metres in a straight line Basic turns & sideslip

ADVANCED LAKEWATER PADDLER LEVELS

	Advanced Tandem Paddler (3)	Advanced Solo Paddler (4)
Prerequisite	Basic Solo Paddler (2)	Basic Solo Paddler (2)
Theory	Canoe Repairs Knots and ropes Equipment variations and standards Water hazards, wind and waves	Solo paddling in wind & waves Solo paddling positions & trim History of canoeing Extra flotation
Skills	**Tandem** Slide slip & Running side slip Tight inside & outside circles -with & without momentum	**Solo** Slide slip & Running side slip Tight inside & outside circles -with & without momentum
Strokes	**Tandem** Braces Marathon Stroke Diagonal Draws (forward & reverse) Reverse "J" Stationary Draw & Pry Review and Practice Basic Strokes Variation & blending of strokes Sculling Draw & Pry	**Solo** Compound Back Stroke Indian, Pitch & Canadian Strokes Box Stroke “O” Stroke Cross bow draw Weight Turns One Handed pry (bow jam) Braces Review & practice Basic Solo Strokes Variation & blending of strokes
Rescue	Tandem self rescue	Solo self rescue
Rec. Reading	Path of the Paddle by Bill Mason	Song of the Paddle by Bill Mason
Evaluation	Complete the tandem circuit	Complete the solo circuit

LAKEWATER INSTRUCTOR

PREREQUISITE

Advanced Tandem and Solo Paddler, INDIVIDUAL member of the RCABC and current RCABC Instructor/Candidate registration. A First Aid Certificate is strongly recommended.

DURATION

The estimated time to complete the Lakewater Instructors Course is 40 hours. It is possible that more or less time may be required depending on the class or specific individuals. Considering the content of the present RCA of BC course (canoe history, heritage of canoeing, and the solo paddling components) it becomes rather doubtful that the Lakewater Instructor course can be taught and completed in a shorter time. Any shortening of the course must be at the expense of time and/or quality.

THEORY

- In depth review of all theory from the four paddler levels
- River grading and water hazards
- Construction, design and materials of canoes, paddles and PFDs
- Canoeing clothing, group leadership, safety
- Teaching methods and techniques

STROKES

Instructors must be capable of teaching, demonstrating and correcting all strokes in the four paddler levels.

PRACTICAL

- Review and practice all strokes in the four Paddler Levels: solo, bow and stern.
- Practice teach on any theory or practical topic in the Paddler Levels.
- Be capable of swimming 50 m. clothed, with a PFD.

REC. READING

All recommended texts, plus Canadian Coast Guard Regulations applicable to canoeing.

EVALUATION

Achieve a minimum of 70% in **each** of the following test areas:

- written theory test
- teaching - 3 items
- tandem paddling circuit
- solo paddling circuit

CONDUCTORS

Lakewater Instructor Courses are to be taught by a Master Instructor or a Movingwater Instructor approved by the executive of the R.C.A.

EXAMINATION

Instructor Examinations are to be conducted by a Master Instructor or a Moving Water Instructor that has attended an examination clinic and is approved by the executive. Lakewater Instructor Courses taught by a Movingwater Instructor must be examined by an examiner that was not involved in teaching the course. Master Instructors can examine their own courses.

OTHER SKILLS

At this time Lakewater Instructors are **not required** to have skills in Movingwater, Tripping, Poling or Ocean Canoeing.
It is important that all canoeing instructors **should** have some knowledge and experience beyond the level that they are teaching. For this reason, it is a **recommendation** from the RCA of BC to Lakewater Instructors, that upon completion of the course, they should take the Tandem and Solo Movingwater Paddler's courses, or equivalent. This should give instructors the required experience, and would eventually prepare them for the Movingwater, Poling, Tripping, and Ocean Canoeing Instructor courses.

MOVINGWATER PADDLER LEVELS

	Tandem Movingwater Paddler (3)	Solo Movingwater Paddler (4)
Prerequisite	Basic or Advanced Tandem Paddler	Tandem Movingwater Paddler
Theory	Canoe construction, design, materials Care & repair of canoes & equipment Safety procedures & signals Extra flotation Group travel on the river River hydraulics and hazards River grading systems Map interpretations Environment and ethical considerations	Canoe trim & paddling position River reading
Strokes	**In up to grade II water** All strokes in Advanced Tandem Paddler River "J" Cross bow draw Stationary draw and pry Blending of Strokes High & low braces	**Solo in up to grade II water** Review all solo strokes River "J" Cross bow draw Blending of Strokes High & low braces
Manoeuvres	Embarking & disembarking Forward and back ferries Eddy turns & Peel offs Side slip & running side slip Lining, tracking & streaming Surfing	Embarking & disembarking Forward and back ferries Eddy turns & Peel offs Side slip & running side slip Surfing
Rescue	Throwing a line Swimming rapids (grade II) Shore and deep water rescues Self rescue in grade II	Body ferry with canoe Canoe over canoe in moving water Solo self rescue
Rec. Reading	Basic River Canoeing by R. McNair Path of the Paddle by Bill Mason	The Canoe and White Water by C. Franks Canoe & Kayak Instruction Manual by The American Canoeing Association
Evaluation	60% competence in up to grade II water	60% competence in up to grade II water

MOVINGWATER INSTRUCTOR

PREREQUISITES

- Lakewater Instructor for a minimum of 1 year
- Current RCABC Instructor/Candidate registration.
- Solo and Tandem Movingwater Paddler certificate

DURATION

The Movingwater Instructors course has Tandem and Solo components. Each consists of approximately twenty hours of instruction, for a total of forty hours.

COURSE CONDUCTOR

This evaluation is to be conducted by a Master Instructor.

GENERAL

The canoeist should not be exposed to river conditions exceeding grade III. Emphasis should be placed on tandem and solo paddling in grade II water, with the potential instructor being capable of performing manoeuvres in all capacities: tandem bow, tandem stern and solo.

THEORY

- All material from Lakewater Instructor and Movingwater Paddler Levels.
- Knowledge of how to activate local rescue authorities.
- Recovery of boats and stranded paddlers.
- Teaching techniques for river trips.

STROKES

- All Moving & Lakewater strokes
- Off side paddling
- High braces
- Reverse "C" stroke

PRACTICAL

- Review and practice all Movingwater paddling manoeuvres.
- Practice teach any Movingwater theory, stroke or manoeuvre.
- Demonstrate competence on grade III water.

REC. READING

River Rescue by L. Bechdel & S. Ray in addition to other RCA recommended texts Canoeing and Kayaking Instruction Manual by the American Canoeing Association.

EVALUATION

- Achieve a minimum of 70% on the Theory Exam.
- Over the course demonstrate an 80% success rate when performing required manoeuvres.
- Demonstrate effective correction and detection of stroke mechanics and manoeuvre in a teaching situation.

CANOE TRIPPING LEVELS

	Canoe Tripping Paddler	Canoe Tripping Leader
Prerequisites	Basic Tandem Paddler Basic Solo Paddler	Standard First Aid (minimum 16 hours) Advanced Tandem Paddler Tandem Moving Water if leading on moving water. Basic Ocean Canoeing if on Ocean. Trip Log: experience must include at least 3 2 day trips.
Theory	Safety issues. (include. hypothermia and first aid training needs. Environmental ethics and practices Leadership responsibilities: pre trip and daily group planning. Basic map reading. Tripping kit- personal and group equipment. Weather interpretation. Basic menu and food planning. Repair kits.	Safety considerations. Environmental ethic and supporting practices. Leadership responsibilities: pre-trip and daily group planning. Basic map reading. Tripping kit- personal and group equipment. Weather interpretation. Basic menu and food planning. Repair kits. Survival skills (pre-trip plan, shelters, signalling)
Skills	Loading canoes. Portaging gear and canoes. Tents, shelters: site selection, types. Fire building, site selection, and management Portable stoves. Trip packing. Rescuing loaded canoes.	Loading canoes. Portaging gear and canoes. Tents, shelters: site selection, types. Fire: site selection, building, management. Portable stoves. Trip packing. Rescuing loaded canoes.
Note	To be taught over 2 days with one overnight minimum. To be taught on Lakewater only.	To be taught over 3 days with 2 overnights minimum.
Rec. Reading	Song of the Paddle, by Bill Mason	Song of the Paddle by Bill Mason Be Expert with Map and Compass, by Bjorn Kjellstorom Leave No Trace,
Course Conductor	Canoe Tripping Instructor	Tripping Instructor, plus: Ocean Instructor if on ocean Moving Water Instructor if on a river.

CANOE TRIPPING INSTRUCTOR

Canoe Tripping Instructor Course

There are two main areas in which the Canoe Tripping Instructor must be well versed and skilled. The first is hard skills canoeing, canoe rescues, fire building and management, equipment repairs, map and compass, menu planning and meal preparation, and first aid. The practical nature of these skills make evaluation straightforward.

The second area is that of environmental awareness. Instructors and therefore instructor candidates must have a strong environmental ethic. That strong ethic will ensure that practices demonstrated are easily integrated into the skills the candidate already has. Research over several decades indicates that environmental practices are not likely to be adopted by people who do not firmly believe in the ethic those same practices support. The Recreational Canoeing Association of BC. promotes responsible environmental stewardship. RCA of BC Instructors should promote through example environmentally sound backcountry behaviour.
Evaluation of environmental ethic may be difficult, though the ease with which participants accept new practices may be an indicator.

Course Lengths

The instructor course should be run over five days with a minimum of four consecutive overnights. Because it takes time to observe both practical and backcountry environmental practice, it is necessary to provide that observation time during the course.
Where course participants are of different levels of skill and experience, the extended time provides the Course Conductor with the opportunity to observe the variety of teaching styles of each individual.

Course Outline

PREREQUISITES

- Lakewater Instructor
- Current RCABC Instructor/Candidate registration
- Tandem Moving Water Paddler (Level 3)(if on river)
- Basic Ocean Canoeing (Level 3) (if on ocean)
- Current First Aid Certificate, preferably Wilderness First Aid. (min 32 hr course)
- Trip log: Must be in the role of leader and/or assistant leader, must include pre-trip planning experience in 2 trips of a minimum length of 5 days each, plus other shorter trips.

DURATION

To be conducted as a trip of a five day minimum. A major component of the Canoe Tripping Instructor course information sharing which can only take place when time is available. (i.e.: the five day duration of the trip.)

QUALIFYING REQUIREMENTS

Candidates will be evaluated in the following areas:

- Leadership
- Teaching ability
- Theoretical knowledge
- Practical skills

Environmental ethic and practices

LEADERSHIP

- Daily group Planning.
- Group dynamics and management.
- Pre-trip planning and administration.
- Crisis management and hazard assessment.

COURSE CONDUCTOR

Master Instructor with a Tripping Instructor, plus
Moving Water Instructor if instructing on moving water,
Ocean Instructor if instructing on the ocean.

TEACHING ABILITY

- A knowledge of and ability to use effective teaching styles and methods in relation to canoe camping.
- An ability to detect and correct skill deficiencies and weakness.
- Clear management skills and organizational ability on and off the water.
- An ability to effectively communicate with individuals and groups.

THEORY

- Maintenance and repair of canoe and related equipment.
- Equipment knowledge reverent to canoe camping.
- Safety considerations including hypothermia.
- Pre-trip planning and administration, “Show and Tell” of kitchen and shelter equipment at trailhead.
- Animal hazards.
- Federal and provincial regulations governing canoe travel.
- Weather factors affecting canoe camping.
- Nutrition, food-stuffs and menu planning, provide 1 dinner for the group which would be representative of a meal on day 10 of a trip; submission of a 10 day menu plan for a trip that requires portaging.
- Vehicle safety related to transportation of people and equipment.
- The organization of canoeing in Canada and in one’s own region.

PRACTICAL SKILLS

The performance of items listed are not to be considered as a comprehensive curriculum of canoe touring skills. They are simply items selected to aid in the assessment of the Instructor candidates practical skills. A candidates evaluation is based to a large degree on subjective observation by the instructional staff.

ENVIRONMENTAL ETHIC AND PRACTICES

- Knowledge of minimum impact and no trace camping practices.
- Willingness to accept new practices in order to support RCA of BC environmental ethic*

REQUIRED READING

Song of the Paddle by Bill Mason

Be Expert with Map and Compass, by Bjorn Kjellstorom

Soft Paths

Leave No Trace

EVALUATION

It is recommended that a candidate be evaluated on each performance item as follows:

1. WEAK — Cannot credibly demonstrate required performance (where applicable: less than 60% of the time.)

2. PASS — Can usually demonstrate required performance item with ease and efficiency (where applicable: 60% - 80% of the time).

3. MASTERY — Can obviously demonstrate required performance item with ease and efficiency; has mastered performance (where applicable: better than 80% of the time).

It is recommended that Instructor candidates must record a PASS (2) or PASS with MASTERY (3) on each performance item. One WEAK (1) may be recorded at the discretion of the teaching staff. It is recommended that the Instructor candidate obtain at least 24 points over the 10 performance items tested

Map and compass use:	The candidate must demonstrate an ability to follow the map for a minimum distance of 15 kilometres while on a canoe trip in unknown terrain, and be able to pin-point exact location at any time.
Site selection and organization	The candidate must demonstrate an ability to select a campsite appropriate to the use group and organize its proper use and, where necessary, improvement in terms of minimum impact.
Packing	The candidate must demonstrate an ability to organize and package goods so that they are available, undamaged and waterproof at all times.
Portaging	The canoeist should be able to lift and portage a canoe on his/her shoulders for a minimum distance of 400 metres. This test can be performed with the assistance of another canoeist if necessary. Care in handling of the canoe should be apparent. NOTE: At this level any method of lifting and portaging should be acceptable.
Canoe repair	The candidate should be able to perform an emergency (temporary) repair of a small puncture in either an aluminium, fibreglass, or canvas covered canoe. The repair should keep the canoe fairly dry.
Environmental practices and sanitation	The candidate should be able to explain and demonstrate practices basic to "minimum impact" camping, with regard to: tent pitching, fire building and stove use, sanitation (washing of self, dishes, etc. waste disposal).
Rescue skills consistent with canoe camping situations	The candidate must perform a canoe over canoe rescue in lake water with loaded canoes and weather conditions likely to cause the need for rescue. The candidate must perform a rescue of paddler and equipment in Class II rapids.
Nature interpretation and regional history	The candidate must demonstrate an ability to serve as a nature interpreter by conducting a nature interpretation activity for the other candidates. This activity for the other candidates may not be specific to the area the trip is taking place in, but is intended to provide resource to the other instructor candidates.

CANOE POLING PADDLER LEVELS

	Lakewater Poling (3)	Movingwater Poling (4)
Prerequisites	Basic Solo Paddler (Level 2)	Lakewater Poling (3) Solo Movingwater Paddler (4) or equivalent
Theory	Poling history Types of canoes & poles Advantages of poling	Clothing & footwear Equipment displacement Safety & hazards associated with moving water & wilderness situations. Leadership responsibility Flotation
Skills	Balance with & without a pole - walk from one end of canoe to other Walk backwards with pole Standing jump forward Leaning pole balance	Reading moving water with an emphasis on hydraulics Tracking Lining Wading
Strokes	Kayak Stroke - standing & sitting Hand-over Hand-over switch Draw Pry (bow, mid, & Stern) Windmill Quick Jab Push stroke (side & back) Snubbing (bow & stern)	*- to be practised in back eddies & differentials, both upstream & downstream* Surfacing poling (*not upstream) Hand over stroke Windmill stroke Hand over switch Quick Jab Draw Snubbing
Manoeuvres	Forward & backward sweep turns Surface drag turns - left & right Draw turns Push turns Stern pry turns (45^{o}) Bow pry turns (45^{o}, 90^{o}, 180^{o}) Straight course (pole or drag)	**Downstream** Bow pry turns (cross over, modified) Drag down to stop Eddy turns (enter & exit) Ferries (forward & back) *- practised in back eddies & differentials.* Right & left turns Drag turns Draw turns Push turns Stern pry turns Holding **Upstream** Shift (left & right) Poling a minimum of 100 meters in gr.2 water (standing) Forward ferry *- practised in back eddies & differentials.* Holding Right & left turns

OCEAN CANOEING PADDLER LEVELS

	Ocean Canoeing (3) *Paddling on protected coastal waters under a variety of conditions*	**Ocean Canoeing (4)** *Advanced paddling on moving tidal waters.*
Prerequisite	Basic Lakewater (2)	Ocean Canoeing (3)
Theory	M.O.T. harbour & small vessel regulations & signals Commercial & recreational traffic (procedures & courtesies) General safety (procedures & equipment) Basic navigation: Reading charts Plotting courses on a chart Reading Tide & Current Tables Using a compass to establish a course Weather tips & information sources Wave theory & action Trip planning & leadership Fresh water sources Understanding the hazards of open ocean canoeing, night canoeing and canoeing in fog	Review Coast Guard regulations & inshore boating ethics Review of basic navigation: Taking bearings Fixing Course Made Good with current and wind Using Tide & Current Tables to predict tidal heights & currents at specific times Practical weather forecasting Tidal hydraulics Effects of winds & waves Survival theory Leadership & Communications Environmental awareness: ethics identification of inter tidal plants & creatures of the area (discussion of reference books only)
Skills	Loading & trimming a canoe Handling a canoe in wind, waves and currents Embarking & disembarking in surf on both sandy and rocky shores Knots - reef, bowline, clove-hitch, sheetbend, figure 8 or stopper	Upgrading of level 3 skills of handling a canoe in wind, waves & currents, and embarking & disembarking in surf on both sandy and rocky shores Tandem & solo techniques, including eddy turns, peel offs & ferries
Rescue	Search & Rescue information	Rescue Techniques & innovations (rafting, sailing etc.)
Rec. Reading	Boating in Canada: Practical Piloting & Seamanship by Garth Griffiths Weather: A Golden Nature Guide published by Golden Press Sea Canoeing by Derek Hutchinson	Living Shores of the Pacific Northwest by Lynwood S. Smith A Field Guide to Western Birds by R.T. Peterson B.C. Marine Fish and Shellfish Regulations Waves and Beaches by Willard Bascom
Evaluation	Suggested times: Theory & Examination - 12 hours Practical - one full day paddling (overnight trip preferred)	Suggested times: Theory & Examination - 12 hours Practical - one overnight trip

OCEAN CANOEING INSTRUCTOR

PREREQUISITES

Lakewater Instructor for minimum of 1 year
- Individual member of the RCABC
- Current RCABC Instructor/Candidate registration
- Ocean Canoeing IV for minimum of 1 year
- Movingwater III or IV

At least 21 days Ocean paddling experience including 5 consecutive days of ocean canoe camping and experience in at least 3 different channels during variable currents exceeding 5 knots.

DURATION

As required to complete course.

COURSE CONDUCTOR

This evaluation is to be conducted by a Master Instructor or an approved Ocean Canoeing Instructor Examiner.

GENERAL

The canoeist should attend a qualifying meeting where he or she will present two ten-minute lectures on ocean canoeing topics to be selected by the examiner.

The canoeist will be required to submit a trip resume with practical observations.

PRACTICAL

The canoeist will normally be required to lead an ocean canoeing group through a variety of tidal waters while under evaluation.

REC. READING

Boating in Canada: Practical Piloting and Seamanship by G. Griffiths

EVALUATION

Achieve a minimum of 75% on lectures, trip resume and leading an ocean canoeing group.

MASTER INSTRUCTOR

PREREQUISITES

- LW Instructor
- Current RCABC Instructor/Candidate registration
- Active Instructor of CP, OC or CT(equivalency considered on an individual basis)
- At least 5 years as a MW Instructor
- Documented First Aid Training

CERTIFICATION

- Demonstrate to Current Master Instructors
  - Ability to paddle and lead on Grade 3 MW
  - >90% competence at MW Recertification
- Approved by Executive
- Process to be started by application **or** nomination by Master Instructor

RECERTIFICATION

MEMBERSHIP

In order to maintain their certification, all Instructors are required to:
- be a current paid up INDIVIDUAL MEMBER of the RCA of BC;
- hold a current Instructor/Candidate Registration; and
- submit a log sheet of the past years teaching to the Instructor Co-ordinator

LIMITATIONS

A member whose Instructor certification or recertification has lapsed less than five years from date of certification or recertification may be reinstated by successfully completing a recertification at the level they were entitled to. A lapse of five years or more from last date of certification or recertification requires re-examination.

LAKEWATER

Lakewater Instructor certification is valid for 3 years, after which time the instructor must attend a recertification clinic or re-take the Lakewater Exam.
A former member that was a Lakewater Instructor whose Instructor membership fees have not been paid for up to two years may only be recertified by first becoming an Instructor/Instructor Candidate Member, paying the reregistration fee and successfully completing a Lakewater Instructor Recertification Clinic.

A former member that was a Lakewater Instructor whose Instructor Membership fees have not been paid for more than two years may only be recertified by successfully completing a Lakewater Instructor Exam.

MOVINGWATER

Movingwater Instructor certificates are also valid for 3 years and can be renewed by successfully completing a 2 day recert clinic or the last two days of a Movingwater Instructors Course. All instructors must recertify at the highest level they wish to teach. A Movingwater Instructor who recertifies at the Lakewater Level is no longer certified to teach on moving water.

Current Movingwater Instructors are not required to recertify their Lakewater status.

A former member that was a Moving water Instructor whose membership fees have not been paid for two years may only be recertified by successfully completing the last two days of a Moving water Instructors course or recertification clinic.

TRIPPING, POLING, & OCEAN CANOEING INSTRUCTORS

At this time there is no special recertification process for these areas. To date the policy has been that if Instructors maintain their FW or MW certification and indicate on their logs they are active in the other areas of certification they will retain their Instructor status in these areas.

MASTER INSTRUCTORS

- Contribute significantly as a resource to the sport of canoeing
- Maintain paddling & teaching skills to the satisfaction of other Master Instructors
- Remain an Instructor in good standing (log sheets, dues etc.)

EXTENSIONS

An instructor that is unable to attend a recertification clinic in the required year can apply to the Instructor Coordinator or the Executive for a one year extension of their certificate. Applications for extensions are considered on an individual basis.

COURSE CHALLENGES

INTRODUCTION

Occasionally Instructors from other provinces and individuals who have considerable canoeing experience outside of the RCA Format apply for certification in B.C.. At this point in time there is no transferable certification between provinces, or even the CRCA. To encourage these individuals to become affiliated with the RCA of BC, and to recognize the expertise others may have, the following challenge procedures have been established. To challenge any level, the candidate is required to take out an Individual Instructor/Candidate Membership in the RCA and pay the exam fee before the challenge. Challenges can be arranged with the Instructor Co-ordinator directly, or through a Master Instructor.

LAKEWATER

Anyone can challenge the Lakewater Instructor certification by arranging to attend a one day exam. The candidate must supply her own canoe, paddles, PFD and bailer. She is expected to come prepared to write a theory exam; paddle the solo and tandem courses; and demonstrate teaching techniques and knowledge of stroke mechanics. It is recommended that candidates purchase a manual **and** familiarize themselves with the RCA Paddling course before attending the exam. In the past, successful challenge candidates have usually arranged for at least one day of orientation to the RCA format by a certified instructor – however, this is not a requirement.

MOVINGWATER, POLING, TRIPPING, & OCEAN CANOEING

There is no challenge procedure for these areas. This is because the participatory nature of the courses does not easily allow for objective examination. These areas of certification are usually undertaken by senior Instructors in the process of attaining their Master Instructor status. It is the opinion of the Association that Instructors at this level must have the kind of experience and knowledge of the RCA that can only come from involvement in courses at the participant and Instructor levels.

PREPARING FOR THE RCABC INSTRUCTOR EXAM

PADDLING SKILLS

Solo Paddling

Candidates musts be able to paddle the RCA solo course in a smooth and efficient manner on both left and right sides. Paddlers cannot switch paddling sides to complete manoeuvres, but offside strokes are permitted. A maximum of 4 minutes is allowed for each side, but competent instructor candidates should be able to complete the course in 3 minutes in calm conditions.

Tandem Paddling

Candidates must complete the RCA tandem course in both bow and stern positions. This is accomplished by paddling the course once, switching ends and then paddling the course again. During the tandem course the stern paddler gives commands and the bow paddler must follow them. The stern paddler must call out the name of each stroke required, not give descriptions of the manoeuvre to be performed. The bow paddler must only perform strokes called by the stern paddler and not correct mistakes unless directed to do so. During the tandem course the candidate is only evaluated in the stern position.
The evaluation is based on:
-giving commands (clear and appropriate)
-stroke mechanics (choice of stroke and efficiency of application).

Rescue

Candidates not recommended by an RCA Course Conductor must demonstrate a solo, unassisted canoe-over-canoe rescue, to be completed within 90 seconds of first contacting the canoe.

TEACHING

Each candidate is required to teach 3 items from the topics in the RCA Instruction Manual. Two items will be strokes or manoeuvres and the third will be a theory or dry land topic. Most examiners give candidates one basic and one advanced stroke to teach.

Candidates are expected to:

- Briefly describe the stroke and its purpose or when it would be used.
- Give and effective demonstration.
- Have students attempt the stroke.
- Give general corrections or point out “keys to efficiency”.
- Have students perform the item.
- Give individual correction as required.

THEORY EXAM

Brief written answers to questions in the following areas:

History	10
Equipment	10
Strokes and Paddling	25
Rescue and Safety	25
Terminology	18
Leadership	4
Environmental Ethics	8
TOTAL	**100%**

TEACHING PROCEDURES

PLANNING Know what you are going to teach. Be at the class location ahead of time so that you can deal with the problems, which inevitably arise, without using up class time for the whole group while you deal with the problems of one individual.

SAFETY Be sure that the location is safe and that you have all necessary safety equipment readily available, including spare P.F.D.'s.

EQUIPMENT Check out everyone's equipment. Be sure there are spare paddles in case of loss or breakage.

COMMUNICATION It has been said that students retain only 10% of what they hear, 30% of what they see, but up to 90% of what they do themselves.

WHERE Locate yourself where students can see and hear you.

WHAT Tell students what it is that you are going to teach them and why they should learn this particular skill. Then demonstrate the entire movement; if necessary break it down into progressive components.

HOW If the skill can be learned as a whole teach it that way; otherwise teach each progressive component. Let the students practise each component separately. Check for errors and re-teach if necessary. Put it all together. Let the students practice. Change the practice pattern frequently to avoid boredom and to permit learning in a slightly different situation.

DETECTION & CORRECTION Make general corrections at first. Avoid criticizing any one individual at this point. If the student has not learned the teacher has not taught. Try alternative approaches, different terminology, demonstrate and teach on both sides. Use progressions to reach the final objective.

RE-TEACHING Don't go on to new material before a reasonable degree of success has been attained by the majority of the group. Give individual attention to the slow learners without making it too obvious, and without losing contact with the rest of the group.

QUESTIONS It is important to encourage questions. Be patient. No question is a dumb question. If no one volunteers a question, you should ask the class a question, since many students are afraid to ask and in this way avoid embarrassment. First ask the question generally and then after everyone has had a chance to think of a possible answer, address the question to an individual.

DEMONSTRATION Since your students are not going to learn a great deal from what you **say** anyway, keep the description to a minimum and get on with your demonstration.
However, do make your description and demonstration cover the following essentials:
Grip on the paddle, especially the bottom hand relationship of the paddle to the body and the canoe. Describe accurately the position of the shaft and the blade, using technical terms such as: vertical, horizontal, at right angles to and, parallel to. Describe angular positions in degrees, or by the face of a clock. Very few things are rigidly fixed and a range of positions and angles are acceptable so the phrase "as near as possible to" should be used in most situations.
Point out the relationship of the canoe to the water with regard to lean, directions and extent of movement.

EXAGGERATION Few students will do exactly what you tell them to do. To get them to do exactly what you want, it is a good idea to exaggerate both your description and your demonstration. By doing this at least some students will achieve the standard you are aiming at.

BE HONEST

- Point out the advantages and disadvantages of the method you are teaching. Let he students know about good alternatives, variations, progressions, etc.
- Criticize yourself; don't wait for the class to do so. Use this as a teaching device.
- Don't repeat a poor demonstration unless you are sure you can do better the next time. A second failure will completely undermine the student's confidence in you and your confidence in yourself.

Recommended Reading

This manual is not intended to be an exhaustive treatise on canoeing skills and procedures. It is, rather, an explanation of basic canoeing skills and knowledge with particular emphasis on the special requirements for canoeing in British Columbia.

In addition to the material presented here, the following books are required reading for instructors and strongly recommended to all canoeists:

Red Cross Canoeing, 1977 edition or later

The Canoe and Whitewater, C.E.S. Franks, 1977

Basic River Canoeing, McNair, 1972

Path of the Paddle, Bill Mason, 1980

Song of the Paddle, Bill Mason, 1988

River Rescue by L. Bechdel & S. Ray, 1985

Canoeing and Kayaking Instruction Manual, by the American Canoeing Association, 1987

Safe Boating Guide, Canadian Coast Guard, 1999 (or later edition)

There are many other books on canoeing which may be obtained from good book stores or Public Libraries.

CANOEING HISTORY

It is important that in the content of a paddling course some history of the canoe be presented. Depending on the level of the class, more or less history should be introduced. At the beginner level it may be more interesting for the student to have some general knowledge of the original canoe designs and how these first canoeing cultures contributed to the development of North America. If a more advanced level is being instructed, a more in-depth coverage of the topic should be given. This can include information about canoeing cultures throughout the world, and a discussion about the development of canoeing to present day. The following narrative bibliography is meant to assist in helping instructors choose material to be covered in their courses. All the material listed is available through the public library system.

Narrative Bibliography

1. American National Red Cross, **Canoeing,** Double Day and Company Inc., New York, 1977.

   This book provides adequate coverage of canoe building techniques from primitive rafts to sophisticated canoes. A variety of uses by various populations are described including the West Coast Indians and the Voyageurs. Modern canoe crafts and materials are also covered, however the history leading to the development of these is not included.

2. C.E.S. Franks, **The Canoe and Whitewater**, University of Toronto Press, Toronto, 1977.

   Franks has supplied an in-depth review of the history of canoeing. The origins and distinct style of many of the original canoeing populations are described. The contribution to the development of North America through trade, (Voyageurs), leading to the design and materials in modern canoe craft is covered. The coverage in this book is for those with more than just a curiosity with the history of canoeing.

3. Ted Moores and Merilyn Mohr, **Canoe Craft**, Camden House Publishing Ltd., Toronto, 1983.

   Although this book deals mainly with the building of a cedar strip canoe, it provides a well-written look at the cedar strip tradition.

4. Kenneth G. Roberts and Philip Shakelton, **The Canoe,** International Marine Publications Co., Camden Maine, 1983.

   This is a beautifully done pictorial and well-written tribute to canoeing cultures from Panama to the Arctic. The history of different crafts and their uses within a culture are described. A good reference book for all paddlers.

5. **The Voyageurs,** National Film Board, 106C 0164 032, Director Bernard Devlin, Producer Nicholas Balla.

   A film about the men who drove big freighter canoes into the Canadian wilderness in the days when the fur trade was Canada's biggest business. The film re-creates scenes of a century ago on the 5000 km river trade route to the Athabasca. With songs by a male chorus, this film presents a tuneful view of history and is a nice way to present the history of how the canoe contributed to the development of Canada.

PADDLE SELECTION AND CORRECT GRIP

INTRODUCTION

For optimum performance and to minimize fatigue, the length of the shaft and the width of the blade should be matched to the strength and experience of the paddler and the type of paddling expected.

SIZING

To measure the overall length of the paddle one end should sit between the height of ones chin and the lower end of one's breastbone when the paddle is resting on the ground. This may depend on personal preference, paddling conditions, type of boat, and paddler's experience.

Width depends on the type of paddling to be expected. In normal conditions a blade of about 18 cm gives a good compromise between the power expected from a wider blade, and the blade control advantages of a narrower blade. A paddle that will be good on the river and provide sudden power when needed is a blade with a width between 20 - 25 cm. For easy relaxed paddling blades down to 10 cm permit relatively effortless paddling even at a fairly high rate of strokes per minute.

GRIP

The paddle should always be held with the top hand over the grip. "Tee" grips give greater control over blade angle and are usually preferred in rivers where dramatic manoeuvrability is important. The "pear" or bulbous" grip requires less effort and allows for more subtle control.

The bottom hand position is variable, but the greatest power is obtained when the grip is close to the blade. When long reach is desired the bottom hand may be shifted up the paddle shaft 15-20 cm. This action is sometimes referred to as "telescoping".

TYPES

Wood paddles have always been aesthetically pleasing. When well crafted they are strong and often lighter than other paddles. Something to consider when using these paddles is that they require regular varnishing and will chafe on the gunwale.

Plastic paddles are tough and resilient. They are usually reinforced with aluminum tubing that runs 23cm into the shaft. These paddles are great for all types of canoeing because of their low maintenance and virtual "indestructibility".

Fiberglass paddles are very durable due to the multi-laminated construction. This gives a comfortable grip and added shaft strength.

Bent shaft paddles, originally designed for racing, continue to gain popularity with recreational canoeists. A bent shaft allows the blade to remain vertical through a longer portion of the forward stroke. This results in less water being lifted providing a more efficient stroke. Bracing and correction strokes will be easier to do with this type of paddle.

PARTS OF A CANOE

INTRODUCTION

It is important that instructors teach only those parts of the canoe found on the canoes her students are using. Once students understand the canoe they are using, special features found on different canoe types can be introduced.

MECHANICS

Some parts can be found on all canoes. These parts should be taught to students as the general parts of a canoe: gunwales, painters, thwart or yoke, bow and stern seats, flotation chambers and decks.

Wood canvas canoes have special features. These include: ribbing, breast plates, thwarts, and different keels. The important thing to remember is that you should be teaching the specific structure of the canoes you are using.

TERMS

There are a few terms that are specific to boating and should be explained to canoeing students. It is important that these terms be identified and defined. These terms include: aft, fore, beam, freeboard, waterline, draft, abeam, bow and stern. As paddlers develop their skill they should be made aware of the following terms as they relate to the canoe: rocker, entry lines, flare, tumblehome, and sheer.

TRANSPORTING CANOES ON VEHICLES

INTRODUCTION

The main considerations are the danger of losing the canoe off the top of a car at highway speeds and protecting the canoe from damage or theft.

MECHANICS

- Roof racks must be securely attached to the car and frequently checked.
- Bow and stern lines from the canoe should be attached to the bumpers of the car.
- Transverse lines attaching the canoe to the rack should be fastened close to the gunwales.
- The canoe is best locked to the car with a plastic coated cable (often used for locking bikes) attached to a secure roof rack or door handle. An alternative is to thread a piece of chain through a length of bicycle inner tube. This protects the finish of the car and boat from damage. If a secure attachment is not available some paddlers drill a small hole through the rain gutter on the car, to fit a padlock or they slam the cable in the car door.

NOTES

- Rubber tie downs deteriorate in sunlight. Nylon rope should be used.

ROPES AND KNOTS

INTRODUCTION

There are various types of ropes on the market. When purchasing ropes it is important to consider what they will be used for and how they will stand up to the elements they will be exposed to.

ROPE TYPES

Polypropylene rope is considered a good rope for use as a painter or heaving (rescue) line. The advantages of this rope are its low cost and buoyancy, good stretch and resistance to rotting from weather and water exposure. Knots will not stay in the rope however the rope can have an abrasive effect if used for tying down canoes. An added feature of this type of rope is that it usually comes in a variety of bright colours.

Nylon ropes have many of the same advantages as polypropylene. However, these ropes do sink. Nylon is a preferred rope to use when tying canoes down because of its low abrasion qualities.

Manila and other natural fibre ropes lose their advantages because they rot quickly if not dried correctly. They also have a tendency to stretch when wet and then deteriorate when exposed to the elements.

KNOTS

The **square or reef knot** is used when tying two lines of equal diameter together. This is a preferred knot when the line will be under continual and constant pressure.

A **round turn and two half hitches** is a knot used in situations where tension is alternately applied and released (securing boats to docks). This knot will not loosen when tension is lost.

A **trucker's hitch** is generally used when you want to apply tension on a line (tying canoes to car tops). The advantage of this knot is the mechanical leverage that can be applied to add needed torque on the line. This knot is especially good when tying down canoes for highway driving.

NOTES

When stowing line on a canoe, painters should be stowed under the deck plates. Any other line on the canoe should be stowed in a throw bag, to eliminate the snagging and "knotting" of line loosely stored.

TANDEM PADDLING POSITIONS - STANCE AND TRIM

INTRODUCTION

Ideally the canoe is trimmed so that it sits level in the water. Adverse weather and/or water conditions and some turning manoeuvres require adjustments to the trim. Acceptable paddling positions are a compromise between achieving low centre of gravity and comfort possibilities.

TRIM

Paddling with the bow paddler just in front of the bow seat and the stern paddler just in front of the stern seat is the most commonly accepted position. Slight adjustments to trim may be made by moving the bow paddler, or any camping gear, back in rough waves or tail wind conditions.
When conditions are extreme, both paddlers should move toward the centre of the canoe allowing both the bow and stern to rise easily on the waves. In some wider recreational canoes both paddlers should move laterally toward their own paddle side for easier paddling.

STANCE

The most stable position for canoeing will result from a wide spread kneeling position with the buttocks touching the bottom of the canoe between the heels. This is because the paddler is positioned directly over her centre of gravity. However this position is uncomfortable to maintain for any length of time.

A more common paddling position is to sit higher on the knees with the buttocks against the front of the paddler's seat or thwart. This position provides good stability for most paddling conditions.

Another position can be achieved by stretching the leg on the paddling side forward and bracing that hip against the gunwale, alternating legs as you change paddle sides. This position provides some relief without sacrificing too much stability.

In traditional canoe designs sitting on the seats, while quite relaxing, sacrifices too much stability and paddling power except in absolutely calm water conditions. On the other hand, modern racing and touring canoes feature lowered seats and foot braces to facilitate efficient paddling from the sitting position. In extreme turbulence, such as found on moving water, most expert canoeists prefer the kneeling position for maximum stability

NOTE

When trying to establish a comfortable paddling position, camping gear can be shifted to achieve a level or slightly stern heavy trim.

SOLO PADDLING POSITION - STANCE AND TRIM

CALM WATER A canoe should be trimmed even or slightly stern heavy. This is often accomplished by sitting in the bow seat facing backwards with any gear or load in front of the centre.

GRADE 2 Unless sufficient gear is loaded to trim the canoe on an even keel the canoe should be paddled backwards with the paddler kneeling buttocks supported against the back of the bow seat.

EXTREME Paddle from a position as near as possible to the centre of gravity of the canoe. A low kneeling position or even sitting between the heels will give maximum stability. If the wind is exceptionally strong it may be possible to make headway by paddling just in front of the centre of gravity thus trimming the canoe slightly bow down to gain the advantage of a weather-vane effect.

ARTISTIC Where extreme manoeuvrability is required the paddler must kneel on the heels as near as possible to the centre of gravity with the canoe tipped to the paddle side as far as possible. This rolled up position results in a shortened waterline that permits much faster turns.

LEANING THE CANOE

INTRODUCTION Leaning the canoe brings the boat higher out of the water thus shortening the water line and making the canoe easier to manoeuvre.

TURNS **In river canoeing,** to prevent capsizes, resulting from centrifugal forces generated during a turn, the canoe must be leaned into the direction of the turn in a manner similar to that used in making a turn on a bicycle.

However, in **Lakewater canoeing** during weight turns the absence of turbulence makes inside and outside leans possible for the solo paddler.

FERRIES To prevent capsizes, resulting from the bottom friction of the river current during ferries, the canoe must be leaned downstream.

MECHANICS The paddler on the inside of the turn (doing a draw stroke or a brace) or the downstream paddler during a ferry is responsible for leaning the canoe.

Knee straps, or at least hooking the far foot under the seat, are essential to permit maximum lean and a long reach.

SAFETY EQUIPMENT AND STOWING GEAR

INTRODUCTION

Provision of proper safety equipment and proper stowing of camping gear in the canoe will do much to avoid serious consequences in case of capsize or other problems.

LOADING

To avoid damage to the canoe it should be loaded while in the water.

EQUIPMENT

Each canoe must be equipped with:

- a **bailer** (tied in with a quick release knot);
- a **spare paddle** (one more paddle than paddlers);
- a Canadian Approved **PFD** (Coast Guard, MOT, DOT) must be worn by all instructors and students. **PFD's** should be in good repair;
- a **sound signalling device** (attach a whistle to the PFD or carry an air-horn);
- **bow and stern painters** 3 – 8 metres of 9-12 mm polypropylene or other floating, synthetic rope is recommended. Painters should be attached to a sturdy part of the canoe close to the bow and stern and coiled or stowed to avoid entanglement;
- a carefully coiled or bagged **rescue line** should be readily available in an emergency. 15-25 meters of 9-12mm polypropylene or other floating, synthetic rope is recommended. NEW IN 1999: Canadian Coast Guard Regulations now require one 15 metre throw line with a float at one end;
- First aid, boat repair and survival kits should also be secured to the canoe;
- A survival package should be carried by each person; and
- Coast Guard regulations may require additional equipment for canoes over 6 metres in length such as Voyageur Canoes. (See current Safe Boating Guide)

SECURING GEAR

The best way to secure gear is to tie it securely to rings on the bottom of the canoe. On moving water if this is not possible the gear must be left untethered to allow it to float free and prevent entanglement of the paddler(s).
On flat water a short tether to the thwarts so that the gear will not interfere with a canoe over canoe rescue, or become lost is acceptable.
Another option is to tie the gear together, but not to the canoe so that tin he event of a capsize it floats free but stays together.

TRIM / BALANCE

When loading a canoe the weight of each paddler and the expected paddling conditions should be considered. By adjusting to these conditions, better balance and trim of the canoe will result. This will provide better paddling and manoeuvrability.

WATERPROOFING GEAR

INTRODUCTION

When canoeing it is important to keep some equipment absolutely dry: sleeping bags, spare clothes, food, first aid kit, and the emergency kit. When portaging all equipment must be in packages suitable for carrying in a pack sack.

MECHANICS

When packaging one alternative is to use a number of small stuff sacks lined with a minimum of two plastic liners each individually sealed. Food should be packaged into daily meals each individually labelled and in its own waterproof package. The stuff sacks provide protection from abrasion and when properly labelled help to keep things organized.

If no portaging is anticipated 5 gallon plastic pails with snap on lids or waterproof tripping boxes may be used. Commercially made waterproof gear bags, which also provide additional flotation, can be obtained from various suppliers.

EXTRA BUOYANCY (FLOTATION)

INTRODUCTION

Anyone using a canoe must ensure that they have sufficient positive flotation to keep the canoe, gear and paddlers afloat if the canoe is swamped in rough water conditions.

MECHANICS

When rough water conditions are anticipated the maximum amount of flotation possible will mean a minimum amount of water entering the canoe. This will maintain manoeuvrability.

This additional flotation can be provided by any non porous, light weight material such as: styrofoam blocks, air bags, inner tubes, or air mattresses. Large inflatable equipment bags provide flotation and convenient dry storage for smaller packages.

It is safest if all of this material is tied securely to the bottom of the canoe to avoid loss in case of capsize.

CANOE REPAIRS

REPAIR KIT

Duct tape can solve most common problems encountered while canoeing. It is also useful on tents and packs, and has many other uses. For extended wilderness trips some **cold cure epoxy** and **fibreglass cloth** will repair more serious problems. Unlike normal resins, coldcure will cure under damp and cool conditions.

CANOE CLOTHING

NOTES

When discussing the appropriate clothing for canoeing there are two areas to consider:
- the type of weather conditions that may be encountered,
- the type of paddling to be done: river, lake, or ocean.

Generally, clothing should be loose and movable. Rain gear is essential especially in areas where the weather is quite changeable. Foot gear should be light. Stiff or heavy boots are inappropriate as they can drag you down. A hat is a good idea to protect against sun and rain.
Layering is the suggested method of dressing for trips as it allows for easy adjustments as conditions change. On all trips it is important that a complete change of clothing should be carried with you in case of rain or a dumping.
Clothing should never be worn over a PFD.

ETHICS AND ACCESS

INTRODUCTION

As an instructor it is important to remember that ethical and environmental considerations are important to discuss. Some important areas are outlined below.

ACCESS

There are two major areas to point out when using land to put in or pull out canoes. When using **private property** you should obtain the owner's permission to use their land. While on the land you should be aware of gates and ensure they are left as the owner wishes them left.

Vehicle parking should also be a consideration. Try to avoid parking in residential parking areas or leaving your vehicles in the way of private driveways.

ETHICS

A few important ethical issues to address are: littering, noise, changing and other groups. When changing clothes at the edge of a waterway, be considerate of the people who have property that looks onto the area. As a general rule, be discrete. Being aware of other user groups means being aware of their rights to be in the same area as your group. Try to share the resource without getting in each other's way.

ENVIRONMENTAL

The Recreational Canoeing Association of B.C. has adopted the environmental practices outlined in A Canoeist Manual for the Promotion of Environmental and Ethical Concerns, published by the Canadian Recreational Canoeing Association (CRCA). The Outdoor Recreation Council of BC also publishes a brochure that covers this topic as well.

LAKE AND OCEAN PADDLING

INTRODUCTION

Sudden squalls and developing storms are common on lakes and oceans especially in the long narrow lakes and coastal fjords found in many parts of B.C.. When paddling on the ocean, tidal flows must be understood and accounted for because travel against the current may be impossible, and travel with the current dangerous. It is important to understand that some tidal hydraulics may exceed grade IV river conditions.

PRECAUTIONS

Weather conditions can be obtained from the **marine weather forecasts** on the radio. These forecasts are clearly important and should be constantly updated and referred to. The **maximum** distance a canoe should be travelling from shore is that distance that would allow time to sprint ashore if a heavy squall or storm came up. The **minimum** distance is that distance required to avoid being involved with surf or backwash from cliffs. Expected tidal flows should be calculated from the tide tables so these can work for you rather than against you. A good rule to follow is to never canoe farther from shore than you would wish to swim.

Because a canoe sits so low in the water it is invisible to most marine traffic from very short distances. This makes it important that canoeists are constantly aware of the traffic around them and try to stay out of their way. Many types of marine traffic are not highly manoeuvrable and may find it impossible to avoid a collision even if you are seen. At night a single white navigational light should be displayed and flares should be readily available to attract help.

Landings in surf should be practised ahead of time. The best approach for these types of landings is a controlled approach followed by a last minute sprint with both paddlers leaping out into the water to avoid broaching as the bow touches the beach. Once the paddlers are on shore the canoe can be carried up the beach out of the surf.

WAVE MANOEUVRES

INTRODUCTION

Skilful paddling can prevent swamping under adverse conditions up to grade III water. Beyond this grade swamping of open canoes is almost inevitable.

MECHANICS

When the canoe is approaching a wave rapidly (or vice versa), three different manoeuvres can be made to assist the canoe over the wave.

- Slowing up by back paddling will give the bow time to rise over the wave.
- The bow paddler should move back behind the bow seat to assist the bow of the canoe in rising.
- Sometimes quartering into a wave, (approaching at a 45°angle), can be helpful especially when the wave is sharply pointed. A direct attack may result in an uncontrolled plunge into and under the next wave.

When paddling in a following sea certain precautions can be taken to assure the wave passes under the canoe.

- The stern paddler would be well advised to move slightly forward.
- Back paddling will permit the wave to pass under the canoe without the danger of surfing.
- Strenuous steering may be required if surfing is experienced otherwise broaching and subsequent capsize is nearly inevitable.

NOTE

In extreme turbulence both paddlers can take a position close to the centre thwart.

When paddling into a wave the quartering technique should only be used when the paddlers are confident that the angle can be maintained, otherwise they may end up broaching (hitting a wave broadside) and swamping the canoe.

RIVER HAZARDS

INTRODUCTION

All flowing water is potentially hazardous because of its tremendous force. Water at a weight of 28.4 kg (62.5 LBS) per cubic foot produces a completely unexpected force on the human body or on the large exposed surface of a swamped canoe.

HAZARDS

The deceptive flow of water under most **log jams** tends to surprise unwary paddlers who venture too close. Capsize can only be avoided by leaning vigorously onto the first log and probably climbing out on to the log. Capsizes usually result in the loss of the canoe and frequently have been fatal.

Sweepers are difficult to spot because of the deceptive unimpeded water running into them and their usual placement on the bends in a river. The canoeist can be easily drawn into the sweeper that can capsize the canoe. The flow of the water can roll the canoe and paddlers down to the bottom of the river where they are trapped. Pulling oneself up on to the sweeper is the only way of escape once capsize becomes imminent. Sometimes the canoe may pass through the sweeper if it is kept parallel to the current, but the canoeist's eyes are exposed to considerable danger from sharp twigs.

Reversals are a type of vertical eddy caused by large obstructions under the water. The most extreme reversal is the type of hydraulic jump caused by a low dam or ledge. Large broad rocks can also produce a depressed surface, (often called a hole), and return the upstream flow of water that may trap canoes and paddlers and recirculate them endlessly. Fast forward paddling may help to carry the canoe through a reversal and prevent it from being sucked back up toward the obstruction. If trapped, the paddlers must try to swim down to the bottom of the river where some water carries on downstream and hope that they will be carried downstream by this current.

Whirlpools are fierce continuous horizontal eddies caused by conflicting current flows at eddy lines on high volume rivers. They can suck the canoe and paddlers well down below the surface. If caught in one it is advisable to swim down into the whirlpool to get thrown out as soon as possible.

Boils are hydraulic surges resulting from large underwater obstacles and can capsize the unwary paddler.

NOTE

The best and safest way to deal with these hazards is to learn to spot them before you're in them and then avoid them.

FIRST AID FOR CANOE INSTRUCTORS

INTRODUCTION

Whether volunteer or professional, instructors and leaders are responsible for the participants under their care. Instructors and leaders are not protected by the liability exemptions under the Good Samaritan Act, therefore, first aid and C.P.R. certification are strongly recommended. First aid certification in British Columbia is provided by St. John Ambulance, Canadian Red Cross, the Workers' Compensation Board, and the Wilderness First Aid & Safety Association.

In addition to basic first aid skills, it is recommended that instructors be trained in the assessment and management of:

- Fluid loss disorders (fluid imbalance, muscle cramps).
- Hypothermia (exposure and immersion).
- Hyperthermia.

Additional topics of particular concern to canoeists include: drowning, over-use injuries (tendonitis, bursitis), and sprains and dislocations.
Instructors and leaders should also be familiar with appropriate first aid and survival supplies, pre-trip planning, contingency planning, and evacuation considerations.

FLUID LOSS DISORDERS

INTRODUCTION

If fluid loss is greater than intake, fluid imbalance or muscle cramps may occur. Fluid loss, through sweating, is increased in hot weather. However, hot weather is not necessarily required for disorders to occur. Fluid is also lost when exercising in the cold.

MUSCLE CRAMPS

Muscle or heat cramps are recognized by involuntary, painful, and persistent muscle contractions. Manage as follows:

- Massage and stretch the afflicted muscle group to relieve pain.
- Increase fluid and electrolyte consumption.

Fluid imbalance is commonly known as heat exhaustion or dehydration. The condition is similar to shock and is recognized by:

- Thirst.
- Pale, cool, clammy skin.
- Muscle fatigue.
- Nausea.
- Dizziness.
- Anorexia.
- Decreased alertness.

If left unchecked, fluid imbalance may result in unconsciousness and serious physiological disorders. Early recognition and management are important. Replace lost fluids with plain water. The electrolyte content of food is usually sufficient to replace lost sodium, chloride, and potassium. Salt tablets are therefore **not** required and may actually further disrupt cellular fluid balance.

HYPOTHERMIA

INTRODUCTION

Hypothermia is the lowering of the body core (vital organs) temperature. It occurs when heat lost from the body exceeds heat produced within the body. Heat may be lost through:

- **Conduction:** Direct contact with surfaces colder than the body(e.g.: water, snow, cold ground or objects, wet clothing).
- **Convection:** Movement of cool air (wind) or water over the skin.
- **Radiation:** Heat loss due to inadequate insulation.
- **Evaporation:** Evaporation of moisture from wet clothes and sweat in the cold and wind.
- **Respiration:** Inhalation of cold air, exhalation of warm air.

Other factors that may contribute to the development of hypothermia include:

- Inadequate supply of food for energy
- Dehydration
- Fatigue

TYPES

There are essentially two types of hypothermia:

- Immersion (acute): Follows heat loss in cold water. It is characterized by a fast onset (may occur after only 15 minutes in water temperature of 0°C).
- Exposure (gradual): Due to steady heat loss in cold environment. This type has a slower onset. However, once the body core is cooled past 35°C, further deterioration occurs rapidly.

ASSESSMENT

Shivering and the sensation of cold are the first observable indicators of hypothermia. Numbness and decreasing co-ordination, dexterity, and muscle strength progressively follow. If the condition is not detected and dealt with at this point, it will lead to:

- Severe uncontrollable shivering which will cease in most cases when the body temperature reaches 32°C.
- Progressive muscular stiffness.
- Deteriorating mental function, indicated by slurred or incoherent speech.
- Eventual loss of consciousness.

The progression of hypothermia is significantly faster with cold water immersion. The initial reaction to cold water immersion is often hyperventilation. If prolonged, body chemical changes associated with hyperventilation may result in muscle spasms, impaired mental function and unconsciousness.

MANAGEMENT

Management varies depending on the severity of hypothermia. In all cases, prevent further heat loss and further temperature drop:

- Shelter patient from the environment and insulate from the cold.
- Remove wet clothing and replace with dry garments and sleeping bags.

Mild Hypothermia

Mild cases (body core temperature above 32°C, shivering, no muscle stiffness) usually recover with few complications once heat loss has been terminated. Rewarming in the field is relatively safe. The following management principles apply:

- Apply external heat to the head, neck, chest, and groin. Heat may also be donated by other bodies, although this is often less effective.
- Administer warm, caffeine-free fluids only after patient has ceased uncontrollable shivering and recovered full coherency.
- Evacuation may be necessary. Contact with medical personnel is recommended.

Severe Hypothermia

Severe hypothermia (body core temperature below 32°C, depressed vital signs, absence of shivering, stiff muscles, unconsciousness) is a medical emergency with serious physiological complications. Although it is important to stabilize the patient's temperature and to prevent further heat loss, **do not attempt to elevate body core temperature.** Rewarming in the field may cause serious complications such as shock and blood acidity alterations. The following management principles apply:

- Prevent further heat loss, but do **not** apply external heat.
- If the patient is unconscious, initiate Basic Life Support. Pulse detection must be careful and thorough. **Assess for one full minute** to ensure CPR is not performed on a beating heart.
- Handle the patient with extreme care. Do not rub skin, manipulate the extremities, or immerse the patient in hot baths or showers.
- Evacuate to medical attention immediately.

PREVENTION

Hypothermia is preventable through common sense. Potentially hypothermic situations must be managed **before** they become serious:

- Recognize the environmental conditions leading to hypothermia. Environmental temperatures well above those normally associated with the risk of cold injury can cause hypothermia. In cold conditions, always be aware that hypothermia is a potential problem.
- Wear appropriate clothing for cold and wet conditions:
  - Adequate insulation, including hats.
  - Protection from the wind and rain.
  - A wet suit if cold water immersion is likely.
- In wilderness settings, carry fire lighting materials and some form of improvisational shelter.
- Recognize the early warning signs of hypothermia.
- Consume adequate amounts of food and fluid to maintain heat production. Food and fluid intake must match the demands of environment and activity.

HYPERTHERMIA

INTRODUCTION

Heat is lost from the body primarily by conduction from the core to the surface, where it is transmitted to the environment. Heat is also lost by sweating. When heat generation and absorption exceed heat loss, hyperthermia (also known as heat stroke) may develop. Risk is increased by:

- High air temperature.
- High humidity (sweat does not evaporate readily)
- Inadequate fluid intake (body cooling mechanisms such as sweating are impaired).
- Solar radiation (especially if lacking head protection or wearing dark clothing).
- Clothing with inadequate ventilation.
- Large body builds.
- Lack of acclimatization to heat or exercise.

Hyperthermia is a serious condition that can quickly become fatal. Early recognition and management are essential.

ASSESSMENT

A measurement of body core temperature provides the most accurate assessment. Use a rectal thermometer, if possible. Core temperatures of 38-39°C are quite normal while exercising strenuously. Readings above 39°C indicate the onset of hyperthermia. The condition is also recognized by:

- Hot, flushed skin even when resting. The skin is usually dry in advanced hyperthermia, indicating a failure of body cooling mechanisms.
- Full, strong pulse.
- Apathy or aggressiveness.
- Dizziness, confusion, drowsiness, and weakness.
- Hyperventilation.
- Convulsions.
- Unconsciousness.

MANAGEMENT

Begin immediate cooling, as follows:

- Place the patient in a cool area, preferably in the shade.
- Remove any clothing that inhibits the evaporation of sweat.
- Sponge the body, especially the head and neck, with cold water. Fan the body to aid cooling.
- The patient may be immersed in cool water to aid cooling. Should shivering occur, remove the patient immediately from the water and use other cooling methods, as listed above.
- Evacuation is required for serious cases, where field cooling methods are ineffective.

PREVENTION

Severe fluid loss can usually be prevented. Regular fluid intake, before thirst is experienced, is mandatory when exercising, or on hot days. Ensure exercise is interspersed with adequate rest periods and wear clothing that allows for maximum ventilation.

LAUNCHING A CANOE

INTRODUCTION

When launching a canoe the two important considerations are to avoid straining yourself or damaging the canoe. In rough water conditions special care must be taken to prevent the canoe from filling with water and/or broaching.

MECHANICS

Solo Techniques
The canoe can be picked up using the thigh carry. A hand over hand technique is used to slide the canoe into the water without scraping it on the shore.

Tandem Techniques
Partners should face each other midship on either side of the canoe. Placing their hands along the gunwales they can use a hand over hand technique to slide the canoe into the water.

In either case strenuous efforts may be required to hold the canoe at right angles to the wind and waves. Under difficult conditions the canoe should be launched pointing in the direction it is going to be paddled. For solo paddling the stern should go in first, however, the bow should go in first when tandem paddling. In calm water it is more common for the stern to be launched first allowing the stern paddler to stabilize the canoe for the bow paddler before they push the canoe off.

When canoeing on a river the upstream end should be held against the bank and the downstream end allowed to drift against the river bank.

EMBARKING AND DISEMBARKING

LAKE/OCEAN

Embarking under ideal conditions with the canoe at right angles to the beach (stern out) will require the stern paddler to enter first. Any rocking of the canoe can be prevented if the bow paddler supports the canoe between her knees. When the stern paddler is settled it is her job to brace the canoe while the bow paddler pushes off. The bow paddler places one foot on the centre line of the canoe with hands on the gunwale. Pushing off with the foot on the beach they can then place themselves correctly in the bow position.

RIVER

With the bow facing upstream, the bow paddler holds the canoe steady while the stern (downstream) paddler gets in first. This will prevent the current from "catching" the weighted end and suddenly swinging it downstream. This also leaves the paddlers ready to do a front ferry or a down river "peel out".

DOCKS

Keeping the canoe parallel to the dock the bow paddler, kneeling on the dock, holds the canoe steady at midship. The stern paddler enters the canoe and once settled braces the canoe by holding onto the dock. The bow paddler can now step into the canoe and push off.

CHANGING ENDS

INTRODUCTION

It may be advantageous to be able to change ends without the time consuming necessity of going ashore. It is important that all paddlers have the opportunity of paddling both bow and stern.

MECHANICS

- The **bow** paddler stows her paddle amidships.
- Leaning well forward with her hands on the gunwales the bow paddler moves carefully backward over the seat and centre thwart.
- At this point the bow paddler should crouch down as low as possible.
- Throughout this manoeuvre the stern paddler should maintain a low brace to add stability.

- When the bow paddler has settled into a low crouch the **stern** paddler moves her paddle amidships.
- The stern paddler moves carefully forward over the top of the bow paddler until she can assume the bow paddling position.

- When the stern paddler has settled into the bow position and retrieved her paddle she should then resume bracing the canoe.
- The other paddler can now move into the stern paddling position.

NOTE

It is important that only one paddler is moving at a time. The paddler in the crouched position should not move back into the stern position until the paddler in the bow is bracing the canoe. Throughout the manoeuvre the paddlers should maintain three point contact at all times and move slowly and carefully.

MULTIPLE PORTAGE

INTRODUCTION

Using two or more people to portage a canoe is usually easier than with only one person.

MECHANICS

- When carrying the canoe a short distance it can be lifted using one hand on the deck plate with one person at each end.
- To move the canoe safely a few feet the canoe can be picked up by the gunwales amidship with one person on each side. (This is the best method for launching a canoe from a dock)
- The wedge carry is done with a person at the stern of the canoe with it tucked under her arm and her hand grasping the keel. The bow person carries the canoe with her hand reversed, grasping the keel.
- Three or four person carries can be done with the canoe upright or upside down.

NOTE

In any carry where the canoe is upside down the painters should be stowed so they will not trail on the ground and interfere with the portage.

TWO PERSON OVER HEAD PORTAGE

INTRODUCTION

An over head carry can be easily done using two people. This carry is quite comfortable and can be used when long portages are anticipated.

MECHANICS

- To begin this carry one person should be placed at each end of a righted canoe.
- Standing on the same side and facing the direction they wish to travel, both people raise their hands, and turning from the waist place their hands one on each gunwale.
- Working **together** the canoe is first lifted to the thighs.
- The second lift is to the overhead position.
- Once the canoe is up, the bow person rests the deck plate on either shoulder. The stern person rests the stern seat across her shoulders.

Alternate Lift – both paddlers can lift one end of the canoe by standing on opposite sides, approximately one meter from one end. Both lift together by bending their knees and keeping their backs straight. One person then steps under the canoe keeping her side of the canoe up with on hand while the other paddler continues to hold their side. The paddler under the canoe moves back until she can comfortably balance the canoe on both shoulders. The other paddler then walks to the bow of the canoe and lifts it onto one shoulder. She may steady the canoe by holding on to the bow with the same hand as the shoulder it is resting on. A canoe maybe carried a considerable distance in this manner. If the bow person's shoulder gets tired she may shift it to the other shoulder without setting the canoe down.

SOLO PORTAGE

INTRODUCTION

The **solo portage** uses only one person to carry the canoe. Caution should be exercised since a canoe is a heavy, clumsy load for many people.

MECHANICS

For short distances the **thigh carry** is safest.

- The closest gunwale is grasped amidship and rolled up on edge.
- The knees and thighs are placed against the bottom of the canoe.
- When the individual leans back, with straight back and arms, the canoe will be lifted a short distance above the ground.
- The "portageur" can then shuffle along moving one foot at a time.

For distances over ten to fifteen feet an **overhead** carry is best.

- Using the same technique as in the thigh carry the canoe is picked up and supported on the thighs.
- The bow end hand is then shifted to a point past the mid point of the centre thwart.
- The other elbow is hooked under the gunwale and the canoe is rolled up and over the head.
- The centre thwart or yoke should be resting on the back of the shoulders.
- Having a partner assist the lift is safer and more practical.

Another technique is called the **tepee** method.

- The canoe is supported in an upside down inclined position by a partner.
- The other person slides in under the centre yoke or thwart placing the thwart across her shoulders.

NOTE

Painters should be stowed before starting to avoid tripping over them.

TYPES OF STROKES AND BRACES

INTRODUCTION

There are four types of strokes: propulsion, correction, manoeuvring, and combination.
There are two types of braces: low brace and high brace.

MECHANICS

- **Propulsion strokes** are used to move the canoe either forward or backward.
- **Correction strokes** are those used to make relatively minor adjustments in direction required to keep the canoe on a straight forward or backward course ("J" Strokes, Indian, etc.).
- **Manoeuvring strokes** are used when major and relatively violent or rapid changes of direction are required (Draws and prys - sculling, stationary, underwater recovery).
- **Combination strokes** produce two or more of the basic movements such as diagonal draws and sweeps.
- **Bracing strokes** provide extra lateral stability. Braces may be reactionary or anticipatory. Low braces use the non power face of the blade. High braces use the power face of the blade.

PRINCIPLES OF BRACING

INTRODUCTION

Bracing uses the paddle to provide additional stability. Two conditions describe when the brace is used. A **reactionary brace** is used in **response** to a situation that occurs without notice. An example of this occurs often when difficult water is encountered. The **anticipatory brace** is used in preparation for expected turbulence or waves.

MECHANICS

In a **low brace** the non power face of the blade is slapped onto the surface of the water on the paddling side of the canoe. The purpose of the brace is to stabilize the canoe and prevent tipping toward the paddle side. Success is increased by placing weight over the paddle blade.

In a **high brace** the paddle shaft should be as near as possible to vertical with the power face of the blade buried deeply in the water and facing toward the canoe. The body position of the paddler is leaning away from the lean of the canoe. The bracing effect results from the pressure against the power face of the paddle and prevents tipping away from the paddle side. Pressure is created by the movement of the canoe or by the water flowing under the canoe toward the paddle.

NOTES

In either brace the blade should be as far out from the side of the canoe as possible to give maximum leverage. When setting up for a brace the paddler should have a secure position in the canoe to prevent tipping.

BASIC FORWARD STROKE

INTRODUCTION

The basic forward stroke is the most common of the propulsion strokes. This stroke moves the canoe forward. Because of its importance, it is crucial that instructors take the time to teach the stroke correctly.

MECHANICS

- The forward stroke begins by reaching forward with the paddle and placing the broad face of the blade deep in the water. The paddle is in a vertical position.
- The grip hand is "punched" forward as the bottom hand pulls the paddle through the water until it reaches the hips of the paddler.
- At this point the paddle is lifted out of the water and returned to the starting position by feathering the blade. (Blade is horizontal to the water surface)
- During the recovery the blade should be kept as close to the water surface as possible to help reduce wind and water interference.

NOTES

The forceful application of power should occur during the stroke phase, the recovery phase should be a relaxed motion.

BACK STROKE

INTRODUCTION

The back stroke is used to stop the forward momentum of the canoe and move the canoe backwards. This stroke is useful for avoiding problems in rough water and is used on rivers when ferrying or aligning the canoe for a run on rapids or when approaching large waves.

MECHANICS

The actions of this stroke are much like those for the forward stroke, however this stroke is done behind the paddler.

- Reaching behind, the broad face of the blade is placed deep in the water.
- The lower hand pulls the blade forward through the water.
- At the hip area of the paddler the blade is lifted out of the water and feathered to begin the next stroke.

NOTES

This stroke is most efficient if the blade is at right angles to the water.

FORWARD "J" STROKE AND ALTERNATIVES

INTRODUCTION

This is the basic correction stroke used by the stern paddler to overcome the tendency of the canoe to turn away from the paddle side. There are at least four variations of the "J" stroke.

MECHANICS

The Standard "J" stroke occurs when the power face of the blade is rotated out at the end of the forward stroke. In teaching this stroke it may be beneficial to describe that the paddle rotation occurs when the thumb of the grip hand turns downward as the blade is pried away from the side of the canoe.

The **Bow "J"** is done as the standard "J" is described except that it is done by the bow paddler to move the bow of the canoe away from the paddling side. The paddler places his paddle in the water as far forward as possible at the bow and draws the paddle until just before reaching his knees when the J element is inserted.

The Pitch stroke produces the correction by turning the shaft to produce the same blade angle as in the standard "J", but earlier so that the correction is made before the end of the stroke. Cutting the blade in under the canoe as it passes the hip will reduce the amount of correction required in either of these two variations of the "J" stroke.

The Canadian stroke provides correction as the blade is pulled upward and forward through the water on a climbing angle at the end of the forward stroke.

Indian stroke provides correction during both the propulsion and recovery phases. During propulsion a modified pitch stroke is used and during recovery the blade is sliced forward through the water with the shaft nearly vertical and the leading edge of the blade toward the canoe.

In the **River "J"** the shaft is turned in the opposite direction and then pried off the gunwale at the end of the stroke. This provides a very powerful and violent correction useful in river canoeing but unnecessarily rough and jerky for normal conditions. It is frequently used by beginners in situations where one of the other "J" stroke variations is more appropriate.

REVERSE "J" STROKE

INTRODUCTION

When the canoe is being paddled backwards, this stroke is used by the bow paddler to correct the tendency of the canoe to turn away from his paddle side.

MECHANICS

Either the standard reverse or river reverse is used, and then as the paddle passes the paddler's knee the shaft is rotated so the grip thumb turns downward. If necessary pry the paddle off the gunwale. The amount of rotation may be reduced if very little correction is required. As the pry is applied the lower hand may slide up the shaft a bit.

When the canoe is over-corrected a reverse sweep stroke is used.

FORWARD SWEEP STROKE - TANDEM

INTRODUCTION

The forward sweep stroke is a combination stroke that produces both a forward movement and a turning effect away from the paddler's paddle side.

MECHANICS

- In the **bow** the paddle should be placed as far forward as possible and close to the bow.
- The blade should be in a vertical plane and the shaft as near as possible to horizontal.
- A forward and sideways body lean, accompanied by crossing the grip hand to the paddle side and shifting the lower hand up the shaft, will assist in achieving the correct position.
- The blade is then swept outward and backward to a position at right angles to the paddler's hip where the stroke is ended by lifting the blade out of the water and recovering to the starting position.

- **In the stern** the blade is placed well out to the side of the canoe at right angles to the paddler's hip.
- The paddle is swept smoothly back in a quarter circle to a point as close as possible to the stern of the canoe.
- The paddle is then returned to the starting position.

REVERSE SWEEP STROKE - TANDEM

INTRODUCTION

The reverse sweep stroke is a combination stroke that produces both a reverse movement and a turning effect away from the paddle side.

MECHANICS

- In the **bow** the paddle is placed well out to the side of the canoe at right angles to the paddler's hip.
- The blade should be vertical and the shaft as near to horizontal as possible.
- A lean to the paddle side accompanied by crossing the grip hand to that side and shifting the lower hand up the shaft will assist in achieving the correct position.
- The blade should be in a vertical position unless some bracing effect is desired.
- The blade is swept forward and inward to the bow of the canoe
- To complete the stroke the blade is feathered back to the starting position.

- **In the stern** the paddle is placed as far back as possible and swept outward and forward to a position at right angles to the hip.
- At this point the paddle is lifted out of the water and returned to the starting position.

NOTES

Working to the ends of the canoe will provide maximum efficiency for these strokes.

DRAW STROKE: OUT OF WATER AND UNDERWATER RECOVERY

INTRODUCTION

The draw stroke moves the canoe toward the paddle side. A progression should be made from out of water to underwater recovery.

MECHANICS

- Reach out as far as possible with the paddle from the side of the canoe while still maintaining a vertical paddle shaft.
- Pull the paddle smoothly toward the side of the canoe keeping the blade parallel with the long axis of the canoe.
- Just before making contact with the side of the canoe, drop the grip hand down, slicing the blade upward, so it will not get trapped underneath.
- Remove the paddle returning to the start position to commence the next stroke.

As soon as this movement has been mastered the underwater recovery should be taught.

- Rotate the blade 90 degrees just before it touches the side of the canoe and slice it back out toward the extended position. Turn the grip thumb away from the face.
- Now rotate the blade back 90 degrees so that it is parallel to the long axis of the canoe ready for the next stroke.
- This stroke is most effective when the paddle shaft and blade are in a vertical position at right angles to the force being applied.
- A long reach out with the top hand will make this stroke most efficient.

PRY STROKE

INTRODUCTION

The pry stroke moves the canoe away from the paddle side. (The underwater recovery has already been taught in the draw stroke, so it can be used from the start of instruction of the pry stroke.)

MECHANICS

- The paddle is placed in a vertical position with the shaft against the gunwale and the blade parallel to the long axis of the canoe.
- The thumb of the lower hand may be hooked over the gunwale which will allow the gunwale to be used as a fulcrum.
- The grip end of the paddle is then pulled inward until the shaft is no further than 30 degrees.
- At this point the underwater recovery commences with the blade being turned 90 degrees and sliced inward returning to the start position and the stroke repeated.
- When done without contact with the gunwale the stroke is known as a ”pushaway”, but is not nearly as powerful.

NOTE

Confining the power stroke to the first 30 degrees off the side results in a powerful yet smooth stroke. If the power phase is continued past the 30 degree angle additional forces are produced which result in a rocking action of the canoe.

Notes

SCULLING BRACE, DRAW, AND PRY

INTRODUCTION

Sculling is a continuous back and forth action that produces continuous movement toward or away from the paddle side depending on where the leading edge of the paddle is directed.

MECHANICS

While the **sculling brace** can be done with either side of the paddle, beginners usually find it easier to use the non-power face of the blade.

- The blade is moved forward with the leading edge slightly higher than the trailing edge. This causes the blade to skim the surface and results in a stabilizing effect.
- When the blade is moved toward the stern the new leading edge (edge facing the stern) should be slightly higher than the new trailing edge. These alternate movements produce an almost continuous downward pressure.

- As the stroke nears completion, with the power face of the paddle facing downward a gradual increase in the shaft angle will produce a draw effect.

The blade for the **sculling draw** should be in a vertical position.

- The movement is accomplished by slicing the blade back and forth along a line parallel to the side of the canoe.
- The leading edge should point away from the canoe during both manoeuvres. The motion can be described as "like spreading butter on the side of the canoe".
- The maximum draw effect will occur with the paddle in a nearly vertical position.

The **sculling pry** is not much different from the draw.

- By reversing the blade angle the effect will be to move the canoe away from the paddle side.
- The action of prying can be described as "like scraping paint off the hull of the canoe". The gunwale may be used as a guide.
- The leading edge of the paddle should always be moving toward the canoe.

NOTES

Since the paddle comes to a momentary pause at the end of each forward and backward movement, and since the stroke effect ceases momentarily, at this time, it is vital to get the maximum effect during the moving phase. A long straight stroke is the most efficient even though it is often described as a figure eight motion.

DIAGONAL DRAW & REVERSE DIAGONAL DRAW STROKES

INTRODUCTION

The diagonal draw is a combination stroke that will produce a forward (or backward) and sideways motion.

MECHANICS

The stroke begins with a long reach forward placing the paddle to the side of the canoe with the blade at a 45 degree angle to the bow. With the blade deep in the water, it is pulled toward the paddler's hip.

In the reverse stroke the paddler should reach behind with the paddle in the same manner as for the forward diagonal draw the paddle is again pulled toward the paddler's hip.

NOTES

In the forward stroke the rotation of the paddle is done by moving the grip thumb back toward the paddler's face. In the reverse stroke the thumb moves away from the paddler's face. An underwater recovery can be cultivated.

STATIONARY DRAW STROKE

INTRODUCTION

If sufficient forward momentum has been established a stationary draw stroke can be easily and effectively done. The action is accomplished by the movement of the water relative to the canoe producing a draw effect around a stationary blade.

MECHANICS

- The blade is planted as far off the side of the canoe as possible.
- The paddle should be in a near vertical position and placed well forward of the bow paddler's hips. A stern paddler would reach as far back as is comfortable.
- The blade should be almost parallel to the mid-line of the canoe with the leading edge out slightly further than the trailing edge. This will maintain steady pressure on the pressure face of the blade.
- If the blade angle is too large it will reduce the amount of draw effect and increase the braking effect which is not desirable.
- The pressure on the blade will support the paddler's weight as she leans well out to the paddle side.
- As the turn develops the angle of the blade must be adjusted to maintain maximum pressure at all times. When the pressure starts to decrease because the canoe is losing momentum, the paddler can switch to a sculling draw stroke to maintain pressure.

NOTES

The term **stationary** describes the action of the paddle in the water.

STATIONARY PRY STROKE

INTRODUCTION

If sufficient forward momentum has been established the pry effect can be created by holding the blade of the paddle still in the water and letting the movement of the water (relative to the canoe) move the canoe away from the paddle side.

MECHANICS

- To accomplish a stationary pry, bring the blade to a vertical position in the water close to the side of the canoe.
- As the paddle reaches a position forward of the paddler's hip the leading edge is rotated slightly toward the canoe while the paddle shaft remains vertical and braced against the gunwale. This small blade angle (5-25 degrees) produces pressure on the regular non-pressure face of the paddle and the pry effect is achieved.
- The blade angle must be adjusted to maintain maximum pressure. When the pressure starts to decrease, because the canoe is slowing down, to maintain maximum pressure the paddler can switch to a sculling pry stroke.

- During this entire manoeuvre the paddler's weight should be shifted slightly away from the paddle side to counterbalance the pressure on the blade.

NOTES

The term **stationary** describes the action of the paddle in the water. It is advisable that the stationary pry be done after the completion of any forward stroke so that the pressure will come to the paddle gradually. Otherwise the sudden shock may capsize the canoe.

"C" STROKE

INTRODUCTION

The C Stroke is a combination stroke used exclusively for solo paddling. It combines a draw, a forward stroke and a J stroke.
When done repeatedly the C stroke turns the canoe to the paddler's side with forward momentum.
This stroke is used to

1) move the canoe in a circle and
2) to generate initial momentum when straight line paddling

MECHANICS

The stroke begins with forward extension and a draw to the bow which blends smoothly into a forward stroke adjacent to the midsection of the canoe. Past the midsection a "J" element is added.

The angle of the blade during the draw component, a vertical shaft during the forward stroke and the amount of push away in the J component dictate how much the canoe will turn to the paddle side.

The C stroke is most effective when the paddler is positioned amidships and easier to execute by leaning the canoe to the paddle side.

REVERSE "C" STROKE

INTRODUCTION

The Reverse C Stroke is a combination stroke used exclusively for solo paddling. It combines a draw, a back stroke and a reverse J. When done repeatedly it turns the canoe to the paddler's paddle side with backward momentum.
This stroke is used to:

1) move the canoe in a circle going backwards and
2) to generate initial momentum when backing up in a straight line.

MECHANICS

The stroke begins with backward extension and a draw to the stern. The thumb on the grip hand faces the stern during the draw. At the completion of the draw the blade is rotated 90 degrees by turning the thumb on the grip hand away from the side of the canoe. The Reverse C Stroke then progresses to a back stroke. As the backstroke moves past the midsection of the canoe a reverse J is added.

The angle of the blade during the draw, a vertical shaft during the backstroke and the amount of push away in the reverse J dictate how much the canoe will turn to the paddle side.

The Reverse C Stroke is most effective when the paddler is positioned amidships and easier to execute by leaning the canoe toward the paddle side.

FORWARD SWEEP STROKE-SOLO

INTRODUCTION

The forward sweep stroke produces a pivoting effect around the centre of gravity of the canoe, when the solo paddler is paddling from the centre of the canoe. The result of this stroke is an outside turn.

MECHANICS

- The paddle should be placed as far forward as possible and close to the gunwale.
- The blade should be in a vertical plane and the shaft as near as possible to horizontal.
- To achieve the correct position the grip hand moves across to the paddle side and the lower hand moves up the shaft. A forward and sideways body lean will also help.
- The blade is then swept outward and backward in a semi-circle (l80 degrees) to a position as close as possible to the gunwale.
- At this point the blade is lifted up out of the water and feathered to the starting position.

NOTES

If a bracing effect is desired it may be achieved by having a slight climbing angle on the blade during the power phase, but there will be a corresponding loss of power.

REVERSE SWEEP STROKE-SOLO

INTRODUCTION

The reverse sweep stroke produces a pivoting effect around the centre of gravity of the canoe when the solo paddler is paddling from the centre of the canoe. The result of this stroke is an inside turn.

MECHANICS

- The paddle should be placed as far back as possible and close to the gunwale.
- The blade should be vertical and the shaft as near as possible to horizontal.
- A backward and sideways lean and a shift of the lower hand up the shaft will assist in achieving this position.
- The blade is then swept outward and forward in a semi-circle (180 degrees) to a position as close as possible to the gunwale near the bow.
- The pressure is on the non-power face of the blade.
- At this point the blade is lifted out of the water and feathered to the starting position.

NOTES

If a bracing effect is desired it may be achieved by having a slight climbing angle on the blade during the power phase, but there will be a corresponding loss of power.

BOX STROKE

INTRODUCTION

The box stroke is used only in solo paddling and produces a pivot turn with no forward or backward movement. This pivoting action will take place at the centre of gravity of the canoe usually just under the paddler's body.

MECHANICS

- To turn the canoe toward the paddler's paddle side a draw stroke is started as far forward as possible.
- Just before the paddle contacts the canoe it is sliced backward with the blade parallel to the long axis of the canoe.
- When the blade is as far back as possible a pry followed by a ”pushaway” is done.
- The paddle is then sliced forward until it reaches the starting point.
- If both the draw and the pry elements are done using equal pressure and power the canoe will pivot around the centre of gravity.

OFF SIDE FORWARD STROKE

INTRODUCTION

The off side forward stroke is a forward propulsion stroke. This stroke follows a cross bow draw and allows the paddle to maintain contact with the water. Throughout this stroke the paddler's weight will be directed toward the side of the turn.

MECHANIC

- Starting in a cross bow draw position the paddle is rotated 90° while still in the water.
- The lower hand pulls the paddle in line with the canoe toward the stern.
- The top hand is pushed forward.
- Keeping the shaft as near as vertical as possible is most effective.
- The stroke may be ended with an out of water recovery to the normal paddling side or an underwater recovery made to effect a second stroke.

NOTES

In an offside eddy "peel in - peel out" situation the sequence of strokes could be: forward sweep, cross bow draw, off side forward, underwater recovery, cross bow draw, off side forward. An off side reverse stroke can be used also, as is used at the start of reverse paddling in the Instructors Solo Course.

ONE-HANDED PRY

INTRODUCTION

This variation of the pry stroke is used in solo paddling. The result is an extremely rapid outside turn when done in an extreme rolled up position.

MECHANICS

- Forward speed is a prerequisite.
- Just before commencing the turn the lower hand is moved up the paddle shaft to the throat while the top hand is taken off the paddle entirely. This allows a long reach forward permitting the pry to be placed as far as possible from the centre of the canoe.
- The blade should be well down in the water with the leading edge closer to the centre line of the canoe than the trailing edge.
- The shaft is inclined laterally so that the blade is under the canoe.
- The pressure of the water against the blade should be sufficient to pin the paddle in this position against the forward bilge of the canoe.
- The result of this action is a pry effect.
- The movement of the canoe will be to move away from the paddle side.
- When the initial speed of the canoe falls off, further pry action can be achieved by sculling the blade.
- This is done by pulling the grip end of the paddle in toward the canoe using the gunwale as a fulcrum, followed by a recovery resulting from a quick inward twist of the wrist.
- This sculling action continues the pry effect after the forward momentum of the canoe has been lost.

WEIGHT TURN

INTRODUCTION

This is a type of turn distinguished because the canoe is rolled up on its side as far as possible with the lean toward the paddle side.

MECHANICS

Outside Weight Turn: This turn takes place when the canoe is traveling at maximum speed. Several wide sweep strokes followed by a maximum lean toward the paddling side will result in a rapid turn because of the shortened waterline.

Inside Weight Turn: This turn also requires maximum speed, but an exaggerated "J" stroke initiates the turn followed by the same lean as in the outside turn.

CROSS BOW DRAW-SOLO

INTRODUCTION

The cross bow draw provides the solo paddler with an effective draw stroke on the side opposite to his normal paddling side.

MECHANICS

- Without any change of grip the paddle is swept forward and around to the opposite side the paddler is on.
- Using the normal power face the paddle is drawn in until it is close to the side of the canoe.
- Completing this manoeuvre the paddle moves back to the original paddle side and a normal forward sweep is started.

NOTES

The cross bow position is usually sufficient to initiate an eddy turn to the off side.

Under some circumstances the cross bow draw has an advantage in tandem paddling. The paddle can be kept near the surface to avoid jamming in rocks when going through shallow rapids. The disadvantage of this position is that there is no one left to brace on the outside of the turn, should bracing become necessary, thus increasing the danger of capsizing.

Also, beginners tend to depend on the cross bow draw rather than the more technically demanding pry stroke. To aid in the development of the pry stroke the cross bow draw should not be taught until some skill at the pry has been achieved.

COMPOUND BACK STROKE

INTRODUCTION The compound back stroke is a propulsion stroke used on a river to provide a more powerful back stroke.

MECHANICS Reaching back behind the paddler, the blade is rotated so that the power face points toward the bow of the canoe. This makes a much longer back reach possible while still permitting a vertical blade. At this point a strong backwater draw is done until the paddle reaches the hip. Now the paddle is rotated 180 degrees and pushed forward to complete the "J" part of the stroke.

NOTES The 180 degree rotation requires a great deal of practise before it can be performed smoothly. Some paddlers may prefer to flip the blade over at the hips rather than rotating their upper hand.

BASIC MARATHON STROKE

INTRODUCTION The Basic Marathon stroke is a long distance stroke that allows a paddler to maintain the same rhythm for an extended period of time as in races or on long trips.

MECHANICS

- The blade is placed as far forward as possible keeping the shaft vertical and placed in the water parallel and forward of the paddler's feet.
- As the blade is placed in the water the paddler should push him/herself past that point rather than pushing water backward in order to go forward.
- The grip hand is slightly above eye level and the throat hand is pulled toward the stern and parallel to the keel line.
- The paddler's body should rotate slightly with the stroke.
- The paddler's knee on the paddle side will bend as the paddle is placed in the water and should straighten as the paddle is pulled through the water.
- Stroke force comes from the upper back and moves to the lower back.
- As the blade reaches the hips it is sliced through the water back to the starting position.
- Throughout the stroke the paddler should be pushing with his feet against a foot brace.

NOTES The basic marathon stroke should be applied as a smooth continuous motion. There should not be any uneven movement. An excessive undulating wave at the bow of the canoe suggests that one or both paddlers are lunging forward during the stroke. To check which paddler is lunging, one paddler should stop and observe the reaction of the canoe as the other paddles. If the canoe reacts in a "dolphining" fashion some correction is needed.

EMPTYING A SWAMPED CANOE

INTRODUCTION

While emptying a swamped canoe two important considerations are: to avoid hurting yourself by straining to lift a canoe full of water and to avoid damaging the canoe.

MECHANICS

If it is possible to get the canoe ashore or into shallow water it can easily be turned upside down and the water dumped out.

If this is not possible, another technique is the canoe over canoe rescue. This can be done very efficiently with a bit of practice. If no other canoe is available for this purpose bailing is the only really practical alternative. To be effective there should be adequate flotation in the canoe.

Strong, experienced paddlers in calm water can perform the lift and turn, or shake out procedures.

PADDLING A SWAMPED CANOE

INTRODUCTION

Paddling a swamped canoe is a safe and less tiring method of rescue for those times when the canoe tips far from shore or when help is not near.

MECHANICS

- If the canoe is bottom up the boat can be rolled over from midship by rolling the keel toward the swimmer.
- To board the canoe both hands are placed on the bottom of the canoe. Legs are floated out behind.
- By kicking and pressing down in the boat the swimmer will be able to reach the opposite gunwale.
- At this time the swimmer should roll onto her back and place her arms along one gunwale and her knees over the other gunwale. This will stabilize the canoe and should prevent further rolling.
- Sitting in the bottom of the canoe the swimmer slowly pivots until her legs are under the thwart.
- Using her thighs to brace, the arms or a paddle can be used to paddle. As the paddler nears shore he should exit the canoe and empty it before pulling it ashore.

NOTES

It is important to be aware that in a swamped canoe only that part of a paddler's body that is outside the canoe needs to be supported. This means it is possible for the canoe to support as many people as can fit comfortably.

CANOE OVER CANOE RESCUE

INTRODUCTION

This is a method of rescuing a capsized canoe without having to go ashore. It can be performed by either one or two rescuers and additional rescue canoes can be used to provide additional stability. Two swamped canoes can be used to rescue each other while the paddlers work in the water.

MECHANICS

- Make sure swimmers are O.K.. If there is any danger of hypothermia get swimmers into the rescue canoe.
- Collect and stow loose gear and paddles in rescue canoe.
- Arrange canoes in a "T" formation.
- Turn the swamped canoe on edge. Lift and slide it across the rescue canoe in an upside down position. If the painter of the swamped canoe is thrown across the rescue boat a swimmer can help to pull the swamped canoe across the rescue boat.
- When the canoe is balanced evenly and all the water is out, it should be turned right side up by one or both of the paddlers from the rescue canoe and slid back into the water.
- Both canoes should be parallel and locked together at the gunwales so that the swimmers can enter easily.
- Strong individuals can climb in amidship from the outer side of the two canoes. If this entry is not effective it is possible to enter from between the two canoes by hooking both arms and legs over the gunwales of both canoes and then rolling in. If entering is still a problem the gunwales can be unlocked and then lowered to allow easier entry.
- In wind and waves the swamped canoe should be downwind. A sharp lookout must be kept in order to take precautions in case of downstream obstacles.

NOTES

If both rescuers are not needed to handle the canoe then the free rescuer should brace the canoe throughout the rescue.

RIVER SELF RESCUE

INTRODUCTION

When capsized in a river it is important that capsized paddlers move quickly and efficiently to ensure the safety of themselves, fellow swimmers and equipment.

MECHANICS

Swimmer with canoe:

- Once capsized, the swimmers should immediately move to the upstream side of the canoe. This will remove the danger of being trapped between the canoe and a downstream obstacle. Swimmers should always hold onto their canoe.
- The paddles should be stowed so they are not lost and hands are free.
- If the canoe can be manoeuvred so it is parallel to the current it may have a better chance of making it through rocky areas.
- Kicking will help get the canoe into an eddy which will salvage the canoe.

Swimmer without canoe:

- If the swimmer is no longer hanging onto the canoe she should be swimming on her back with her feet downstream. Hips and feet should be up.
- By sculling with the arms she should be able to direct her course and slow herself down. An eddy is an ideal area to aim for because the slower water will allow the swimmer to get to shore.
- It is important that swimmers never try to stand up in fast moving water, she should move to an eddy or slow moving water first.

In a Swift Current:

- If swimming for shore in a swift current the swimmer should be heading straight toward shore. She should not aim at a specific land mark as it will quickly be up stream of them and will waste energy trying to reach it.

NOTE

Experienced paddlers, in boats with adequate flotation, often find it easiest to right the boat, climb back in and paddle to shore.

When close enough to shore or an eddy, swimming ahead of the boat with the painter often speeds the rescue.

OPEN CANOE ROLLING

INTRODUCTION

Rolling an open canoe is most effectively used by the solo canoeist and is useful as a self rescue method. Although water is taken on board the amount can be offset by using extra flotation.

MECHANICS

- With the boat upside down, the paddler reaches out to the side of the canoe with the paddle at a 90 degree angle to the keel line of the boat.
- The paddler should allow her body to stretch out and float to the surface, with her paddle in a high brace position sculling the surface of the water.
- At this point the paddle is moved to the bow. With a backward scull, upward pressure is applied to the knee that is on the same side as the paddle.
- Keeping pressure on the same knee will start the boat to slowly roll back over.

- Flick the hips and unweight the paddle.
- Then quickly flip it over into a low brace position.
- Resume downward pressure and scull the paddle forward.

- The paddler should now move her body forward, but keep it on the surface of the water with her head down.
- As the roll nears completion all weight should be shifted to the far gunwale. This will give the extra force needed to complete the roll.

NOTES

In the kneeling position the paddler must be able to stay firmly in place and apply pressure to her knees and feet. Quick release thigh straps and toe blocks combined with some sort of saddle seat are very effective.

The paddle flip is optional and a high brace may be used throughout the manoeuvre.

INSTRUCTORS' INSURANCE COVERAGE

(NEW FOR 1999)

INTRODUCTION

RCABC Instructors are covered under a liability insurance policy when conducting courses in compliance with RCABC policies. The coverage applies to both volunteer and small business activities. The following summary is provided for convenience only. Instructors planning to use this coverage are advised to contact RCABC to get a copy of the policy to ensure the terms and conditions of the coverage are clearly understood and acceptable.

COVERAGE

The policy covers third party liability, not your own damage or injuries. If you cause injury to somebody else or their property and they make a claim against you the policy will cover you up to a specified limit.
The policy does not cover any property that you own, borrow or otherwise have the care or custody of. For example, if you get into another paddler's boat to demonstrate some skill and you lose the boat down the river, you are not covered because you had temporary care or custody of the boat.

ACTIVITIES

RCA of BC Instructors conducting courses are covered provided:

- their RCA membership and certification are current;
- they are only teaching activities they are certified to;
- all RCA teaching ratios are in effect;
- all instructors and students are wearing approved PFD's;
- appropriate safety equipment is in place;
- the Executive is notified in writing, through the Instructor Coordinator, of Instructor Level courses prior to their commencement; and
- participants have signed the RCABC approved waiver.

(All conditions must be met)

EXCLUSIONS

- Instructors teaching on behalf of other agencies such as Community Centres, Community Colleges, and summer camps are not usually covered by the Policy. They should ensure that the sponsoring agency has appropriate coverage.
- Instructors leading or guiding trips on flat, moving or tidal waters are also not usually covered unless the trip is part of a sanctioned course or club sponsored activity.
- Commercial guiding and outfitting are not covered.
- Unofficial recreational paddling is not covered. If a group of paddlers decides one day to organize an impromptu trip on a local river or lake, there would be no coverage.
- Claims for expenses resulting from criminal charges or investigations are not covered — even if the allegations are not substantiated or proven false.

CLUBS

Coverage is also extended to RCA Canoe Clubs—their executives, members, leaders and volunteers. RCABC Club Safety Rules must be adhered to.

CLAIMS

An Instructor being sued must notify the RCABC and the insurer, (Lloyd's, London, England through Sports-Can Insurance Consultants Ltd. Ph.# 604-685-0050) promptly of any claim for compensation. Details shall include, but not be limited to: how, when and where the occurrence took place and the names and addresses of any injured persons or witnesses.
No insured will, except at their own expense, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid without prior consent of the insurer.

WHAT YOU AS A LEADER OR INSTRUCTOR OF AN OUTDOOR PROGRAM CAN DO TO REDUCE YOUR LIABILITY

ENCOURAGE SELF RELIANCE- Encourage participants to rely on their own abilities. Do not invite them to rely on you.

ACQUAINT PARTICIPANTS WITH THE DANGERS and risks of the activity before the activity starts. (Pre-trip meeting.)

PROPER SAFETY PROCEDURES- Instruct participants as to the activity's proper safety procedures.

DON'T GIVE FALSE QUALIFICATIONS- Don't profess competence, expertise, and knowledge you do not possess.

KNOW YOUR SUBJECT- You as an instructor or leader must know your subject thoroughly.

INSPECT ALL EQUIPMENT FOR DEFECTS before an activity. If a defective piece of equipment could cause injury, don't use it.

USE ONLY VOLUNTARY PARTICIPANTS in activities involving risk.

PARTICIPATION IN ACCORDANCE TO ABILITIES- Do not encourage participants to run the risk of activities which are above their abilities.

PREVENT RECKLESS ACTIONS- When you are in charge of an activity, do not let another person act or use equipment in a way that may create an "unreasonable" danger to others.

PERFORM "REASONABLE"* PREPARATION for activities involving risk. The higher the risk the higher the preparation.

DON'T GUESS- When the safety of others depends on the accuracy of information you give out, make sure it is accurate. If you don't know, don't guess.

PERFORM INHERENT DUTIES- Know and perform the "duties" that are inherent in the activity. Example – ensure students have the required safety equipment; review trip procedures and universal signals before leading a river trip.

PROVIDE SUPERVISION when it "might" prevent injury. (Remember that all the risk of outdoor activities cannot be eliminated by any degree of care or supervision, you can't be everywhere at once.)

PERFORM "REASONABLE"* CARE in activities involving risk. The greater the danger, the greater the care which must be exercised.

DO YOUR BEST ALWAYS- Do any action or activity you undertake to the very best of your ability. Remember that if it miscarries and causes a foreseeable injury to a participant, you may be LIABLE. Example: you hurriedly inspect and o.k. an inaccurately tied climbing knot and it fails.

("REASONABLE"* is that amount which persons of average prudence exercise in the management of their own affairs to avoid injury to themselves and others.)

ENVIRONMENTAL PRACTICES

INTRODUCTION

The Recreational Canoeing Association of B.C. has adopted the environmental practices outlined in A Canoeist Manual for the Promotion of Environmental and Ethical Concerns, published by the Canadian Recreational Canoeing Association (CRCA). The following is a summary of practices and issues for the consideration of Instructors and trip leaders.

FIRES

Try to use established fire sites. If one is not available dig down to a mineral (sand/rock) base. As a last resort build up a base of rocks. Do not light fires on forest litter or top soil.

Locate fires away from small streams or creeks. On large waterways it is preferable to build fires below the high water line . Always avoid overhanging limbs and stay at least 3m away from any trees or stumps.

Restrict fires to cooking size. Use small twigs rather than large logs that will not be burned completely.

It is usually inappropriate to light fires in sub-alpine or meadow areas.

Saturate ground with water before disassembling the fire. A fire is not considered out unless you can hold your hand on it for over 10 seconds.

Return new fire pits to natural state by dispersing collected firewood, burying or scattering ashes and picking up any burnt out cans or foil.

TOILETS

Encourage individual sites ("cat holes") in the surface litter (not more than 20cm deep). Fill after use. Larger groups (20 people days at one site) should use single site (latrine) at least 60cm deep. Cat holes and latrines should be at least 35m away from huts, established campsites or surface water. Bury or burn all toilet paper and sanitary napkins.

GARBAGE

Burn out and crush tins and foil to remove food odours (wash out if no fire) then **pack it all out.** Burn all paper but **pack out plastics.** Since you packed it in, you can pack it out. In high use areas trips should carry garbage bags to clean up existing garbage at campsites.

WASHING

Dishes-bury or burn all food scraps (packing food scraps out can be a health/animal hazard). Wash dishes away from water source, preferably on gravel and use biodegradable soap.

Bathing- use biodegradable soap in small amounts.

- if possible rinse soap off away from water source
- where washing in water is necessary, limit amount of soap used
- no soap in hot springs
- brush teeth away from water source (please don't spit in the waterway)

CAMPSITES/HUTS

Encourage "no trace camping" and use established sites when possible.
Do not clear an area of brush or forest litter.
Camp on mineral soil (sand) 15 m or more from waterways (particularly small streams).
High spots with good drainage make the best campsites because they are usually drier and more durable than soft marshy areas. Trenching around tents does long term environmental damage on anything but sand or gravel surfaces.
Keep area clean while in use and when leaving.
Be considerate of others using the same hut/site particularly in terms of noise and tidiness.
Leave dry firewood cut beside stoves in huts.

AWARENESS

Be familiar with the carrying capacity of the areas of travel and act accordingly.
Avoid potential conflicts with other user groups or residents. Common examples are:

- loud ghetto blasters etc.
- canoeists and fishermen not respecting each others right to use rivers
- poor judgement in parking one's car at the trail head, put in or take out point
- lack of discretion when changing clothes in public

WILDLIFE

To avoid potential conflicts with wildlife:

- all food should be kept out of reach of wild animals. Never feed wildlife.
- people must be made aware of animal hazards including bears, moose, etc..
- stay at a safe distance while photographing or observing wildlife.
- remember anything big enough to do damage can run/swim faster than you can.
- do not underestimate the risk of disturbing smaller animals: rodents, martins etc..

FISHING

After cleaning fish taken from lakes and streams the entrails should be burned.
Only on the ocean is it acceptable to throw them back into the water.
Follow all fishing regulations such as: limits, season & licenses.
Note - those over 15 years old require a license to fish on fresh and salt waters in B.C..

TRAVEL

Use established trails and avoid short-cutting switch backs, stay on high ground in meadows.
Keep noise level down when it could disturb others - no yelling.
Try not to disturb vegetation for any reason.
Show respect for the lifestyles of communities being visited.

GUIDELINES FOR RUNNING RCA SANCTIONED TRIPS & EVENTS

RCA TRIP SAFETY STANDARDS

Club trips will be of at least 3 canoes.

Canoe clubs will appoint a suitably experienced paddler as Trip Leader for all club trips.

TRIP LEADER RESPONSIBILITIES

Ascertain appropriate club safety equipment is present and determine who shall carry what (e.g. first aid kits, throw ropes, flare kits etc.).

Ascertain the canoeing experience of those present, and when necessary, assign paddling positions.

Before embarking, check the safety equipment of each canoe.

When necessary, (e.g. rivers), hold a pre-trip meeting for the purpose of discussing:

- objectives of the trip.
- type and any known hazards of the trip
  (e.g. weather, sweepers, waterfalls etc.).
- accident prevention, signals, emergency and rescue procedures.
- etiquette and ethics.

If the trip leader feels an individual does not meet the requirements necessary for the trip, the leader then has the right to refuse to take that individual.

TRIP PARTICIPANT RESPONSIBILITIES

Equip their canoe with:

- a bailer.
- a spare paddle.
- secured bow and stern lines which will float--painters
  (3 – 8 metres of 9 –12 mm polypropylene rope is recommended).
- extra flotation if required
  (it may not prevent a capsize but it could save your boat).
- 15 metre buoyant heaving line meeting Coast Guard regulations.
- A whistle or other sound signalling device.
- Carry a spare set of emergency clothing in a waterproof container (a wool toque is recommended even if you are wearing a wet suit).

Wear a Personal Flotation Device
(attaching a whistle and a spare set of car keys is a good idea).

Tie in all gear and equipment so that when the canoe is upside down nothing hangs below the gunwales (otherwise, it falls completely free—some you lose and some you don't).

All club members will inform their guests of these rules.

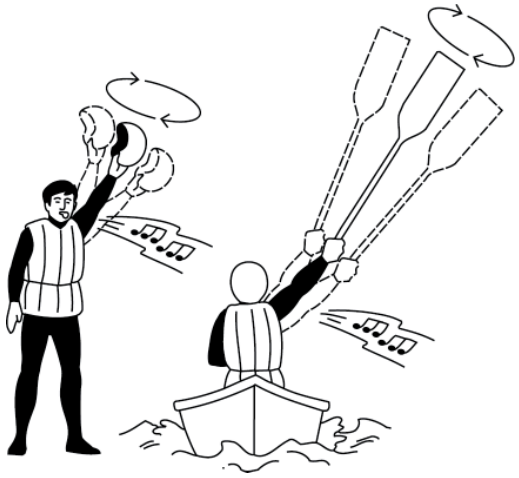
UNIVERSAL SIGNALS

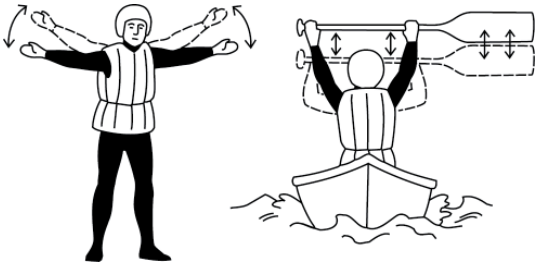
UNIVERSAL SIGNALS

Since paddlers from different areas often come together, it is important that these universal signals are understood and followed. It is also important that signalling is continued until others have seen the signal and responded.

EMERGENCY - HELP

Assist the signaller as quickly as possible. Give three long, loud blasts on a whistle, (which should be carried on a lanyard attached to the shoulder of your PFD), while waving a paddle, helmet or life vest over your head from side to side. If a whistle is not available use the visual signal alone.



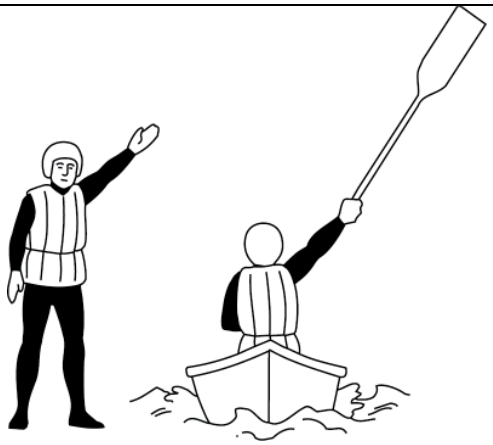


STOP - GO TO SHORE:

Potential hazard ahead. Form a horizontal bar with your paddle or outstretched arms (use the blade to point to the preferred shore for take out). To attract attention, use a pumping motion with paddle or flying motion with arms. Those seeing the signal should stop and pass it back to others in the party. Wait for the "all clear" signal before proceeding or scout ahead.

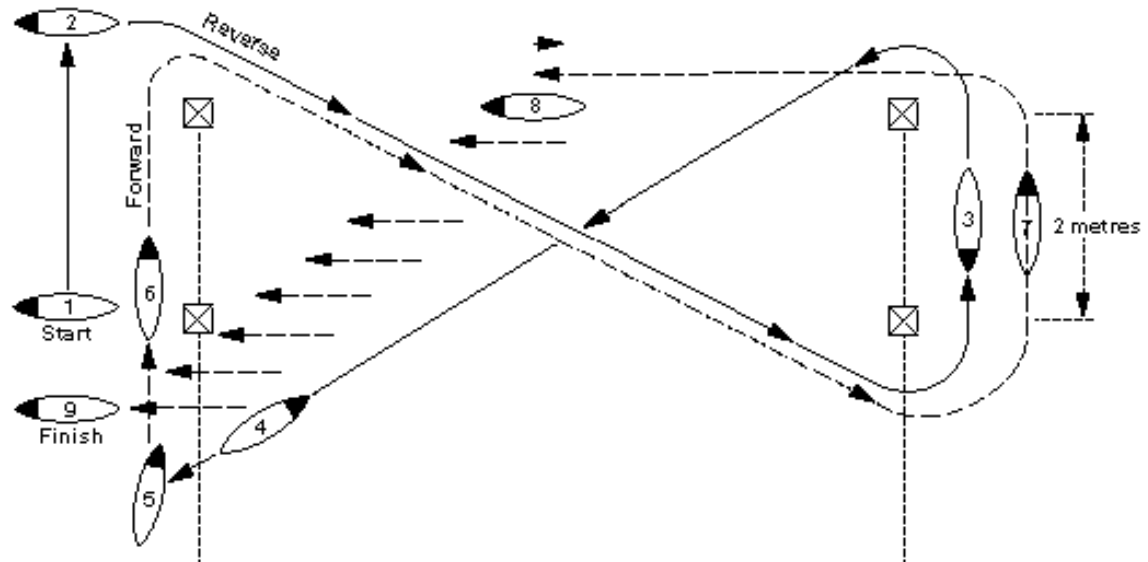
ALL CLEAR - RUN CENTRE, RUN LEFT, RUN RIGHT.

Come ahead. In the absence of other directions, proceed down the centre. Form a vertical bar with your paddle or with one arm held high above your head. Paddle blade should be turned flat for maximum visibility. To signal direction or preferred course through a rapid around an obstruction, lower the previously vertical "all clear" by 45 degrees, toward the side of the river with the preferred route. **Never point toward the obstacle you wish to avoid**.

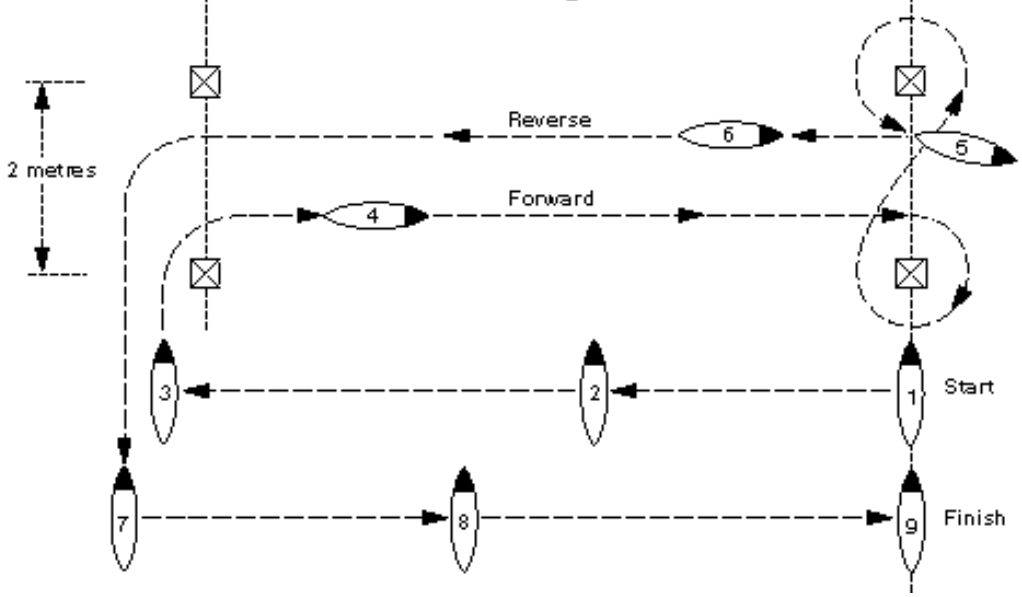


TANDEM AND SOLO PADDLING COURSES

Tandem Paddling Course



Solo Paddling Course



Notes

RCABC COURSE REGISTRATION FORM

Name(s)		Phone
Address		E-mail
City	Postal Code	Age

Course Content (please circle the levels)

Lakewater	Basic tandem	Basic solo	Advanced Tandem	Advanced solo	Instructor
Ocean Canoe			Basic	Advanced	Instructor
Canoe Tripping				Leader	Instructor
Moving Water			Tandem	Solo	Instructor
Canoe Poling			Basic	Advanced	Instructor
Other: (specify)					☐Recertification

Date	Location	Instructed by:

Do you have any physical impairments? ☐no ☐yes _____

Do you have any medical conditions? ☐no ☐yes _____

Canoeing Experience:
☐none ☐less than 1 year ☐1year ☐2 or more years

Canoeing Certificates held:

	Level	Year	Issued by
Paddler			
Instructor			

Equipment: Do you have the following available in good condition?
☐Canoe ☐Paddle ☐P.F.D. (lifejacket)

Are you able to swim 50 metres fully clothed? ☐yes ☐no

If not, are you comfortable in deep water while wearing a P.F.D.? ☐yes ☐no

Signature of applicant(s)	Date
Signature of Parent or guardian (if applicant is under 19 years of age)	

Notes

WAIVER AND RELEASE OF LIABILITY

In consideration of being allowed to participate in any way in the Recreational Canoeing Association of British Columbia (RCABC), or its member clubs', instructor's courses, paddling programs, activities, events and trips, the undersigned acknowledges, appreciates and agrees that:

- The risk of injury from the activities involved in this program is significant, including the potential for permanent paralysis and death; and while particular rules, equipment, and personal discipline may reduce this risk, the risk of serious injury does exist: and,
- I KNOWINGLY AND FREELY ASSUME ALL SUCH RISKS, both known and unknown, EVEN IF ARISING FROM THE NEGLIGENCE OF THE RELEASEES, or others, and assume full responsibility for my participation; and,
- I willingly agree to comply with the stated and customary terms and conditions for participation. If however, I observe any unusual significant hazard during my presence or participation, I will remove myself from participation and bring such to the attention of the nearest official immediately; and,
- I, for myself and on behalf of my heirs, assigns, personal representatives and next of kin, HEREBY RELEASE AND HOLD HARMLESS the Recreational Canoeing Association of British Columbia, its member instructor's, their officers, officials, volunteers, agents and /or employees, other participants, sponsoring agencies, sponsors, advertisers, and if applicable, owners and lessors of premises used to conduct the event (all of whom or referred to as "Releasees"), WITH RESPECT TO ANY AND ALL INJURY, DISABILITY, DEATH, or loss or damage to person or property, whether caused by the negligence of the releasees or otherwise.

I HAVE READ THIS RELEASE OF LIABILITY AND ASSUMPTION OF RISK AGREEMENT, FULLY UNDERSTAND ITS TERMS, UNDERSTAND THAT I HAVE GIVEN UP SUBSTANTIAL RIGHT BY SIGNING IT, AND SIGN IT FREELY AND VOLUNTARILY WITHOUT ANY INDUCEMENT.

Participant's Signature(s): _____
Name Signature

Participant's Signature(s): _____
Name Signature

Witness: _____ Date _____
Name Signature

For participants under 19 years of age in British Columbia at time of registration

This is to certify that I, as a parent or guardian with legal responsibility for this participant, do consent and agree to his/her involvement or participation in RCABC programs as described above.

Parent/Guardian/_____ Emergency Phone _____
Name Signature

Witness _____ Date _____
Name Signature